



## STAFF REPORT TO THE CITY COUNCIL

**DATE:** Regular Meeting of October 23, 2018

**TO:** Honorable Mayor and Members of the City Council

**SUBMITTED BY:** Scott Buenting, Project Manager *SB*

**APPROVED BY:** Jon Blank, Public Works Director/City Engineer *JB*

**SUBJECT:** Brackish Water Desalination Project (P.W. 694)

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### **RECOMMENDED ACTION**

It is recommended that the City Council adopt a resolution certifying the Environmental Impact Report for the Brackish Water Desalination Project, adopting Findings of Fact, adopting the Mitigation Monitoring and Reporting Program, and approving the project.

### **STRATEGIC PURPOSE**

This item supports Strategy K-1 in the Strategic Plan by ensuring well maintained public facilities and Strategy K-2 by delivering high quality water to our customers. By investigating and pursuing alternative potable water sources, especially in times of severe drought and to improve treated water reliability, this project is an important part of maintaining a highly functioning and reliable water system.

### **FISCAL IMPACT**

This action has no financial impact, however the total cost of environmental certification, design and construction of this project is estimated to be \$63,000,000. The City has been conditionally awarded \$10,000,000 from the California Department of Water Resources Proposition 1 Water Desalination Grant Program for the design and construction of the project. In addition, a \$1,000,000 low interest planning loan from the State Water Resources Control Board Drinking Water State Revolving Fund Loan program has been utilized for initial planning and design activities.

The City continues to seek funding opportunities through various sources including local funds, grants or loans. Staff has met with SWRCB staff and has applied for a State Revolving Fund loan for \$55,000,000. An application for \$15,750,000 in grant funding from the United States Bureau of Reclamation's WaterSMART Desalination Construction Projects under the Water Infrastructure Improvements for the Nation (WIIN) Act funding opportunity has also been submitted.

### **DISCUSSION**

The proposed project includes the construction of a brackish water desalination facility located within the footprint of the City's existing Water Treatment Plant (WTP). This facility would produce up to 6 million gallons per day (mgd) of finished water. The river intake pump station would be rebuilt and a new pipeline segment connecting the City's river

pump pipeline to the WTP would be constructed. An additional pipeline from the desalination facility to the existing Delta Diablo Wastewater Treatment Plant outfall would be constructed to convey the expected, approximately 2 mgd of brine. The brine would be mixed with treated wastewater from the WWTP prior to discharge through the existing WWTP outfall.

The City of Antioch has prepared a Final Environmental Impact Report (EIR) for the Brackish Water Desalination Project pursuant to California Environmental Quality Act (CEQA) Guidelines, which analyzed the potential environmental effects associated with the proposed project. The Final EIR includes all agency and public comments received on the Draft Environmental Impact Report (DEIR). Written comments were received during the public comment period from June 29, 2018 through August 13, 2018. Verbal comments were also received during a public comment session before the Planning Commission on August 1, 2018.

#### **ATTACHMENTS**

A: Resolution Certifying the Environmental Impact Report for the Brackish Water Desalination Project, Adopting Findings of Fact and a Mitigation Monitoring and Reporting Program

The Final EIR, Draft EIR and appendices can be found on the City's website at:  
<https://www.antiochca.gov/community-development-department/planning-division/environmental-documents/>

**ATTACHMENT "A"**

**RESOLUTION NO. 2018/\*\***

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ANTIOCH CERTIFYING  
THE ENVIRONMENTAL IMPACT REPORT FOR THE BRACKISH WATER  
DESALINATION PROJECT AS ADEQUATE FOR ADDRESSING THE  
ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT AND ADOPTING  
CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS, MITIGATION  
MEASURES, AND A MITIGATION MONITORING AND REPORTING PROGRAM AND  
APPROVING THE PROJECT  
P.W. 694**

**WHEREAS**, the City of Antioch ("City") prepared an Environmental Impact Report (EIR) for the Brackish Water Desalination Project ("Project") and seeks certification of the Final EIR.

**WHEREAS**, the Project facilities would be located in the cities of Antioch and Pittsburg, California.

**WHEREAS**, the Project consists of a brackish water desalination facility located within the footprint of the City's existing Water Treatment Plant (WTP) which would produce up to 6 million gallons per day (mgd) of finished water. The Project would require a direct connection to the City's existing River water intake. The existing intake pump station would be reconstructed. A new pipeline from the desalination facility to the existing Delta Diablo Wastewater Treatment Plant (WWTP) outfall would be constructed. The brine from desalination process would be mixed with treated wastewater from the WWTP prior to discharge through the existing WWTP outfall.

**WHEREAS**, the City initiated preliminary planning for the Brackish Water Desalination Project in 2015, the environmental effects of which must be evaluated pursuant to the requirements of the California Environmental Quality Act ("CEQA"), Public Resources Code 21000 et seq.;

**WHEREAS**, the City Council directed the Public Works Director to cause the Public Works Department to proceed with preparation of an EIR for the Project;

**WHEREAS**, pursuant to CEQA, and its implementing regulations ("CEQA Guidelines"), 14 California Code of Regulations Section 15000 et seq., the City is the lead agency for the Project, as the public agency with the principal responsibility for carrying out or approving the proposed Project;

**WHEREAS**, in accordance with CEQA Guidelines Section 15082, the City distributed a Notice of Preparation ("NOP") of the Draft EIR to the State Clearinghouse, local and regional responsible agencies, and other interested parties on August 15, 2017 for a 30-day public comment period and conducted a public scoping meeting on September 5, 2017;

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**WHEREAS**, the City then prepared the Draft EIR (SCH No. 2017082044) and released the document for public review for a 45-day public comment period, beginning June 29, 2018 and ending on August 13, 2018. The Draft EIR assesses the potential environmental effects of implementation of the Project, identifies means to eliminate or reduce potential adverse impacts, and evaluates a reasonable range of alternatives to the Project;

**WHEREAS**, on August 1, 2018, the Planning Commission duly held a hearing on the matter, and received and considered evidence, both oral and documentary on the Draft EIR during the 45-day public comment period;

**WHEREAS**, the City received comments concerning the Draft EIR from public agencies, organizations, and individuals, and pursuant to CEQA Guidelines Section 15088, the City prepared responses to all written comments received on the Draft EIR which raised environmental issues;

**WHEREAS**, the Final EIR comprises the Draft EIR together with one additional volume that includes the comments on the Draft EIR submitted by interested public agencies, organizations, and members of the public; written responses to the environmental issues raised in those comments; revisions to the text of the Draft EIR reflecting changes made in response to comments and other information; and other minor changes to the text of the Draft EIR. The Final EIR is hereby incorporated in this document by reference;

**WHEREAS**, this document contains the Project's CEQA findings, and its statement of overriding considerations supporting approval of the Project considered in the EIR. The Final EIR has State Clearinghouse No. 2017082044;

**WHEREAS**, on October 23, 2018, the City Council duly held a hearing on the matter, and received and considered evidence, both oral and documentary on the Final Environmental Impact Report;

**WHEREAS**, the City Council has reviewed and considered the environmental documentation comprising the Final EIR, including the Draft EIR, and revisions and additions thereto, the technical appendices and referenced documents, and the public comments and the responses thereto, and has found that the Final EIR considers all potentially significant environmental impacts of the Project and is complete and adequate, and fully complies with all requirements of CEQA and the State CEQA Guidelines;

**WHEREAS**, at said public hearing, the City Council considered all significant impacts, mitigation measures, and Project alternatives identified in the Final EIR and found that all potentially significant impacts of the Project have been lessened or avoided to the extent feasible;

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**WHEREAS**, pursuant to CEQA Guidelines Section 15091 and 15097, the City of Antioch has prepared Findings of Fact and a Mitigation Monitoring and Reporting Program.

**NOW, THEREFORE, BE IT RESOLVED AND DETERMINED**, as follows:

**I. CERTIFICATION OF THE FINAL EIR**

The City Council of the City of Antioch (the "City Council") certifies that is has been presented with the Final EIR and that is has reviewed and considered the information contained in the Final EIR prior to making the following findings in Section II, below.

Pursuant to CEQA Guidelines Section 15090 (Title 14 of the California Code of Regulations, Section 15090) the City Council certifies that the Final EIR has been completed in compliance with CEQA and the State CEQA Guidelines. The City Council certifies the Final EIR for the Project as described above.

The City Council further certifies that the Final EIR reflects its independent judgement and analysis.

**II. FINDINGS**

Having received, reviewed, and considered the Final EIR and other information in the record of proceedings, the City Council hereby adopts the following findings in compliance with CEQA and the CEQA Guidelines:

Part A: Findings regarding the environmental review process and the contents of the Final EIR.

Part B: Findings regarding the significant environmental impacts of the Project and the mitigation measures for those impacts identified in the Final EIR and adopted as conditions of approval, as well as the reasons that some potential mitigation measures are rejected.

Part C: Findings regarding the reasonableness of the range of alternatives evaluated in the Final EIR.

Because there are no significant impacts of the Project that cannot be reduced to a less-than-significant level through mitigation, the City Council need not adopt findings rejecting alternatives and the City Council need not adopt a Statement of Overriding Considerations.

The City Council certifies that these findings are based on full appraisal of all viewpoints, including all comments received up to date of adoption of these findings,

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concerning the environmental issues identified and discussed in the Final EIR. The City Council adopts the findings and the statement in Parts A and B for the Project.

In addition to the findings regarding environmental impacts and mitigation measures, Part D, below, identifies the custodian and location of the record of proceedings, as required by CEQA.

Part D describes the Mitigation Monitoring and Reporting Program for the Project. As described in Part E, the City Council hereby adopts the Mitigation Monitoring and Reporting Program as set forth in Exhibit B to these findings.

**A. Environmental Review Process**

**1. Notice of Preparation and Scoping Meeting**

On August 15, 2017, the City issued a Notice of Preparation announcing the intended preparation of the Draft EIR and describing its proposed scope. The Notice of Preparation had a 30-day review period until September 14, 2017. The City held a public scoping meeting for the Draft EIR on September 5, 2017 for the purposes of informing the public and receiving comments on the scope of the environmental analysis to be prepared for the Project. The scoping meeting was held at the City of Antioch Maintenance Service Center located at 1201 West 4th Street, Antioch, CA.

The City received eleven comment letters during the comment period on the Notice of Preparation, from state, regional, and local agencies and organizations.

**2. Preparation of the EIR**

The City completed the Draft EIR for the Project and, beginning on June 29, 2018, the City made the Draft EIR available for review and comment. A notice of availability was published and the period for receipt of comments on the Draft EIR remained open for 45 days. Copies of the Draft EIR document were made available at the City of Antioch Community Development Department, located at 200 "H" Street, Antioch, the Antioch Library located at 501 W 18th Street, and on the City's website at: <https://www.antiochca.gov/>. During the comment period, the City received seven comment letters from six state and local agencies and one organization.

The Final EIR was completed and available to commenting public agencies on or before October 9, 2018.

The Final EIR contains all of the comments received during and immediately after the public comment period, together with written responses to significant environmental issues raised in those comments, which were prepared in accordance with CEQA and the CEQA Guidelines.

The City Council finds and determines that the Final EIR provides adequate, good faith, and reasoned responses to all comments raising significant environmental issues.

### **3. Absence of Significant New Information**

CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the draft EIR, but before certification of the final EIR. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project proponent declines to implement. The Guidelines provide examples of significant new information under this standard. Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

The City Council recognizes that the Final EIR incorporates information obtained by the City since the Draft EIR was completed, and contains additions, clarifications, modifications, and other changes. With respect to this information, the City Council finds as follows:

**Changes to Mitigation Measures.** As described in the Final EIR (Chapter 3, Revisions to the Draft EIR) and in the response to comments, Mitigation Measures 3.4-1a and 3.13-1 have been modified. The modifications to Mitigation Measure 3.4-1a adds new subsections (c) and (d), to reflect burrowing owl and Swainson's hawk survey methodologies as prescribed by CDFW. The modification to Mitigation Measure 3.13-1 clarifies that the temporary noise curtains or barriers would reduce potential daytime construction noise impacts to residential uses immediately south and west of the desalination facility. The additional language in these measures will not result in a new significant impact or a substantial increase in the severity of a previously disclosed environmental impact. Therefore, in accordance with CEQA and the CEQA Guidelines, no recirculation of the EIR is necessary based on changes or additions to the mitigation measures in the Final EIR.

**Other Changes.** Various minor changes have been made to the text of the Draft EIR, as described in the Final EIR. These changes are generally of an administrative nature such as correcting EIR section titles in cross references. The paragraph in Section 4.1, Significant and Unavoidable Adverse Impacts, was revised to include language clarifying that no significant and unavoidable impacts were identified for the Project. The City Council finds that these changes are of a minor, non-substantive nature and do not require recirculation of the EIR.

In responses to comments and questions from agencies, the Final EIR provides additional information regarding Delta Stewardship Council – Delta Plan policies related to aquatic biological resources and Delta hydrology and water quality that are applicable

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to the Project. In addition, Section 5.3.2, Brine Disposal Options Screening Results, has been revised to include a discussion of a brine disposal option whereby the project brine would be combined with the CCCSD WWTP or Mirant power plant effluent; however, this alternative option was screened out. The City Council finds that this additional information does not constitute significant new information requiring recirculation, but rather that the additional information clarifies or amplifies an adequate EIR.

In summary, the City Council finds that the additional information, including the changes described above, does not show that:

- (1) A new significant environmental impact would result from the Project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the Project, but the Project's proponents decline to adopt it.
- (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Based on the foregoing, and having reviewed the information contained in the Final EIR and in the record of the City's proceedings, including the comments on the Draft EIR and the responses thereto, and the above-described information, City Council hereby finds that no significant new information has been added to the Final EIR since public notice was given of the availability of the Draft EIR that would require recirculation of the EIR.

#### **4. Differences of Opinion Regarding the Impacts of the Project**

In making its determination to certify the Final EIR and to approve the Project, the City Council recognizes that a range of technical and scientific opinion exists with respect to certain environmental issues. The City Council acknowledges that it has acquired an understanding of the range of this technical and scientific opinion by its review of the Draft EIR, the comments received on the Draft EIR and the responses to those comments in the Final EIR, as well as letters and reports regarding the Final EIR and its own experience and expertise in these environmental issues. The City Council acknowledges that it has reviewed and considered, as a whole, the evidence and analysis presented in the Draft EIR, the evidence and analysis presented in the comments on the Draft EIR, the evidence and analysis presented in the Final EIR, the information submitted on the Final EIR, and the reports prepared by the experts who prepared the EIR, by the City's



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consultants, and by staff, addressing those comments. The City Council acknowledges that it has gained a comprehensive and well-rounded understanding of the environmental issues presented by the Project. The City Council acknowledges that in turn, this understanding has enabled the City Council to make its decisions after weighing and considering the various viewpoints on these important issues. The City Council accordingly certifies that its findings are based on full appraisal of all of the evidence contained in the Final EIR, as well as the evidence and other information in the record addressing the Final EIR.

**B. Impacts and Mitigation Measures**

The City Council acknowledges that these findings provide the written analysis and conclusions of the City Council regarding the environmental impacts of the Project and the mitigation measures identified by the Final EIR and adopted by the City Council as conditions of approval for the Project.

Exhibit A attached to these findings and incorporated herein by reference summarizes the environmental determinations of the Final EIR about the Project's significant impacts before and after mitigation. This exhibit does not attempt to describe the full analysis of each environmental impact contained in the Final EIR. Instead, Exhibit A provides a summary description of each significant impact, describes the applicable mitigation measures identified in the Final EIR and recommended for adoption by the City Council, and states the City Council's findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental findings and conclusions can be found in the Final EIR and these findings hereby incorporate by reference the discussion and analysis in the Final EIR supporting the Final EIR's determinations regarding the Project's impacts and mitigation measures designed to address those impacts. In making these findings, the City Council ratifies, adopts, and incorporates the analysis and explanation in the Final EIR, and ratifies, adopts, and incorporates in these findings the determinations and conclusions of the Final EIR relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these findings.

Pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091(d), the City Council adopts, and incorporates as conditions of approval of the Project, the mitigation measures set forth in the Mitigation Monitoring and Reporting Program attached to these findings as Exhibit B to reduce or avoid the potentially significant and significant impacts of the Project. The City Council acknowledges that in adopting these mitigation measures, the City Council intends to adopt each of the mitigation measures recommended for approval by the Final EIR. Accordingly, in the event a mitigation measure recommended in the Final EIR has inadvertently been omitted from Exhibit B, such mitigation measure is hereby adopted and incorporated in the findings below by reference. In addition, in the event the language describing a mitigation measure set forth in Exhibit B fails to accurately reflect the mitigation measures in the

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Final EIR due to a clerical error, the language of the mitigation measure as set forth in the Final EIR shall control, unless the language of the mitigation measure has been specifically and expressly modified by these findings.

The City Council hereby finds that the adopted mitigation measures are changes or alterations that have been required in, or incorporated into, the Project which mitigate or avoid significant effects on the environment.

In comments on the Draft EIR, various measures were suggested by commenters as proposed additional mitigation measures or modifications to the mitigation measures identified by the EIR. Some modifications were made to mitigation measures in response to such comments. Other comments requested modifications in mitigation measures identified in the Draft EIR, requested mitigation measures for impacts that were less than significant, or requested additional mitigation measures for impacts as to which the Draft EIR identified mitigation measures that would reduce the identified impact to a less than significant level; these requests are declined as unnecessary.

With respect to the additional measures suggested by commenters that were not added to the Final EIR, the City Council hereby adopts and incorporates by reference the reasons set forth in the responses to comments contained in the Final EIR as its grounds for rejecting adoption of these mitigation measures.

### **C. Alternatives**

#### **1. Summary of Discussion of Alternatives in the Final EIR**

The Final EIR evaluates two potential alternatives to the Project. The EIR examines the environmental impacts of each alternative in comparison with the Project and the relative ability of each alternative to satisfy project objectives.

#### **2. Findings relative to Alternatives**

In making these findings, the City Council certifies that it has independently reviewed and considered the information on alternatives provided in the Final EIR, including the information provided in comments on the Draft EIR and the responses to those comments in the Final EIR. The Final EIR's discussion and analysis of these alternatives is not repeated in these findings, but the discussion and analysis of the alternatives in the Final EIR is incorporated in these findings by reference.

The Final EIR describes and evaluates in detail two alternatives to the Project. The City Council acknowledges that as set forth in section B above, the City Council has adopted mitigation measures that reduce all of the significant environmental effects of the Project to a less-than-significant level. Accordingly, CEQA does not require the City Council to adopt findings rejecting alternatives to the Project. Nevertheless, The City Council acknowledges that the reasons for the City Council's decision to approve the

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Project instead of the remaining alternatives are presented below. The City Council finds that the Project would satisfy the Project Objectives, and the remaining alternatives are unable to satisfy the project objectives to the same degree as the Project. The City Council further finds that, on balance, none of the remaining alternatives has environmental advantages over the Project that are sufficiently great to justify approval of such an alternative instead of the Project, in light of each such alternative's inability to satisfy the project objectives to the same degree as the Project. Accordingly, the City Council determines to approve the Project instead of approving one of the remaining alternatives.

### **A. Description of Project Objectives**

The project objectives are to:

- Improve water supply reliability and water quality for customers.
- Develop a reliable, and drought-resistant water source to reduce dependency on purchased water supplies by maximizing the use of the City's pre-1914 water rights.
- Maximize the use of existing infrastructure to maintain economic feasibility.
- Provide cost effective operational flexibility to allow the City to respond to changes in source water quality, emergencies, changes in climate and Delta conditions.
- Preserve the value of the City's pre-1914 water rights.

### **B. Discussion and Findings Relating to the Alternatives Evaluated in the Draft EIR**

Chapter 5 of the Draft EIR evaluates the following three alternatives, which are summarized below:

- No Project Alternative
- Intake Pump Station Siting Option 1 Alternative; and
- Reduced Footprint Alternative.

#### **No Project Alternative.**

Under CEQA, a "No-Project Alternative" compares the impacts of proceeding with a proposed project with the impacts of not proceeding with the proposed project. A No-Project Alternative describes the environmental conditions in existence at the time the Notice of Preparation was published, along with a discussion of what would be reasonably expected to occur at the site in the foreseeable future, based on current plans and consistent with available infrastructure and community services.

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The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that the proposed project is not implemented. Under the No Project Alternative and reasonably foreseeable future conditions, current operation of the City's existing water system would continue. The existing intake pump station would continue to divert water until the river's salinity exceeds potable water supply requirements, then supplemented by purchased water from CCWD. Under the No Project Alternative, the City would not implement the proposed project to provide desalinated water to offset purchased water use.

On balance, the environmental benefits that might be achieved with this alternative are outweighed by its failure to achieve any of the project objectives, and the City Council rejects this alternative.

### **Intake Pump Station Siting Option 1.**

Intake Pump Station Siting Option 1 would include an alternative location for the intake pump station east of the existing pier and boat ramp at the north end of the parking lot. Because the intake pump station under this alternative would be located at the shoreline, it would not require the installation of three pipelines in the parking lot to convey river water to the pump station. This alternative would require the installation of one pipeline through the parking lot to convey the pumped river water to the existing raw water pipeline. As a result, the amount of temporary disturbance associated with the pipeline installation in the parking lot would be slightly reduced compared to the project and construction-related impacts would be proportionately reduced. All other project components, construction-related activities, operations, and maintenance would be the same as the proposed project.

The Draft EIR determined that this Alternative would not eliminate any impacts, could reduce impacts associated with excavation in the parking lot, and could result in greater impacts to aquatic biology and aesthetics when compared to the proposed project. The Intake Pump Station Siting Option 1 would meet all project objectives. On balance, the environmental benefits that might be achieved with this alternative are outweighed by the potential for greater impacts to aquatic biology and aesthetics and the City Council rejects the alternative.

### **Reduced Footprint Alternative.**

The Reduced Footprint Alternative would include two intake pumps (no standby pump) instead of three pumps as in the project, thereby reducing the footprint area of the pump station by approximately 30 percent. The 3,000-foot raw water pipeline connection from the existing raw water pipeline to the WTP would not be constructed, but instead an approximately 100-foot-long pipeline segment would tee off the existing raw water pipeline on Lone Tree Way at Terranova Drive and connect to the existing pipeline that carries water to the WTP from the Municipal Reservoir (Reservoir). As a result, the raw

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water connection pipeline would require about 95 percent less excavation and construction-related activities for this component. Valves would be installed to allow water to flow either directly to the WTP or to the Reservoir. In-pipe blending of raw water and Reservoir water could occur, which would lower the TDS concentration of the RO feedwater. All other project components and construction-related activities would be the same as the proposed project. However, because there would be no standby pump, in the event one of the pumps are out of service for maintenance, operations would be reduced to 8 mgd (versus 16 mgd under the project).

The Draft EIR determined that this Alternative would not eliminate any impacts, could reduce impacts associated with excavation at the intake pump station location and raw water connection pipeline, and could result in lower operational energy consumption and greenhouse gas emissions when compared to the project. However, the Reduced Footprint Alternative would meet fewer project objectives.

On balance, the environmental benefits that might be achieved with this alternative are outweighed by its failure to achieve all of the project objectives, and the City Council rejects this alternative.

### **C. Findings Regarding Reasonable Range of Alternatives**

The City Council finds that the range of alternatives evaluated in the EIR reflects a reasonable attempt to identify and evaluate various types of alternatives that would potentially be capable of reducing the Project's environmental effects, while accomplishing most but not all of the project objectives. The City Council finds that the alternatives analysis is sufficient to inform the City Council and the public regarding the tradeoffs between the degree to which alternatives to the Project could reduce environmental impacts and the corresponding degree to which the alternatives would hinder the City's ability to achieve the project objectives.

### **D. Record of Proceedings**

Various documents and other materials constitute the record upon which the City Council bases these findings and the approvals contained herein. The location and custodian of these documents and materials is: Scott Buenting, Capital Improvements Division, City of Antioch, 200 H Street, Antioch, CA 94509.

### **E. Mitigation Monitoring and Reporting Program**

In accordance with CEQA and the CEQA Guidelines, the City Council must adopt a mitigation monitoring and reporting program to ensure that the mitigation measures adopted herein are implemented. The City Council hereby adopts the Mitigation Monitoring and Reporting Program for the Project as conditions of approval for the project and attached to these findings as Exhibit B.

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**NOW THEREFORE BE IT FURTHER RESOLVED** that the Environmental Impact Report for the Brackish Water Desalination Project is **HEREBY CERTIFIED** pursuant to the California Environmental Quality Act. All feasible mitigation measures for the Project identified in the Environmental Impact Report and accompanying studies are hereby incorporated into this approval.

\* \* \* \* \*

**I HEREBY CERTIFY** that the foregoing resolution was adopted by the City Council of the City of Antioch at a regular meeting thereof held on the 23<sup>rd</sup> day of October, 2018 by the following vote:

**AYES:**

**NOES:**

**ABSENT:**

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**ARNE SIMONSEN, CMC**  
**CITY CLERK OF THE CITY OF ANTIOCH**

# EXHIBIT "A"

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>Aesthetics</b>		
<p><b>Impact 3.1-1:</b> The proposed project would not have a substantial adverse effect on a scenic vista or scenic resource.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.1-2:</b> The proposed project would change the existing visual character of the river intake pump station site and WTP, but would not substantially degrade the existing visual character or quality of the site and its surroundings.</p>	<p><b>Improvement Measure 3.1-2:</b> Maintain Clean and Orderly Construction Sites. Contractor specifications shall include a requirement that the construction contractor(s) keep staging and construction areas as clean and inconspicuous as practicable by storing construction materials and equipment at the proposed construction staging areas or in areas that are generally away from public view when not in use, and by removing construction debris promptly at regular intervals. If necessary, additional appropriate screening (e.g., temporary opaque fencing) shall be used at construction sites to buffer views of construction equipment and material, where the use of such screening materials would not further degrade the visual character or further obstruct views of scenic resources or vistas in the area. Screening is not required for pipeline construction areas.</p>	<p>Less than Significant</p>
<p><b>Impact 3.1-3:</b> The proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, or which would substantially impact other people or properties.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.1-C-1:</b> Implementation of the proposed project, in combination with other cumulative development, would not have a substantial adverse effect on a scenic vista or scenic resource.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.1-C-2:</b> Implementation of the proposed project, in combination with other cumulative development, would not substantially degrade the existing visual character or quality of the site and its surroundings.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.1-C-3:</b> Implementation of the proposed project, in combination with other cumulative development, would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, or which would substantially impact other people or properties.</p>	<p>None required</p>	<p>Less than Significant</p>
<b>Air Quality</b>		
<p><b>Impact 3.2-1:</b> Construction of the project would result in criteria pollutant emissions that could exceed air quality standards or contribute substantially to an existing or projected air quality violation.</p>	<p><b>Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures.</b> To limit air pollutant emissions associated with construction, the City of Antioch and/or its construction contractor(s) shall implement and include in all contract specifications for the project the following BAAQMD-recommended Basic Construction Measures:</p>	<p>Less than Significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.</li> <li>All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> <li>All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</li> <li>All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).</li> <li>All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> <li>All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>Post a publicly visible sign with the telephone number and persons to contact at the City of Antioch regarding dust complaints. These persons shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.</li> </ul>	Less than Significant
<p><b>Impact 3.2-2:</b> Operations of the project would not result in criteria pollutant emissions that could contribute to an existing or projected air quality violation.</p>	None required	Less than Significant
<p><b>Impact 3.2-3:</b> Construction of the project would result in emissions that could conflict with the 2017 Clean Air Plan.</p>	<b>Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures.</b>	Less than Significant
<p><b>Impact 3.2-4:</b> Construction of the project could expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.</p>	<b>Mitigation Measure 3.2-4: Construction Emissions Minimization.</b> The City of Antioch (and/or its construction contractor(s)) shall ensure that all diesel-powered equipment to be operated during construction activities at the river pump station and desalination facility sites meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards. An Exhaust Emissions Equipment inventory shall be prepared prior to the commencement of construction and maintained throughout construction that identifies each off-road unit's certified tier specification status to be operated at the river pump station and desalination facility sites.	Less than Significant
<p><b>Impact 3.2-5:</b> Operation of the project would not expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.</p>	None required	Less than Significant
<p><b>Impact 3.2-6:</b> Construction of the project would not create odors.</p>	None required	Less than Significant



**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>Impact 3.2-C-1:</b> Construction of the proposed project, in combination with other cumulative development, could result in criteria pollutant emissions that would exceed air quality standards or contribute substantially to an existing or projected air quality violation.	<b>Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures.</b>	Less than Significant
<b>Impact 3.2-C-2:</b> Operation of the proposed project, in combination with other cumulative development, would not result in criteria pollutant emissions that would exceed air quality standards or contribute substantially to an existing or projected air quality violation.	None required	Less than Significant
<b>Impact 3.2-C-3:</b> Construction of the proposed project, in combination with other cumulative development, could expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.	<b>Mitigation Measure 3.2-4: Construction Emissions Minimization</b>	Less than Significant
<b>Impact 3.2-C-4:</b> Operation of the proposed project, in combination with other cumulative development, would not expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.	None required	Less than Significant
<b>Impact 3.2-C-5:</b> Construction of the proposed project, in combination with other cumulative development, would not expose people to odors.	None required	Less than Significant
<b>Aquatic Biology</b>		
<b>Impact 3.3-1:</b> Construction of the proposed intake facility could result in short-term degradation of aquatic habitat from accidental spills or seepage of hazardous materials during construction.	None required	Less than Significant
<b>Impact 3.3-2:</b> Construction of the proposed project has the potential to result in a loss or degradation of aquatic habitat in the Delta from increased sedimentation and turbidity.	None required	Less than Significant
<b>Impact 3.3-3:</b> Construction of the proposed intake facility could result in direct disturbance and mortality of fish from installation of cofferdams and dewatering.	<b>Mitigation Measure 3.3-3a: Conduct Worker Awareness Training.</b> A worker awareness training program shall be conducted for construction crews before the start of construction activities. The program shall include a brief overview of sensitive fisheries and aquatic	Less than Significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>resources (including riparian habitats) on the project site, measures to minimize impacts on those resources, and conditions of relevant regulatory permits.</p> <p><b>Mitigation Measure 3.3-3b: Implement In-water Work Windows.</b></p> <p>Any in-water construction activities (e.g., construction of the sheetpile cofferdam) shall be conducted during months when special-status fish species/sensitive life stages are least likely to be present or less susceptible to disturbance (e.g., August 1 to October 31; anadromous salmonids and smelts). If any in-water work is to be conducted, a qualified biologist or resource specialist shall be present during such work to monitor construction activities and ensure compliance with terms and conditions of permits issued by regulatory agencies (see Mitigation Measure 3.3-3d below).</p> <p><b>Mitigation Measure 3.3-3c: Develop and Implement Fish Rescue Plan.</b></p> <p>To reduce the potential for fish stranding or minimize the potential for harm during cofferdam dewatering activities, the City or its contractor shall develop and implement a fish rescue plan. Prior to the closure of the cofferdam in the Delta, seining by a qualified fisheries biologist shall be conducted within the cofferdam using a small-mesh seine to direct and move fish out of the cofferdam area. Upon completion of seining, the entrance to the cofferdam shall be blocked with a net to prevent fish from entering the cofferdam isolation area before the cofferdam is completed. Once the cofferdam is completed and the area within the cofferdam is closed and isolated, additional seining shall be conducted within the cofferdam to remove any remaining fish, if present. Once all noticeable fish have been removed from the isolated area, portable pumps with intakes equipped with 1.75 mm mesh screen shall be used to dewater to a depth of 1.5-2 feet. A qualified biologist shall implement further fish rescue operations using electrofishing and dip nets. All fish that are captured shall be placed in clean 5-gallon buckets and/or coolers filled with Delta water, transported downstream of the construction area, and released back into suitable habitat in the Delta with minimal handling. After all fish have been removed using multiple seine passes, electrofishing, and dip nets (as necessary), portable pumps with screens (see above) shall be used for final dewatering. NMFS, USFWS, and CDFW shall be notified at least 48 hours prior to the fish rescue.</p> <p><b>Mitigation Measure 3.3-3d: Consult with Resources Agencies and Implement Additional Measures.</b></p> <p>The City shall also consult with NMFS, USFWS, and CDFW (as part of obtaining permit approvals (e.g., FESA Section 7, CESA [Fish and Game Code Sections 2080.1, 2081] to determine necessary impact minimization actions, which may include surveying the intake site to determine fish presence prior to installation. The City shall implement any additional measures developed through the FESA Section 7 and Fish and Game Code Sections 2080.1, 2081 permit processes, to ensure that impacts are avoided and/or minimized.</p>	Less than Significant
<p><b>Impact 3.3-4:</b> Construction of the proposed intake facility could result in a short-term degradation of aquatic habitat caused by an increase in hydrostatic pressure, underwater noise, and vibrations.</p>	<p><b>Mitigation Measure 3.3-4: Underwater Sound Levels.</b></p> <p>The City shall implement the following measures to avoid and minimize potential adverse effects that could otherwise result from in-water pile-driving activities:</p> <ul style="list-style-type: none"> <li>The City shall develop a plan for pile-driving activities to minimize impacts on fish and will allow sufficient time in the schedule for coordination with regulatory agencies. Measures will be implemented</li> </ul>	Less than Significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>to minimize underwater sound pressure to levels below thresholds for peak pressure and accumulated sound exposure levels. Threshold levels established by NMFS are:</p> <ul style="list-style-type: none"> <li>o peak pressure = 206 dB<sub>peak</sub></li> <li>o accumulated sound exposure levels = 183 dB<sub>SEL</sub></li> </ul> <ul style="list-style-type: none"> <li>• Underwater sound monitoring shall be performed during pile-driving activities. A qualified acoustician, biologist, and/or natural resource specialist shall be present during such work to monitor construction activities and compliance with terms and conditions of permits.</li> <li>• Pile driving shall occur during the established/approved work window (August 1 through October 31, or other as approved by NMFS, USFWS, and CDFW).</li> <li>• Sheet piling shall be driven by vibratory or nonimpact methods (i.e., hydraulic) that result in sound pressures below threshold levels to the extent feasible.</li> <li>• Pile driving activities may occur during periods of reduced currents as needed to meet the threshold limits. Pile-driving activities shall be monitored and if any stranding, injury, or mortality to fish is observed, CDFW, NMFS, and/or USFWS shall be immediately notified and in-water pile driving shall cease.</li> <li>• Pile driving shall be conducted only during daylight hours and initially will be used at low energy levels and reduced impact frequency. Applied energy and frequency shall be gradually increased until the force and frequency necessary to advance the pile is achieved.</li> <li>• If it is determined that impact hammers are required and/or underwater sound monitoring demonstrates that thresholds are being exceeded, the contractor shall implement sound dampening or attenuation devices to reduce levels to the extent feasible; these may include the following:             <ul style="list-style-type: none"> <li>o water bladder cofferdam;</li> <li>o confined or unconfined air bubble curtain.</li> </ul> </li> </ul>	Less than Significant
<p><b>Impact 3.3-5:</b> Construction of the proposed intake facility would result in a loss of shallow water habitat.</p>	<p><b>Mitigation Measure 3.3-5: Purchase Mitigation Credits.</b> The City shall purchase mitigation credits from a public or private mitigation bank approved by USFWS, NMFS, and/or CDFW. The final number of credits to be purchased shall be determined in consultation with USFWS, NMFS, and CDFW. Mitigation credit purchase shall be conducted either before or as soon as possible after construction of the intake commences.</p>	Less than Significant
<p><b>Impact 3.3-6:</b> Operation of the proposed intake facility could result in increased predation of fish.</p>	None required	Less than Significant
<p><b>Impact 3.3-7:</b> Operation of the proposed intake facility could impinge and/or entrain fish, including fish eggs and larvae.</p>	None required	Less than Significant
<p><b>Impact 3.3-8:</b> Operation of the proposed project, including discharge of brine waste, could result in direct mortality of fish species or degradation and/or loss of aquatic habitat.</p>	None required	Less than Significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact 3.3-C-1 through C-4:</b> Construction of the proposed intake facility in combination with other cumulative projects, could result in short-term degradation of aquatic habitat from (C-1) accidental spills or seepage of hazardous materials, (C-2) increased sedimentation and turbidity, (C-3) direct disturbance and mortality of fish from installation of cofferdams and dewatering, and (C-4) short-term degradation of aquatic habitat caused by an increase in hydrostatic pressure, underwater noise, and vibrations.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.3-C-5:</b> Construction of the proposed intake facility in combination with other cumulative projects would result in a loss of shallow water habitat.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.3-C-6:</b> Operation of the proposed intake facility in combination with other cumulative projects could result in increased predation of fish.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.3-C-7:</b> Operation of the proposed intake facility in combination with other cumulative projects could impinge and/or entrain fish, including fish eggs and larvae.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Impact 3.3-C-8:</b> Operation of the proposed project facility in combination with other cumulative projects, including discharge of brine waste, could result in direct mortality of fish species or degradation and/or loss of aquatic habitat.</p>	<p>None required</p>	<p>Less than Significant</p>
<p><b>Terrestrial Biological Resources</b></p>		
<p><b>Impact 3.4-1:</b> The proposed project could result in significant impacts, either directly or through habitat modifications, on species identified as sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.</p>	<p><b>Mitigation Measure 3.4-1a: Pre-construction Nesting Bird Surveys</b> The general raptor and passerine bird nesting period cited by CDFW is often cautiously interpreted as the period between February 1 and August 31. Breeding birds are protected under Section 3503 of the California Fish and Game Code (Code), and raptors are protected under Section 3503.5. In addition, both Section 3513 of the Code and the Federal Migratory Bird Treaty Act (16 USC, Sec. 703 Supp. I, 1989) prohibit the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds, which are defined as birds occurring naturally in California that are neither game birds nor fully protected species.  In general, CDFW recommends a 250-foot construction exclusion zone around the nests of active passerine songbirds during the breeding season, and a 500-foot buffer for nesting raptors. These buffer distances are considered initial starting distances once a nest has been identified, and are sometimes revised downward to 100 feet and 250 feet, respectively, based on site conditions and the nature of the work being performed. These buffer distances may also be modified if obstacles such as buildings or trees obscure the construction area from active bird nests, or existing disturbances create an ambient background disturbance similar to the proposed disturbance.</p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>a) Avian surveys shall be performed during breeding bird season (February 1 to August 31) no more than 14 days prior to ground disturbing or in-water construction activities in order to locate any active passerine nests within 250 feet of the project footprint and any active raptor nests within 500 feet of the project footprint. Building demolition, trenching, pipeline installation, and new construction activities performed between September 1 and January 31 avoid the general nesting period for birds and therefore would not require pre-construction surveys.</p> <p>b) If active nests are found on either the proposed construction site, no-work buffer zones shall be established around the nests (100 to 150 feet for passerine birds and 150 to 250 feet for raptors, depending upon species sensitivity to disturbance) in coordination with CDFW. No staging, ground-disturbing, or construction activities shall occur within a buffer zone until young have fledged or the nest is otherwise abandoned as determined by the qualified biologist. If work during the nesting season stops for 14 days or more and then resumes, then nesting bird surveys shall be repeated, to ensure that no new birds have begun nesting in the area.</p> <p>c) <u>Burrowing owl Take Avoidance Surveys shall be conducted according to the methodologies prescribed in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012) for annual grasslands located north of the Pittsburg-Antioch Highway. Take Avoidance Surveys shall be conducted 14 days prior or less to initiating ground disturbance. As burrowing owls may recolonize a site after only a few days, time lapses greater than 14 days between project activities require subsequent surveys, including but not limited to a final survey conducted within 24 hours prior to ground disturbance to ensure absence. Surveys are intended to identify burrows and burrowing owls outside of the study area, which may be impacted by factors such as noise and vibration (heavy equipment) during project construction. As no access is available to grasslands north of the highway, a pedestrian surveys transect shall be performed from the northern edge of the public right-of-way.</u></p> <p>i. <u>If burrowing owls are detected during surveys, the following restricted activity dates and setback distances derived from the 2012 Staff Report on Burrowing Owl Mitigation (CDFW 2012) shall apply, or as otherwise coordinated with the CDFW:</u></p> <ol style="list-style-type: none"> <li><u>1. Occupied burrows shall not be disturbed during the nesting season, from February 1 through August 31.</u></li> <li><u>2. No disturbance shall occur within 50 meters (approximately 160 feet) of occupied burrows during October 16 through March 31 or within 200 meters (approximately 660 feet) April 1 through October 15.</u></li> <li><u>3. No earth-moving activities or other disturbance shall occur within the aforementioned buffer zones of occupied burrows. These buffer zones shall be well-marked. If burrowing owls were found in the study area, a qualified biologist shall also delineate the extent of burrowing owl habitat on the site, and</u></li> <li><u>4. Buffers may be modified by a qualified burrowing owl biologist that is knowledgeable enough to establish buffer sizes that are commensurate with the acclimation of western burrowing owls to disturbance. These buffers if modified over that prescribed above, shall be coordinated with the CDFW.</u></li> <li><u>5. Because no burrowing owl habitat occurs on-site, passive relocation of owls is not anticipated. Information regarding the occurrence of burrowing owls near the project site shall be reported to the CNDDB.</u></li> </ol>	

TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>d) <u>Preconstruction Surveys for Swainson's hawk and white-tailed kite. If construction activities occur between February 1 and August 31, the Project Applicant shall retain a qualified biologist to conduct surveys for Swainson's hawk and white-tailed kite in accordance with the Swainson's Hawk Technical Advisory Committee 2000 guidelines (SHTAC 2000), or current guidance. Surveys shall cover a minimum of a 0.5-mile radius around the construction area. If nesting Swainson's hawks or white-tailed kites are detected, the qualified biologist shall establish a 0.5-mile no-disturbance buffer. Buffers shall be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. No habitat loss would occur for either species; hence, compensatory mitigation is not necessary.</u></p> <p><b>Mitigation Measure 3.4-1b: Pre-construction Bat Survey</b></p> <p>To minimize impacts on special-status bats, a preconstruction survey shall be performed from accessible lands, and no-disturbance buffers shall be created around active bat roosting sites, if found.</p> <p>Prior to ground disturbing construction activities (i.e., ground clearing, trenching, and grading) within 200 feet of trees that could support special-status bats, a qualified bat biologist shall survey for special-status bats. If no evidence of bats (i.e., direct observation, guano, staining, or strong odors) is observed, no further mitigation shall be required.</p> <p>If evidence of bats is observed, the following measures shall be implemented to avoid potential impacts on breeding populations:</p> <ul style="list-style-type: none"> <li>a) A no-disturbance buffer of 200-feet shall be created around active bat roosts during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected by the indirect effects of noise and construction disturbances. However, the direct take of individuals will be prohibited.</li> <li>b) In the case that removal of trees showing evidence of bat activity is needed, tree removal shall occur during the period least likely to affect bats, as determined by a qualified bat biologist (generally between February 15 and October 15 for winter hibernacula, and between August 15 and April 15 for maternity roosts). Bat exclusion activities (e.g., installation of netting to block roost entrances) shall also be conducted during these periods.</li> </ul> <p>The qualified biologist shall be present during any tree trimming and disturbance, if trees containing or suspected of containing bat roosts are present. Trees with roosts shall be disturbed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50 degrees Fahrenheit (°F). Branches and limbs not containing cavities or fissures in which bats could roost shall be cut only using chainsaws. Branches or limbs containing roost sites shall be trimmed the following day, under the supervision of the qualified biologist, also using chainsaws.</p>	

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact 3.4-2:</b> Development facilitated by the proposed project would not have a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.</p>	<p>None required</p>	<p>No impact</p>
<p><b>Impact 3.4-3:</b> The proposed project could have a substantial adverse effect on state or federally-protected wetlands, 'other waters', and navigable waters through direct removal, filling, hydrological interruption, or other means. (Less than Significant with Mitigation)</p>	<p><b>Mitigation Measure 3.4-3: Recontour Aquatic Habitat and Remove Debris Following In-Water Construction</b> To mitigate impacts on waters of the U.S. in the San Joaquin River, it is estimated that the City will remove debris (e.g., concrete, the existing pipeline, and piers) and structures from the work area in an amount that is equal to or greater than the area of new facilities that will be introduced into the water. Because no wetlands (i.e., vegetated aquatic habitat) is present in the project footprint, the City need only restore the bottom contours of the San Joaquin River bed to emulate existing aquatic conditions at the site and no further shoreline restoration is needed. Specific water quality requirements during construction are identified in Section 3.10, <i>Local Hydrology and Water Quality</i>.</p>	<p>Less than significant</p>
<p><b>Impact 3.4-4:</b> Development facilitated by the proposed project would not interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p>	<p>None required</p>	<p>No impact</p>
<p><b>Impact 3.4-5:</b> Development facilitated by the proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<p><b>Mitigation Measure 3.4-1(a) and 3.4-1(b): Pre-construction Surveys</b></p>	<p>Less than significant</p>
<p><b>Impact 3.4-6:</b> Development facilitated by the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</p>	<p>None required</p>	<p>No impact</p>
<p><b>Impact 3.4-C-1:</b> Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future development could result in a cumulatively significant impact related to terrestrial biological resources.</p>	<p><b>Mitigation Measure 3.4-1(a) and 3.4-1(b): Pre-construction Surveys</b></p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Cultural Resources</b></p> <p><b>Impact 3.5-1:</b> The proposed project would not cause a substantial adverse change in the significance of a historical resource or a landmark of local cultural or historical importance.</p>	<p>None required</p>	<p>No impact</p>
<p><b>Impact 3.5-2:</b> The project could cause a substantial adverse change in the significance of an archaeological resource.</p>	<p><b>Mitigation Measure 3.5-2: Inadvertent Discovery of Archaeological Resources.</b>                      If prehistoric or historic-era archaeological resources are encountered by construction personnel during project implementation, all construction activities within 100 feet shall halt until a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.                      If a find is evaluated and determined to be significant, a mitigation plan shall be developed that recommends preservation in place as a preference or, if preservation in place is not feasible, data recovery through excavation. The mitigation plan will be developed in consultation with the affiliated Native American tribe(s), as appropriate. If preservation in place is feasible, this may be accomplished through one of the following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement. If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to recover scientifically consequential information from the resource prior to any excavation at the site. Treatment for most resources would consist of (but would not necessarily be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context; reporting of results within a timely manner; curation of artifacts and data at an approved facility; and dissemination of reports to local and state repositories, libraries, and interested professionals.                      Should the project include federal funding or oversight or otherwise qualify as a federal undertaking, the archaeological study shall be prepared in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.</p>	<p>Less than significant</p>
<p><b>Impact 3.5-3:</b> The proposed project could disturb human remains, including those interred outside of dedicated cemeteries.</p>	<p><b>Mitigation Measure 3.5-3: Inadvertent Discovery of Human Remains.</b>                      In the event human remains are uncovered during construction activities for the project, the City shall immediately halt work, contact the Contra Costa County Coroner to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5(e)(1) of the CEQA Guidelines. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 48 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person thought to be the Most Likely</p>	<p>Less than significant</p>



**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	Descendent of the deceased Native American. The Most Likely Descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.	
Impact 3.5-C-1: Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to archaeological resources.	<b>Mitigation Measure 3.5-2: Inadvertent Discovery of Archaeological Resources.</b>	Less than significant
Impact 3.5-C-2: Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to human remains.	<b>Mitigation Measure 3.5-3: Inadvertent Discovery of Human Remains.</b>	Less than significant
<b>Geology, Soils, and Paleontological Resources</b>		
Impact 3.6-1: The proposed project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury or death involving strong ground shaking or seismically induced ground failure, including liquefaction and lateral spreading.	None required	Less than significant
Impact 3.6-2: The proposed project would not result in substantial soil erosion.	None required	Less than significant
Impact 3.6-3: The proposed project would not create direct or indirect substantial risks to life or property due to expansive or corrosive soils.	None required	Less than significant
Impact 3.6-C-1: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future development would not result in a cumulatively significant impact related to geology and soils.	None required	Less than significant
<b>Energy</b>		
Impact 3.7-1: The project would not use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.	<b>Mitigation Measure 3.7-1: Construction Equipment Efficiency.</b> The City shall retain a qualified professional (i.e., construction planner/energy efficiency expert) to identify the specific measures that the City (and its construction contractors) will implement as part of project construction and decommissioning to increase the efficient use of construction equipment to the maximum extent feasible. Such measures shall include, but not necessarily be limited to: procedures to ensure that all construction equipment is properly tuned and maintained at all times; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; and identification of procedures (including the routing of haul trips) that will be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner. The measures shall be incorporated into construction specifications and implemented throughout the construction and decommissioning periods.	Less than significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact 3.7-2:</b> project would not constrain local or regional energy supplies, require additional capacity, affect peak and base periods of electrical demand, or otherwise require or result in the construction of new electrical generation and/or transmission facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<p>None required <b>Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures.</b></p>	<p>Less than significant</p>
<p><b>Impact 3.7-C-1:</b> Implementation of the project, in combination with past, present, and reasonably foreseeable future development, would not use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.</p>	<p><b>Mitigation Measure 3.7-1: Construction Equipment Efficiency. Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures.</b></p>	<p>Less than significant</p>
<p><b>Impact 3.7-C-2:</b> Implementation of the project, in combination with past, present, and reasonably foreseeable future development, would not constrain local or regional energy supplies, require additional capacity, affect peak and base periods of electrical demand, or otherwise require or result in the construction of new electrical generation and/or transmission facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Greenhouse Gases</b></p>		
<p><b>Impact 3.8-1:</b> The project would not generate an amount of GHG emissions that would contribute substantially to climate change.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.8-2:</b> The project would not conflict with the Executive Order B-30-15 Emissions Reduction Goal.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.8-C-1:</b> Implementation of the project, in combination with past, present, and reasonably foreseeable future development, would not result in a cumulatively significant impact related to generating GHG emissions that would contribute substantially to climate change.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.8-C-2:</b> The project, in combination with other cumulative development, would not conflict with the Executive Order B-30-15 Emissions Reduction Goal.</p>	<p>None required</p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Hazards and Hazardous Materials</b></p>		
<p><b>Impact 3.9-1:</b> The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.9-2:</b> The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</p>	<p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b></p>	<p>Less than significant</p>
<p><b>Impact 3.9-3:</b> The proposed project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.</p>	<p><b>Mitigation Measure 3.9-3a: Health and Safety Plan</b> The construction contractor(s) shall prepare and implement site-specific Health and Safety Plans (HASP) in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This HASP shall be submitted to the City of Antioch for review prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s). The HASP shall include, but is not limited to, the following elements:</p> <ul style="list-style-type: none"> <li>• Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site HASP;</li> <li>• A summary of all potential risks to demolition and construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals;</li> <li>• Specified personal protective equipment and decontamination procedures, if needed;</li> <li>• Emergency procedures, including route to the nearest hospital; and</li> </ul> <p>Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, notifying Contra Costa Health Services - Hazardous Materials Programs, and retaining a qualified environmental firm to perform sampling and remediation.</p> <p><b>Mitigation Measure 3.9-3b: Soil Management Plan</b> In support of the HASP described above in Mitigation Measure HAZ-1, the contractor shall develop and implement a Soil Management Plan (SMP) that includes a materials disposal plan specifying how the construction contractor(s) will remove, handle, transport, and dispose of all excavated materials in a safe, appropriate, and lawful manner. This SMP shall be submitted to the City of Antioch for review prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s). The SMP must identify protocols for soil testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil. In addition, the City or its contractor shall contact the Fulton Shipyard to acquire the most current information regarding chemicals in sediments around the proposed intake pump</p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>station. The contact is Delttech, LLC, c/o Mr. Shannon Creson, 2200 Wymore Way, Antioch, California 94509, shannon@drilltechdrilling.com.</p> <p><b>Mitigation Measure 3.9-3c: ACM Management Plan</b></p> <p>Prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s), the contractor that would be excavating at the location of the oil pipes that may be covered with ACM shall conduct a survey to determine if the oil pipes are present and if they are coated with ACM. In the event that the abandoned petroleum pipelines are coated with ACM and in support of the HASP described above in Mitigation Measure HAZ-1, the contractor shall develop and implement an ACM Management Plan (ACMMP) that includes a materials disposal plan specifying how the construction contractor will remove, handle, transport, and dispose of all ACM-insulated pipe materials in a safe, appropriate, and lawful manner. The ACMMP must identify protocols for worker protection, ACM testing and disposal, identification of the approved disposal site, and include written documentation that the disposal site can accept the waste. The ACMMP shall be submitted to the BAAQMD for their review and approval. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of ACM.</p>	Less than significant
<p><b>Impact 3.9-4:</b> The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	<p>Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see Transportation and Circulation).</p>	Less than significant
<p><b>Impact 3.9-C-1:</b> The proposed project, in combination with other cumulative development, would not result in a cumulatively significant impact related to hazards and hazardous materials.</p>	None required	Less than significant
<b>Local Hydrology and Water Quality</b>		
<p><b>Impact 3.10-1:</b> The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.</p>	None required	Less than significant
<p><b>Impact 3.10-2:</b> The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would: result in substantial erosion or siltation onsite or offsite; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; impede or redirect flood flows.</p>	None required	Less than significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>Impact 3.10-3:</b> The proposed project would not risk release of pollutants due to project inundation from being located in flood hazard zones.	None required	Less than significant
<b>Impact 3.10-C-1:</b> Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future development would not result in a cumulatively significant impact related to hydrology and water quality.	None required	Less than significant
<b>Delta Hydrology and Water Quality</b>		
<b>Impact 3.11-1:</b> Changes in the location and timing of water diversion from the Delta, when combined with proposed discharges, could alter threshold concentrations established by the Regional Water Quality Control Board, or otherwise violate waste discharge or water quality standards.	None required	Less than significant
<b>Impact 3.11-2:</b> The proposed project could exceed applicable NPDES permit discharge standards.	None required	Less than significant
<b>Impact 3.11-C-1:</b> Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative degradation of water quality in the Delta.	None required	Less than significant
<b>Impact 3.11-C-2:</b> Implementation of the proposed project, in combination with other cumulative development, could potentially affect the timing of outfall capacity limitations associated with development identified under the Delta Diablo Master Plan.	None required	Less than significant
<b>Land Use and Planning</b>		
<b>Impact 3.12-1:</b> The proposed project would not conflict with an applicable land use policy included in a general plan or zoning ordinance adopted for the purpose of avoiding or mitigating an environmental effect.	None required	Less than significant
<b>Impact 3.12-C-1:</b> Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future development would not result in a cumulatively significant impact related to land use.	None required	Less than significant

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Noise and Vibration</b></p> <p><b>Impact 3.13-1:</b> Construction of facilities under the proposed project could generate noise levels that exceed the applicable county or city noise standards or result in a substantial temporary increase in ambient noise levels at nearby sensitive receptors.</p>	<p><b>Mitigation Measure 3.13-1: General Noise Controls for Construction Equipment and Activities</b></p> <p>a) The construction contractor(s) shall assure that construction equipment with internal combustion engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an unmuffled exhaust.</p> <p>b) To reduce potential daytime construction noise impacts to residential uses immediately south and west of the desalination facility contractors shall employ temporary noise curtains or barriers along the southern and western property boundary of the WTP to shield daytime construction noise impacts to residential uses to the south and west. To reduce potential daytime construction noise impacts to residential uses immediately east of the proposed new pump station, contractors shall employ temporary noise curtains or barriers along the eastern property boundary of the pump station worksite to shield daytime construction noise impacts to residential uses to the east. Implementation of this measure will ensure that daytime construction activities do not exceed noise criteria for daytime construction at residential uses (70 dBA Leq). These barriers shall be installed prior to the start of construction.</p> <p>c) Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be placed on the compressed air exhaust to lower noise levels by up to approximately 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.</p>	<p>Less than significant</p>
<p><b>Impact 3.13-2:</b> Construction of facilities under the proposed project would not expose persons to or generate excessive ground borne vibration or ground-borne noise levels.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.13-3:</b> Operation of the project would generate traffic, stationary source, and area source noise similar to existing noise levels and would not exceed City noise requirements.</p>	<p><b>Mitigation Measure 3.13-3: Stationary-Source Noise Controls</b></p> <p>The City shall retain an acoustical professional to design stationary-source noise controls and ensure the applicable noise standards are met. At a minimum, all stationary noise sources (e.g., RO pumps) shall be located within enclosed structures and with adequate noise screening, as needed, to maintain noise levels to no greater than 5 dBA above the existing monitored ambient values and 60 CNEL, at the property lines of nearby residences. Once the stationary noise sources have been installed, the contractor(s) shall monitor noise levels to ensure compliance with local noise standards.</p>	<p>Less than significant</p>
<p><b>Impact 3.13-C-1:</b> Implementation of the proposed project, in combination with other cumulative development could result in a significant noise impact for which the proposed project would make a considerable contribution.</p>	<p><b>Mitigation Measure 3.13-1: General Noise Controls for Construction Equipment and Activities</b></p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<b>Population and Housing</b>		
<p><b>Impact 3.14-1:</b> The proposed project would not directly or indirectly induce substantial population growth in the area or create demand for additional housing.</p>	<p>None required</p>	<p>Less than significant</p>
<p><b>Impact 3.14-C-1:</b> The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute to a cumulative impact on population and housing.</p>	<p>None required</p>	<p>Less than significant</p>
<b>Public Services and Utilities</b>		
<p><b>Impact 3.15-1:</b> The proposed project could disrupt operations or require relocation of regional or local utilities.</p>	<p><b>Mitigation Measure 3.15-1a: Locate and Confirm Utility Lines</b> Before excavation begins, the City of Antioch or its contractor(s) shall locate all overhead and underground utility lines (such as natural gas, electricity, sewerage, telephone, fuel, and water lines) that are reasonably expected to be encountered during excavation. When a project excavation is within the approximate location of a subsurface utility, the City of Antioch or its contractor shall determine the exact location of the underground utility by safe and acceptable means, including the use of hand tools and modern techniques. Information regarding the size, color, and location of existing utilities shall be confirmed before construction activities begin. These utilities shall be highlighted on all construction drawings.</p> <p><b>Mitigation Measure 3.15-1b: Coordinate Final Construction Plans with Affected Utilities</b> The City of Antioch or its contractor(s) shall coordinate final construction plans, schedule, and specifications with affected utilities with utility providers and affected jurisdictions (e.g., the City of Pittsburg). Arrangements shall be made with these entities regarding the appropriate protection, relocation, or temporary disconnection of services. If any interruption of service is required, the City of Antioch or its contractor(s) shall notify residents and businesses in the project corridor of any planned utility service disruption at least 2 working days and up to 14 calendar days in advance.</p> <p><b>Mitigation Measure 3.15-1c: Safeguard Employees from Potential Accidents Related to Underground Utilities</b> When any excavation is open, the construction contractor(s) shall protect, support, or remove underground utilities as necessary to safeguard employees.</p> <p>The contractor(s) shall be required to provide weekly updates to the City of Antioch and construction workers regarding the planned excavations for the upcoming week, and to specify when construction will occur near a high-priority utility (i.e., pipelines carrying petroleum products, oxygen, chlorine, or toxic or flammable gases; natural gas pipelines greater than 6 inches in diameter or with normal operating pressures greater than 60 pounds per square inch gauge; and underground electric supply lines, conductors, or cables that have a potential to ground more than 300 volts that do not have effectively grounded sheaths). Construction managers shall hold regular taigate meetings with construction staff on days when work near high-priority utilities will occur to review all safety measures regarding such excavations, including measures identified in the Mitigation Monitoring and Reporting Program and in construction specifications. The contractor shall designate a qualified Health and Safety Officer who shall specify a safe distance to work near high-priority utilities. Excavation near such utility lines shall not be</p>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<p>authorized until the designated Health and Safety Officer confirms and documents in the construction records that: (1) the line was appropriately located in the field by the utility owner using as-built drawings and a pipeline-locating device; and (2) the location was verified by hand by the construction contractor.</p> <p><b>Mitigation Measure 3.15-1d: Emergency Response Plan</b></p> <p>Before commencement of construction, the City of Antioch or its contractor(s) shall develop an emergency response plan that outlines procedures to follow in the event of a leak or explosion. The emergency response plan shall identify the names and phone numbers of staff at the potentially affected utilities that would be available 24 hours per day in the event that construction activities cause damage to or rupture of a high-risk utility. The plan shall also detail emergency response protocols, including notification, inspection, and evacuation procedures; any equipment and vendors necessary to respond to an emergency (such as an alarm system); and routine inspection guidelines.</p> <p><b>Mitigation Measure 3.15-1e: Notify Local Fire Departments</b></p> <p>The City of Antioch or its contractor(s) shall notify local fire departments in advance of any time work that is to be performed in close proximity to a gas utility line, or any time damage to a gas utility line results in a leak or suspected leak, or whenever damage to any utility results in a threat to public safety.</p> <p><b>Mitigation Measure 3.15-1f: Ensure Prompt Reconnection of Utilities</b></p> <p>The City of Antioch or its contractor(s) shall promptly contact utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.</p>	Less than significant
<p><b>Impact 3.15-2:</b> The proposed project would not exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider that it has inadequate capacity, including treatment and/or outfall capacity, to accommodate the project's projected demand.</p>	<p>None required</p>	Less than significant
<p><b>Impact 3.15-3:</b> The proposed project would not be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.</p>	<p>None required</p>	Less than significant
<p><b>Impact 3.15-C-1:</b> The proposed project, in combination with other cumulative development, could disrupt operations or require relocation of regional or local utilities.</p>	<p><b>Mitigation Measure 3.15-1a: Locate and Confirm Utility Lines</b>  <b>Mitigation Measure 3.15-1b: Coordinate Final Construction Plans with Affected Utilities</b>  <b>Mitigation Measure 3.15-1c: Safeguard Employees from Potential Accidents Related to Underground Utilities</b>  <b>Mitigation Measure 3.15-1d: Emergency Response Plan</b>  <b>Mitigation Measure 3.15-1e: Notify Local Fire Departments</b>  <b>Mitigation Measure 3.15-1f: Ensure Prompt Reconnection of Utilities</b></p>	Less than significant



**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
<p><b>Impact 3.15-C-2:</b> The proposed project, in combination with other cumulative development, would not exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider that it has inadequate capacity, including treatment and/or outfall capacity, to accommodate the project's projected demand.</p>	<p>None required</p>	<p>Less than significant</p>
<b>Recreation</b>		
<p><b>Impact 3.16-1:</b> Project construction activities could temporarily disrupt access to recreational resources in the vicinity of the project components.</p>	<p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b></p>	<p>Less than significant</p>
<p><b>Impact 3.16-C-1:</b> Implementation of the proposed project, in combination with other cumulative development would not result in a cumulatively significant impact related to recreational facilities.</p>	<p>None required</p>	<p>Less than significant</p>
<b>Traffic and Transportation</b>		
<p><b>Impact 3.17-1:</b> Construction of the proposed project would have temporary and intermittent effects on traffic and transportation conditions in the project area.</p>	<p><b>Mitigation Measure 3.17-1a: Encroachment Permits</b> The construction contractor shall obtain any necessary road encroachment permits prior to constructing each project component and shall comply with the conditions of approval attached to all project permits and approval. In addition, the Construction Traffic Control/Traffic Management Plan (subject to local jurisdiction review and approval) required by Mitigation Measure 3.17-1b, would include safety measures for traffic flow and circulation during project construction.</p> <p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b> The construction contractor shall prepare a Construction Traffic Control/Traffic Management Plan and submit it to the appropriate local jurisdiction prior to construction (i.e., City of Antioch, City of Pittsburg) for review and approval prior to construction. The plan shall include the following components:</p> <ul style="list-style-type: none"> <li>• Identify hours of construction (between 8:00 AM and 5:00 PM; no construction shall be permitted between 10:00 PM and 7:00 AM);</li> <li>• Schedule truck trips outside of peak morning and evening commute hours to minimize adverse impacts on traffic flow (i.e., if agencies with jurisdiction over the affected roads identify highly congested roadway segments during their review of the encroachment permit applications), Haul routes that minimize truck traffic on local roadways and residential streets shall be used.</li> <li>• Develop circulation and detour plans to minimize impact to local street circulation. This may include the use of signing and flagging to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone.</li> <li>• Control and monitor construction vehicle movements by enforcing standard construction specifications through periodic onsite inspections;</li> </ul>	<p>Less than significant</p>

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<ul style="list-style-type: none"> <li>• Install traffic control devices where traffic conditions warrant, as specified in the applicable jurisdiction's standards (e.g., the California Manual of Uniform Traffic Controls for Construction and Maintenance Work Zones);</li> <li>• Perform construction that crosses on-street and off-street bikeways, sidewalks, and other walkways in a manner that allows for safe access for bicyclists and pedestrians. Alternatively, provide safe detours to reroute affected bicycle/pedestrian traffic.</li> <li>• Consult with the Tri Delta Transit at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service;</li> <li>• Comply with roadside safety protocols to reduce the risk of accidents. Provide "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone.</li> <li>• Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones);</li> <li>• Store all equipment and materials in designated contractor staging areas;</li> <li>• Encourage construction crews to park at staging areas to limit lane closures in the public ROW;</li> <li>• Include a plan and implementation process for notifications and a process for communication with affected residents, businesses, and recreational users (public boat launch ramp and Contra Costa County Fairground) prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities at least one week in advance. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;</li> <li>• Include a plan and implementation process to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times;</li> <li>• Include a plan and implementation process to coordinate all construction activities with the Antioch Unified School District at least two months in advance. The School District shall be notified of the timing, location, and duration of construction activities. The City shall coordinate with the School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods. The construction contractor for each project component shall be required to maintain vehicle, bicycle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction;</li> <li>• Identify all roadway locations where special construction techniques (e.g., trenchless pipeline installation or night construction) will be used to minimize impacts to traffic flow. Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and</li> </ul>	

**TABLE ES-1 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	<ul style="list-style-type: none"> <li>Specify the street restoration requirements pursuant to agreements with the local jurisdictions (i.e., City of Antioch, City of Pittsburg).</li> </ul>	
<p><b>Impact 3.17-2:</b> Construction of the proposed project would temporarily disrupt circulation patterns near sensitive land uses (schools, hospitals, fire stations, police stations, and other emergency providers).</p>	<p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b></p>	<p>Less than significant</p>
<p><b>Impact 3.17-3:</b> Construction of the proposed project would have temporary effects on alternative transportation or alternative transportation facilities in the project area.</p>	<p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b></p>	<p>Less than significant</p>
<p><b>Impact 3.17-4:</b> Construction of the proposed project would temporarily increase the potential for accidents on project area roadways.</p>	<p><b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b></p>	<p>Less than significant</p>
<p><b>Impact 3.17-5:</b> Construction of the proposed project would increase wear-and-tear on the designated haul routes used by construction vehicles to access the project area work sites.</p>	<p><b>Mitigation Measure 3.17-5: Roadway Repairs</b> The City shall repair any roads damaged by project construction to a structural condition equal to that which existed prior to construction activity. Prior to project construction, City of Antioch Public Works Department shall document road conditions for all routes that would be used by project-related vehicles. The City shall also document road conditions after project construction is completed. Roads damaged by project construction shall be repaired to a structural condition equal to that which existed prior to construction activity.</p>	<p>Less than significant</p>
<p><b>Impact 3.17-C-1:</b> Construction of the proposed project, in combination with other cumulative development, could result in cumulative effects relating to transportation and circulation conditions in the project study area.</p>	<p><b>Mitigation Measure 3.17-1a: Encroachment Permits</b> <b>Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan</b> <b>Mitigation Measure 3.17-5: Roadway Repairs</b></p>	<p>Less than significant</p>
<b>Tribal Cultural Resources</b>		
<p><b>Impact 3.18-1:</b> The project could cause a substantial adverse change in the significance of a tribal cultural resource.</p>	<p><b>Mitigation Measure 3.5-2: Inadvertent Discovery of Archaeological Resources</b> <b>Mitigation Measure 3.5-3: Inadvertent Discovery of Human Remains</b></p>	<p>Less than significant</p>
<p><b>Impact 3.18-C-1:</b> Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to tribal cultural resources.</p>	<p><b>Mitigation Measure 3.5-2: Inadvertent Discovery of Archaeological Resources</b> <b>Mitigation Measure 3.5-3: Inadvertent Discovery of Human Remains</b></p>	<p>Less than significant</p>

# EXHIBIT "B"

**TABLE 4-1  
MITIGATION AND MONITORING AND REPORTING PROGRAM**

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Air Quality</b>							
3.2-1	Construction of the project would result in criteria pollutant emissions that could exceed air quality standards or contribute substantially to an existing or projected air quality violation.	<p><b>3.2-1: BAAQMD Basic Construction Measures.</b></p> <p>To limit air pollutant emissions associated with construction, the City of Antioch and/or its contractor(s) shall implement and maintain the following BAAQMD-recommended Basic Construction Measures (BCM):</p> <ul style="list-style-type: none"> <li>All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.</li> <li>All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> <li>All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</li> <li>All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).</li> <li>All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations (CCR)). Clear signage shall be provided for construction workers at all access points.</li> <li>All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>Post a publicly visible sign with the telephone number and persons to contact at the City of Antioch regarding dust complaints. These persons shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.</li> </ul>	<ol style="list-style-type: none"> <li>City</li> <li>City/Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Incorporate all listed BAAQMD-recommended BCMS into the contract specifications.</li> <li>Monitor to verify implementation of BCMS.</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction</li> <li>Construction</li> </ol>	
3.2-3	Construction of the project would result in emissions that could conflict with the 2017 Clean Air Plan.	<p><b>Implement Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures (see details above)</b></p>					
3.2-4	Construction of the project could expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.	<p><b>3.2-4: Construction Emissions Minimization.</b></p> <p>The City of Antioch (and/or its construction contractor(s)) shall ensure that all diesel-powered equipment to be operated during construction activities at the river pump station and desalination facility sites meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards. An Exhaust Emissions Equipment inventory shall be prepared prior to the commencement of construction and maintained throughout construction that identifies each off-road unit's certified tier specification status to be operated at the river pump station and desalination facility sites.</p>	<ol style="list-style-type: none"> <li>City/Contractor</li> <li>Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Prepare Exhaust Emissions Equipment inventory for river pump station and desalination facility sites.</li> <li>Maintain Exhaust Emissions Equipment inventory</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction</li> <li>Construction</li> </ol>	
3.2-C-1	Construction of the proposed project, in combination with other cumulative development, could result in increased air quality standards or contribute substantially to an existing or projected air quality violation.	<p><b>Implement Mitigation Measure 3.2-1: BAAQMD Basic Construction Measures (see details above)</b></p>					
3.2-C-3	Construction of the proposed project, in combination with other cumulative development, could expose sensitive receptors to toxic air contaminants, including diesel particulate matter emissions.	<p><b>Implement Mitigation Measure 3.2-4: Construction Emissions Minimization (see details above)</b></p>					

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Aquatic Biological Resources</b>							
3.3-3	Construction of the proposed intake facility could result in direct disturbance and mortality of fish from installation of cofferdams and dewatering.	<p><b>3.3-3a: Conduct Worker Awareness Training.</b> A worker awareness training program shall be conducted for construction crews before the start of construction activities at the river intake pump station site. The program shall include a brief overview of sensitive fisheries and aquatic resources (including riparian habitats) on the project site, measures to minimize impacts on those resources, and conditions of relevant regulatory permits.</p> <p><b>3.3-3b: Implement In-water Work Windows.</b> Any in-water construction activities (e.g., construction of the sheetpile cofferdam) shall be conducted during months when special-status fish species/sensitive life stages are least likely to be present or less susceptible to disturbance (e.g., August 1 to October 31; anadromous salmonids and smelt). If any in-water work is to be conducted, a qualified biologist or resource specialist shall be present during such work to monitor construction activities and ensure compliance with terms and conditions of permits issued by regulatory agencies (see Mitigation Measure 3.3-3d below).</p> <p><b>3.3-3c: Develop and Implement Fish Rescue Plan.</b> To reduce the potential for fish stranding or minimize the potential for harm during cofferdam dewatering activities, the City or its contractor shall develop and implement a fish rescue plan. Prior to the closure of the cofferdam in the Delta, seining by a qualified fisheries biologist shall be conducted within the cofferdam using a small-mesh seine to direct and move fish out of the cofferdam area. Upon completion of seining, the entrance to the cofferdam shall be blocked with a net to prevent fish from entering the cofferdam isolation area before the cofferdam is completed. Once the cofferdam is completed and the area within the cofferdam is closed and isolated, additional seining shall be conducted within the cofferdam to remove any remaining fish. If present, Once all noticeable fish have been removed from the isolated area, portable pumps with intakes equipped with 1.75 mm mesh screen shall be used to dewater to a depth of 1.5-2 feet. A qualified biologist shall implement further fish rescue operations using electrofishing and dip nets. All fish that are captured shall be placed in clean 5-gallon buckets and transported to the City or its contractor. Downstream of the construction area, and immediately adjacent to the cofferdam, the City shall install and maintain all fish screens released back into suitable habitat. Dip nets, electrofishing, and dip nets (as necessary) portable pumps with screens (see above) shall be used for final dewatering. NMFS, USFWS, and CDFW shall be notified at least 48 hours prior to the fish rescue.</p> <p><b>3.3-3d: Consult with Resources Agencies and Implement Additional Measures.</b> The City shall also consult with NMFS, USFWS, and CDFW (as part of obtaining permit approvals (e.g., FESA Section 7, CESA (Fish and Game Code Sections 2080, 1, 2081)) to determine necessary impact minimization actions, which may include surveying the intake site to determine fish presence prior to installation. The City shall implement any additional measures developed through the FESA Section 7 and Fish and Game Code Sections 2080, 1, 2081 permit processes, to ensure that impacts are avoided and/or minimized.</p>	<p>1. City (Biologist)</p> <p>1. City</p> <p>1. City (Biologist)</p> <p>1. City/Contractor 2. City 3. City (Biologist)</p> <p>1. City 2. City/NMFS, USFWS, and CDFW</p>	<p>1. Conduct worker awareness training for construction at river intake pump station site.</p> <p>1. Limit in-water construction to August 1 to October 31. 2. Retain qualified biologist or resource specialist during in-water work at river intake pump station site.</p> <p>1. Develop fish rescue plan 2. Notify NMFS, USFWS, and CDFW at least 48 hours prior to fish rescue 3. Retain qualified biologist to conduct activities according to the protocol described in the mitigation measure.</p> <p>1. Consult with NMFS, USFWS, and CDFW. 2. Implement additional measures identified through consultation process.</p>	<p>1. Preconstruction</p> <p>1. Construction 2. Construction</p> <p>1. Preconstruction 2. Preconstruction 3. Construction</p> <p>1. Preconstruction 2. Construction</p>	<p>1. Preconstruction</p> <p>1. Construction 2. Construction 3. Construction</p>	
3.3-4	Construction of the proposed intake facility could result in a short-term degradation or aquatic habitat caused by an increase in hydrostatic pressure, underwater noise, and vibrations.	<p><b>3.3-4: Underwater Sound Levels.</b> The City shall implement the following measures to avoid and minimize potential adverse effects that could otherwise result from in-water pile-driving activities:</p> <ul style="list-style-type: none"> <li>The City shall develop a plan for pile-driving activities to minimize impacts on fish and will allow sufficient time in the schedule for coordination with regulatory agencies. Measures will be implemented to minimize underwater sound pressure to levels below thresholds for peak pressure and accumulated sound exposure levels. Threshold levels established by NMFS are: <ul style="list-style-type: none"> <li>peak pressure = 206 dBpeak</li> <li>accumulated sound exposure levels = 163 dBSEL</li> </ul> </li> <li>Underwater sound monitoring shall be performed during pile-driving activities. A qualified acoustician, biologist, and/or natural resource specialist shall be present during such work to monitor construction activities and compliance with terms and conditions of permits.</li> </ul>	<p>1. City 2. City (Acoustician, Biologist, and/or Natural Resource Specialist) 3. City/Contractor</p>	<p>1. Develop plan for pile-driving activities. 2. Retain qualified acoustician, biologist, and/or natural resource specialist to monitor pile-driving activities. 3. Conduct construction activities according to the protocol described in the mitigation measure.</p>	<p>1. Preconstruction 2. Construction 3. Construction</p>		

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Aquatic Biological Resources (cont.)</b>						
3.3-4 (cont.)		<ul style="list-style-type: none"> <li>Pile driving shall occur during the established/approved work window (August 1 through October 31, or other as approved by NMFS, USFWS, and CDFW).</li> <li>Sheet piling shall be driven by vibratory or nonimpact methods (i.e., hydraulic) that result in sound pressures below threshold levels to the extent feasible.</li> <li>Pile driving activities may occur during periods of reduced currents as needed to meet the threshold limits. Pile-driving activities shall be monitored and if any stranding injury or mortality to fish is observed, CDFW, NMFS, and/or USFWS shall be immediately notified and in-water pile driving shall cease.</li> <li>Pile driving shall be conducted only during daylight hours and initially will be used at low energy levels and reduced impact frequency. Applied energy and frequency shall be gradually increased until the force and frequency necessary to advance the pile is achieved.</li> <li>If it is determined that impact hammers are required and/or underwater sound monitoring demonstrates that thresholds are being exceeded, the contractor shall implement sound dampening or attenuation devices to reduce levels to the extent feasible; these may include the following:                             <ul style="list-style-type: none"> <li>water bladder confidant;</li> <li>confined or unconfined air bubble curtain.</li> </ul> </li> </ul>				
3.3-5	Construction of the proposed intake facility would result in a loss of shallow water habitat.	<p><b>3.3-5: Purchase Mitigation Credits.</b> The City shall purchase mitigation credits from a public or private mitigation bank approved by USFWS, NMFS, and/or CDFW. The final number of credits to be purchased shall be determined in consultation with USFWS, NMFS, and CDFW. Mitigation credit purchase shall be conducted either before or as soon as possible after construction of the intake commences.</p>	1. City	1. Purchase mitigation credits in consultation with USFWS, NMFS, and/or CDFW.	1. Preconstruction/Construction	
<b>Terrestrial Biological Resources</b>						
3.4-1	The proposed project could result in significant impacts, either directly or through habitat modifications, on species identified as sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	<p><b>3.4-1a: Pre-construction Nesting Bird Surveys.</b> The general raptor and passerine bird nesting period cited by CDFW is often cautiously interpreted to be the period between February 1 and August 31. Breeding birds are protected under Sections 3503, 3504, and 3505 of the Code of Regulations, and the Federal Migratory Bird Treaty Act (16 USC, Sec. 703 Supp. 1, 1989) prohibit the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds which are defined as birds occurring naturally in California that are neither game birds nor fully protected species.</p> <p>In general, CDFW recommends a 250-foot construction exclusion zone around the nests of active passerine songbirds during the breeding season, and a 500-foot buffer for nesting raptors. These buffer distances are considered initial starting distances once a nest has been identified, and are sometimes revised downward to 100 feet and 250 feet, respectively, based on site conditions. The following are some examples of how these buffer distances may also be modified if obstacles such as buildings, trees, or other structures are present near active bird nests, or existing disturbances create an ambient background disturbance similar to the proposed disturbances.</p> <p>a) Avian surveys shall be performed during breeding bird season (February 1 to August 31) no more than 14 days prior to ground disturbing or in-water construction activities in order to locate any active passerine nests within 250 feet of the project footprint and any active raptor nests within 500 feet of the project footprint. Building demolition, trenching, pipeline installation, and new construction activities performed between September 1 and January 31 shall avoid the general nesting period for birds and therefore would not require pre construction surveys.</p> <p>b) If active nests are found on either the proposed construction site, no-work buffer zones shall be established around the nests (100 to 150 feet for passerine birds and 150 to 250 feet for raptors, depending upon species sensitivity to disturbance) in coordination with CDFW. No staking, ground-disturbing, or construction activities shall occur within a buffer zone until young have fledged or the nest is otherwise abandoned as determined by the qualified biologist. If work during the nesting season stops for 14 days or more and then resumes, then nesting bird surveys shall be repeated, to ensure that no new birds have begun nesting in the area.</p>	1. City (Biologist) 2. City (Biologist) 3. City (Biologist) 4. City (Biologist)	1. Retain qualified biologist to conduct preconstruction avian surveys for active nests in accordance with CDFW protocols and reporting requirements. 2. Conduct construction activities according to the protocol described in the mitigation measure. 3. Retain qualified biologist to conduct preconstruction burrowing owl surveys in accordance protocol described in the mitigation measure. 4. Retain qualified biologist to conduct preconstruction surveys for Swainson's hawk in accordance protocol described in the mitigation measure.	1. Preconstruction 2. Preconstruction/Construction 3. Construction 4. Preconstruction	

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
3.4-1 (cont.)	Terrestrial Biological Resources (cont.)	<p>d) Burrowing owl Take Avoidance Surveys shall be conducted according to the methodologies presented in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012) for annual presence and non-presence surveys on the I-5/Arroyo Parkway. Take Avoidance Surveys shall be conducted 14 days prior to initiation of construction activities. As a minimum, the project shall recognize a site after only a few days, time lapses greater than 14 days between project activities require subsequent surveys, including but not limited to a final survey conducted within 24 hours prior to ground disturbance to ensure absence. Surveys are intended to identify burrows and burrowing owls outside of the study area, which may be impacted by factors such as noise and vibration (heavy equipment) during project construction. As no access is available to grasslands north of the highway, a pedestrian surveys transect shall be performed from the northern edge of the public right-of-way.</p> <p>i. If burrowing owls are detected during surveys, the following restricted activity dates and setback distances derived from the 2012 Staff Report on Burrowing Owl Mitigation (CDFW 2012) shall apply, or as otherwise coordinated with the CDFW:</p> <ol style="list-style-type: none"> <li>1. Occupied burrows shall not be disturbed during the nesting season, from February 1 through August 31;</li> <li>2. No disturbance shall occur within 50 meters (approximately 150 feet) of occupied burrows during October 16 through March 31 or within 200 meters (approximately 660 feet) April 1 through October 15;</li> <li>3. No earth-moving activities or other disturbance shall occur within the aforementioned buffer zones of occupied burrows. These buffer zones shall be well-marked. If burrowing owls were found in the study area, a qualified biologist shall also delineate the extent of burrowing owl habitat on the site, and</li> <li>4. Buffers may be modified by a qualified burrowing owl biologist that is knowledgeable enough to establish buffer sizes that are commensurate with the acclimation of western burrowing owls to disturbance. These buffers if modified over that prescribed above, shall be coordinated with the CDFW.</li> <li>5. Because no burrowing owl habitat occurs on-site, passive relocation of owls is not anticipated. Information regarding the occurrence of burrowing owls near the project site shall be reported to the CNDDB.</li> </ol> <p>d) Preconstruction Surveys for Swainson's hawk and white-tailed kite. If construction activities occur between February 1 and August 31, the Project Applicant shall retain a qualified biologist to conduct surveys for Swainson's hawk and white-tailed kite in accordance with the Swainson's Hawk Technical Advisory Committee 2000 guidelines (SHTAC 2000), or current guidance. Surveys shall cover a minimum of a 0.5-mile radius around the construction area. If Swainson's hawks or white-tailed kites are located, the qualified biologist shall establish a 500-foot buffer around the nest. Buffers shall be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. No habitat loss would occur for either species; hence, compensatory mitigation is not necessary.</p> <p>3.4-1b: Pre-construction Bat Survey. To minimize impacts on special-status bats, a preconstruction survey shall be performed from accessible lands, and no-disturbance buffers shall be created around active bat roosting sites, if found. Prior to ground disturbing construction activities (i.e., ground clearing, trenching, and grading) within 200 feet of trees that could support special-status bats, a qualified bat biologist shall survey for special-status bats. If no evidence of bats (i.e., direct observation, guano, staining, or strong odors) is observed, no further mitigation shall be required. If evidence of bats is observed, the following measures shall be implemented to avoid potential impacts on breeding populations: a) A no-disturbance buffer of 200-feet shall be created around active bat roosts during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected by the indirect effects of noise and construction disturbances. However, the direct take of individuals will be prohibited.</p>	<ol style="list-style-type: none"> <li>1. City (Biologist)</li> <li>2. City (Biologist)</li> </ol>	<ol style="list-style-type: none"> <li>1. City</li> <li>2. City</li> </ol>	<ol style="list-style-type: none"> <li>1. Retain qualified biologist to conduct preconstruction surveys for active bat roosting sites or evidence of special status bats.</li> <li>2. Conduct construction activities according to the protocol described in the mitigation measure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Preconstruction</li> <li>2. Construction</li> </ol>	

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Terrestrial Biological Resources (cont.)</b>							
3.4-1 (cont.)		<p>b) In the case that removal of trees showing evidence of bat activity is needed, tree removal shall occur during the period from February 15 to April 15, as determined by a qualified bat biologist. Bat activity shall be determined by a qualified bat biologist between February 15 and April 15 for roosting activity. Bat exclusion devices (e.g., installation of netting to block roost entrances) shall also be conducted during these periods.</p> <p>The qualified biologist shall be present during any tree trimming and disturbance, if trees containing or suspected of containing bat roosts are present. Trees with roosts shall be disturbed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50 degrees Fahrenheit (°F). Branches and limbs not containing cavities or fissures in which bats could roost shall be cut only using chainsaws. Branches or limbs containing roost sites shall be trimmed the following day, under the supervision of the qualified biologist, also using chainsaws.</p>	1. City/Contractor	1. City/USACE	1. Verify bottom of the San Joaquin River in the work area is recontoured.	1. Post-construction	
3.4-3	The proposed project could have a substantial adverse effect on state or federally-protected wetlands, other waters, and navigable waters through direct removal, filling, hydrological interruption, or other means.	<p><b>3.4-3: Recontour Aquatic Habitat and Remove Debris Following In-Water Construction.</b></p> <p>To mitigate impacts on waters of the U.S. in the San Joaquin River, it is estimated that the City will remove debris (e.g., concrete, the existing pipeline, and piers) and structures from the work area in an amount that is equal to or greater than the area of new facilities that will be introduced into the water. Because no wetlands (i.e., vegetated aquatic habitat) is present in the project footprint, the City need only restore the bottom contours of the San Joaquin River bed to emulate existing aquatic conditions at the site and no further shoreline restoration is needed. Specific water quality requirements during construction are identified in Section 3.10, Local Hydrology and Water Quality.</p>					
3.4-5	Development facilitated by the proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	<p><b>Implement Mitigation Measure 3.4-1a: Pre-construction Nesting Bird Surveys (see details above)</b></p> <p><b>Implement Mitigation Measure 3.4-1b: Pre-construction Bat Survey (see details above)</b></p>					
3.4-5-1	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future development could result in a cumulatively significant impact related to terrestrial biological resources.	<p><b>Implement Mitigation Measure 3.4-1a: Pre-construction Nesting Bird Surveys (see details above)</b></p> <p><b>Implement Mitigation Measure 3.4-1b: Pre-construction Bat Survey (see details above)</b></p>					
<b>Cultural Resources</b>							
3.5-2	The project could cause a substantial adverse effect on the significance of an archaeological resource.	<p><b>3.5-1: Inadvertent Discovery of Archaeological Resources.</b></p> <p>If prehistoric or historic-era archaeological resources are encountered by construction personnel during project implementation, all construction activities within 100 feet shall halt until a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (middens) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If a find is evaluated and determined to be significant, a mitigation plan shall be developed that recommends preservation in place as a preference or, if preservation in place is not feasible, data recovery through excavation. The mitigation plan will be developed in consultation with the affiliated Native American tribe(s), as appropriate. If preservation in place is feasible, this may be accomplished through one of the following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement. If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to</p>	1. City (Archaeologist) 2. City	1. City 2. City	1. Retain qualified archaeologist in the event prehistoric or historic-era archaeological resources are discovered 2. Comply with the protocol described in the mitigation measure.	1. Pre-construction 2. Construction	



TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Cultural Resources (cont.)</b>							
3.5-2 (cont.)		recover scientifically consequential information from the resource prior to any excavation at the site. Treatment for most resources would consist of (but would not necessarily be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim of recovering the maximum amount of information possible. The treatment plan shall include collection of data in a regional context; reporting of results within a timely manner; curation of artifacts and data at an approved facility; and dissemination of reports to local and state repositories, libraries, and interested professionals.					
3.5-3	The proposed project could disturb human remains, including those interred outside of dedicated cemeteries.	Should the project include federal funding or oversight or otherwise qualify as a federal undertaking, the archaeological study shall be prepared in accordance with Section 106 of the National Historic Preservation Act of 1986, as amended.  3.5-2: Inadvertent Discovery of Human Remains.  In the event human remains are uncovered during construction activities for the project, the City shall immediately halt work, contact the Contra Costa County Coroner to evaluate the remains, and follow the procedures and protocols pursuant to Section 15964.5(e)(1) of the CEQA Guidelines. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 48 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person thought to be the Most Likely Descendant of the deceased Native American. The Most Likely Descendant will make recommendations for means of respectful disposition of the human remains and any associated grave goods as provided in PRC Section 5097.98.  Implement Mitigation Measure 3.5-2: Inadvertent Discovery of Human Remains (see details above)	1. City/Contractor	1. City	1. Comply with the protocol described in the mitigation measure if human remains are found.	1. Construction	
3.5-C-1	Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to archaeological resources.	Implement Mitigation Measure 3.5-2: Inadvertent Discovery of Human Remains (see details above)					
3.5-C-2	Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to human remains.	Implement Mitigation Measure 3.5-2: Inadvertent Discovery of Human Remains (see details above)					
<b>Energy Conservation</b>							
3.7-1	The project would not use large amounts of fuel or energy in an inefficient manner.	3.7-1: Construction Equipment Efficiency.  The City shall retain a qualified professional (i.e., construction planner/energy expert) to identify the specific measures that the City (and its construction contractors) will implement as part of project construction and decommissioning to increase the efficient use of construction equipment to the maximum extent feasible. Such measures shall include, but not necessarily be limited to: procedures to ensure that all construction equipment is properly tuned and maintained at all times; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; and identification of procedures (including the routing of haul trips) that will be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner. The measures shall be incorporated into construction specifications and implemented throughout the construction and decommissioning periods.  Implement Mitigation Measure 3.2-1: Idling Restrictions (see details under Air Quality, above)  Implement Mitigation Measure 3.2-1: Idling Restrictions (see details under Air Quality, above)  Implement Mitigation Measure 3.7-1: Construction Equipment Efficiency (see details above)	1. City/Contractor	1. City	1. Retain qualified construction planner/energy efficiency expert and incorporate construction equipment efficiency measures in the construction specifications.  2. Verify implementation of equipment efficiency measures.	1. Design 2. Construction/Decommissioning	
3.7-C-1	Implementation of the project, in combination with past, present, and reasonably foreseeable future development, would not use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.	Implement Mitigation Measure 3.2-1: Idling Restrictions (see details under Air Quality, above)  Implement Mitigation Measure 3.7-1: Construction Equipment Efficiency (see details above)					

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
3.9-2	The proposed project could emit hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details under Transportation and Circulation, below)					
3.9-3	The proposed project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Section 65862.5 and, as a result, could create a significant hazard to the public or the environment.	<p><b>3.9-3a: Health and Safety Plan.</b> The construction contractor(s) shall prepare and implement site-specific Health and Safety Plans (HASP) in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This HASP shall be submitted to the City of Antioch for review prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s). The HASP shall include, but is not limited to, the following elements:</p> <ul style="list-style-type: none"> <li>Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site HASP.</li> <li>A summary of all potential risks to demolition and construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals;</li> <li>Specified personal protective equipment and decontamination procedures, if needed;</li> <li>Emergency procedures, including route to the nearest hospital; and</li> <li>Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is discovered. Procedures shall include, but are not limited to, the following:                     <ul style="list-style-type: none"> <li>Stop all activities in the area of the discovery.</li> <li>Notify the appropriate regulatory agencies and specifically include, but are not limited to, the following: Contra Costa Health Services - Hazardous Materials Programs, and retaining a qualified environmental firm to perform sampling and remediation.</li> </ul> </li> </ul> <p><b>3.9-3b: Soil Management Plan.</b> In support of the HASP described above in Mitigation Measure 3.9-3a, the contractor shall develop and implement a Soil Management Plan (SMP) that includes a materials disposal plan specifying how the construction contractor(s) will remove, handle, transport, and dispose of all excavated materials in a safe, appropriate, and lawful manner. This SMP shall be submitted to the City of Antioch for review prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s). The SMP must identify protocols for soil testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil. In addition, the City or its contractor shall contact the Fulton Shipyards to identify the appropriate disposal site for sediments around the proposed intake pump station. The contact is Deborah L. C. Shannon, 2200 W. Shannon Creson, 2200 Wymore Way, Antioch, California 94509, shannon@dfilttechfilling.com.</p> <p><b>3.9-3c: ACM Management Plan.</b> Prior to commencement of demolition and construction activities and as a condition of the grading, construction, and/or demolition permit(s), the contractor shall conduct a survey at the location of the oil pipes that may be present with asbestos and if they are coated with ACM. In the event that the abandoned petroleum pipelines are coated with ACM and in support of the HASP described above in Mitigation Measure 3.9-3a, the contractor shall develop and implement an ACM Management Plan (ACMMP) that includes a materials disposal plan specifying how the construction contractor will remove, handle, transport, and dispose of all ACM-insulated pipe materials in a safe, appropriate, and lawful manner. The ACMMP must identify protocols for worker protection, ACM testing and disposal, identification of the approved disposal site, and include written documentation that the disposal site can accept the waste. The ACMMP shall be submitted to the BAAQMD for their review and approval. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of ACM.</p>	<ol style="list-style-type: none"> <li>Contractor</li> <li>Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Prepare and submit site-specific HASP to the City for review and approval.</li> <li>Verify implementation of HASP.</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction</li> <li>Construction</li> </ol>	
			<ol style="list-style-type: none"> <li>Contractor</li> <li>City</li> <li>Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Prepare and submit SMP to the City for review and approval and incorporate requirements into the contract specifications.</li> <li>Contact Fulton Shipyards to acquire sediment quality information.</li> <li>Verify implementation of SMP.</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction</li> <li>Preconstruction</li> <li>Construction</li> </ol>	
			<ol style="list-style-type: none"> <li>Contractor</li> <li>Contractor</li> <li>Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>BAAQMD</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Conduct survey to determine presence of ACM.</li> <li>Prepare and submit ACMMP in accordance with specifications in Mitigation Measure 3.9-3c to BAAQMD for review and approval and incorporate requirements into the contract specifications.</li> <li>Verify implementation of ACMMP.</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction</li> <li>Preconstruction</li> <li>Construction</li> </ol>	

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Hazards and Hazardous Materials (cont.)</b>							
3.9-4	The proposed project could impair the environment or physically interfere with existing emergency response plan or emergency evacuation plan.	Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details under Transportation and Circulation, below)					
<b>Noise and Vibration</b>							
3.13-1	Construction of facilities under the proposed project could generate noise levels that exceed the applicable county or city noise standards or result in a substantial temporary increase in ambient noise levels at nearby sensitive receptors.	<p><b>3.13-1: General Noise Controls for Construction Equipment and Activities.</b></p> <p>a) The construction contractor(s) shall ensure that construction equipment with internal combustion engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an unshielded exhaust.</p> <p>b) To reduce potential daytime construction noise impacts to residential uses immediately south and west of the desalination facility contractors shall employ temporary noise curtains or barriers along the southern and western property boundary of the WTP to shield daytime construction noise impacts to residential uses to the south and west. To reduce potential daytime construction noise impacts to residential uses immediately east of the proposed new pump station, contractors shall employ temporary noise curtains or barriers along the eastern property boundary of the pump station westside to shield daytime construction noise impacts to residential uses immediately east of the pump station. This measure will ensure that daytime construction activities do not exceed City noise standards for construction in residential uses (70 dBA Leq). These barriers shall be installed prior to the start of construction.</p> <p>c) Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be placed on the compressed air exhaust to lower noise levels by up to approximately 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.</p>	<ol style="list-style-type: none"> <li>Contractor</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Incorporate requirement to use best available noise control techniques into contract specifications.</li> <li>Verify implementation of noise control measures.</li> </ol>	<ol style="list-style-type: none"> <li>Design/Preconstruction</li> <li>Construction</li> </ol>	
3.13-3	Operation of the project would generate traffic, stationary source, and area source noise similar to existing noise levels and would not exceed City noise requirements.	<p><b>3.13-3: Stationary-Source Noise Controls.</b></p> <p>The City shall retain an acoustical professional to design stationary-source noise controls and ensure the applicable noise standards are met. All stationary-source noise controls (e.g., RO pumps) shall be located within enclosed structures and with adequate noise screening, as needed, to maintain noise levels to no greater than 5 dBA above the existing monitored ambient values and 60 CNEL at the property lines of nearby residences. Once the stationary noise sources have been installed, the contractor(s) shall monitor noise levels to ensure compliance with local noise standards.</p>	<ol style="list-style-type: none"> <li>City/Contractor</li> <li>Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Retain an acoustical professional to design stationary-source noise controls and incorporate requirements into contract specifications.</li> <li>Monitor and verify compliance with local noise standards.</li> </ol>	<ol style="list-style-type: none"> <li>Design/Preconstruction</li> <li>Construction</li> </ol>	
3.13-C-1	Implementation of the proposed project in combination with other cumulative development could result in a significant noise impact for which the proposed project would make a considerable contribution.	Implement Mitigation Measure 3.13-1: General Noise Controls for Construction Equipment and Activities (see details above)					
<b>Public Services and Utilities</b>							
3.15-1	The proposed project could disrupt operations or require relocation of regional or local utilities.	<p><b>3.15-1a: Locate and Confirm Utility Lines.</b></p> <p>Before excavation begins, the City of Antioch or its contractor(s) shall locate all overhead and underground utility lines (such as natural gas, electricity, sewerage, telephone, fuel, and water lines) that are reasonably expected to be encountered during excavation. When a project excavation is within the approximate location of a subsurface utility, the City of Antioch or its contractor shall determine the exact location of the underground utility by safe and acceptable means, including the use of hand tools and modern techniques. Information regarding the size, color, and location of existing utilities shall be confirmed before construction activities begin. These utilities shall be highlighted on all construction drawings.</p>	<ol style="list-style-type: none"> <li>City/Contractor</li> </ol>	<ol style="list-style-type: none"> <li>City</li> </ol>	<ol style="list-style-type: none"> <li>Identify utility lines in the project area that could be encountered during excavation and include locations on construction drawings.</li> </ol>	<ol style="list-style-type: none"> <li>Design/Preconstruction</li> </ol>	

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Public Services and Utilities (cont.)</b>							
3.15-1 (cont.)		<p><b>3.15-1b: Coordinate Final Construction Plans with Affected Utilities.</b> The City of Antioch or its contractor(s) shall coordinate final construction plans, schedule, and specifications with affected utilities with utility providers and affected jurisdictions (e.g., the City of Pittsburg). Arrangements shall be made with these entities regarding the appropriate protection, relocation, or temporary disconnection of services. If any interruption of service is required, the City of Antioch or its contractor(s) shall notify residents and businesses in the project corridor of any planned utility service disruption at least 2 working days and up to 14 calendar days in advance.</p> <p><b>3.15-1c: Safeguard Employees from Potential Accidents Related to Underground Utilities.</b> When any excavation is open, the construction contractor(s) shall protect, support, or remove underground utilities as necessary to safeguard employees. The contractor(s) shall be required to provide weekly updates to the City of Antioch and construction workers regarding the planned excavations for the upcoming week, and to specify when construction will occur near a high-priority utility (i.e., pipelines carrying petroleum products, oxygen, chlorine, or toxic or flammable gases; natural gas pipelines greater than 6 inches in diameter or with normal operating pressures greater than 60 pounds per square inch gauge; and underground electric supply lines, conductors, or cables that have a potential to ground more than 300 volts that do not have effectively grounded sheaths). Construction managers shall hold regular tailgate meetings with construction staff on days when work near high-priority utilities will occur to review all safety measures regarding such excavations, including measures identified in the Mitigation Monitoring and Reporting Program and in the project's Safety Plan. The contractor(s) shall designate a qualified Field and Safety Officer who shall strictly enforce safety distances to work near high-priority utilities. The Field and Safety Officer shall not be authorized until the designated Health and Safety Officer confirms such utility lines shall not be authorized until the designated Health and Safety Officer confirms and documents in the construction records that: (1) the line was appropriately located in the field by the utility owner using as-built drawings and a pipeline-locating device; and (2) the location was verified by hand by the construction contractor.</p> <p><b>3.15-1d: Emergency Response Plan.</b> Before commencement of construction, the City of Antioch or its contractor(s) shall develop an emergency response plan that outlines procedures to follow in the event of a leak or explosion. The emergency response plan shall identify the names and phone numbers of staff at the potentially affected utilities that would be available 24 hours per day in the event that construction activities cause damage to or rupture of a high-risk utility. The plan shall also detail emergency response protocols, including notification, inspection, and evacuation procedures; any equipment and vendors necessary to respond to an emergency (such as an alarm system); and routine inspection guidelines.</p> <p><b>3.15-1e: Notify Local Fire Departments.</b> The City of Antioch or its contractor(s) shall notify local fire departments in advance of any time work that is to be performed in close proximity to a gas utility line, or any time damage to a gas utility line results in a leak or suspected leak, or whenever damage to any utility results in a threat to public safety.</p> <p><b>3.15-1f: Ensure Prompt Reconnection of Utilities.</b> The City of Antioch or its contractor(s) shall promptly contact utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.</p>	<p>1. City/Contractor</p> <p>1. Contractor</p>	<p>1. City</p> <p>1. City</p>	<p>1. Implement protocol described in the mitigation measure.</p> <p>1. Provide weekly updates to the City and comply with protocol described in the mitigation measure.</p>	<p>1. Preconstruction 2. Preconstruction</p> <p>1. Preconstruction/Construction</p>	
3.15-C-1	The proposed project, in combination with other cumulative development, could disrupt operations or require relocation of regional or local utilities.	Implement Mitigation Measures 3.15-1a through f (see details above)	1. City/Contractor	1. City	1. Notify fire department in advance of work near or when work affects a gas utility line.	1. Preconstruction/Construction	
<b>Recreation</b>							
3.15-1	Project construction activities could temporarily disrupt access to recreational resources in the vicinity of the project components.	Implement Mitigation Measures 3.15-1b: Construction Traffic Control/Traffic Management Plan (see details under Transportation and Circulation, below)					

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Transportation and Circulation</b>							
3.17-1	Construction of the proposed project would have temporary and intermittent effects on traffic and transportation conditions in the project area.	<p><b>3.17-1a: Encroachment Permits.</b> The construction contractor shall obtain any necessary road encroachment permits prior to constructing each project component and shall comply with the conditions of approval attached to all project permits and approval. In addition, the Construction Traffic Control/Traffic Management Plan (subject to local jurisdiction review and approval) required by Mitigation Measure 3.17-1b, would include safety measures for traffic flow and circulation during project construction.</p> <p><b>3.17-1b: Construction Traffic Control/Traffic Management Plan.</b> The construction contractor shall prepare a Construction Traffic Control/Traffic Management Plan and submit it to the appropriate local jurisdiction prior to construction (i.e., City of Antioch, City of Pittsburg) for review and approval prior to construction. The plan shall include the following components:</p> <ul style="list-style-type: none"> <li>Identify hours of construction (between 8:00 AM and 5:00 PM; no construction shall be permitted between 10:00 PM and 7:00 AM).</li> <li>Schedule truck trips outside of peak morning and evening commute hours to minimize adverse impacts on traffic flow (i.e., if agencies with jurisdiction over the affected roads identify highly congested roadway segments during their review of the encroachment permit applications). Haul routes that minimize truck traffic on local roadways and residential streets shall be used.</li> <li>Develop circulation and detour plans to minimize impact to local street circulation. This may include the use of signing and flagging to guide vehicles, bicyclists, and pedestrians through and/or around the construction zone.</li> <li>Control and monitor construction vehicle movements by enforcing standard construction specifications through periodic onsite inspections.</li> <li>Install traffic control devices where traffic conditions warrant, as specified in the applicable jurisdiction's standards (e.g., the California Manual of Uniform Traffic Controls for Construction and Maintenance Work Zones).</li> <li>Perform construction that crosses on-street and off-street bikeways, sidewalks, and other walkways in a manner that allows for safe access for bicyclists and pedestrians. Alternatively, provide safe detours to reroute affected bicycle/pedestrian traffic.</li> <li>Consult with the Tri Delta Transit at least one month prior to construction to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service.</li> <li>Comply with roadside safety protocols to reduce the risk of accidents. Provide "Road Work Ahead" warning signs and speed control (including signs informing drivers of state-legislated double fines for speed infractions in a construction zone) to achieve required speed reductions for safe traffic flow through the work zone.</li> <li>Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones).</li> <li>Store all equipment and materials in designated contractor staging areas.</li> <li>Encourage construction crews to park at staging areas to limit lane closures in the public ROW.</li> <li>Include a plan and implementation process for notifications and a process for communication with affected residents, businesses, and recreational users (public boat launch ramp and Contra Costa County Fairground) prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities at least one week in advance. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints.</li> </ul>	<p>1. Contractor</p> <p>1. Contractor</p>	<p>1. City</p> <p>1. City</p>	<p>1. Obtain road encroachment permits.</p> <p>1. Prepare and submit a Construction Traffic Control/Traffic Management Plan to the appropriate local jurisdiction for review and approval.</p> <p>2. Verify implementation of a Construction Traffic Control/Traffic Management Plan measures.</p>	<p>1. Preconstruction</p> <p>1. Preconstruction 2. Construction</p>	

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Transportation and Circulation (cont.)</b>							
3.17-1 (cont.)		<ul style="list-style-type: none"> <li>Include a plan and implementation process to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times.</li> <li>Include a plan and implementation process to coordinate all construction activities with the Antioch Unified School District at least two months in advance. The School District shall be notified of the timing, location, and duration of construction activities. The City shall coordinate with the School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods. The construction contractor for each project component shall be required to maintain vehicle, bicycle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction.</li> <li>Identify all roadway locations where special construction techniques (e.g., trenchless pipeline installation or night construction) will be used to minimize impacts to traffic flow. Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and</li> <li>Specify the street restoration requirements pursuant to agreements with the local jurisdictions (i.e., City of Antioch, City of Pittsburg).</li> </ul>					
3.17-2	Construction of the proposed project would temporarily disrupt circulation patterns near sensitive land uses (schools, hospitals, fire stations, police stations, and other emergency providers).	Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details above)					
3.17-3	Construction of the proposed project would have temporary effects on alternative transportation or alternative transportation facilities in the project area.	Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details above)					
3.17-4	Construction of the proposed project would temporarily increase the potential for accidents on project area roadways.	Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details above)					
3.17-5	Construction of the proposed project would increase near-and-far routes used by construction vehicles to access the project area work sites.	<p><b>3.17-5: Roadway Repairs.</b> The City shall repair any roads damaged by project construction to a structural condition equal to that which existed prior to construction activity. Prior to project construction, City of Antioch Public Works Department shall document road conditions for all routes that would be used by project-related vehicles. The City shall also document road conditions after project construction is completed. Roads damaged by project construction shall be repaired to a structural condition equal to that which existed prior to construction activity.</p>	1. City	1. City	<ol style="list-style-type: none"> <li>Document road conditions for all routes that would be used by project-related vehicles.</li> <li>Repair roads damaged by project-related vehicles.</li> </ol>	<ol style="list-style-type: none"> <li>Preconstruction/ Post-construction</li> <li>Post-construction</li> </ol>	
3.17-C-1	Construction of the proposed project in combination with other cumulative development could result in cumulative effects relating to transportation and circulation conditions in the project study area.	<p>Implement Mitigation Measure 3.17-1a: Encroachment Permits (see details above)</p> <p>Implement Mitigation Measure 3.17-1b: Construction Traffic Control/Traffic Management Plan (see details above)</p> <p>Implement Mitigation Measure 3.17-5: Roadway Repairs (see details above)</p>					

TABLE 4-1 (CONTINUED)  
MITIGATION AND MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Monitoring and Reporting Action(s)	Timing	Verification of Compliance
<b>Tribal Cultural Resources</b>							
3.18-1	The project could cause a substantial adverse change in the significance of a tribal cultural resource.	Implement Mitigation Measure 3.5-1: Inadvertent Discovery of Archaeological Resources (see details under Cultural Resources, above) Implement Mitigation Measure 3.5-2: Inadvertent Discovery of Human Remains (see details under Cultural Resources, above)					
3.18-C-1	Implementation of the proposed project, in combination with other cumulative development, could contribute to cumulative impacts to tribal cultural resources.	Implement Mitigation Measure 3.5-1: Inadvertent Discovery of Archaeological Resources (see details under Cultural Resources, above) Implement Mitigation Measure 3.5-2: Inadvertent Discovery of Human Remains (see details under Cultural Resources, above)					