

Notice of Determination

Appendix D

To:
[] Office of Planning and Research
1400 Tenth St., Room 113
Sacramento, CA 95814
[] County Clerk
County of Orange
24031 El Toro Road
Laguna Hills, CA 92653

From:
Public Agency:
Irvine Ranch Water District (Applicant)
15600 San Canyon Avenue
Irvine, CA 92618
Contact: Jo Ann Corey
Phone: (949) 453-5300

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2010051055

Project Title: Baker Water Treatment Plant

Project Location (include county): Lake Forest, CA - Orange County

Project Description:

Irvine Ranch Water District (IRWD) has prepared Addendum No. 4 to the Final Environmental Impact Report (EIR) for the Baker Water Treatment Plant (WTP) Project. The Baker WTP original design included the construction of an outfall system that was designed to safely discharge emergency releases from the Baker WTP and storm runoff from the adjoining Serrano Summit residential neighborhood into a small existing unnamed tributary to Serrano Creek. The Project proposes to implement repairs and improvements to the Baker WTP outfall system below the constructed concrete energy dissipator to repair existing erosion and stabilize the tributary slopes. Repair and modifications include the construction of five, 5-foot drop structures constructed of soil cement; installation of riprap bank protection downstream of the soil cement; and installation of geo-grid within the banks to increase stability in order to convey discharge and protect the banks of the Unnamed Tributary from future erosion.

This is to advise that the Irvine Ranch Water District (Lead Agency) has approved the above described project on February 10, 2020 and has made the following determinations regarding the above described project.

- 1. The project will not have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan was adopted for this project.
5. A statement of Overriding Considerations was not adopted for this project.
6. Findings were made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: www.irwd.com

Signature (Public Agency) - Jo Ann Corey, Environmental Compliance Specialist, Irvine Ranch Water District
Date 2/11/20

POSTED
FEB 11 2020
HUGH NGUYEN, CLERK-RECORDER
DEPUTY

FILED
FEB 11 2020
HUGH NGUYEN, CLERK-RECORDER
DEPUTY

Date Received for filing at OPR:

Recorded in Official Records, Orange County
Hugh Nguyen, Clerk-Recorder



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***Addendum to the Environmental Impact Report
For the Baker Water Treatment Plant Project
(State Clearinghouse No. 2010051055)
Addendum No. 4***

***Prepared for:
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92619-7000***

***Prepared by:
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January 2020

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SECTION 1.0 INTRODUCTION

1.1 Background

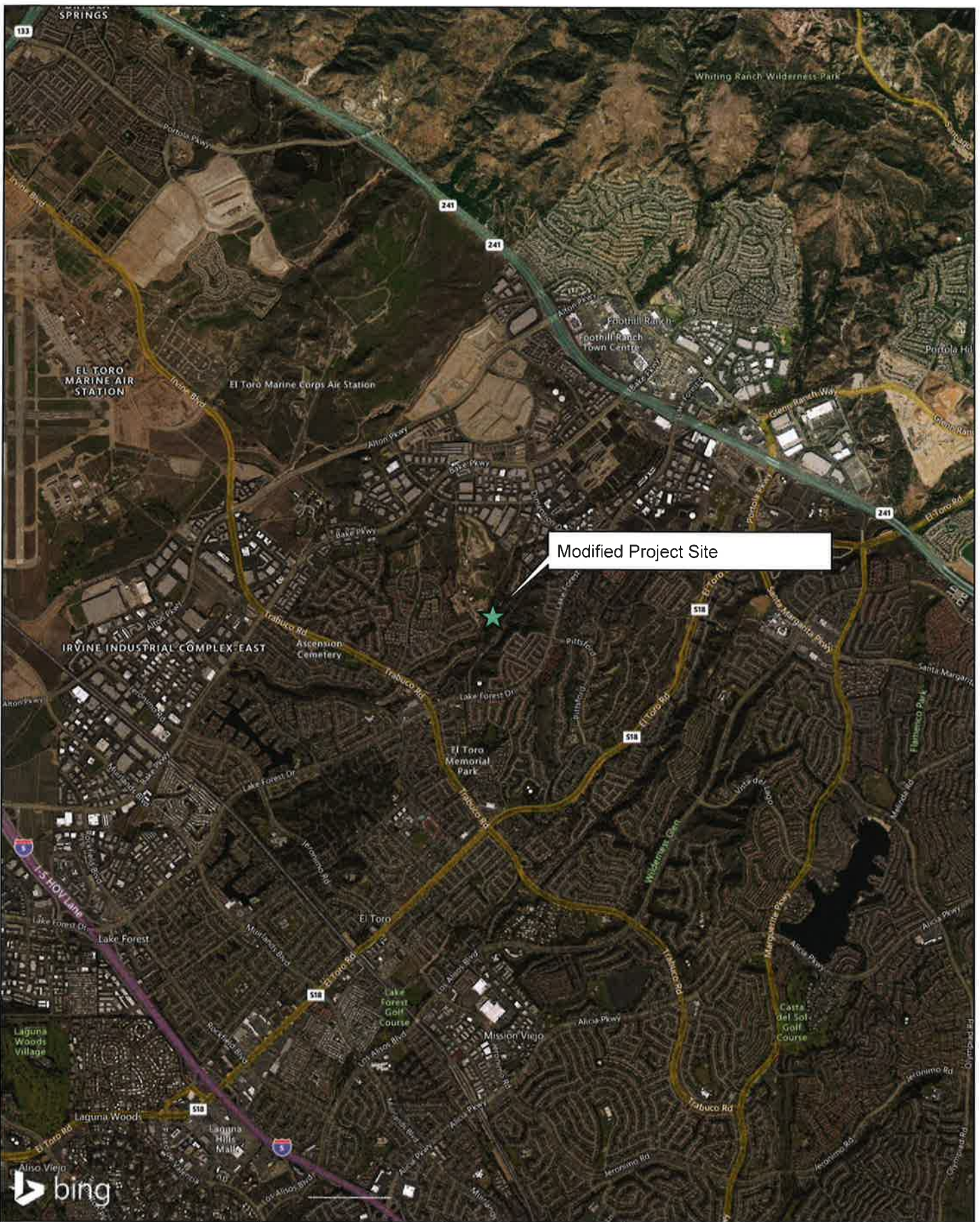
Irvine Ranch Water District proposes to modify the outfall system for the Baker Water Treatment Plant (Baker WTP) Project (Modified Project). The Baker WTP design included the construction of an outfall system that was designed to safely discharge emergency releases from the Baker WTP and storm runoff from the adjoining Serrano Summit residential neighborhood into a small existing unnamed tributary to Serrano Creek (Unnamed Tributary). Following a test discharge into the outfall system, IRWD conducted a field investigation and topographic survey of the outlet structure, the tributary to Serrano Creek, and the surrounding areas. The inspection and topographic mapping revealed erosion to the Unnamed Tributary below the concrete energy dissipator structure as a result of the test discharges. The concrete structure, outlet pipe system, and Serrano Creek showed no signs of any damage as a result of the test and associated erosion. The purpose of the Modified Project is to implement improvements to the Baker WTP outfall system below the concrete energy dissipator to repair the existing erosion, stabilize the tributary slopes, and incorporate a drainage system to safely convey runoff from the outfall system to Serrano Creek.

Plans for the Modified Project, as well as the Prior EIR and associated Addendums, are available for review during regular business hours at Irvine Ranch Water District located at 15600 Sand Canyon Avenue, Irvine, CA 92619-7000 or on IRWD's website, www.irwd.com.

1.2 Location and Surrounding Land Uses

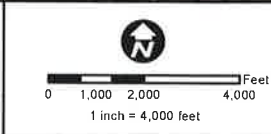
The Modified Project is located northeast of Valewood, west of Canada Road, and east of the Serrano Creek Trail in the City of Lake Forest, County of Orange, California. The Modified Project is within the *El Toro* U.S. Geological Survey 7.5-minute topographic map within Section 14, Township 6 south, and Range 8 west. Please refer to Figure 1 and Figure 2.

The area surrounding the Modified Project includes open space to the north and south; Serrano Creek to the east; and Serrano Creek Trail to the west. Access to the property is provided off the Serrano Creek Trail.



GIS Prepared By:
Carlson SLS

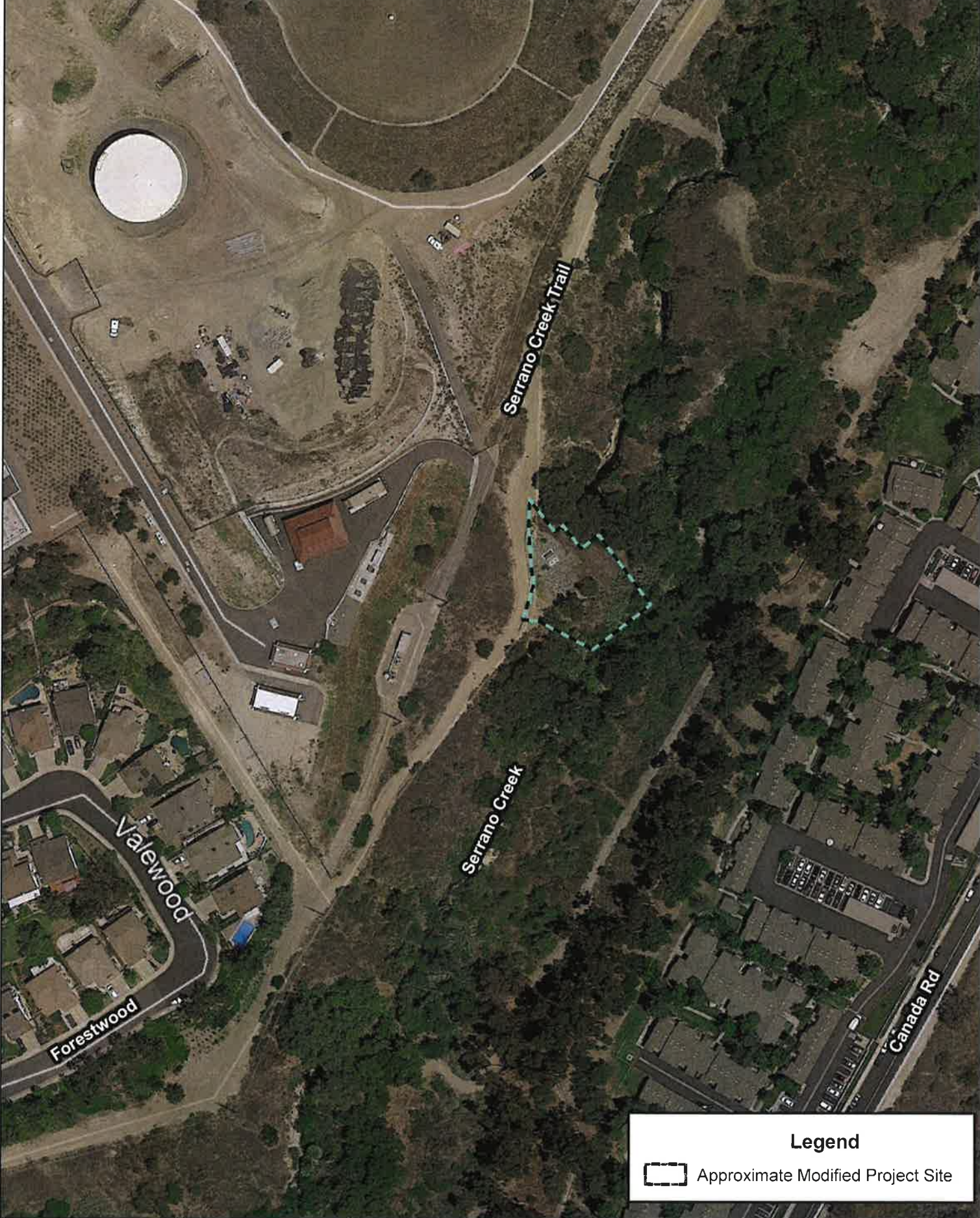
Created: September 5, 2019



Data Sources: Bing Maps

**Baker WTP Project EIR
Addendum No. 4
Regional Map**

FIGURE 1

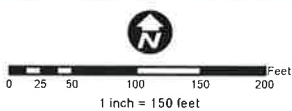


Legend

 Approximate Modified Project Site

GIS Prepared By:
Carlson SLS

Created: September 5, 2019



Data Source: Bing Map

**Baker WTP Project EIR
Addendum No. 4
Location Map**

FIGURE 2

1.3 Background and Site Existing Conditions

The Baker Water Treatment Plant (Baker WTP) is a joint regional project by five South Orange County water districts designed to increase water supply reliability to South County by increasing local treatment capability from multiple water supply sources. The completed project provides up to 28.1 million gallons per day (mgd) of drinking water. Baker WTP completed construction in late 2016 and was brought online in January 2017.

The Baker WTP design included the construction of an outfall system which was designed to safely discharge emergency releases from the Baker WTP and storm runoff from the adjoining Serrano Summit residential neighborhood into a small existing unnamed tributary to Serrano Creek. The outfall system included the construction of a reinforced concrete pipe storm drain (RCP) that discharged to a concrete impact basin energy dissipator structure (USBR Type IV). The end of the structure included a riprap lined section which discharged to the existing tributary.

The storm drain system and energy dissipator structure were designed to handle the peak overflow rate of 53.6 cubic feet per second (cfs) from the Baker WTP, plus an additional flow of 134.0 cfs from the adjacent Serrano Summit residential neighborhood. The 134.0 cfs for the 100-year storm event was obtained from the "Preliminary Hydrology Report, Multi-Use Development at Former IRWD site," prepared by Fuscoe Engineering dated March 2010 (Fuscoe 2010).

Prior to construction of the outfall system, the following Regulatory Permits were issued:

- U.S. Army Corps of Engineers (Corps File No. SPL-2013-00272-SME)
- California Department of Fish and Wildlife (Notification No. 1600-2011-0060-R5):
- Regional Water Quality Control Board (File No. 30-2011-07)
- U.S. Fish and Wildlife Service (FWS/CDFW – 14B0018-14CPA0403)

Environmental Science Associates (ESA) prepared a jurisdictional delineation incorporated into the Prior EIR documenting the impacts to jurisdictional waters and natural resources. Following the approval of the Prior EIR, Michael Baker International (MBI) prepared an updated delineation for the Regulatory Permit applications. The Regulatory Permits were issued by the Resource Agencies and authorized the construction of the existing outfall system.

On November 29, 2016, IRWD notified OC Parks of its intent to discharge through the recently constructed outfall structure as a test of the Baker WTP facility. The test discharge occurred December 1 and 2, 2016 for durations of five hours and eight hours, respectively, at a flow rate of about 43 cfs. During the discharge event, IRWD periodically monitored the flow and the condition of the outlet structure, the Unnamed Tributary to Serrano Creek and to the area around the outfall structure. Upon identification of erosion below the outlet structure, IRWD conducted a field investigation and topographic survey of the outlet structure, the Unnamed Tributary to Serrano Creek, and the surrounding areas. The inspection and topographic mapping revealed significant erosion to the Unnamed Tributary below the concrete energy dissipator structure as a result of the

test discharges. The concrete structure, outlet pipe system, and Serrano Creek showed no damage as a result of the test and associated erosion.

The northern and southern eroded banks of the Unnamed Tributary are nearly vertical and do not contain any riparian or native habitat, but rather consist of bare soil. Furthermore, the Unnamed Tributary is unvegetated streambed until further downstream where it is heavily vegetated with *Arundo* (*Arundo donax*), and downstream at the confluence with Serrano Creek, with Southern Sycamore Alder Riparian Woodland habitat. The top of bank of the Unnamed Tributary consists of oak trees with a ruderal understory.

The purpose of the Modified Project is to implement improvements to the Baker WTP outfall system below the concrete energy dissipator to repair the existing erosion, stabilize the tributary slopes, and incorporate a drainage system to safely convey runoff from the outfall system to Serrano Creek.

1.4 Proposed Modifications

The proposed changes associated with the Modified Project are summarized herein and collectively constitute the Modified Project.

The proposed modifications to the outfall system consist of a series of five, 5-foot high drop structures constructed of soil cement to convey discharge from the existing concrete energy dissipator structure to an Unnamed Tributary near the confluence with Serrano Creek. Each drop includes a stilling basin and end sill to force a hydraulic jump within the stilling basin. The proposed improvements would terminate just outside the main conveyance area with Serrano Creek at a location of existing naturally well-cemented sandstone material. Riprap bank protection is proposed downstream of the soil cement to transition the trapezoidal channel section to the natural channel banks of the tributary just upstream of the confluence with Serrano Creek. Above the soil cement on the banks of the tributary, geo-grid will extend back into the slope to increase stability. Soil will be placed over the geo-grid, and the area will be planted and seeded with native plant species. Figure 3 provides a plan view of the work area, and Figure 4 provides a typical cross-section of the proposed improvements.

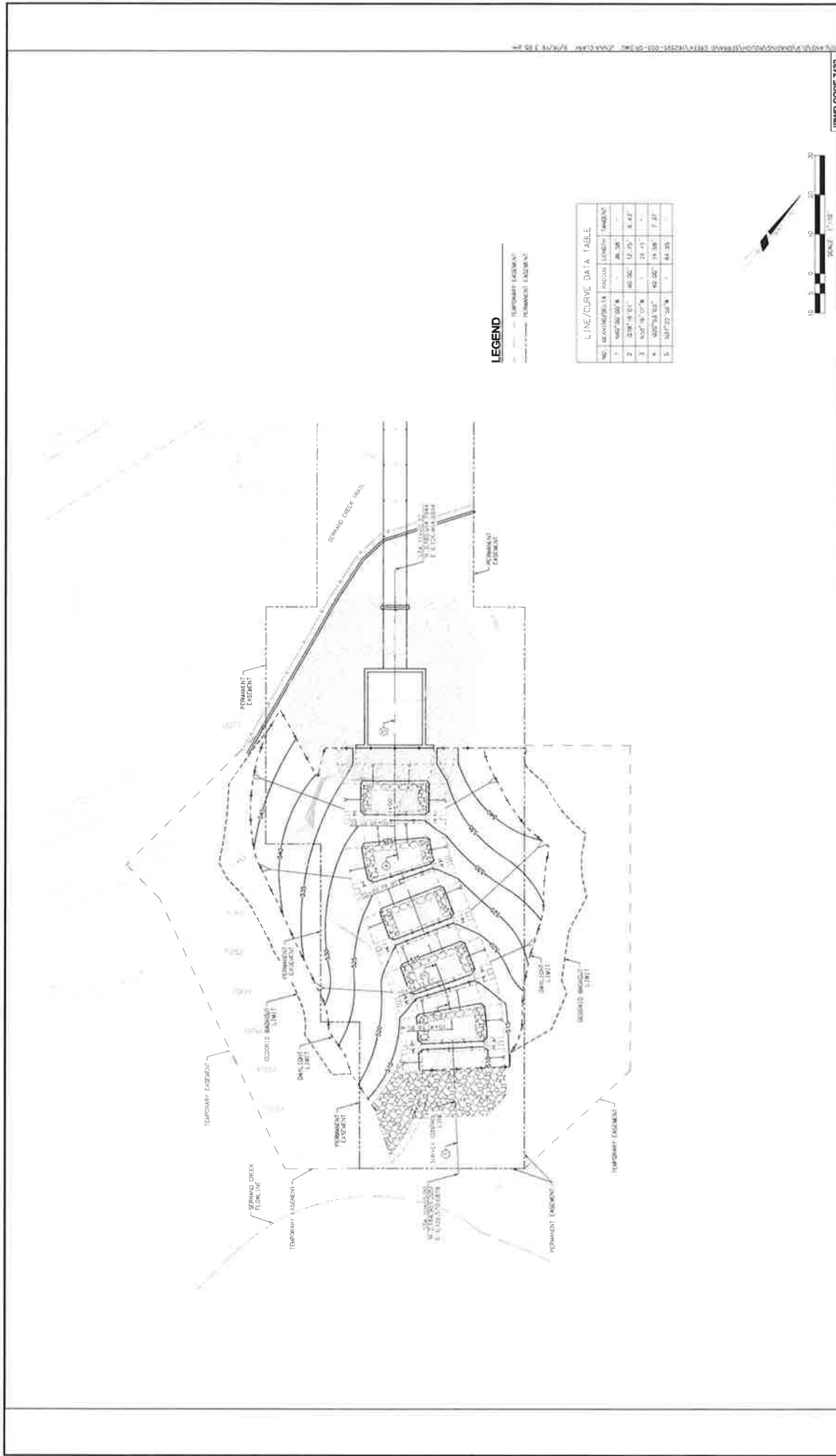


Figure 3: Plan View of the Work Area

Source: Michael Baker International (10/30/2019).

Baker WTP Project EIR
Addendum No. 4

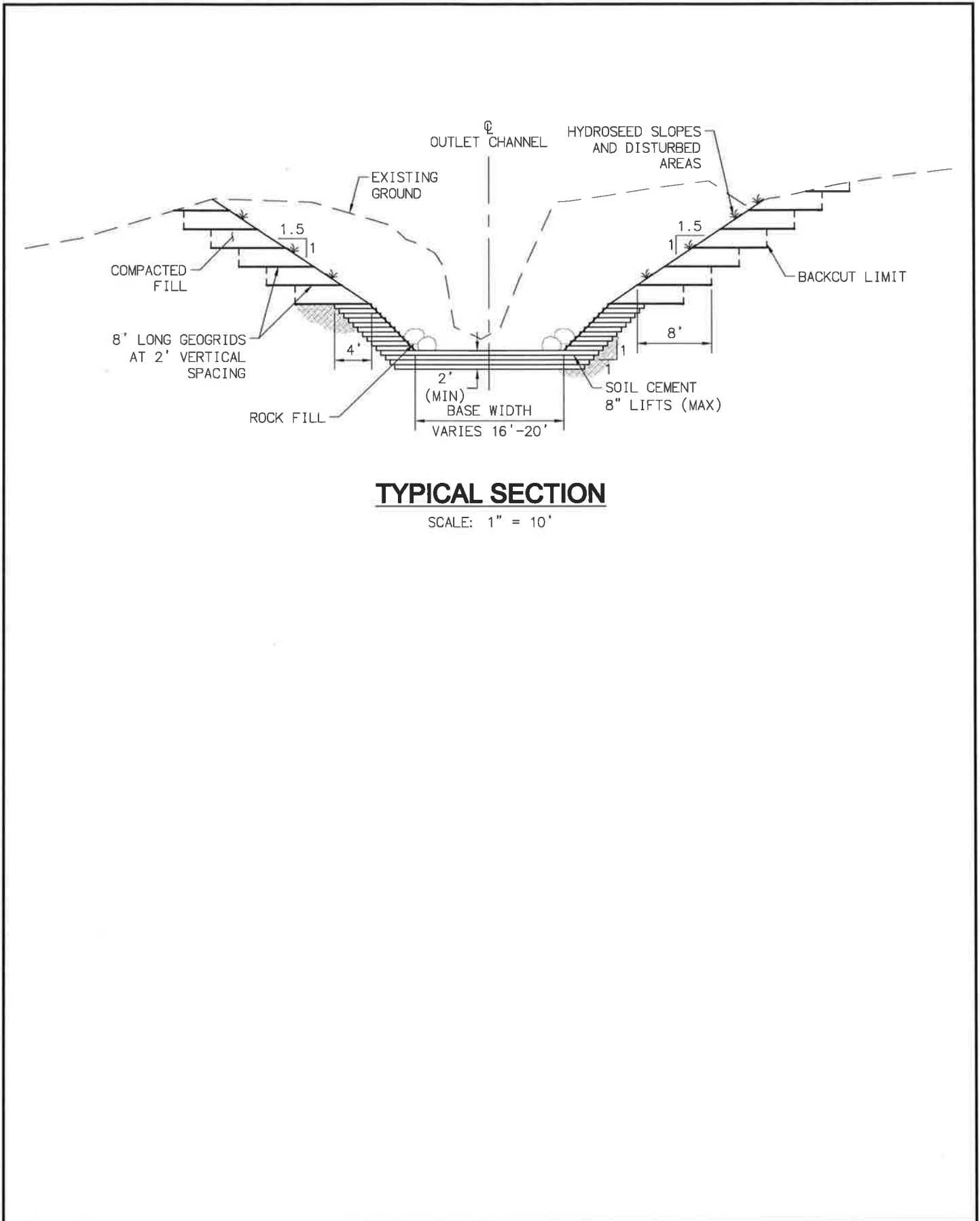


Figure 4: Cross Section

Source: Michael Baker International (10/30/2019).

1.5 Prior Environmental Documentation

Irvine Ranch Water District (IRWD), as Lead Agency, has reviewed and certified the following environmental documents prepared for the Baker WTP project. Consistent with Section 15150 of the CEQA Guidelines, the following environmental documents were used in the preparation of this Addendum and are incorporated herein by reference:

- Baker Water Treatment Plant Project Draft Environmental Impact Report, January 2011 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report, April 2011 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report Addendum No. 1, February 2012 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report Addendum No. 2, March 2013 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report Addendum No. 3, March 2018 (State Clearinghouse No. 2010051055).

These documents are available for review during regular business hours at Irvine Ranch Water District offices, 15600 Sand Canyon Avenue, Irvine, CA 92619-7000 or on IRWD's website, www.irwd.com.

1.6 Basis for an Addendum

Prior to approval of subsequent actions that constitute a "project" under CEQA, IRWD is required to determine whether the environmental effects of such actions are within the scope of prior environmental analysis, or whether additional environmental analysis is required. That decision is influenced by whether the subsequent actions require major revisions to the EIR due to new significant impacts or an increase the severity of previously identified significant impacts.

Under CEQA, the lead agency or a responsible agency shall prepare an addendum to a previously-certified EIR if some changes or additions are necessary to the prior EIR, but none of the conditions calling for preparation of a subsequent or supplemental EIR have occurred (Public resources Code § 21166; CEQA Guidelines §§ 15162, 15163, 15164). Once an EIR has been certified, no supplement or subsequent EIR shall be prepared unless the lead agency or responsible agency determines that one of the following conditions has been met:

- (1) Substantial changes are proposed in the project, or substantial changes occur with respect to the circumstances under which the project is undertaken, which require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects [*CEQA Guidelines* § 15162(a)(1)&(2)];

-
- (2) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
- a) The project will have one or more significant effects not discussed in the previous EIR;
 - b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative [*CEQA Guidelines* § 15162(a)(3)].

IRWD has evaluated the potential environmental impacts of the proposed Modified Project against the criteria set forth in CEQA Guidelines §§ 15162, 15163, and 15164. IRWD, acting as the Lead Agency, has determined that substantial evidence throughout this Addendum supports the determination that the Modified Project would not have any reasonably foreseeable environmental consequences beyond that analyzed in the previously certified EIR (Prior EIR) and its associated administrative record, that none of the conditions listed above triggering preparation of a subsequent or supplemental EIR apply and that an Addendum to the Baker Water Treatment Plant Project Final Environmental Impact Report, April 2011 (State Clearinghouse No. 2010051055) is appropriate for the proposed Modified Project and related entitlements, and fully complies with CEQA, as described in Public Resources Code section 21166 and the *CEQA Guidelines*.

An addendum does not need to be circulated for public review, but rather can be attached to the Prior EIR (*CEQA Guidelines* § 15164(c)). IRWD will consider this Addendum and will make a decision regarding the Modified Project [*CEQA Guidelines* §15164(d)].

1.7 Summary of Findings

The Prior EIR concluded impacts from the Original Project would be less than significant with implementation of mitigation measures.

IRWD has determined that none of the conditions in Section 21166 of the Public Resources Code or Sections 15162, 15163 and 15164 of the State CEQA Guidelines calling for preparation of a subsequent or supplemental environmental impact report have occurred. In accordance with the analysis presented in Section 2.0 below, and pursuant to Section 21166 of the Public Resources Code and Section 15162 and 15164 of the *State CEQA Guidelines*, IRWD has determined that:

- 1) The Modified Project does not propose substantial changes that would require major revisions to the Prior EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant environmental effects; and

-
- 2) No substantial changes in circumstances have occurred that require major revisions to the Prior EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and
 - 3) No new information of substantial importance as described in Section 15162 (a)(3) has been identified that shows any of the following: a) The Modified Project will have one or more significant effects not discussed in the Prior EIR; b) Significant effects previously examined will be substantially more severe than shown in the Prior EIR; c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or d) Mitigation measures or alternatives which are considerably different from those analyzed in the Prior EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

SECTION 2.0 ANALYSIS OF POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE MODIFIED PROJECT

The Modified Project represents work in a small area of the overall project site analyzed in the Prior EIR. The work is confined to a limited area of the Unnamed Tributary to Serrano Creek and would not affect any other portion of the Baker WTP site. The topic areas presented in Appendix G of the CEQA Guidelines generally pertain to operational impacts and physical impacts. The Modified Project would not have any operational impacts since the project modifications pertain to improvements to an outfall system to minimize erosion and safely convey flows downstream. Therefore, there would be no change to the regulatory framework, impact discussion, mitigation measures, or significance conclusions for the operational topic areas, such as air quality, greenhouse gas, noise, public services, recreation, and traffic. Therefore, those topics are not analyzed in this Addendum.

Many of the topic areas that pertain to physical impacts also would not have any changes to the regulatory framework, impact discussion, mitigation measures, or significance conclusions. No changes to the aesthetics analysis would occur because the Modified Project is located in the bottom of the Unnamed Tributary and not visible from public right-of-way. No changes to Agricultural and Forestry Resources, Mineral Resources, and Land Use Planning would occur because the Modified Project is located in a small Unnamed Tributary and would not impact farmland, mineral resources, or conflict with land use and zoning designations. No changes to hazards and hazardous materials would occur because the Modified Project does not require the use or transport of hazardous materials. No changes to geology and soils would occur because the Modified Project pertains to modification of an outfall system to minimize erosion in the Unnamed Tributary and minimal earth movement would occur, and no habitable structures are associated with the implementation of the Modified Project. Therefore, topic areas such as Agricultural and Forestry Resources, Mineral Resources, Land Use and Planning, Geology and Soils, and Hazards and Hazardous Materials are not analyzed in this Addendum.

Since the Modified Project has the potential to impact Biological Resources, Cultural Resources, and Hydrology and Water Quality, those three topic areas are analyzed further in the following subsections.

2.1 Biological Resources

The Prior EIR (Prior EIR Chapter 3.4) concluded that impacts to biological resources for the Baker WTP were less than significant with mitigation. The analysis in the Prior EIR included an analysis of impacts to biological resources from the construction of the outfall system for Baker WTP. This section provides an analysis of potential impacts to biological resources from the proposed modification associated with the Modified Project to the outfall system based on the report, *Biological Assessment of Serrano Creek Outfall Structure located in the City of Lake Forest*, November 22, 2019, prepared by Carlson Strategic Land Solutions (CSLS).

2.1.1 Setting

A biological assessment of the Modified Project site was performed, and the vegetation communities observed are summarized in Table 1 below and on Figure 5.

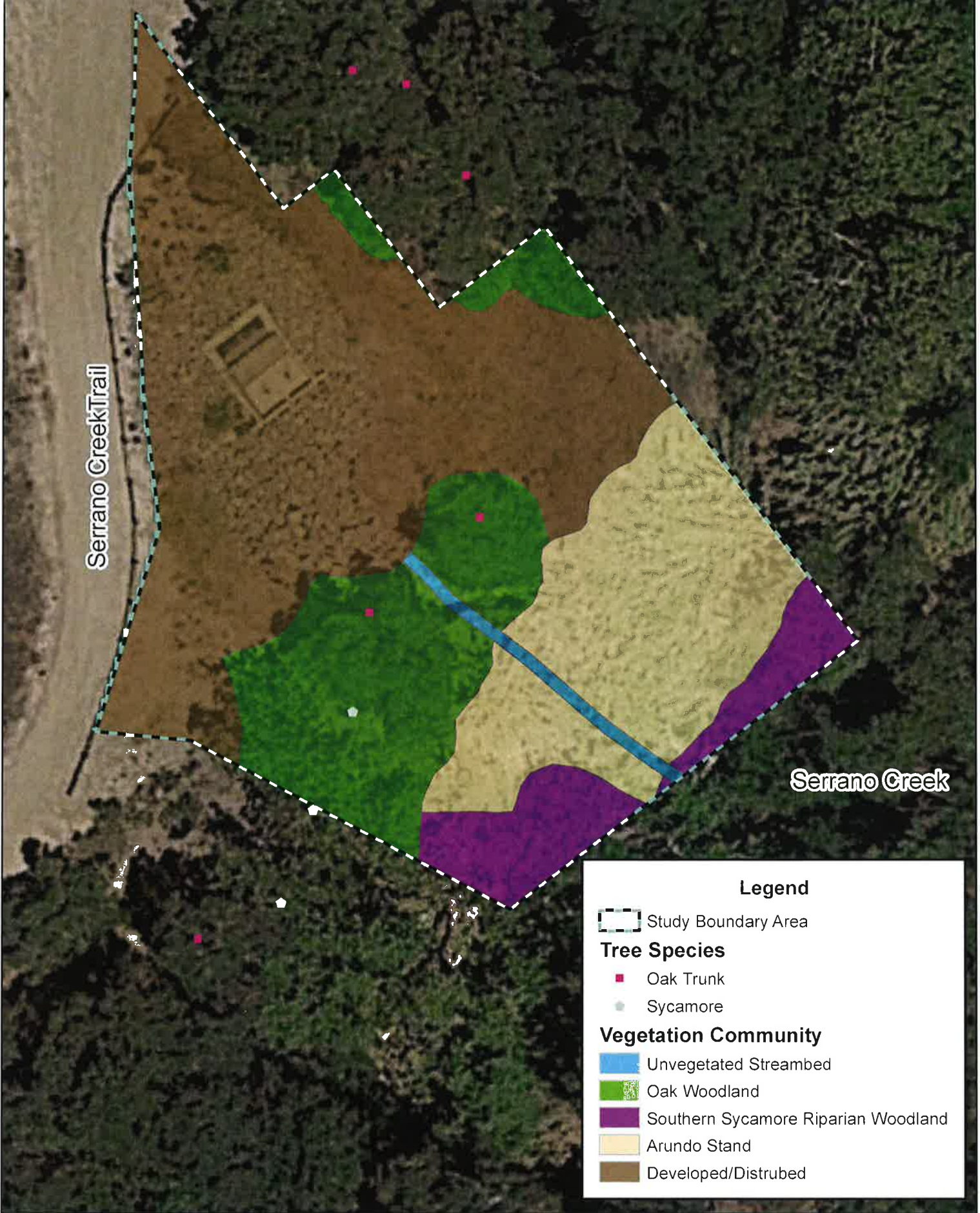
Table 1. Vegetation Community Observed within the Modified Project site

Vegetation Community	Acreage within the Modified Project site (acres)
Unvegetated Streambed	0.004
Oak Woodland	0.07
Southern Sycamore Alder Riparian Woodland	0.03
Arundo Stand	0.07
Disturbed/Developed ¹	0.17
TOTAL	0.344
Notes:	
1. Vegetation Community includes the existing Outfall Structure and associated riprap dissipation structure.	

Source: CSLS, 2019. Table 1.

The Modified Project site contains a single special-status vegetation type listed by the California Natural Diversity Database (CNDDDB) and California Department of Fish and Wildlife (CDFW), which includes the Southern Sycamore Alder Riparian Woodland. No sensitive wildlife species were observed during the July 30, 2019 field visit.

The Modified Project site is not located within any designated critical habitat. The closest designated critical habitat is coastal California gnatcatcher (*Polioptila californica californica* [CAGN]) and it is located an approximate 1.12 miles northwest of the Modified Project site.



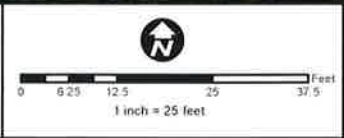
Serrano Creek Trail

Serrano Creek

Legend

- Study Boundary Area
- Tree Species**
- Oak Trunk
- Sycamore
- Vegetation Community**
- Unvegetated Streambed
- Oak Woodland
- Southern Sycamore Riparian Woodland
- Arundo Stand
- Developed/Disturbed

GIS Prepared By:
Carlson SLS
Created: October 29, 2019



Data Source: Google Earth (06/2018)

*Baker WTP Project EIR
Addendum No. 4
Vegetation Mapping*

FIGURE 5

Jurisdictional Waters of the United States and Waters of the State are present within the Modified Project site. The existing concrete and riprap outfall system encompasses an area of 0.07 acres. Following construction of the outfall system, a test release from Baker WTP resulted in erosion of the downstream northern and southern banks of the Unnamed Tributary. The northern and southern eroded banks of the Unnamed Tributary are nearly vertical and do not contain any riparian or native habitat, but rather consist of bare soil. Furthermore, the Unnamed Tributary is an unvegetated streambed until farther downstream where it is heavily vegetated with *Arundo* (*Arundo donax*), and downstream at the convergence with Serrano Creek, with Southern Sycamore Alder Riparian Woodland habitat. The top of bank of the Unnamed Tributary consists of oak trees with a ruderal understory.

The following Table 2 summarizes the jurisdictional waters within the Modified Project site. The limits of jurisdictional waters are shown graphically on Figure 6.

Table 2. Jurisdictional Waters within the Modified Project Site

Drainage	Waters of the United States	Waters of the State ¹
Unnamed Tributary	0.005 ac ² / 129 LF	0.30 ac ² / 156 LF
1. A total of 0.003 acres of the Waters of the State include the Concrete Outfall Structure. 2. Jurisdictional limits remain the same as presented in the MBI Jurisdictional Delineation, prepared for the Regulatory Permits.		

Source: CSLS, 2019, Table 2.

2.1.2 Summary of Potential Impact

The proposed Modified Project will cause permanent and temporary impacts to vegetation communities. The following Table 3 summarizes those impacts to vegetation communities.

Table 3. Approximate Acreage of Impacts to Vegetation Communities within the Modified Project Site

Vegetation Community	Existing Vegetation onsite (acres)	Total Permanent Impacts (acres)	Total Temporary Impacts (acres)	Avoided (acres)
Unvegetated Streambed	0.004	0.003	0.00	0.001
Oak Woodland	0.07	0.05 ¹	0.00	0.02
Southern Sycamore Alder Riparian Woodland	0.03	0.001	0.01	0.019
Arundo Stand ²	0.07	0.07	0.00	0.00
Disturbed/Developed ³	0.17	0.10	0.00	0.07
TOTAL	0.344	0.224	0.01	0.11

Notes:

¹Impacts to Oak Woodland consist of impacts to two oak trees.

²All of the Arundo Stand within the Modified Project site shall be removed.

³Vegetation Community includes the existing Outfall Structure and riprap associated with the dissipation structure.

Source: CSLS, 2019, Table 3.

Of the total 0.234 acres of permanent and temporary impacts, 0.17 acres of permanent impacts to non-native vegetation within the Modified Project site are not considered significant because the habitats are common in the Project Vicinity, have minimal or no habitat value, or are invasive

species. Furthermore, these impacts do not represent CNDDDB, or State sensitive plant communities. In addition, many of these areas within the Modified Project site exhibit high level of disturbance.

The original construction of the outfall system included the following authorized jurisdictional impacts as outline within the issued Regulatory Permits within the Unnamed Tributary.

- 0.006 acres Permanent Impacts to Waters of the United States
- 0.047 acres Permanent Impacts to Waters of the States and associated Riparian Vegetation
- 0.029 acres Temporary Impacts to Waters of the States and associated Riparian Vegetation



FIGURE 6

Since portions of the proposed improvements to the outfall system are located in an area that was previously disturbed through authorization of Regulatory Permits for the installation of the existing outfall system, the overlap of jurisdictional impacts between the previously authorized impacts and the additional impacts associated with the improvements to the outfall system are not included within the acreage of additional impacts to jurisdictional waters summarized in Table 4 and depicted on Figure 7.

Table 4. Impacts to Jurisdictional Waters within the Modified Project Site Beyond the Previously Authorized Impacts

Drainage	Temporary	Permanent	LF
Waters of the United States			
Unnamed Tributary	0.00 ac	0.003 ac	73 LF
Waters of the State			
Unnamed Tributary	0.01 ac	0.18 ¹ ac	84 LF
<i>Notes:</i> 1. Of the total 0.18 acres of permanently impacts Waters of the State, a total of 0.07 acres is the removal of the Arundo Stand to enhance the area and remove invasive species.			

Source: CSLS, 2019, Table 4.

The impacts to jurisdictional waters would primarily consist of unvegetated streambed habitat, the Arundo Stand, two oak trees, and one sycamore tree found on the top of the banks of the Unnamed Tributary. Of the total 0.18 acres of permanently impacted Waters of the State, the impacts include the following vegetation communities:

- 0.003 acres of unvegetated streambed;
- 0.05 acres of Oak woodland, specifically the removal of two oak trees;
- 0.001 acres of Southern Sycamore Alder Riparian Woodland;
- 0.07 acres of invasive Arundo Stand; and
- 0.056 acres of disturbed/developed.

No wetlands would be impacted. Furthermore, impacts to disturbed/developed, the Arundo Stand, and unvegetated streambed, which consists of no vegetation or scattered tree tobacco, are not considered significant due to the lack of biological habitat value and the impacts provide a biological benefit through the removal of invasive species.



Legend

- Approximate Study Area
- Proposed Outfall Structure Design

Previous Authorized Impacts

- Corps/Regional Board/CDFW (Permanent Impact) - 0.006 ac
- CDFW Riparian Vegetation (Permanent Impact) - 0.047 ac
- CDFW Riparian Vegetation (Temporary Impact) - 0.029 ac

Jurisdictional Impacts

- Waters of the United States Permanent Impacts (0.003 ac)
- Waters of the State Temporary Impacts (0.01 ac)
- Waters of the State Permanent Impacts* (0.18 ac)

*Note: Of the total 0.18 acres permanently impacted, a total of 0.07 acres consists of the removal of the Arundo Stand for enhancement activities.

Serrano Creek

GIS Prepared By:
Carlson SLS
Created October 14, 2019

Data Source: Google Earth (2018)
Grading Plans (MB): 05-23-2019)
Field Visit (07-30-2019)



2.1.3 Applicable Mitigation Measures

Of the total 0.234 acres of permanent and temporary impacts, 0.054 acres of permanent impacts and 0.01 acres of temporary impacts occur to native vegetation. The areas of temporary impacts shall be restored to the pre-construction conditions and re-seeded with a native seed mix, such as riparian woodland and coastal sage scrub, to prevent erosion and invasive growth. The 0.054 acres of permanent impacts to native vegetation would be mitigated by revegetating with a native plant palette post construction as specified in California Department of Fish and Wildlife Notification of Lake or Streambed Alteration No. 1600-2011-0060-R5, and **Mitigation Measure BIO-7** from the Prior EIR, which references consultation with CDFW. With the proposed construction activities, 0.07 acres of arundo would be removed within the Modified Project site providing restoration and enhancement of the Unnamed Tributary and Serrano Creek. Furthermore, a total of 0.04 acres of native vegetation is being avoided. With the arundo removal and avoidance of native habitat, any potential impacts would be mitigated to a less than significant level and consistent with the conclusions presented in the Prior EIR and subsequent Addendums.

Both the permanently impacted non-native vegetation and native vegetation provide habitat for nesting and foraging birds. Since the Modified Project site contains suitable habitat for nesting and foraging bird species, **Mitigation Measure BIO-3 and Mitigation Measure BIO-4** from the Prior EIR shall be implemented if vegetation removal and/or construction work is to be done during the typical avian breeding season. A qualified biologist shall conduct a nesting bird survey, which includes surveying for coastal cactus wren (*Campylorhynchus brunneicapillus*), coastal California gnatcatcher, Least Bell's Vireo (*Vireo bellii pusillus*), and to identify any potential nesting activity within 5 days before start of construction.

Furthermore, **Mitigation Measure BIO-7**, specific to the original construction of the outfall system, requires avoidance to sensitive native habitats within and surrounding Serrano Creek. The Mitigation Measure requires installation of construction boundaries by flagging or temporary fencing. As outlined within Mitigation Measure BIO-7, the impacted Southern Sycamore Alder Riparian Woodland, shall be restored or enhanced at a ratio based on the quality of habitat affected. Since the impacts to Southern Sycamore Alder Riparian Woodland consists of 0.001 acres of permanent impacts, the removal of the 0.07 acres of arundo substantially exceeds the mitigation ratio of 1:1 and mitigates the impacts to a less than significant level.

Mitigation Measure BIO-3, BIO-4, and BIO-7, contained in the Prior EIR and as outlined below, would be applicable to the Modified Project and would mitigate potential impacts to native vegetation, sensitive riparian vegetation, and nesting birds, to a less than significant level. No new mitigation measures are required.

Mitigation Measure BIO-3: *A preconstruction nest survey shall be conducted if construction and/or ground disturbing activities will commence between February 15 and August 15. To avoid impacts to native nesting birds, including coastal cactus wren, coastal California gnatcatcher, and least Bell's vireo, IRWD and/or its contractors shall retain a qualified biologist to conduct breeding bird surveys in potential nesting habitat within and adjacent to all project sites prior to construction or site preparation activities. Potential*

nesting habitat may include grassy and weedy areas, as well as shrubs and trees. Suitable nesting habitat in the vicinity of proposed disturbance areas shall be determined by the qualified biologist. The qualified biologist shall conduct a nest survey within five days of ground disturbance activities associated with construction, (such as site clearing, grading, or excavation) to determine if active nests of bird species protected by the Migratory Bird Treaty Act (MBTA) or the California Fish and Game Code are present in the construction zone or within a distance determined by CDFG or the qualified biologist.

If ground disturbance activities are delayed, additional pre-construction surveys will be conducted such that no more than five days will have elapsed between the last survey and the commencement of ground disturbance activities. Surveys shall include examination of trees, shrubs, and the ground within grassland for nesting birds, as several bird species known to occur in the area are shrub or ground nesters.

Mitigation Measure BIO-4: *If active nests are found during surveys conducted in accordance with Mitigation Measure BIO-3, then the qualified biologist shall determine whether construction activities have the potential to disturb the nest(s) and determine appropriate construction limitations, which may include but are not limited to erection of sound barriers, fulltime monitoring by a qualified biologist, or establishment of no-construction buffers (usually 300 ft for nesting song birds and 500 ft for nesting raptors and special-status bird species). In addition, the qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure no inadvertent impacts to the nest occur. If necessary, limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel shall be instructed on the sensitivity of nest areas.*

The results of the survey, and any avoidance measures taken, shall be submitted to IRWD within 30 days of completion of the pre-construction surveys and construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

Mitigation Measure BIO-7: *During construction of the emergency overflow facility and associated rip rap, the construction contractor shall take measures to avoid impacts to sensitive riparian habitat within and surrounding Serrano Creek where feasible, such as installing construction impact boundaries marked by flagging or temporary fencing. If avoidance is not feasible, negative impacts to sensitive riparian habitat shall be mitigated at ratios based on the quality of habitat affected. In general, sensitive riparian habitat, such as Southern Sycamore Alder Riparian Woodland, shall be restored or enhanced at a ratio as determined in consultation with CDFG.*

In addition to the mitigation measures presented above, the Prior EIR included measures specific to impacts to jurisdictional waters. **Mitigation Measures BIO-6, BIO-7, BIO-8, and BIO-9** from the Prior EIR include best management practices through erosion control measures, temporary fencing or flagging construction limits, construction work occurring during dry season periods,

and obtaining the appropriate Regulatory Permits. With the adherence to **Mitigation Measures BIO-6, BIO-7, BIO-8, and BIO-9**, as outlined below from the Prior EIR, potential impacts to jurisdictional waters and associated riparian habitat would be mitigated to less than significant level and no new mitigation measures are required.

Mitigation Measure BIO-6: *IRWD shall require construction contractors to implement the following measures during construction of the Baker WTP and the sewer pipeline:*

- *The construction contractor shall install temporary erosion control measures around drains to reduce localized impacts to Serrano Creek in the area of the project and protect onsite drainages from excess sedimentation, siltation, and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, and dikes to protect storm drain inlets and drainages.*
- *No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the project site. Vehicles carrying supplies, such as concrete, shall not be allowed to empty, clean out, or otherwise place materials into natural areas on or immediately adjacent to the site.*
- *Any equipment or vehicles driven and/or operated within or adjacent to onsite drains shall be checked and maintained daily, to prevent leaks of materials that if introduced to Serrano Creek could be deleterious to aquatic life. No equipment maintenance shall be conducted near onsite drains.*

Mitigation Measure BIO-7: *is outlined above.*

Mitigation Measure BIO-8: *Construction activities within Serrano Creek shall be limited to dry season periods to avoid wet weather flow conditions in the creek bed.*

Mitigation Measure BIO-9: *No activities shall occur within Serrano Creek until appropriate permits have been obtained from the US Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Game.*

2.1.4 Conclusion

The proposed improvements to the outfall system have been designed to minimize impacts to native vegetation and the identified jurisdictional features found onsite to the extent feasible. Because complete avoidance cannot occur, amendments to the original Regulatory Permits will be required to authorize additional impacts to the jurisdictional features prior to construction activities.

The Modified Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified impacts presented in the Prior EIR and subsequent Addendums. While the proposed improvements do include additional impacts, the impacts are minor in nature and are not more severe than those analyzed within the Prior EIR and are sufficiently mitigated through compliance with the Mitigation Measures presented in the Prior EIR.

2.2 Cultural Resources

The Prior EIR (Prior EIR Chapter 3.5) concluded that impacts to cultural resources for the Baker WTP were less than significant with mitigation. The analysis in the Prior EIR included an analysis of impacts to cultural resources from the construction of the outfall system for Baker WTP. This section provides an analysis of potential impacts to cultural resources from the proposed modification to the outfall system.

2.2.1 Setting

The Prior EIR included archaeological and paleontological record searches and field inspections. The area surrounding the Baker WTP has shown a potential for archaeological/cultural and paleontological resources, which was identified as a potentially significant impact. Mitigation measures were included to reduce the potential impacts to less than significant.

2.2.2 Summary of Potential Impact

The Modified Project will include minor grading associated with the installation of geo-grid to stabilize the upper portion of the banks of the Unnamed Tributary, above the proposed soil cement. The geo-grid installation will require minor earthwork to remove soil, lay the geo-grid fabric, and replace the soil on top. During the earth movement within native soil, the potential exists for impacts to archeological and paleontological resources. The potential for impacts is the same as with the construction of the Baker WTP and the existing outfall structure.

2.2.3 Applicable Mitigation Measures

The following mitigation measures presented in the Prior EIR remain applicable to the Modified Project. The following five mitigation measures only apply when earthwork is taking place in native soil. With implementation of the following mitigation measures, impacts would remain less than significant.

Mitigation Measure CUL-1: Archaeological Monitoring. *Prior to the start of any earth-moving activity, an archaeological monitor shall be retained by the IRWD to monitor ground-disturbing activities associated with the construction of the treated water pipelines and the Serrano Creek sewer pipeline, including but not limited to grading, excavation, brush clearance and grubbing. The monitor shall be, or shall work under the supervision of, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (Department of the Interior, 2010). The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the IRWD and based on the grading plans. Initially, all ground-disturbing activities shall be monitored. However, the qualified archaeologist, based on observations of soil stratigraphy or other factors, and in consultation with IRWD, may reduce the level of monitoring as warranted. In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. Due to the sensitivity of the project area for Native American resources, at least one Native American monitor may, if requested, also monitor*

ground-disturbing activities in the project area. The monitor(s) shall be selected from amongst the Native American groups identified by the Native American Heritage Commission as having affiliation with the project area.

Mitigation Measure CUL-2: *Unanticipated Discovery. During construction of all project components, if a cultural resource is encountered, construction activities shall be redirected away from the immediate vicinity of the find until it can be evaluated by a qualified archaeologist. If the find is determined to be potentially significant, the archaeologist, in consultation with the IRWD and appropriate Native American group(s) (if the find is a prehistoric or Native American resource), shall develop a treatment plan. Construction activities shall be redirected to other work areas until the treatment plan has been implemented or the qualified archaeologists determines work can resume in the vicinity of the find.*

Mitigation Measure CUL-3: *Paleontological Mitigation and Monitoring Plan. Prior to the start of any earthmoving activity, IRWD shall retain an Orange County Certified Paleontologist. The Paleontologist shall prepare a Paleontological Mitigation and Monitoring Plan that provides for the treatment of paleontological resources in accordance with the mitigation guidelines for areas of high potential outlined by the SVP. The mitigation and monitoring plan shall address pre-construction salvage and reporting; pre-construction contractor sensitivity training; procedures for paleontological resources monitoring; microscopic examination of samples where applicable; the evaluation, recovery, identification, and curation of fossils, and the preparation of a final mitigation report.*

Mitigation Measure CUL-4: *Paleontological Monitoring. All earth moving activities in the Oso Sand Member of the Capistrano Formation and the Silverado Formation shall be monitored full time, unless the paleontologist determines that sediments are previously disturbed or there is no reason to continue monitoring in a particular area due to other depositional factors, which would make fossil preservation unlikely or deemed scientifically insignificant. If it becomes apparent to the paleontologist that bedrock will not be impacted in an area, monitoring may be suspended temporarily until bedrock is impacted again. Spot-checking by the paleontologist will be allowed to determine if bedrock is being impacted. If impacts to bedrock resume, full-time monitoring will resume. In the event fossils are exposed during earth moving, construction activities shall be redirected to other work areas until the procedures outlined in the Paleontological Mitigation and Monitoring Plan have been implemented or the paleontologist determines work can resume in the vicinity of the find.*

Mitigation Measure CUL-5: *If human remains are encountered unexpectedly during construction excavation and grading activities, 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 24 hours to notify the NAHC. The NAHC will then identify a Most Likely Descendent (MLD), of the deceased Native American, who will provide recommendations as to the future disposition of the remains. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices and taking into account the possibility of multiple human remains, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD, as prescribed in this section (PRC 5097.98).

2.2.4 Conclusion

The implementation of the Modified Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified impacts presented in the Prior EIR and subsequent Addendums. While the proposed improvements do include the potential for impacts, the impacts are minor in nature and are not more severe than those analyzed within the Prior EIR and are sufficiently mitigated through compliance with the Mitigation Measures presented in the Prior EIR.

2.3 Hydrology and Water Quality

The Prior EIR (Prior EIR Chapter 3.8) concluded that impacts to Hydrology and Water Quality for the Baker WTP were less than significant with mitigation. The analysis in the Prior EIR included an analysis of hydraulic impacts associated with the construction of the outfall system for Baker WTP. This section provides an analysis of potential impacts to Hydrology and Water Quality from the proposed modification to the outfall system.

2.3.1 Setting

The Baker WTP Project included the construction of an emergency overflow system which was designed to safely discharge water from Baker WTP and Serrano Summit residential community. The outfall system was designed to discharge to an Unnamed Tributary to Serrano Creek. The outfall system included the construction of a reinforced concrete pipe storm drain (RCP) that discharged to a concrete impact basin energy dissipator structure (USBR Type IV). The end of the structure included a riprap lined section, which discharged to the existing Unnamed Tributary.

The storm drain and energy dissipator structure were designed to handle the peak overflow rate of 53.6 cubic feet per second (cfs) from the Baker WTP, plus an additional flow of 134.0 cfs from the adjacent Serrano Summit development. The 134.0 cfs for the 100-year storm event was obtained from the “*Preliminary Hydrology Report, Multi-Use Development at Former IRWD site,*” prepared by Fuscoe Engineering dated March 2010 (Fuscoe 2010) included within the Prior EIR.

On December 1 and 2, 2016 a test discharge from Baker WTP occurred through the outfall system for durations of five hours and eight hours, respectively, at a flow rate of about 43 cfs. During the

discharge event, periodic monitoring occurred of the flow and the condition of the outfall structure, the Unnamed Tributary to Serrano Creek and to the area around the outfall structure. Upon identification of erosion below the outlet structure, IRWD conducted a field investigation and topographic survey of the outfall structure, the Unnamed Tributary to Serrano Creek, and the surrounding areas. The inspection and topographic mapping revealed significant erosion to the Unnamed Tributary below the concrete energy dissipator structure as a result of the test discharges.

The concrete structure, outlet pipe system, and Serrano Creek showed no damage as a result of the test and associated erosion. Downstream of the structure, the Unnamed Tributary eroded from the outfall to near elevation 511 feet at the confluence with Serrano Creek. The flowline of Serrano Creek adjacent to the confluence with the Unnamed Tributary is at an elevation of approximately 505 feet, and the distance from the concrete structure to the centerline of Serrano Creek is approximately 115 feet.

Q3 Consulting and Michael Baker International (MBI) prepared the report, *Serrano Creek Outfall Modifications Design Report*, September 16, 2019, which analyzed alternative design solutions to modify the outfall structure to address the erosion that occurred during the test discharge.

2.3.2 Summary of Potential Impact

Based on a series of hydrology studies, the following Table 5 summarizes the proposed flows to the outfall structure.

Table 5. Serrano Summit Hydrology (MBI 2019)

Storm Event	Peak Discharge	Storm Volume
2-year	35.4 cfs	7.6 ac-ft
10-Year	74.0 cfs	18.9 ac-ft
100-Year	89.3 cfs	25.5 ac-ft

Source: MBI & Q3 Consulting, 2019, Table 2-1.

A HEC-RAS hydraulic model was prepared for the Modified Project to document the performance of the outfall system with the proposed modifications. The model extended from the concrete structure to the confluence with Serrano Creek.

The results of the hydraulic analysis indicate that the proposed improvements are effective in adequately conveying the design discharges and minimizing the flow velocity at the confluence with Serrano Creek. The stilling basins and end sills produce the desired hydraulic jump within each of the stilling basins. Flow velocities generally range from 10 to 18.5 feet per second (fps) over the drop reaches, and from 2 to 5.6 fps in the stilling basins. The velocities at the confluence with Serrano Creek were identified to range from approximately 6.7 to 8.7 fps for the 2- and 10-year storm events without a downstream tailwater condition and are less than 1 fps in the 100-year storm event with the high downstream tailwater depth. Those velocities are shown to be non-erosive and therefore, impacts would be less than significant.

The Prior EIR analyzed potential impacts to water quality and determined that during construction compliance with SWPPP Best Management Practices (BMPs) and other federal and state

regulations would ensure impacts would be less than significant. The same regulations apply to the Modified Project; therefore, the conclusions would also remain the same.

A Water Quality Management Plan (WQMP) has been prepared for both the Baker WTP and Serrano Summit residential development, which reduces potential water quality impacts to less than significant. The Modified Project would not change either of those WQMPs. Since the Modified Project only represents structures to safely convey storm flows, no new water quality impacts would occur.

2.3.3 Applicable Mitigation Measures

None required.

2.3.4 Conclusion

The proposed modifications would not result in a new significant impact or substantially increase the severity of a previously identified significant impact in the Prior EIR. No mitigation is required and impacts to hydrology and water quality would remain less than significant.

SECTION 3.0 SUMMARY OF ENVIRONMENTAL EFFECTS

The Modified Project would not change the biological analysis included in the Prior EIR. The Modified Project would not cause impacts to sensitive species or habitats. The Prior EIR determined impacts to biological resources would be less than significant with mitigation. Mitigation Measures **MM BIO-3, BIO-4, BIO-6, BIO-7, BIO-8, and BIO-9** remain applicable as presented in the Prior EIR to reduce potential impacts to biological resources to less than significant. No new impacts or intensification of previously identified impacts would occur with the Modified Project. Impacts remain less than significant with implementation of the same mitigation measures as presented in the Prior EIR.

The Modified Project does not cause any new or more severe short-term or long-term significant impacts. No new mitigation measures are required as a result of the Modified Project and the conclusions presented in the Prior EIR remain unchanged.

The Modified Project would not change the permitted land uses, extent of construction activities, or intensity of development. Therefore, the short-term construction impacts and long-term operational impacts would remain consistent with the analysis provided in the Prior EIR. There would be no changes to the analysis or conclusions regarding cumulative impacts as a result of the Modified Project. The findings of significance presented in the Prior EIR would remain without change and without intensification as a result of the Modified Project.

The changes associated with the Modified Project are minor. They include modifying the design of an outfall system to reduce and minimize long-term erosion in an Unnamed Tributary to Serrano Creek. No new impacts or more severe impacts to human beings, either directly or indirectly, would occur as a result of the Modified Project.

SECTION 4.0 REFERENCES

Carlson Strategic Land Solutions (CSLS), 2019. Biological Assessment of Serrano Creek Outfall Structure located in the City of Lake Forest. Prepared for Irvine Ranch Water District, November 22, 2019.

Michael Baker International (MBI) & Q3 Consulting, 2019. Serrano Creek Outfall Modifications Design Report. Prepared for Irvine Ranch Water District, September 16, 2019.

SECTION 5.0 DETERMINATION

Section 15164(a) of the CEQA Guidelines states the following:

The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.

The proposed modifications to the original Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Furthermore, new information associated with the proposed modification to the outfall structure does not indicate that: the Project will have one or more significant effects not discussed in the adopted Final EIR; significant effects previously examined will be substantially more severe than shown in the adopted Final EIR; mitigation measures or alternatives previously found not be feasible would in fact be feasible; or mitigation measures or alternatives which are considerably different from those analyzed in the adopted Final EIR would substantially reduce one or more significant effects on the environment, but the Project proponents decline to adopt the mitigation measures or alternative. Accordingly, an addendum has been prepared as opposed to a supplemental or subsequent EIR. IRWD, as the lead agency, is adopting this Addendum No. 4 in accordance with the CEQA Guidelines Section 15164.

IRVINE RANCH WATER DISTRICT



Signature

1/27/20

Date

Jo Ann Corey

Printed Name

Environmental Compliance Specialist

Title