

AGENDA
IRVINE RANCH WATER DISTRICT
ENGINEERING AND OPERATIONS COMMITTEE MEETING
TUESDAY, JULY 21, 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=m67f401f70fd8332a7ee6b183fe231488>

Meeting Number (Access Code): 2492 213 2953

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 1:30 p.m.

ATTENDANCE Committee Chair: Doug Reinhart _____
 Committee Member: John Withers _____

<u>ALSO PRESENT</u>	Paul Cook	_____	Kevin Burton	_____	Wendy Chambers	_____
	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 before 8:30 a.m. on Tuesday, July 21, 2026, and your remarks will be added to the record at the meeting.

COMMUNICATIONS

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.

INFORMATION

4. TECHNICAL INFORMATION MANAGEMENT SYSTEM
IMPLEMENTATION – GIATPAIBOON / REMPEL / COLSTON / BURTON

Recommendation: Receive and file.

5. IRWD NON-POTABLE WATER STORAGE ANNUAL MANAGEMENT
PLAN FOR FISCAL YEAR 2026-27 – ZEPEDA / CHAMBERS

Recommendation: Receive and file.

OTHER BUSINESS

6. Directors' Comments
7. Adjournment

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. 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.

July 21, 2026

Prepared by: J. Rempel / S. Giatpaiboon

Submitted by: J. Colston / K. Burton

Approved by: Paul A. Cook 

ENGINEERING AND OPERATIONS COMMITTEE

TECHNICAL INFORMATION MANAGEMENT SYSTEM IMPLEMENTATION

SUMMARY:

In February 2024, the IRWD Board approved the acquisition and implementation of the Accelerated Technology Laboratories, Inc. (ATL) software package for IRWD's new Technical Information Management System (TIMS). Since then, staff has completed the configuration and implementation of TIMS and has successfully transitioned from the previous antiquated system. On August 1, 2025, TIMS went live with the successful implementation of field monitoring and sample collection through the iMobile application, the configuration of laboratory methods, automated data reporting, streamlined instrument data transfers, customer data access portal, and the transition to paperless data record management that ensures regulatory compliance and water quality reporting requirements are met. Staff continue to develop and implement additional automated features and functionality to the TIMS such as expanded data dashboards and integrations with other District software systems.

BACKGROUND:

From 1997 to July 2025, the District utilized LabWorks Laboratory Information Management System (LIMS) to record and retrieve laboratory data. During this time, LabWorks underwent ownership and company changes that impacted the quality of the software and services provided by the company. In recent years (since Perkin Elmer sold the company), LabWorks was not able to provide the support needed to meet the new requirements of IRWD's Environmental Laboratory Accreditation Program (ELAP), mobile application needs, regulatory compliance and water quality regulatory reporting requirements, and data management needs.

In 2023, the District evaluated multiple TIMS software packages to determine how best to meet the District's needs. After a thorough evaluation of multiple systems, ATL was selected as IRWD's next TIMS. ATL's software was selected because it encompasses the complete package for managing the collection of samples in the field to the analytical testing and reporting capabilities in the laboratory, and the accessibility of data component that other software packages lacked.

TIMS Implementation Results:

Staff has completed the configuration and implementation of the TIMS, which includes Titan LIMS, Titan iMobile, and Result Point software. The new software will meet ongoing and future needs to maintain the District's ELAP accreditation, ensure regulatory compliance and water quality reporting requirements are met, manage field monitoring through a mobile application, and interface a streamlined instrument-technical information transfer.

Since implementation, staff estimates the percentage of data directly entered or electronically uploaded to the TIMS is approximately 86% compared to only 5% in the previous LIMS. The TIMS is now able to track and notify whether sample collection is completed, monitor and notify if permit limits are exceeded, and utilize other automated notifications. Tracking, monitoring, and control features have been implemented with additional capabilities in development. Work done in the TIMS continues to progress towards paperless workflows. Additionally, a customer portal, Result Point, is now being utilized by District staff, with plans to develop a data dashboard that will be useful for stakeholders to quickly view results.

Next Steps:

After the full implementation of the remaining features in the TIMS for the Water Quality and Regulatory Compliance Department, opportunities to utilize this system in other IRWD departments will be developed. Staff are exploring the use of application programming interface (API) connections from the TIMS to other systems, including the Water Information Management System (WIMS) utilized by Water Operations for managing SCADA and other operational data, as well as Geographic Information Systems (GIS) software such as ArcGIS and Power BI, which would allow the 2-way data transfers and integration of TIMS data to other applications.

At the Committee meeting, staff will utilize a PowerPoint presentation, provided as Exhibit “A,” to further discuss the successful implementation of the TIMS, along with the next steps for its expanded use.

FISCAL IMPACTS:

No change in costs has occurred since approval by the Board in 2024. The annual software as a service (SaaS) fee for Fiscal Year 2026-27 is \$160,872.

ENVIRONMENTAL COMPLIANCE:

This project is not subject to the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15061 (b) (3), in that CEQA applies only to projects that may result in a direct physical change in the environment or reasonably foreseeable indirect physical change in the environment.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit “A” – Technical Information Management System Project Update Draft Presentation





TECHNICAL INFORMATION MANAGEMENT SYSTEM: SUCCESSFUL IMPLEMENTATION

ENGINEERING AND OPERATIONS COMMITTEE MEETING
JULY 21, 2026

DRAFT

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AGENDA

Historical Background

Project Significance

Implementation Deliverables

Future Plans: What's next?

Questions





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HISTORICAL BACKGROUND



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What is the TIMS?

- An advanced database system that manages and stores technical (laboratory and field water quality) data
- Comprised of three software applications:
 - Titan iMobile – Field Mobile Application for Sample Collection Management
 - Titan LIMS – Primary laboratory data management application
 - Result Point – Internal Stakeholder Data Access Portal



Titan iMobile
Field Application



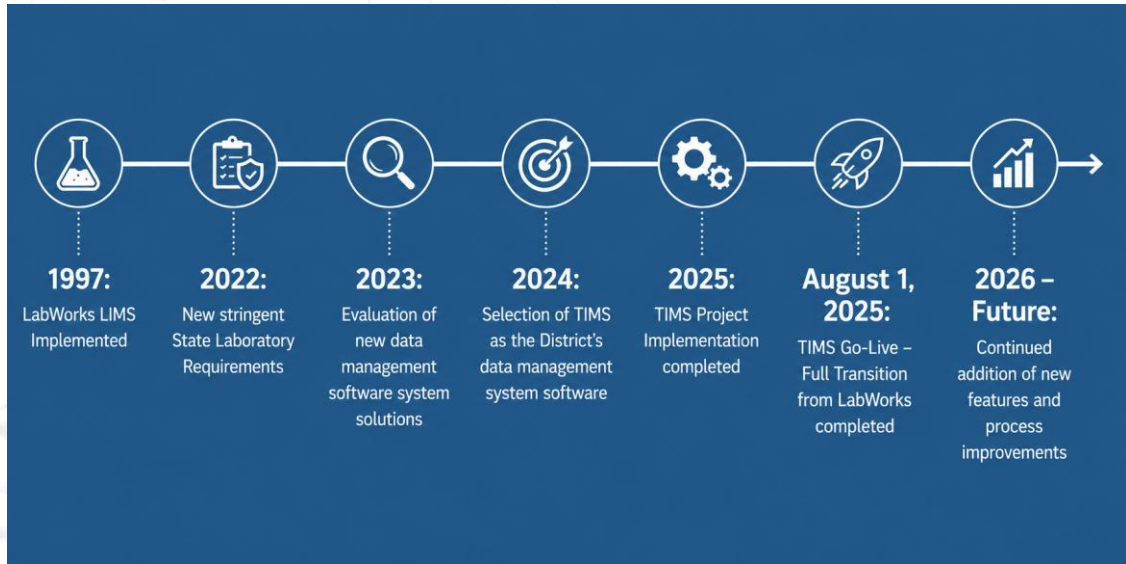
Titan Laboratory
Information
System (LIMS)



Result Point
Customer Portal

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The History of TIMS



PROJECT SIGNIFICANCE



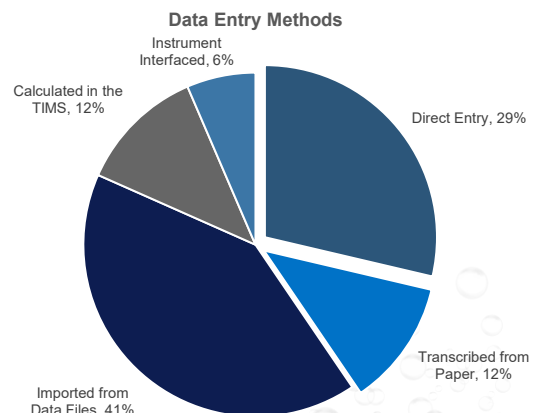
Why does TIMS matter?

1. High-quality water is a top priority for stakeholders
2. Laboratory data is how we prove quality
3. Higher quality data = better proof



Why does TIMS matter?

- The use of paper records is in the past; electronic records are the present and future
- Paper usage shrinking:
 - Previous LIMS ~95% transcribed from paper or copy-paste
- Majority of data is imported or direct entry
- Error reduction, minimize data transfers
- Aligns with IRWD's commitment to *Environmental Stewardship, Customer Care, Teamwork, and Innovation*



IMPLEMENTATION DELIVERABLES



Improved Control: Training

- Track analytical training in the TIMS
- Automated reports track expiring training
- Summary reports to view active trainings reduces need for actively managed spreadsheets

Organic Chemistry Tests	GLATPAIBOON	NGUYENCL	Aho	Lee	RamirezL
EPA METHOD 8260B Fixed Gases	1/19/2021			8/8/2023	10/17/2023
EPA METHOD 1631 (PFAS in WW)					
EPA METHOD 218.6 (HexChrom)C(WW)				10/16/2023	4/17/2024
EPA METHOD 218.7 (HexChrom)C(WW)				8/14/2023	3/6/2024
EPA METHOD 300.0 (Ammonia by IC)	11/16/2021			8/9/2023	12/22/2023
EPA METHOD 300.1 (Oxyhalides by IC)				10/3/2023	6/26/2024
EPA METHOD 314.0 (Perchlorate)				12/4/2023	
EPA METHOD 331.0 (Perchlorate)			10/23/2025		
EPA METHOD 522 (1,4 Dioxane)		3/23/2022		4/29/2025	
EPA METHOD 524.2 rev 4.1 (VOCs THDs in DW)		11/26/2020			
EPA METHOD 552.2 mod (Phthalates)		3/9/2022		6/11/2025	
EPA METHOD 553 (PFAS)		3/9/2023			
EPA METHOD 552.2 (HAA5 in DW)			12/16/2025		
EPA METHOD 624.1 (VOCs in WW)		11/4/2020	1/6/2026		
EPA METHOD 625.1 (OP-Peak)					
EPA METHOD 801.1 (DBP-GRO)					
EPA METHOD 8160B(GRO)				1/6/2026	
EPA METHOD 8160B (VOCs)					
EPA METHOD 8260B (1,4 Dioxane)				4/29/2024	
HACH TNT 872 (Vanillic Acid)		9/28/2020	10/14/2025	4/18/2023	8/16/2022
Odor (RM150B)		9/23/2020	10/18/2025	4/4/2023	10/4/2023
Cl36 C136M-19)					
pH (RM4500E-09)		9/24/2020	10/14/2025	4/18/2023	8/16/2022
TSV3 (RM2540B-E)		10/16/2020	10/16/2025	4/19/2023	8/11/2022
TSV3 (RM2540B-E)		10/16/2020	10/16/2025	4/19/2023	8/11/2022

Expiring DOCs Nguyen, Claire

Kue, Jimmy	DOC EPA 300.0	Expiration Date 07/18/2026
Ramirez, Lizandro	DOC SM 9215 B HPC	Expiration Date 07/09/2026

Improved Control: Data Entry

- Dozens of custom checks for data entry
- Prevent missing critical information from the start
- Prevent accidental modification/deletion of data



The following validation errors occurred while trying to save Lims.Sample:

WO-260526-03-01
-Missing Collection End
-Missing Collection Start
-Missing Collector
-Missing Sample Site



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Automation: Emails and Reports

- Automated email notifications for “suspect” data
- Near real-time, catch mistakes ASAP
- Reduces spread/propagation of errors

Suspect Collection Times

4/16/2026 14:30

SampleNumber	Collection Start	Collection End	ReceivedDate	Collector	ReceivedBy
WO-260414-17-02	4/14/2026 16:21	4/13/2026 8:00	4/14/2026 16:21		
Failed Conditions: Start after End					
WO-260416-08-04	4/16/2260 6:36	4/16/2260 6:36	4/16/2026 8:09		
Failed Conditions: Collected in Future; Received before Collection					



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Automation: Emails and Reports

- Input sample collection requirements
- Monitor samples are collected
- Automatic notifications
- Conditional formatting
 - Lots of info
 - Still readable
 - Actionable
- Catch missed sampling in time to recollect

Collection Period: 2026-05-24 - 2026-05-30

Analyte	Permit	Collected	Approved	Notes
pH, Field Aliquot Number(s) WO-260522-15-04-01-01 WO-260526-12-04-02-01	5 State 2026-05-25 Approved 2026-05-26 Approved	2	2	Daily, 5 per week
Settling Solids Aliquot Number(s) WO-260526-12-04-01-01	1 State 2026-05-26 Pending	1	0	
Total Dissolved Solids Aliquot Number(s) WO-260526-12-03-01-01	1 State 2026-05-26 Pending	1	0	



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Automation: Emails and Reports

- Permit limits in the TIMS
- Monitor warning and action limits
- Automatic notifications
- Faster response times
 - Opportunity to respond

<u>Sample Information</u>	
Site # WTR002_ACOO	
Site Name: LAWRP Effluent to Aliso Creek Ocean Outfall	
Sample # WO-260408-02-01	Collect Date: 4/8/26 12:47
<u>Permit/Result Information</u>	
Analyte: Total Dissolved Solids	Reported Result: 7.0 mg/L
Type: WARNING	Permit/Warning Limit: 5.00 mg/L
<u>Sample Information</u>	
Site # WTR002_ACOO	
Site Name: LAWRP Effluent to Aliso Creek Ocean Outfall	
Sample # WO-260408-02-02	Collect Date: 4/8/26 12:47
<u>Permit/Result Information</u>	
Analyte: Total Dissolved Solids	Reported Result: 11.0 mg/L
Type: LIMIT	Permit/Warning Limit: 10.00 mg/L



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Data Analytics & Performance Metrics Management

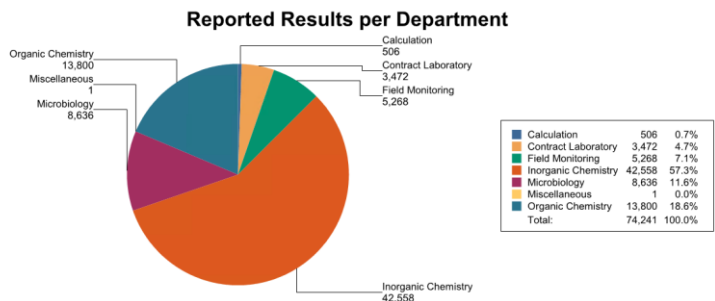
- Evaluate change over time
- Improved strategic planning
- Improved resource allocation management
- TIMS database structure facilitates better, easier reporting of metrics



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Data Analytics & Performance Metrics Management

- Customized reports to track various lab metrics
- Track sample container usage
- Year over Year changes
 - Sample collected
 - Results reported
- Turnaround times

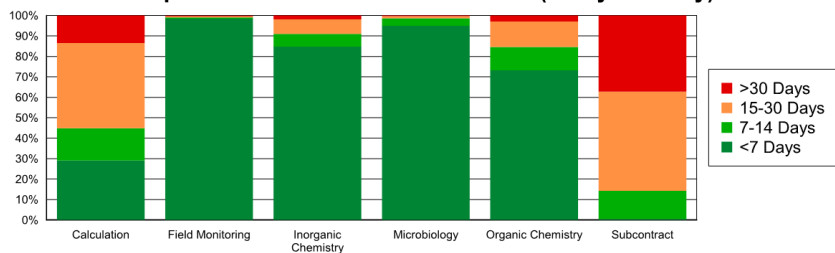


Department	Q1 2026	Q4 2025	Quarter-over-Quarter
Calculation	506	512	-1.2%
Contract Laboratory	3,472	3,325	4.4%
Field Monitoring	5,268	5,279	-0.2%
Inorganic Chemistry	42,558	39,317	8.2%
Microbiology	8,636	8,562	0.9%
Miscellaneous	1	21	-95.2%
Organic Chemistry	13,800	11,193	23.3%
Total	74,241	68,209	8.8%

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Data Analytics & Performance Metrics Management

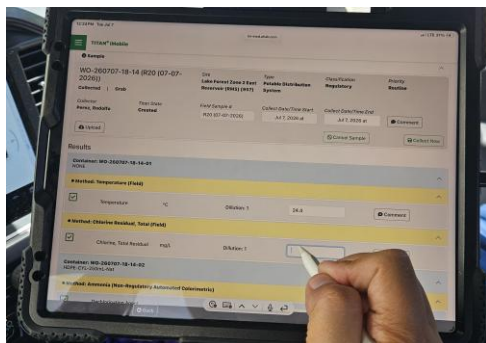
Reported Results Turn Around Time (Analysis/Entry)



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iMobile – Electronic Field Sample Collection

- Digital sample collection
- No need to transcribe written data
 - Error reduction and time savings



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Result Point – Data Access Portal

- Internal Data Access Web Portal for District staff
- Check status and results without Lab staff help
 - Reduce back and forth communication
- Testing with Engineering Department
- Perfect for discrete sampling events
 - Special Samplings
 - Engineering Projects



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Result Point – Data Access Portal

The screenshot shows the Result Point Data Access Portal interface. On the left, there is a sidebar with a search bar and a list of orders. The main area displays a table of orders with columns for Order ID, Project, Purchase Order Number, Customer, Order Date, Received Date, and Sample Count. The table lists several orders, including those for Potable Distribution Systems, Region 8 NPDES Master Reclamation Permit, and Natural Treatment Systems.

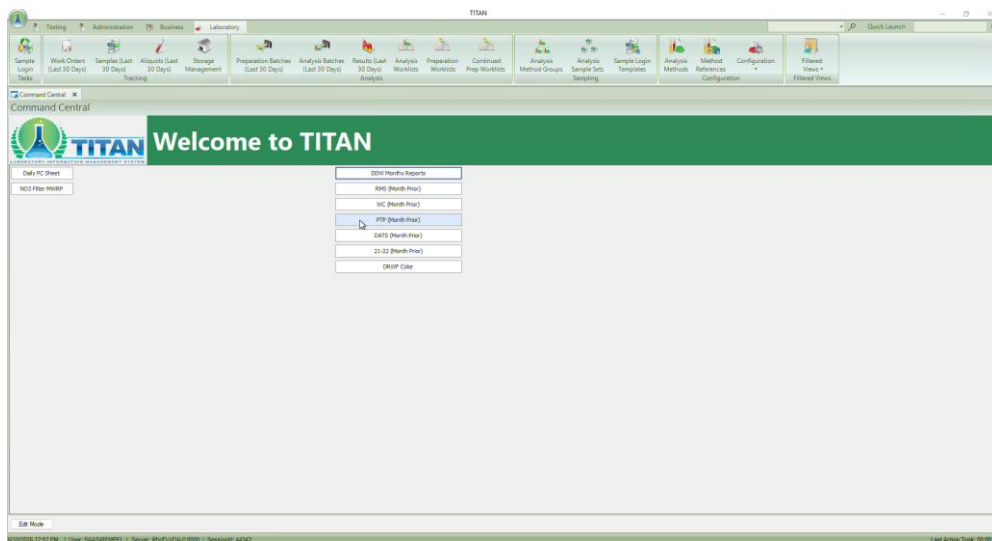
Order ID	Project	Purchase Order Number	Customer	Order Date	Received Date	Sample Count
WO-260602-24	Potable Distribution Systems - Drinking Water/Potable Distribution Samples, Coll.		IRWD	6/2/2026	6/2/2026	12
WO-260602-23	Region 8 NPDES Master Reclamation Permit - Sampling conducted as part of the Region 8 NPDES M		IRWD	6/2/2026	6/2/2026	1
WO-260602-22	Natural Treatment Systems		IRWD	6/2/2026	6/2/2026	2
WO-260602-21	Natural Treatment Systems		IRWD	6/2/2026	6/2/2026	2
WO-260602-20	QA/QC for Bottles/Equipment - Samples collected as part of Regulatory Compliance		IRWD	6/2/2026	6/2/2026	9
WO-260602-18	Region 8 NPDES Master Reclamation Permit - Sampling conducted as part of the Region 8 NPDES M		IRWD	6/2/2026	6/2/2026	13
WO-260602-17	QA/QC for Bottles/Equipment - Samples collected as part of Regulatory Compliance		IRWD	6/2/2026	6/2/2026	28
WO-260602-16	Region 8 NPDES Master Reclamation Permit - Sampling conducted as part of the Region 8 NPDES M		IRWD	6/2/2026	6/2/2026	4
WO-260602-15	Potable Treatment Plants - Drinking water treatment plants		IRWD	6/2/2026	6/2/2026	4



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Improving Data Delivery



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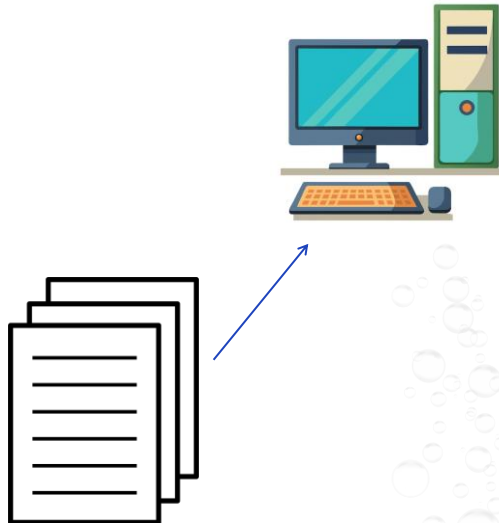
FUTURE PLANS: WHAT'S NEXT?



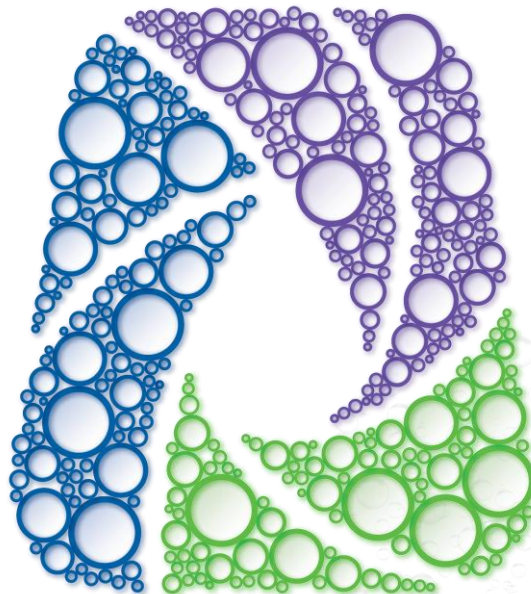
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Future Plans: What's next?

- Continue adding Permit limits and Sample Collection tracking
- Inventory information in the TIMS
 - Monitor expiration dates
 - Products used link directly to data
- Development of Data Dashboards
- Development of API integrations
 - WIMS – Water Operations
 - ArcGIS and Power BI



QUESTIONS?



July 21, 2026

Prepared by: J. Zepeda

Submitted by: W. Chambers

Approved by: Paul A. Cook 

ENGINEERING AND OPERATIONS COMMITTEE

IRWD NON-POTABLE WATER STORAGE RESERVOIR MANAGEMENT PLAN FOR FISCAL YEAR 2026-27

SUMMARY:

IRWD uses its recycled water storage reservoirs to align seasonal recycled water supply rates with seasonal variations associated with demands for non-potable water. IRWD's annual Reservoir Management Plan (RMP) guides the operation of seasonal storage reservoirs during the fiscal year. This annual RMP considers various factors including forecasts of supply, demand, assumed seasonal rainfall, and anticipated system constraints or limitations.

During the Committee meeting, staff will provide an update on reservoir operations from the past fiscal year and discuss the assumptions and system limitations considered in preparing the RMP for Fiscal Year (FY) 2026-27.

BACKGROUND:

Recycled Water Seasonal Storage Reservoir Management Plan:

The RMP guides staff in managing recycled water supply and demand by monitoring reservoir levels and optimizing water sources in response to expected demand. The plan specifically addresses the operational management of IRWD's four recycled water seasonal storage reservoirs: Rattlesnake, San Joaquin, Syphon, and Sand Canyon. During the high-demand summer months, water is withdrawn from these reservoirs to supplement the recycled water system. Due to limited reservoir storage capacity, untreated water is imported to supplement recycled water supplies when necessary. Conversely, during low-demand winter months, reservoirs are filled to approximately 95% of usable capacity. Operational changes are made to curtail recycled water production, and redirect flows to the Green Acres Project (GAP) for beneficial use by Orange County Sanitation District (OC San) or the Orange County Water District (OCWD) Ground Water Replenishment System (GWRS) and the Aliso Creek Ocean Outfall. As actual conditions deviate from the RMP's assumptions over the course of the year, staff adapt operations accordingly.

The primary sources of recycled water are the Michelson Water Recycling Plant (MWRP), the Los Alisos Water Recycling Plant (LAWRP), and groundwater from the El Toro Groundwater Remediation Wells (ET-1, ET-2, and Well 78). Irvine Lake (sometimes referred to as the Santiago Reservoir) is also used as a source of supply for the IRWD non-potable system and provides source water to the Baker Water Treatment Plant and the Howiler Water Treatment Plant. Irvine Lake is scheduled to be drained and taken out of service in early FY 2026-27 to facilitate capital improvements. Imported untreated water from the Metropolitan Water District will be purchased to supply demands in place of Irvine Lake water as needed. LAWRP is not expected to produce recycled water this year due to the upcoming pond dredging operations.

Review of Recycled Water Storage for Fiscal Year 2025-26:

Recycled water demand in FY 2025-26 was slightly lower than projected. Based on previous year averages, demand was estimated at 28,618 acre-feet (AF). Actual demand was 28,455 AF, a difference of 163 AF. To effectively manage the surplus recycled water, IRWD implemented all available operational strategies to ensure demand was met and recycled water storage reservoirs were maintained at optimal levels.

The following table summarizes operational actions taken to manage recycled water storage, production, and distribution during FY 2025-26:

	Operational Action Taken, in approximate chronological order	Flows Not Sent to Storage
1.	IRWD non-potable water Wells ET-1, ET-2, and Well 78 were shut off from October through December 2025.	424 AF
2.	LAWRP recycled water production was off for approximately ten months; secondary effluent was discharged to the South Orange County Wastewater Authority (SOCWA) Aliso Creek Ocean Outfall	3,532 AF
3.	MWRP Zone B recycled water discharged to the SOCWA ocean outfall	30 AF
4.	Recycled water sent from MWRP to the GAP system (Most of this water was utilized by OCWD in the GWRS)	1,299 AF
5.	Sewage was diverted to OC San through the Main Street diversion structure. Flow bypassed from the Harvard Avenue Trunk Sewer and San Mateo diversion structures. (Diversion made to accommodate IRWD construction projects)	5,294 AF
	<i>Total Amount of Available Flow Not Sent to Storage:</i>	<i>10,579 AF</i>

Recycled Water Storage Management Plan for Fiscal Year 2026-27:

The recycled water storage RMP for FY 2026-27 will account for the scheduled draining of Irvine Lake. Exhibit “A” illustrates projections for recycled water production, storage, demands, and includes the following assumptions:

- Recycled system water annual demands of 28,618 AF;
- Annual supply to the non-potable system of 31,866 AF;
- Capture of 280 AF of rainfall;
- Divert 2,767 AF of recycled water to the Green Acres Project (GAP) and/or the OC San outfall;
- Direct 3,583 AF of LAWRP secondary effluent to the SOCWA outfall;
- Produce 3,544 AF from Wells ET-1, ET-2, and 78. They will be operated for 10 months of the year, and

- Achieve a combined Effective Capacity for all reservoirs of 95% of total available storage by February 28, 2027.

Imported untreated water will be purchased at an average rate of \$989 per AF to supply demands as needed.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act (CEQA), Code of Regulations, Title 14, Chapter 3, Section 15378.

RECOMMENDATION:

Receive and file.

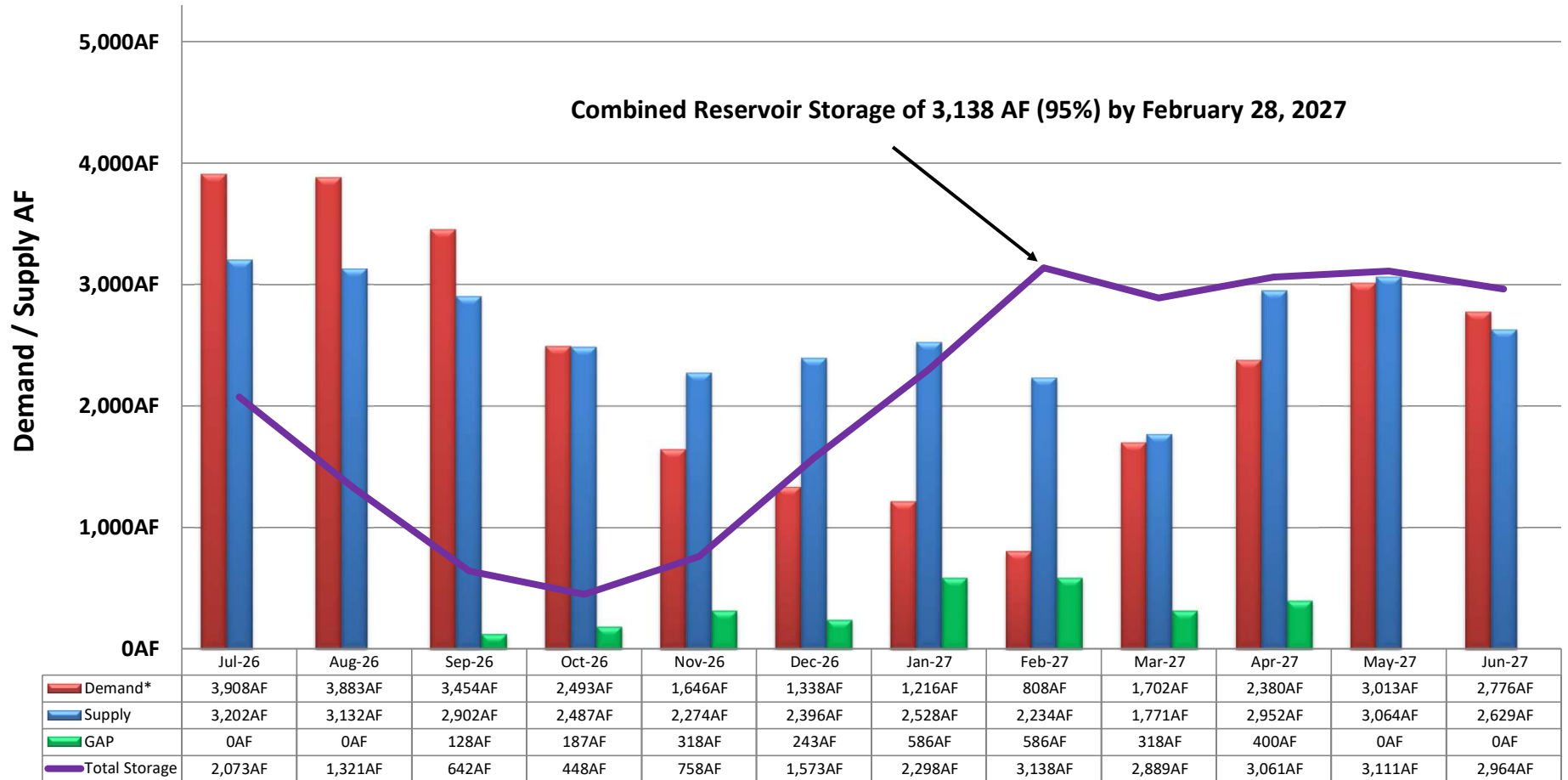
LIST OF EXHIBITS:

Exhibit “A” – Recycled Reservoir Management Plan FY 2026-27

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EXHIBIT "A"

Recycled Reservoir Management Plan FY 2026-2027 San Joaquin, Sand Canyon, and Rattlesnake



*Demand Projections Based on a 2 Year Average

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