

AGENDA  
IRVINE RANCH WATER DISTRICT  
ENGINEERING AND OPERATIONS COMMITTEE MEETING  
THURSDAY, FEBRUARY 19, 2026

This meeting will be held in-person at the District's headquarters located at 15600 Sand Canyon Avenue, Irvine, California. The meeting will also be broadcasted via Webex for those wanting to observe the meeting virtually.

To observe this meeting virtually, please join online using the link and information below:

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=mcba54b5af13d5bb5af9a646e5f94476b>

Meeting Number (Access Code): 2499 307 1895

Meeting password: h5eSQz25Cew

PLEASE NOTE: Webex observers of the meeting will be placed into the Webex lobby when the Board enters closed session. Participants who remain in the "lobby" will automatically be returned to the open session of the Board once the closed session has concluded. Observers joining the meeting while the Board is in closed session will receive a notice that the meeting has been locked. They will be able to observe the meeting once the closed session has concluded.

CALL TO ORDER 10:00 a.m.

ATTENDANCE      Committee Chair:      Doug Reinhart      \_\_\_\_\_  
                         Committee Member:      John Withers      \_\_\_\_\_

<u>ALSO</u>	Paul Cook	_____	Kevin Burton	_____	Wendy Chambers	_____
<u>PRESENT</u>	Neveen Adly	_____	Paul Weghorst	_____	Steve Choi	_____
	Jim Colston	_____	Jason Manning	_____	Jose Zepeda	_____
	Eric Akiyoshi	_____	Belisario Rios	_____	Jacob Moeder	_____
	Brian Waite	_____	Lori Rigby	_____	Scott Giatpaiboon	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____

PUBLIC COMMENT NOTICE

If you wish to address the Committee orally on any item, you may attend the meeting in person and submit a "speaker slip" to the Committee Chair. Forms are provided at the front of the Committee Room. Public comments are limited to three minutes per speaker on each subject. If you wish to submit written comments to the Committee, please submit your public comment in advance of the meeting by emailing [comments@irwd.com](mailto:comments@irwd.com) before 5:00 p.m. on Wednesday, February 18, 2026, and your remarks will be added to the record at the meeting.

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## COMMUNICATIONS

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1. Notes: Burton
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted and determine which items may be approved without discussion.

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## INFORMATION

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4. PROJECT STATUS REPORT – AKIYOSHI / MOEDER / RIOS / WAITE / BURTON

Recommendation: Receive and file.

5. IRWD RESEARCH BUSINESS PLAN UPDATE – COLSTON / BURTON

Recommendation: Receive and file.

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## ACTION

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6. SYPHON RESERVOIR IMPROVEMENT PROJECT PERMITS AND BUDGET FOR OFF-SITE MITIGATION AREA – MOEDER / LE / NYE / BURTON / WEGHORST

Recommendation: That the Board authorize the General Manager to execute the Lake and Streambed Alteration Agreement between the California Department of Fish and Wildlife and IRWD, subject to non-substantive changes approved by special legal counsel; authorize the General Manager to execute grant deed amendments and escrow funding agreements in amounts not to exceed \$30 million with the California Department of Fish and Wildlife for establishing On-Site and Off-Site Mitigation Areas required by the Lake and Streambed Alteration Agreement, subject to review by general legal counsel; authorize the General Manager to execute a Conservation Easement and associated agreements required by the Incidental Take Permit, including establishing an endowment for long-term preservation and maintenance of IRWD's Irvine Lake North property in an amount not to exceed \$2 million, subject to review by general legal counsel; and authorize the addition of Project 13519 to the budget in the amount of \$20,000,000 for the Syphon Reservoir Off-Site Mitigation Area project.

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## OTHER BUSINESS

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7. Directors' Comments
8. Adjournment

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to [comments@irwd.com](mailto:comments@irwd.com). Requests made by mail must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.

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February 19, 2026

Prepared by: E. Akiyoshi / J. Moeder /  
B. Rios / B. Waite

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### PROJECT STATUS REPORT

#### SUMMARY:

A status report of Irvine Ranch Water District's projects is presented to the Committee for information.

#### BACKGROUND:

The information, which is provided as Exhibit "A", is a status report submitted quarterly to the Committee for review.

#### FISCAL IMPACTS:

Not applicable.

#### ENVIRONMENTAL COMPLIANCE:

Not applicable.

#### RECOMMENDATION:

Receive and file.

#### LIST OF EXHIBITS:

Exhibit "A" – Project Status Report

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ENGINEERING PROJECT STATUS REPORT

	Project Name	Project No.	Engineering Team			Planning/Study Phase		Design Phase						Construction Phase			
			Group	Program Manager	Project Manager	Status	Completion	Status	Consultant	PDR / 30%	60%	90%	100%	Status	Contractor	In Service	Final Acceptance
1	MWRP Tertiary Filter Rehabilitation	07892	Treatment & Conveyance	Waite	Alvarez	Completed	-	Completed	HDR	Completed	Completed	Completed	Completed	In-Process	ICS	Dec-26	Feb-27
2	MWRP Fueling Facilities	07881/07882	Treatment & Conveyance	Waite	Alvarez	Completed	-	Completed	AECOM	Completed	Completed	Completed	Completed	In-Process	ICS	Jun-26	Aug-26
3	Coastal Zones B&D and Coastal Zone OC-63 to Zone 4 Pump Stations Rehabilitation	11568/13506	Treatment & Conveyance	Waite	Alvarez	Completed	Nov-26	In-Process	Carollo	Jun-26	Sep-26	Jan-27	Apr-27	May-27	-	-	Aug-28
4	MWRP 2025 Flows and Loads Update (Phase III Expansion)	01659/01797	Treatment & Conveyance	Waite	Alvarez	In-Process	Jun-26	N/A	HDR	-	-	-	-	N/A	-	-	N/A
5	BWTP Access Road Drainage Improvements	12521	Treatment & Conveyance	Waite	Alvarez	Completed	-	In-Process	In-House	Completed	Completed	Completed	Feb-26	Apr-26	-	-	-
6	MWRP Handrail Safety Improvements	12525	Treatment & Conveyance	Waite	Alvarez	In-Process	Feb-26	Apr-26	-	-	-	-	-	Oct-26	-	-	Aug-27
7	East Irvine Zone 3-4 Pump Station Rehabilitation	12565	Treatment & Conveyance	Waite	Alvarez	Completed	-	May-26	-	-	-	-	-	Jul-27	-	-	Dec-28
8	Wells 6, 12, 14, and 15 Site Improvements	11570	Treatment & Conveyance	Waite	Foo	Completed	-	In-Process	Tetra Tech	Completed	Completed	Completed	Mar-26	Apr-26	-	-	Mar-27
9	Sand Canyon Headquarters and Operations Center HVAC Upgrades	12550/12551	Treatment & Conveyance	Waite	Foo	Completed	-	In-Process	Eng Resource Mech	Completed	Completed	Completed	Feb-26	Mar-26	-	-	Jun-27
10	Silverado Canyon Bridge 174 Domestic Water Pipeline Improvements	11588	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	Mark Thomas	Completed	Completed	Completed	Completed	In-Process	Ferreira	Jan-28	Feb-28
11	Silverado Canyon Bridge 175 Domestic Water Pipeline Improvements	11587	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	MBF Consulting	Completed	Completed	Completed	Completed	May-27	-	-	Jul-27
12	Silverado Canyon Bridge 177 Domestic Water Pipeline Improvements	11589	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	MBF Consulting	Completed	Completed	Completed	Completed	In-Process	Ferreira	Sep-26	Oct-26
13	IDP Well Rehabilitations Wells 72, 76, 110R, 106, 115R	11137/11846/11847/12264	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	Richard Slade	Completed	Completed	Completed	Completed	In-Process	Best Drilling	Completed	Dec-25
14	Operations Center Warehouse and Water Quality Storage Building	11854/11855	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	Stantec	Completed	Completed	Completed	Completed	In-Process	KPRS	Aug-26	Oct-26
15	Rehabilitation of Dyer Road Wellfield Well No. 7	13252	Treatment & Conveyance	Waite	Foo	Completed	-	Completed	Richard Slade	Completed	Completed	Completed	Completed	In-Process	Best Drilling	May-26	Jun-26
16	Biosolids Solids Handling Building Dust Mitigation	13244	Treatment & Conveyance	Waite	Mai	Completed	-	Completed	CDA	Completed	Completed	Completed	Completed	Maintenance	-	-	N/A
17	Manning Pump Station Replacement	13191	Treatment & Conveyance	Waite	Mai	Completed	-	In-Process	Lee & Ro	Completed	Completed	Completed	Completed	Mar-26	-	-	Jun-27
18	MWRP Biosolids Lift Station and Sewer Pipeline	12541	Treatment & Conveyance	Waite	Mai	Completed	-	Completed	Tetra Tech	Completed	Completed	Completed	Completed	In-Process	Paulus Engineering	Feb-27	Apr-27
19	Radio Tower Improvements	11154/11156/11157	Treatment & Conveyance	Waite	Mai	Completed	-	Completed	Civiltec	Completed	Completed	Completed	Completed	In-Process	Southern Contrating Co.	May-26	Jun-26
20	MWRP Biosolids Safety Improvement - Lower Cake Screw Conveyor Platform	12525	Treatment & Conveyance	Waite	Mai	Completed	-	Completed	CDA	Completed	Completed	Completed	Completed	Maintenance	Schuler Constructors	-	NA
21	MWRP Biosolids Handling Improvements	12555	Treatment & Conveyance	Waite	Murphy	Completed	-	In-Process	Carollo	Feb-26	May-26	Aug-26	Nov-26	Dec-26	-	-	Dec-28
22	Lake Forest Woods Sewer Improvements	11123	Treatment & Conveyance	Waite	Murphy	Completed	-	Completed	Woodard & Curran	Completed	Completed	Completed	Completed	In-Process	GCI	Sep-26	Dec-26
23	Coastal Zone 1 to 2 and Zone 2 to 4 Pump Stations Rehabilitations	11912	Treatment & Conveyance	Waite	Murphy	Completed	-	Completed	GHD	Completed	Completed	Completed	Completed	In-Process	SS Mechanical	Dec-26	Jan-27
24	SOCWA Pump Station Tank Wall Repair	12527	Treatment & Conveyance	Waite	Ovcharenko	On Hold	-	On Hold	-	-	-	-	-	On Hold	-	-	On Hold
25	LAWRP Ponds Biosolids Removal and Land Application	13424	Treatment & Conveyance	Waite	Spangenberg	Completed	-	Completed	In-House	Completed	Completed	Completed	Completed	In-Process	TBD	Feb-27	Feb-27
26	Santiago Creek Dam Improvements	01813	Dams & Storage	Moeder	Moeder	Completed	-	In-Process	AECOM/GEI	Completed	Completed	May-26	Aug-26	Nov-26	-	-	Dec-31
27	Santiago Creek Dam Improvements - Site Prep	01813	Dams & Storage	Moeder	Sanchez	Completed	-	In-Process	AECOM/GEI	Completed	Completed	Completed	Completed	Feb-26	-	-	Mar-27
28	Syphon Reservoir Improvements	03808	Dams & Storage	Moeder	Moeder	Completed	-	In-Process	AECOM	Completed	Completed	Completed	Completed	In-Process	TBD	-	Sep-31
29	Syphon Reservoir Improvements - Zone C to Syphon Intertie at Eastwood PS	03808	Dams & Storage	Moeder	Sanchez	Completed	-	Completed	AECOM	Completed	Completed	Completed	Completed	In-Process	TBD	-	May-26
30	Rattlesnake Dam Risk Reduction Investigation	12101	Dams & Storage	Moeder	Moeder	In-Process	Feb-26	N/A	HDR	-	-	-	-	N/A	-	-	N/A
31	Orange Heights Zone 6 Reservoir	07138	Dams & Storage	Moeder	Moeder	Completed	-	On Hold	Tetra Tech	Completed	Completed	Completed	-	-	-	-	-
32	El Modena NTS Improvements	05406	Dams & Storage	Moeder	Moeder	Jul-26	-	Sep-26	TBD	-	-	-	-	Jun-27	-	-	Jun-28
33	Sand Canyon Dam Instrumentation Upgrades	12506	Dams & Storage	Moeder	Bernal	Completed	-	In-Process	GEI	Completed	Mar-26	Jun-26	Aug-26	Oct-26	-	-	May-27
34	BWTP Chemical Line Repair	13200	Dams & Storage	Moeder	Bernal	Completed	-	In-Process	Carollo	Completed	Completed	Mar-26	May-26	Jul-26	-	-	Mar-27
35	Modjeska Tank Hatch Repair	12521	Dams & Storage	Moeder	Bernal	Completed	-	Completed	In-House	Completed	Completed	Completed	Completed	Jan-26	-	-	Mar-26
36	San Joaquin Reservoir Outlet Valve Replacement	13111	Dams & Storage	Moeder	Bernal	Completed	-	Completed	In-House	Completed	Completed	Completed	Completed	Aug-26	-	-	Dec-26
37	Rattlesnake Reservoir Fence	13329	Dams & Storage	Moeder	Bernal	Completed	-	Completed	In-House	Completed	Completed	Completed	Completed	In-Process	Red Hawk Services	Feb-26	Feb-26
38	Fleming Tank and Pump Station Improvements	10101	Dams & Storage	Moeder	Burk	Completed	-	Completed	Tetra Tech	Completed	Completed	Completed	Completed	In-Process	Pacific Hydrotech	Mar-26	May-26
39	HWTP Interconnection Pipeline	13149	Dams & Storage	Moeder	Burk	Completed	-	In-Process	West Yost	Completed	Completed	Mar-26	Apr-26	May-26	-	-	Jul-27
40	HWTP Supply Pipeline Vault Rehabilitations	13190	Dams & Storage	Moeder	Burk	Completed	-	In-Process	WSC	Jun-26	Sep-26	Nov-26	Jan-27	Feb-27	-	-	Jun-28
41	HWTP Pump Station Improvements	13174	Dams & Storage	Moeder	Burk	Completed	-	In-Process	MKN	Apr-26	Sep-26	Nov-26	Jan-27	Mar-27	-	-	-
42	HWTP Treatment Assessment	13174	Dams & Storage	Moeder	Burk	In-Process	Mar-26	N/A	Carollo	-	-	-	-	N/A	-	-	N/A
43	Orange Heights Zn 5 to 6 and C+ to E Pump Stations	07136/07139	Dams & Storage	Moeder	Burk	Completed	-	On Hold	Lee & Ro	-	-	-	-	-	-	-	-
44	Sewer Siphon Improvements Phase II	11841	Dams & Storage	Moeder	Lu	Completed	-	Completed	Woodard & Curran	Completed	Completed	Completed	Completed	In-Process	Mike Prlich & Sons	Jun-26	Jul-26
45	San Joaquin Reservoir Filtration	10379	Dams & Storage	Moeder	Lu	Completed	-	Completed	Carollo	Completed	Completed	Completed	Completed	In-Process	RC Foster	Apr-26	Jun-26
46	Rattlesnake Dam Outlet Pipeline Rehabilitation	12101	Dams & Storage	Moeder	Lu	Completed	-	In-Process	MKN	Completed	Feb-26	Apr-26	May-26	Jul-26	-	-	-
47	Santiago Hills Zone 5 Tank Repair	13316	Dams & Storage	Moeder	Lu	Completed	-	Completed	In-House	Completed	Completed	Completed	Completed	In-Process	DN Tanks	Feb-26	Mar-26
48	District-Wide Generator Fuel Storage Upgrades	11536/11537	Dams & Storage	Moeder	Mwe	Completed	-	Completed	Psomas	Completed	Completed	Completed	Completed	In-Process	SS Mechanical	Mar-26	Apr-26
49	San Joaquin Dam Drainage Improvements	13166	Dams & Storage	Moeder	Mwe	Completed	-	In-Process	JIG	Completed	Completed	Completed	Mar-26	Apr-26	-	-	Sep-26
50	Lake Forest Zone 4 Tanks Rehabilitation	12568	Dams & Storage	Moeder	Mwe	Completed	-	Completed	Cannon	-	-	-	-	In-Process	Orion Construction	Mar-27	-
51	Shaw Tank Replacement	12569	Dams & Storage	Moeder	Mwe	Completed	-	In-Process	Tetra Tech	May-26	Jul-26	Oct-26	Dec-26	Feb-27	-	-	Aug-28

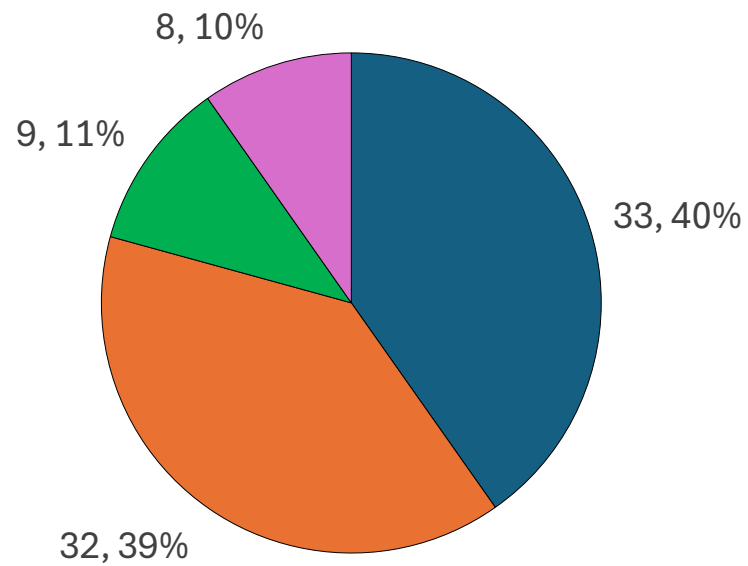


ENGINEERING PROJECT STATUS REPORT

	Project Name	Project No.	Engineering Team			Planning/Study Phase		Design Phase						Construction Phase			
			Group	Program Manager	Project Manager	Status	Completion	Status	Consultant	PDR / 30%	60%	90%	100%	Status	Contractor	In Service	Final Acceptance
52	MWRP Acid Phase Digester Rehabilitation	12552	Dams & Storage	Moeder	Mwe	In-Process	Mar-26	May-26	TBD	-	-	-	-	Nov-26	-	-	Nov-28
53	Chapman Tank Rehabilitation	12569	Dams & Storage	Moeder	Mwe	Completed	-	On Hold	-	-	-	-	-	-	-	-	-
54	Sand Canyon Dam Seepage Improvements	13232	Dams & Storage	Moeder	Sanchez	Completed	-	In-Process	GEI	Completed	Completed	Mar-26	May-26	Jun-26	-	-	Dec-26
55	Syphon Reservoir Off Site Mitigation	13519	Dams & Storage	Moeder	Sanchez	In-Process	-	-	TBD	-	-	-	-	-	-	-	-
56	Harding Canyon Dam Rehabilitation	12513	Dams & Storage	Moeder	Sanchez	On Hold	-	N/A	TBD	-	-	-	-	N/A	-	-	N/A
57	PA 51 Marine Way Stage 3 from County to Lynx (RA with Heritage Fields)	13107/13109/13110	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Proactive	N/A	N/A	N/A	N/A	In-Process	L&S	Jan-26	Mar-26
58	PA 51 Marine Way Stage 4 from Lynx to OCTA Rail (RA with Heritage Fields)	13099/13100/13101	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Proactive	N/A	N/A	N/A	N/A	Nov-26	-	-	Jun-26
59	PA 51, Treble from GP5 to Marine Way DW, RW (RA with Heritage Fields)	12404/12405/12406	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Hunsaker	N/A	N/A	N/A	N/A	In-Process	FYDAQ	Feb-26	Mar-26
60	PA 51 Lynx from Harrier to Marine Way DW, SS (RA with Heritage Fields)	12432/12433	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Hunsaker	N/A	N/A	N/A	N/A	In-Process	FYDAQ	Jan-26	Mar-26
61	PA 51 Framework DW, SS, RW	13463/13464/13465	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Huitt Zollars	N/A	N/A	N/A	N/A	May-26	-	-	Jan-27
62	PA 1, Orchard Hills Neighborhood 4 DW (RA with TIC)	12781	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Hunsaker	N/A	N/A	N/A	N/A	In-Process	Shoffeitt	Apr-26	Apr-26
63	PA 1, Orchard Hills Neighborhood 4 RW (RA with TIC)	1722	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Hunsaker	N/A	N/A	N/A	N/A	In-Process	FYDAQ	Feb-26	Mar-26
64	PA 1, Orchard Hills Neighborhood 4 DW Backbone (RA with TIC)	12948	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Hunsaker	N/A	N/A	N/A	N/A	In-Process	FYDAQ	Apr-26	Apr-26
65	PA 2, Gateway Village In Tract Backbone DW, RW (RA with City)	13466/13467	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Fuscoe	N/A	N/A	N/A	N/A	Jun-26	-	-	Jan-27
66	PA 2, Gateway Village Offsite DW (RA with City)	13482	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Fuscoe	N/A	N/A	N/A	N/A	Jun-26	-	-	Jan-27
67	PA 2, Gateway Village Offsite SS (RA with City)	13483	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Fuscoe	N/A	N/A	N/A	N/A	Jun-26	-	-	Jan-27
68	East Orange, Orange Heights Tract 16199 SS, RW (RA with TIC)	07484/07486	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Wilson Mikami	N/A	N/A	N/A	N/A	Jan-27	-	-	Jan-28
69	East Orange, Orange Heights Tract 17995 DW, RW (RA with TIC)	07376/07377	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Proactive	N/A	N/A	N/A	N/A	Jan-27	-	-	Jan-28
70	East Orange, Orange Heights Jamboree and Chapman DW SS, RW (RA with TIC)	07451/07452/07453	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	MBI	N/A	N/A	N/A	N/A	Jan-27	-	-	Jan-28
71	East Orange, Orange Heights Neighborhood J2/J3 DW, (RA with TIC)	13324	Development & Pipelines	Rios	Kuan	Completed	-	In-Process	Wilson Mikami	N/A	N/A	N/A	N/A	Jan-27	-	-	Jan-28
72	East Orange, Orange Heights Tract 17995 SS, RW (RA with TIC)	13441/13442	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Proactive	N/A	N/A	N/A	N/A	Jan-27	-	-	Jan-28
73	Discovery Apartments 12-inch Sewer Up-size (RA with TIC)	13302	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Stantec	N/A	N/A	N/A	N/A	In-Process	L&S	Feb-26	Mar-26
74	PA 40 Marine Way Capital Domestic (RA with TIC)	12510	Development & Pipelines	Rios	Kuan	Completed	-	Completed	Stantec	N/A	N/A	N/A	N/A	In-Process	Shoffeitt	Feb-26	Mar-26
75	I-5 Widening Sand Canyon 12 inch DW Relocation Seg1	13205	Development & Pipelines	Rios	Botello	Completed	-	Completed	JIG	Completed	Completed	Completed	Completed	Mar-26	-	-	Jul-26
76	I-5 Widening Sand Culver 36 inch RW Relocation Seg2	13204	Development & Pipelines	Rios	Botello	Completed	-	Completed	JIG	Completed	Completed	Completed	Completed	In-Process	L&S	Sep-26	Sep-26
77	Modjeska Grade Road DW Pipeline Relocation	13238	Development & Pipelines	Rios	Botello	Completed	-	In-Process	JIG	Completed	Completed	Completed	Feb-26	Mar-26	-	-	Jul-26
78	Orange Heights SAC/Baker Pipeline Relocation	02766	Development & Pipelines	Rios	Botello	Completed	-	Completed	MBI	Completed	Completed	Completed	Completed	Jan-27	-	-	Jan-28
79	Effluent Transmission Main Reach A Rehabilitation	11842	Development & Pipelines	Rios	Botello	In-Process	Mar-26	Apr-26	-	-	-	-	-	Apr-27	-	-	Oct-28
80	Effluent Transmission Main Reach B/C Replacement	11842	Development & Pipelines	Rios	Botello	Completed	-	Mar-26	BKF	-	-	-	-	Mar-27	-	-	Oct-28
81	San Joaquin Hills Road RW Pipeline Replacement	11906	Development & Pipelines	Rios	Botello	Completed	-	In-Process	MKN	-	-	-	-	Nov-26	-	-	May-27
82	Silkwood/Willowleaf RW Pipeline Replacement	10580	Development & Pipelines	Rios	Botello	Completed	-	In-Process	Ardurra	-	-	-	-	Nov-26	-	-	May-27
83	Recycled Water PRVs Decommissioning	13160	Development & Pipelines	Rios	Ige	Completed	-	Completed	WSC	Completed	Completed	Completed	Completed	In-Process	Ferreira	May-26	Jun-26
84	Technology Drive and Ada RW Pipeline Replacement	12979	Development & Pipelines	Rios	Ige	Completed	-	Completed	MKN	Completed	Completed	Completed	Completed	In-Process	CCL Contracting	Completed	Feb-26
85	Turtle Rock/Concordia RW Pipeline Replacement	13162	Development & Pipelines	Rios	Ige	Completed	-	Completed	West Yost	Completed	Completed	Completed	Completed	In-Process	Ferreira	Jun-26	Jun-26
86	Irvine Business Complex Appurtenance Relocations Phase 3	12827	Development & Pipelines	Rios	Ige	Completed	-	Completed	MBF Consulting	Completed	Completed	Completed	Completed	Feb-26	-	-	Jul-26
87	EV Charging Facilities - Sand Canyon	12971	Development & Pipelines	Rios	Ige	Completed	-	In-Process	SCE/NV5	Completed	Completed	Apr-26	May-26	Jun-26	-	-	Nov-26
88	EV Charging Facilities - Operations Center	12971	Development & Pipelines	Rios	Ige	Completed	-	In-Process	SCE/BCF	Completed	Completed	Apr-26	May-26	Jun-26	-	-	Nov-26
89	Water Quality Laboratory Remodel Study	Op Budget	Infrastructure Planning	Akiyoshi	Edwards	In-Process	Jan-27	N/A	TBD	-	-	-	-	N/A	-	-	N/A
90	Condition Assessment Plan for DRWF Pipeline	12564	Infrastructure Planning	Akiyoshi	Robinson	In-Process	Jun-26	Jul-26	TBD	-	-	-	-	Jul-27	-	-	Jul-28
91	BWTP Chemical Building Shower/Eyewash Pipe Lining	Op Budget	Infrastructure Planning	Akiyoshi	Jaramillo	Completed	-	In-Process	In-House	Completed	Completed	Completed	Feb-26	Mar-26	-	-	Jun-26
92	Sand Canyon Dam Spillway Rehabilitation	12505	Future	Moeder		-	-	-	-	-	-	-	-	-	-	-	-
93	Eastwood Zn A-Syphon Pump Station Equipping	11831	Future	Moeder		-	-	-	-	-	-	-	-	-	-	-	-
94	Wells 1, 2, 4, 10, 11, and 18 Site Improvements	12620	Future	Waite		-	-	-	-	-	-	-	-	-	-	-	-
95	Lake Forest Zone 4-5 West Pump Station Rehabilitation	12566	Future	Waite	Ovcharenko	-	-	-	-	-	-	-	-	-	-	-	-
96	Turtle Rock Zone 3-4 Pump Station Rehabilitation	12567	Future	Waite	Ovcharenko	-	-	-	-	-	-	-	-	-	-	-	-
97	Modjeska Canyon DW Pipeline Replacement	TBD	Future	Rios		-	-	-	-	-	-	-	-	-	-	-	-
98	AMI Towers	TBD	Future			-	-	-	-	-	-	-	-	-	-	-	-
99	Biosolids Gas System Modifications	13225	Future	Waite		-	-	-	-	-	-	-	-	-	-	-	-



## Engineering Project Status Update In Process and Future Projects




■ Construction ■ Design ■ Planning ■ Future

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February 19, 2026

Prepared by: J. Colston

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### IRWD RESEARCH BUSINESS PLAN UPDATE

#### SUMMARY:

Staff will provide an update on the research projects in which IRWD is currently involved.

#### BACKGROUND:

Periodically, IRWD receives requests to participate in various research projects pertaining to emerging technologies through either direct funding or dedication of in-kind staff resources. Guidelines were developed to assist staff with its evaluation and response to those requests. These guidelines were incorporated into the IRWD Research Business Plan, which also provides a tracking mechanism for the various requests and ongoing research projects and programs in which IRWD participates. The Research Business Plan ensures that IRWD's research resources are being prioritized and utilized effectively.

One of the components of the Research Business Plan is for staff to provide a status update on the research projects to the Engineering and Operations Committee on a quarterly basis. IRWD actively participates in the Technology Approval Group (TAG) sponsored by Isle Utilities. The TAG hosts numerous developing technology providers in order to match interested agencies with their technologies. The following are projects of interest to IRWD undertaken by the Water Research Foundation, and we are actively following them for potential benefits to IRWD:

- Water Utility Resilience: A Case Study of the 2021 Marshall Fire
- Studying the Fate of PFAS through Sewage Sludge Incinerators
- Developing an Environmental, Social, and Governance Framework for Water Utilities
- Treatment Strategies for the Removal of Lithium from Drinking Water
- CalVal Phase 1 Technical Survey: Evaluating Treatment Credits and Compliance Pathways for Indirect Potable Reuse in California

The following research item has not changed in status since the last report; however, more research papers are expected in the coming months.

- UCI CDC Sponsored PFAS Epidemiological Study – UCI conducted a Centers for Disease Control (CDC) sponsored study of health impacts from the public drinking potable water tainted with Per- and Poly-fluoroalkyl substances (PFAS). Researchers added a PFAS Child Immune Study to this research. The data collection portion of the research has been completed. The data has been reviewed, and numerous scholarly manuscripts are under production. One recent manuscript with summary data is *Multi-site study of communities with PFAS-contaminated drinking water: Methods, demographics, and PFAS serum concentrations*. The Director of Water Quality & Regulatory Compliance participated in a webinar hosted by the CDC to go over the nationwide results. This research is complete, but the report writing is ongoing.

A summary of the current research projects is attached as Exhibit “A”.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit “A” – Research Projects Summary

## Exhibit "A"

Research Projects Summary Table

No.	Project Title	Project Description	IRWD Contact	Organizations Involved	Type of Research	IRWD Participation Resource	Start Date	Projected Completion Date
1	UCI CDC Sponsored PFAS Epidemiological Study	UCI is conducting a Centers for Disease Control (CDC) sponsored study of health impacts from the public drinking potable water. Due to localized PFAS contamination in some Orange County drinking water sources, the CDC is sponsoring research to determine potential public health effects. IRWD's Irvine service area is seen as an ideal control population due to the lack of PFAS in IRWD's served potable water.	Colston	UCI, OCWD, IRWD, CDC	Epidemeological that seeks 1,000 adults and 300 children for blood serum level testing.	Assistance in determining historic sources of drinking water in IRWD's service area.	Jan-23	Dec-25


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February 19, 2026

Prepared by: J. Moeder / E. Le

Submitted by: F. Nye / K. Burton / P. Weghorst

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### SYPHON RESERVOIR IMPROVEMENT PROJECT PERMITS AND BUDGET FOR OFF-SITE MITIGATION AREA

#### SUMMARY:

Environmental permits and other requirements are needed for the construction of the Syphon Reservoir Improvement Project (Project), including a Lake and Streambed Alteration Agreement (LSAA), Incidental Take Permit (ITP) for the Crotch's bumble bee, and a Minor Amendment to the Orange County Coastal Natural Community Conservation Plan / Habitat Conservation Plan (NCCP / HCP). An ITP has been issued and the Draft LSAA has been received for the Project. As part of the LSAA, IRWD is required to establish On-Site and Off-Site Mitigation Areas to compensate for impacts to aquatic resources. Staff recommends that the Board:

- Authorize the General Manager to execute the LSAA with California Department of Fish and Wildlife (CDFW), subject to non-substantive changes approved by IRWD special legal counsel;
- Authorize the General Manager to execute grant deed amendments and escrow funding agreements in amounts not to exceed \$30 million with CDFW for establishing On-Site and Off-Site Mitigation Areas required by the LSAA, subject to review by general legal counsel;
- Authorize the General Manager to execute a Conservation Easement and associated agreements required by the ITP, including establishing an endowment for long-term preservation and maintenance of the District's Irvine Lake North property in an amount not to exceed \$2 million, subject to review by general legal counsel; and
- Authorize the addition of Project 13519 in the amount of \$20,000,000 for the Syphon Reservoir Off-Site Mitigation Area project.

#### BACKGROUND:

Construction of the Project requires that IRWD obtain several environmental permits that are conditioned upon the District complying with various requirements and obligations, including establishing both On-Site and Off-Site Mitigation Areas. An ITP has been issued and a draft LSAA has been received for the Project. Following is a summary of the LSAA and ITP requirements, a discussion of a required Minor Amendment to the NCCP / HCP, and a description of the required Off-Site Mitigation Area.

#### Lake and Streambed Alteration Agreement:

Consistent with the requirements of Sections 1602 and 1603 of the California Fish and Game Code, IRWD is required to obtain an LSAA for construction of the Project. Staff worked with CDFW and IRWD's special legal counsel at Kronick Moscovitz Tiedemann & Girard to finalize

the draft LSAA, which is provided as Exhibit “A”. The LSAA incorporates multiple measures to minimize impacts from the Project to approximately 12 acres of aquatic resources and requires compensatory mitigation with assurances for long-term funding. The LSAA does not authorize take of any species.

*Compensatory Mitigation:*

To compensate for approximately 12 acres of impacts to aquatic resources, the LSAA requires IRWD to establish, conserve, and manage at least six acres of on-site riparian habitat, the On-Site Mitigation Area and approximately 25 acres of freshwater marsh and woody riparian habitat at IRWD’s San Joaquin Marsh property located south of Campus Drive, which will make up the Off-Site Mitigation Area.

IRWD is required to conserve and manage the mitigation areas in perpetuity. The mitigation areas will require grant deed amendments for the Syphon Reservoir area and Off-Site Mitigation Area properties that will add CDFW as a third-party beneficiary and specify future funding obligations. The LSAA specifies that in the event IRWD, or any successor agency, no longer owns the properties, conservation easements would need to be recorded to ensure the perpetual nature of the mitigation areas.

*Security and Funding:*

To ensure that the mitigation areas are successfully established, IRWD is required to provide security in the form of escrow accounts for each mitigation area 60 days before initiating Project activities. The security amounts need to be equivalent to the amounts required to establish the On-Site and Off-Site Mitigation Areas. Establishment of the On-Site Mitigation area is estimated to not exceed \$10 million, and establishment of the Off-Site Mitigation area is estimated to not exceed \$20 million, for a combined total of \$30 million. Staff anticipates that the escrow accounts would be drawn down by the District as the mitigation sites are established. Staff is coordinating with IRWD general legal counsel and CDFW to develop the escrow funding agreements that will include task-based schedules for drawing down the escrow accounts.

Incidental Take Permit:

In December 2025, CDFW issued the ITP, provided as Exhibit “B”, to address potential impacts to the Crotch’s bumble bee. As a candidate species, the Crotch’s bumble bee receives protection under the California Endangered Species Act until a final listing determination is made by the California Fish and Game Commission. IRWD’s Irvine Lake North property will be used to provide full compensatory mitigation for the Crotch’s bumble bee and therefore must be placed under a Conservation Easement. While the District is the landowner, the ITP requires separate entities to serve as the Easement Holder and the Land Manager. Staff and general legal counsel have been working to develop agreements with Southwest Resource Management Association (SRMA) to serve as the Easement Holder and with the Irvine Ranch Conservancy (IRC) to serve as the Land Manager.

The ITP also requires the District to fund an endowment, estimated to not exceed \$2 million, to provide for long-term management and preservation of the Irvine Lake North property. IRWD is coordinating with SRMA, IRC, and CDFW to finalize the necessary agreements and endowment.

NCCP Minor Amendment for Boundary Adjustment:

Implementation of the Project requires a Minor Amendment to the NCCP / HCP to remove the future reservoir and operational area from the Reserve. Approximately 68.5 acres would be removed, and – in place – IRWD’s 98.2-acre Irvine Lake North property would be added, resulting in no net loss to the Reserve. Staff has requested that the Natural Communities Coalition’s Boundary Adjustment Committee consider approval of a Minor Amendment to modify the Reserve boundary in March. If approved, NCCP requirements to place the replacement Reserve under a conservation easement would be incorporated into the Irvine Lake North Conservation Easement.

Off-Site Mitigation Area:

The proposed 33.4-acre Off-Site Mitigation Area for the Project is located near the intersection of Campus Drive and San Diego Creek directly across from the San Joaquin Marsh. The land parcel includes the Small Area Mitigation Site (SAMS-1) area that was previously used by the Irvine Company for mitigation and the area that was previously considered by IRWD for a potential Natural Treatment System facility. The terms of the LSAA require that water be conveyed from the San Joaquin Marsh to the Off-Site Mitigation Area. Accordingly, the mitigation project includes water conveyance improvements. A concept of the Off-Site Mitigation area is included as Exhibit “C”.

At the meeting, staff will present an overview of the environmental permits, requirements, and proposed Off-Site Mitigation area. A draft presentation is provided as Exhibit “D”.

FISCAL IMPACTS:

The LSAA requires IRWD to issue security in the form of escrow accounts equivalent to the cost of establishing the On-Site and Off-Site Mitigation Areas, estimated to not exceed \$30 million. The ITP requires the District to fund an endowment estimated at \$2 million. Funding for the endowment and for the escrow account related to the On-site Mitigation Area is included in the FY 2025-26 Capital Budget for Syphon Reservoir Improvements Project 03808. Staff requests the addition of Project 13519 to the FY 2025-2026 Capital Budget to fund the escrow account for establishing the Off-Site Mitigation Area project as shown in the following table. Funding will be provided by new capital for recycled water.

Project No.	Current Budget	Addition <Reduction>	Total Budget
13519	\$0	\$20,000,000	\$20,000,000

ENVIRONMENTAL COMPLIANCE:

The Syphon Reservoir Improvement Project Final Environmental Impact Report (FEIR) was certified and the Project approved by the IRWD Board of Directors on July 26, 2021. Addendum No. 1 to the Syphon Reservoir Improvement Project FEIR was adopted by the IRWD Board of Directors on August 26, 2024. Addendum No. 2 to the Syphon Reservoir Improvement Project FEIR was adopted by the IRWD Board of Directors on May 12, 2025. Addendum No. 3 to the Syphon Reservoir Improvement Project was adopted by the IRWD Board of Directors on October 27, 2025.

RECOMMENDATION:

That the Board authorize the General Manager to execute the Lake and Streambed Alteration Agreement between the California Department of Fish and Wildlife and IRWD, subject to non-substantive changes approved by special legal counsel; authorize the General Manager to execute grant deed amendments and escrow funding agreements in amounts not to exceed \$30 million with the California Department of Fish and Wildlife for establishing On-Site and Off-Site Mitigation Areas required by the Lake and Streambed Alteration Agreement, subject to review by general legal counsel; authorize the General Manager to execute a Conservation Easement and associated agreements required by the Incidental Take Permit, including establishing an endowment for long-term preservation and maintenance of IRWD's Irvine Lake North property in an amount not to exceed \$2 million, subject to review by general legal counsel; and authorize the addition of Project 13519 to the budget in the amount of \$20,000,000 for the Syphon Reservoir Off-Site Mitigation Area project.

LIST OF EXHIBITS:

- Exhibit "A" – Lake and Streambed Alteration Agreement for Syphon Reservoir and Unnamed Drainages Tributary to Syphon Reservoir
- Exhibit "B" – Incidental Take Permit for Syphon Reservoir Improvement Project
- Exhibit "C" – Concept for Off-Site Mitigation Area Project
- Exhibit "D" – Draft Presentation

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**  
SOUTH COAST REGION  
3883 RUFFIN ROAD  
SAN DIEGO, CA, 92123



**STREAMBED ALTERATION AGREEMENT - DRAFT VERSION 4**  
EPIMS-ORA-48911-R5  
SYPHON RESERVOIR AND UNNAMED DRAINAGES TRIBUTARY TO SYPHON  
RESERVOIR

PAUL A. COOK  
IRVINE RANCH WATER DISTRICT  
SYPHON RESERVOIR IMPROVEMENT PROJECT (PROJECT)

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Irvine Ranch Water District (Permittee) as represented by Paul A. Cook.

### **RECITALS**

WHEREAS, pursuant to Fish and Game Code section 1602, Permittee notified CDFW on March 13, 2024, that Permittee intends to complete the Project described herein.

WHEREAS, pursuant to Fish and Game Code section 1603, CDFW has determined that the Project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the Project in accordance with the Agreement.

### **PROJECT LOCATION**

The Project is located at the existing Syphon Reservoir and unnamed drainages to Syphon Reservoir, northeast of Portola Parkway between Bee Canyon Access Road and SR-133 in the County of Orange, State of California; Latitude 33.712018 N, Longitude -117.729456 W; Assessor's Parcel Numbers (APN) 104-117-40, 104-117-27, and 104-117-42.

The off-site mitigation area is located near San Joaquin Marsh, northwest of the intersection of Campus Drive and University Drive in City of Irvine, County of Orange, State of California; Latitude 33.65560953 N, Longitude -117.84787172 W; APN 445-072-16.

## **PROJECT DESCRIPTION**

The Project is limited to activities associated with the expansion of Syphon Reservoir, the Syphon Dam, and Syphon Reservoir Treatment Facilities. Access and maintenance roads; and an on-site and an off-site mitigation area are also included in the Project.

### **Site Preparation, Preconstruction Activities, and Access Roads**

All water within the reservoir will be drained and vegetation cleared between September 16 to January 31, outside of the bird nesting season, prior to initiation of active construction activities. Access roads and temporary construction roads will then be established, with the primary access point for operation and maintenance provided at the intersection at Portola Parkway and Sand Canyon Ave. An existing unpaved road, previously used to access an abandoned portion of the Highline Canal, will be improved to allow for two lanes of construction access on site. Excavation into the existing slope and retaining wall construction may be conducted to allow for large truck access.

Stockpile, staging areas, and runoff settling basins will also be installed during construction mobilization and will be located primarily within the expanded reservoir inundation area. These locations will hold reusable excavation materials, sediments, topsoil, as well as material imported from off site, and may be used for excavating borrow materials once stockpiles are removed. Additional stockpile/staging locations may be established outside the inundation area to hold materials primarily used in upland restoration. Temporary construction roads may be adjusted following exhaustion of these stockpiles, staging, and potential excavation areas. Some of these roads may transition into permanent maintenance and access roads. Runoff settling basins will capture sediment and runoff, including nuisance flow, flows from the storm drain conduit below SR-133, and flows from dewatering operations. They may also be used as a water source for dust control and soil moisture conditioning. Initial construction areas will be cleared, and ingress/egress areas will be delineated/marked so that surrounding habitat and riparian impacts are minimized.

### **Reservoir Expansion**

Reservoir expansion will increase the reservoir's maximum water surface elevation from 376 ft above mean sea level (AMSL) to 456 ft AMSL, and reservoir capacity will increase from 500 acre-feet to approximately 5,500 acre-feet. Shoreline expansion will result from the increased reservoir capacity, inundating up to 82 acres of upland and wetland vegetation communities, including Natural Conservation Community Planning (NCCP)/Habitat Conservation Plan (HCP) Reserve lands. The existing reservoir ground surface will be non-uniformly excavated to obtain approximately 2.2 million cubic yards of material for construction of the new dam. A seepage control drainage system will be constructed on the downstream side of the dam to route seepage through the dam and prevent erosion in the embankment area.

A groundwater monitoring well is also included within the reservoir expansion area. The sampling location is within the Project footprint.



Groundwater relief trenches will be installed as needed during excavation. The area downstream of the toe of the dam will also be dewatered. Large excavators and articulated trucks will be used for borrow excavation, and processing and drying of saturated materials will take place at the stockpile areas. The excavation phase of the Project is anticipated to take approximately 7 to 9 months.

## **Dam Expansion**

Following excavation, stockpiling, and processing of sediment, the existing dam at Syphon Reservoir will be replaced with a new engineered dam, increasing dam height to 136 ft from 59 ft and increasing dam crest elevation to 468 ft AMSL from 385 ft AMSL. The dam will be an earthen fill embankment, with embankment slopes providing adequate stability for seismic loading conditions. The dam crest will be approximately 30 ft wide and 1,400 ft long. The dam will be constructed of primarily on-site materials obtained from excavation of the existing earthen embankment dam and spillway, excavation below the new dam footprint, and borrow excavations within the existing and proposed reservoir area; however, importation of some natural earth material from a quarry located in Corona is anticipated, approximately 200,000 cubic yards of material. The natural earth material will be non-toxic and inert. To provide erosion protection from wave action within the reservoir, the upstream slope of the dam will be slope protected with riprap. Grass will be installed on the downstream slope to provide vegetative erosion protection from rainfall runoff. Depending on weather conditions, approximately 12 months of work will be required to construct the embankment above 340 ft AMSL of elevation (up to the dam crest). Equipment used to construct the embankment will include scrapers, large excavators, articulated trucks, bulldozers, sheepsfoot, vibratory rollers, graders, and water wagons.

The spillway crest will be constructed to an elevation of approximately 456 ft AMSL, which will prevent overtopping of the dam by providing 12 ft of freeboard relative to the dam crest (468 ft AMSL). The spillway will be constructed as an underground pipe.

Construction of the expanded reservoir, dam, and spillway is expected to be completed in approximately 48 months, depending on weather conditions.

## **Treatment Facilities**

Existing strainer and disinfection facilities will be demolished during construction of the new dam and replaced with expanded facilities at the toe of the new dam for filtration, chlorination, and de-chlorination. The footprint of the facilities is anticipated to be approximately 45 ft by 200 ft. Once the new dam embankment is largely complete, the new treatment facility area will be prepared and graded, followed by installation of buried and exposed piping, mechanical, electrical/control, and structural facilities. Any water encountered during excavation or trenching will first be reused on site as construction water (if feasible), second be discharged to sewer, and third be discharged to storm drain with treatment if the capacities of the first two options are exceeded. Trench width, depending on the size of the pipeline, will vary from 2 to 6 ft. Construction of treatment facilities is expected to take approximately 2 years, and equipment includes

a front-end loader, backhoe, bobtail dump truck, transit mix concrete truck, cranes, vibratory walk-behind compactor and water truck.

### **On-site Freshwater Wetland and Riparian Habitat Replacement Areas**

An on-site mitigation area for woody-riparian habitat of at least 6.0 acres will be established at the northeast end of the expanded reservoir. The on-site mitigation area will be initially irrigated with temporary overhead spray irrigation to assist with plant establishment. Permanent irrigation will be provided from two sources: 1) directly from the expanded reservoir when water levels reach the control structure elevation in the peripheral berm, that will allow water to flow into the on-site mitigation area; and 2) a flood irrigation system installed at the high points of the site to allow water to inundate the area. Water will be supplied from the existing Santiago Aqueduct Commission water line that crosses the northeast corner of the property. IRWD has existing agreements allowing its use of water from the Santiago Aqueduct Commission water line.

### **San Joaquin Marsh Off-site Aquatic Habitat Mitigation Area**

An off-site mitigation area will be established directly to the west of IRWD's 321-acre San Joaquin Marsh (SJM) wetland area. This area is comprised of two sub-parcels: the SAMS-1 parcel, previously used as mitigation by The Irvine Company; and the NTS-62 parcel, which was considered for a habitat restoration and water quality improvement project by IRWD but was not implemented. The mitigation site will be irrigated with water from San Diego Creek diverted directly to the Off-site Mitigation Area. This irrigation would be provided through a new pipeline that stems off the existing SJM discharge pump (or from the discharge pipeline closer to San Diego Creek). In addition to irrigation of the mitigation site, the new piping will also allow for connection to the existing UC Pond 1, which is directly to the southwest of the site. Currently, water is occasionally diverted from SJM to the University of California's (UC) San Joaquin Marsh Reserve after large rain events. This Agreement does not authorize any repairs or replacements to UC's existing intake.

### **Operations, Maintenance, and Additional Geotechnical Investigations**

This Agreement covers the activities associated with the expansion of Syphon Reservoir, the Syphon Dam, and Syphon Reservoir Treatment Facilities, access/maintenance roads, and on-site and off-site restoration. It does not cover the operations, maintenance, or any additional activities including, but not limited to, geotechnical investigations. These subsequent activities may require new notification for Lake or Streambed Alteration to be submitted to CDFW.

### **PROJECT IMPACTS**

Existing fish or wildlife resources the Project could substantially adversely affect include:

**Amphibians:** California toad (*Anaxyrus boreas halophilus*), Baja California treefrog (*Pseudacris hypochondriaca hypochondriaca*);

**Birds:** sharp-shinned hawk (*Accipiter striatus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), grasshopper sparrow (*Ammodramus savannarum*), red-shouldered hawk (*Buteo lineatus*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), Vaux's swift (*Chaetura vauxi*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), prairie falcon (*Falco mexicanus*), American peregrine falcon (*Falco peregrinus anatum*), yellow-breasted chat (*Icteria virens*), coastal California gnatcatcher (*Polioptila californica californica*), yellow warbler (*Setophaga petechia*), least Bell's vireo (*Vireo bellii pusillus*), mallard (*Anas platyrhynchos*), redhead (*Aythya americana*), Canada goose (*Branta canadensis*), ruddy duck (*Oxyura jamaicensis*), California quail (*Callipepla californica*), western grebe (*Aechmophorus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), snowy egret (*Egretta thula*), white-faced ibis (*Plegadis chihi*), turkey vulture (*Cathartes aura*), osprey (*Pandion haliaetus*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), American coot (*Fulica americana*), killdeer (*Charadrius vociferous*), black-necked stilt (*Himantopus mexicanus*), least sandpiper (*Calidris minutilla*), greater yellowlegs (*Tringa melanoleuca*), Caspian tern (*Hydroprogne caspia*), Forster's tern (*Sterna forsteri*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), white-throated swift (*Aeronautes saxatalis*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), Allen's hummingbird (*Selasphorus sasin*), northern flicker (*Colaptes auratus*), Nuttall's woodpecker (*Picoides nuttallii*), Pacific-slope flycatcher (*Empidonax difficilis*), ash-throated flycatcher (*Myiarchus cinerascens*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), Cassin's kingbird (*Tyrannus vociferans*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), northern rough-winged swallow (*Stelgidopteryx serripennis*), tree swallow (*Tachycineta bicolor*), bushtit (*Psaltirparus minimus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), blue-gray gnatcatcher (*Polioptila caerulea*), wrentit (*Chamaea fasciata*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), cedar waxing (*Bombycilla cedrorum*), Townsend's warbler (*Dendroica townsendi*), common yellowthroat (*Geothlypis trichas*), orange-crowned warbler (*Oreothlypis celata*), Wilson's warbler (*Wilsonia pusilla*), song sparrow (*Melospiza melodia*), California towhee (*Melospiza crissalis*), spotted towhee (*Pipilo maculatus*), Lazuli bunting (*Passerina amoena*), blue grosbeak (*Passerina caerulea*), black-headed grosbeak (*Pheucticus melanocephalus*), western tanager (*Piranga ludoviciana*), Bullock's oriole (*Icterus bullockii*), hooded oriole (*Icterus cucullatus*), great-tailed grackle (*Quiscalus mexicanus*), western meadowlark (*Sturnella neglecta*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), Lawrence's goldfinch (*Spinus lawrencei*), American goldfinch (*Spinus tristis*);

**Invertebrates:** Crotch's bumble bee (*Bombus crotchii*), mourning cloak (*Nymphalis antiopa*), western tiger swallowtail (*Papilio rutulus*), painted lady (*Vanessa cardui*);

**Mammals:** coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), desert cottontail (*Sylvilagus audubonii*), raccoon (*Procyon lotor*);

**Plants:** San Diego County viguiera (*Bahiopsis laciniata*), Santa Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), procumbent pigweed (*Amaranthus blitoides*), California amaranth (*Amaranthus californicus*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), poison oak (*Toxicodendron diversilobum*), wild carrot (*Daucus pusillus*), sanicle (*Sanicula* sp.), climbing milkweed (*Funastrum cynanchoides* var. *hartwegii*), sacapellote (*Acourtia microcephala*), western pearly everlasting (*Anaphalis margaritacea*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), mule fat (*Baccharis salicifolia*), California brickellbush (*Brickellia californica*), fascicled tarweed (*Deinandra fasciculata*), false daisy (*Eclipta prostrata*), California brittlebush (*Encelia californica*), brittlebush (*Encelia farinosa*), pinebush (*Ericameria pinifolia*), horseweed (*Erigeron canadensis*), leafy fleabane (*Erigeron foliosus*), golden yarrow (*Eriophyllum confertiflorum*), lowland cudweed (*Gnaphalium palustre*), California matchweed (*Gutierrezia californica*), telegraph weed (*Heterotheca grandiflora*), Menzies' goldenbush (*Isocoma menziesii* var. *menziesii*), coastal goldenbush (*Isocoma menziesii* var. *vernonioides*), Coulter's horseweed (*Laennecia coulterii*), narrowleaf cottonrose (*Lagfia gallica*), goldfields (*Lasthenia* sp.), false rosinweed (*Osmadenia tenella*), two-color rabbit-tobacco (*Pseudognaphalium bioletti*), Ladies' tobacco (*Pseudognaphalium californicum*), Wright's cudweed (*Pseudognaphalium canescens*), Jersey cudweed (*Pseudognaphalium luteoalbum*), grassland silverpuffs (*Stebbinsoseris heterocarpa*), rod wirelettuce (*Stephanomeria virgata*), silver puffs (*Uropappus lindleyi*), cocklebur (*Xanthium strumarium*), common fiddleneck (*Amsinckia menziesii*), cryptantha (*Cryptantha* sp.), seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*), caterpillar phacelia (*Phacelia cicutaria*), wild Canterbury bells (*Phacelia minor*), popcornflower (*Plagiobothrys* sp.), shaggyfruit pepperweed (*Lepidium lasiocarpum*), curvepod yellowcress (*Rorippa curvisiliqua*), common eucrypta (*Eucrypta chrysanthemifolia*), coast cholla (*Cylindropuntia prolifera*), tuna cactus (*Opuntia ficus-indica*), coastal prickly pear (*Opuntia littoralis*), western prickly pear (*Opuntia occidentalis*), Vasey's prickly pear (*Opuntia vaseyi*), small-flower catchfly (*Silene gallica*), bladderpod (*Peritoma arborea*), island false bindweed (*Calystegia macrostegia*), pigmy weed (*Crassula connata*), lance-leaved dudleya (*Dudleya lanceolata*), many-stemmed dudleya (*Dudleya multicaulis*), calabazilla (*Cucurbita foetidissima*), chilicothe (*Marah macrocarpa*), turkey-mullein (*Croton setigerus*), rattlesnake weed (*Euphorbia alomarginata*), smallseed sandmat (*Euphorbia polycarpa*), thyme-leaved spurge (*Euphorbia serpyllifolia*), deerweed (*Acmispon glaber*), small flowered lotus (*Acmispon micranthus*), strigose lotus (*Acmispon strigosus*), miniature lupine (*Lupinus bicolor*), arroyo lupine (*Lupinus succulentus*), blunt leaved lupine (*Lupinus truncatus*), clover (*Trifolium* sp.), coast live oak (*Quercus agrifolia*), California centaury (*Zeltnera venusta*), white sage (*Salvia apiana*), chia (*Salvia columbariae*), black sage (*Salvia mellifera*), vinegarweed (*Trichostema lanceolata*), chaparral mallow (*Malacothamnus fasciculatus*), Miner's lettuce (*Claytonia perfoliata*), wishbone bush (*Mirabilis laevis* var. *crassifolia*), intermediate sun cups (*Camissoniopsis intermedia*), California fuchsia (*Epilobium canum*), creeping primrose-willow (*Ludwigia*



*repens*), purple owl's-clover (*Castilleja exserta*), orange bush monkeyflower (*Diplacus aurantiacus*), Nuttall's snapdragon (*Antirrhinum nuttallianum*), California plantain (*Plantago erecta*), Turkish rugging (*Chorizanthe staticoides*), California buckwheat (*Erigonum fasciculatum*), false waterpepper (*Persicaria hydropiperoides*), willow weed (*Persicaria lapathifolia*), fairy mist (*Pterostegia drymariodes*), toyon (*Heteromeles arbutifolia*), narrow leaved bedstraw (*Galium angustifolium*), Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), Parry's jepsonia (*Jepsonia parryi*), showy penstemon (*Penstemon spectabilis*), sacred thorn-apple (*Datura wrightii*), Indian tobacco (*Nicotiana quadrivalvis*), American black nightshade (*Solanum americanum*), greenspot nightshade (*Solanum douglasii*), bigbract verbena (*Verbena bracteata*), western vervain (*Verbena lasiostachys*), wavyleaf soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), chaparral yucca (*Hesperoyucca whipplei*), giant yucca (*Yucca gigantea*), moundlily yucca (*Yucca gloriosa*), tall cyperus (*Cyperus eragrostis*), California bulrush (*Schoenoplectus californicus*), toad rush (*Juncus bufonius*), common goldenstar (*Bloomeria crocea*), splendid mariposa lily (*Calochortus splendens*), salt grass (*Distichlis spicata*), giant wild rye (*Elymus condensatus*), Mexican sprangletop (*Leptochloa fusca* ssp. *uninervia*), little California melica (*Melica imperfecta*), littleseed muhly (*Muhlenbergia microsperma*), Nevada blue grass (*Poa secunda*), Mediterranean grass (*Schismus barbatus*), crested needlegrass (*Stipa coronata*), foothill needlegrass (*Stipa lepida*), purple needlegrass (*Stipa pulchra*), common goldenstar (*Bloomeria crocea*), blue dicks (*Dichelostemma capitatum*), narrowleaf cattail (*Typha domingensis*);

**Reptiles:** coastal whiptail (*Aspidoscelis tigris stejnegeri*), orange-throated whiptail (*Aspidoscelis hyperythrus*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), southern Pacific rattlesnake (*Crotalus oreganus helleri*);

And all other riparian/wetland vegetation which provides habitat for these species and all other aquatic and wildlife resources in the Project vicinity.

The adverse effects the Project could have on the fish or wildlife resources identified above include: change in channel cross-section (confinement or widening); relocation of stream channel; degradation or aggradation of channel; accelerated channel scour; increase of bank erosion during construction; change in composition of channel materials; change in contour of bed, channel or bank; increase in sediment transport; increased turbidity; short-term release of contaminants; change in water temperature; change in dissolved oxygen (DO); loss or decline of riparian and/or emergent marsh habitat; change to, or loss or decline of natural bed substrate; colonization by exotic plant species; disruption to nesting birds and other wildlife; construction pits and trenches that can capture terrestrial organisms; disturbance from Project activity; change in shading or insolation leading to vegetative change; diversion of flow water from, or around, activity site; dewatering; rewatering; change in stream flow; change in flow depth, width, and velocity; and change in channel form; loss or decline of instream channel habitat; soil compaction.

## Impacts

The Project is anticipated to impact approximately 6.2 acres of woody riparian habitat consisting of arroyo willow thicket, black willow thicket, mule fat scrub, and other species; 5.33 acres of tule marsh; and 0.74 acres of ephemeral drainage consisting of coyote brush scrub, chapparral bushmallow scrub, laurel sumac chaparral, California sagebrush scrub, coast prickly pear scrub, and other species.

## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, all related notification materials, and California Environmental Quality Act (CEQA) documents, if any, always readily available at the Project site and shall be presented to CDFW personnel, or personnel from another local, state, or federal agency, upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the Project at the Project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the Project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee acknowledges that CDFW law enforcement personnel, using lawful means, may enter the Project site any time without notice to verify compliance with the Agreement. Permittee agrees that CDFW scientific personnel may enter the Project site with 24-hour advance notice to verify compliance with the Agreement.
- 1.5 Changes in Project. If Permittee anticipates Project scope changes, any additional impacts to resources subject to Fish and Game Code section 1602, or additional operations and maintenance activities not identified in this Agreement, Permittee shall submit to CDFW a request to amend this Agreement.
- 1.6 Notification Requirements. CDFW requires that Permittee: 1) immediately contact CDFW in writing if monitoring reveals that any of the protective measures were not implemented or if it anticipates that measures will not be implemented within the time period specified; or 2) immediately notify CDFW if any of the protective measures are not providing the level of protection that is appropriate for the impact that is occurring. Permittee shall provide recommendations, if any, for alternative



protective measures. Permittee shall report any violations or non-compliance of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, to the CDFW contact identified below within 24 hours of the violation or non-compliance occurring.

- 1.7 Compliance. CDFW may, at its sole discretion, review relevant documents maintained by Permittee, interview Permittee's employees and agents, inspect the work site, and take other actions to assess compliance with or effectiveness of protective measures in this Agreement. CDFW shall verify compliance with protective measures to ensure the accuracy of Permittee's mitigation, monitoring, and reporting efforts.
- 1.8 Agreed Work Activities. The activities identified in the above Project description constitute the limit of activities agreed to and resolved by this Agreement. The signing of this Agreement does not imply that Permittee is precluded from doing other activities within the streams identified within the Project location. However, activities not specifically agreed to and resolved by this Agreement may be subject to a separate notification.
- 1.9 No Trespass. To the extent that any provisions of this Agreement provide for activities that require Permittee to traverse another owner's property, such provisions are agreed to with the understanding that Permittee possesses the legal right to so traverse. In the absence of such right, any such provision is void.
- 1.10 Local, State, and Federal Permits. This Agreement does not relieve Permittee from obtaining any other permits or authorizations that might be required under other local, state, or federal laws or regulations before beginning the Project the Agreement covers.
- 1.11 Designated Biologist(s). Permittee shall not enter into any agreement or contract of any kind, including but not limited to non-disclosure agreements and confidentiality agreements, with the Designated Biologist(s) or Biological Monitors that prohibit or impede open communication with CDFW, including but not limited to providing CDFW staff with the results of any surveys, reports, or studies or notifying CDFW of any non-compliance or take.

## **2. Avoidance and Minimization Measures**

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

### **Definitions**

- 2.1 Designated Biologist Definition. A Designated Biologist is an individual who is approved by CDFW to handle all terrestrial/aquatic common species and species of special concern listed above.

2.2 Listed Species Definition. A listed species means a candidate, threatened, or endangered species under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.).

2.3 Fully Protected Species Definition. Fully protected species are those specifically identified in Fish and Game Code sections 3511, 4700, 5050, and 5515.

## **Species Protection**

2.4 County of Orange (Central/Coastal) NCCP/HCP Plan Conditions. Permittee shall implement conditions applicable to the Project under the Central/Coastal NCCP/HCP Plan, including but not limited to conditions regarding least Bell's vireo, coastal California gnatcatcher, and other species covered under the Central/Coastal NCCP/HCP Plan.

2.5 Does Not Authorize Take of State-listed Species. This Agreement does not authorize take of any candidate, threatened, or endangered or candidate species under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), or any species fully protected under the Fish and Game Code. "Take" means "to hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86.). If there is potential for take of any CESA-protected or fully protected species, Permittee shall consult with CDFW.

2.6 Incidental Take Permit. An Incidental Take Permit (ITP) from CDFW may be required if the Project, Project construction, or any Project-related activity during the life of the Project will result in "take" as defined by the Fish and Game Code, of any species protected by CESA [Fish & G. Code, §§ 86, 2080, 2081, subd. (b) (c)]. If there is a potential for take, Permittee should request consultation with CDFW and obtain the necessary state permits and/or submit plans to avoid any impacts to the species. Consultation with U.S. Fish and Wildlife Service or National Marine Fisheries Service would be required to receive take authority for federal threatened and endangered species.

2.7 Environmental Education Program/Materials. Educational materials shall be created and incorporated into an environmental training, to be conducted for all Project personnel entering the Project area where sensitive habitats and/or species may be present. Educational materials may be brief and concise but should illustrate sensitive species and their habitat, discuss any specific measures to protect the species, what to do if the species is observed, and so forth. Interpretation shall be provided for workers who do not have fluency in English, and the same instruction shall be provided for any new workers prior to their performing work on-site. Permittee shall prepare and distribute wallet-sized cards or a fact sheet for workers to carry on-site that contains this information and pertinent Project contacts. Upon completion of the education program, employees shall sign a form stating they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and be available to CDFW upon request.

- 2.8 Designated Biologist. Permittee shall obtain CDFW's written approval to qualify a biologist at least thirty (30) days before initiating any Project activities. Permittee shall submit to CDFW in writing, the name, qualifications, business address, and contact information for any biologist to conduct work under this Agreement. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources present at the Project site, and they shall have experience identifying, capturing, handling, and relocating the wildlife species. The Designated Biologist shall be responsible for monitoring all Project activities, including construction and any ground- or vegetation-disturbing activities in areas subject to this Agreement.
- 2.9 Designated Biologist Authority. The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this Agreement, and/or to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred as a result of compliance with this measure. This includes cease-work orders issued by CDFW.
- 2.10 Biological Monitor. Permittee or Designated Biologist may designate a person as a Biological Monitor to monitor on-site compliance with all conditions of this Agreement. The Biological Monitor shall halt Project Activities to comply with the terms of this Agreement and otherwise avoid impacts to species or habitats. The Biological Monitor is **not** authorized to handle or otherwise disturb special status species.
- 2.11 Daily Clearance Survey. Before the start of daily Project activities, a Designated Biologist or Biological Monitor shall survey the Project area to ensure wildlife incidentally trapped due to Project activities are allowed to escape.
- 2.12 Terrestrial Wildlife Species. Designated Biologist or Biological Monitor shall inspect the Project area prior to any Project activities. Any individuals found shall not be harassed and shall be allowed to leave the Project area unharmed. If needed, a Designated Biologist may guide, handle, or capture an individual non-listed wildlife species to move it to a nearby safe location within nearby refugium, or it shall be allowed to leave the project site of its own volition. Capture methods may include hand, dip net, lizard lasso, snake tongs, and snake hook. If the wildlife species is discovered or is caught in any pits, ditches, or other types of excavations, the Designated Biologist shall release it into the most suitable habitat nearby the site of capture.
- 2.13 Wildlife Records. A record shall be maintained of all relocated wildlife. The record shall include the date of capture, the method of capture, the location of movement in relation to the Project site, and the number and species moved. The record shall be provided to CDFW upon request.
- 2.14 Injured Wildlife. Subject to CDFW's pre-approval, the Designated Biologist shall also make arrangements with a CDFW-qualified wildlife rescue and rehabilitation

facility to temporarily hold sick or injured wildlife encountered at the Project site, in accordance with California Code of Regulations, title 14, section 679. The injured wildlife shall be returned to the Project site when deemed releasable, but only after Project activities have been completed. Healthy wildlife shall not be removed from the wild or held in captivity.

- 2.15 Report Mortalities and Serious Injuries Immediately. If any native species are found dead or injured during Project-related activities, the Designated Biologist shall provide written notification to CDFW by writing within 24 hours. The purpose of the contact with CDFW is to review the activities resulting in mortality and to determine if additional protective measures are required.
- 2.16 Reporting Sensitive Species Observations to the California Natural Diversity Database (CNDDDB). Permittee shall be responsible for reporting all observations of threatened, endangered, or species of special concern to the CDFW Natural Diversity Database (CNDDDB) within 14 days of sighting. Information can be found at <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. This includes submitting observations that occurred for Project surveys already conducted and for the term of the Agreement. Observation forms shall be provided as a status report submittal through the Environmental Permit Information Management System (EPIMS), and a copy will be submitted to [EPIMS.R5@wildlife.ca.gov](mailto:EPIMS.R5@wildlife.ca.gov). For bird species, the CNDDDB will only accept observations that include confirmed nesting and/or breeding activities (with exceptions for wintering observations of the burrowing owl).
- 2.17 Pre-Work General Biological Surveys. Permittee shall have the Designated Biologist conduct a pre-Project survey within and adjacent to the proposed work area within a 1-week period prior to Project-related activities commencing for the season or if Project activities are paused for 7 days or more. Pre-Project surveys shall include: a) general surveys for botanical and wildlife resources, including surveys for any avian nests. Survey results, including negative findings, analysis, recommendations, and field notes shall be submitted to CDFW for review prior to the start of Project activities or prior to continuation of Project activities if Project activities are paused for 7 days or more. If any special status species other than those that are covered under the NCCP/HCP are observed during the surveys, Permittee shall not commence with work activities and will contact CDFW immediately.
- 2.18 Avoidance of Sensitive Resources. Following the completion of the pre-activity sweep, the Designated Biologist(s) shall ensure that all sensitive resources identified are mapped/marked for avoidance unless otherwise permitted to be impacted in accordance with this Agreement, or covered under the NCCP/HCP or permitted through a separately issued permit, and that the buffers proposed to protect those sensitive resources are appropriately sized and clearly demarcated. In addition, if additional access is proposed that differs from the designated access routes depicted on the 100% Design Plans (permitted under this Agreement), the Designated Biologist(s) shall identify and mark the most appropriate path (i.e., the

route that provides full avoidance of sensitive resources, vegetation, and other habitat values) for construction vehicles and equipment to utilize to access the Project site. The Designated Biologist(s) shall use available scientific research, independent judgement, and personal experience when assigning avoidance buffer. Details of these avoidance measures shall be provided to CDFW in the post-activity report within 14 days after Project completion. If full avoidance of designated avoidance areas cannot be accomplished, Permittee shall postpone work activities in the immediate area and buffer as determined by the Designated Biologist and contact CDFW to discuss an appropriate path forward. The Permittee may resume activities at other Project locations after clearance by the Designated Biologist(s).

- 2.19 Access Routes and Work Areas. The Designated Biologist(s), in coordination with the contractor shall establish and delineate work areas and access routes, within those areas and routes identified in the notification, to minimize impacts to sensitive resources to the greatest extent feasible. The Designated Biologist(s) shall clearly demarcate, using non-ground-disturbing methods, the prescribed work areas and access routes, and any necessary avoidance areas, including an appropriate buffer. If Permittee determines that alternative access routes or work areas, beyond those described in the notification, are necessary, the Designated Biologist(s) or Permittee shall contact CDFW for written approval prior to utilizing the alternative route. CDFW may require an amendment to this Agreement if Project modifications are required.
- 2.20 Staging Areas. Permittee shall confine all Project site-related parking, storage areas, laydown sites, equipment storage, and any other Project site staging activities to locations outside of non-permitted areas subject to Fish and Game code 1602 and, to the greatest extent possible, shall use previously disturbed areas.
- 2.21 Pre- and Post-Project Monitoring. Prior to Project activities, Permittee shall photo-document each impact location subject to this Agreement. Following completion of Project activities, Permittee shall photo-document, in the same location and aspect, the post-Project conditions. The Designated Biologist(s) shall submit to CDFW the photo documentation within fourteen (14) days after each visit.

## **Nesting Birds**

- 2.22 Take of Nesting Birds. Fish and Game Code section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code Section 3513 makes it unlawful to take or possess any migratory nongame bird or part thereof except as provided by the rules and regulations



adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918 (MBTA; 16 U.S.C. § 703 et seq.) before January 1, 2017, and subsequent rules and regulations adopted pursuant to the MBTA that are consistent with the Fish and Game Code. The issuance of this Agreement does not authorize take of nesting birds.

- 2.23 Least Bell's Vireo. The Project site has been determined to contain suitable habitat and be occupied with least Bell's vireo. Conditional coverage for least Bell's vireo can be issued under the Orange County Central/Coastal NCCP/HCP. Prior to the initiation of Project-activities, Permittee shall provide a mitigation plan in accordance with the Central/Coastal NCCP/HCP. The mitigation plan shall include, but not be limited to, addressing design modifications and other on-site measures that are consistent with the Project's purpose, minimize impacts, and provides appropriate feasible protections; providing restoration and/or enhancement of suitable compensatory habitat at an appropriate location consisting of planting riparian trees/shrubs and/or cowbird trapping; and providing for monitoring and adaptive management of habitat. This mitigation plan shall be reviewed and approved by CDFW prior to initiation of Project activities.
- 2.24 White-Tailed Kite. The Designated Biologist shall survey the proposed work area to verify the presence or absence of white-tailed kite. Survey results, including locations of any detected individuals, negative findings, analysis, recommendations, and field notes shall be submitted to CDFW for review a minimum of five (5) days before the start of work or two (2) weeks after the conclusion of the survey, whichever comes first. This survey shall be completed before the start of work or if there is a pause in Project-related activities of seven (7) days or more. Work shall not commence or continue until any white-tailed kite move from the area of their own volition. CDFW shall be notified of any white-tailed kite sightings within 1,000 feet of the work area. All observations must be reported to CDFW within 12 hours of observation. White-tailed kite is a state fully protected species (see Avoidance and Minimization Measure 2.3 and 2.5).
- 2.25 Nesting and/or Breeding Birds. It is the Permittee's responsibility to avoid impacts to nesting birds anytime birds are nesting on site. Permittee shall ensure that impacts to nesting birds are avoided through the implementation of preconstruction surveys, ongoing monitoring, and if necessary, establishment of minimization measures.
- 2.25.1 Designated Biologist. Permittee shall designate a biologist (Designated Biologist(s)) experienced in identifying local and migratory bird species; conducting bird surveys using appropriate survey methodology (e.g., Ralph et al. 1993<sup>1</sup> and United States Fish and Wildlife Service and/or [CDFW-](#)

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<sup>1</sup> Ralph, C.J., G.R. Geupel, P. Pyle, T.E. Martin, and D.F. DeSanta. 1993. Handbook of field methods for monitoring landbirds. General Technical Report PSW-GTR 144. USDA Forest Service Pacific Southwest Research Station. Albany, CA.



[accepted species-specific survey protocols](#)<sup>2</sup>); nesting surveying techniques, recognizing breeding and nesting behaviors, locating nests and breeding territories, and identifying nesting stages and nest success (e.g., Martin and Geupel 1993<sup>3</sup>); determining/ establishing appropriate avoidance and minimization measures; and monitoring the efficacy of implemented avoidance and minimization measures.

2.25.2 Pre-Construction Surveys. Surveys shall be conducted by the Designated Biologist(s) at the appropriate time of day/night and during appropriate weather conditions no more than three days prior to the initiation of Project activities addressed by this Agreement. Surveys shall encompass all suitable areas including trees, shrubs, bare ground, burrows, cavities, and structures. Survey duration shall take into consideration the size of the property, density and complexity of the habitat, number of survey participants, survey techniques employed and shall be sufficient to ensure the data collected is complete and accurate. Pre-Project surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior (e.g., copulation, carrying of food or nest materials, nest building, removal of fecal sacks, flushing suddenly from atypically close range, agitation, aggressive interactions, feigning injury or distraction displays, or other behaviors). If a nest is suspected, but not confirmed, the Designated Biologist(s) shall establish a disturbance-free buffer until additional surveys can be completed or until the location can be inferred based on observations. The Designated Biologist(s) shall not risk failure of the nest to determine the exact location or status and will make every effort to limit the nest to potential predation as a result of the survey/monitoring efforts (e.g., limit number of surveyors, limit time spent at/near the nest, scan the site for potential nest predators before approaching, immediately depart nest area if indicators of stress or agitation are displayed). If a nest is observed but thought to be inactive, the Designated Biologist(s) shall monitor the nest for one hour (four for raptors) prior to approaching the nest to determine status. The Designated Biologist(s) shall use their best professional judgment regarding the monitoring period and whether approaching the nest is appropriate. Results of pre-activity surveys shall be provided to CDFW per Measure 4.2.9.

2.25.3 Buffers. When an active nest is confirmed, the Designated Biologist(s) shall immediately establish a conservative buffer surrounding the nest based on their best professional judgment and experience. The buffer shall be delineated to ensure that its location is known by all persons working within the vicinity but shall not be marked in such a manner that it attracts predators. Once the buffer is established, the Designated Biologist(s) shall document baseline behavior, stage of reproduction, and existing site

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<sup>2</sup> <https://wildlife.ca.gov/conservation/survey-protocols>

<sup>3</sup> Martin, T.E. and G.R. Geupel. 1993. Nest-monitoring plots: methods for locating nests and monitoring success. *Journal of Field Ornithology* 64:507-514.

conditions including vertical and horizontal distances from proposed work areas, visual or acoustic barriers, and existing level of disturbance. Following documentation of baseline conditions, the Designated Biologist(s) may choose to adjust the buffer based on site characteristics, stage of reproduction, and types of Project activities proposed at/near that location. The Designated Biologist(s) shall monitor the active nest daily when active work addressed by this Agreement and at the onset of any changes in the Project activities (e.g., increase in number or type of equipment, change in equipment usage, etc.) to determine the efficacy of the buffer. If the Designated Biologist(s) determines that the Project activities may be causing an adverse reaction, the Designated Biologist(s) shall adjust the buffer accordingly. No work shall occur within the established buffer until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Project.

2.25.4 Protection from Excessive Sound. If Project activities must take place within the buffer, a Designated Biologist or Biological Monitor shall monitor noise using noise measuring devices placed at the edge of the buffer or adjacent limits of habitat as work approaches the edge of the occupied habitat as directed by the Designated Biologist(s). If the noise meets or exceeds the 60 dB(A) Leq threshold, is a substantial increase over existing ambient levels, or if the Designated Biologist(s) determines that activities are disturbing nesting activities, the Designated Biologist(s) shall have the authority to halt the Project activities and shall consult with CDFW to devise methods to reduce the noise and/or disturbance. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever feasible to reduce noise, installing a protective noise barrier between the nesting birds and the activities, and working in other areas until the young have fledged. Protective noise barriers shall be removed when birds are done nesting and shall not remain installed in the Project site during the rainy season if within the floodplain of the stream(s). The Designated Biologist(s) or Biological Monitor shall monitor the nest daily until activities are no longer within the buffer, or the fledglings become independent of their nest, or the nest has failed.

2.25.5 Ongoing Monitoring. If active nests are present, the Designated Biologist(s) or Biological Monitor(s) shall be onsite daily, when work is occurring, to monitor all existing nests, the efficacy of established buffers, and to document any new nesting occurrences. The Designated Biologist(s) shall document the status of all existing nests, including the stage of reproduction and the expected fledge date, when this can be determined without endangering the nest by disturbance or alerting predators. If a nest is suspected to have been abandoned or failed, CDFW recommends the Designated Biologist(s) or Biological Monitor(s) monitor the nest for a minimum of 1 hour (4 hours for raptors), uninterrupted, during favorable field conditions. If no activity is observed during that time, the Designated

Biologist(s) may approach the nest to assess the status.

- 2.25.6 Securing Site. Permittee, under the direction of the Designated Biologist(s), may also take steps to discourage nesting on the Project site, including moving equipment and materials daily, covering material with tarps or fabric, and securing all open pipes and construction materials. The Designated Biologist(s) shall ensure that none of the materials used pose an entanglement or entrapment risk to birds or other species.
- 2.25.7 Reporting. The Designated Biologist(s) shall be responsible for providing summary reports to CDFW no less than once weekly regarding the nesting species identified onsite, discovery of any of new nests, the status/outcome of any previously identified nest, buffer distances established for each nest, and any adjustments made to established buffers. If the project results in the abandonment of, or damage to a nest, Permittee shall notify CDFW within 24 hours of discovery.
- 2.26 Protection of Crotch's Bumble Bee. This Agreement does not authorize the take of Crotch's bumble bee, nests, or their nesting and overwintering habitat. Any authorization of take will be covered in an Incidental Take Permit (ITP) that is currently in progress. If an ITP is not issued and impacts to Crotch's bumble bee cannot be avoided, the Permittee shall consult with CDFW prior to starting Project activities.

## **Habitat Protection**

- 2.27 Invasive Species. Permittee shall conduct Project activities in a manner that prevents the introduction, transfer, and spread of invasive species, including plants, animals, and microbes (e.g., algae, fungi, parasites, bacteria, etc.) from one Project site and/or watershed to another. Prevention BMPs and guidelines for invasive plants can be found on the California Invasive Plant Council's website at: <http://www.cal-ipc.org/ip/prevention/index.php> and for invasive mussels and aquatic species can be found at the Stop Aquatic Hitchhikers website: <https://stopaquatichitchhikers.org/>.
- 2.28 Notification of Invasive Species. Permittee shall notify CDFW immediately if an invasive species not previously known to occur within the Project site is discovered during Project activities by submitting a completed Suspect Invasive Species Report (available online at: <https://wildlife.ca.gov/Conservation/Invasives/Report>) and photos to the Invasive Species Program by email at: [invasives@wildlife.ca.gov](mailto:invasives@wildlife.ca.gov). Notification may also be provided by calling (866) 440-9530. Upon receiving notification, CDFW will provide Permittee with guidance for further action as appropriate to the species.
- 2.29 Work Period in Low Rainfall / Dry Weather Only. The work period in Syphon Reservoir and the surrounding tributary drainages shall be restricted to period of low rainfall (less than  $\frac{3}{4}$ " per 24-hour period) and periods of dry weather. Wet

weather is defined as periods of rainfall of  $\frac{3}{4}$ ", or greater, in a 24-hour period. All erosion control measures shall be initiated prior to all storm events. Revegetation, restoration, and erosion control work is not confined to this work period. Permittee shall monitor the National Weather Service (NWS) 72-hour forecast for the Project area. No work shall occur during a dry-out period of 24 hours after the above referenced wet weather. Weather forecasts shall be documented upon request by CDFW.

- 2.30 Post-Storm Event Inspection. After any storm event, Permittee shall inspect all sites scheduled to begin or continue construction within the next 72 hours. Corrective action for erosion and sedimentation shall be taken as needed. National Weather Service 72-hour weather forecasts shall be reviewed prior to the start of any phase of the Project that may result in sediment runoff to the stream and construction plans adjusted to meet this requirement. The National Weather Service forecast can be found at: <https://www.weather.gov/>.
- 2.31 Remove Cleared Material from Streams and Waterways. All trimmed or cleared material/vegetation shall be removed from the Project site and deposited where it cannot re-enter the stream.
- 2.32 No Work in Wetted Areas. Heavy equipment shall not be operated in wetted areas including, but not limited to, ponded or flowing areas excluding areas within the Project grading limits that may collect nuisance runoff after rain events.
- 2.33 Work Area Boundary. Work area boundaries shall be delineated by posting signs, staking, flagging, erecting temporary fencing, or otherwise clearly marking to minimize surface and vegetation disturbance. No paint or permanent discoloring agents shall be applied to rocks or other vegetation to indicate limits of survey or construction activity where any sensitive biological resources occur. All temporary fencing and flagging shall be removed at the conclusion of construction activities.
- 2.34 Erosion Control Best Management Practices (BMPs). Permittee shall actively implement BMPs to prevent erosion and the discharge of sediment and pollutants into streams during Project activities. BMPs shall be monitored by the Designated Biologist(s) and repaired, if necessary, to ensure maximum erosion, sediment, and pollution control. Permittee shall prohibit the use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within and adjacent to areas subject to the regulatory authority of CDFW. All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the Project site shall be free of nonnative plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

- 2.35 Excavation Spoils. Spoil Storage sites shall not be located within a stream or where it will cover aquatic or riparian vegetation beyond what is necessary to construct the Project (i.e., the movement of soil associated with the reservoir expansion).
- 2.36 Cover Spoil Piles. Permittee shall have readily available plastic sheeting or visquine to cover exposed spoil piles and exposed areas in order to prevent loose soil from moving into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.

### **Equipment and Access**

- 2.37 Staging. Permittee shall confine all Project site-related parking, storage areas, laydown sites, equipment storage, and any other Project site staging activities to locations outside of areas subject to the regulatory authority of CDFW (e.g., Fish and Game Code §1602) and, to the greatest extent possible, shall use previously disturbed areas. Staging and storage of all equipment, materials, fuels, lubricants, and solvents shall be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors, and welders shall be positioned over drip-pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.
- 2.38 Hours of Operation and Lighting. Permittee's activities shall take place between 7:00 a.m. and 7:00 p.m. Mondays through Fridays and between 9:00 a.m. and 6:00 p.m. on Saturdays. Nighttime work will only occur for urgent or other unforeseen circumstances that could temporarily require construction activities, for limited periods of time, outside of the construction hours permitted by the City of Irvine and County of Orange noise ordinances.
- 2.39 Clean Equipment Prior to Area Regulated by Agreement. Prior to working within the dry streambed and waterway, all equipment shall be closely examined for oil and fuel discharges. Any contaminants shall be cleaned prior to any work within a streambed and shall be maintained daily. In addition, equipment shall be cleaned daily to ensure non-natives are not introduced into mitigation areas or spread throughout Project site. All equipment shall be free of materials deleterious to aquatic life including noxious and nuisance weeds, aquatic invasive species, oil, grease, hydraulic fluid, soil, and other debris.
- 2.40 Equipment Maintenance and Fueling. No equipment maintenance or fueling shall be done within or near any stream channel margin where petroleum products or other pollutants from the equipment may enter these areas.
- 2.41 Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life. Permittee shall maintain all vehicles and equipment in proper working condition to minimize fugitive emissions and accidental spills from motor oil, antifreeze,



hydraulic fluid, grease, or other fluids or hazardous materials. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately and cleaned up at the time of occurrence. Permittee shall be responsible for spill material removal and disposal to an approved off-site landfill and spill reporting to the permitting agencies. Service/maintenance vehicles shall carry appropriate equipment and materials to isolate and remediate leaks or spills.

2.42 Decontamination of Project Equipment. Permittee shall decontaminate all tools, waders and boots, vehicles, trailers, and other equipment that will be used in areas regulated by this Agreement and make contact with water or wetted soils prior to initially entering and upon reentering with verification that subsequent decontamination is required with the following specific guidance: Permittee shall decontaminate Project gear and equipment utilizing one of three methods: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. For all methods, Permittee shall begin the decontamination process by thoroughly scrubbing equipment, paying close attention to hard-to-reach areas, and clean areas with a stiff-bristled brush to remove all plant, seeds, soil, and other organisms. To decontaminate by drying, Permittee shall allow equipment to dry thoroughly (i.e., until there is a complete absence of water and all plant, seeds, and soil), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, Permittee shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, Permittee shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment/clothing is removed from the site, used in contact with water or wet soil within a different watershed, and returned to the Project site.

2.43 Decontamination Sites. Permittee shall perform decontamination of vehicles and other Project gear and equipment in a designated location where runoff can be contained and not allowed to pass into any river, lake, or stream and associated riparian areas and other sensitive habitat areas. Cleaning of equipment may occur at a location that contains and recycles resulting wastewater.

### **Pollution, Litter, and Cleanup**

2.44 Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the Project-related activities shall be prevented from contaminating the soil and/or entering the stream or any water. Any of these substances/materials, placed within or where they may enter a stream or lake, by Permittee or any party working under contract, or with the permission of Permittee, shall be removed immediately. When operations are completed, any excess materials or debris shall be removed from the work area.

- 2.45 Pollutants and Debris. Permittee shall not dump litter or debris within the stream or areas where such waste could wash into the stream. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- 2.46 Litter and Pollution Control. Permittee shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws, and it shall be the responsibility of Permittee to ensure compliance. All trash and food-related items shall be disposed in self-closing, sealable containers with lids that latch to prevent wind and wildlife from opening containers. Trash containers shall be emptied daily and removed from the Project site when construction is complete.
- 2.47 Refuse Removal. Upon completion of Project activities, Permittee shall remove and properly dispose of all refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.
- 2.48 Personnel Compliance on Site. Permittee, its contractors, subcontractors, employees, and visitors to the site are prohibited from 1) feeding wildlife, 2) bringing domestic pets to the Project site, 3) collecting native plants, or 4) harassing wildlife. It shall be the responsibility of Permittee to ensure compliance.
- 2.49 Spill Containment. All activities performed in or near a stream shall have absorbent materials designated for spill containment and cleanup activities on-site for use in an accidental spill. If a spill occurs the Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the cleanup activities. CDFW shall also be notified by the Permittee and consulted regarding clean-up procedures.
- 2.50 Spill Cleanup. Permittee shall begin the cleanup of all spills immediately. CDFW shall be notified immediately by Permittee of any spills that release hazardous material (oil, cement, fuel, etc.) into any stream/channel/culver/ditch and shall be consulted regarding cleanup procedures.

### **3. Compensatory Measures**

Permittee shall compensate for adverse impacts to approximately 12.27 acres of impacts to stream bed, bank, and channel, identified above, that cannot be avoided or minimized. The habitat types impacted by this Project consists of 6.2 acres of woody riparian habitat composed of arroyo willow thicket, black willow thicket, mule fat scrub, and other species; 5.33 acres of tule marsh; and 0.74 acres of ephemeral drainage composed of coyote brush scrub, chapparal bushmallow scrub, sumac chaparral, California sagebrush scrub, coast prickly pear scrub, and other upland species. The Permittee shall provide for mitigation for impacts through the measures below.

- 3.1 Permittee Responsible Mitigation – On-site and Off-site Mitigation Sites. Permittee shall compensate for impacts to 12.27 acres of woody riparian, tule marsh, and ephemeral drainage, through the acquisition, restoration, and perpetual

conservation and management of an “On-site Mitigation Site” containing at least 6.0 acres of woody riparian habitat within the Lower Santa Ana Watershed (Measures 3.1.1, 3.1.2). and an “Off-site Mitigation Site” containing no less than approximately 25.32 acres of stream and stream-associated habitat within the Lower Santa Ana Watershed (Measures 3.1.1, 3.1.2). The 33.4-acre Off-site Mitigation Site includes approximately 12.08 acres designated for freshwater marsh and open water, with up to 13.24 acres for woody riparian habitat as mitigation for impacts at Syphon Reservoir. The Off-site Mitigation Site also includes mitigation for potential impacts to 2.39 acres of remnant riparian and 0.40 acre of alkali meadow habitat at a 1:1 ratio.

The Permittee shall prepare a Habitat Mitigation and Monitoring Plan (HMMP); Measure 3.2.2); and a Long-Term Management Plan (LTMP; Measure 3.2.7 designed to sustain or surpass the habitat quality of the Mitigation Site in perpetuity. Permittee shall also establish long-term management funding (Measures 3.2.7 through 3.2.12). Permanent protection and funding for perpetual management of the Mitigation Site(s) must be complete **prior to initiation of Project activities, or within 18 months of starting Project activities if Security is provided** pursuant to Measure 3.4 below for all uncompleted obligations.

3.1.1 Habitat Mitigation and Monitoring Plan. Permittee shall develop and submit to CDFW for review and written approval a Habitat Mitigation and Monitoring Plan (HMMP), for the On-Site Riparian Habitat Restoration Site and the Off-site Riparian & Wetland Mitigation at the San Joaquin Marsh **no later than four months prior to the start of Project activities OR six months following start of Project activities if Security is provided**. Permittee shall ensure the HMMP for both sites are successfully implemented and be responsible for any cost incurred during the restoration/mitigation or in subsequent corrective measures. At a minimum, the HMMP shall include the following:

3.1.1.1 Restoration Specialist. The HMMP shall be prepared by person(s) with expertise in the restoration of habitat types of the same, or similar, to the Project area and native plant re-vegetation techniques (Restoration Specialist). Planting, maintenance, monitoring, and reporting activities shall be overseen by the Restoration Specialist familiar with restoration of native plants.

3.1.1.2 Site Description. The HMMP shall include a description of the physical conditions and vegetation communities including a map and GIS shapefiles. Photo-documentation of the site, including restored areas, shall be provided before and after restoration.

3.1.1.3 Reference Site. If applicable, an appropriate reference site with as good or better-quality habitat than the pre-Project impact site shall be identified and approved by CDFW. The HMMP shall include



survey information for the reference site.

- 3.1.1.4 Schedule. A schedule that outlines all foreseeable activities necessary.
- 3.1.1.5 Planting Plan. Details of the site preparation consisting of a detailed contouring/grading plan, if applicable, and details of native plant installation (Planting Plan), including the type and number of materials to be used (e.g., local native seeds, cutting, and/or container stock), source(s) of the materials, planting location, methods of installation, and a local California native plant palette. This Planting Plan shall include plantings of both overstory and understory vegetation as appropriate. All seeded/planted species installed shall include only local California native container plants and cuttings and shall be typical of the existing native plant species present within, or immediately adjacent to the site.
- 3.1.1.6 Native Plant Sources. Revegetation plant material shall be derived from cuttings, materials salvaged from disturbed areas, and/or seeds obtained from high quality specimen locations that exhibit healthy, sound, and viable seed from multiple populations occurring locally within the same drainages. The HMMP shall identify the percentage of seed collected from local native plants and shall not exceed 5% of the seed produced by a population during any given year. Any container stock, if used, shall be obtained from a licensed nursery which can ensure that container plants are pest free, and have not been subject the application of synthetic pesticides.
- 3.1.1.7 Sampling Techniques. The HMMP shall identify the sampling techniques (e.g., quadrats, transects, or relevé to be used to collect quantitative/qualitative data (e.g., vegetation relative/absolute cover, density, diversity indices, recruitment, survivorship, etc.) for baseline conditions and to establish and measure success criteria. The sampling techniques shall have adequate detail so that it can be duplicated by different people and shall include a sample data collection sheet that shows appropriate data to be collected per the proposed sampling methodology.
- 3.1.1.8 Survey Timing. The primary monitoring surveys to determine the success of restoration efforts (survival, cover, and growth of plants) shall be conducted at a minimum twice annually in Spring and Fall.
- 3.1.1.9 Maintenance Activities. The HMMP shall provide a description of maintenance operations with particular emphasis on invasive species control and watering methods and schedules. If irrigation is required, details on any irrigation to be used, irrigation designs

and/or plans, and timing/schedule.

3.1.1.10 Success Criteria. The HMMP shall identify the success criteria for the Mitigation Site(s) and shall be compared against an appropriate reference site with as good or better-quality habitat than the pre-Project impact site. The success criteria shall include percent relative and absolute cover (invasive and native vegetation), species diversity, abundance, and any other measures of success deemed appropriate by CDFW.

3.1.1.11 Monitoring and Reporting. The HMMP shall include monitoring and reporting procedures, with a sample data collection sheet. Permittee shall have the Restoration Specialist monitor the recovery of plant, wildlife, and aquatic resources in the area following mitigation implementation. Monitoring of plant, wildlife, and aquatic resources shall be done twice a year, in Spring and Fall, with an annual quantitative survey to determine the success of restoration efforts (survival, cover, and growth of plants) through the term of restoration. The results and analysis shall be submitted with the annual restoration monitoring report to CDFW by February 1 of each year after mitigation implementation for at least five years and until mitigation success criteria have been met. This report shall include the status and any success trends (i.e., comparison throughout the five years of monitoring) for the success criteria outlined in the HMMP. Photos from designated photo stations shall be included.

3.1.1.12 Corrective Actions. The HMMP shall include a description of corrective actions to be taken if restoration measures do not meet the proposed criteria or targets. If the survival and cover requirements have not been met as established in the HMMP (Refer to Measure 3.1.2.10 above), the Permittee shall follow contingency measures, including but not limited to, performing modifications to the existing habitat, creation of new habitat on or off site, or purchase of mitigation credits from a mitigation bank. Any contingency actions will be determined in coordination with CDFW. If Permittee proposes to meet the success criteria through modifications to the existing habitat or creation of additional habitat, Permittee shall be responsible for maintaining and monitoring these areas with the same survival and growth requirements for five years after planting, or until CDFW deems the sites successful.

3.1.2 Mitigation Site Land Manager. Permittee shall designate long-term land manager(s) approved by CDFW. **After CDFW approval of the Mitigation Site (Measure 3.1.1) and no later than four months prior to the start of Project activities OR six months following start of Project activities if**

**Security is provided**, Permittee shall obtain CDFW approval of a land manager entity to manage the Mitigation Site(s). Permittee shall also provide the necessary documents requested by CDFW for due diligence review at the time the land manager is proposed (list available here: “Checklist for Entities being Considered to Hold Conservation Easements or Manage and Steward Mitigation Land”:

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=225933>.

- 3.1.3 **Security**. Permittee shall provide financial security in the form of escrow accounts, for start-up activities for an amount sufficient to complete the on-site and off-site mitigation. The amount shall be determined by a line item cost-estimate breakdown. A funding agreement specifying all the financial requirements and funding mechanisms shall be submitted to CDFW for review and approval. The escrow accounts shall be funded no later than 60 days prior to initiation of Project activities.
- 3.1.4 **Mitigation Site Grant Deed Amendments**. Permittee shall amend existing Grant Deeds for the On-Site Riparian Habitat Restoration Site and the Off-site Riparian & Wetland Mitigation at the San Joaquin Marsh. Amended grant deeds will be cross-referenced in the Funding Agreement noted in Compensatory Mitigation Measure 3.1.4. CDFW shall be added as a third-party beneficiary in the amended grant deeds. As part of the amendments, language will be included to specify that “in the event IRWD or its successor agency is no longer the property owner” of either site, that a Conservation Easement shall be recorded prior to transfer of ownership.
- 3.1.4.1 Permittee shall record the amended grant deeds after CDFW approval of the amended grant deeds and all associated documents **prior to the start of Project activities OR within 18 months following start of Project activities if Security is provided**.
- 3.1.4.2 Permittee shall be responsible for all costs associated with the grant deed amendments and associated restrictions, including recording, Mitigation Site monitoring, and long-term management costs.
- 3.1.5 **Mitigation Success**. After the fifth monitoring year, if a site has met the success criteria outlined in the HMMP, Permittee may request a site visit to determine if that particular mitigation portion of the Agreement is deemed complete. The site should be free of trash.
- 3.1.6 **Mitigation Site Long-Term Management Plan**. **No later than three months prior to the start of Project activities OR seven months following start of Project activities if Security is provided**, Permittee shall provide LTMPs for the On-Site and Off-Site Mitigation Sites to CDFW for review and written approval (see

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=137386&inline>). The LTMP shall be implemented in perpetuity and shall be designed to sustain or surpass the habitat quality of the Mitigation Site(s) upon achieving HMMP success criteria as approved by CDFW in writing.. The CDFW-approved long-term Mitigation Site Land Manager shall be responsible for implementing the LTMP. At a minimum, the LTMP shall include:

- 3.1.6.1 Site Description. A description of the physical conditions and vegetation communities of the respective Mitigation Site(s) expected upon achieving HMMP success criteria, including water resources and habitat types, and a map that identifies the location of the site(s).
- 3.1.6.2 Management Goals. A description of management goals related to sustaining habitat quality, wildlife usage, and overall function of the Mitigation Site(s).
- 3.1.6.3 Management Tasks. A description of specific tasks and management strategies proposed to meet management goals, including but not limited to fencing, invasive species management, trash and trespass control, and resource monitoring using a monitoring and management schedule, adaptive management plans, and strategies to address foreseeable site disturbances (e.g., dumping, wildfires, unauthorized recreational activities, etc.), and maintenance of signage and fencing.
- 3.1.6.4 Reporting. A description of the reporting procedures including a Management Report, which shall be completed every five years documenting, at a minimum:
  - 3.1.6.4.1 Management activities completed within the previous five-year term, including: (1) any remedial measures completed; (2) details of non-native and invasive species management such as (a) species and location where they were treated and/or removed, (b) the amount and frequency of removal, and (c) the techniques used; (3) fencing information; (4) resource monitoring, adaptive management strategies developed and how they were implemented; and (5) enforcement activity necessary.
  - 3.1.6.4.2 An assessment of overall habitat quality within the Mitigation Site, including: (1) any changes to native and non-native vegetation cover, (2) any shifts in habitat type,

(3) any loss of habitat cover, (4) any change in water resources, and (5) any new invasive species observed.

3.1.6.4.3 An evaluation of the success or failure of management strategies implemented and any changes to management strategies proposed in response to the successes or failures.

3.1.6.4.4 The Management Report shall include photos documenting the management activities.

3.1.7 Mitigation Site Maintenance Funds. Permittee shall ensure that the Mitigation Sites are perpetually managed, maintained, and monitored by the Mitigation Site Land Manager as described in this Agreement and the LTMP approved by CDFW. Permittee shall establish escrow accounts to provide long-term management funding for the perpetual management of the Mitigation Sites by establishing a separate long-term management fund (escrow accounts) for each of the Sites. The escrow account instructions shall be approved by CDFW. Each escrow account will be funded on an annual basis through Permittee's approved operating budget and will provides funds for the perpetual management, monitoring, and other activities on the Mitigation Site(s) consistent with the management plan(s) required by Measure 3.1.7. Permittee shall adopt, as part of its annual (or bi-annual) operating budget, an amount to be deposited in each escrow account for the forthcoming year (or two sequential years).

After the interim management period, Permittee shall ensure that the designated Mitigation Site Land Manager implements the management and monitoring of the Mitigation Site according to the LTMP. The long-term Mitigation Site Land Manager shall be required to manage and monitor the Mitigation Site in perpetuity to preserve their conservation values in accordance with this Agreement, the CE, and the LTMP. Such activities shall be funded through the escrow accounts.

3.1.8 Deposit Amount. After obtaining CDFW written approval of the Mitigation Site(s), LTMP, and escrow instructions, Permittee shall prepare, in coordination with the Mitigation Site Land Manager, a Long-Term Management cost estimate analysis to calculate the amount of funding necessary to ensure the long-term management of the Mitigation Site (Escrow Account Deposit Amount) is consistent with the LTMP. Permittee shall provide to CDFW for review and approval a cost estimate analysis for the Mitigation Site developed in coordination with the long-term Mitigation Site Land Manager. The Permittee shall submit to CDFW for review and approval the results of the Long-Term Management cost estimate before transferring funds to the escrow account and no later than three months prior to the start of Project activities OR seven months following start of

Project activities if Security is provided.

#### **4. Reporting Measures**

- 4.1 Notification Prior to Work and Prior to Completion of Work. Permittee shall notify CDFW, in writing, at least five (5) days prior to initiation of Project-related activities and at least five (5) days prior to completion of Project-related activities. Notification shall be sent through the Environmental Permit Information Management System (EPIMS) and to the email address: [EPIMS.R5@wildlife.ca.gov](mailto:EPIMS.R5@wildlife.ca.gov), reference # EPIMS-ORA-48911-R5 and CC [Jessie.Lane@wildlife.ca.gov](mailto:Jessie.Lane@wildlife.ca.gov).
- 4.2 Reporting. Permittee shall submit the following reports and any other required communication between Permittee and CDFW through EPIMS as well as to the email address [EPIMS.R5@wildlife.ca.gov](mailto:EPIMS.R5@wildlife.ca.gov), reference # EPIMS-ORA-48911-R5 and CC [Jessie.Lane@wildlife.ca.gov](mailto:Jessie.Lane@wildlife.ca.gov).
- 4.2.1 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns of any conflicting provisions as described in Administrative Measure 1.3.
- 4.2.2 Changes in Project. If Permittee anticipates activities not identified in this Agreement, they shall notify CDFW as described in Administrative Measure 1.5.
- 4.2.3 Notification Requirements. Permittee shall immediately contact CDFW if monitoring reveals that any protective measures were not or will not be implemented or if the protective measures are not providing the appropriate level of protection as described in Administrative Measure 1.6.
- 4.2.4 Designated Biologist(s). At least thirty (30) days before activities, Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information for Designated Biologist(s) as described in Avoidance and Minimization Measure 2.8
- 4.2.5 Wildlife Records. Permittee shall submit records of wildlife handling or injury/mortality as described in Avoidance and Minimization Measure 2.13.
- 4.2.6 Report Mortalities and Serious Injuries Immediately. If any native aquatic species are found dead or injured during maintenance-related activities, the Designated Biologist shall contact CDFW as described in Avoidance and Minimization Measure 2.15.
- 4.2.7 Reporting Sensitive Species Observations to the California Natural Diversity Database (CNDDB). Permittee shall submit species observations



as outlined in Avoidance and Minimization Measure 2.16.

- 4.2.8 Pre-activity Survey Report. Permittee shall submit results of the pre-work general biological survey as described in Avoidance and Minimization Measure 2.17.
- 4.2.9 Avoidance of Sensitive Resources. Permittee shall describe implemented avoidance measures in a post-activity report within 14 days after Project completion and/or shall contact CDFW to discuss an appropriate path forward if full avoidance of sensitive resources cannot be accomplished as described in Avoidance and Minimization Measure 2.18.
- 4.2.10 Project Site Photos. Prior to Project activities, Permittee shall photo-document each impact location subject to this Agreement. Following completion of Project activities and after each impact location has been recontoured to pre-Project grade, Permittee shall photo-document, in the same location and aspect, the post-Project conditions. The Designated Biologist(s) shall submit to CDFW the photo documentation within fourteen (14) days after each visit as described in Avoidance and Minimization Measure 2.21.
- 4.2.11 Least Bell's Vireo. Permittee shall submit a mitigation plan in accordance with the Central/Coastal NCCP/HCP prior to initiation of Project activities as described in Avoidance and Minimization Measure 2.23.
- 4.2.12 White-Tailed Kite. Permittee shall submit the results of white-tailed kite surveys to CDFW five (5) days before the start of work or two (2) weeks after conclusion of the survey or if there is a pause in Project-related activities of five (5) days or more as described in Avoidance and Minimization Measure 2.24. CDFW shall also be notified within 12 hours of any white-tailed kite sightings within 1,000 feet of the work area.
- 4.2.13 Nesting Bird Survey. Permittee shall submit results of the general nesting bird survey as described in Avoidance and Minimization Measure 2.25.7.
- 4.2.14 Crotch's Bumble Bee. If an ITP has not yet been issued and Crotch's bumble bee is still a special status species, Permittee shall consult with CDFW prior to starting Project activities if impacts to Crotch's bumble bee cannot be avoided as described in Avoidance and Minimization Measure 2.26.
- 4.2.15 Notification of Invasive Species. Permittee shall notify CDFW immediately of any invasive species not previously known to occur at the Project site are discovered during Project activities as described in Avoidance and Minimization Measure 2.28.



4.2.16 Spill Containment. Permittee shall notify CDFW regarding clean-up procedures in case of a spill as described in Avoidance and Minimization Measure 2.49.

4.2.17 Spill Cleanup. Permittee shall be notified immediately of any spills that release hazardous material as described in Avoidance and Minimization Measure 2.50.

4.2.18 Restoration and Monitoring. Permittee shall submit all required documentation outlined in Section 3, Compensatory Measures.

4.2.19 Final Report. Permittee shall submit a final report within 30 days after the Project is fully completed. This Final Report shall summarize the Project, including a summary of the implementation of each Protective Measure of this Agreement. This Final Report shall include documentation of animals moved out of harm's way, reports of special status species to CNDDB, reports of invasive species removed, monitoring reports, reports of newly discovered invasive species, and final temporary and permanent impact amounts.

4.3 Format of Reports. All reports shall be submitted to CDFW electronically and shall include geographic information system (GIS) shapefiles, along with the appropriate metadata of the Project area. For more details on creating shapefiles, please visit <http://www.esri.com/library/whitepapers/pdfs/shapefile.pdf>.

Electronic versions of reports shall be submitted through EPIMS. Click or paste this link in your browser to be routed to EPIMS:

<https://wildlife.ca.gov/Conservation/Environmental-Review/EPIMS>.

4.4 Annual Reports. Permittee shall submit an annual restoration and monitoring report to CDFW by March 15 of each year for 2 years after the restoration installation at the On-Site Riparian Habitat Restoration Site and the Off-site Riparian & Wetland Mitigation at the San Joaquin Marsh. The report(s) shall include an evaluation of each site as compared to the success criteria, an overview of the revegetation effort, wildlife observed, and the method used to assess these parameters as described in the respective HMMPs. Photographs from designated photograph stations shall be included.

## CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be submitted through Environmental Permit Information Management System (EPIMS) as instructed by CDFW.

### To Permittee:

Fiona Nye, Director of Water Resources  
Irvine Ranch Water District

EPIMS-ORA-48911-R5  
Syphon Reservoir Improvement Project  
15600 Sand Canyon Avenue  
PO Box 57000  
Irvine, CA, 92619-7000  
nye@irwd.com

To CDFW:  
Department of Fish and Wildlife  
South Coast Region 5  
EPIMS-ORA-48911-R5  
Syphon Reservoir Improvement Project  
[EPIMS.R5@wildlife.ca.gov](mailto:EPIMS.R5@wildlife.ca.gov)

## **LIABILITY**

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the Project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of or require Permittee to proceed with the Project. The decision to proceed with the Project is Permittee's alone.

## **SUSPENSION AND REVOCATION**

CDFW may suspend or revoke in its entirety the Agreement if CDFW determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with this Agreement, in accordance with section 723 of title 14 of the California Code of Regulations.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

## **ENFORCEMENT**

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

## **OTHER LEGAL OBLIGATIONS**

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with, or obtaining any other permits or authorizations that might be required under, other federal, state, or local laws or regulations before beginning the Project or an activity related to it. For example, if the Project causes take of a species listed as threatened or endangered under the Endangered Species Act (ESA), such take will be unlawful under the ESA absent a permit or other form of authorization from the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the Fish and Game Code including, but not limited to, Fish and Game Code sections 2050 *et seq.* (threatened and endangered species), section 3503 (bird nests and eggs), section 3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## **AMENDMENT**

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall use the "Amendments & Extension" form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall use the “Amendments & Extension” form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the minor amendment fee identified in CDFW’s current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## **EXTENSIONS**

In accordance with Fish and Game Code section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement’s term. To request an extension, Permittee shall use the “Amendments & Extension” form in EPIMS to submit the request. Permittee shall include with the completed form, payment of the extension fee identified in CDFW’s current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with Fish and Game Code section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the Project the Agreement covers (Fish & G. Code § 1605, subd. (f)).

## **EFFECTIVE DATE**

The Agreement becomes effective on the date of CDFW’s signature, which shall be: 1) after Permittee’s signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable Fish and Game Code section 711.4 filing fee listed at <https://wildlife.ca.gov/Conservation/Environmental-Review/CEQA/Fees>.

## **TERM**

This Agreement shall expire on October 24, 2030, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as Fish and Game Code section 1605, subdivision (a)(2) requires.

## **AUTHORITY**

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee’s behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

## **AUTHORIZATION**

This Agreement authorizes only the Project described herein. If Permittee begins or completes a Project different from the Project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with Fish and Game Code section 1602.

### **CONCURRENCE**

Through the electronic signature by the permittee or permittee's representative as evidenced by the attached concurrence from CDFW's EPIMS, the permittee accepts and agrees to comply with all provisions contained herein.

**The EPIMS concurrence page containing electronic signatures must be attached to this agreement to be valid.**

## Exhibit "B"



California Department of Fish and Wildlife  
South Coast Region  
3883 RUFFIN RD.  
SAN DIEGO, CA 92123

California Endangered Species Act  
Incidental Take Permit No. 2081-2025-033-05

**SYPHON RESERVOIR IMPROVEMENT PROJECT****I. Authority:**

This California Endangered Species Act (CESA) incidental take permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take<sup>1</sup> of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.<sup>2</sup> However, CDFW may authorize the take of any such species by permit pursuant to the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c). (See Cal. Code Regs., tit. 14, § 783.4.)

<b>Permittee:</b>	<b>Irvine Ranch Water District</b>
<b>Principal Officer:</b>	<b>Fiona Nye, Director of Water Resources</b>
<b>Contact Person:</b>	<b>Fiona Nye, (949) 453-5325</b>
<b>Mailing Address:</b>	<b>15600 Sand Canyon Avenue Irvine, CA 92618</b>

**II. Effective Date and Expiration Date of this ITP:**

This ITP is effective as of the date signed by CDFW below. Unless renewed by CDFW, this ITP and its authorization to take the Covered Species shall expire on **December 15, 2035**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 6.7 of this ITP.

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<sup>1</sup>Pursuant to Fish and Game Code section 86, "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 [for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "'take' ... means to catch, capture or kill".])

<sup>2</sup>The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

**III. Project Location:****Syphon Reservoir Improvement and Irvine Lake North Mitigation Site Project**

The Syphon Reservoir Improvement and Irvine Lake North Mitigation Site Project (Project) will take place in two locations. The Syphon Reservoir Improvement portion located at the existing Syphon Reservoir recycled water storage facility within the unincorporated County of Orange (See Figure 1: Regional Map of Project Area). The Syphon Reservoir Improvement portion is located immediately adjacent to the City of Irvine, at approximately 33.710230, -117.731334. The Syphon Reservoir Improvement portion is bounded by Portola Parkway to the southwest, Bee Canyon Landfill Access Road to the northwest, and State Route 133 to the east.

The Irvine Lake North Mitigation Site is located 4.5 miles northeast of Syphon Reservoir (see Figure 3; Assessor's Parcel Numbers 105-361-07 and 105-361-09). The Irvine Lake North Property has been acquired by the Permittee for the purpose of long-term preservation.

**IV. Project Description:**

The Project includes replacing the existing 59-foot engineered dam at Syphon Reservoir with a new 138-foot engineered dam, to increase the recycled water storage capacity from the current 500 acre-feet to a total of 5,000 acre-feet (See Figure 2: Detailed Map of Project Site). The overall dam crest elevation will increase from the existing 388 feet above mean sea level to approximately 468 feet above mean sea level. The maximum water surface level of the reservoir will increase from the existing 376 feet above mean sea level to 456 feet above mean sea level. The new dam will include a spillway to protect the reservoir from overtopping, as well as a seepage control drainage system, and a circulation/aeration system for the reservoir. The existing strainer and disinfection facilities will be demolished, reconstructed, and expanded at the toe of the new dam to provide filtration, chlorination, and de-chlorination. Additional project features include: new on-site access and maintenance roads; on-site wetland and riparian mitigation areas; off-site wetland and riparian mitigation at the San Joaquin Marsh; on-site upland mitigation areas; a new grout curtain; eight piezometer installations, as well as a partially fenced access trail to reach the piezometers; a 15-foot-tall dam control building near the inlet/outlet; four air quality monitoring stations; new Southern California Edison infrastructure to power the dam control building below ground; fuel reduction zones around the new dam control building; a 42-inch inlet/outlet pipeline; access roads; and, potential recreational facilities.

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**V. Covered Species Subject to Take Authorization Provided by this ITP:**

This ITP covers the following species:

<u>Name</u>	<u>CESA Status</u> <sup>3</sup>
1. Crotch’s bumble bee ( <i>Bombus crotchii</i> )	Candidate <sup>4</sup>

This species and only this species is the “Covered Species” for the purposes of this ITP.

**VI. Impacts of the Taking on Covered Species:**

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above are expected to result in the incidental take of individuals of the Covered Species which include initial site preparation; heavy equipment operation; grading; excavation; trenching and backfilling; installation and/or removal of structures and equipment; vehicle and foot traffic; access road construction; repair and resurfacing; handling of stockpiles and stored materials; soil compaction; vegetation clearing and maintenance including grading, mowing, and grubbing; revegetation requiring disking and excavation; inundation of the lake during operation and maintenance; and creation of the woody riparian mitigation area (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality (“kill”) may occur as a result of Covered Activities such as initial site preparation; heavy equipment operation; grading; excavation; trenching and backfilling; installation and/or removal of structures and equipment; vehicle and foot traffic; access road construction; ground disturbance; handling of stockpiles and stored materials; soil compaction; vegetation clearing and maintenance such as grading, mowing and grubbing; revegetation requiring earthwork; initial inundation of the lake; Project operations; or during habitat enhancement, maintenance, and monitoring on the Project’s mitigation land. The areas where authorized take of the Covered Species is expected to occur include: the Project’s total on-site disturbance area in and around Syphon Reservoir, off-site at the Irvine Lake North mitigation property, as well as off-site at the San Joaquin Marsh wetland mitigation property (collectively, the Project Area).

The Project is expected to cause the permanent loss of **64.21** acres of habitat for the Covered Species, and temporary loss of **26.76** acres of habitat for the Covered Species, totaling **90.97** acres. Of the 26.76 acres of temporary habitat impacts, 21.4 acres will be restored on-site in place of habitat that is currently classified as non-native herbaceous and eucalyptus (see Figure 4 and Figure 5). Though the on-site restoration will provide beneficial habitat for the Covered Species, this Project feature is not included as mitigation for the purposes of this permit. Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat

<sup>3</sup> Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species.  
<sup>4</sup>The species status may change following the decision of the Fish and Game Commission to designate the species as threatened or endangered but if there is such a designation, the species will remain a Covered Species.

fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts include stress resulting from noise and vibrations, long-term effects due to increased pollution, displacement from preferred habitat, decreased food supply, increased competition for food and space, exposure to contaminants such as pesticides and fuels, and increased vulnerability to predation.

#### **VII. Incidental Take Authorization of Covered Species:**

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species.

#### **VIII. Conditions of Approval:**

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular ingress and egress, staging and parking, and noise and vibration generating activities that may/will cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. CEQA Compliance:** Permittee shall implement and adhere to all mitigation measures related to the Covered Species in the Syphon Reservoir Improvement Project Final Environmental Impact Report (SCH No.: 2019080009) that was certified by Irvine Ranch Water District on July 27, 2021, Addendum No. 2 to the Syphon Reservoir Improvement Project Final Environmental Impact Report (SCH No.: 2019080009; May 15, 2025), and Addendum No. 3 to the Syphon Reservoir Improvement Project Final Environmental Impact Report (SCH No. 2019080009; October 2025), that were adopted by Irvine Ranch Water District as lead agency for the Project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).
- 3. LSA Agreement Compliance:** Permittee shall implement and adhere to the mitigation measures and conditions related to the Covered Species in the Lake and Streambed Alteration Agreement (LSAA) (Notification No. EPIMS-ORA-48911-R5) which is currently being prepared for the Project and will be executed by CDFW pursuant to Fish and Game Code section 1600 et seq.
- 4. ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.

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## 5. General Provisions:

- 5.1. Designated Representative.** Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.
- 5.2. Designated Biologists.** Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Designated Biologist(s) using the Biologist Resume Form (Attachment 2) or another format containing the same information at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist(s) are knowledgeable and experienced in the biology, natural history, collecting and handling of the Covered Species. The Designated Biologist(s) shall be responsible for monitoring Covered Activities to avoid, minimize and mitigate the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist(s) in writing before starting Covered Activities and shall also obtain approval in advance, in writing, if the Designated Biologist(s) must be changed.
- 5.3. Designated Biologist Authority.** To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall immediately stop any activity that does not comply with this ITP and/or order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species. Permittee shall provide unfettered access to the Project Site and otherwise facilitate the Designated Biologist in the performance of his/her duties. If the Designated Biologist is unable to comply with the ITP, then the Designated Biologist shall notify the CDFW Representative immediately. Permittee shall not enter into any agreement or contract of any kind, including but not limited to non-disclosure agreements and confidentiality agreements, with its contractors and/or the Designated Biologist that prohibit or impede open communication with CDFW, including but not limited to providing CDFW staff with the results of any surveys, reports, or studies or notifying CDFW of any non-compliance or take. Failure to notify CDFW of any non-compliance or take or injury of a Covered Species because of such agreement or contract may result in CDFW taking actions to prevent or remedy a violation of this ITP.
- 5.4. Worker Education Awareness Program.** Permittee shall conduct a Worker Education Awareness Program (WEAP) for all persons employed or otherwise working in the Project Area before performing any work. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the ecology of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal

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protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Permittee shall provide interpretation for non-English speaking workers, and the WEAP shall be provided to any new workers before they are authorized to perform work in the Project Area. Upon completion of the WEAP, employees shall sign a form stating they attended the WEAP and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.

- 5.5. Construction Monitoring Documentation.** The Designated Biologist(s) shall maintain construction-monitoring documentation on-site in either hard copy or digital format throughout the construction period, which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the WEAP. Permittee shall ensure a copy of the construction-monitoring documentation is available for review at the Project site upon request by CDFW.
- 5.6. Trash Abatement.** Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed, ideally at daily intervals but at least once a week, to avoid attracting opportunistic scavengers that may cause a disturbance on site.
- 5.7. Dust Control.** Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed and shall not allow water to form puddles.
- 5.8. Erosion Control Materials.** Permittee shall prohibit use of erosion control materials potentially harmful to Covered Species and other species, such as monofilament netting (erosion control matting) or similar material, in potential Covered Species' habitat.
- 5.9. Delineation of Property Boundaries.** Before starting Covered Activities along each part of the route in active construction, Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities in that area.
- 5.10. Delineation of Habitat.** Permittee shall clearly delineate habitat of the Covered Species remaining within the Project Area after initial site clearance with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of remaining Covered Species' habitat.

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- 5.11. Project Access.** Project-related personnel shall access the Project Area using existing routes, and shall not cross Covered Species' habitat outside of, or en route to, the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 15 miles per hour to avoid Covered Species on roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact CDFW for written approval before carrying out such an activity. CDFW may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.
- 5.12. Staging Areas.** Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 5.11 of this ITP.
- 5.13. Hazardous Waste.** Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.
- 5.14. CDFW Access.** Permittee shall provide CDFW staff with reasonable access to the Project Area and mitigation lands under Permittee control and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.
- 5.15. Refuse Removal.** Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

## **6. Monitoring, Notification and Reporting Provisions:**

- 6.1. Notification Before Commencement.** The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.
- 6.2. Notification of Non-compliance.** The Designated Representative shall immediately notify CDFW if the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within

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the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall follow up within 24 hours with a written report to CDFW describing, in detail, any non-compliance with this ITP and suggested measures to remedy the situation.

**6.3. Compliance Monitoring.** The Designated Biologist shall be on-site daily when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to:

- (1) minimize incidental take of the Covered Species;
- (2) prevent unlawful take of species;
- (3) check for compliance with all measures of this ITP;
- (4) check all exclusion zones; and
- (5) ensure that signs, stakes, and fencing are intact, and that Covered Activities are only occurring in the Project Area.

The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP.

During periods of Project inactivity, or after vegetation clearing and initial grading have been completed, compliance inspections by the Designated Biologist may be reduced to a minimum of one day per week only after Permittee obtains written approval from CDFW. Permittee shall immediately resume daily compliance inspections if the Designated Biologist or CDFW finds the Permittee is out of compliance with any Conditions of Approval of this ITP, upon written notification from CDFW, and/or if the Covered Species, including nests or overwintering queens, are suspected or confirmed in the Project Area.

**6.4. Monthly Compliance Report.** The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 6.3 into a Monthly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Monthly Compliance Reports shall be submitted to the CDFW offices listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representative and Headquarters CESA Program. At the time of this ITP's approval, the CDFW Regional Representative is Jennifer Turner, Senior Environmental Scientist Supervisory ([Jennifer.Turner@wildlife.ca.gov](mailto:Jennifer.Turner@wildlife.ca.gov) and copy [R5Cesa@wildlife.ca.gov](mailto:R5Cesa@wildlife.ca.gov)) and Headquarters CESA Program email is [CESA@wildlife.ca.gov](mailto:CESA@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting



schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.

- 6.5. Annual Status Report.** Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year, beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Monthly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a general description of the status of the Project Area and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; (6) an accounting of the number of acres subject to both temporary and permanent disturbance, both for the prior calendar year, and a total since ITP issuance; and (7) information about other Project impacts on the Covered Species.
- 6.6. CNDDDB Observations.** The Designated Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation, and the Designated Biologist shall include copies of the submitted forms with the next Monthly Compliance Report or ASR, whichever is submitted first relative to the observation. The Designated Biologist shall submit a notification of observation (including species name, date of observation and GPS coordinates) by email to CDFW's Regional Representative within 24 hours of observation.
- 6.7. Final Mitigation Report.** No later than 45 days after completion of all mitigation measures, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Monthly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.
- 6.8. Notification of Take or Injury.** Designated Biologist shall immediately notify the Designated Representative if a Covered Species is taken, needs to be relocated, or is injured by a Project-related activity, or if a Covered Species is otherwise found dead within the vicinity of the Project. The Designated Biologist or Designated Representative shall provide initial

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notification to CDFW's Regional Representative ([Jennifer.Turner@wildlife.ca.gov](mailto:Jennifer.Turner@wildlife.ca.gov) and copy [R5CESA@wildlife.ca.gov](mailto:R5CESA@wildlife.ca.gov)) and by calling the Regional Office at (858) 467-4201. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident, GPS location (including GPS error estimated in feet and datum) of the animal or carcass, and if possible, provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

- 6.8.1. Covered Species Salvage.** If a Covered Species is taken or otherwise found deceased, the Designated Biologist shall salvage, photograph, and place the carcass in a labeled, clean Ziplock bag or vial and store it in a freezer. The label shall include a unique identifier (collection number), species name, time and date of collection, collection location, GPS location (including datum and horizontal error in feet), circumstances surrounding death (if known), collector name and contact information (phone number or email), and ITP Number 2081- 2025-033-05. The Designated Biologist shall deliver the carcass (on dry ice if possible) to the following address and notify CDFW's Regional Representative at the time of shipping:

CDFW Wildlife Genetics Research Unit (Wildlife Health Lab)  
Attention: Michael Buchalski  
1415 North Market Blvd., Suite 9  
Sacramento, CA 95834

- 7. Take Minimization Measures:** The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

- 7.1. Timing of Vegetation Removal.** Permittee shall remove vegetation after plants have stopped blooming in the fall and outside of the Colony Active Period and Gyne Flight Season (approximately February 1 through August 31; varies based on the location/year and can be confirmed via pre-construction surveys), to the maximum extent feasible. When vegetation removal is occurring by mower, Permittee shall set mower blade heights no lower than 4 inches, unless otherwise approved by CDFW in writing.
- 7.1.1. Patched Vegetation Removal.** If vegetation needs to be removed during the bloom period, Permittee shall remove flowering vegetation in a patched manner leaving areas of floral resources as refugia for foraging Covered Species or wait until bloom has ceased. During the bloom period and colony active period, removal of non-native plants should be prioritized over native plants.

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**7.2. Daily Work Area Coverage.** Permittee shall ensure that each daily work area is adequately covered by a Designated Biologist. Permittee shall proceed with Covered Activities in a systematic manner to facilitate the Designated Biologist(s) in performing surveys required by Condition of Approval 7.4. If there are multiple, separate work areas on a given workday, Permittee shall provide a Designated Biologist for each separate work area.

**7.3. Immediately Stop Covered Activities.** Permittee shall immediately stop all Covered Activities in the vicinity if a Covered Species nest is found. Permittee shall notify the Designated Biologist and CDFW's Regional Representative (Jennifer.Turner@wildlife.ca.gov and copy R5CESA@wildlife.ca.gov) if a Covered Species is taken, needs to be relocated, or is injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured (see Condition of Approval 6.8). Covered Activities may resume in the vicinity where a Covered Species nest is found after Permittee receives written approval from CDFW's Regional Representative.

**7.4. Covered Species Pre-Construction Surveys.** Prior to Covered Activities occurring during the Colony Active Period (generally February 1 through August 31), the Designated Biologist shall search for the Covered Species through an area planned for Covered Activities. The Designated Biologist shall perform two surveys consisting of meandering transects no more than 10 days prior to the commencement of Covered Activities in that area<sup>5</sup>. The Designated Biologist shall conduct surveys at least four days apart with the second survey occurring within two days prior to starting Covered Activities in that area. The Designated Biologist shall focus attention on areas with blooming native and non-native nectar and pollen resources for the Covered Species. The survey duration shall be appropriate to the size of the area planned for Covered Activities plus 50 feet based on a minimum of one person-hour of searching per three acres of suitable habitat. The Designated Biologist shall conduct surveys between 8:00 AM and 4:00 PM (Pacific Standard Time) on sunny days between 55- and 90-degrees Fahrenheit with sustained wind speeds measuring less than 10 miles per hour. If the Covered Species is detected or suspected during surveys, the Designated Biologist shall flag the area where the observation was made and closely monitor the areas that were flagged during Covered Activities to further minimize take of Covered Species.

**7.4.1. Locating Nests.** The Designated Biologist shall make every effort to locate nests if the Covered Species is suspected or confirmed within the Project Area. The Designated Biologist shall observe any ground animal burrow entrances for signs of the Covered Species. To confirm a suspected Covered Species nest<sup>6</sup>, the Designated Biologist may

<sup>5</sup> The following are example protocols that can be used in survey method development:

- CA Bumble Bee Atlas non-lethal protocol (volunteer handbook)-<https://www.cabumblebeeatlas.org/point-surveys.html>
- USFWS Rusty patched bumble bee protocol  
[https://www.fws.gov/sites/default/files/documents/Survey\\_Protocols\\_RPBB\\_12April2019.pdf](https://www.fws.gov/sites/default/files/documents/Survey_Protocols_RPBB_12April2019.pdf)

<sup>6</sup> Because worker bees are actively foraging, they should arrive and exit an active nest site with frequency during the active period, such that their presence would be apparent after a few minutes of observation much like other bee, wasp, or hornet species

block/cover any burrow entrance with a jar/vial (or similar) of appropriate size for no more than 30 minutes or until a bumble bee is detected. The Designated Biologist shall also observe bunch grasses, thatched annual grasses, brush piles, old bird nests, dead trees, or hollow logs to determine if a potential nest could be present. The Designated Biologist shall identify the species of bumble bee if a bumble bee is detected.

- 7.4.2. Nest Buffer.** If a Covered Species nest is detected or suspected, Permittee, in consultation with the Designated Biologist, shall prohibit or immediately stop all Project Activities within 50 feet of the nest. Designated Biologist shall delineate the 50-foot buffer and notify all workers not to enter the environmentally sensitive area. The Designated Representative or Designated Biologist shall contact CDFW's Regional Representative within 24 hours for further consultation (see Condition of Approval 6.4 for contact information). The Designated Biologist shall record the nest location with a GPS (including datum and horizontal accuracy in feet) and include photographs and a map of the nest location as part of notification to CDFW's Regional Representative. Designated Biologist shall increase the size and/or modify the environmentally sensitive area buffer upon notice from CDFW. Permittee shall maintain buffers until further instructions from CDFW's Regional Representative. To determine if a nest has senesced, the Designated Biologist shall monitor the nest for senescence in late summer and fall. Nest senescence can typically be denoted after the presence of reproductives (gynes and males) are observed. Nests should be monitored a minimum of one hour per day for three consecutive days during optimal weather conditions (i.e. from 8am-4pm, low wind, and low cloud cover conditions, etc.). If there has been no nest activity after the above conditions are met, then the no disturbance work buffer may be removed if CDFW approves.
- 7.4.3. Exposed Nest.** If excavation or vegetation removal exposes a nest, the Designated Biologist shall halt work in the area and immediately contact and consult with CDFW. The designated Biologist shall set up a structure to shade the exposed nest and set up a 50 foot no disturbance buffer until the nest has senesced or project activities are completed, whichever comes first.
- 7.4.4. Overwintering Site Buffer.** If any overwintering Covered Species are found during Covered Activities, the Permittee, in consultation with the Designated Biologist shall immediately stop and prohibit all Covered Activities within 50 feet of the queen and/or hibernaculum. Permittee shall delineate the 50-foot buffer and notify all workers not to enter the environmentally sensitive area. If an overwintering queen is exposed, the Designated Biologist shall cover and protect the queen bumble bee using the substrate it was found in/under and return any materials removed during surveys (e.g., grass, vegetation, bark, and debris) to re-create pre-disturbed conditions. The Designated Representative or Designated Biologist shall contact CDFW's Regional Representative within 24 hours for further consultation. The Designated Biologist shall record the

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queen's location with a GPS (including datum and horizontal accuracy in feet) and include photographs and a map of the queen's location as part of notification to CDFW's Regional Representative. Permittee shall increase the size and/or modify the environmentally sensitive area buffer upon notice from CDFW. Permittee shall maintain buffers until the overwintering queen leaves the area, which typically occurs in the early spring, depending on the location and local climate conditions. Permittee shall confer with CDFW's Regional Representative for approval of further instructions.

**7.4.5. Repeat Surveys Following Periods of Inactivity.** If Covered Activities are suspended for longer than three days between February 1<sup>st</sup> and August 31, the Designated Biologist shall perform one visual survey when survey conditions are met (see Condition of Approval 7.4) prior to re-starting Covered Activities.

**7.4.6. Daily Visual Sweeps.** The Designated Biologist shall conduct daily visual sweeps of the daily work area by walking ahead of grading and vegetation removal equipment for Covered Species at the start of daily work and throughout the daily workday. The Designated Biologist shall intermittently repeat visual sweeps throughout the daily work window because the Covered Species is unlikely to be active before the start of daily Covered Activities that initiate prior to 8:00 AM. If the Covered Species is detected or suspected, the Designated Biologist shall follow requirements under Conditions of Approval 7.4.1 and 7.4.2. After initial vegetation clearing has been completed, the frequency of daily visual sweeps may be modified after the Designated Representative consults with, and obtains written approval from, CDFW.

**7.5. Weed Management Plan.** Permittee shall submit to CDFW for its review and approval a Weed Management Plan (WMP) before starting Covered Activities, if weed management activities have not otherwise been addressed in another project plan to the satisfaction of CDFW. The WMP shall include measures to ensure that non-native invasive plant species do not become established within or adjacent to the Project Area or proliferate because of Covered Activities. The WMP shall address non-native plants within and adjacent to the Project Area during construction and post-construction. The WMP shall also address Covered Species habitat. The WMP shall prohibit the establishment of any plant listed on the California Invasive Plant Council's (Cal-IPC) [Invasive Plant Inventory](#) (High, Moderate, Limited, and Watch lists). The WMP shall address sources of non-native plant introduction and establishment; measures to minimize the potential of non-native plant spread and/or proliferate in the Project Area and adjacent to the Project Area; management of stockpiles; identification/Early Detection Rapid Response; and methods to eradicate nonnative plants prior to seed set. Prevention Best Management Practices and guidelines for invasive plants can be found on Cal-IPC's [Prevention](#) webpage and Cal-IPC's [Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers](#).

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**7.6. Pesticide Use.** Permittee shall not use pesticides such as herbicides, insecticides, or rodenticides within the Project Area. If pesticides must be used, including for habitat restoration and enhancement, Permittee shall consult with CDFW and may only use pesticides upon CDFW's written approval (see Condition of Approval 7.7 below).

**7.7. Pesticide Use Plan.** If pesticide use is approved by CDFW, Permittee shall submit to CDFW for its review and approval a Pesticide Use Plan to Avoid and Minimize Impacts to the Covered Species (Pesticide Use Plan). The Pesticide Use Plan shall describe Best Management Practices to avoid and minimize adverse effects of pesticide use on individuals of the Covered Species and Covered Species habitat adjacent to the Project Area.

Permittee shall incorporate the following (at a minimum) into the Pesticide Use Plan: (1) follow best management practices described by Xerces Society's Guidance to Protect Habitat from Pesticide Contamination, California Department of Pesticide Regulation, and the University of California's Division of Agriculture and Natural Resources Statewide Integrated Pest Management Program's Best Management Practices to protect bees from pesticides; (2) avoid mixtures with adjuvants containing alkylphenol ethoxylates, (3) avoid use of soil fumigants, which penetrate the soil and can poison ground nesting bees; (4) avoid spraying herbicides, especially on plants that are in bloom to minimize direct or indirect contact the Covered Species; (5) use targeted methods only; (6) pesticide application shall be conducted when the Covered Species is overwintering (i.e., outside of the Colony Active Period) to the maximum extent practicable; (7) avoid the use of pesticides marked with the U.S. Environmental Protection Agency's bee hazard icon; and (8) preferentially use chemicals that are rated green/III in the University of California Integrated Pest Management Bee Precaution Database and chemicals of the least toxic products at the least concentrated application when possible.

**8. Habitat Management Land Acquisition:** CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result from implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the protected acreage required to provide for adequate compensation. The off-site mitigation property, Irvine Lake North, is 99.83 acres and contains more than 95 acres of natural upland vegetation that is suitable for the Covered Species. The remaining habitat on site provides a natural buffer and connectivity to neighboring habitat that is beneficial for the Covered Species. The property contains year-round floral resources preferred by the Covered Species (Figure 6).

To meet this requirement, the Permittee shall provide for both the permanent protection and management of **99.83 acres** of Habitat Management (HM) lands pursuant to Condition of

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Approval 8.2 below and the calculation and deposit of the management funds pursuant to Condition of Approval 8.3 below. Permanent protection and funding for perpetual management of HM lands must be completed before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

**8.1. Cost Estimates.** For the purposes of determining the Security amount, CDFW has estimated the cost sufficient for CDFW or its contractors to complete acquisition, protection, and perpetual management of the HM lands as follows:

**8.1.1.** Land acquisition costs for HM lands identified in Condition of Approval 8.2 below, estimated at \$20,591 per acre for 99.83 acres: **\$2,055,635**

**8.1.2.** All costs necessary to review and record a conservation easement as described in Condition of Approval 8.2.1 and 8.2.2 below: **\$17,440;**

**8.1.3.** Start-up costs for HM lands, including initial site protection costs as described in Condition of Approval 8.2.5 below, estimated at **\$42,625.**

**8.1.4.** Long-term management funding as described in Condition of Approval 8.3 below, estimated at \$15,081/acre for 99.83 acres: **\$1,505,558.** Long-term management funding is estimated initially for the purpose of providing Security to ensure implementation of HM lands management.

**8.1.5.** Related transaction fees including but not limited to account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW as described in Condition of Approval 8.4, estimated at **\$6,000.**

**8.1.6.** All costs associated with CDFW engaging an outside contractor to complete the mitigation tasks, including but not limited to acquisition, protection, and perpetual funding and management of the HM lands and restoration of temporarily disturbed habitat. These costs include but are not limited to the cost of issuing a request for proposals, transaction costs, contract administration costs, and costs associated with monitoring the contractor's work estimated at **\$75,000.**

**8.2. Habitat Management Lands Acquisition and Protection.** If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall:

**8.2.1. Fee Title.** Transfer fee title of the HM lands to CDFW pursuant to terms approved in writing by CDFW. Alternatively, CDFW, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person,

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or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended.

- 8.2.2. Conservation Easement.** If CDFW does not hold fee title to the HM lands, CDFW shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If CDFW elects not to be named as the grantee for the conservation easement, CDFW shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain CDFW written approval of any conservation easement before its execution or recordation. No conservation easement shall be approved by CDFW unless it complies with Civil Code sections 815-816, as amended, and Government Code sections 65965-65968, as amended and includes provisions expressly addressing Government Code sections 65966(j) and 65967(e). Because the “doctrine of merger” could invalidate the conservation interest, under no circumstances can the fee title owner of the HM lands serve as grantee for the conservation easement.
- 8.2.3. HM Lands Documentation.** Provide a recent preliminary title report, Phase I Environmental Site Assessment, and other necessary documents (please contact CDFW for document list). All documents conveying the HM lands and all conditions of title are subject to the approval of CDFW, and if applicable, the Wildlife Conservation Board and the Department of General Services;
- 8.2.4. Land Manager.** Designate a long-term land manager approved by CDFW. The long-term land manager may be the landowner or another party. Permittee shall notify CDFW of any subsequent changes in the land manager within 30 days of the change. If CDFW will hold fee title to the mitigation land, CDFW will act as both the interim and long-term land manager unless otherwise specified. A grantee for the conservation easement cannot serve as the interim or long-term manager without the express written authorization of CDFW in its sole discretion.
- 8.2.5. Start-up Activities.** Provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been approved by CDFW. Start-up activities include, at a minimum: (1) preparing a final management plan for CDFW approval (see optional management plan template at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=227736>) (2) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (3) developing and transferring Geographic Information Systems (GIS) data if applicable; (4) establishing initial fencing; (5) conducting litter removal; and (7) installing signage.

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**8.3. Endowment Fund.** If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the final management plan approved by CDFW. After obtaining CDFW approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a CDFW-approved fund that is permanently restricted to paying the costs of long-term management and stewardship of the mitigation property for which the funds were set aside, which costs include the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with this ITP, the conservation easement, and the management plan required by Condition of Approval 8.2.5. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions, and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

After the interim management period, Permittee shall ensure that the designated long-term land manager implements the management and monitoring of the HM lands according to the final management plan. The long-term land manager shall be obligated to manage and monitor the HM lands in perpetuity to preserve their conservation values in accordance with this ITP, the conservation easement, and the final management plan. Such activities shall be funded through the Endowment.

**8.3.1. Identify an Endowment Manager.** The Endowment shall be held by the Endowment Manager, which shall be either CDFW or another entity qualified pursuant to Government Code sections 65965-65968, as amended.

Permittee shall submit to CDFW a written proposal that includes: (i) the name of the proposed Endowment Manager; (ii) whether the proposed Endowment Manager is a governmental entity, special district, nonprofit organization, community foundation, or congressionally chartered foundation; (iii) whether the proposed Endowment Manager holds the property or an interest in the property for conservation purposes as required by Government Code section 65968(b)(1) or, in the alternative, the basis for finding that the Project qualifies for an exception pursuant to Government Code section 65968(b)(2); and (iv) a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e).

Within thirty days of CDFW's receipt of Permittee's written proposal, CDFW shall inform Permittee in writing if it determines the proposal does not satisfy the requirements of Fish and Game Code section 2081(b)(3) and, if so, shall provide Permittee with a written explanation of the reasons for its determination. If CDFW

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does not provide Permittee with a written determination within the thirty-day period, the proposal shall be deemed consistent with Section 2081(b)(3).

**8.3.2. Calculate the Endowment Funds Deposit.** After obtaining CDFW written approval of the HM lands, long-term management plan, and Endowment Manager, Permittee shall prepare an endowment assessment (equivalent to a Property Analysis Record (PAR)) to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment Deposit Amount). Note that the endowment for the easement holder should not be included in this calculation. The Permittee shall submit to CDFW for review and approval the results of the endowment assessment before transferring funds to the Endowment Manager.

**8.3.2.1. Capitalization Rate and Fees.** Permittee shall obtain the capitalization rate from the selected Endowment Manager for use in calculating the endowment assessment and adjust for any additional administrative, periodic, or annual fees.

**8.3.2.2. Endowment Buffers/Assumptions.** Permittee shall include in the endowment assessment assumptions the following buffers for endowment establishment and use that will substantially ensure long-term viability and security of the Endowment:

**8.3.2.2.1. 10 Percent Contingency.** A 10 percent contingency shall be added to each endowment calculation to hedge against underestimation of the fund, unanticipated expenditures, inflation, or catastrophic events.

**8.3.2.2.2. Three Years Delayed Spending.** The endowment shall be established assuming spending will not occur for the first three years after full funding.

**8.3.2.2.3. Non-annualized Expenses.** For all large capital expenses to occur periodically but not annually such as fence replacement or well replacement, payments shall be withheld from the annual disbursement until the year of anticipated need or upon request to Endowment Manager and CDFW.

**8.3.3. Transfer Long-term Endowment Funds.** Permittee shall transfer the long-term endowment funds to the Endowment Manager upon CDFW approval of the Endowment Deposit Amount identified above.

**8.3.4. Management of the Endowment.** The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and

manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

Notwithstanding Probate Code sections 18501-18510, the Endowment Manager shall not make any disbursement from the Endowment that will result in expenditure of any portion of the principal of the endowment without the prior written approval of CDFW in its sole discretion. Permittee shall ensure that this requirement is included in any agreement of any kind governing the holding, investment, management, and/or disbursement of the Endowment funds.

Notwithstanding Probate Code sections 18501-18510, if CDFW determines in its sole discretion that an expenditure needs to be made from the Endowment to preserve the conservation values of the HM lands, the Endowment Manager shall process that expenditure in accordance with directions from CDFW. The Endowment Manager shall not be liable for any shortfall in the Endowment resulting from CDFW's decision to make such an expenditure.

- 8.4. Reimburse CDFW.** Permittee shall reimburse CDFW for all reasonable costs incurred by CDFW related to issuance and monitoring of this ITP, including, but not limited to, transaction fees, account set-up fees, administrative fees, title and documentation review and related title transactions, costs incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW.

- 9. Security:** The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 7 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

- 9.1. Security Amount.** The Security shall be in the amount of **\$3,702,258** or in the amount identified in Condition of Approval 8.1 specific to the obligation that has not been completed. This amount is determined by CDFW based on the cost estimates identified in Condition of Approval 8.1 above, sufficient for CDFW or its contractors to complete land acquisition, property enhancement, startup costs, initial management, long-term management, and monitoring.
- 9.2. Security Form.** The Security shall be in the form of an irrevocable letter of credit (see Attachment 3) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.
- 9.3. Security Timeline.** The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.
- 9.4. Security Holder.** The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.

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- 9.5. Security Transmittal.** Permittee shall transmit security to CDFW by way of an approved instrument such as an escrow agreement, irrevocable letter of credit, or other.
- 9.6. Security Drawing.** The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.
- 9.7. Security Release.** The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:
- Written documentation of the acquisition of the HM lands;
  - Confirmation that start-up activities have been completed, as per Condition of Approval 8.2.5;
  - Copies of all executed and recorded conservation easements;
  - Written confirmation from the approved Endowment Manager of its receipt of the full Endowment; and
  - Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM lands and record any required conservation easements no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

#### **IX. Amendment:**

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable laws. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

#### **X. Stop-Work Order:**

If CDFW determines the Permittee has violated any term or condition of this ITP or has engaged in unlawful take, CDFW may issue Permittee a written stop-work order instructing the Permittee to suspend any Covered Activity for an initial period of up to 30 days or risk suspension or revocation of this ITP. CDFW can issue a stop-work order to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the

Incidental Take Permit  
No. 2081-2025-033-05  
**IRVINE RANCH WATER DISTRICT**  
**SYPHON RESERVOIR IMPROVEMENT PROJECT**

unauthorized take of any CESA endangered, threatened, or candidate species, regardless of whether that species is a Covered Species under this ITP. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 30 additional days.

If Permittee fails to remedy the violation or to comply with a stop-work order, CDFW may proceed with suspension and revocation of this ITP. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

#### **XI. Compliance with Other Laws:**

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local laws.

#### **XII. Notices:**

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by email or registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2025-033-05) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Erinn Wilson-Olgin, Regional Manager  
California Department of Fish and Wildlife  
South Coast Region 5  
Attn: CESA Permitting Program  
3883 Ruffin Road  
San Diego, CA 92123  
[R5CESA@wildlife.ca.gov](mailto:R5CESA@wildlife.ca.gov)

and a copy to:

Habitat Conservation Planning Branch  
California Department of Fish and Wildlife  
Attention: CESA Permitting Program  
Post Office Box 944209  
Sacramento, CA 94244-2090  
[CESA@wildlife.ca.gov](mailto:CESA@wildlife.ca.gov)

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**IRVINE RANCH WATER DISTRICT**  
**SYPHON RESERVOIR IMPROVEMENT PROJECT**

Unless Permittee is notified otherwise, CDFW's Regional Representative for purposes of addressing issues that arise during implementation of this ITP is:

Jennifer Turner, Senior Environmental Scientist Supervisory  
California Department of Fish and Wildlife  
South Coast Region 5  
3883 Ruffin Rd.  
San Diego, CA 92123  
(858) 539-9109  
[Jennifer.Turner@wildlife.ca.gov](mailto:Jennifer.Turner@wildlife.ca.gov)

### **XIII. Compliance with the California Environmental Quality Act:**

CDFW's issuance of this ITP is subject to CEQA. CDFW is a responsible agency pursuant to CEQA with respect to this ITP because of prior environmental review of the Project by the lead agency, Irvine Ranch Water District. (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Final Environmental Impact Report for the Syphon Reservoir Improvement Project (SCH No.: 2019080009; EIR), that was certified by the Irvine Ranch Water District on July 27, 2021, Addendum No. 2 to the Syphon Reservoir Improvement Project Final Environmental Impact Report (SCH No.: 2019080009; Addendum 2), dated May 2025, and Addendum No. 3 to the Syphon Reservoir Improvement Project Final Environmental Impact Report (SCH No.: 2019080009; Addendum 3), dated October 2025. At the time the Lead Agency certified the EIR, approved the Addendums, and approved the Project, it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

This ITP, along with CDFW's related CEQA findings, which are available as a separate document, provide evidence of CDFW's consideration of the lead agency's EIR and Addendums for the Project and the environmental effects related to issuance of this ITP (CEQA Guidelines, § 15096, subd. (f)). CDFW finds that issuance of this ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, CDFW finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, and that adherence to and implementation of the Conditions of Approval imposed by CDFW through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. CDFW consequently finds that issuance of this ITP will not result in any significant, adverse impacts on the environment.

### **XIV. Findings Pursuant to CESA:**

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds. (a)-(b), 783.5, subd. (c)(2).)

CDFW finds based on substantial evidence in the ITP application, the Syphon Reservoir Improvement

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Project Final Environmental Impact Report, Addendum No. 2, and Addendum No. 3 to the Syphon Reservoir Improvement Project Final Environmental Impact Report, the results of site visits and consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of avoidance zones; (3) worker education; and (4) Monthly Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of **99.83 acres** of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to

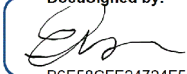
Incidental Take Permit  
No. 2081-2025-033-05  
**IRVINE RANCH WATER DISTRICT**  
**SYPHON RESERVOIR IMPROVEMENT PROJECT**

amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

**XV. Attachments:**

FIGURE 1	Regional Map of Project Area
FIGURE 2	Detailed Map of Project Site
FIGURE 3	Map of Off-Site Mitigation Site, Relative to Project Site
FIGURE 4	Impacts to Natural Communities
FIGURE 5	Project Impacts by Type
FIGURE 6	Irvine Lake North Floral Resource Inventory
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Biologist Resume Form
ATTACHMENT 3	Letter of Credit Form

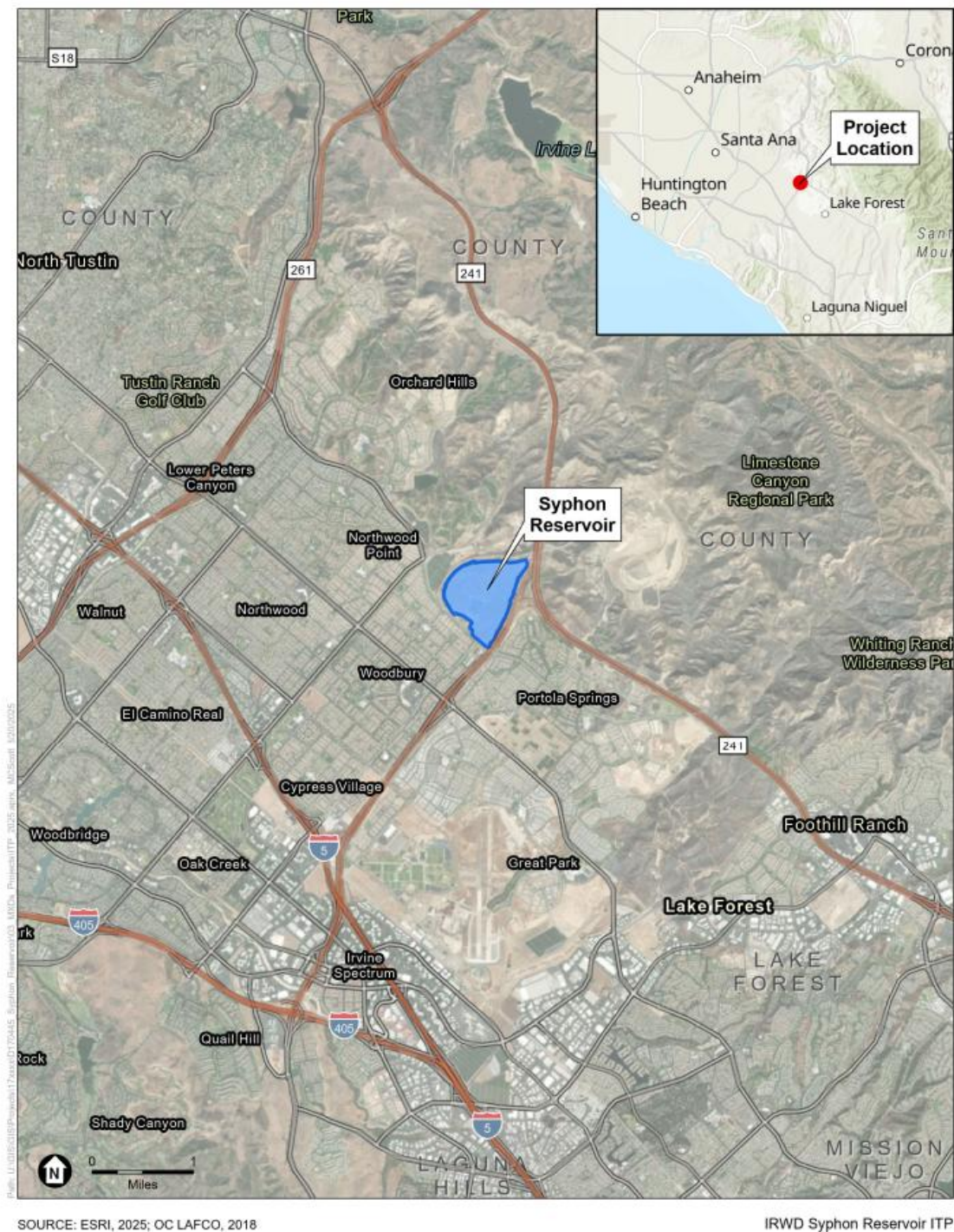
**ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE ON 12/15/2025**

DocuSigned by:  
  
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Erinn Wilson-Olgin, Regional Manager

South Coast Region 5

Incidental Take Permit  
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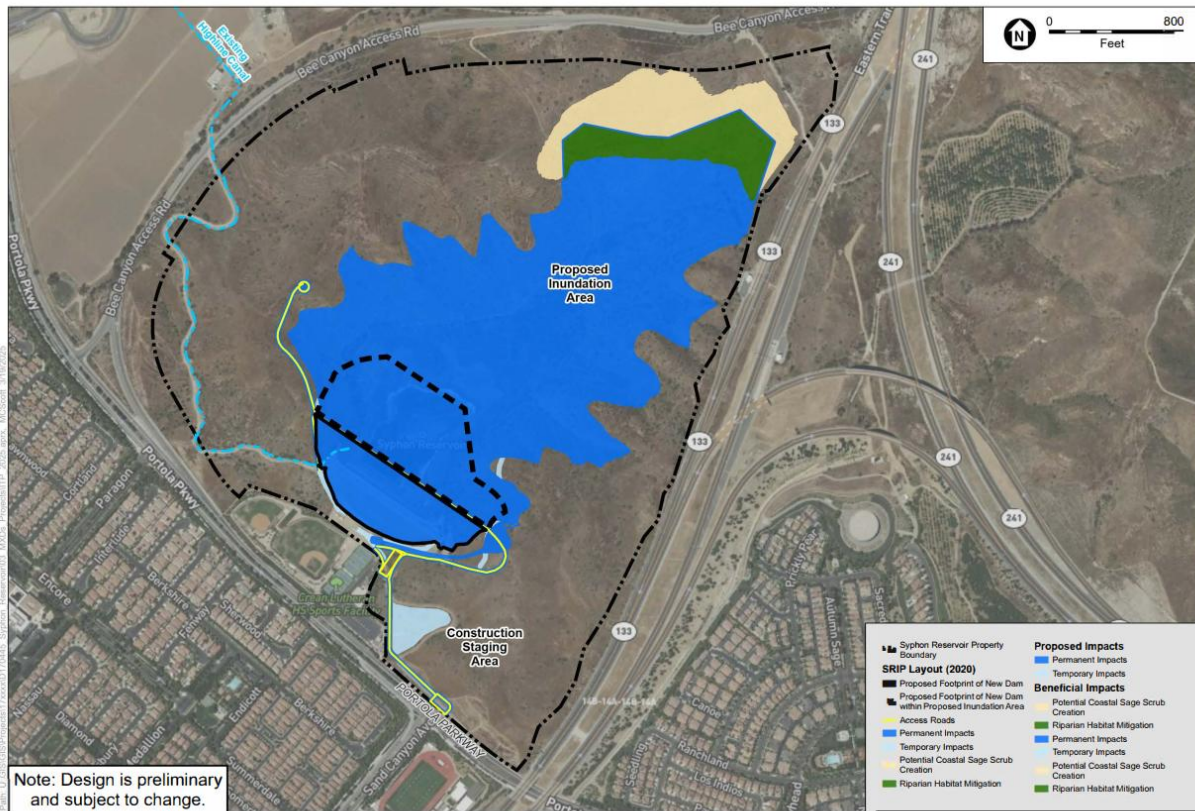


**Figure 1**  
Regional Map



Figure 1. Regional Map of Project Area





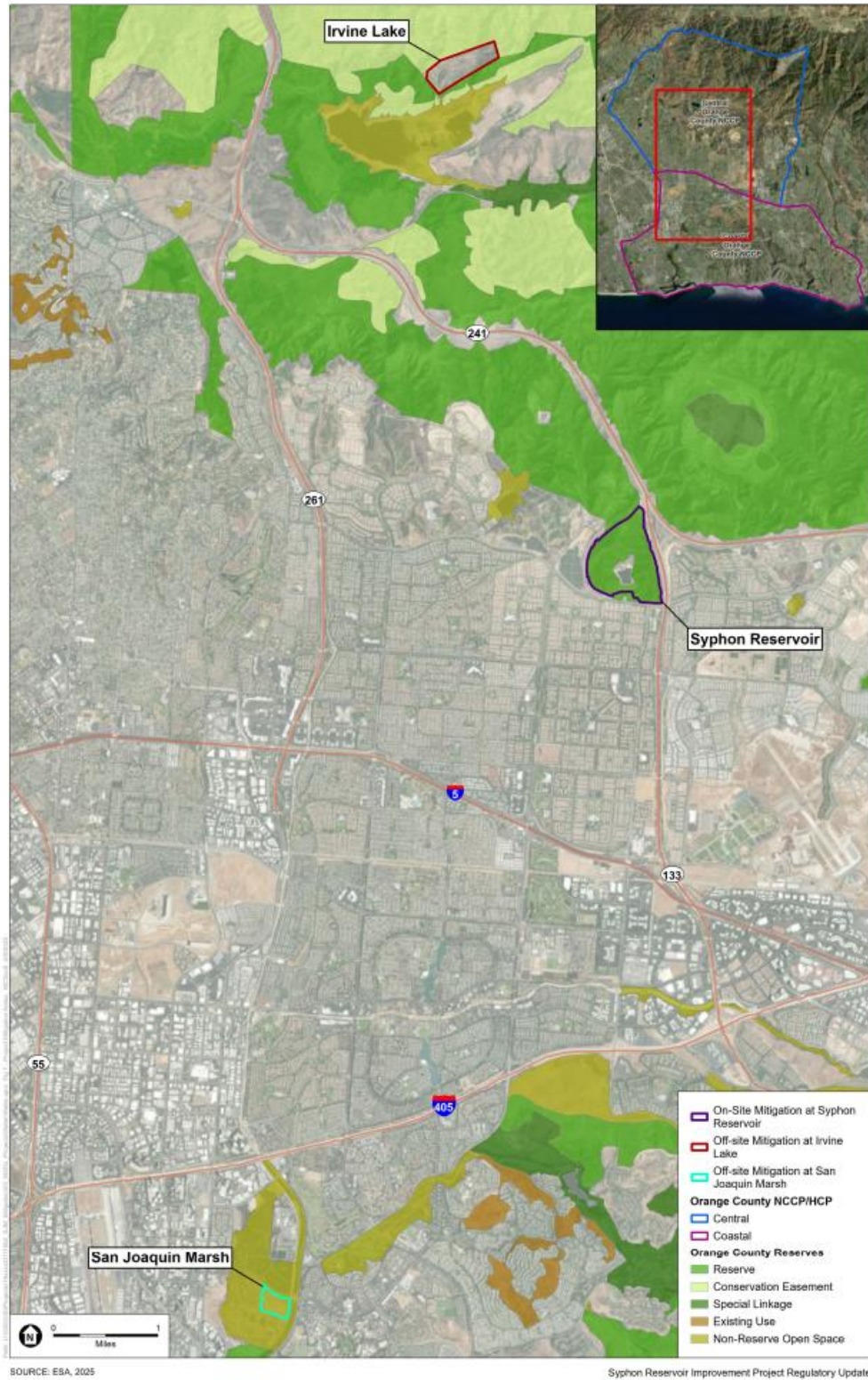
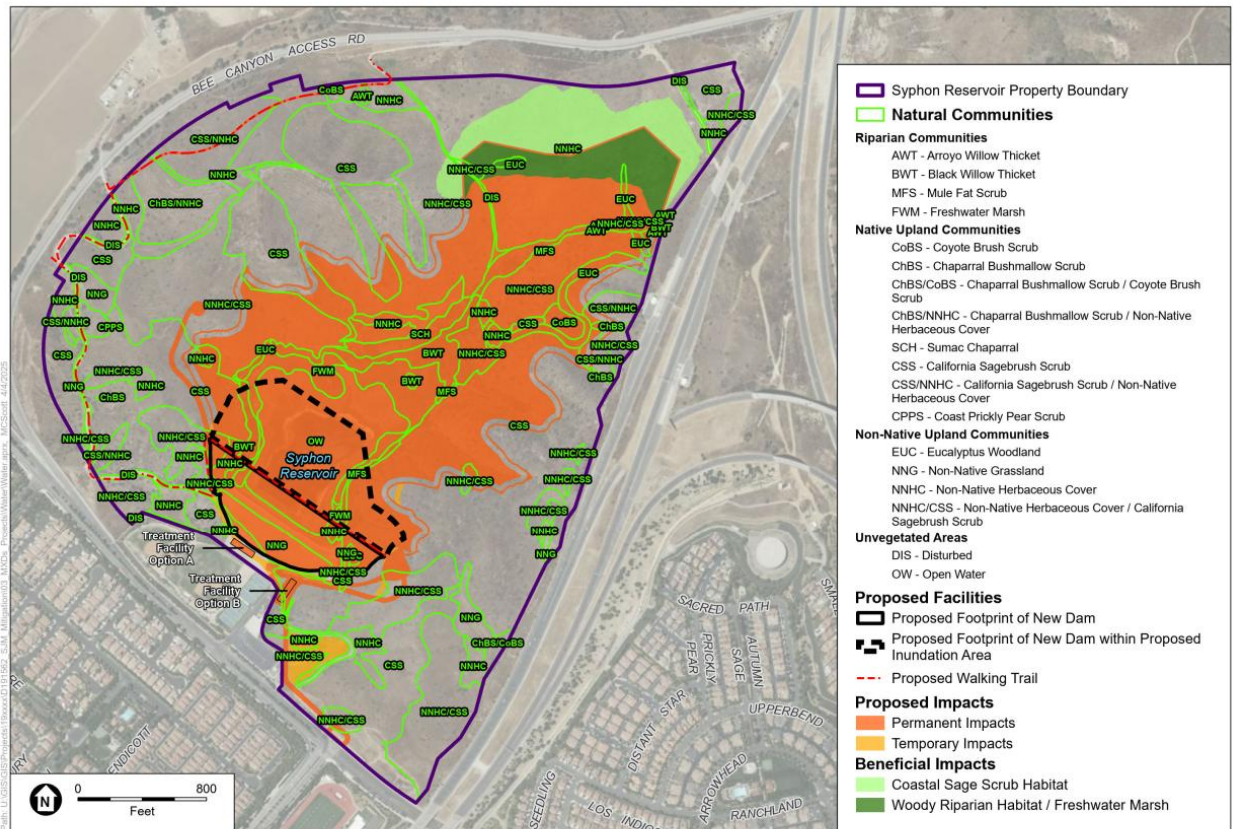


Figure 3. Map of Off-Site Mitigation Site, Relative to Project Site





SOURCE: ESRI, 2025

Syphon Reservoir Improvement Project Regulatory Update

Figure 4. Impacts to Natural Communities



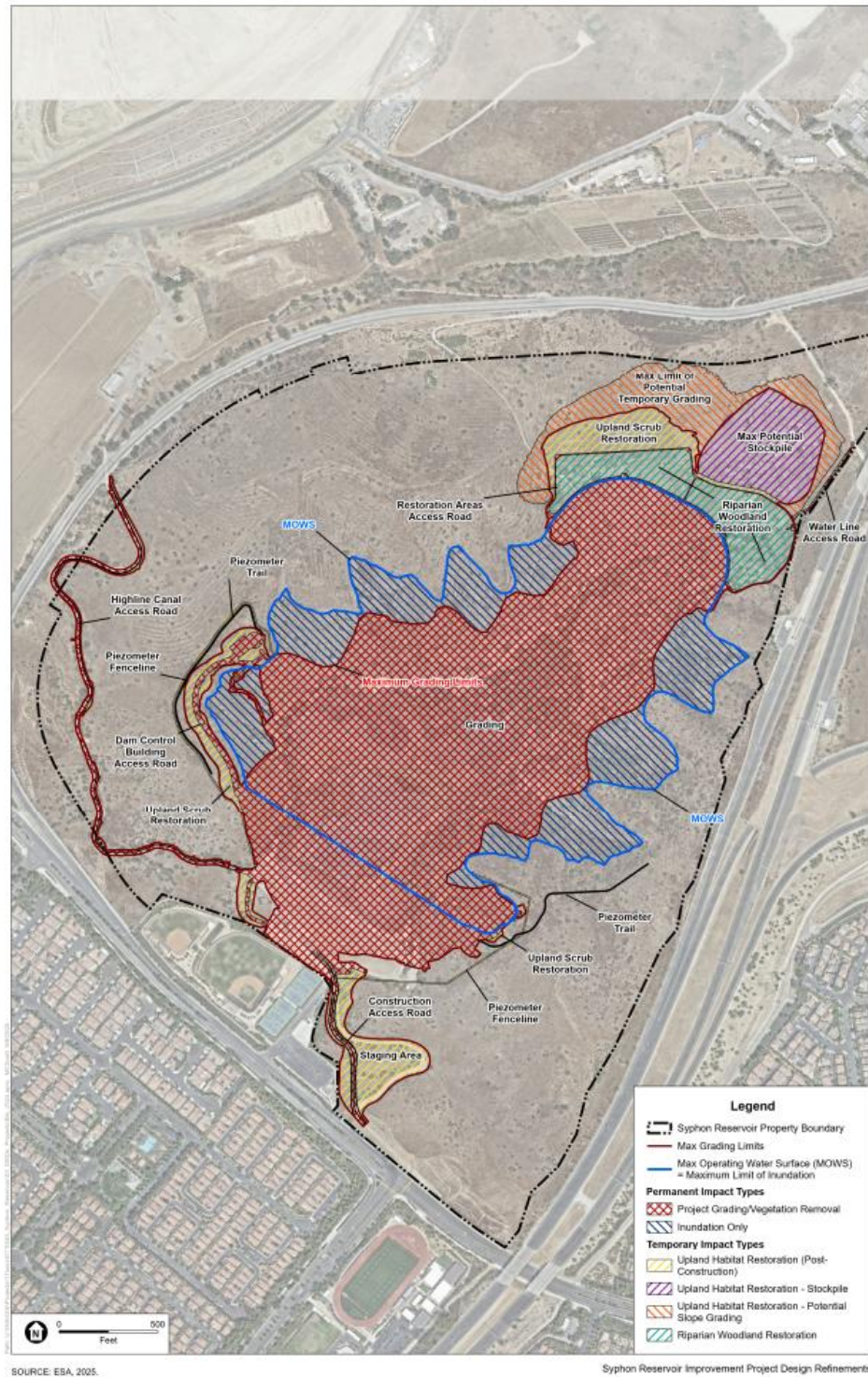


Figure 5. Project Impacts by Type

# IRVINE LAKE NORTH FLORAL RESOURCE INVENTORY

Family Name	Latin Name	Common Name	Habit <sup>a</sup>	Duration <sup>b</sup>	Flower Color <sup>c</sup>	Bloom Period <sup>d</sup>											
						Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Anacardiaceae	<i>Rhus ovata</i>	sugar bush	S/T	P	W-P,R												
Apiaceae	<i>Sanicula arguta</i>	sharp-toothed sanicle	H	P	Y												
Asteraceae	<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	coyote brush	S	P	W												
Asteraceae	<i>Corethrogyne filaginifolia</i>	common sandaster	H	P	W - P - Pu												
Asteraceae	<i>Cynara cardunculus</i> var. <i>flavescens</i>	cardoon	H	P	B/Pu												
Asteraceae	<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden yarrow	S	P	Y												
Asteraceae	<i>Gutierrezia californica</i>	California matchweed	SS	P	Y												
Asteraceae	<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	saw-toothed goldenbush	S	P	Y												
Asteraceae	<i>Heterotheca grandiflora</i>	telegraph weed	H	A/P	Y												
Asteraceae	<i>Isocoma menziesii</i> var. <i>vernonioides</i>	coastal goldenbush	S	P	Y												
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	H	A	W												
Asteraceae	<i>Malacothrix saxatilis</i> var. <i>tenuifolia</i>	short-leaved cliff aster	H/SS	P	W												
Asteraceae	<i>Pseudognaphalium californicum</i>	Ladies' tobacco	H	A/P	W												
Asteraceae	<i>Pseudognaphalium microcephalum</i>	Wright's cudweed	H	P	W/Op												
Asteraceae	<i>Senecio vulgaris</i>	common groundsel	H	A	W - Y												
Asteraceae	<i>Silybum marianum</i>	milk thistle	H	A/P	P - Pu												
Asteraceae	<i>Sonchus asper</i> ssp. <i>asper</i>	sow thistle	H	A	W												
Boraginaceae	<i>Amsinckia menziesii</i>	common fiddleneck	H	A	OY												
Brassicaceae	<i>Hirschfeldia incana</i>	short-pod mustard	H	A/P	Y												
Convolvulaceae	<i>Calystegia macrostegia</i> ssp. <i>arida</i>	Southern California morning glory	V	P	W - P												

Family Name	Latin Name	Common Name	Habit <sup>a</sup>	Duration <sup>b</sup>	Flower Color <sup>c</sup>	Bloom Period <sup>d</sup>											
						Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Cucurbitaceae	<i>Marah macrocarpa</i>	chilicothe	V	P	W												
Euphorbiaceae	<i>Euphorbia albomarginata</i>	rattlesnake sandmat	H	P	W												
Fabaceae	<i>Acemison glaber</i> var. <i>glaber</i>	deerweed	SS	P	Y												
Fabaceae	<i>Lathyrus vestitus</i> var. <i>vestitus</i>	hillside pea	H	P	L – Pu												
Fabaceae	<i>Medicago polymorpha</i>	California burclover	H	A	Y												
Fabaceae	<i>Parkinsonia aculeata</i>	Mexican palo verde	T	P	Y												
Geraniaceae	<i>Erodium cicutarium</i>	redstem filaree	H	A	P – Pu												
Hydrophyllaceae	<i>Phacelia ramosissima</i>	branching phacelia	H	P	W/B/L												
Hydrophyllaceae	<i>Phacelia parryi</i>	Parry's phacelia	H	A	Pu												
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed grass	H	P	B/Pu/VW												
Lamiaceae	<i>Salvia apiana</i>	White sage	S	P	W												
Lamiaceae	<i>Salvia mellifera</i>	black sage	S	P	W/B/L												
Liliaceae	<i>Calochortus catalinae</i>	Catalina mariposa lily	H	P	W – Pu												
Malvaceae	<i>Malacothamnus fasciculatus</i> var. <i>laxiflorus</i>	splendid bushmallow	S	P	P												
Myrtaceae	<i>Eucalyptus camaldulensis</i>	red gum	T	P	W												
Nyctaginaceae	<i>Mirabilis laevis</i> var. <i>crassifolia</i>	wishbone bush	S	P	P – Pu/R												
Onagraceae	<i>Clarkia botata</i>	punch bowl godetia	H	A	L – P												
Orobanchaceae	<i>Castilleja exserta</i> ssp. <i>exserta</i>	purple owls' clover	H	A	W, Y, P – Pu												
Orobanchaceae	<i>Castilleja foliolosa</i>	woolly paintbrush	H/SS	P	O-R												
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	H	A/P	O or Y												
Phrymaceae	<i>Diplacus auranticus</i>	orange bush monkeyflower	S	P	Y-O												
Plantaginaceae	<i>Plantago erecta</i>	California plantain	H	A	Op												
Plantaginaceae	<i>Antirrhinum coulterianum</i>	Coulter's snapdragon	H	A	W												
Polygonaceae	<i>Eriogonum fasciculatum</i> var. <i>foliosum</i>	California buckwheat	S	P	W												
Rosaceae	<i>Adenostoma fasciculatum</i> var. <i>fasciculatum</i>	chamise	S	P	W												
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon	T	P	W												

Family Name	Latin Name	Common Name	Habit <sup>a</sup>	Duration <sup>b</sup>	Flower Color <sup>c</sup>	Bloom Period <sup>d</sup>											
						Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Rubiaceae	<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	narrow-leaved bedstraw	H	P	R – Y												
Rubiaceae	<i>Galium aparine</i>	goose grass	H	A	W												
Solanaceae	<i>Solanum umbelliferum</i> var. <i>umbelliferum</i>	blue witch nightshade	SS	P	L – B/Pu												
Viburnaceae	<i>Sambucus mexicana</i>	blue elderberry	T	P	W-B												

SOURCE: Blooming species observed on ILN property as noted during the April 2, 2025 site visit. Floral information is noted as identified within the Jepson Flora Project (eds.) 2025. *Jepson eFlora*, <https://ucjeps.berkeley.edu/eflora/> [accessed on April 18, 2025].

NOTES: Common names, habits, flower colors and bloom period as noted within the Jepson eFlora

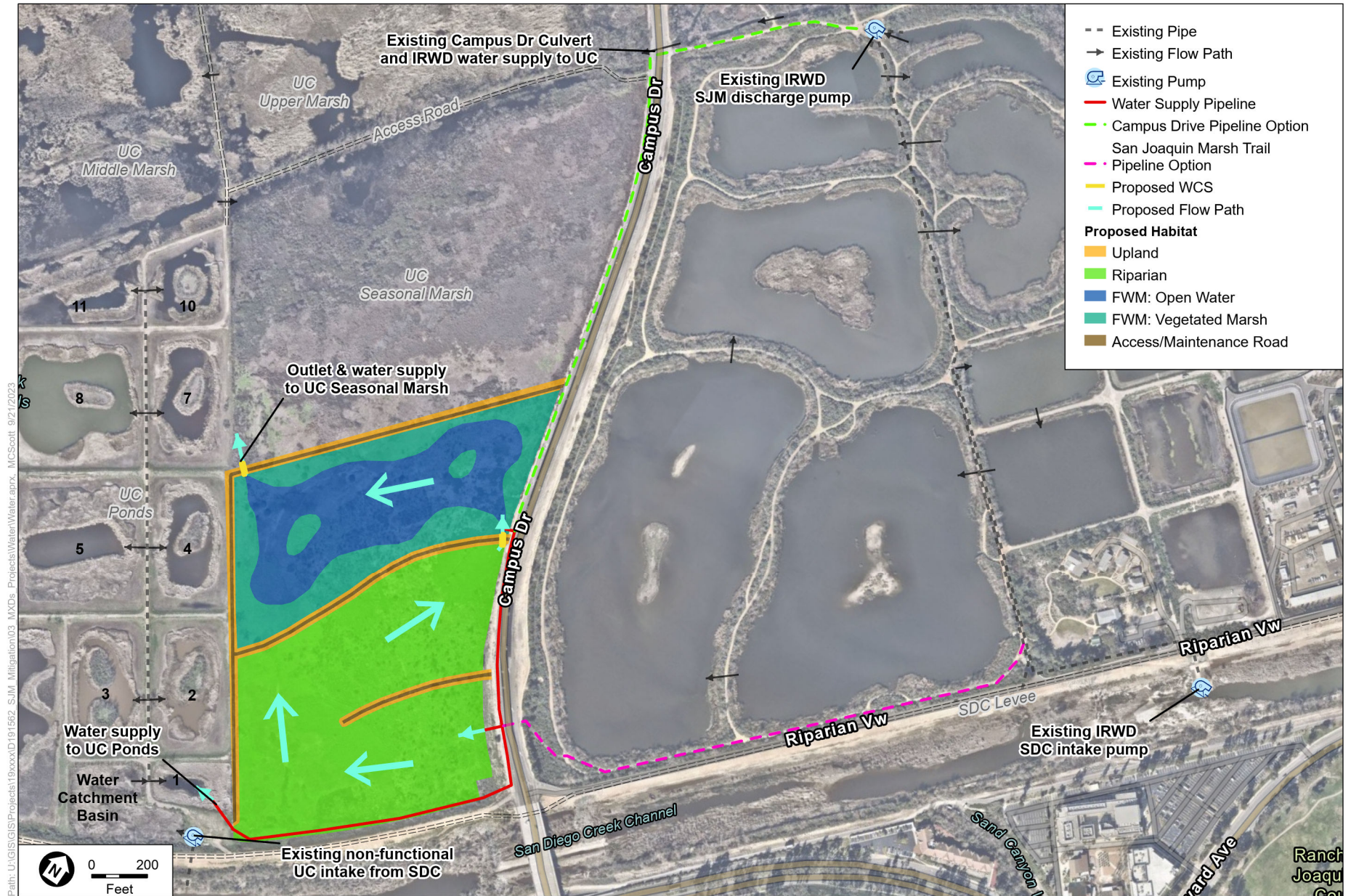
- Habit: Tree (T), Shrub (S), Subshrub (SS), Vine (V), Herbaceous (H)
- Duration: Annual (A), Perennial (P)
- Flower Color: White (W), Red (R), Yellow (Yellow), Violet (V), Lavender (L), Pink (P), Purple (Pu), Blue (B), Orange (O), Opaque (Op), - represents a range between the two colors.
- Bloom Period: Suitable bloom period for floral resources identified as February through November.

Figure 6. Irvine Lake North Floral Resource Inventory

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# Exhibit "C"



SOURCE: ESA, 2023; Mapbox, 2023; IRWDNAIP

Note: FWM=Freshwater Marsh, SDC=San Diego Creek, WCS=Water Control Structure

Syphon Reservoir Improvement Project EIR Addendum

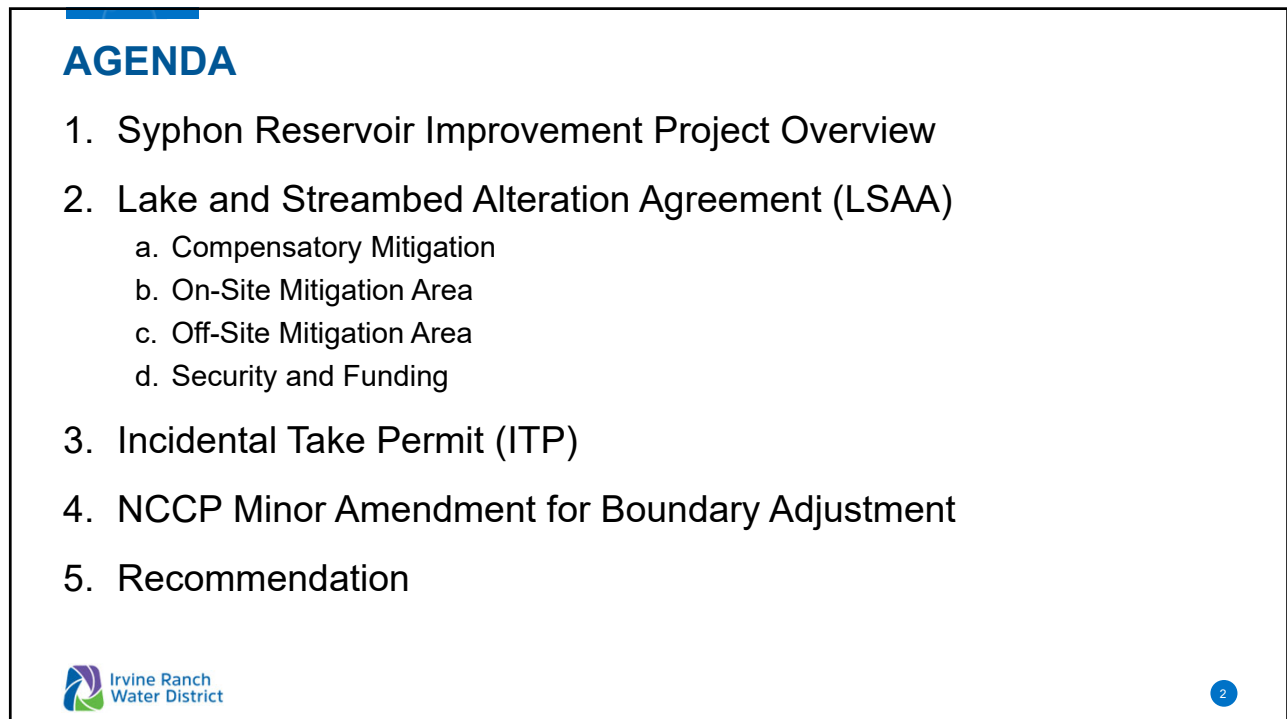
**Figure 2**  
Proposed SRIP Mitigation Project

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## SYPHON RESERVOIR IMPROVEMENTS PROJECT OVERVIEW

Access Road Improvements - Complete ✓

Syphon Dam

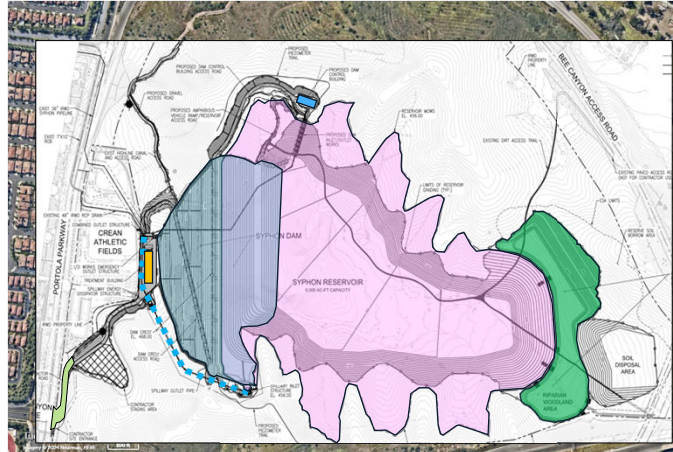
Reservoir Max Water Level

Treatment Building

Dam Control Building

Riparian Wetland and Woodland Area

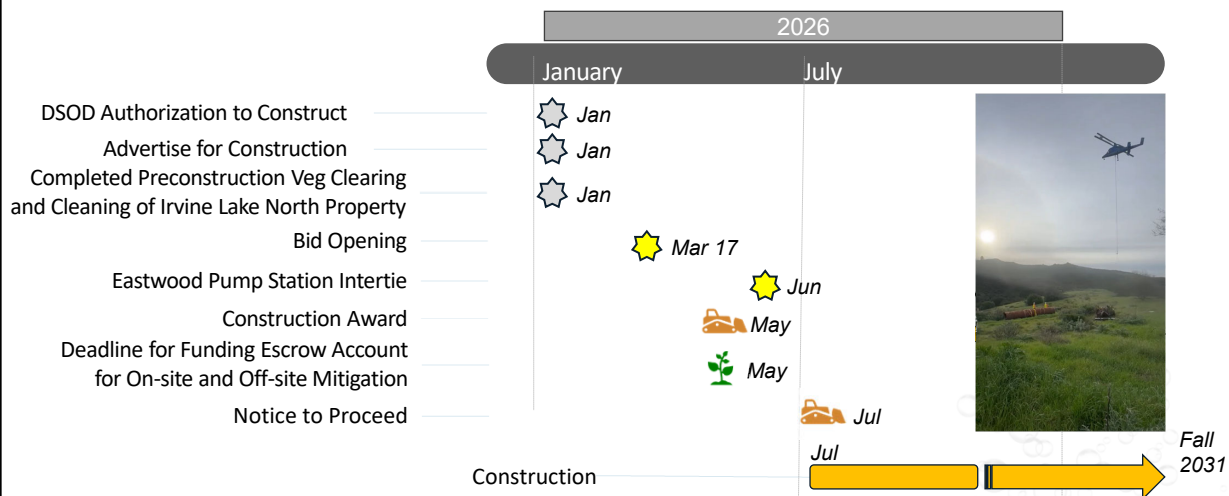
Spillway Pipeline



3

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## SYPHON RESERVOIR IMPROVEMENTS - SCHEDULE



4

4

## LAKE AND STREAMBED ALTERATION AGREEMENT

- A Lake and Streambed Alteration Agreement (LSAA) is required for construction of the Syphon Reservoir Improvement Project
- Requisite mitigation is based on impacts to aquatic resources

Habitat	Baseline Impacts	Mitigation (On-Site)		Mitigation (Off-Site)	
		Mitigation Ratio	Acreage Credited	Mitigation Ratio	Acreage Credited
Woody Riparian	6.2 acres	2:1	6.0 acres	> 4:1	13.24 acres
Tule Marsh	5.33 acres			> 2:1	12.08 acres
<b>TOTAL</b>	<b>11.53 acres</b>		<b>6.0 acres</b>		<b>25.32 acres</b>

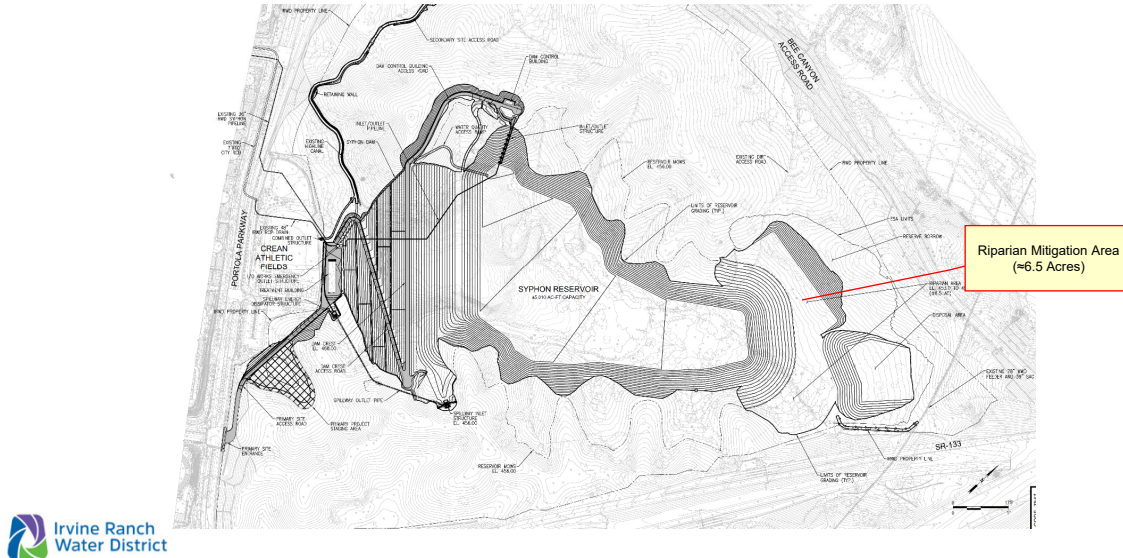
## COMPENSATORY MITIGATION REQUIREMENTS

- Conserve and manage on-site and off-site mitigation areas in perpetuity.
- Grant deed amendments for on-site and off-site properties:
  - Add CDFW as a third-party beneficiary;
  - Require long-term maintenance to be funded through the District's annual adopted Operating Budget; and
  - If IRWD no longer owns the property, conservation easements would need to be recorded on the properties.



## ON-SITE MITIGATION AREA

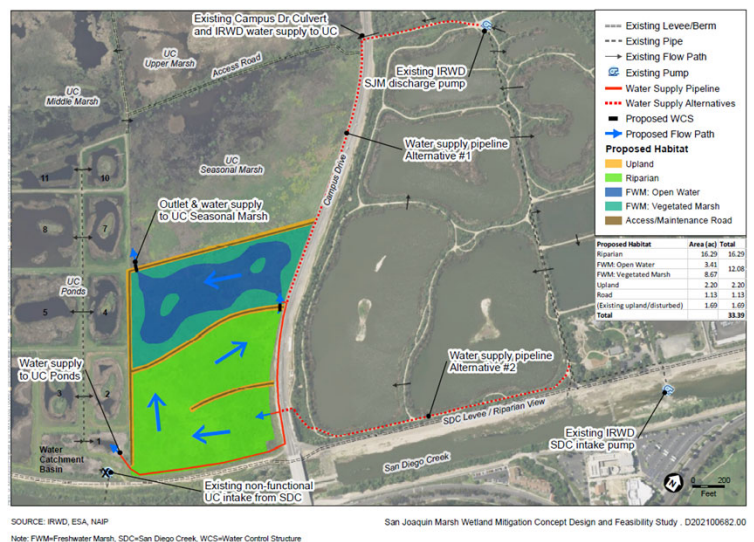
- Create and sustain > 6.0 acres of native woody riparian vegetation



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## OFF-SITE MITIGATION AREA

- Establish open water, freshwater marsh, and woody riparian habitat;
- Utilize 33.4 acres of IRWD's property south of Campus Drive;
- Coordinating with UCI;
- Entire 33.4 acres would serve to fulfill mitigation - no future mitigation credits; and
- Addition of Project 13159 to the Capital Budget in the amount of \$20 million.



8

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## SECURITY AND FUNDING

- Escrow accounts for each mitigation area
- Required 60 days before initiating Project activities
- Equivalent to amounts required to successfully establish each mitigation area:
  - On-Site Mitigation Area: \$10 million
  - Off-Site Mitigation Area: \$20 million
- Escrow accounts to be drawn down as mitigation area establishment tasks are completed (e.g. design, site prep, earthwork, vegetation)



9

9

## INCIDENTAL TAKE PERMIT

- Issued in December 2025 by CDFW for potential impacts to Crotch's bumble bee
  - A candidate species under the California Endangered Species Act
- Irvine Lake North will provide full compensatory mitigation
  - No future credits
  - Also mitigates for Project impacts to upland habitat
- Requires a Conservation Easement (CE) be placed on the property
  - CE holder and Land Manager must be separate entities
  - Proposed CE holder: Southwest Resource Management Association (SRMA)
  - Proposed Land Manager: the Irvine Ranch Conservancy
- Requires IRWD to fund an endowment for preservation and long-term management
  - Estimated to not exceed \$2 million



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## NCCP MINOR AMENDMENT – BOUNDARY ADJUSTMENT

- Minor Amendment to the Orange County Coastal Natural Community Conservation Plan / Habitat Conservation Plan (NCCP/HCP)
- Approximately 68.5 acres would be removed from the Reserve
- IRWD's 98.2-acre Irvine Lake North property would be added
- No net loss to the Reserve
- NCCP requirements would be added to the ITP Conservation Easement

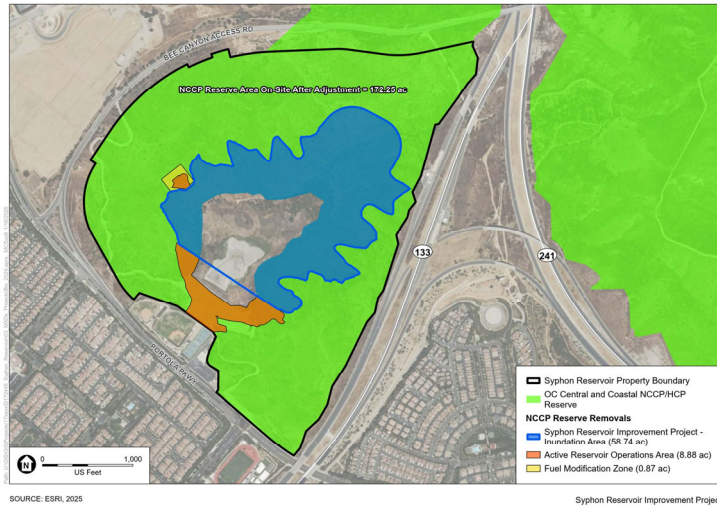


Figure 3  
NCCP/HCP Reserve Boundary Adjustments



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## RECOMMENDATION

That the Board authorize:

- Execution of the Lake and Streambed Alteration Agreement between the California Department of Fish and Wildlife and IRWD, subject to non-substantive changes approved by special legal counsel;
- Execution of the grant deed amendments and escrow funding agreements in amounts not to exceed a total of \$30 million with the California Department of Fish and Wildlife for establishment of the On-Site and Off-Site Mitigation Areas required by the Lake and Streambed Alteration Agreement, subject to review by general legal counsel;
- Execution of a Conservation Easement and associated agreements required by the Incidental Take Permit, including establishment of an endowment for long-term preservation and maintenance of IRWD's Irvine Lake North property in an amount not to exceed \$2 million, subject to final review by general legal counsel; and
- The addition of Project 13519 to the capital budget in the amount of \$20,000,000 for the Syphon Reservoir Off-Site Mitigation Area project.



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12