

**WESTERN MUNICIPAL WATER DISTRICT
14205 Meridian Parkway, Riverside, CA 92518**

**AGENDA
ENGINEERING, OPERATIONS, AND WATER RESOURCES
JANUARY 5, 2026 at 10:30 AM**

**To join the Zoom virtual meeting: <https://wmwd.zoom.us/j/82868594781>
or telephone access: (669) 219-2599 or (669) 900-6833
Meeting ID: 828 6859 4781**

Members of the public may view and/or participate in this meeting in person, online via Zoom, or by viewing the live-streamed meeting at www.WesternWaterCA.gov. This meeting may also be video recorded for on demand viewing and broadcasting purposes. Primary notice of this meeting will be the physical posting of the agenda in the public notice area, located at the District's Headquarters office, 14205 Meridian Parkway, Riverside, California 92518. In addition, every effort will be made to publish this agenda on the District's website at: <https://wmwd.primegov.com/public/portal>, subject to technical difficulties, such as power failure, internet disruption, or other third-party interference. Members of the public who wish to comment on any item within the jurisdiction of the District, or any item on the agenda, may make comments in person, virtually via Zoom at the time noted on the agenda, or by submitting comments in writing at the following web address: <https://wmwd.com/publiccomments>, by in-person delivery or via U.S. Mail addressed to the District's Headquarters office. Written comments received by 4:30 p.m. on January 4, 2026, become part of the Board meeting record. Pursuant to Government Code Section 54957.5, any writing that (1) is a public record; (2) relates to an agenda item set for open session of a regular meeting of the Board of Directors; and (3) is distributed less than 72 hours prior to that meeting, will be made available for public inspection at the time the writing is distributed to the Board of Directors. Any such writing will be available for public inspection at the District office located at 14205 Meridian Parkway, Riverside, California 92518. In addition, such writing may also be posted on the District's website at <https://wmwd.primegov.com/public/portal>. Any person with a disability who requires a modification or accommodation in order to participate in this meeting, or the agenda or agenda packet documents made available in an appropriate alternative format, or any person with limited English proficiency (LEP) who requires language assistance to communicate with the Western Municipal Water District Board of Directors during the meeting, should contact the Western Municipal Water District Board Secretary at (951) 571-7209 or boardsecretary@wmwd.com, no less than 72 hours prior to this meeting, to enable the Western Municipal Water District to make reasonable arrangements to ensure accessibility or language assistance for this meeting.

1. **CALL TO ORDER**

2. **ROLL CALL**

3. **PUBLIC COMMENTS**

Members of the public may address the Committee regarding any item within the subject matter jurisdiction of the Committee; however, no action may be taken on off-agenda items unless authorized by law. Comments shall be limited to matters not listed on the agenda. Members of the public may comment on any matter listed on the agenda at the time that the Committee considers that matter. Each individual's comment is limited to a maximum of three (3) minutes; however, the Presiding Officer reserves the right to reduce the amount of time each individual can speak to ensure all members of the public have an opportunity to comment.

4. **CONSENT CALENDAR**

Consent Calendar items are expected to be routine and non-controversial and are to be acted upon by the Committee by one motion, without discussion. If any Committee member, staff member, or interested person requests that an item be removed from the Consent Calendar for further discussion, it will be moved to the first item on the Action Agenda.

- A. Approve the Minutes of the December 1, 2025, Engineering, Operations, and Water Resources Committee Meeting of the Whole

5. **ITEMS TO BE ADDED TO THE AGENDA**

(If any) In accordance with Section 54954.2 of the Government Code, upon determination by a two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present that there is a need to take action, and the need to take action arose after the agenda was posted.

6. **UPCOMING BOARD ITEMS/RECOMMENDATIONS TO BE MADE TO THE FULL BOARD**

The following items on the Agenda call for discussion and action by the Committee. All items are placed on the Agenda so that the Committee may discuss and take action on the item, if the Committee is so inclined.

- A. Authorize Execution of Memorandum of Understanding with Jurupa Community Services District for Temporary Assignment and Purchase of Water Produced from the Chino Basin Desalter Authority
- B. Award a Professional Services Contract to Water Systems Consulting, Inc. for the Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion Project

- C. Approve Quitclaims of Western Municipal Water District's Interest in Water Easements

7. REPORTS

The following agenda items are reports. They are placed on the Agenda to provide information to the Board and the public. There is no action called for in these items.

A. GENERAL MANAGER REPORT

B. ENGINEERING REPORT

- 1. Report on Increased Project Budget and Award of Professional Services Contract for the Markham Street Waterline Relocations
- 2. 2025 Development Services Update

C. OPERATIONS REPORT

D. WATER RESOURCES REPORT

E. DIRECTOR'S COMMENTS AND REQUESTS

8. NEXT MEETING

- A. Monday, January 5, 2026, 10:30 a.m.

9. ADJOURNMENT

**WESTERN MUNICIPAL WATER DISTRICT
MINUTES OF THE
ENGINEERING, OPERATIONS, AND WATER RESOURCES
COMMITTEE MEETING OF THE WHOLE
DECEMBER 1, 2025**

1. CALL TO ORDER

Director Gracie Torres called the Engineering, Operations, and Water Resources Committee Meeting of the Whole to order at 10:30 a.m. on Monday, December 1, 2025, in the Western Municipal Water District Training Room, 14205 Meridian Parkway, Riverside, California.

2. ROLL CALL

Roll call of the Board of Directors was taken by Board Secretary Tammi Ford. The following board members were in attendance:

Directors Present

Gracie Torres
Brenda Dennstedt
Mike Gardner

Director Dennstedt arrived to the meeting at 10:33 a.m.

3. PUBLIC COMMENTS

Members of the public may address the Committee regarding any item within the subject matter jurisdiction of the Committee; however, no action may be taken on off-agenda items unless authorized by law. Comments shall be limited to matters not listed on the agenda. Members of the public may comment on any matter listed on the agenda at the time that the Committee considers that matter. Each individual's comment is limited to a maximum of three (3) minutes; however, the Presiding Officer reserves the right to reduce the amount of time each individual can speak to ensure all members of the public have an opportunity to comment.

None.



4. CONSENT CALENDAR

Consent Calendar items are expected to be routine and non-controversial and are to be acted upon by the Committee by one motion, without discussion. If any Committee member, staff member, or interested person requests that an item be removed from the Consent Calendar for further discussion, it will be moved to the first item on the Action Agenda.

- A. Approve the Minutes of the November 3, 2025, Engineering, Operations, and Water Resources Committee Meeting of the Whole

Committee members approved the minutes of the November 3, 2025 Engineering, Operations, and Water Resources Committee Meeting, with no changes.

5. ITEMS TO BE ADDED TO THE AGENDA

(If any) In accordance with Section 54954.2 of the Government Code, upon determination by a two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present that there is a need to take action, and the need to take action arose after the agenda was posted.

None.

6. UPCOMING BOARD ITEMS/RECOMMENDATIONS TO BE MADE TO THE FULL BOARD

The following items on the Agenda call for discussion and action by the Committee. All items are placed on the Agenda so that the Committee may discuss and take action on the item, if the Committee is so inclined.

- A. Approve an Increase to the Operating Budget and Award a Professional Services Contract for a Data Solutions Project

This item was presented by: Allison Clark, Senior Management Analyst

Committee Recommendation: Forward Item 6A to the full Board of Directors for consideration.

- B. Approve a Capital Budget Increase and Authorize the Purchase of Portable Generators and Fuel Trailers for the Emergency Preparedness and Mitigation Response Program

Dean Standing Warrior, Deputy Director of Maintenance Operations

Committee Recommendation: Forward Item 6B to the full Board of Directors for consideration.

- C. Approve a Project Budget Increase and Award a Professional Services Contract for the Markham Street Waterline Relocation Project

This item was presented by: Luis Cardenas, Principal Engineer

Committee Recommendation: Forward Item 6C to the full Board of Directors for consideration.

- D. Approve a Project Budget Increase and Award a Construction Contract for the North Well 2 Rehabilitation Project

This item was presented by: Luis Cardenas, Principal Engineer

Committee Recommendation: Forward Item 6D to the full Board of Directors for consideration.

- E. Approve a Budget Amendment for Reconciliation of Actual Expenditures for the North Well 2 Manganese Treatment Project

This item was presented by: Luis Cardenas, Principal Engineer

Committee Recommendation: Forward Item 6E to the full Board of Directors for consideration.

7. REPORTS

The following agenda items are reports. They are placed on the Agenda to provide information to the Board and the public. There is no action called for in these items.

A. GENERAL MANAGER REPORT

Tim Barr, Deputy General Manager, reported that General Manager Craig Miller was away at the ACWA Fall Conference and also reminded the Committee that the December 3, 2025 Board meeting had been canceled.

B. ENGINEERING REPORT

None.

C. OPERATIONS REPORT

None.

D. WATER RESOURCES REPORT

None.

E. DIRECTOR'S COMMENTS AND REQUESTS

None.

8. NEXT MEETING

A. Monday, January 5, 2026, 10:30 a.m.

9. ADJOURNMENT

There being no further business before the Committee, Director Torres adjourned the meeting at 11:18 a.m.

Agenda Item: 6A

Date: January 5, 2026

TO: THE ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE

Director Gracie Torres, Committee Member
Director Fauzia Rizvi, Committee Member

FROM: Tim Barr, Deputy General Manager

AUTHORIZE EXECUTION OF MEMORANDUM OF UNDERSTANDING WITH JURUPA COMMUNITY SERVICES DISTRICT FOR TEMPORARY ASSIGNMENT AND PURCHASE OF WATER PRODUCED FROM THE CHINO BASIN DESALTER AUTHORITY

RECOMMENDATION:

Staff requests that the Engineering, Operations, and Water Resources Committee recommend the Board of Directors:

1. Authorize the General Manager to execute the Memorandum of Understanding (MOU) with Jurupa Community Services District for the temporary assignment and purchase of Western Water’s Chino Basin Desalter Authority water allocation; and
2. Authorize the General Manager to administratively execute annual extensions as provided for in the terms of the MOU.

EXECUTIVE SUMMARY:

Western Municipal Water District (Western Water) and the Jurupa Community Services District (JCSD) have a long-standing collaborative partnership related to the use and optimization of water produced from the Chino Desalter Authority (CDA). Building on past efforts and collaboration, Western Water has identified an opportunity to evaluate long-term regional conveyance flexibility within Western Water’s distribution system—an effort that could unlock more efficient use of existing supplies, enhance operational resilience, and better position the region to meet future demands. Initiating this system evaluation, together with other planned Western Water operational and capital improvements, is expected to take several years. The proposed MOU provides a bridge arrangement

through 2027, with three optional annual extensions, ensuring continued beneficial use of Western Water's CDA allocation during this planning period.

BUDGET IMPACT:

The sale of Western Water's CDA allocation to JCSD will offset Western Water's CDA costs for the term of the MOU. Sales are expected to offset Western Water's costs up to \$3,880,332 in calendar year 2026. Actual impacts will vary based on actual annual sales and CDA-adopted budgets.

DETAIL:

The construction of the CDA Phase 3 Expansion created new regional supply opportunities by increasing treatment and production capacity to serve member agencies. While Western Water awaited completion of its associated conveyance facilities, this expanded CDA production provided an opportunity for neighboring retail agencies—particularly JCSD through a 2017 MOU—to beneficially use Western Water's CDA allocation until Western Water could physically receive the supply. The 2017 MOU arrangement not only ensured continued beneficial use of the water but also supported broader regional reliability objectives by providing flexible distribution pathways across systems. The enhanced treatment capacity, coupled with collaborative operational strategies, has since positioned Western Water, JCSD, and potentially other CDA member agencies to optimize regional water management, stabilize production obligations, and advance long-term planning goals.

Western Water and JCSD's 2017 MOU ensured continued use of Western Water's CDA allocation while Western Water awaited completion of its CDA-related conveyance facilities. The MOU provided for temporary assignment and purchase of up to Western Water's full CDA allocation (3,534 acre-feet per year) for two years and was subsequently extended annually from 2019 through 2022.

In July 2023, Western Water and JCSD collaborated in the Wholesale Enterprise Water Purchase Program, reinforcing regional partnership and reliability planning. That program concluded on June 30, 2025.

Western Water is evaluating opportunities to enhance water transmission flexibility across its distribution system and key interconnections with regional partners. Western Water will lead this analysis to define the scope, feasibility, and potential benefits of system enhancements that could improve operational efficiency and regional water management. These efforts, together with other planned operational and capital initiatives, are anticipated to require at least two years to complete.

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The proposed 2026 MOU provides the appropriate timeframe and administrative structure to support these activities while ensuring the beneficial use of Western Water’s CDA supply. The MOU extends and updates the original terms, establishing provisions for assignment, delivery, purchase, and emergency coordination of CDA water between Western Water and JCSD.

Key Terms Include:

- **Purchased Water:** JCSD agrees to purchase and take delivery of Western Water’s CDA Allocation, totaling up to 3,534 acre-feet per year.
- **Water Price:** The water price for FY 2025–2026 will be Western Water’s published CDA rate of \$1,098 per acre-foot. Beginning July 1 of each fiscal year, pricing will adjust to the published Western Water CDA rate following adoption of the CDA annual budget.
- **Term:** The agreement becomes effective following Board authorization for two years, beginning January 12, 2026, through December 31, 2027, with three optional one-year extensions through December 31, 2030, if agreed to by both parties.
- **Emergency Contingency:** The MOU includes mutual emergency provisions enabling Western Water or JCSD to reclaim or provide CDA water during supply interruptions, consistent with past agreements. It also incorporates coordination with the Western Water-JCSD 2023 Cooperative Agreement for the continued opportunity to store groundwater as an additional option.

The proposed MOU provides a practical and flexible framework that supports ongoing regional coordination, optimizes use of Western Water’s CDA allocation, and enables continued progress toward long-term system planning and optimization. By extending an established and proven arrangement, the MOU maintains operational stability for both agencies while ensuring that Western Water and CDA remains fiscally sound and meets its production obligations. Staff recommends approval of this MOU to preserve supply reliability, uphold regional collaboration, and position Western Water to fully leverage future system enhancements and partnership opportunities.

REASON FOR ACTION:

The MOU provides needed flexibility while Western Water evaluates long-term operational and hydraulic considerations for optimizing the integration of Western Water’s desalter water to improve regional system efficiency.

SOLUTION:

Execute the MOU with JCSD for the temporary assignment and purchase of Western Water's CDA water, including authority for as needed future extensions as allowed for in the terms of the MOU.

STRATEGIC PRIORITIES REFERENCE:

This MOU is consistent with Western Water's Strategic Priorities of Resource Management, Superior Service, and Financial Stewardship.

LEGAL COUNSEL REVIEW:

Legal Counsel has reviewed the MOU.

Respectfully submitted by:

Tim Barr, Deputy General Manager

Attachment:

1. MOU By and Between Western Municipal Water District and the Jurupa Community Services District Providing for the Temporary Assignment and Purchase of Water Produced from the CDA

Attachment 1

**MEMORANDUM OF UNDERSTANDING BY AND BETWEEN
WESTERN MUNICIPAL WATER DISTRICT AND
THE JURUPA COMMUNITY SERVICES DISTRICT
PROVIDING FOR THE TEMPORARY ASSIGNMENT AND PURCHASE OF
WATER PRODUCED FROM THE CHINO BASIN DESALTER AUTHORITY**

This Memorandum of Understanding (MOU), dated _____, is entered into by and between Western Municipal Water District (Western Water) and the Jurupa Community Services District (JCSD), sometimes individually or collectively referred to herein as “Party” or “Parties”, respectively.

RECITALS

- A. Western Water, a member agency of the Metropolitan Water District of Southern California (MWD), has access to imported supply from MWD. Western Water has access to, and continues to pursue, access to local water supplies through separate regional purchase, exchange, and storage agreements. Western Water is committed to assisting JCSD, and the other retail water agencies within its general service area, to secure water supplies to meet future demands as well as mitigate shortages and drought through regional collaboration.
- B. The Parties to this MOU are two of eight member agencies of the Chino Basin Desalter Authority (CDA). The CDA is a joint exercise of powers authority which owns and operates facilities to treat groundwater extracted from the lower Chino Basin to California Division of Drinking Water (DDW) potable water standards and distributes the drinking water to its member agencies. Western Water and JCSD respectively own 3,534 and 11,733 acre-feet per year (AFY) of capacity rights in CDA facilities. These capacity rights entitle the Parties to take delivery of water through CDA facilities subject to the applicable policies of CDA (CDA Deliveries).
- C. Until such time as longer-term agreements are executed for the delivery of supplemental supplies, JCSD has the ability to temporarily take delivery of Western Water’s CDA Deliveries totaling approximately 3,534 AFY.
- D. In the interest of securing the long-term supplemental supply identified in JCSD’s Urban Water Management Plan, the Parties will collaborate to identify potential sources of supply and cost-effective conveyance that may include imported water, CDA supplies, regional groundwater, or a blend of some or all of these sources.
- E. On March 15, 2017, JCSD and Western Water executed a Memorandum of Understanding providing for the temporary assignment and purchase of water produced from the CDA, enabling beneficial use of all Western Water's CDA water allocation (Western Water Allocation). This MOU ended in 2022.

F. On July 12, 2023, Western Water and JCSD participated in the Wholesale Enterprise Water Purchase Program (Program) alongside a few other cities. This collaboration demonstrated JCSD's continued partnership and commitment to regional water reliability. The Program agreement ended on June 30, 2025. Western Water is proposing a new agreement, separate from the Program, focusing on distinct terms and objectives specific to this temporary arrangement.

NOW, THEREFORE, IN CONSIDERATION OF THE FOREGOING RECITALS, WHICH ARE INCORPORATED HEREIN, AND THE FOLLOWING PROVISIONS, THE PARTIES ENTER INTO THE FOLLOWING UNDERSTANDINGS:

Section 1. Purchased Water. JCSD agrees to purchase and take delivery of up to the total amount of the Western Water Allocation (approximately 3,534 AFY), as further provided below.

Section 2. Water Price. The water price for Fiscal Year 2025-2026 will be Western Water's published CDA rate of \$1,098 per acre-foot, which reflects Western Water's rate paid to the CDA. Following CDA budget adoption, the new water price shall be set beginning July 1 for each fiscal year at the published Western Water CDA rate, reflecting Western Water's Administrative, Fixed Project Capital, and Fixed and Variable O&M costs paid to the CDA for the CDA Deliveries. Any adjustments to the CDA rate as a result of the annual reconciliation process will be passed on to JCSD as a credit or payment due, consistent with Section 3. At any time the Water Price is recalculated because of changes in the CDA budget, Western Water and JCSD will use the reconciliation process described in Section 3.

Section 3. Payment. JCSD shall pay Western Water a per acre-foot sum as calculated using the methodology described in Section 2 of this MOU for the delivery of Western Water's CDA Deliveries. Western Water will invoice JCSD monthly for prior month CDA Deliveries with payment due from JCSD by the 30th day after the invoice date (due date). Invoiced amounts not paid by the due date shall be subject to interest charges. Interest will be calculated at a rate of one-half percent (0.5%) per month. The CDA performs an annual reconciliation of budgeted dollar amounts with actual dollar amounts. The CDA will issue a credit or a charge to each CDA member agency accordingly. Any credit or increased charge associated with CDA Deliveries to JCSD for Western Water will be passed on to JCSD as a credit or payment due.

Section 4. Delivery Point. JCSD will receive Western Water's CDA Deliveries through the JCSD connection points from the CDA facilities. The Parties shall coordinate and maintain operational flexibility regarding delivery location. The Parties shall coordinate with CDA staff regarding appropriate flow settings for deliveries. The Parties will make their best effort to adhere to the Section 5 Delivery Schedule, below, but JCSD reserves the right to take less than the full Western Water Allocation if constrained by low system demands.

Section 5. Delivery Schedule. JCSD shall notify Western Water prior to November 1 of each calendar year, while this MOU is in effect, as to the specific quantity of water that it intends to purchase for the following calendar year.

Section 6. Western Water Assignment of CDA Production. Nothing in this MOU or the Assignment of CDA Production will change either Party's obligations or benefits to the Chino Basin Watermaster including, but not limited to, obligations or benefits under the Judgment, Peace Agreement, and/or the Peace II Measures.

Section 7. Term. The term of this MOU shall begin upon approval by the Boards of Directors of both Parties, anticipated to occur on January 12, 2026, and shall remain in effect until December 31, 2027. This MOU may be extended a maximum of three times, one additional year at a time through December 31, 2030, by mutual agreement between JCSD and Western Water. Each Party shall provide written notice to the other, on or before October 1, of its intent to extend this MOU effective at the end of the calendar year.

Section 8. Emergency Contingency. If, in the unlikely event during the term of this MOU, Western Water experiences an imported or local water supply emergency, JCSD will make every reasonable attempt to free up some or all of the Western Water Allocation so that it can be delivered to Western Water. Likewise, in the event JCSD experiences an emergency impacting its water supplies, Western Water will explore the possibility of providing other available supplies to JCSD, where feasible. Further, if, during the course of the year, it is determined in coordination with Western Water that low end-user demands within JCSD's service area have resulted in JCSD being unable to extract the contractually required quantity of water from JCSD's existing water storage program (separate from this MOU) for delivery to JCSD's customers, Western Water will assist JCSD by paying to JCSD the contractual price for that portion of stored water, which then will be added to the JCSD storage account and applied to the Western Water's storage account as provided for in the 2023 Cooperative Agreement for Water Purchase, Storage, and Delivery between JCSD and Western Water, or delivered elsewhere within Western's system at Western's sole discretion. Prior to placing any stored water into Western Water's storage account, JCSD shall first coordinate with Western Water to evaluate operational opportunities for Western Water to take physical delivery of such water or otherwise manage supplies. Any stored water placed into storage on behalf of Western Water shall be limited such that the cumulative balance in Western Water's storage agreement does not exceed the 7,000 acre-foot maximum established under the Cooperative Agreement. Western Water currently has approximately 2,100 acre-feet in storage; therefore, JCSD and Western Water will jointly manage actions throughout the year to ensure storage volumes remain within the allowable capacity.

Section 9. Promulgating Agreements. The Parties may determine to enter into one or more agreements for purposes of implementing the provisions of this MOU, or related assignment or other

agreements with CDA or other parties in connection with furthering the understandings set forth herein.

By: _____
Craig Miller, General Manager
Western Municipal Water District

By: _____
Chris Berch, General Manager
Jurupa Community Services District

DRAFT

Agenda Item: 6B

Date: January 5, 2026

TO: THE ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE

Director Gracie Torres, Committee Member
Director Fauzia Rizvi, Committee Member

FROM: Tim Barr, Deputy General Manager

AWARD A PROFESSIONAL SERVICES CONTRACT TO WATER SYSTEMS CONSULTING, INC. FOR THE FEASIBILITY STUDY FOR RECHARGING RECYCLED WATER AND GROUNDWATER DESALTER EXPANSION PROJECT

RECOMMENDATION:

Staff requests that the Engineering, Operations, and Water Resources Committee recommend the Board of Directors:

1. Award a professional services contract, in the amount of \$399,254, to Water Systems Consulting, Inc. for the Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion Project.

EXECUTIVE SUMMARY:

Western Municipal Water District seeks to develop a Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion to identify and evaluate additional water options for recharge and evaluate potential projects to capture the recharged water to secure the long-term reliability of our local water supply in the Arlington Groundwater Basin. Western Water secured United States Bureau of Reclamation grant funding to prepare a feasibility study that will support the sustainability of the Arlington Groundwater Basin, a local water source essential to Western Municipal Water District's regional customers. Historical challenges with droughts and increasing demands highlight the need to continue planning for enhancing the region's overall water resilience. Western Municipal Water District staff solicited proposals for professional consulting services and, following a competitive evaluation of three qualified firms, Water Systems Consulting, Inc.

was identified as the most qualified consultant to develop this study. If awarded, over the next 18 months Water Systems Consulting, Inc. will lead efforts investigating the feasibility of recharging recycled water into the Victoria Recharge Basin from multiple potential sources, such as the Western Water Recycling Facility recycled water and other nearby sources. Simultaneously, Water Systems Consulting, Inc. will evaluate future potential demands on the Arlington Groundwater Desalter and future capacity needs, analyzing needs for new wells, storage, and treatment, while also addressing existing constraints and abiding by regulatory compliance.

BUDGET IMPACT:

The total cost of the Recharging Recycled Water and Groundwater Desalter Expansion is \$399,254 and is included in the adopted budget for Fiscal Year 2025-2026 from the General Operating Plan, Fund 100 – Water Resources Special Projects. This Recharging Recycled Water and Groundwater Desalter Expansion Feasibility Study is being issued in conjunction with a federal grant award through United States Bureau of Reclamation’s Water Recycling and Desalination Planning Funding Opportunity (NOFO No R23AS00076). Western Water has secured an agreement that will reimburse 50% of the project cost, up to \$200,000.

DETAIL:

The Arlington Groundwater Basin (Arlington Basin) is a vital groundwater source located in the northern part of Western Municipal Water District’s (Western Water’s)3 service area. Over three decades ago, the Santa Ana Watershed Project Authority (SAWPA) began to utilize this water source by constructing the Arlington Desalter (Desalter) to provide a supply of potable water for the region. In an effort to diversify water supply and meet growing demand, Western Water acquired the Desalter in 2005. The resulting water contributes to over 60 percent of the City of Norco's water supply and supplements water for the City of Corona and parts of Riverside. The system has faced growing pressure since the Desalter was constructed, driven by higher demand and exacerbated by the historic droughts. Desalter usage has increased fifty percent over historical levels, leading to uncertainty in the reliability of the Arlington Basin as a water source. This Recharging Recycled Water and Groundwater Desalter Expansion (Feasibility Study) is a proactive effort aimed at sustainability of the Arlington Basin through long-term planning. Western Water is initiating this Feasibility Study focusing on two primary areas: 1) investigating the feasibility of using local recycled water for groundwater recharge, and 2) evaluating the long-term demands and capacity needs of the Desalter.

In September 2025, Western Water staff solicited proposals for professional consulting services to complete the Feasibility Study in accordance with the Request for Proposal

(RFP) requirements. A detailed scope of work to develop the Feasibility Study includes the following core tasks:

1. **Project Management:** Lead project coordination, maintain detailed schedules, and generate documentation for grant reporting.
2. **Stakeholder Engagement:** Facilitate internal and external meetings to prioritize water expansion strategies and produce all necessary decision-making materials. Potential to form partnerships with other relevant agencies, if applicable.
3. **Ensure Regulatory Compliance:** Prepare a comprehensive Scope of Work in support of a future Title 22 Engineering Report, which is required to permit the recharging recycled water.
4. **USBR Compliant Feasibility Study:** Identify, evaluate, and recommend sources of recycled water for recharge to directly augment the Arlington Basin's groundwater. Address the potential for expanding the Desalter and evaluate regional constraints, including alternatives for the limiting SAWPA Brine Line capacity.

In response to the RFP, staff received three responsive proposals. The three firms which submitted qualifying proposals include:

1. Hoch Consulting
2. Water Systems Consulting, Inc. (WSC)
3. Woodard & Curran Inc.

Qualifying proposals were evaluated and ranked based on the following criteria:

1. **Understanding of the work to be performed (25%):** This includes understanding of the project issues, methodology to be employed in conducting the project, and challenges that may be encountered in the project.
2. **Approach to the Project (30%):** This includes technical and management considerations, methodology, schedule and innovative ideas. This also demonstrates how the Consultant's project management approaches are applied in order to complete each task on time and within budget.
3. **Experience and Technical Competence (30%):** This includes key personnel, the firm and sub-consultants with similar project experience.

4. **Evaluation of the Appropriateness of the Proposed Level of Effort (10%):**
Team qualifications and project methodology.
5. **Cost and Pricing (5%):** Proposed Fees and Compensation.

Through competitive solicitation and subsequent evaluation of the proposals, the selection committee unanimously recommends WSC as the selected consultant for the preparation of the Feasibility Study. WSC's core team has extensive experience in successfully preparing federally-compliant feasibility studies, having delivered numerous plans that meet rigorous USBR standards, even having one of their past feasibility studies showcased as an example on USBR's website. Their team possesses strong technical abilities in regional water resource planning, groundwater hydrogeology, and regulatory compliance, allowing them to navigate complex basin management strategies effectively. Their proposal also demonstrated a deep institutional knowledge of the Arlington Basin and previous Desalter expansion efforts. WSC understands the importance of positioning Western Water for future project implementation funding, having successfully utilized their approach to help clients secure significant federal grant awards while delivering projects on schedule and within budget.

REASON FOR ACTION:

Consulting services are needed to prepare a USBR-compliant feasibility study to provide a plan to enhance our water supply resilience in the Arlington Basin as well as meet the requirements of the USBR grant agreement.

SOLUTION:

Approve a contract for professional consulting services in the amount of \$399,254 to WSC.

STRATEGIC PRIORITIES REFERENCE:

This action aligns with Western Water's Strategic Priority of Resource Management.

PROPOSED DATE OF ACTION:

If approved by the Committee, this item is scheduled for consideration by the full Board of Directors at their meeting on January 21, 2026.

LEGAL COUNSEL REVIEW:

Not applicable.

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Respectfully submitted by:

Tim Barr, Deputy General Manager

Attachments:

1. WSC Proposal
2. Presentation

Attachment 1



RFP-WR25-015

FEASIBILITY STUDY FOR

Recharging Recycled Water and Groundwater Desalter Expansion



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October 31, 2025

Western Municipal Water District

Karina Gonzalez
Purchasing Specialist

WSC Ontario

3602 Inland Empire Blvd.
Suite C230
Ontario, CA 91764
P: (909) 483-3200
F: (909) 354-3482

Laine Carlson PE

Project Manager
P: (909) 483-3200 x201
E: lcarlson@wsc-inc.com
3602 Inland Empire Blvd.
Suite C2301
Ontario, CA 91764

Michael Cruikshank PG, CHG

Principal in Charge
P: (714) 721-7298
E: mcruikshank@wsc-inc.com
25201 Paseo De Alicia
Suite 290
Laguna Hills, CA 92653

Dear Karina,

WSC is excited for the opportunity to partner with Western Municipal Water District (Western Water) to develop a Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion (Feasibility Study).

This collaborative project is a critical step toward understanding opportunities to maximize recharge at the Victoria Basin and expand the Arlington Desalter. The selected consultant will be your trusted guide for navigating the United States Bureau of Reclamation (USBR) grant requirements, developing a comprehensive study to identify and recommend projects to maximize recycled water use, and positioning Western Water for implementation funding.

WSC’s proposed approach is designed to complete a robust analysis that informs confident decision making, achieves strong consensus and alignment on the preferred strategy to enable effective implementation, and defines solutions with a clear path forward that can adapt to changing conditions.

By selecting WSC to develop the Feasibility Study, you can expect:

Thorough Analysis. WSC understands the Arlington Basin—its stakeholders, its opportunities, and its needs—through our work with Western Water and other regional stakeholders. This enables us to complete a thorough analysis of feasible strategies to inform confident decision-making.

Achieving Consensus. Internal alignment and buy-in from external stakeholders is critical for a recommended strategy to achieve effective implementation. WSC is a leader in guiding regional strategies, and we will deftly facilitate a process designed to build strong consensus among key stakeholders.

Strong Positioning for Funding. Producing a Reclamation-compliant Feasibility Study is critical. However, the Feasibility Study is also an opportunity to align recommended strategies with USBR’s Title XVI application criteria and position Western Water and its partners for future funding opportunities.

A Clear Path Forward. The Feasibility Study is an opportunity for Western Water to clearly define a lasting solution and position for implementation funding. Our approach will provide a clear path forward that supports confident decision making. The WSC team is thrilled to have the opportunity to support Western Water on this important project. Please contact our Project Manager, Laine Carlson, if you have any questions.

Sincerely,

Water Systems Consulting

Laine Carlson PE
Project Manager | WSC Vice President

Michael Cruikshank PG, CHG
Principal in Charge | WSC Vice President

WSC is Your Trusted Partner

WSC's expert team of licensed hydrogeologists, planners, engineers, and communications professionals are committed to providing Western Water with responsive, quality water management programs and engineering services.

Who We Are

WSC is a full-service civil and environmental engineering and hydrogeology firm that specializes in the planning, design, construction, and optimization of groundwater, drinking water, recycled water, wastewater, and stormwater solutions. We offer a purpose-built team that combines deep technical knowledge of local conditions, a One Water philosophy, and sustained stakeholder engagement to deliver compelling, relevant solutions to our clients and the communities they serve.

WSC was founded in 2007 with a mission to provide high-quality and responsive consulting services to water, wastewater, and stormwater agencies and municipalities. We have since grown to include hydrogeologists, operators, construction, and communications professionals operating out of seven offices across the West Coast. We are organized to work collaboratively with our clients to apply proven approaches, state-of-the-art tools, and knowledge-driven innovation to deliver outstanding results.

EMPLOYMENT PRACTICES:

WSC's employment practices follow all local, state, and federal policies and procedures. We provide our staff with relevant training, including safety training, and have the appropriate licenses and certifications to provide the Feasibility Study for Recharging Recycled Water and Groundwater Expansion.

FIRM OVERVIEW



WSC Mission Statement

To be the preferred partner for sustainable water solutions by building innovative teams, cultivating lasting relationships, and delivering extraordinary value.

WSC Vision Statement

Creating a Better Water Future

Founding Date

December 2007

Size of Company

70 Employees

WSC Organizational Chart

CEO & Founder: Jeff Szytel

CFO: Jeroen Olthof

Vice Presidents: Laine Carlson, Michael Cruikshank, Jon Ganz, Jannette Garrett, Jeff Lawrence, Scott Duren, Rob Natoli, Rob Morrow, Dylan Wade, Justin Pickard, Dianne Lee

Offices Supporting Project:

WSC Inland Empire (24 miles)

3602 Inland Empire Blvd, Suite C230
Ontario, CA 91764
8 Staff

WSC Laguna Hills (49 miles)

25201 Paseo De Alicia, Suite 290 Laguna Hills, CA 92653
9 Staff

WSC San Luis Obispo (246 miles)

805 Aerovista Place, Suite 201 San Luis Obispo, CA 93401
23 Staff

Qualifications, Capabilities, & Experience

WSC is a full-service civil and environmental engineering firm specializing in the planning, design, construction, and optimization of groundwater, drinking water, recycled water, wastewater, and stormwater systems.

WSC’s team of specialists completed many relevant water resources projects, including eight Title XVI Feasibility Studies. The table below includes other relevant projects from our proposed project staff. WSC has helped many agencies evaluate their water resources options and define their preferred programs, and then helped them secure funding and deliver the programs. Our experience with both concept evaluation and water resources project delivery gives us deep insight that is critical to making efficient and informed recommendations for this Feasibility Study.

	TITLE XVI FEASIBILITY STUDY	CONCEPT/PLANNING STUDIES	REGULATORY ANALYSIS	ADVANCED TREATMENT	FUNDING APPLICATION	BRINE DISPOSAL EVALUATIONS	REGIONAL STAKEHOLDERS
Bunker Hill Basin Recycled Water Salinity Feasibility Study San Bernardino Valley Municipal Water District	■	■	■		■	■	■
Replenish Big Bear Big Bear Area Regional Wastewater Agency	■	■	■	■	■	■	■
Central Coast Blue City of Pismo Beach	■	■	■	■	■	■	■
Carpinteria Advanced Purification Project Carpinteria Valley Water District	■	■	■	■	■	■	■
Chino Basin Program Inland Empire Utilities Agency	■	■	■	■	■	■	■
North Pleasant Valley Desalter Project City of Camarillo	■	■	■	■	■	■	
Title XVI Feasibility Study Update Water Replenishment District of Southern California	■	■					■
Title XVI Feasibility Study Update Ventura Water	■	■					■
Citywide Recycled Water Concept Study City of Victorville		■	■		■	■	■
Regional Recycled Water Concept Study San Bernardino Valley Municipal Water District		■	■	■		■	
Upper Santa Ana River Salt and Nutrient Management Plan San Bernardino Valley Municipal Water District		■	■				
Ambient Water Quality Recomputation Santa Ana Watershed Project Authority		■	■				
Cayucos Sustainable Water Project - Recycled Water Concept Study and Program Implementation Cayucos Sanitary District		■	■	■	■		■
Urban Water Management Plan and Drought Contingency Plan Western Municipal Water District		■	■				
Water and Recycled Water Master Plan, Recycled Water Engineering Reports City of Victorville		■	■				
Metropolitan Water Resources Management Plan City of Fresno		■	■				

Bunker Hill Basin Recycled Water Salinity Feasibility Study

San Bernardino Valley Municipal Water District, CA

WSC partnered with East Valley Water District, San Bernardino Municipal Water Department, City of Redlands, and San Bernardino Valley Municipal Water District to develop a regional recycled water system for recharging the Bunker Hill B Groundwater Management Zone. Together, these four entities formed the Bunker Hill Basin Regional Recycled Water Coalition (the Coalition) to coordinate permitting efforts and explore viable salinity management strategies for both immediate and long-term goals in the basin. WSC collaborated with the Coalition and Regional Board staff through a series of workshops to develop, evaluate, and select a preferred salinity management approach. This process explored several options, including a regional desalter facility and a sub-regional Salt and Nutrient Management Plan (SNMP). Desalter facilities at the Tertiary Treatment System and Sterling Natural Resource Center were assessed based on cost, proximity to existing operations, water quality benefits, and site constraints. WSC evaluated the development of a sub-regional SNMP, which could provide Coalition members access to over 20% of the available assimilative capacity, potentially deferring the desalter timeline. The Feasibility Study was prepared in compliance with USBR Reclamation Manual, Directives and Standards (WTR 11-01).

Key Staff

Laine Carlson (Project Manager), Michael Cruikshank (Regulatory Strategy and Basin Context Lead), Aaron Morland (Assistant Project Manager), Eric Fregoso (Staff Hydrogeologist)

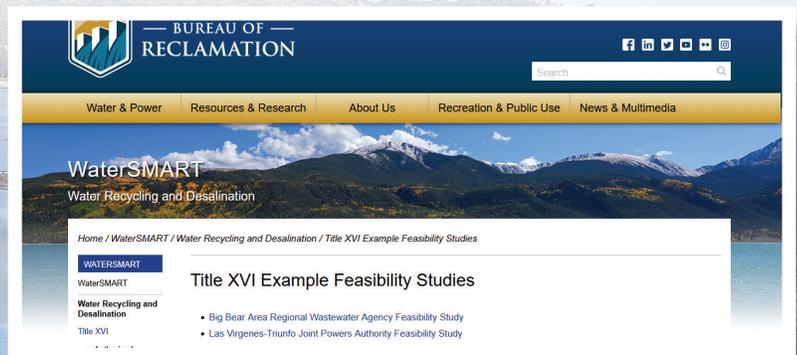
Replenish Big Bear

Big Bear Area Regional Wastewater Agency, CA

WSC led the funding efforts for the Replenish Big Bear program and is serving as Program Manager for a solution that will meet challenging water quality objectives. After a thorough analysis of the regulatory options, the recommended project is an advanced treatment facility. WSC secured a WaterSMART: Title XVI WIIN Water Reclamation and Reuse Projects grant application and completed the Feasibility Study, which was approved with no comments. The Feasibility Study was used as an example for other agencies. During the Feasibility Study, WSC analyzed alternatives and provided a recommended alternative based on treatment and regulatory requirements, water supply yield, social and environmental benefits, and life-cycle cost. WSC also supported funding efforts that successfully secured California Department of Water Resources and US Environmental Protection Agency grants and low-interest loans.

Key Staff

Laine Carlson (Project Manager), Michael Cruikshank (Technical Advisor), Rob Morrow (Technical Advisor), Aaron Morland (Engineering Support), Eric Fregoso (Staff Hydrogeologist)



Citywide Recycled Water Concept Study

City of Victorville, CA

WSC is leading a study to identify, evaluate, and prioritize recycled water opportunities, with an emphasis on groundwater recharge and advanced treatment alternatives. WSC's approach uses comprehensive stakeholder engagement, including workshops with internal teams and regional partners, to map potential recycled water uses and collaboratively define project goals. WSC is assessing groundwater recharge options, including surface spreading and subsurface injection. Key considerations include proximity to potable wells, underground travel time requirements, and the feasibility of blending recycled water with imported sources.

WSC is preparing and managing the application for the SWRCB Water Recycling Facilities Planning Grant to secure up to \$500,000 to support future phases. This grant process was initiated in parallel with the study for continuity and momentum. WSC is in close coordination with staff, providing progress reports, technical memoranda, and presentations to City Council. Deliverables include a technical memorandum summarizing alternatives, regulatory requirements, risks, and cost-benefit analyses. The study is designed to provide near-term clarity and position the District for long-term success in recycled water and groundwater recharge initiatives.

Key Staff

Laine Carlson (Project Manager), Rob Morrow (Technical Lead)

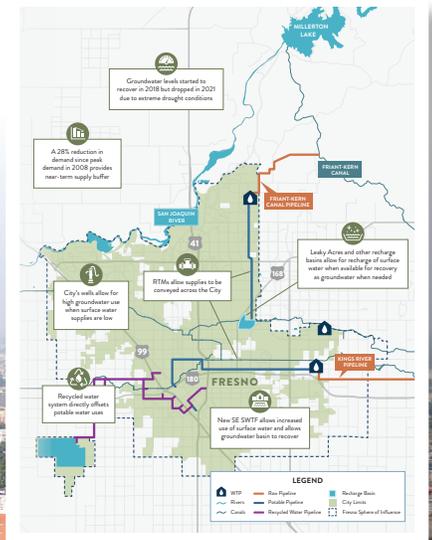
Fresno Metro Plan and Recycled Water Master Plan

City of Fresno, CA

WSC partnered with the City of Fresno to update their Metropolitan Water Resources Management Plan (Metro Plan) and develop a Recycled Water Master Plan, providing a roadmap for the City's water supplies, water infrastructure, and sustainable growth through 2070. The Metro Plan evaluated future supply and demand scenarios considering assumptions about conservation, growth, surface water availability, climate change, and groundwater management actions. WSC developed a Groundwater Water Budget and analyzed travel times for recharge facilities. WSC evaluated approaches to balance wet and dry conditions for reliable supplies both within and outside the City through partnerships, such as groundwater banking, including Delta sustainability considerations for the City's San Joaquin River and Kings River supplies. The approaches were structured as part of an adaptive management plan that is dependent on changes in surface water reliability, including from climate change or regulatory constraints.

Key Staff

Rob Morrow (Project Manager), Michael Cruikshank (Groundwater Lead)



Arlington Basin Groundwater Support

Western Municipal Water District, CA

WSC supported the development of the Arlington Basin Groundwater Sustainability Plan (GSP). Although the Arlington Basin is classified as low-priority and not required to prepare a GSP under SGMA, Western Water opted to proactively pursue responsible groundwater management through comprehensive planning and stakeholder collaboration. WSC is currently assisting Western Water in maintaining compliance with SGMA reporting requirements, while also advancing the basin towards long-term sustainability through implementation efforts. WSC prepared the 2023 Annual Report and the 2024 Annual Report. The annual groundwater report provides a comprehensive overview of groundwater basin conditions. The report includes detailed information on groundwater conditions, water supplies and usage, changes in storage, groundwater sustainability, sustainable management activities, and ongoing implementation efforts pertaining to the Arlington Basin. WSC is also coordinating with the California Department of Water Resources on Western Water's behalf to ensure timely and accurate submission of required SGMA reports and to facilitate ongoing compliance.

Key Staff

Michael Cruikshank (Project Manager)

Chino Basin Program Preliminary Design Report

Inland Empire Utilities Agency, CA

The Chino Basin Program (CBP) is an innovative local water supply initiative that integrates local infrastructure improvements and salinity management with groundwater storage and water supply reliability. The program includes two primary categories of facilities: PUT, which encompasses the components required to recharge up to 15,000 AFY of purified water into the Chino Basin, and TAKE, which enables the extraction of up to 50,000 AF of groundwater in a "TAKE year" to convey potable water supplies, totaling about 375,000 AF over the 25-year program. The WSC team is leading the groundwater components of the CBP, including the development of the Technical Feasibility Study, Hydrogeologic Investigation, PUT Injection Well Facilities Siting Study, and a Preliminary Design Report for injection and monitoring wells.

Key Staff

Laine Carlson (Project Manager), Michael Cruikshank (Hydrogeology Lead), Aaron Morland (Project Engineer)

As part of the Technical Feasibility Study, the WSC team identified and evaluated multiple PUT, TAKE, and program-level alternatives to determine the preferred configuration and develop conceptual designs for key program elements. The study included an analysis of recharge options for the PUT facilities, focusing on optimizing the use of existing recharge basins and evaluating the feasibility of aquifer replenishment wells to maximize recharge capacity. This analysis considered site-specific hydrogeologic conditions, conveyance logistics, operational flexibility, and long-term maintenance requirements to establish a resilient recharge strategy.

WSC also led the development of groundwater model scenarios and coordinated closely with the groundwater modeling consultant to assess performance relative to parameters established by the Chino Basin Watermaster and the Material Physical Injury process. These modeling efforts were used to evaluate the hydrologic response of the basin under different recharge and extraction scenarios, identify potential pumping constraints, and refine the configuration of PUT and TAKE facilities to ensure regulatory compliance and sustainable basin management.

A Team You Can Trust to Deliver

WSC’s proposed team for this project includes experienced key staff who have the expertise and knowledge of Western Water’s water and wastewater systems to provide a feasibility study that puts Western Water and its partners on the right path forward. Members of our team have worked on recent, relevant projects that are related to this scope of work.

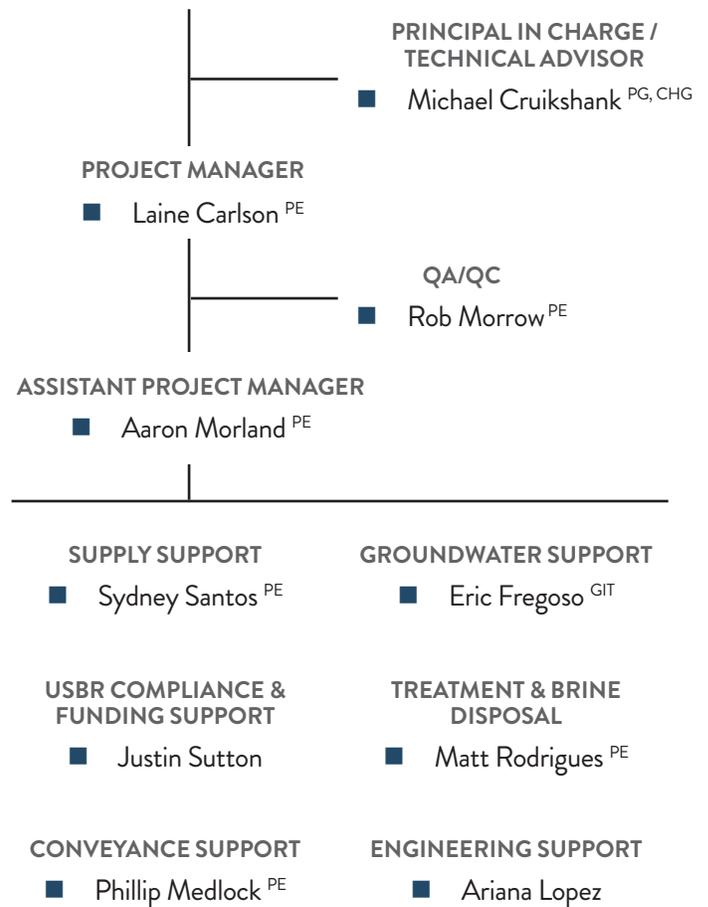
Meet Your Team

WSC’s team is organized to work collaboratively with Western Water to apply proven approaches, knowledge-driven efficiency, and a polished look to deliver outstanding results.

WSC’s proposed Project Manager, Laine Carlson, has over 20 years of engineering and planning experience with municipal water systems. Laine has significant experience leading regional water resources planning projects in the Santa Ana River Watershed and has successfully guided efforts in regulatory compliance and feasibility studies, including serving as project manager on Western Water’s Bunker Hill Basin Optimization and Stewardship Program. WSC’s proposed Associate Project Manager, Aaron Morland, has worked closely with Laine and had significant roles in several large, regional water resource planning projects in the watershed. He served as Associate Project Manager on the Bunker Hill Basin Recycled Water Salinity Feasibility Study.

WSC’s Principal in Charge and Technical Advisor, Michael Cruikshank, will provide regulatory strategy and basin context support to the team. Michael knows Western Water well and is currently supporting achieving SGMA compliance for the Arlington Basin and with defining future basin management framework for the San Bernardino Basin. Rob Morrow will provide QA/QC support for this project and brings extensive experience with reclamation feasibility studies. Our supporting staff also includes Sydney Santos for Supply Support, Eric Fregoso for Groundwater Support, Justin Sutton for USBR Compliance and Funding Support, Matt Rodrigues for Treatment and Brine Disposal Support, Phillip Medlock for Conveyance Support, and Ariana Lopez for Engineering Support—all of whom bring valuable regional expertise and experience collaborating with the team.

Brief resumes of key staff are included on the following pages. Detailed resumes of WSC’s key and supporting staff are available up on request.



Section F: WSC affirms that the key personnel identified in this proposal will be available throughout the contract and will not be removed without prior approval of Western Water.

Laine Carlson PE

PROFESSIONAL EXPERIENCE

Laine Carlson brings 20 years of experience working for a public utility, and as a consulting engineer, focusing on water, wastewater, and recycled water systems. She is recognized as a leader in regional water resources planning in the Santa Ana River Watershed. Her experience includes project management, construction administration, capital improvement planning, hydraulic analysis, water and wastewater master planning, and water standard development. She has a comprehensive understanding of how water and sewer utilities operate and the challenges they face. Laine draws on her experience to work across diverse stakeholder groups to build consensus and support for regional water supply efforts.

REPRESENTATIVE PROJECTS

Bunker Hill Basin Recycled Water Salinity Feasibility Study, San Bernardino Valley Municipal Water District, CA. *Project Manager.* Collaborated with the Coalition and Regional Board staff through a series of workshops to develop, evaluate, and select a preferred salinity management approach. This process explored several options, including a regional desalter facility and a sub-regional Salt and Nutrient Management Plan.

Replenish Big Bear Feasibility Study and Title XVI Application, Big Bear Area Regional Wastewater Agency, CA. *Project Manager.* Prepared the Feasibility Study and application for the program's successful Title XVI funding. Analyzed feasibility of using evaporation and crystallization on RO brine to achieve zero liquid discharge and reduce brine conveyance and disposal costs.

2020 Urban Water Management Plan and Drought Contingency Plan, Western Municipal Water District, Riverside, CA. *Project Manager.* Led the preparation of Western's 2020 Urban Water Management Plan (UWMP) and Drought Contingency Plan (DCP).

Annual Groundwater Atlas, City of Riverside Public Utilities, Riverside, CA. *Principal in Charge.* Supported the development of an updated Groundwater Atlas for RPU. The atlas is designed to report the water quality and quantity conditions of the groundwater basins that provide potable and non-potable water supplies to RPU's customers.

Citywide Recycled Water Concept Study, City of Victorville, CA. *Project Manager.* Leading a study to identify, evaluate, and prioritize recycled water opportunities, with an emphasis on groundwater recharge and advanced treatment alternatives.

Chino Basin Program, Inland Empire Utilities Agency, Chino, CA. *Pipeline Distribution System Lead.* Leading the conveyance system portion of the preliminary design report for the Chino Basin Program which will create a new, drought-resistant supply to the region.

Rialto-Colton Drought Contingency Plan, City of Rialto, CA. *Project Manager.* Led a DCP that systematically outlined drought monitoring, vulnerability assessment, mitigation actions, and a framework for response actions. Compiled information from the City's water suppliers and incorporated new information as part of the Rialto Basin Groundwater Management Plan.

Drought Contingency Plan, East Valley Water District, Highland, CA. *Project Manager.* Led development of a DCP that develops a drought monitoring framework that can identify when to trigger drought responses. The DCP builds on drought response actions from the WSCP, and collaboratively defines a comprehensive suite of mitigation activities and projects.

Watershed Connect Implementation Plan, San Bernardino Valley Municipal Water District, San Bernardino, CA. *Technical Advisor.* Supported Watershed Connect program's funding strategy and communication efforts.



EDUCATION

BS, Civil Engineering, California State Polytechnic University, Pomona

PROFESSIONAL REGISTRATIONS

Professional Engineer - Civil, CA, No. C72424
Exp.: June, 2022

SWRCB Registered T2 Water Operator #34907

SWRCB Registered D2 Water Operator #41981

"I am driven to connect with the people who manage and operate our local water resources and work together to deliver lasting value to the communities they serve."

Laine Carlson

Michael Cruikshank PG, CHG



PROFESSIONAL EXPERIENCE

Michael is a proven manager, certified hydrogeologist, and water resource planner with more than 20 years of professional experience. He has managed projects in large diverse stakeholder environments for a variety of water resource projects including the development of groundwater sustainability plans (GSPs), salt and nutrient management plans (SNMPs), and indirect potable reuse projects. He has technical expertise in water resource planning, hydrogeologic basin analysis, and the development of integrated groundwater and surface water models that are used to make important water resource management decisions on a watershed scale.

REPRESENTATIVE PROJECTS

Bunker Hill Basin Regional Recycled Water Salinity Management Feasibility Study, Regional Recycled Water Coalition, San Bernardino Valley, CA. Regulatory Strategy and Basin Context Lead.

Collaborated with the Coalition and Regional Board staff through a series of workshops to develop, evaluate, and select a preferred salinity management approach. This process explored several options, including a regional desalter facility and a sub-regional SNMP. Desalter facilities at the Tertiary Treatment System and Sterling Natural Resource Center were assessed based on cost, proximity, water quality, and site constraints.

Arlington Basin SGMA Compliance Support, Arlington Basin, Western Municipal Water District, Riverside, CA. Senior Hydrogeologist.

Assisted in the development and ongoing implementation of the Arlington Basin GSP to support proactive groundwater management despite the basin's low-priority SGMA classification. Oversaw preparation of the 2023 Annual Report and development of the 2024 Annual Report, analyzing basin conditions, water use, and sustainability metrics. Coordinated with Western Water and DWR to deliver compliant SGMA reporting and advance long-term basin sustainability initiatives.

Chino Basin Program – Preliminary Design Report, Inland Empire Utilities Agency, Chino Basin, CA. Hydrogeology Lead.

Responsible for developing the preliminary design of the PUT and TAKE well facilities first identified in the technical feasibility study and further refined in a detailed well siting study. The PDR will include the preliminary

design for approximately 16 injection wells and contains basis for design, construction logistics, operational strategy, and planning cost estimates.

Metropolitan Water Resources Management Plan (Metro Plan) and 2020 Urban Water Management Plan, City of Fresno, CA. Senior Hydrogeologist.

Developed and implemented a methodology to estimate groundwater in storage and available storage in the City's sphere of influence utilizing data from its monitoring network.

Rapid Infiltration and Extraction (RIX) Nitrogen Loss Workplan, San Bernardino Municipal Water Department, San Bernardino, CA. Principal in Charge.

Developed and implemented a Sampling and Analysis Plan. The project assessed nitrogen transformation within and down-gradient of the facility's percolation basins to understanding nitrogen loss during wastewater treatment and ensuring compliance with regulatory standards.

Feasibility Study for the Expansion of the Arlington Desalter System, Western Municipal Water District, Riverside, CA. Staff Hydrogeologist.

Developed cost-effective alternatives to increase groundwater production at the Arlington Desalter, including siting and sizing a new array of production wells and artificial recharge facilities such as the Victoria Recharge Basin. Constructed the conceptual hydrogeologic model for the Arlington Basin to support development of a MODFLOW groundwater flow model, which was used to evaluate various production and recharge scenarios and assess the basin's capacity for increased yield. Prepared report figures, technical analyses, and preliminary design calculations for raw water pipelines supplying the expanded Arlington Desalter.



EDUCATION

MS, Civil and Environmental Engineering, California State University, Fullerton, CA.

BS, Geology, California State University, Fullerton, CA.

PROFESSIONAL REGISTRATIONS

Professional Geologist, California, No. 8854

Certified Hydrogeologist, No. 994

Engineer-in-Training No. 142007

“I take a multidisciplinary approach to every project to deliver forward-looking solutions for sustained community value.”

Michael Cruikshank

E. Resumes of Key Personnel

Rob Morrow^{PE}

Professional Engineer
- Civil, California, No. C68916



EDUCATION

MS, Civil / Environmental Engineering, University of California, Berkeley
BS, Civil / Environmental Engineering, Vanderbilt University

PROFESSIONAL EXPERIENCE

Rob Morrow's 25 years of engineering experience centers on integrated water resources planning with a focus on long-term supply planning and implementation of recycled water projects from concept to operation for applications ranging from agricultural irrigation to potable reuse. He has led large and small recycled water master plans and preliminary designs across California and has led integrated water resources planning projects that analyzed water supply and demand portfolios that include imported water supplies, surface water, groundwater, stormwater, rainwater, graywater, groundwater recharge, and in-lieu recharge. Rob is experienced with financial revenue and funding strategy planning as well as preparation of multiple successful state and federal grant and loans.

REPRESENTATIVE PROJECTS

- **Title XVI Recycled Water Feasibility Study**, Eastern Municipal Water District, CA. *Project Manager.*
- **Title XVI Recycled Water Master Plan**, Pasadena Water and Power, CA. *Project Manager.*
- **Title XVI South Sacramento Agriculture and Habitat Lands Recycled Water Program Feasibility Study**, Sacramento County Regional Sanitation Bureau, CA. *Project Manager.*
- **Water Recycling Study**, City of Victorville, CA. *Technical Lead.*
- **Metropolitan Water Resources Management Plan and 2020 UWMP**, City of Fresno, CA. *Project Manager.*
- **San Jacinto Valley Water Supply Study**, Eastern Municipal Water District, Perris, CA. *Project Manager.*
- **Water Resources Implementation Strategy**, Calleguas Municipal Water District, Camarillo, CA. *Senior Engineer.*
- **Enhanced Recycled Water Feasibility Analysis**, Montecito Water District & Montecito Sanitary District, Montecito, CA. *Reuse Alternatives Lead.*
- **Replenish Big Bear**, Big Bear Area Regional Wastewater Agency, Big Bear, CA. *Funding and Permitting Support.*

Aaron Morland^{PE}

Professional Engineer
- Civil, California, No. C94132



EDUCATION

BS, Environmental Engineering, California Polytechnic State University, San Luis Obispo

PROFESSIONAL EXPERIENCE

Aaron Morland brings seven years of engineering experience covering a wide range of water, wastewater, and recycled water projects. He has played a key role in numerous regional water resources planning efforts and infrastructure design projects as a project engineer, deputy project manager, and lead author. His work includes feasibility studies, Urban Water Management Plans (UWMP), Sewer System Management Plans, funding applications, alternatives analyses, and engineering design of water and wastewater infrastructure.

REPRESENTATIVE PROJECTS

- **Chino Basin Program Preliminary Design Report**, Inland Empire Utilities Agency, Ontario, CA. *Staff Engineer.*
- **Basin Optimization Framework Phase 1**, San Bernardino Valley Municipal Water District, San Bernardino, CA. *Project Engineer.*
- **Replenish Big Bear Lake Alternative Analysis**, Big Bear Area Regional Wastewater Agency, Big Bear City, CA. *Assistant Engineer.*
- **Creek Lands Conservation**, San Luis Obispo Creek Flow Enhancement Project Feasibility Study, San Luis Obispo, CA. *Staff Engineer.*
- **Sewer Service Feasibility Study**, Big Bear City Community Services District, Big Bear City, CA. *Staff Engineer.*
- **Santa Ana River – Mill Creek Cooperative Water Project Agreement Update Support**, San Bernardino Valley Water Conservation District, Redlands, CA. *Assistant Engineer.*
- **2020 Integrated Regional UWMP**, San Bernardino Valley Municipal Water District, San Bernardino, CA. *Staff Engineer.*
- **Watershed Connect Funding and Financing Support**, San Bernardino Valley Municipal Water District, San Bernardino, CA. *Staff Engineer.*
- **Pure Water Soquel Injection Wells**, Soquel Creek Water District, Soquel, CA. *Staff Engineer.*

E. Resumes of Key Personnel

Sydney Santos ^{PE, LEED GA}

Professional Engineer
- Mechanical, California, No. M38847



LEED GA

EDUCATION

BS, Biological Engineering, The Pennsylvania State University

PROFESSIONAL EXPERIENCE

Sydney Santos brings 10 years of engineering experience in leading water systems planning and design projects from concept through construction across California. Her work focuses on regional water resource planning and project management, where she develops strategic frameworks that address current and future water needs while considering the impacts of climate change. She has successfully led multidisciplinary teams to assess regional water availability, forecast demand, and propose adaptive management strategies that enhance resilience to climate variability. An effective communicator and collaborator, she excels at working with diverse teams and ensuring that planning efforts align with environmental goals and community interests, ultimately foster sustainable water resource management.

REPRESENTATIVE PROJECTS

- **Citywide Recycled Water Conceptual Study**, City of Victorville, Victorville, CA. *Project Engineer.*
- **Stormwater Diversion to WRP Feasibility Study**, City of Camarillo, Camarillo, CA. *Project Manager & Engineer.*
- **PERC Funding Support**, San Bernardino Valley Water Conservation District, San Bernardino, CA. *Project Manager and Engineer.*
- **Infiltration and Inflow Study**, City of Santa Barbara, CA. *Engineering Support.*
- **Pressure Management Study**, Scotts Valley Water District, Scotts Valley, CA. *Engineering Support.*
- **2025 Water Master Plan Update**, City of Victorville, CA. *Project Engineer.*

Eric Fregoso ^{GIT}

Geologist in Training



EDUCATION

MS, Civil Engineering, California State University, Fullerton (In Progress)

BS, Geology, California State University, Fullerton

PROFESSIONAL EXPERIENCE

Eric is a Geologist-in-Training with three years of experience in the water resources and hydrogeological field. Eric's experience includes a variety of environmental and hydrogeological projects involving soil and groundwater investigations for sampling and remediation, Phase II Environmental Site Assessments, soil vapor extraction systems, in-situ treatment, PFAS investigations, and more. At WSC, Eric has provided support in well siting, design, and construction oversight, and has worked on projects involving analyzing, processing, managing, and interpreting groundwater data for reporting. Eric is a key contributor at the WSC Hydrogeology team and uses ArcGIS for geospatial analysis and for the creation of maps and figures. Eric is a current graduate student at California State University, Fullerton, and is completing his degree in Civil Engineering, specializing in Water Resources.

REPRESENTATIVE PROJECTS

- **Bunker Hill Basin Regional Recycled Water Salinity Management Feasibility Study**, San Bernardino Valley Municipal Water District, San Bernardino, CA. *Staff Hydrogeologist.*
- **Chino Basin Program Preliminary Design Report (CBP PDR)**, Inland Empire Utilities Agency, Chino Basin, CA. *Staff Hydrogeologist.*
- **Recomputation of Ambient Water Quality**, Basin Monitoring Program Task Force, Santa Ana Watershed Project Authority, Santa Ana River Watershed, CA. *Staff Hydrogeologist.*
- **Bedford-Coldwater Administrator**, Elsinore Valley Municipal Water District, Lake Elsinore, CA. *Staff Hydrogeologist.*
- **RIX Nitrogen Loss Demonstration Project and Workplan**, San Bernardino Municipal Water Department, Inland Empire, CA. *Staff Hydrogeologist.*

Project Understanding

Unlocking Water Reliability Through Strategic Desalter Expansion and Recharge Capabilities

Western Water is leveraging its existing Arlington Desalter and newly constructed infrastructure to explore expanded uses of local groundwater resources. This feasibility study will evaluate approaches to recycled water integration and system optimization to support long-term regional water sustainability.

Western Water owns and operates the Arlington Desalter (ADS), a reverse osmosis groundwater treatment facility that began operation in 1990. The Arlington Desalter serves two primary purposes: (1) providing a local, reliable source of potable water, and (2) capturing poor-quality groundwater—elevated in total dissolved solids (TDS) and nitrates—to prevent its migration into the Temescal Basin through the Arlington Gap.

Western Water recently constructed the Victoria Avenue Recharge Basin (Victoria Basin) to support sustainable pumping from the Arlington Basin. Western Water also recently constructed additional conveyance facilities that work in tandem with its existing facilities to substantially increase Western Water’s flexibility to deliver water to many of its wholesale customers from ADS and the Chino Desalter Authority – collectively the joint desalter enterprise. The Arlington Basin and associated facilities are immensely valuable local resources, and Western Water sees an opportunity to expand the uses and benefits of these resources through a comprehensive strategy for recycled water use and sustainability within the joint desalter enterprise.

This Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion will evaluate opportunities to enhance the production, reliability, and sustainability of the Arlington Basin through expanded groundwater recharge and desalter system optimization.

The objectives are to:

1. Identify and evaluate potential recycled water sources for recharge at the Victoria Basin.
2. Assess regulatory and environmental requirements to support future preparation of a Title 22 Engineering Report for Indirect Potable Reuse.
3. Evaluate infrastructure needs—including conveyance, treatment, and recharge systems—for integrating recycled and non-potable water sources.
4. Analyze options to optimize existing recycled water use and expand ADS capacity to increase groundwater recovery.
5. Assess brine line capacity and disposal alternatives to inform and align with the Santa Ana Watershed Project Authority (SAWPA) Brine Line Master Plan.
6. Develop conceptual recharge and extraction scenarios, assessing impacts on groundwater quality, basin storage, and water supply availability.
7. Integrate regional demands and long-term reliability planning, considering future market opportunities for desalinated water within the joint desalter network.



WSC Will Leverage Western Water’s Diverse Portfolio to Develop Innovative and Resilient Supply Alternatives

Arlington Desalter 1 13

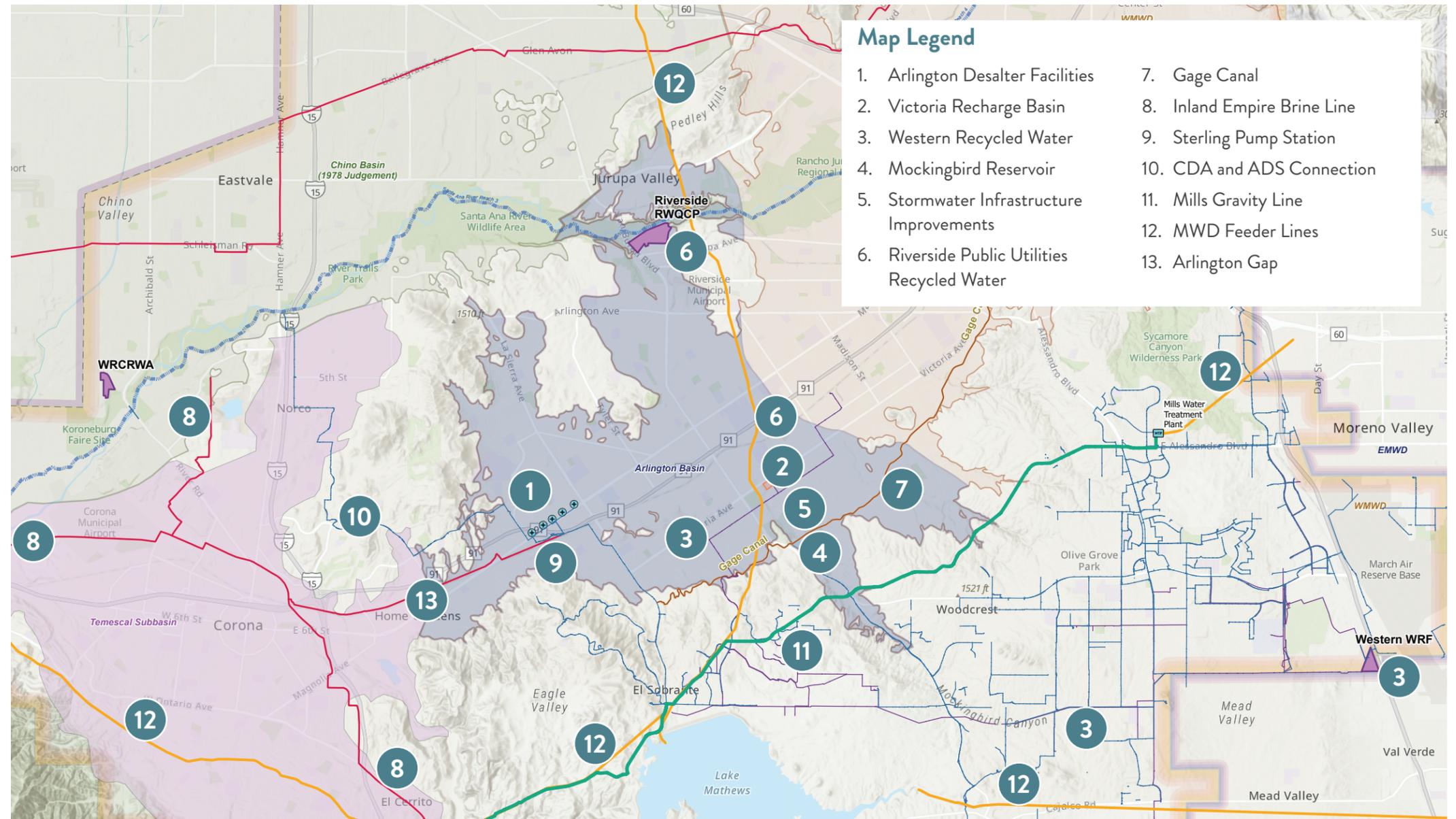
Located at the western, down gradient end of the Arlington Basin, the facility consists of five desalter wells designed to collectively produce approximately 5,000 AFY year. The ADS Well Field is located within the median of Magnolia Avenue in the City of Riverside, with wells spaced approximately 1,000 feet apart. In 2009, a feasibility study evaluated increasing the ADS’s capacity from 6.3 MGD to 10 MGD. The study included a detailed analysis of potential recharge basin and well field expansion sites, particularly in the eastern portion of the basin, away from the pumping depression caused by the existing ADS Wells.

Victoria Recharge Basin 2

The Victoria Basin, constructed in 2020, consists of a system of channels, pipes, structures, basins and appurtenances for the capture and infiltration of surface water (stormwater and dry-weather flows such as over irrigation) and non-potable water. Victoria Basin provides a design recharge capacity of approximately 2,500 AFY and a surface storage capacity of about 50 AF. The basin can recharge supplemental non-potable water and stormwater, which would otherwise leave the basin through lined stormwater channels. Recharge at the Victoria Basin is essential to maintaining groundwater sustainability and supporting additional groundwater production at the Arlington Desalter.

Potential Source Water for Recharge 3 4 5 6 7 12

A range of potential source waters have been identified to support groundwater recharge and replenishment within the Arlington Basin. These sources include recycled water from the Western Water Recycling Facility or the City of Riverside Regional Water Quality Control Plant (RWQCP), non-potable water (Gage Canal and Mockingbird Reservoir Operations), and local stormwater. Each source offers unique benefits and operational flexibility, but also bring new regulatory, operational, and institutional considerations that need to be closely evaluated to determine the optimal approach to increasing recharge at Victoria Basin.



Conveyance Facilities 9 10 11

Western Water has made substantial investments in water resources and conveyance infrastructure in the last 6 years, resulting in a substantial increase in access to local water supplies. The Sterling Pump Station and Reservoir allows Western Water to deliver water produced at the Arlington and Chino desalters, which were recently expanded, to customers throughout its service area. The Sterling Pump Station conveys water through the 30-inch La Sierra Pipeline and into the La Sierra Reservoir. From there, Western Water can deliver the water to its Riverside retail system and Western Water wholesale customers via the Mills Gravity Line.

Western Water has also invested in recycled water and non-potable conveyance facilities and has an extensive network that spans from the Western Water Recycling Facility across its service area to the Victoria Basin.

Inland Empire Brine Line 8

The Inland Empire Brine Line is a critical regional asset that provides an effective and economic way of protecting local groundwater quality by transporting brine waste from desalters and other facilities downstream to the Orange County Sanitation District (OC San) operated Santa Ana River Interceptor, which extends an additional 21 miles before discharging to OC San Treatment Facility No. 2 in Huntington Beach before being released into the Pacific Ocean. SAWPA recently completed the Inland Empire Brine Line Master Plan which identifies capacity constraints, system deficiencies, and proposes enhancements to support future growth and regulatory requirements.

Approach

Delivering Actionable Strategies for Long-Term Basin Sustainability and Funding Readiness

The following section outlines our approach to the four tasks in the Scope of Work to developing a clear, consensus-driven strategy that positions Western Water for successful implementation and funding.

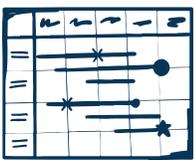
This work would be a natural continuation of a partnership between WSC staff and Western Water that began in 2009 with the Arlington Desalter Expansion Study, prepared by Michael Cruikshank at a previous firm, and continued with the 2020 UWMP and Drought Contingency Plan. As part of our ongoing partnership, WSC is currently supporting the Arlington Basin Groundwater Sustainability Agency administration services that includes the preparation of annual reports and implementing GSP and SGMA compliance, preparing the 2020 and 2025 UWMPs and Water Shortage Contingency Plans (WSCP), and working closely with Western Water and San Bernardino Valley on the San Bernardino Basin Optimization and Stewardship Program.

Our team’s unmatched regional knowledge, combined with our diverse technical expertise and familiarity with relevant state and regional regulatory constraints, allows us to collaborate efficiently with Western Water to identify, evaluate, and select an optimal strategy that meets your unique needs and maximizes long-term benefits of the Arlington Basin.

We value the long-term partnerships we have built and we have a personal stake in the success of Western Water’s efforts and long-term health of this basin. We are committed to ask “what if” to identify creative and collaborative solutions that will enable Western Water to maximize recharge at the Victoria Basin and potentially expand the ADS cost effectively.

WSC’s approach to this project focuses on four key elements based on nearly 20 years of experience working on groundwater and reuse projects in the region, developing more than 10 Reclamation feasibility studies and/or applications, and extensive experience working with Western Water and its regional partners.

Our approach to achieving Western Water’s near- and long-term goals is detailed in the following approach and workplan section.



Thorough Analysis

WSC understands the Arlington Basin—its stakeholders, its opportunities, and its needs—through our work with Western Water and other regional stakeholders. This enables us to complete a thorough analysis of feasible strategies to inform confident decision-making.



Achieve Consensus

Internal alignment and buy-in from external stakeholders is critical for a recommended strategy to achieve effective implementation. WSC is a leader in guiding regional strategies, and we will deftly facilitate a process designed to build strong consensus among key stakeholders.



Position For Funding

Producing a Reclamation-compliant Feasibility Study that aligns recommended strategies with USBR’s Title XVI application criteria positions Western Water and its partners for future funding opportunities.



A Clear Path Forward

The Feasibility Study is an opportunity for Western Water to clearly define a lasting solution and position for Title XVI implementation funding. Our approach will give Western Water confidence in its path forward.

G. Project Approach

A Robust Evaluation of Feasible Alternatives Will Inform Strategic Decision Making

As identified in the RFP, there are a range of recharge alternatives that Western Water will explore as part of this Feasibility Study. The ultimate solution could include multiple actions that form an optimized strategy to optimize the use of available water resources. This section explores several of the key alternatives that will be considered as part of the Feasibility Study. Our team will work closely with Western Water to get all viable options on the table, define specific concepts for evaluation, and provide a robust evaluation for each alternative.

Potential Source Water for Recharge

A range of potential source waters have been identified to support groundwater recharge and replenishment within the Arlington Basin. These sources include recycled water, non-potable surface water, and stormwater capture opportunities. Each source offers unique benefits and operational flexibility to enhance basin sustainability, improve groundwater quality, and support long-term water supply reliability, but also come with unique operational, institutional, and regulatory considerations.

Summary of Source Water Options for Recharge, Benefits, and Infrastructure Considerations

Source Water	Description	Potential Benefits	Considerations / Infrastructure Needs
Western Water Recycling Facility (WWRF) Recycled Water	Tertiary-treated recycled water produced at WWRF.	Reliable, locally controlled supply; meets Title 22 requirements; consistent source for aquifer recharge.	Conveyance to Victoria Recharge Basin; potential PFAS treatment; operational coordination with other recharge sources.
City of Riverside Recycled Water	Tertiary-treated recycled water from the City of Riverside RWQCP.	Provides supplemental water for recharge; can blend or alternate with WWRF recycled water; supports water quality management.	Coordination with City of Riverside; conveyance pipelines to recharge facilities; regulatory compliance.
Non-Potable System (Gage Canal and Mockingbird Reservoir)	Surface water deliveries from Gage Canal Company non-potable system.	Proximity to Victoria Basin; supports salt management with low TDS.	Coordination with Gage Canal Company; flow routing and storage management; conveyance improvements; coordination with existing non-potable operations.
Stormwater	Local stormwater collected via infrastructure improvements.	Enhances natural groundwater recharge; reduces runoff losses; provides diluent source, low TDS, flood control.	Coordination with Riverside County Flood; new/expanded stormwater diversion infrastructure; conveyance pipelines; integration with Victoria Basin.

G. Project Approach

Regulatory Context and Groundwater Replenishment Regulations

Using recycled water as a source of recharge at Victoria Basin is an excellent opportunity, but would trigger a more complex set of regulatory requirements and operational constraints. Regulations for groundwater replenishment reuse projects (GRRP) were finalized in 2014. This project falls under Title 22 Article 5.1, titled Indirect Potable Reuse: Groundwater Replenishment – Surface Application. Regulatory considerations for recycled water recharge at the Victoria Basin are provided in the table below.

Regulatory Considerations for Groundwater Replenishment Reuse Projects.

Regulatory Category	Design and Operation Considerations
Response Retention Time	<ul style="list-style-type: none">• The period of time necessary to allow a project sponsor to identify treatment failures and implement actions to mitigate those failures.• The response retention time for each GRRP must be approved by DDW and be no less than two months.• Initially, the response retention time is estimated through hydrogeologic models; DDW grants only half of the modeled response retention time until a tracer study is completed.• GRRP planning stages should include sufficient safety factors for retention time to ensure times will be met upon start of operations.
Blending Requirements	<ul style="list-style-type: none">• Diluent water is typically used in spreading basins.• Utilize groundwater underflow as a diluent source (i.e. IEUA and EVWD) is beneficial but requires extensive groundwater modeling and monitoring
Water Quality Requirements	<ul style="list-style-type: none">• The Arlington Basin does not have assimilative capacity. The Water Quality Objective (WQO) for TDS is 980 mg/L, while the current concentration is 1,020 mg/L. The WQO for nitrate (as NO₃) is 10.0 mg/L, and the current concentration is 16.6 mg/L.• Determine whether the source recycled water quality meets or exceeds the applicable ambient water quality objectives and consider the benefits of including non-recycled water sources to lower TDS and nitrate concentrations.
Monitoring and Reporting Requirements	<ul style="list-style-type: none">• At least two monitoring wells must be installed down gradient of recharge operations.• An alternative source of drinking water supply must be provided if the recycled water is out of compliance.• A Title 22 Engineering Report is required following the Preliminary Design Report (PDR).• An Operations Optimization Plan must describe operations, maintenance, analytical methods, and required monitoring and reporting.

This Feasibility Study will leverage the 2009 ADS expansion evaluation and more recent investigations of Arlington Basin sustainability to develop and evaluate up to four conceptual recharge and extraction scenarios, assessing impacts on groundwater quality, basin storage, and water supply availability.

We will look closely at the water quality of each potential source water for recharge at the Victoria Basin for comparison to regulatory requirements in Title 22 and the Santa Ana Basin Plan to identify the regulatory, operational and institutional considerations that will influence the evaluation of each alternative. Coordination with SAWPA and the IEHL Master Plan will identify treatment requirements and future coordination needs with SAWPA and its ongoing efforts to ensure the IEHL can accept additional flows from an expanded ADS.

The analysis will leverage Western's existing infrastructure and identify additional facilities that would be needed to deliver supplemental recharge water to Victoria Basin and convey additional potable water from an ADS expansion to agencies in Western Water's service area. We anticipate that the long-term supply analysis, which is being prepared as part of the 2025 UWMP updates by Western and each of the retailers in its service area, will serve as a jumping off point for incorporating regional demands and identifying potential future market opportunities for expanded service of desalinated water within the connected Chino-Arlington regional network.

G. Project Approach

Strong Engagement and Alignment Is Foundational for Effective Implementation of the Optimal Strategy

A key success factor for this Feasibility Study is to end with confidence that the recommended solutions are the optimal approach to maximize the benefits of your water resources. With this confidence, Western Water staff can justify recommending future investments to their Board and ratepayers. With this in mind, WSC will engage with internal staff from Water Resources, Operations, and Engineering to gather detailed input and develop a comprehensive strategy for recycled water use and sustainability within the joint desalter enterprise.

The proposed engagement approach includes a combination of group meetings for programmatic topics that can be most efficiently explored as a group, and focused working sessions with specific departments to further develop more detailed aspects of the analysis to bring back to the larger group. In addition, WSC recommends meeting with key external stakeholders to better understand the feasibility and constraints of incorporating various water sources and facilities that are not under Western Water control.

While this may seem like more touchpoints than Western Water anticipated for this project, WSC has learned through extensive experience with similar projects that this step-wise process is the most effective way to incorporate input from multiple perspectives, maintain momentum, and keep everyone engaged and aligned throughout the process. We anticipate the following series of meetings and working sessions will result in a collaborative and efficient process that makes the best use of everyone's time and enables Western Water to ultimately reach a broadly supported set of solutions. In addition, WSC will hold routine progress meetings with Western Water's project manager and core project team to maintain momentum and quickly resolve any roadblocks that may arise. The purpose, timing, and sequence of meetings and working sessions are depicted in our proposed Work Plan and Schedule on Page 20.

Group Meetings

Group meetings will focus on programmatic discussions and decision making that can be most efficiently achieved in a group setting.



- Kickoff Meeting (In-Person)
- Alternatives Development Meeting (In-Person)
- Alternatives Screening Workshop (In-Person)
- Alternatives Selection Workshop (In-Person)
- Draft and Final Draft Feasibility Study Review Meetings (Virtual)
- As-Needed Meeting (In-Person)

WSC recommends holding scope for one additional group meeting in case another touch point is needed to ensure alignment.

Focused Working Sessions

Working sessions will be focused on more detailed information gathering and confirming understanding of existing conditions and the impacts of proposed changes.



- Operations
- Water Resources
- Engineering
- Two As-Needed Working Sessions

External Stakeholder Meetings

External stakeholder meetings with these key agencies are recommended to inform a thorough feasibility analysis:



- Riverside Public Utilities
- Gage Canal Company
- Santa Ana River Watershed Project Authority
- Flood control agencies
- One As-Needed Meeting

WSC assumes Western Water staff will provide project updates to its governing Committees and Board at key milestones. WSC will prepare the monthly progress reports required in Scope Item 1.4 in PowerPoint format so Western Water staff can easily adapt these updates and meeting materials for use in Committee and Board updates.

G. Project Approach

The alternative evaluation and selection process is a particularly critical phase to build alignment and confidence in decision-making. Sometimes, alignment is natural and the optimal solution is apparent to the entire group so a simple approach to the alternatives analysis is sufficient to make recommendations with confidence. In more complex situations where there are important tradeoffs and different perspectives to reconcile, a more analytical multi-criteria evaluation process can be useful to capture the range of economic, operational, regulatory, and other factors influencing Western Water’s decisions.

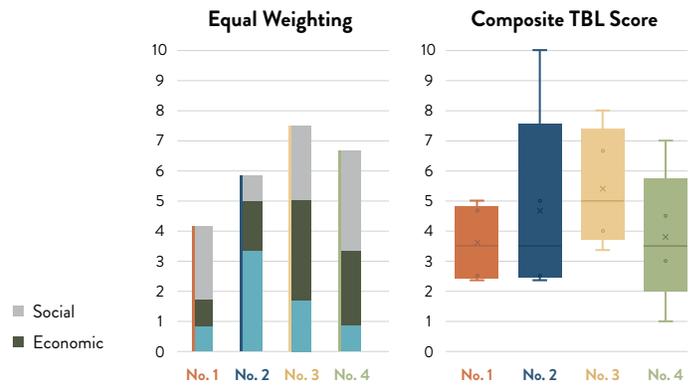
For the San Bernardino Valley Regional Recycled Water Concept Study, WSC developed a Regional Recycled Water Decision Tool that was used to assign relative scores and rankings to each alternative for multiple criteria to help identify the most beneficial approaches to meet the region’s recycled water goals. This tool could be updated and adapted for this Feasibility Study and a similar approach could be used to evaluate alternatives and identify a recommended set of actions that will collectively meet the goals and objectives of the Feasibility Study.

WSC will work with Western Water to develop an alternatives evaluation process that is right sized for the needs and considers multiple criteria to support transparent decision making and buy-in of the recommended solutions.

The Feasibility Study is an Opportunity to Position for Additional Funding

WSC will produce a Reclamation-compliant Feasibility Study that is written with purpose to position Western Water’s recommended projects for funding. We will do this by meticulously following Reclamation’s Feasibility Study requirements to facilitate a timely approval and deliberately aligning our Feasibility Study with the selection criteria for potential Reclamation funding programs, which will help support Western’s future efforts to prepare successful funding applications and reduce application development costs.

WSC has extensive Reclamation Feasibility Study experience. WSC’s in-house funding experts have been developing relationships with Reclamation staff since 2016 when the Title XVI program was amended to allow new water recycling and desalination projects to compete for federal funding and we have a successful track record working together with client staff to develop and synthesize information that meets the requirements of WTR 11-01. Reclamation’s WTR 11-01 requirements go beyond traditional feasibility study documents typically prepared for projects and it is essential that all requirements are addressed to meet Reclamation’s standards. Our knowledge of WTR 11-01 allows us to proactively develop content and present the material in a manner that assists Reclamation with their review and helps to fast-track their determination. A key benefit of a timely determination is that once the Feasibility Study is found to meet the requirements of WTR 11-01, project costs may start to be incurred and would be eligible for reimbursement if future Reclamation funding is awarded.



Regional Recycled Water Decision Tool														
SCORING MATRIX	Priority												Criteria Importance Ranking	Criteria Weight
	1	2a	2b	3a	3b	4	5	6	7a	7b	7c			
FINANCIAL														
• RW System Unit Cost (\$/AF)	\$ 3,080	\$ 440	\$ 1,240	\$ 970	\$ 890	\$ 300	\$ 670	\$ 590	\$ 1,590	\$ 2,800	\$ 420	1	100.0	
• Advanced Treatment Risk	Medium	Low	Low	Medium	Low	Low	Low	Low	None	Medium	None	2	85.7	
• Flexibility to adapt to changed conditions	Low	Medium	Medium	High	High	Medium	Low	Medium	Medium	Low	Medium	4	57.1	
SOCIAL														
• Creates and/or sustains regional partnerships	High	High	High	High	High	High	High	Low	Medium	High	High	7	14.3	
• Promotes beneficial management of basin water levels	High	High	High	High	Medium	High	High	Low	None	Medium	Medium	2	85.7	
• Buildout RW Yield (AF)	4,600	11,200	17,600	26,100	5,900	5,100	1,600	4,000	350	2,100	880	4	57.1	
ENVIRONMENTAL														
• Supports effective and sustainable habitat conservation	None	Medium	Medium	None	Medium	High	None	None	None	None	High	6	28.6	

The Decision Tool that WSC developed for the Regional Recycled Water Concept Study could be easily adapted for this Feasibility Study.

A sensitivity analysis can be incorporated into the evaluation to assess thoroughness and reliability based on how changes in the criteria weights affect the overall outcomes. A sensitivity analysis helps evaluate the alternatives from different perspectives and identifies the most influential factors driving the final results.

G. Project Approach

All of the Feasibility Studies WSC has submitted to Reclamation have been approved as submitted, and only one required minor follow up to address Reclamation questions. Reclamation posted WSC's Feasibility Study for the Big Bear Area Regional Wastewater Agency as one of two good examples on their website.

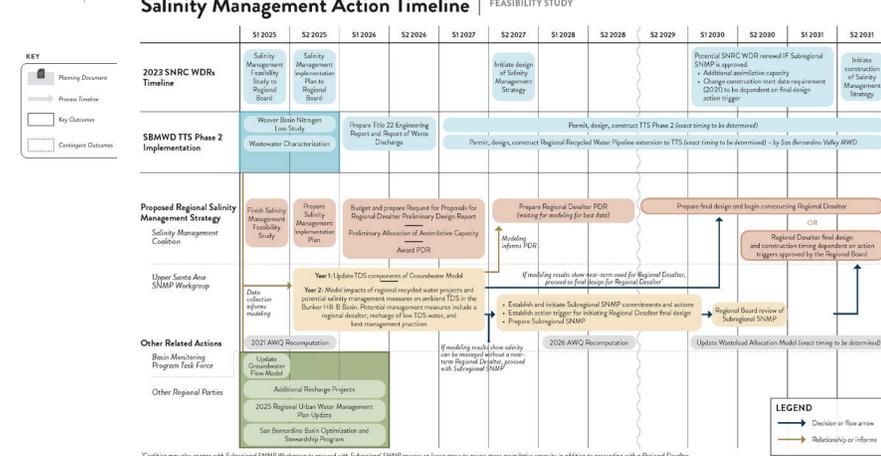
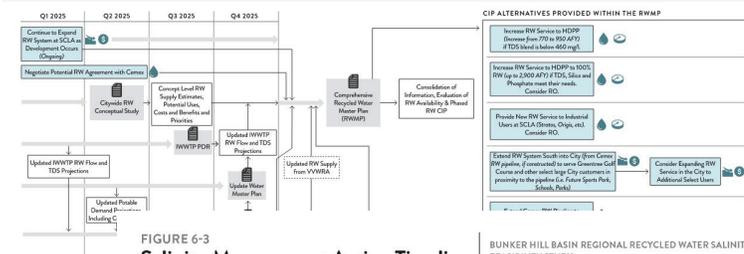
In addition to understanding the nuances of satisfying WTR 11-01 requirements, WSC has extensive experience preparing applications in response to Reclamation funding opportunities for the Title XVI program. WSC has prepared 12 applications and has been successful in helping clients obtain approximately \$70 million in federal grant funding through the Title XVI program. Our knowledge of the funding applications enables us to prepare Feasibility Study content which can later be leveraged to streamline preparation of an application. We pay close attention to program scoring criteria and program goals to ensure content aligns with agency requirements and maximizes the potential of a successful funding award. Grant solicitations are often released with little to no advance notice and submittals are due within tight timelines. With future funding in mind as we develop the Feasibility Study, we can help position Western Water for success when it comes time to apply for funding.

The Path Toward a Lasting Solution Must Be Adaptable to Changing Conditions

It is likely that the Feasibility Study will recommend a set of related and integrated projects and actions rather than a single distinct project. Multi-step implementation strategies like this are typically sequenced and later steps may be contingent upon outcomes of earlier steps that cannot be known at the time of the Feasibility Study. These can include the results of subsequent groundwater modeling, the ability to secure the necessary source water and/or sell the water produced, the amount of recycled water available in the future as a result of growth, or how new water quality regulations may impact water uses.

Moving forward, Western Water will implement the recommended projects in a persistently complex environment so the implementation strategy needs to be adaptable as new information becomes available and opportunities evolve.

As part of the Feasibility Study, WSC will work with Western Water to identify and integrate adaptive management measures for the selected strategy, as well as triggers for implementation of specific actions and offramps toward alternative strategies. Where possible, the adaptive management measures will be linked to and leverage existing Western Water or regional data collection, planning cycles, and initiatives to support efficient and streamlined efforts aligned with other activities.



WSC prepared implementation roadmaps as part of the deliverables for two recent recycled water studies: the Bunker Hill Regional Recycled Water Salinity Management Feasibility Study for the Bunker Hill Regional Recycled Water Coalition and the Citywide Recycled Water Concept Study for the City of Victorville. These roadmaps identify near-term “no regret” actions that help move the agencies toward their goals immediately, while working in parallel to develop additional insights that are critical to inform subsequent decisions along the road to achieving their ultimate goals.

Work Plan

Based on previous experience with USBR Feasibility Studies, WSC recommends allowing 18 months for the project schedule, but we will work with Western Water to prepare a detailed schedule that meets Western Water's needs and USBR grant requirements. The Scope of Work provided with the RFP is included with the separately packaged fee proposal, along with our scope assumptions that are consistent with the steps presented in this Work Plan.

TASK 1: Project Management		TASK 3: Indirect Potable Reuse Evaluation and Scope of Work Preparation & TASK 4: Feasibility Study			
Project Initiation 	Alternatives Development 	Alternatives Analysis 	Alternative Selection 	Draft Feasibility Study 	Final Feasibility Study 
WORK ELEMENTS					
<ul style="list-style-type: none"> ▶ Project setup ▶ Detailed project schedule ▶ Initial data collection and review ▶ Conduct initial alternatives brainstorm 	<ul style="list-style-type: none"> ▶ Define additional data needs ▶ Conduct focused working sessions for detailed info gathering ▶ Prepare summary of conceptual alternatives ▶ Review available water sources, water quality, operational, and regulatory constraints. ▶ Develop draft evaluation criteria and scoring approach 	<ul style="list-style-type: none"> ▶ Refine alternatives ▶ Perform cost and benefit analysis for five alternatives ▶ Prepare summary for each alternative ▶ Apply evaluation criteria for preliminary screening 	<ul style="list-style-type: none"> ▶ Update the preliminary alternatives analysis to incorporate feedback from the Alternatives Screening Workshop 	<ul style="list-style-type: none"> ▶ Incorporate alternatives analysis process and results into Draft Feasibility Study sections ▶ Prepare Economic Analysis, Environmental, Legal and Institutional and Financial Capability sections based on preferred alternative 	<ul style="list-style-type: none"> ▶ Incorporate Western Water's comments on the Draft Study and submit Final Draft to Reclamation ▶ Address any Reclamation comments on the Final Draft
DELIVERABLES					
<p>ALL PHASES</p> <ul style="list-style-type: none"> ▶ Updated schedule ▶ Monthly progress report, invoices, grant reporting information 	<ul style="list-style-type: none"> ▶ Preliminary maps and charts for conceptual alternatives prior to Alternatives Refinement Workshop ▶ Preliminary water quality summary of various recycled water and diluent sources ▶ Summary of regulatory requirements applicable to each source water 	<ul style="list-style-type: none"> ▶ Draft alternatives analysis summary ▶ Draft IPR TM describing comprehensive water quality summary of various recycled water and diluent sources and compliance with applicable regulatory limits 	<ul style="list-style-type: none"> ▶ Updated alternatives analysis summary ▶ Final IPR TM 	<ul style="list-style-type: none"> ▶ Draft Feasibility Study ▶ Title 22 Engineering Report Scope of Work 	<ul style="list-style-type: none"> ▶ Draft Final and Final Feasibility Study for submittal to USBR
COORDINATION TASK 2: Stakeholder Engagement					
<p>ALL PHASES</p> <ul style="list-style-type: none"> ▶ Routine Coordination Meetings <p>GROUP MEETING</p> <ul style="list-style-type: none"> ▶ Kickoff Meeting 	<p>ALL PHASES</p> <ul style="list-style-type: none"> ▶ Operations ▶ Engineering ▶ Water Resources <p>GROUP MEETING</p> <ul style="list-style-type: none"> ▶ Alternatives Refinement Workshop 	<p>GROUP MEETING</p> <ul style="list-style-type: none"> ▶ Alternative Screening Workshop 	<p>GROUP MEETING</p> <ul style="list-style-type: none"> ▶ Alternative Screening Workshop 	<p>GROUP MEETING</p> <ul style="list-style-type: none"> ▶ Draft Feasibility Study Review Workshop ▶ Final Draft Feasibility Study Review Workshop 	<ul style="list-style-type: none"> ▶ Coordination with USBR, if needed to finalize
KEY OUTCOMES					
<ul style="list-style-type: none"> ▶ Shared goals and objectives for the project ▶ List of preliminary alternatives based on prior analysis and conceptual ideas 	<ul style="list-style-type: none"> ▶ Refinements to conceptual alternatives ▶ Consensus on up to four alternatives to be evaluated in detail ▶ Established evaluation criteria and scoring approach 	<ul style="list-style-type: none"> ▶ Refinements to cost and benefit analysis, if needed ▶ Refinements to preliminary alternatives evaluation results 	<ul style="list-style-type: none"> ▶ Consensus on the preferred alternative ▶ Defined adaptive management strategies and roadmap for the preferred alternative 	<ul style="list-style-type: none"> ▶ Draft and Final Draft Feasibility Study, including Implementation Roadmap 	<ul style="list-style-type: none"> ▶ Final Feasibility Study





FEE PROPOSAL

RFP-WR25-015

FEASIBILITY STUDY FOR

Recharging Recycled Water and Groundwater Desalter Expansion



Task No. Task Description	WSC													ALL FIRMS			
	PIC/Technical Advisor	Project Manager	Assistant PM	Engineering Support	QA/QC	Treatment & Disposal	Supply	Conveyance	Groundwater Support	Reclamation Compliance & Funding	Tech Editing & Communications	Admin	WSC Labor Hours	WSC Labor Fee	Expenses	WSC Fee	Total Fee
	Michael Cruikshank	Laine Carlson	Aaron Morland	Ariana Lopez	Rob Morrow	Matt Rodrigues	Sydney Santos	Phillip Medlock	Eric Fregoso	Justin Sutton	Cynthia Kahn	Roxanne Collins					
<i>Billing rates, \$/hr</i>	\$366	\$366	\$218	\$170	\$366	\$279	\$267	\$218	\$180	\$240	\$160	\$186					
1 Project Management																	
1.1 Kick-off Meeting	8	8	12	4									32	\$ 9,152	\$ 1,000	\$ 10,152	\$ 10,152
1.2 Project Schedule		4	12										16	\$ 4,080	\$ -	\$ 4,080	\$ 4,080
1.3 Project Milestone/Monthly Project Meetings	8	12	16										36	\$ 10,808	\$ -	\$ 10,808	\$ 10,808
1.4 Monthly Project Progress Reports		12	24									24	60	\$ 14,088	\$ -	\$ 14,088	\$ 14,088
1.5 Coordination with Western Staff	12	18	36										66	\$ 18,828	\$ -	\$ 18,828	\$ 18,828
SUBTOTAL	28	54	100	4	0	0	0	0	0	0	0	24	210	\$ 56,956	\$ 1,000	\$ 57,956	\$ 57,956
2 Stakeholder Engagement																	
2.1 Group Meetings	44	52	96	40							20		252	\$ 66,064	\$ 5,000	\$ 71,064	\$ 71,064
2.2 Working Sessions	12	30	40										82	\$ 24,092	\$ 200	\$ 24,292	\$ 24,292
2.3 External Stakeholder Meetings	14	28	40										82	\$ 24,092	\$ 200	\$ 24,292	\$ 24,292
SUBTOTAL	70	110	176	40	0	0	0	0	0	0	20	0	416	\$ 114,248	\$ 5,400	\$ 119,648	\$ 119,648
3 Indirect Potable Reuse Evaluation and Scope of Work Preparation																	
3.1 Water Quality Evaluation TM		4	8	60	2	32							106	\$ 23,068	\$ -	\$ 23,068	\$ 23,068
3.2 Title 22 Engineering Report Requirements TM		4	4	20	2	10							40	\$ 9,258	\$ -	\$ 9,258	\$ 9,258
SUBTOTAL	0	8	12	80	4	42	0	0	0	0	0	0	146	\$ 32,326	\$ -	\$ 32,326	\$ 32,326
4 Feasibility Study																	
4.1 Introductory Information			8	8			4						20	\$ 4,172	\$ -	\$ 4,172	\$ 4,172
4.2 Statement of Problems and Needs			8	8			4						20	\$ 4,172	\$ -	\$ 4,172	\$ 4,172
4.3 Water Reclamation, Recycling or Desalination Opportunities	36	60	100	120		40	20	36	40				452	\$ 108,884	\$ -	\$ 108,884	\$ 108,884
4.4 Environmental Consideration and Potential Effects			8	8									16	\$ 3,104	\$ -	\$ 3,104	\$ 3,104
4.5 Legal and Institutional Requirements			8										8	\$ 1,744	\$ -	\$ 1,744	\$ 1,744
4.6 Financial Capability of Sponsor			8										8	\$ 1,744	\$ -	\$ 1,744	\$ 1,744
4.7 Research Needs			4			4							8	\$ 1,988	\$ -	\$ 1,988	\$ 1,988
4.8 Draft Feasibility Study	8	16	40	40	8	8	8			16	12		156	\$ 37,360	\$ -	\$ 37,360	\$ 37,360
4.9 Final Draft Feasibility Study	4	8	24	24	4	4				4	8		80	\$ 18,524	\$ -	\$ 18,524	\$ 18,524
4.10 Final Feasibility Study	2	4	8	8	2					4	4		32	\$ 7,632	\$ -	\$ 7,632	\$ 7,632
SUBTOTAL	50	88	216	216	14	56	36	36	40	24	24	0	800	\$ 189,324	\$ -	\$ 189,324	\$ 189,324
COLUMN TOTALS	148	260	504	340	18	98	36	36	40	24	44	24	1572	\$ 392,854	\$ 6,400	\$ 399,254	\$ 399,254

10% mark-up on direct expenses; 15% mark-up for sub-contracted services
Mileage will be reimbursed at the prevailing federal mileage reimbursement rate in effect at the time of travel
Rates are subject to revision as of January 1 each year.

WSC is in agreement with the Scope of Work provided with the RFP. This document is based on the RFP Scope of Work, with minor modifications in blue to align with the work breakdown structure in our fee proposal and assumptions added in blue to clarify the basis for the fee proposal included with this submittal.

1.0 Task 1: Project Management

1.1 Kick-off Meeting

Consultant shall coordinate and attend an in-person Project Kick-off meeting with the Western Water staff. At a minimum, the Consultant's Project Manager, Technical Lead, and other key staff shall attend. Consultant shall prepare and submit an agenda, presentation and meeting materials one week in advance of the meeting. The meeting materials should convey the Consultant's proposed schedule of activities for completing the entirety of the Feasibility Study, anticipated sources of water, understanding of our current related system (Arlington Desalter, major related conveyance, etc.), questions for discussion and clarification, and other areas for discussion to advance the feasibility effort. A sign-in sheet shall be used to record attendance at the meeting. Within one week after the meeting, Consultant shall provide draft Meeting Minutes to the District.

Assumptions: Kickoff Meeting will be a 2-hour in-person meeting.

1.2 Project Schedule

Consultant shall prepare a project schedule that includes project milestones needed to complete a final feasibility study for Western Water's submission to USBR. Format of the schedule shall be Microsoft Project and PDF, latest software edition.

Assumptions: The project schedule is assumed to be 18 months.

1.3 Project Milestone/Monthly Project Meetings

Consultant shall host monthly updates with the Western Water Project Manager via Zoom or Microsoft Teams that summarize the progress of the work, list critical data collection items needed to support the ongoing work, identify items impacting the project schedule, and any other relevant project issues. Prior to meetings, the Consultant shall prepare and submit an agenda to Western Water for review. Within one week following a meeting, the Consultant shall prepare and distribute a brief meeting summary. Other key stakeholders will be included upon Consultant's request.

Assumptions: Meetings will be 1-hour virtual meetings. The budget for this task is based on 8 meetings, assuming that the meetings in Tasks 1.1, 1.5 and Task 2 will serve in place of some monthly meetings.

1.4 Monthly Project Progress Reports

Consultant shall submit Monthly Project Progress Reports that provide a summary of the project's progress for the most recent calendar month and include the following as a minimum: summary of work completed by task, list of proposed activities for the upcoming month, list of pending information needed to support the planned activities for the upcoming month, list of out-of-scope items, percent complete/budget status summary, and an updated project schedule showing work completed through the reporting period and any revisions to the overall project schedule.

Assumptions: If desired, Monthly Progress Reports will be prepared in PowerPoint format to facilitate use by Western for internal updates.

1.5 Coordination with Western Water Staff

Project Management will include bi-weekly meetings and regular coordination with Western Water staff. This item includes the submission of progress updates on the project status relative to scope and budget to Western Water staff. Western Water will communicate directly with the USBR. The Consultant will prepare and provide any necessary information and materials to Western Water for use in grant progress reporting. If necessary, Western Water may include the Consultant in correspondence with the USBR. Only upon Western Water's request may the Consultant communicate with the USBR regarding this Feasibility Study.

Assumptions: Bi-weekly meetings will be 30-minute virtual meetings. The budget for this task is based on 18 meetings, assuming that the meetings in Tasks 1.1, 1.3 and Task 2 will serve in place of some bi-weekly meetings, and that some meetings will not be needed.

Deliverables: Task 1 Deliverables

- Initial and regularly updated project schedule
- Monthly progress reports, cost summary, invoices, and semiannual grant reporting information
- Meeting agendas, meeting minutes and project materials, as described above
- Schedule Kickoff, Draft and Final Feasibility Report review meetings

2.0 Task 2: Stakeholder Engagement

Consultant will host a minimum of four (4) internal staff meetings to evaluate and prioritize. These meetings will engage with internal staff from Water Resources, Operations, and Engineering to gather detailed input and develop a comprehensive strategy for recycled water use and sustainability within the joint desalter enterprise.

Deliverables: The consultant will propose what these meetings will focus on and outcomes and prepare all meeting materials (agendas, PowerPoints, meeting minutes).
Potential meetings could involve:

- System overview, review of limitations
- Findings related to water quality on the various recycled water sources
- Discuss updates to the existing desalter expansion feasibility study, discuss, evaluate, and prioritize desalter expansion projects, and the impact of potential projects on the joint desalter enterprise.
- Discuss, evaluate, and prioritize potential projects and permitting options related to recharging recycled water use and groundwater sustainability.
- Overview the draft feasibility results and develop recommendations for implementation.

2.1 Group Meetings

The budget is based on the following Group Meetings with Western Staff

- Alternatives Refinement Workshop (2-hours / In-Person).
 - Review and discuss preliminary alternatives developed following the Kickoff Meeting.
 - Review preliminary water quality summary of various RW and diluent sources and summary of regulatory requirements applicable to each source water
 - Discuss potential refinements to preliminary alternatives and identify new preliminary alternatives, as needed.
 - Select up to four alternatives for further evaluation and review data needs and identify data sources that may be needed for further evaluation of alternatives.
 - Develop a comprehensive list of evaluation criteria and associated numerical scoring rubric to be applied during the alternatives analysis.
- Alternatives Screening Workshop (2-hours / In-Person)
 - Review Draft IPR TM (developed under Task 3.1) describing comprehensive water quality summary of various RW and diluent sources and compliance with applicable regulatory limits
 - Review and discuss results of the Draft Alternatives Analysis developed under Task 4.3. Discuss potential refinements to the Draft Alternatives Analysis, as needed.
 - Review preliminary results of alternatives evaluation scoring and discuss whether adjustments to scoring or weighting factors are needed to calibrate the evaluation.
 - Discuss alternative weighting factors to be used for a sensitivity analysis, if desired.
- Alternatives Selection Workshop (2-hours / In-Person)
 - Review and discuss the Updated Alternatives Analysis developed under Task 4.3, incorporating feedback from the Alternatives Screening Workshop.

- Review results of updated alternatives evaluation scoring and sensitivity analysis.
- Select a preferred alternative to be carried forward into implementation.
- For the selected alternative, discuss options for adaptive management and potential offramps to other strategies in response to actual future conditions, as appropriate.
- Draft Feasibility Study Review Meetings (2-hours / Virtual)
 - Review the content of the Title 22 Engineering Report Scope of Work
 - Review the content of the Draft Feasibility Study and receive comments and feedback from Western Staff.
- Final Draft Feasibility Study Review Meetings (1-hour / Virtual)
 - Summarize how comments on the Draft Feasibility were incorporated into the Final Draft Feasibility Study.
 - Discuss any final comments and confirm readiness for submittal to Reclamation.
- As Needed Meeting (2-hours / In-Person)
 - WSC recommends holding scope for one additional group meeting in case another touch point is needed to ensure alignment.

2.2 Working Sessions

The budget is based on up to five focused Working Sessions with specific departments for the purpose of detailed information gathering and confirming understanding of existing conditions and the impacts of proposed changes.

- Operations (2-hour / In-Person)
- Water Resources (2 hours / Virtual)
- Engineering (1-hour / Virtual)
- 2 additional as needed working sessions (1-hour / Virtual)

2.3 External Stakeholder Meetings

The budget is based on up to four External Stakeholder meetings to gather information on potential source waters and infrastructure requirements to inform a more robust alternatives analysis, as well as to maintain positive relationships with key external stakeholders. focused Working Sessions with specific departments for the purposes of detailed information gathering and confirming understanding of existing conditions and the impacts of proposed changes.

- Riverside Public Utilities (1-hour / Virtual)
- Gage Canal Company (1-hour / In-Person)
- Flood control agencies (1-hour / Virtual)
- 1 additional as needed external stakeholder meeting (1-hour / Virtual)

Deliverables: Task 2 Deliverables

- Agendas and Presentations
- Meeting minutes summarizing key discussions, decisions, and action items.

3.0 Task 3: Indirect Potable Reuse Evaluation and Scope of Work Preparation

The consultant will provide an assessment of various special studies that are required for Western Water's future operating permit for groundwater replenishment by surface application. The studies may include validation of treatment processes, verification of recycled water quality, groundwater monitoring and modeling, diluent water monitoring, and documented plans to safeguard the public water supply. The assessment should include all of the future Title 22 Engineering Report requirements Western Water will need to meet for each identified source or project and an analysis of any challenges Western Water may face in meeting those requirements. This assessment should be prepared in a manner that would allow Western Water to use it as a future scope of work for a Title 22 Engineering Report effort (a completed Title 22 Engineering Report is not an outcome of this effort).

3.1 Water Quality Evaluation TM

- Comprehensive evaluation of the quality of the various recycled water and dilutant water sources identified, including compliance with anticipated water quality limits (i.e. primary and secondary Maximum Contaminant Levels, technology-based limits, groundwater basin plan limits, etc.) (PDF deliverable).

3.2 Title 22 Engineering Report Requirements TM

- Assessment of the Title 22 Engineering Report requirements for each identified potential source or project (PDF deliverable).

4.0 Task 4: Feasibility Study

The feasibility study must adhere to the requirements of Pub. L. 102-575, as amended, and meet WTR 11-01 requirements as stipulated by the United States Bureau of Reclamation. This includes, but is not limited to:

4.1 Introductory Information

- Identification of the non-Federal project sponsor(s).
- Description of the study area and an area/project map.

- Definition of the study area in terms of both the site-specific project area where the reclaimed water supply will be needed and developed, and any reclaimed water distribution systems.

4.2 Statement of Problems and Needs

- Describe key water resource management problems and needs for which the selected project will provide a solution. All projections shall be reasonable and applicable for a minimum of 20 years.
- Description of the problem and need; a description of current and projected water supplies, including water rights, and potential sources of additional water.
- Description of current and projected water demands, including a description of the current and projected water supply and demand imbalances.
- Description of any water quality concerns.
- Review future demands to year 2045 with growth projections by land use type and city/county's general plans.
- Managing demands on diurnal/ seasonal/ long-term basis to maximize demands, dealing with demand surges.
- Challenges of constant flow from Chino Desalter Authority.

4.3 Water Reclamation, Recycling or Desalination Opportunities

- Address the opportunities for recycling and desalination in the study area and identify the sources of water that could be reclaimed or desalinated.
- Description of end-users and future uses; a description of the water market and future water market; a description of considerations and barriers to project implementation; jurisdictional rights; sources and facilities; treatment processes; existing infrastructure and current recycling and desalination uses; and future wastewater inflows.
- Description of Alternatives.
 - Alternatives Development
 - Beginning with preliminary alternatives discussed at the Kickoff Meeting, identify conceptual alternative recharge and extraction strategies for consideration by Western.
 - Develop preliminary planning-level concepts for each alternative, including potential sources, infrastructure, treatment, and brine disposal requirements.
 - Compile explanatory charts, maps and graphics to support the discussion and refinement of alternatives at the Alternatives Refinement Workshop.

- Alternatives Analysis
 - Refine alternatives as discussed in the Alternatives Refinement Workshop.
 - Complete benefit/cost analysis for up to four (4) alternatives, including planning level cost estimates for capital costs, annual operation (including brine disposal fees), maintenance, and life cycle costs.
 - Applying the evaluation criteria developed in the Alternatives Refinement Workshop, evaluate and score the alternatives to support selection of the preferred alternative moving forward.
 - Update the Draft Alternatives Analysis to incorporate feedback from the Alternatives Screening Workshop.
- Non-federal funding condition; objectives for alternatives; proposed project with project and lifetime costs; cost comparison of projects with the level of detail as illustrated in RM D&S, Cost Estimating (FAC 09-01); economic analysis; water quality and treatment requirements; alternative treatment options; water supply alternatives; demand management alternatives; benefits to municipal and industrial use; and qualitative documentation of benefits.
- Selection of the Proposed Water Reclamation, Recycling or Desalination Project.
- Project justification; and affirmative statement analysis regarding benefit to supplies and federal supply facilities.

4.4 Environmental Consideration and Potential Effects

- Develop information (based on cultural, biological, and other studies) to allow Reclamation to assess the potential measures and costs that will be necessary to comply with NEPA, and any other applicable Federal law; impacts to endangered species, public health, natural resources; environmental effects and risks; studies for status of compliance measures; water supply and water quality impact; public involvement; and effects on historical properties.

4.5 Legal and Institutional Requirements

- The water reclamation, recycling or desalination feasibility study shall identify any legal or institutional requirements, or barriers to implementing the proposed project.
- Water rights analysis; any legal and institutional requirements; need for agreements; permitting procedures required; impact analysis of unresolved issues; current and projected wastewater discharge requirements, and brine disposal impacts;

4.6 Financial Capability of Sponsor

- Proposed schedule for project implementation; willingness of the non-Federal project sponsor to pay for its share of capital costs and the full operation, maintenance, and replacement costs; funding plan; and all Federal and Non-Federal sources of funding and restrictions.

4.7 Research Needs

- Project includes basic research needs; proven technologies and conventional system components, and further description on additional research needs.

4.8 Draft Feasibility Study

- Draft Feasibility Study for internal District review and approval (~~PDF and paper deliverable~~), including:
 - List of potential permits for the proposed projects, with submittal requirements, processing duration estimates, and fees.
 - Implementation Roadmap

4.9 Final Draft Feasibility Study

- Incorporate Western comments on the Draft Feasibility Study
- Final Draft Feasibility Study for Reclamation for review and revision (PDF deliverable).

4.10 Final Feasibility Study

- Incorporate Reclamation comments on the Final Draft Feasibility Study
- Prepare a final Reclamation Approved, WTR 11-01 compliant feasibility study report (~~PDF and paper deliverable~~).

Assumptions: All deliverables will be submitted in electronic format. Due to the high cost of professional printing for reports, hard copies are not included in the budget but can be added if desired by Western.



Feasibility Study for Recharging Recycled Water and Groundwater Desalter Expansion



ARLINGTON GROUNDWATER BASIN



Location

- Subbasin of the Upper Santa Ana Valley – Riverside-Arlington Basin
- Spans portion of Riverside and Corona



Challenges

- Groundwater quality issues: elevated nitrates, perchlorate
- Stress due to historical drought
- Ongoing sustainability planning



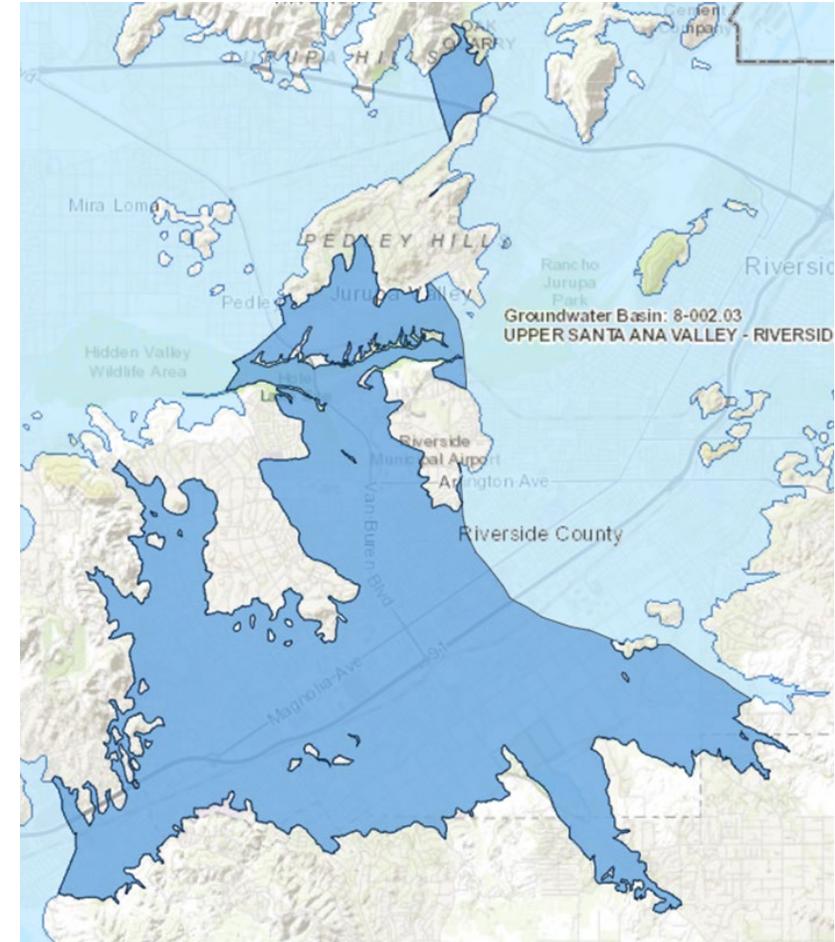
Governance

- Western Municipal Water District acts as Groundwater Sustainability Agency (GSA)



Key Projects & Actions

- Arlington Desalter: Reverse osmosis treatment, ~6.4 MGD for Norco & areas in Riverside and Corona.
- Victoria Recharge Basin: Captures stormwater, ~1,800 acre-feet/year planned recharge.



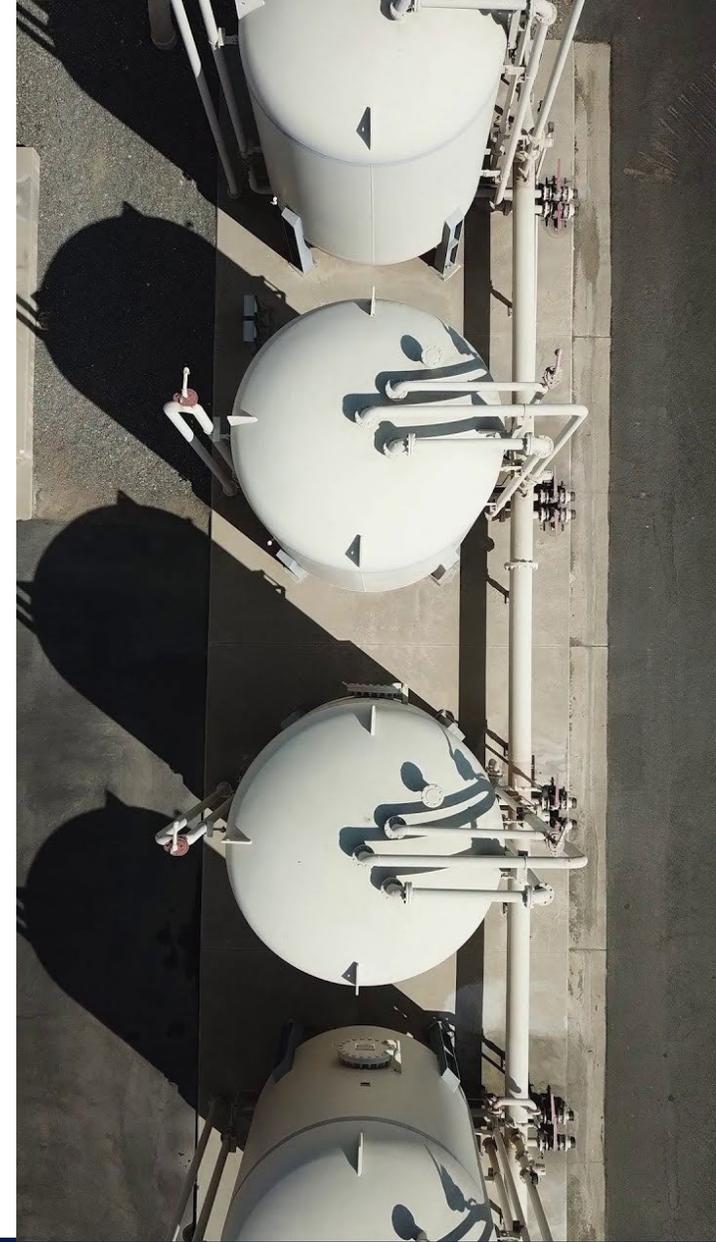
PROJECT BACKGROUND

A Critical Local Resource: Arlington Basin is a vital groundwater source located in the northern part of our service area

- 60%+ of the City of Norco's supply and serves the City of Corona
- Surplus water can be distributed to retail customers in the city and county of Riverside

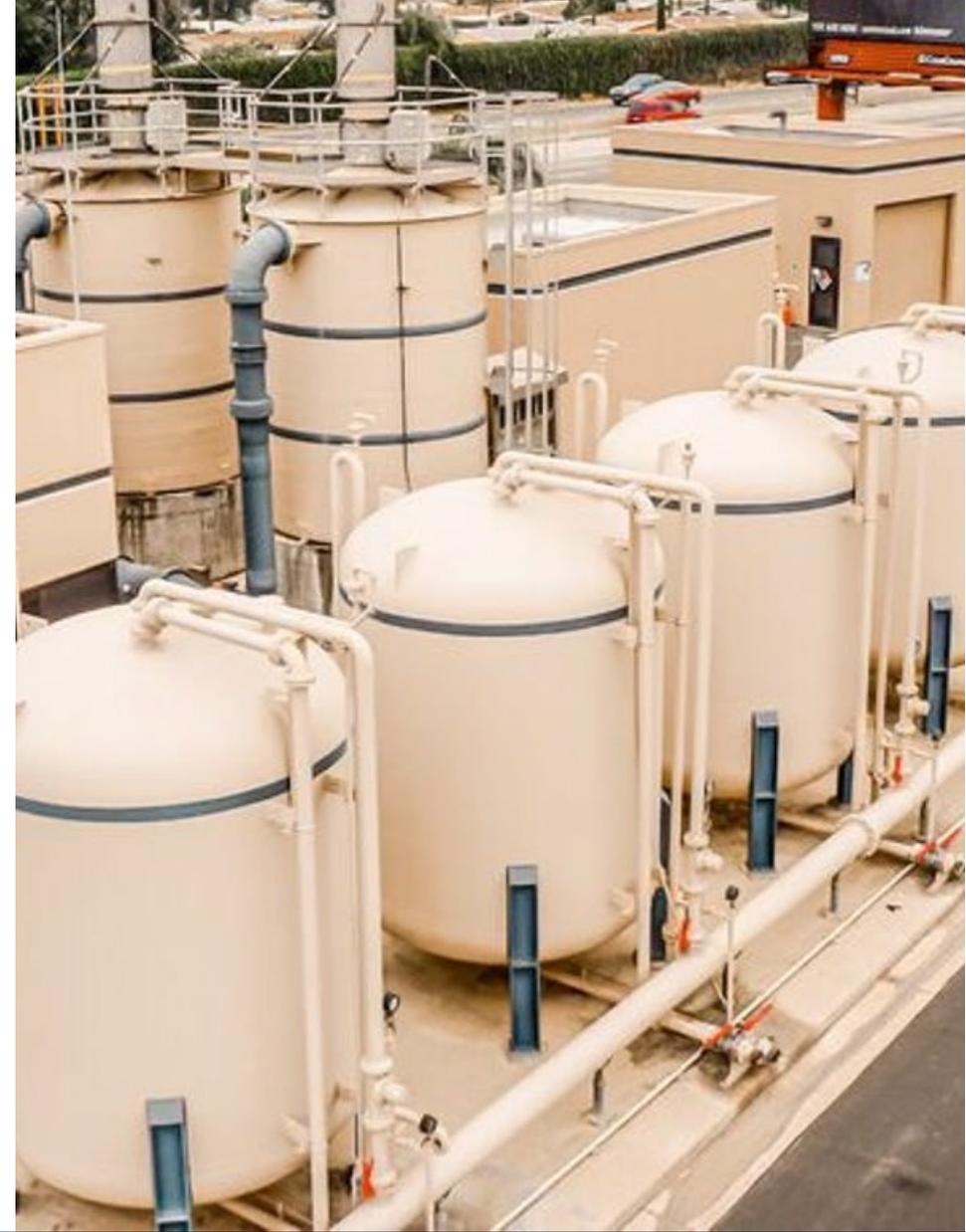
Historical Water Stress: The Arlington Basin has been under stress in the past due to droughts and increased demands

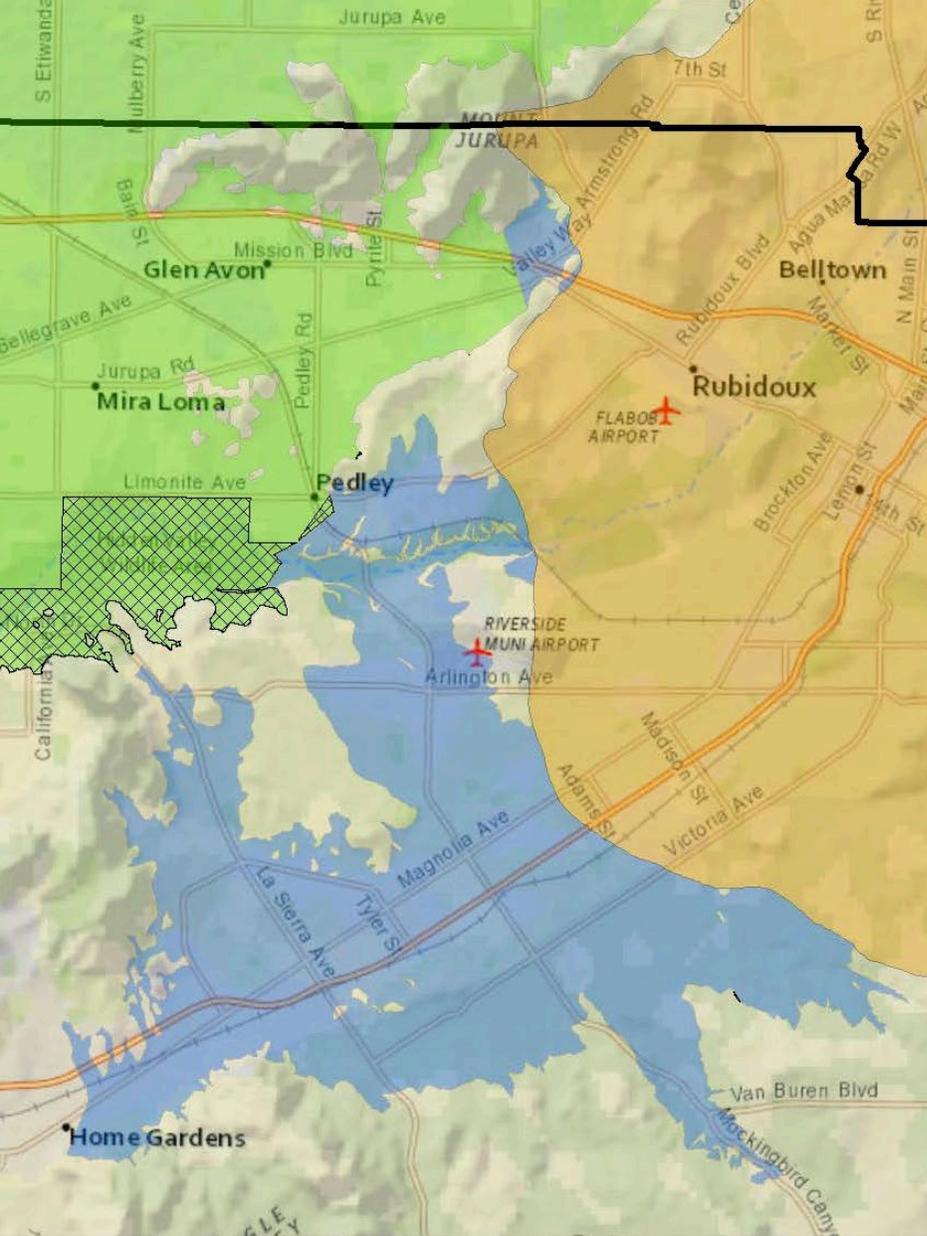
- The historic drought from 2012-2016 placed significant stress on the basin, leading to a 50% increase in average pumping compared to the historical average



STUDY GOALS

- **Overall Goal:** Combat uncertainty and improve future resiliency of Arlington Basin
- **Three-Part Strategy:** Identify recycled water sources for recharge, scope the regulatory steps for recycled water recharge, and evaluate the demands on the Arlington Desalter
- **Recycled Water Opportunity:** Seeking to utilize recycled water to augment the basin to enhance drought resiliency
- **Infrastructure Focus:** The study will define needed infrastructure, including Desalter needs/expansion and brine disposal





SCOPE OF WORK - TASKS

Task 1: Project Management

- Lead project coordination, maintain detailed schedules, and generate documentation for grant reporting

Task 2: Stakeholder Engagement

- Facilitate internal and external meetings to prioritize water strategies and produce necessary decision-making materials

Task 3: IPR Evaluation

- Identify data gaps and regulatory requirements to support future Title 22 Engineering Reports for groundwater replenishment

Task 4: Feasibility Study

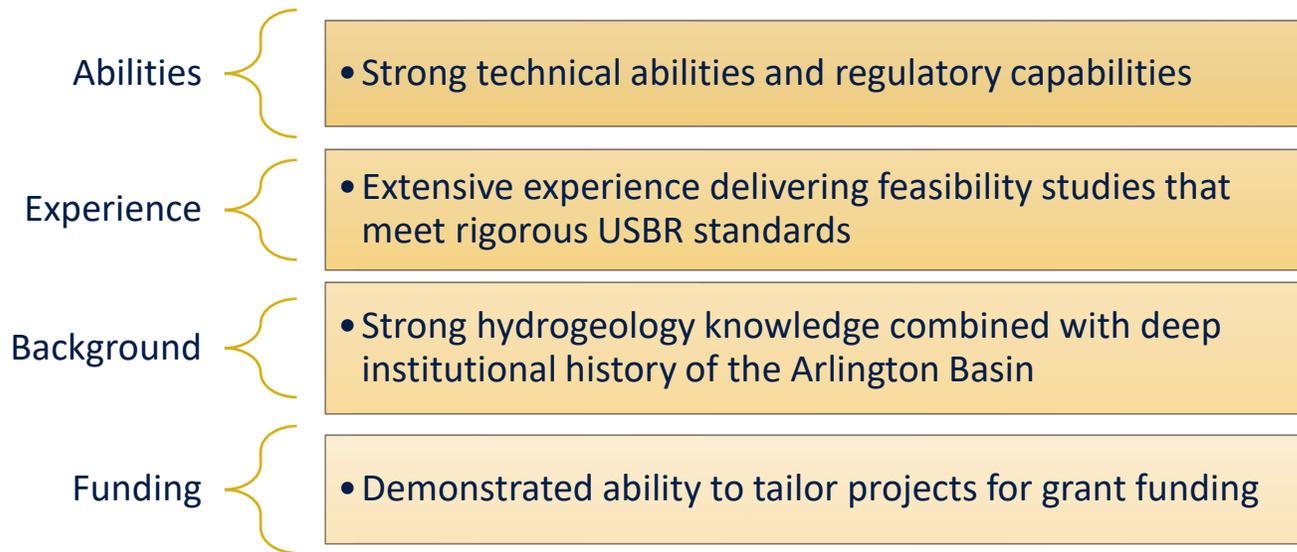
- Develop a comprehensive USBR-compliant study analyzing supply/demand, project alternatives, environmental impacts, and funding strategy

RECOMMENDED CONSULTANT

Evaluated on the following criteria:

- Understanding the work to be performed (25%)
- Approach to the Project (30%)
- Experience and Technical (30%)
- Proposed level of Effort (10%)
- Cost and Pricing (5%)

Water Systems Consulting, Inc. (WSC) recommended for their expertise and overall technical abilities:



• Strong technical abilities and regulatory capabilities

• Extensive experience delivering feasibility studies that meet rigorous USBR standards

• Strong hydrogeology knowledge combined with deep institutional history of the Arlington Basin

• Demonstrated ability to tailor projects for grant funding



Laine Carlson

Vice President, Southern California Regional Lead



Michael Cruikshank

Vice President, Hydrogeology Practice Lead

Rob Morrow ^{PE}

Professional Engineer
- Civil, California, No. C68916



Aaron Morland ^{PE}

Professional Engineer
- Civil, California, No. C94132



Sydney Santos ^{PE, LEED GA}

Professional Engineer
- Mechanical, California, No. M38847
LEED GA



Eric Fregoso ^{GIT}

Geologist in Training



SCHEDULE & BUDGET OVERVIEW

Description	Estimated Completion
RFP & Consultant Selection	November 2025
Board Consideration	January 21, 2026
Project Kickoff	February 2026
Stakeholder Meetings & Progress Reporting	February 2026 – August 2027
Alternatives Development/Analysis	April 2027
Draft Feasibility Study	May 2027
Final Feasibility Study Submittal	August 2027

Description	Cost*
Western Water	\$200,000
USBR Funding (50%)	\$200,000
Total Feasibility Study	\$400,000

**Rounded to the nearest thousand.*

Questions



Agenda Item: 6C

Date: January 5, 2026

TO: THE ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE

Director Gracie Torres, Committee Member

Director Fauzia Rizvi, Committee Member

FROM: Tim Barr, Deputy General Manager

**APPROVE QUITCLAIMS OF WESTERN MUNICIPAL WATER DISTRICT'S
INTEREST IN WATER EASEMENTS**

RECOMMENDATION:

Staff requests that the Engineering, Operations, and Water Resources Committee recommend the Board of Directors:

1. Authorize the General Manager to execute a quitclaim of Western Municipal Water District's (Western Water) interest in the easement recorded May 21, 1964, as Instrument Number 62768, which was recorded in the Official Record of Riverside County, for water facilities within Assessor Parcel Number (APN) 263-370-021 (previously Parcel No. 127).
2. Authorize the General Manager to execute a quitclaim of Western Municipal Water District's interest in the easement recorded May 11, 1964, as Instrument Number 62770, which was recorded in the Official Record of Riverside County, for water facilities within APNs 263-370-020 and 263-370-021 (previously Parcel No. 128 and Parcel No. 127, respectively).
3. Authorize the General Manager to execute a quitclaim of Western Municipal Water District's interest in the easement recorded April 2, 1997, as Instrument Number 109887, which was recorded in the Official Record of Riverside County, for water facilities within APN 263-370-021 (previously Parcel No. 127).

EXECUTIVE SUMMARY:

Developer FB 215, LLC, owner of APNs 263-370-020 and 263-370-021 (Old 215 Business Center), has completed construction of the relocated water improvements along with the abandonment of existing water facilities near Cottonwood Avenue and Old 215 Frontage Road within Western Water's Riverside Retail Service Area. As a condition of project approval, and once Western Water accepts the new facilities for ownership and maintenance, the original water easements recorded in 1964 and 1997 shall be quitclaimed and replaced with a new easement covering the newly constructed facilities.

BUDGET IMPACT:

No budget impact; this action is part of Western Water's routine business activities.

DETAIL:

The subject parcels, formerly owned by Dill Lumber Company and now owned by FB 215, LLC, contain water-facility easements recorded on May 11, 1964 (Instrument No. 62770) and May 21, 1964 (Instrument No. 62768), and a subsequent easement recorded on April 2, 1997 (Instrument No. 109887) (Attachment 2). As part of the redevelopment of the Old 215 Business Center, FB 215 relocated water infrastructure and dedicated a new permanent easement within Parcel "A" (Attachment 5).

As part of the project closeout and bond release, SDH and Associates, Inc. prepared the proposed quitclaim deeds to release Western Water's interest in the obsolete easements (Attachment 4), together with legal descriptions and plats for the newly dedicated easement (Attachment 5). These documents were reviewed and approved by Western Water's engineering consultant, GHD.

Because the prior water facilities have been abandoned and superseded by newly constructed improvements, the previously recorded easements are no longer required. Accordingly, execution of the proposed quitclaim deeds will remove the existing easements and leave Western Water's interest solely in the newly granted easement.

REASON FOR ACTION:

Approval of quitclaim and recordation of the new easement will allow FB 215 to finalize their project closeout and bond release.

SOLUTION:

Approve execution of the quitclaims.

STRATEGIC PRIORITIES REFERENCE:

This action is consistent with Western Water’s Strategic Priority of Superior Service.

PROPOSED DATE OF ACTION:

If approved by the Committee, this item is scheduled for consideration by the full Board of Directors at their meeting on January 21, 2026.

LEGAL COUNSEL REVIEW:

Not applicable.

Respectfully submitted by:

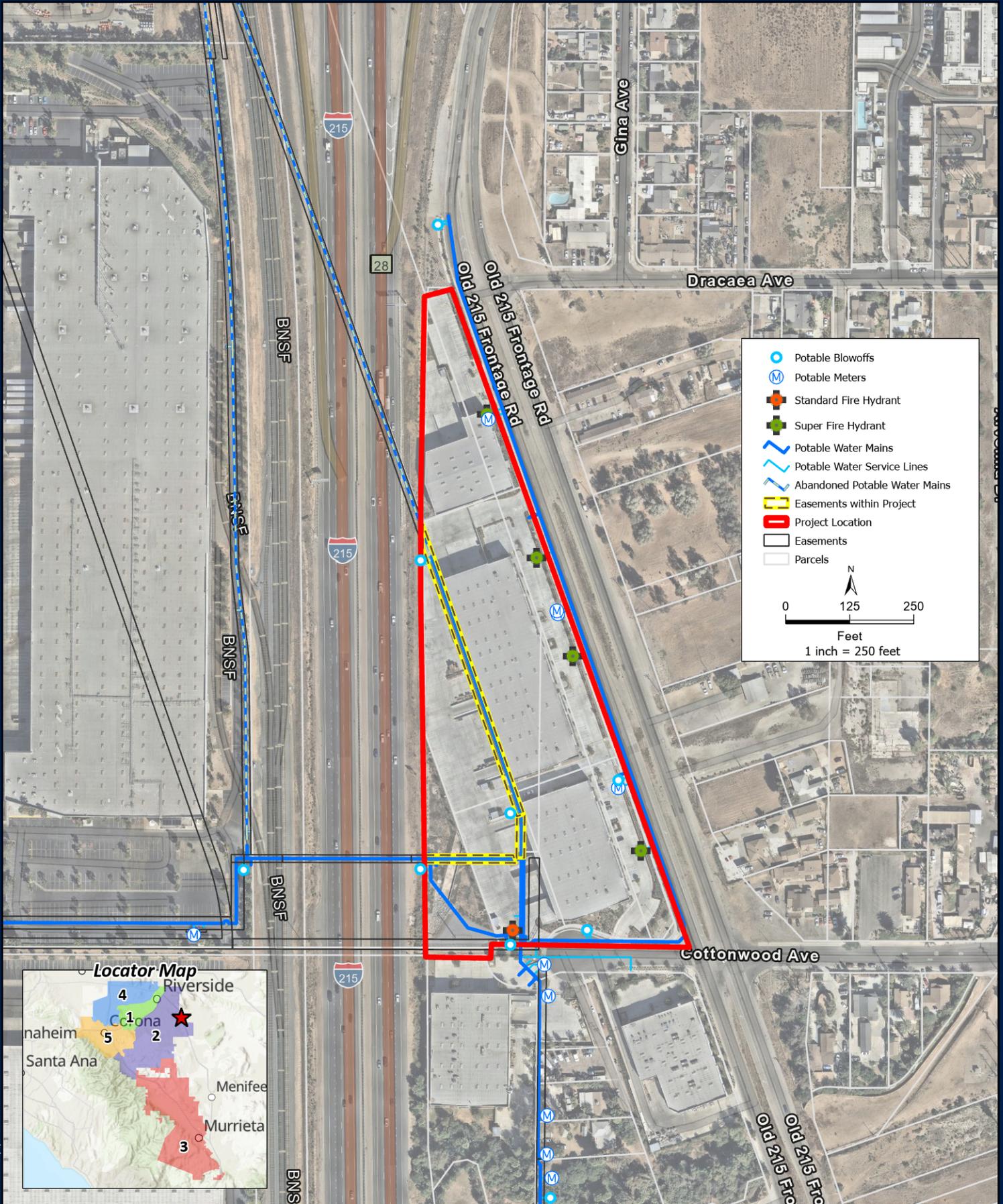
Tim Barr, Deputy General Manager

Attachments:

1. Project Location Map
2. Map of Existing Water Easements
3. Parcel Map
4. Quitclaim Water Easements
5. Proposed Replacement Easement

Project Location Map

Attachment 1

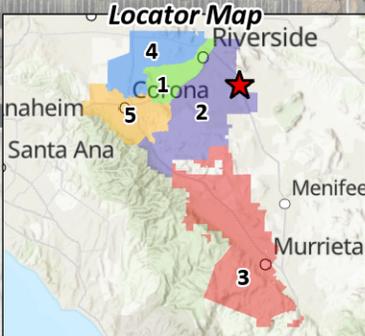


	Potable Blowoffs
	Potable Meters
	Standard Fire Hydrant
	Super Fire Hydrant
	Potable Water Mains
	Potable Water Service Lines
	Abandoned Potable Water Mains
	Easements within Project
	Project Location
	Easements
	Parcels

0 125 250

 Feet

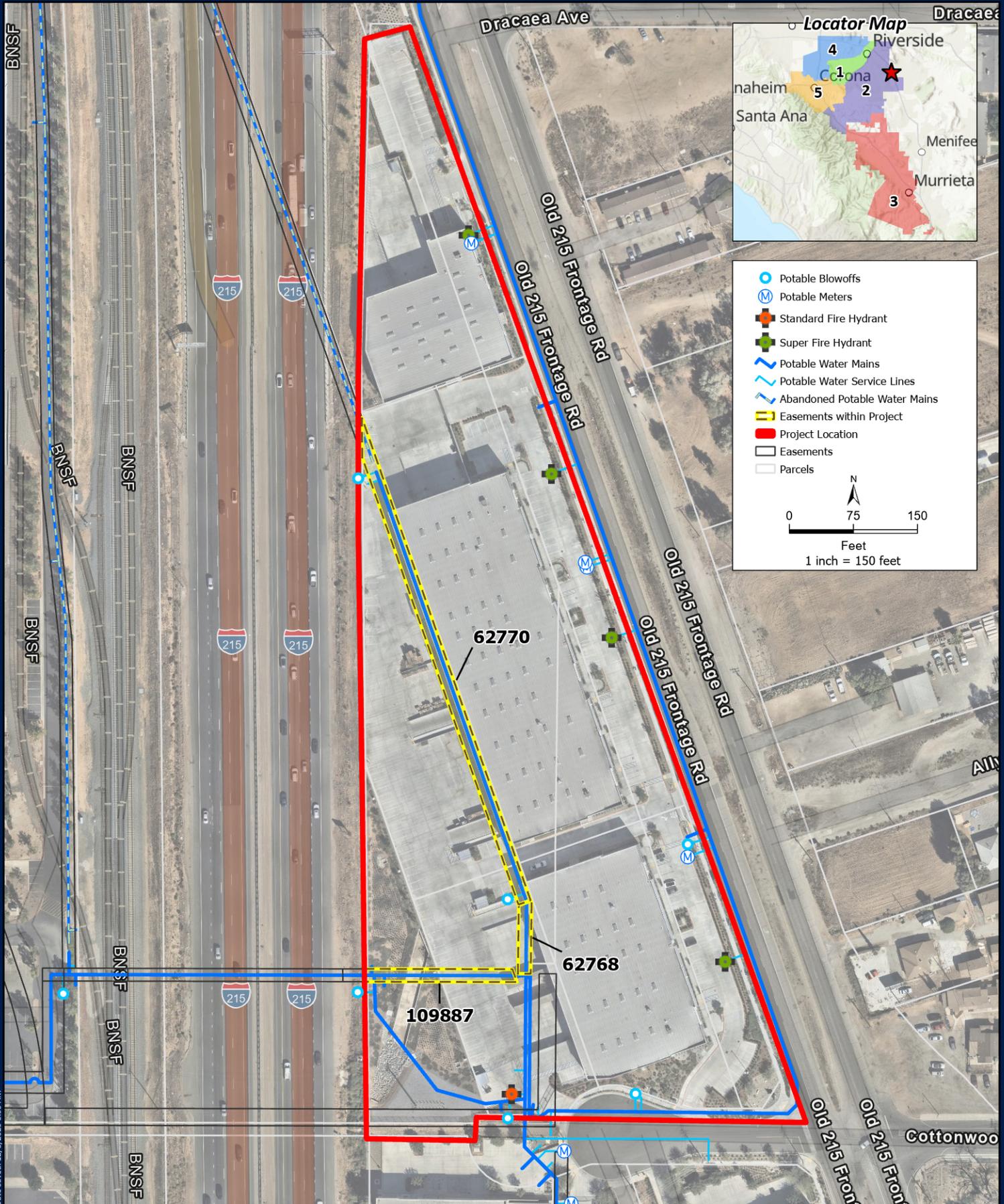
 1 inch = 250 feet



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Existing Water Easements Location Map

Attachment 2



Date Saved: 12/8/2025 8:55 AM

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958
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NUMBER OF PARCELS: 4
GROSS 8.159 ACRES
NET 8.046 ACRES

PARCEL MAP NO. 37902

SHEET 1 OF 5 SHEETS
RECORDER'S STATEMENT

IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA
BEING A SUBDIVISION OF A PORTION OF THE NORTH ONE-HALF OF SECTION 10, TOWNSHIP
3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID COUNTY.

T&M SURVEYING
ORANGE COUNTY

MARCH, 2022

FILED THIS 26th DAY OF Oct, 20 22
AT 9:05 A.M. IN BOOK 255 OF PARCEL
MAPS, AT PAGES 40-44, AT THE REQUEST OF THE
CITY CLERK OF THE CITY OF RIVERSIDE.
NO. 2022-0442578
FEE \$17-

PETER ALDANA, ASSESSOR - COUNTY CLERK - RECORDER
BY: Jackie OHA DEPUTY
SUBDIVISION GUARANTEE: FIRST AMERICAN TITLE INSURANCE COMPANY

OWNER'S STATEMENT

WE HEREBY STATE WE ARE THE OWNERS OF, OR HAVE SOME RIGHT, TITLE, OR INTEREST IN THE LAND INCLUDED WITHIN THE SUBDIVISION AS SHOWN ON THE ANNEXED MAP; THAT WE ARE THE ONLY PERSONS WHOSE CONSENT IS NECESSARY TO PASS CLEAR TITLE TO SAID LAND, AND WE CONSENT TO THE PREPARATION AND RECORDATION OF THIS SUBDIVISION MAP AS SHOWN WITHIN THE DISTINCTIVE BORDER LINE.

WE HEREBY DEDICATE TO PUBLIC USE FOR PUBLIC STREET AND PUBLIC UTILITY PURPOSES, LOT "A" INCLUSIVE.

WE HEREBY DEDICATE TO THE CITY OF RIVERSIDE AS AN EASEMENT FOR THE CONSTRUCTION AND MAINTENANCE OF ELECTRIC ENERGY DISTRIBUTION AND TELECOMMUNICATION FACILITIES THE EASEMENTS DESIGNATED AS "BLANKET P.U.E."

WE HEREBY REQUEST THAT THE FOLLOWING PUBLIC STREET AND EASEMENT, WHICH ARE NOT SHOWN ON THE ATTACHED MAP, BE ABANDONED IN CONFORMANCE WITH SECTION 66445 (j) OF THE SUBDIVISION MAP ACT:

THAT PORTION OF OLD I-215 FRONTAGE ROAD LYING EASTERLY OF THE A.T. & S.F. RAILROAD RIGHT OF WAY, SOUTHERLY OF DRACAEA AVENUE, NORTHERLY OF COTTONWOOD AVENUE, AND WESTERLY OF THE RIGHT-OF-WAY SHOWN HEREON.

FB215, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

James L. Fullmer MANAGER
OWNER JAMES L. FULLMER

Darrell B. Butler MANAGER
OWNER DARRELL B. BUTLER

SURVEYOR'S STATEMENT

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FIELD SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AT THE REQUEST OF DARRELL BUTLER ON MARCH 2022. I HEREBY STATE THIS PARCEL MAP SUBSTANTIALLY CONFORMS TO THE APPROVED OR CONDITIONALLY APPROVED TENTATIVE MAP, IF ANY. I HEREBY STATE ALL MONUMENTS ARE OF THE CHARACTER AND OCCUPY THE POSITIONS INDICATED OR THAT THEY WILL BE SET IN THOSE POSITIONS BEFORE DECEMBER 31, 2022, AND THE MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. THE SURVEY IS TRUE AND COMPLETE AS SHOWN.

DATE: 8/5/2022

Ty E. Thomas
TY E. THOMAS
L.S. 9309



CITY ENGINEER'S STATEMENT

I HEREBY STATE, I HAVE EXAMINED THIS MAP AND THE SUBDIVISION AS SHOWN THEREON IS SUBSTANTIALLY THE SAME AS IT APPEARS ON THE TENTATIVE MAP OF PARCEL MAP NO. 37902, APPROVED BY THE CITY OF RIVERSIDE DEVELOPMENT REVIEW COMMITTEE ON JULY 28, 2021 AND ANY APPROVED ALTERATIONS THEREOF; AND ALL PROVISIONS OF THE SUBDIVISION MAP ACT (DIVISION 2 OF TITLE 7 OF THE CALIFORNIA GOVERNMENT CODE) AND TITLE 18 OF THE RIVERSIDE MUNICIPAL CODE APPLICABLE AT THE TIME OF THE APPROVAL OF THE TENTATIVE MAP HAVE BEEN COMPILED WITH.

DATE: Sept 4, 2022

GILBERT M. HERNANDEZ
RCE 69170
CITY ENGINEER



BY: Gilbert M. Hernandez

CITY SURVEYOR'S STATEMENT

I HEREBY STATE, I HAVE EXAMINED THIS MAP, AND I AM SATISFIED THE MAP IS TECHNICALLY CORRECT, AND ALL MONUMENTS HAVE BEEN SET OR A CASH DEPOSIT SUFFICIENT TO COVER THEIR PLACEMENT HAS BEEN DEPOSITED WITH THE CITY OF RIVERSIDE.

DATE: 9/6/2022

CURTIS C. STEPHENS
L.S. 7519
CITY SURVEYOR



BY: Curtis C. Stephens

CITY CLERK'S CERTIFICATE

RESOLVED: THIS MAP CONSISTING OF 5 SHEETS BE, AND THE SAME IS HEREBY ACCEPTED AS THE FINAL MAP OF PARCEL MAP 37902.

LOT "A", INCLUSIVE IS HEREBY ACCEPTED FOR PUBLIC STREET PURPOSES SUBJECT TO THE INSTALLATION OF IMPROVEMENTS TO THE SATISFACTION OF THE PUBLIC WORKS DIRECTOR OF THE CITY OF RIVERSIDE.
LOT "A", INCLUSIVE IS HEREBY ACCEPTED FOR PUBLIC UTILITY PURPOSES AND OTHER PUBLIC SERVICES.

THE EASEMENTS DESIGNATED AS "BLANKET P.U.E." ARE HEREBY ACCEPTED AS EASEMENTS FOR THE CONSTRUCTION AND MAINTENANCE OF ELECTRIC ENERGY DISTRIBUTION AND TELECOMMUNICATION FACILITIES.

THAT THE FOLLOWING STREETS AND EASEMENTS ARE HEREBY ABANDONED IN CONFORMANCE WITH SECTION 66445(j) OF THE SUBDIVISION MAP ACT:

THAT PORTION OF OLD I-215 FRONTAGE ROAD LYING EASTERLY OF THE A.T. & S.F. RAILROAD RIGHT OF WAY, SOUTHERLY OF DRACAEA AVENUE, NORTHERLY OF COTTONWOOD AVENUE, AND WESTERLY OF THE RIGHT-OF-WAY SHOWN HEREON.

THE CITY CLERK IS HEREBY AUTHORIZED AND DIRECTED TO ATTEST SAID MAP BY SIGNING HER NAME THERETO AS CITY CLERK OF THE CITY OF RIVERSIDE, STATE OF CALIFORNIA.

I HEREBY CERTIFY THE FORGOING RESOLUTION WAS ACCEPTED BY THE MAYOR AND COUNCIL OF THE CITY OF RIVERSIDE THIS 18th DAY OF October, 2022.

DONESIA GAUSE
CITY CLERK OF THE CITY OF RIVERSIDE, CALIFORNIA

BY: Donesia Gause

CITY TREASURER'S CERTIFICATE

I HEREBY CERTIFY ACCORDING TO THE RECORDS OF THIS OFFICE AS OF THIS DATE, THE REAL PROPERTY SHOWN ON THIS MAP IS NOT SUBJECT TO ANY SPECIAL ASSESSMENTS, BONDS, AND/OR LIENS WHICH HAVE NOT BEEN PAID IN FULL, EXCEPT FOR THOSE NOTED BELOW.

NONE NOTED

THIS CERTIFICATE DOES NOT INCLUDE ANY SPECIAL ASSESSMENTS, THE BONDS OF WHICH HAVE NOT BECOME A LIEN UPON SAID PROPERTY, OR ANY SPECIAL ASSESSMENTS, BONDS, AND/OR LIENS RELATED TO SPECIAL DISTRICTS LOCATED WITHIN THE CITY OF RIVERSIDE THAT ARE NOT ADMINISTERED BY THE CITY.

DATE: 9/20/2022

EDWARD ENRIQUEZ
CHIEF FINANCIAL OFFICER/CITY TREASURER

BY: Edward Enriquez

WATER FACILITIES STATEMENT

I HEREBY STATE THAT THE SUBDIVIDER NAMED ON THIS MAP HAS POSTED SECURITIES ACCEPTABLE TO WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY (DISTRICT) ADEQUATE TO FUND CONSTRUCTION OF REQUIRED WATER FACILITIES. ONCE FIRE HYDRANTS, WATER PIPELINES AND APPURTENANCES, ANY REQUIRED OFFSITE FACILITIES, AND SERVICE LATERALS HAVE BEEN INSTALLED AND ACCEPTED BY THE DISTRICT, AND REQUIRED FEES PAID, THE DISTRICT WILL SUPPLY WATER TO EACH LOT CREATED BY THIS SUBDIVISION. THE EASEMENTS AND RIGHT-OF-WAYS SHOWN ARE SUFFICIENT FOR ALL REQUIRED CONSTRUCTION

DATE: 8/31/2022 BY: Derek Kawai
DEREK KAWAI, DIRECTOR OF ENGINEERING R.C.E. 54253

SEE SHEET 2 FOR SIGNATURE OMISSIONS
SEE SHEET 2 FOR NOTARY ACKNOWLEDGEMENT

52
11
COPY

NUMBER OF PARCELS: 4
GROSS 8.159 ACRES
NET 8.046 ACRES

PARCEL MAP NO. 37902

SHEET 2 OF 5 SHEETS

IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA
BEING A SUBDIVISION OF A PORTION OF THE NORTH ONE-HALF OF SECTION 10, TOWNSHIP
3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID COUNTY.

T&M SURVEYING
ORANGE COUNTY

MARCH, 2022

SIGNATURE OMISSIONS

PURSUANT TO SECTION 66436 OF THE SUBDIVISION MAP ACT OF THE STATE OF CALIFORNIA, THE SIGNATURES OF THE FOLLOWING EASEMENT HOLDERS HAVE BEEN OMITTED SINCE THEIR INTERESTS CANNOT RIPEN INTO A FEE:

SOUTHERN CALIFORNIA GAS COMPANY, A CORPORATION, AND SOUTHERN COUNTIES GAS COMPANY, HOLDER OF EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 1950 AS BOOK 1151, PAGE 127 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

SOUTHERN CALIFORNIA GAS COMPANY AND SOUTHERN COUNTIES GAS COMPANY, HOLDER OF EASEMENT FOR PIPE LINE AND INCIDENTAL PURPOSES, RECORDED SEPTEMBER 18, 1950 AS BOOK 1205 PAGE 58 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

EDGEMONT COMMUNITY SERVICES DISTRICT, HOLDER OF EASEMENT FOR A 15 FOOT EASEMENT FOR ROADWAY AND INCIDENTAL PURPOSES, RECORDED AUGUST 28, 1961 AS INSTRUMENT NO. 73744 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, HOLDER OF EASEMENT FOR PIPE LINES AND INGRESS AND EGRESS AND INCIDENTAL PURPOSES, RECORDED MAY 21, 1964 AS INSTRUMENT NO. 62768 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, HOLDER OF EASEMENT FOR PIPE LINES AND INGRESS AND EGRESS AND INCIDENTAL PURPOSES, RECORDED MAY 21, 1964 AS INSTRUMENT NO. 62770 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

SANTA FE PACIFIC PIPELINE PARTNERS, L. P., A DELAWARE LIMITED PARTNERSHIP, HOLDER OF EASEMENT FOR UTILITY AND INCIDENTAL PURPOSES, RECORDED MAY 16, 1995 AS INSTRUMENT NO. 95- 156929 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, HOLDER OF EASEMENT FOR UTILITY AND INCIDENTAL PURPOSES, RECORDED APRIL 2, 1997 AS INSTRUMENT NO. 97- 109887 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

SOUTHERN CALIFORNIA GAS COMPANY, A CALIFORNIA CORPORATION, HOLDER OF EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES, RECORDED JUNE 15, 2006 AS INSTRUMENT NO. 2006-0432424 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, HOLDER OF EASEMENT FOR INUNDATION AND INCIDENTAL PURPOSES, RECORDED APRIL 9, 2018 AS INSTRUMENT NO. 2018- 0136846 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

STATE OF CALIFORNIA HOLDER OF AN EASEMENT FOR UTILITY AND INCIDENTAL PURPOSES.
RECORDED APRIL 17, 2000 AS INSTRUMENT NO 2000-141272 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY.

NOTARY ACKNOWLEDGMENT

A NOTARY PUBLIC OR OTHER OFFICER COMPLETING THIS CERTIFICATE VERIFIES ONLY THE IDENTITY OF THE INDIVIDUAL WHO SIGNED THE DOCUMENT TO WHICH THIS CERTIFICATE IS ATTACHED, AND NOT THE TRUTHFULNESS, ACCURACY, OR VALIDITY OF THAT DOCUMENT.

STATE OF CALIFORNIA

COUNTY OF Orange

} SS

ON August 22, 2022 BEFORE ME,

Eva M. Santana, Notary Public, PERSONALLY APPEARED James J. Fullmer WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND

SIGNATURE [Signature]

PRINTED NAME Eva M. Santana

MY PRINCIPAL PLACE OF BUSINESS IS IN Orange COUNTY

MY COMMISSION NO. 2266321

MY COMMISSION EXPIRES Nov. 10, 2022

NOTARY ACKNOWLEDGMENT

A NOTARY PUBLIC OR OTHER OFFICER COMPLETING THIS CERTIFICATE VERIFIES ONLY THE IDENTITY OF THE INDIVIDUAL WHO SIGNED THE DOCUMENT TO WHICH THIS CERTIFICATE IS ATTACHED, AND NOT THE TRUTHFULNESS, ACCURACY, OR VALIDITY OF THAT DOCUMENT.

STATE OF CALIFORNIA

COUNTY OF Orange

} SS

ON August 22, 2022 BEFORE ME,

Eva M. Santana, Notary Public, PERSONALLY APPEARED Daniel A. Butler WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

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PRINTED NAME Eva M. Santana

MY PRINCIPAL PLACE OF BUSINESS IS IN Orange COUNTY

MY COMMISSION NO. 2266321

MY COMMISSION EXPIRES Nov. 10, 2022

42
52
COPY

PARCEL MAP NO. 37902

IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA
BEING A SUBDIVISION OF A PORTION OF THE NORTH ONE-HALF OF SECTION 10, TOWNSHIP
3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID COUNTY.

T&M SURVEYING
ORANGE COUNTY

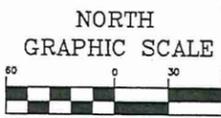
MARCH, 2022

SURVEYOR'S NOTES

- () REC. PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8
 - [] REC. PER C.O.C. NO. CO-011-001, REC. 3/9/2001 AS DOC NO. 2001-095958, O.R. RIV. CO., CA.
 - < > REC. PER PARCEL MAP NO. 36888, P.M.B. 240/1-4
 - SET 2" IP LS 9309
- SET 1" IP LS 9309, FLUSH AT ALL ANGLE POINTS AND PARCEL CORNERS

SHEET 3 OF 5 SHEETS

SEE SHEET 4 FOR
EASEMENT LOCATIONS



BASIS OF BEARINGS

BASIS OF BEARINGS IS THE CENTERLINE
OF OLD 215 FRONTAGE ROAD
N19°23'18"W PER P.M. 251/4-6.

ABBREVIATIONS

- FD. FOUND
- SFN. SEARCHED, FOUND NOTHING
- ESTAB. ESTABLISHED
- INT. INTERSECTION
- REF. REFERENCE
- ILLEG. ILLEGIBLE
- PROP. PROPORTION
- CL. CENTERLINE
- N'LY NORTHERLY
- S'LY SOUTHERLY
- W'LY WESTERLY
- E'LY EASTERLY
- RAD. RADIAL BEARING

LEGEND

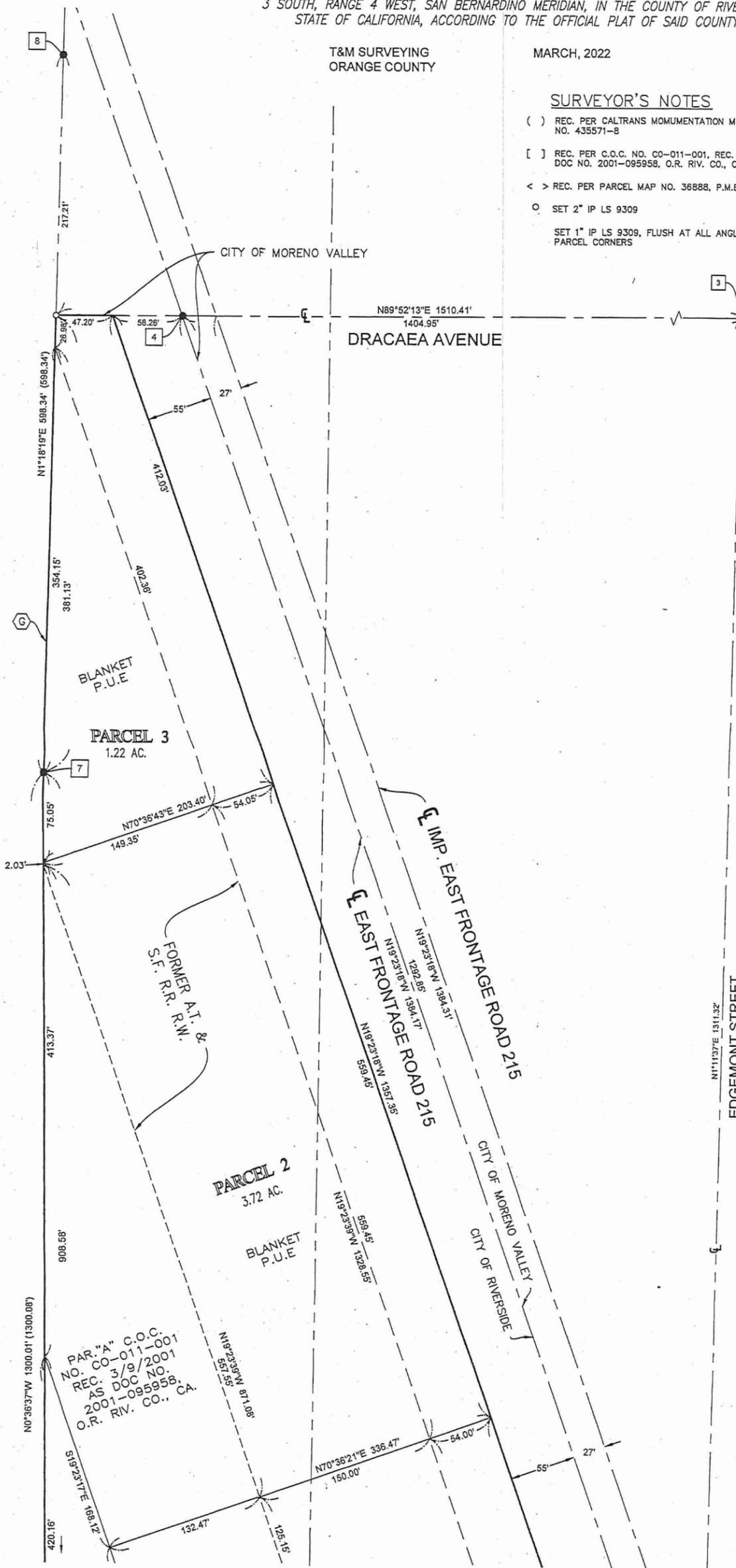
- FOUND AS NOTED

MONUMENT NOTES

- [1] FND 1" IP TAGGED LS 5174, ACCEPTED AS CENTERLINE INTERSECTION PER P.M. 251/4-6
- [2] FD 1" IP TAGGED LS 5137 IN WELL MONUMENT, NO REF, ACCEPTED AS CENTERLINE INTERSECTION
- [3] FND 2" IP W/TAG ILLEGIBLE, NO REF, ACCEPTED AS CENTERLINE INTERSECTION
- [4] FD 3" BRASS DISK STAMPED DEPARTMENT OF TRANSPORTATION, NO REF, ACCEPTED AS CENTERLINE INTERSECTION
- [5] FD 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT," DOWN 0.4', PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255) ESTABLISHED BY INTERSECTION
- [6] FD 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT," DOWN 1.0' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255)
- [7] FD 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT," DOWN 0.5' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255).
- [8] INDICATES FD. 3/4" LP. NO TAG, DOWN 0.7' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255)

RIGHT OF WAY NOTES

- (A) PARCEL DESC. TO CITY OF RIVERSIDE, SUCCESSOR IN INTEREST TO THE COUNTY OF RIVERSIDE BY DOC. REC. 8/21/2006 AS DOC. NO. 2006-0514688, O.R. RIV. CO., CA.
- (B) PARCEL DESC. TO STATE OF CALIFORNIA BY DEED REC. 1/5/90, INST. NO. 6065 O.R. RIV. CO., CA.
- (C) PARCEL DESC. TO CITY OF RIVERSIDE BY DOC. REC. 9/16/2019 AS DOC. NO. 2019-0362589, O.R. RIV. CO., CA.
- (D) PORTION OF PARCEL 2 AS DESCRIBED IN CERTIFICATE OF COMPLIANCE FOR LOT LINE ADJUSTMENT NO. LL-P05-0222, REC. 4/18/2006 AS DOC. NO. 2006-0277140, O.R. RIV. CO., CA.
- (E) PARCEL 8052-3 DESCRIBED IN FINAL ORDER OF CONDEMNATION, REC. 12/14/93 AS INST. NO. 497052, O.R. RIV. CO., CA.
- (F) PARCEL DESCRIBED IN DEED, REC. 3/29/90, AS INST. NO. 112312, O.R. RIV. CO., CA.
- (G) CALTRANS RIGHT OF WAY ESTABLISHED BETWEEN FOUND MONUMENTS [5], [7], [5], AND [6]



CONT. ON SHEET 4

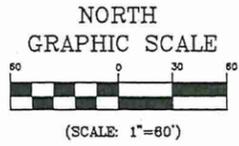
COPY 255/43

PARCEL MAP NO. 37902

IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA
 BEING A SUBDIVISION OF A PORTION OF THE NORTH ONE-HALF OF SECTION 10, TOWNSHIP
 3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE,
 STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID COUNTY.

SHEET 4 OF 5 SHEETS

SEE SHEET 4 FOR
 EASEMENT LOCATIONS



T&M SURVEYING
 ORANGE COUNTY

MARCH, 2022

RIGHT OF WAY NOTES

- (A) PARCEL DESC. TO CITY OF RIVERSIDE, SUCCESSOR IN INTEREST TO THE COUNTY OF RIVERSIDE BY DOC. REC. 8/21/2006 AS DOC. NO. 2006-0614688, O.R. RIV. CO., CA.
- (B) PARCEL DESC. TO STATE OF CALIFORNIA BY DEED REC. 1/5/90, INST. NO. 6065 O.R. RIV. CO., CA.
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- (F) PARCEL DESCRIBED IN DEED, REC. 3/29/90, AS INST. NO. 112312, O.R. RIV. CO., CA.
- (G) CALTRANS RIGHT OF WAY ESTABLISHED BETWEEN FOUND MONUMENTS (5), (7), (5), AND (6)

MONUMENT NOTES

- (1) FND 1" IP TAGGED LS 5174, ACCEPTED AS CENTERLINE INTERSECTION PER P.M. 251/4-6
- (2) FD 1" IP TAGGED LS 5137 IN WELL MONUMENT, NO REF, ACCEPTED AS CENTERLINE INTERSECTION
- (3) FND 2" IP W/TAG ILLEGIBLE, NO REF, ACCEPTED AS CENTERLINE INTERSECTION
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- (5) FD. 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT" DOWN 0.4', PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255) ESTABLISHED BY INTERSECTION
- (6) FD 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT," DOWN 1.0' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255)
- (7) FD 1" LP. AND PLASTIC PLUG TAGGED "CALIF DOT," DOWN 0.5' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255).
- (8) INDICATES FD. 3/4" LP. NO TAG, DOWN 0.7' PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8 (RIVERSIDE COUNTY MAP 205-255)

BASIS OF BEARINGS

BASIS OF BEARINGS IS THE CENTERLINE OF OLD 215 FRONTAGE ROAD N19°23'18"W PER P.M. 251/4-6.

ABBREVIATIONS

- FD. FOUND
- SFN. SEARCHED, FOUND NOTHING
- ESTAB. ESTABLISHED
- INT. INTERSECTION
- REF. REFERENCE
- ILLEG. ILLEGIBLE
- PROP. PROPORTION
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- N'LY. NORTHERLY
- S'LY. SOUTHERLY
- E'LY. EASTERLY
- W'LY. WESTERLY
- RAD. RADIAL BEARING

LEGEND

- FOUND AS NOTED

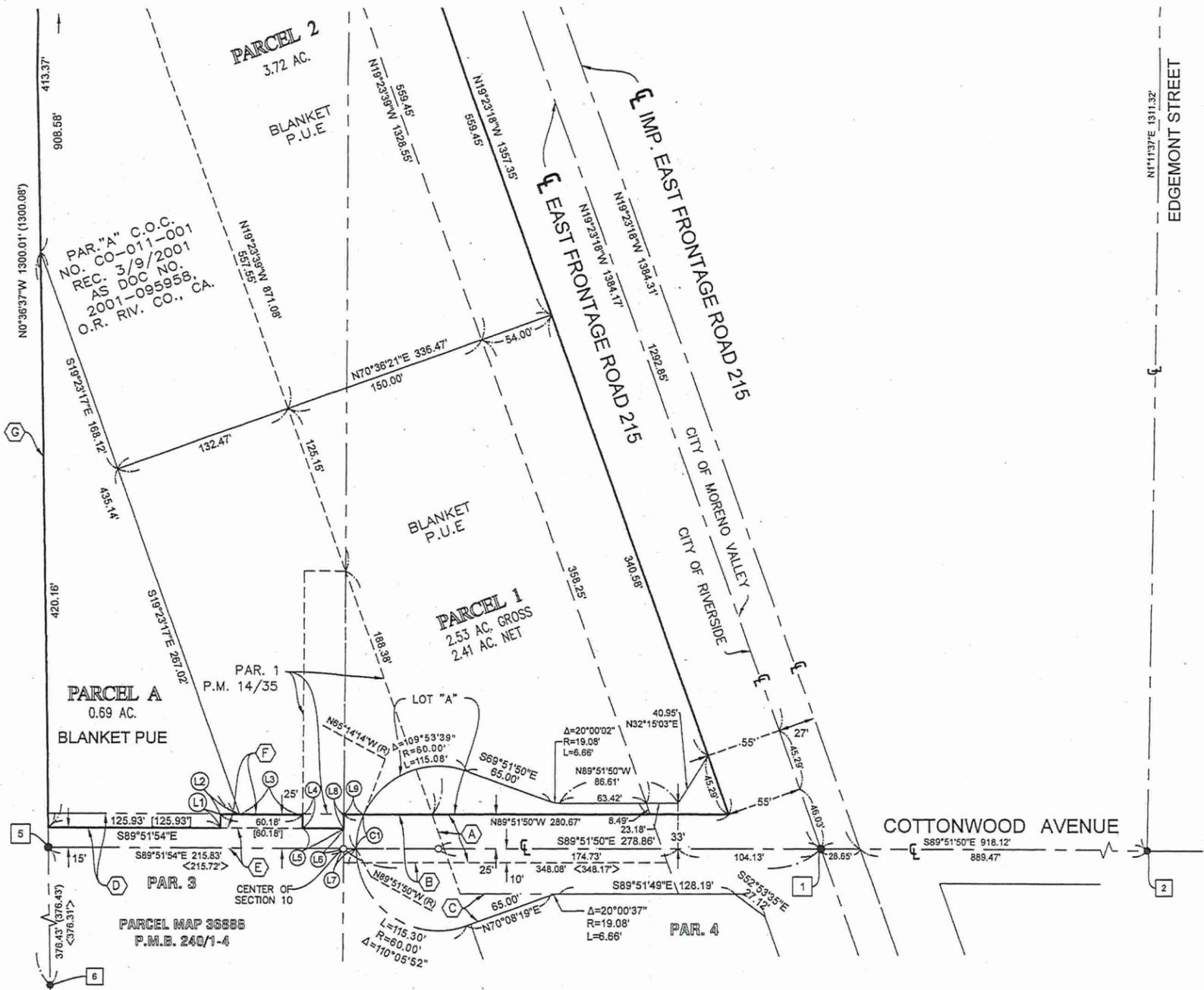
SURVEYOR'S NOTES

- () REC. PER CALTRANS MONUMENTATION MAP DRAWING NO. 435571-8
- [] REC. PER C.O.C. NO. CO-011-001, REC. 3/9/2001 AS DOC NO. 2001-095958, O.R. RIV. CO., CA.
- < > REC. PER PARCEL MAP NO. 36888, P.M.B. 240/1-4
- SET 2" IP LS 9309
- SET 1" IP LS 9309, FLUSH AT ALL ANGLE POINTS AND PARCEL CORNERS

LINE DATA TABLE		
LINE NO.	BRNG	LENGTH
L1	S00° 08' 06" W	10.00' [10.00']
L2	S89° 51' 54" E	14.02'
L3	S89° 51' 54" E	46.16'
L4	S00° 33' 03" W	10.00' [10.00']
L5	S89° 51' 54" E	30.00'
L6	N00° 33' 03" E	15.00'
L7	N89° 51' 50" W	9.22'
L8	N00° 33' 03" E	10.47'
L9	S89° 51' 50" E	14.99'

CURVE DATA TABLE				
CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
C1	25.68'	60.00'	024°31'00"	13.04'

CONT. ON SHEET 3



114
255
COPY

PARCEL MAP NO. 37902

IN THE CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA
 BEING A SUBDIVISION OF A PORTION OF THE NORTH ONE-HALF OF SECTION 10, TOWNSHIP
 3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE,
 STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID COUNTY.

T&M SURVEYING
 ORANGE COUNTY

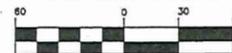
MARCH, 2022

SHEET 5 OF 5 SHEETS

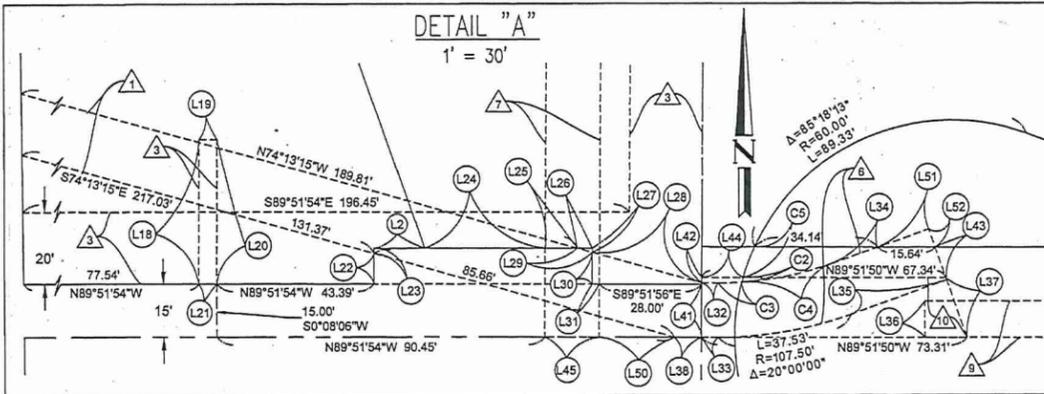
SEE SHEET 3 FOR
 BASIS OF BEARINGS
 REFERENCE NOTES
 MONUMENT NOTES
 ABBREVIATIONS

NORTH

GRAPHIC SCALE



(SCALE: 1"=60')

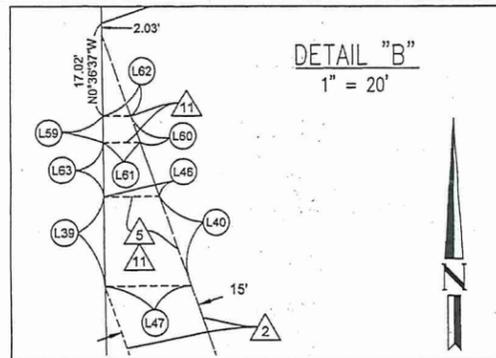


EASEMENT NOTES

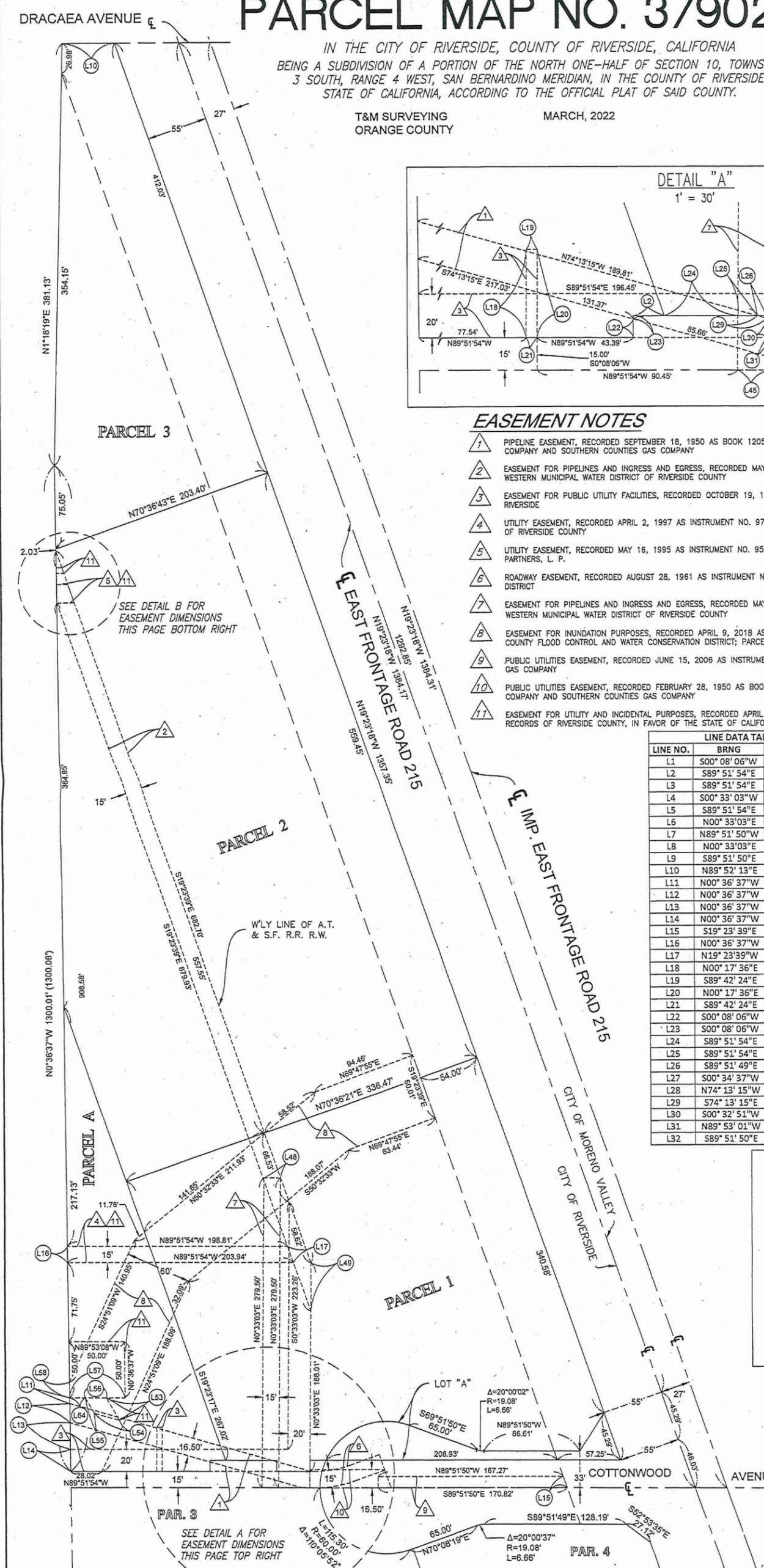
- 1 PIPELINE EASEMENT, RECORDED SEPTEMBER 18, 1950 AS BOOK 1205 PAGE 58, O.R. R.I.V. CO., IN FAVOR OF SOUTHERN CALIFORNIA GAS COMPANY AND SOUTHERN COUNTIES GAS COMPANY
- 2 EASEMENT FOR PIPELINES AND INGRESS AND EGRESS, RECORDED MAY 21, 1964 AS INSTRUMENT NO. 62770, O.R. R.I.V. CO., IN FAVOR OF WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY
- 3 EASEMENT FOR PUBLIC UTILITY FACILITIES, RECORDED OCTOBER 19, 1973 AS INSTRUMENT NO. 137289, O.R. R.I.V. CO., IN FAVOR OF CITY OF RIVERSIDE
- 4 UTILITY EASEMENT, RECORDED APRIL 2, 1997 AS INSTRUMENT NO. 97-109887, O.R. R.I.V. CO., IN FAVOR OF WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY
- 5 UTILITY EASEMENT, RECORDED MAY 16, 1995 AS INSTRUMENT NO. 95-156929, O.R. R.I.V. CO., IN FAVOR OF SANTA FE PACIFIC PIPELINE PARTNERS, L. P.
- 6 ROADWAY EASEMENT, RECORDED AUGUST 28, 1961 AS INSTRUMENT NO. 73744, O.R. R.I.V. CO., IN FAVOR OF EDGEMONT COMMUNITY SERVICES DISTRICT
- 7 EASEMENT FOR PIPELINES AND INGRESS AND EGRESS, RECORDED MAY 21, 1964 AS INSTRUMENT NO. 62768, O.R. R.I.V. CO., IN FAVOR OF WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY
- 8 EASEMENT FOR INUNDATION PURPOSES, RECORDED APRIL 9, 2018 AS INSTRUMENT NO. 2018-0136846, O.R. R.I.V. CO., IN FAVOR OF RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT; PARCEL 4783-2T, 4783-1, 4783-2.
- 9 PUBLIC UTILITIES EASEMENT, RECORDED JUNE 15, 2006 AS INSTRUMENT NO. 2006-0432424, O.R. R.I.V. CO., IN FAVOR OF SOUTHERN CALIFORNIA GAS COMPANY
- 10 PUBLIC UTILITIES EASEMENT, RECORDED FEBRUARY 28, 1950 AS BOOK 1151 PAGE 127, O.R. R.I.V. CO., IN FAVOR OF SOUTHERN CALIFORNIA GAS COMPANY AND SOUTHERN COUNTIES GAS COMPANY
- 11 EASEMENT FOR UTILITY AND INCIDENTAL PURPOSES, RECORDED APRIL 17, 2000 AS INSTRUMENT NO. 2000-141272 OF OFFICIAL RECORDS, RECORDS OF RIVERSIDE COUNTY, IN FAVOR OF THE STATE OF CALIFORNIA

LINE NO.	BRNG	LENGTH
L1	S00°08'06"W	10.00' [10.00']
L2	S89°51'54"E	14.02'
L3	S89°51'54"E	46.16'
L4	S00°33'03"W	10.00' [10.00']
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L7	N89°51'50"W	9.22'
L8	N00°33'03"E	10.47'
L9	S89°51'50"E	14.99'
L10	N89°52'13"E	47.10'
L11	N00°36'37"W	19.16'
L12	N00°36'37"W	17.20'
L13	N00°36'37"W	23.99'
L14	N00°36'37"W	20.00'
L15	S19°23'39"E	10.61'
L16	N00°36'37"W	15.01'
L17	N19°23'39"W	15.92'
L18	N00°17'36"E	40.00'
L19	S89°42'24"E	5.00'
L20	N00°17'36"E	40.00'
L21	S89°42'24"E	5.00'
L22	S00°08'06"W	8.56'
L23	S00°08'06"W	1.44'
L24	S89°51'54"E	33.22'
L25	S89°51'54"E	8.81'
L26	S89°51'49"E	4.12'
L27	S00°34'37"W	1.15'
L28	N74°13'15"W	31.09'
L29	S74°13'15"E	4.27'
L30	S00°32'51"W	8.85'
L31	N89°53'01"W	2.00'
L32	S89°51'50"E	4.53'

LINE NO.	BRNG	LENGTH
L33	S89°51'50"E	4.80'
L34	N70°13'40"E	13.14'
L35	N70°13'40"E	27.76'
L36	S00°08'10"W	10.00'
L37	S19°23'42"E	17.51'
L38	S89°51'54"E	7.51'
L39	N00°36'37"W	16.72'
L40	S19°23'39"E	17.43'
L41	S00°33'03"W	15.00'
L42	S00°33'03"W	1.50'
L43	N19°23'39"W	9.68'
L44	S89°51'35"E	11.40'
L45	N89°26'57"W	15.00'
L46	N89°23'23"E	10.21'
L47	N89°23'23"E	15.82'
L48	S89°26'57"E	15.00'
L49	N00°33'03"E	43.97'
L50	S89°51'54"E	20.49'
L51	N70°13'40"E	14.74'
L52	N19°23'39"W	5.32'
L53	S29°57'32"E	22.99'
L54	S74°56'15"E	23.34'
L55	S29°57'32"E	16.03'
L56	N89°53'08"W	19.06'
L57	S89°53'08"E	50.00'
L58	S00°36'37"E	14.08'
L59	S00°36'37"E	5.00'
L60	N19°23'39"W	5.28'
L61	N89°23'23"E	6.81'
L62	N89°23'23"E	5.11'
L63	N00°36'37"W	10.00'
L64	N89°53'08"W	14.11'



CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
C1	25.68'	60.00'	024°31'00"	13.04'
C2	1.33'	60.00'	001°16'24"	0.67'
C3	6.37'	92.50'	003°56'43"	3.19'
C4	25.92'	92.50'	016°03'24"	13.05'
C5	9.07'	60.00'	008°39'55"	4.55'



SEE DETAIL B FOR
 EASEMENT DIMENSIONS
 THIS PAGE BOTTOM RIGHT

SEE DETAIL A FOR
 EASEMENT DIMENSIONS
 THIS PAGE TOP RIGHT

When recorded mail to:

Western Municipal Water District
14205 Meridian Pkwy.
Riverside, California 92518

(Exempt - Gov't Code 6103)

No tax due (Grantee is a Public agency)

Space above this line for county recorder

I.D. No. 3 Western's No.382
PM 37902

QUITCLAIM

For valuable consideration, receipt of which is hereby acknowledged, Western Municipal Water District of Riverside County does hereby quitclaim to FB215, LLC, that easement as granted to Western Municipal Water District of Riverside County from Dill Lumber Company, by grant deed recorded May 11, 1964, as Instrument Number 62768 in the Official Records of Riverside County over real property in the County of Riverside, State of California, described as follows:

See Exhibit "A" Legal Description and Exhibit "B" Plat

Date: _____

WESTERN MUNICIPAL WATER DISTRICT
of Riverside County

ATTEST:

EXHIBIT "A" LEGAL DESCRIPTION

AN EASEMENT TO THE WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, A PUBLIC CORPORATION, CREATED AND EXISTING UNDER THE MUNICIPAL WATER DISTRICT ACT OF 1911, AS AMENDED, FOR THE EXCAVATION FOR, CONSTRUCTION, MAINTENANCE, OPERATION, AND REPAIR AND REPLACEMENT OF A WATER PIPE LINE AND APPURTENANCES THERETO, AND FOR INGRESS AND EGRESS IN CONNECTION THEREWITH, OVER, UNDER, THROUGH, AND ACROSS THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, BEING A STRIP OF LAND 15.00 FEET IN WIDTH, LYING 7.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT THE CENTER QUARTER SECTION CORNER OF SAID SECTION 10;
THENCE SOUTH 89° 23 1 WEST ALONG THE SOUTH LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 35.50 FEET TO A POINT THEREON FOR THE TRUE POINT OF BEGINNING;
THENCE NORTH 00°10 1 WEST AND PARALLEL WITH THE EAST LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 279.50 FEET;

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 4,186 SQUARE FEET MORE OR LESS

THIS DESCRIPTION WAS PREPARED BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYORS' ACT.



TY. E. THOMAS PLS 9209 9-30-2025
EXP. 9/26/2026 DATE



When recorded mail to:

Western Municipal Water District
14205 Meridian Pkwy.
Riverside, California 92518

(Exempt - Gov't Code 6103)
No tax due (Grantee is a Public agency)

Space above this line for county recorder

I.D. No. 3 Western's No.383
PM 37902

QUITCLAIM

For valuable consideration, receipt of which is hereby acknowledged, Western Municipal Water District of Riverside County does hereby quitclaim to FB215, LLC, that easement as granted to Western Municipal Water District of Riverside County from Dill Lumber Company, by grant deed recorded May 11, 1964, as Instrument Number 62770 in the Official Records of Riverside County over real property in the County of Riverside, State of California, described as follows:

See Exhibit "A" Legal Description and Exhibit "B" Plat

Date: _____

WESTERN MUNICIPAL WATER DISTRICT
of Riverside County

ATTEST:

EXHIBIT "A" LEGAL DESCRIPTION

THAT PORTION OF THAT CERTAIN EASEMENT DESCRIBED TO WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, RECORDED MAY 21, 1964 AS INSTRUMENT NO. 62770, OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, LYING EASTERLY OF THE WESTERLY LINE OF PARCEL "A" OF CERTIFICATE OF COMPLIANCE NO. CO-011-011, RECORDED MARCH 9, 2001 AS DOCUMENT NO. 2001-095958, OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, AND LYING WESTERLY OF THE EASTERLY LINE OF THE NORTHWEST ONE-QUARTER OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 4 WEST, S.B.M.

THIS DESCRIPTION WAS PREPARED BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYORS' ACT.



9-30-2025

TY. E. THOMAS PLS 9209

DATE

EXP. 9/26/2026

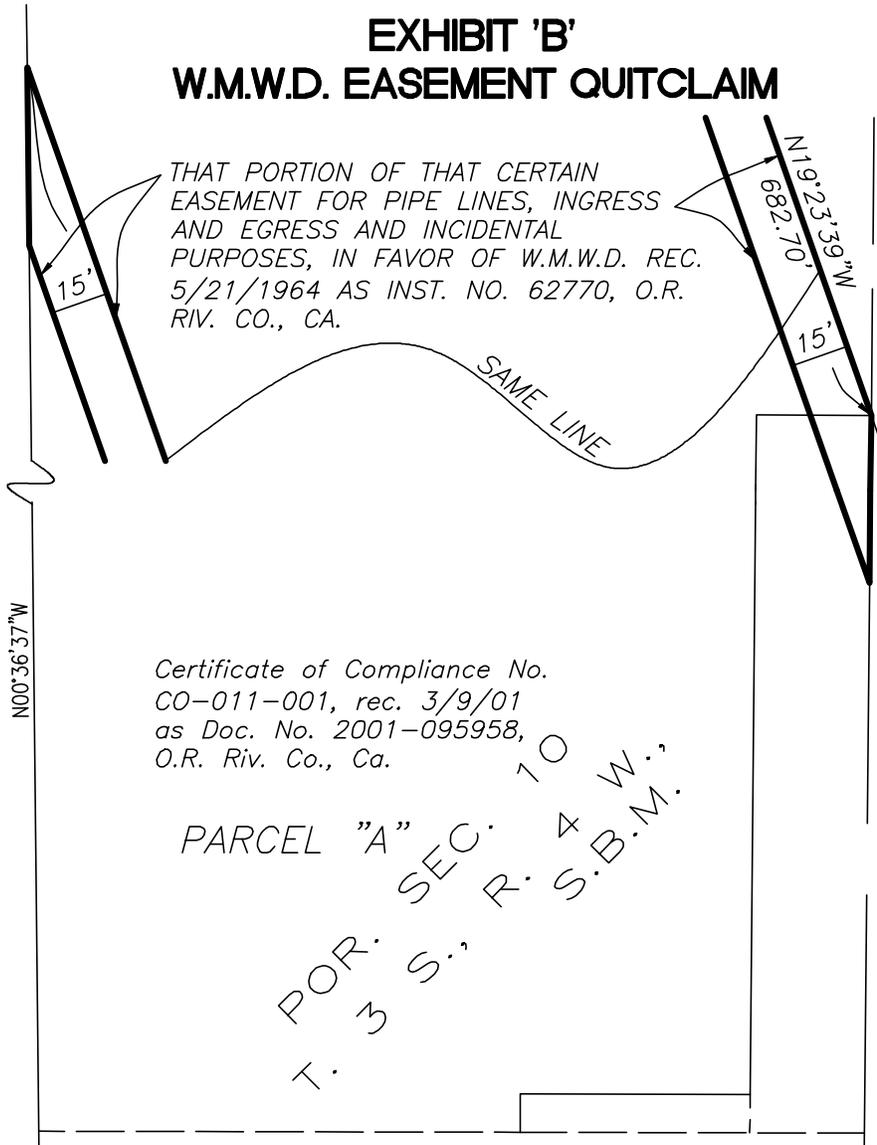


EXHIBIT 'B' W.M.W.D. EASEMENT QUITCLAIM

THAT PORTION OF THAT CERTAIN
EASEMENT FOR PIPE LINES, INGRESS
AND EGRESS AND INCIDENTAL
PURPOSES, IN FAVOR OF W.M.W.D. REC.
5/21/1964 AS INST. NO. 62770, O.R.
RIV. CO., CA.



SCALE: 1"=100'



Certificate of Compliance No.
CO-011-001, rec. 3/9/01
as Doc. No. 2001-095958,
O.R. Riv. Co., Ca.

PARCEL "A"
SEC. 10
POR. 3 S. R. S.B.M.
T.



10
Old 215
COTTONWOOD AVENUE

LOT "B"
PAR. 3
PARCEL
MAP 36888
P.M.B. 240/1-4

PREPARED UNDER THE SUPERVISION

Ty Thomas 9-30-2025

TY E. THOMAS DATE
P.L.S. 9309 EXP. 9/26/2026

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE WESTERLY LINE OF PARCEL
"A" HAVING A BEARING OF NORTH 00°36'37" WEST, C.O.C.
NO. CO-011-001, REC. 3/9/01 AS DOC. NO.
2001-095958, O.R. RIV. CO. CA.

T&M SURVEYING

531 E. TRENTON AVE.
ORANGE, CA.
O-714-912-4042 C-714-906-8771
WWW.TNMSURVEYING.COM



When recorded mail to:

Western Municipal Water District
14205 Meridian Pkwy.
Riverside, California 92518

(Exempt - Gov't Code 6103)
No tax due (Grantee is a Public agency)

Space above this line for county recorder

I.D. No. 3 Western's No.381
PM 37902

QUITCLAIM

For valuable consideration, receipt of which is hereby acknowledged, Western Municipal Water District of Riverside County does hereby quitclaim to FB215, LLC, that easement as granted to Western Municipal Water District of Riverside County from State of California Department of Transportation, by grant deed recorded April 2, 1997, as Instrument Number 109887 in the Official Records of Riverside County over real property in the County of Riverside, State of California, described as follows:

See Exhibit "A" Legal Description and Exhibit "B" Plat

Date: _____

WESTERN MUNICIPAL WATER DISTRICT
of Riverside County

ATTEST:

EXHIBIT "A" LEGAL DESCRIPTION

AN EASEMENT FOR UTILITY PURPOSES, AND INCIDENTS THERETO UNDER, UPON, OVER AND ACROSS THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN, AS SHOWN BY UNITED STATES GOVERNMENT SURVEY, DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTER OF SAID SECTION 10, MARKED BY A 3/4-INCH IRON PIPE, STAMPED LS 4297; THENCE ALONG THE SOUTH LINE OF SAID NORTHWEST QUARTER, NORTH 89° 51' 54" WEST, 215.74 FEET; THENCE NORTH 00°--36' 37" WEST, 203.02 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 89° 51' 54" EAST, 203.94 FEET; THENCE NORTH 19° 23' 39" WEST, 15.92 FEET; THENCE NORTH 89° 51' 54" WEST, 198.81 FEET; THENCE SOUTH 00° 36' 37" EAST, 15.00 FEET TO THE TRUE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 3,021 SQUARE FEET MORE OR LESS

THIS DESCRIPTION WAS PREPARED BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE LAND SURVEYORS' ACT.



9-30-2025

TY. E. THOMAS PLS 9209
EXP. 9/26/2026

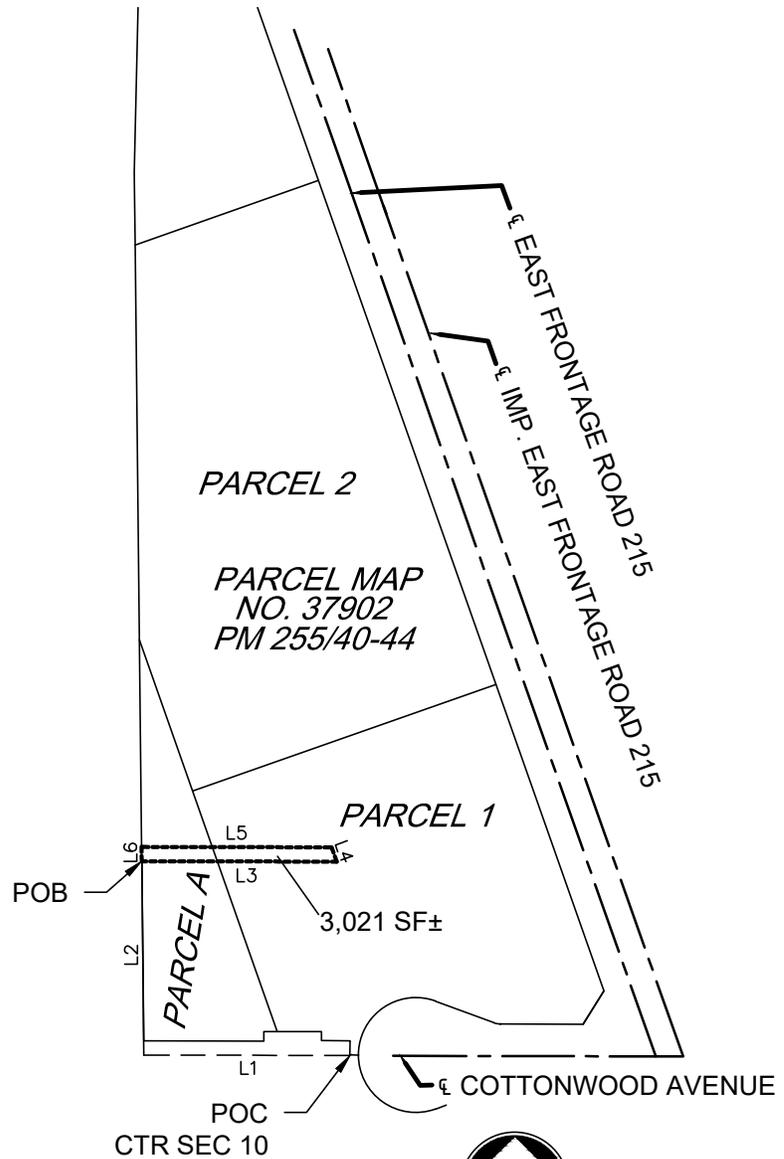
DATE



EXHIBIT "B LEGAL DESCRIPTION

LINE TABLE

LINE #	BEARING	LENGTH
L1	N89°51'54"W	215.74'
L2	N00°36'37"W	203.02'
L3	S89°51'54"E	203.94'
L4	N19°23'39"W	15.92'
L5	N89°51'54"W	198.81'
L6	S00°36'47"E	15.00'



Ty Thomas

9-30-2025

TY E. THOMAS

DATE

P.L.S. 9309

EXP 9/26/2026



200' 0' 100' 200'



SCALE: 1" = 200'

POB POINT OF BEGINNING
 POC POINT OF COMMENCEMENT

THE BASIS OF BEARINGS IS N 19°23'18" W
 AS SHOWN ON PARCEL MAP NO. 37902
 RECORDED IN BOOK 255, PAGES 40-44
 RECORDS OF RIVERSIDE COUNTY, CALIFORNIA

PREPARED BY:

**T&M
SURVEYING**

531 E. TRENTON AVE.
 ORANGE, CA.
 O-714-912-4042 C-714-906-8771
 WWW.TNMSURVEYING.COM



Attachment 5

Recording requested by:

Western Municipal Water District

When recorded mail to:

Western Municipal Water District
14205 Meridian Pkwy.
Riverside, CA 92518

(Gov't Code 6103)
No tax due (Grantee is a public agency)

Space above this line for Recorder

I.D. 3 Western Record No. _____

Assessor Parcel No. _____

GRANT OF EASEMENT

For valuable consideration, FB215, LLC, Grantor, hereby grants to WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY (District), Grantee, its successors and assigns, an easement and right-of-way in, over, upon, under and across the lands hereinafter described to construct, reconstruct, install, replace, remove, repair, alter, operate, maintain, inspect and utilize a pipeline or pipelines for all purposes, together with any easement roads and appurtenances within the right-of-way including, but not limited to, cables for communication purposes, and for the ingress and egress throughout the entire easement and right-of-way in connection with the exercise of any of the foregoing rights. When trenching or excavation is commenced by the District to maintain or upgrade water facilities, District will not be responsible for the reconstruction or restoration of any of the existing improvements, including retention/detention basin embankments, access roads, storm drain structures, etc. The District will restore surfaces per District standards.

The property subject to this easement is located in the County of Riverside, State of California, described as follows:

See attached Legal Description, Exhibit "A" and Plat Map, Exhibit "B"

Grantor, and his successors and assigns, shall not increase or decrease, or permit to be increased or decreased, the now existing ground elevations of said easement and right-of-way without the prior written consent of Grantee.

Grantor, and his successors and assigns, further agree that no trees, buildings, fences, walls, or structures of any kind, shall be installed, constructed, erected, placed, planted on any portion of the easement and right-of-way. Grantor, and his successors and assigns, further agree that no changes in the alignment or grading of any road constructed within the easement and right-of-way will be made without the prior written consent of the Grantee. Grantee shall have the right to access said easement and the right to construct and utilize an access road within said easement, and to use gates in all fences which cross said easement; and to trim, cut down or clear away any trees and brush whenever in Grantee's judgment it is necessary for the convenient and safe exercise of the rights hereby granted. No additional fences or gates can be constructed across said easement unless approved in writing by Grantee. Grantee shall also have the right to mark the location of said easement in a manner which will not interfere with Grantor's reasonable and lawful use of said easement.

This instrument shall be binding upon and inure to the benefit of the successor and assigns of Grantor.

IN WITNESS WHEREOF, Grantor has executed this instrument this 7th day of March, 2022.

GRANTOR:
FB215, LLC



Signature

James L. Fullmer

Print Name

Manager

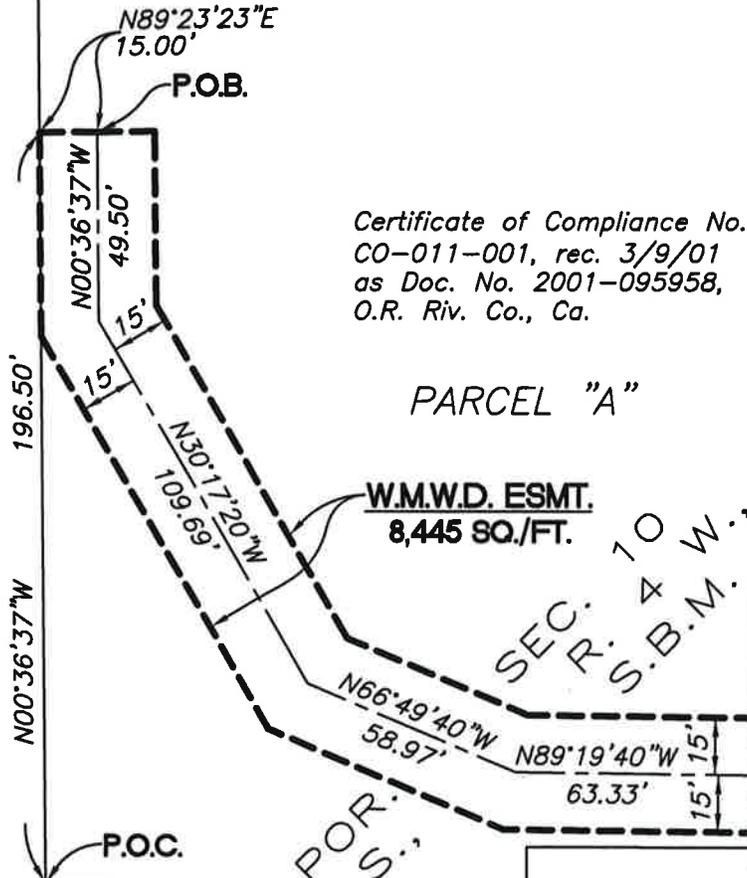
Title

EXHIBIT 'B'
W.M.W.D. EASEMENT

SHEET 1 OF 1



SCALE: 1"=100'



Certificate of Compliance No.
CO-011-001, rec. 3/9/01
as Doc. No. 2001-095958,
O.R. Riv. Co., Ca.

PARCEL "A"

W.M.W.D. ESMT.
8,445 SQ./FT.

SEC. 10 & W.
POR. 3

196.50'
N00°36'37"W

N00°36'37"W
49.50'

N89°23'23"E
15.00'

P.O.B.

15'

15'

N30°17'20"W
109.69'

W.M.W.D. ESMT.
8,445 SQ./FT.

N66°49'40"W
58.97'

N89°19'40"W
63.33'

15'

15'

P.O.C.

T. 3

10

Old 215
COTTONWOOD AVENUE

LOT "B"

PARCEL PAR. 3
MAP 36888
P.M.B. 240/1-4



PREPARED UNDER THE SUPERVISION OF:

ESWIN O. VEGA, P.L.S. 9164 DATE 3/7/22

BASIS OF BEARINGS
BEARINGS ARE BASED ON THE WESTERLY LINE OF PARCEL "A" HAVING A BEARING OF NORTH 00°36'37" WEST, C.O.C. NO. CO-011-001, REC. 3/9/01 AS DOC. NO. 2001-095958, O.R. RIV. CO. CA.

THIS PLAT IS SOLELY AN AID IN LOCATING THE PARCEL(S) DESCRIBED IN THE ATTACHED DOCUMENT. IT IS NOT A PART OF THE WRITTEN DESCRIPTION THEREIN.



SDH AND ASSOCIATES INC.
27363 Via Industria
Temecula, California 92590
TEL: (951) 683-3691 FAX (951) 788-2314

Agenda Item: 7B1

Date: January 5, 2026

TO: THE ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE

Director Gracie Torres, Committee Member

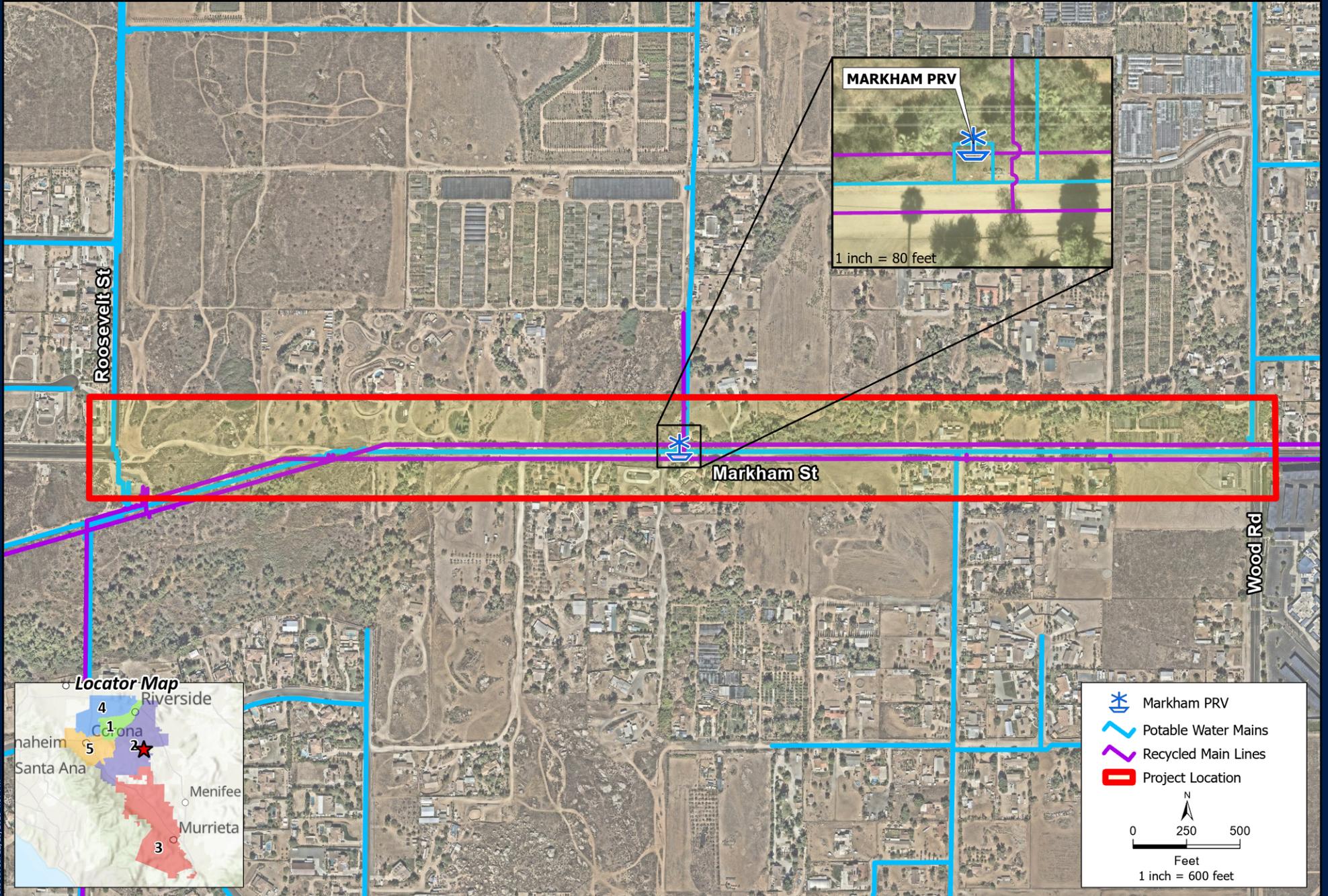
Director Fauzia Rizvi, Committee Member

FROM: Tim Barr, Deputy General Manager

**REPORT ON INCREASED PROJECT BUDGET AND AWARD OF
PROFESSIONAL SERVICES CONTRACT FOR THE MARKHAM STREET
WATERLINE RELOCATIONS**

Markham Street Waterline Relocation Map

Project Location



Date Saved: 12/15/2025 4:37 PM

Document Path: G:\Projects\Engineering\MarkhamWaterlineRelocation_31479\APRX\MarkhamWaterlineRelocation_31479.aprx

Agenda Item: 7B2

Date: January 5, 2026

TO: THE ENGINEERING, OPERATIONS, AND WATER RESOURCES COMMITTEE

Director Gracie Torres, Committee Member

Director Fauzia Rizvi, Committee Member

FROM: Tim Barr, Deputy General Manager

2025 DEVELOPMENT SERVICES UPDATE

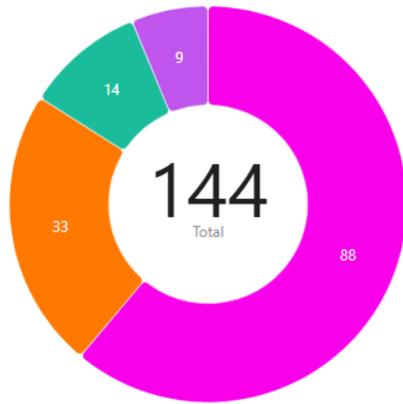


2025 Development Services Update



DEVELOPMENT SERVICES REPORT DEVELOPER PAID DEPOSITS JANUARY-DECEMBER 2025

Total CS Letters by Letter Type



■ Fire Flow ■ Water/Sewer/RW Availability ■ Conditions ■ Fire Flow Update

Conditions Letters

14

Fire Flow Letters

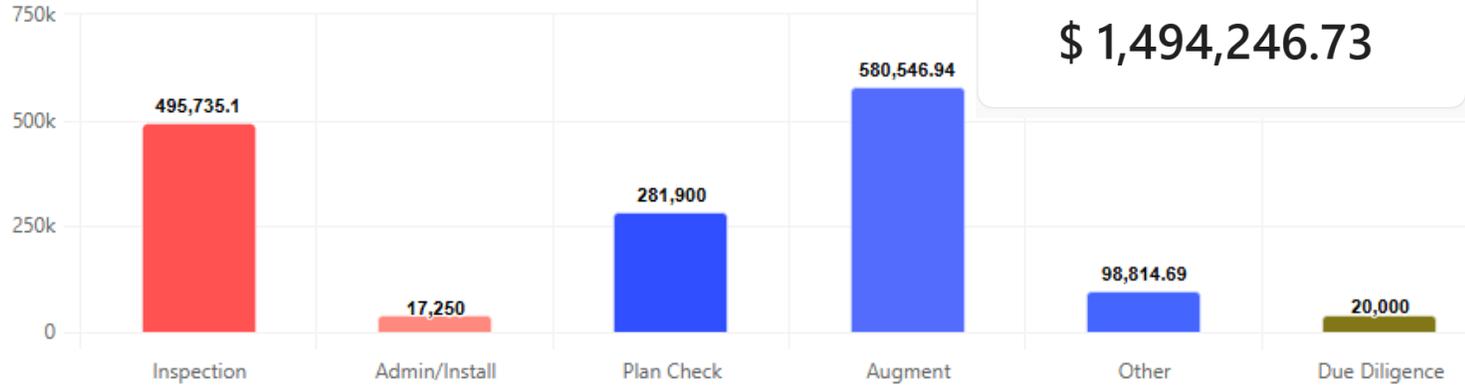
97

Availability Letters

33

Developer Paid Deposits

Deposit Amount



2025 Total Deposits Collected

\$ 1,494,246.73

2024 Total Customer Service Letters Completed

2024

110

2024 Total Deposits Collected

\$ 729,852.83

2025 Total Customer Service Letters Completed

2025

144



31%

2025 Total Deposits Collected

\$ 1,494,246.73



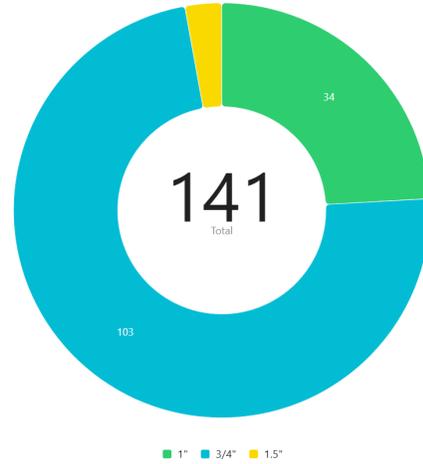
105%

DEVELOPMENT SERVICES REPORT WATER & SEWER CONNECTIONS JANUARY-DECEMBER 2025

Water
Connections

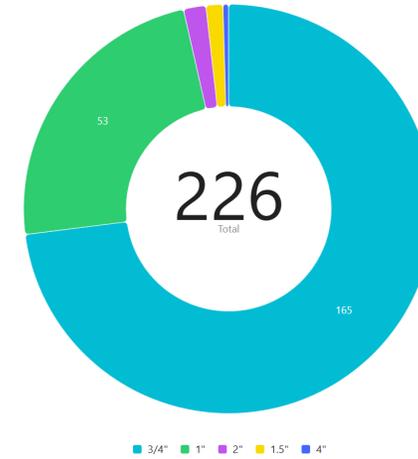
2024

2024 No. of Water Meters by Size



2025

2025 No. of Water Meters by Size



↑ 60%

Sewer
Connections

2024 Sewer Connections by Service Area

Sewer Connections



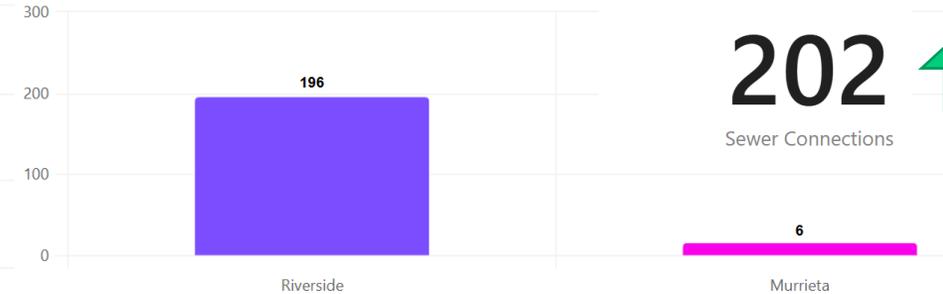
2024 Total Sewer Connections

103

Sewer Connections

2025 Sewer Connections by Service Area

Sewer Connections



2025 Total Sewer Connections

202

Sewer Connections

↑ 96%

DEVELOPMENT SERVICES REPORT

CAPACITY FEES

JANUARY-DECEMBER 2025

Water Capacity Fees

2024 **\$ 1,364,183.61**

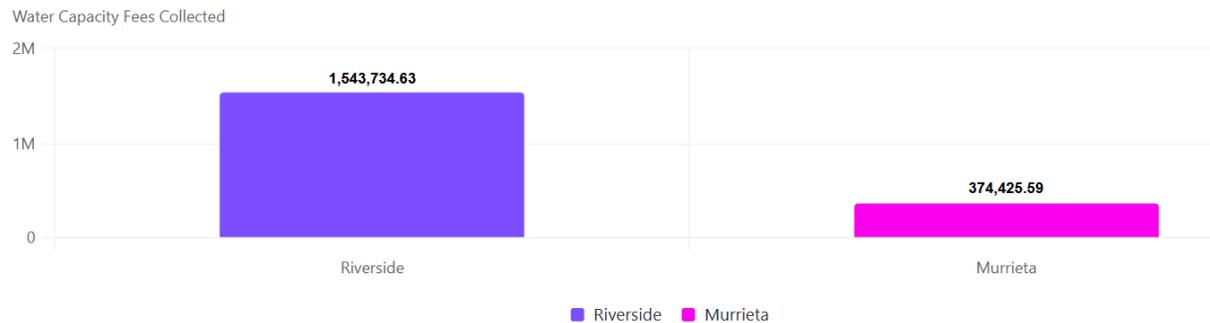
2025 **\$ 1,918,160.22**  **41%**

Sewer Capacity Fees

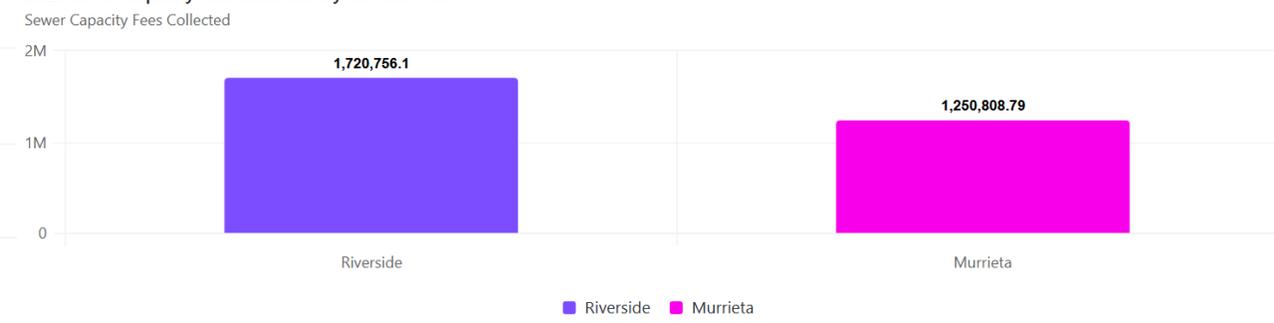
2024 **\$ 1,190,576.01**

2025 **\$ 2,973,894.19**  **150%**

2025 Water Capacity Fees Collected by Service Area



2025 Sewer Capacity Fees Collected by Service Area



2025 NOTABLE PROJECTS (RIVERSIDE)



RIVERSIDE				
Development Name	New Pipeline (Linear Feet)			No. of Meters
	Water	Sewer	Recycled	
Sycamore Hills Distribution Center	1,169			8
Cajalco Square	1,509	856		5
Van Buren Retail Center	1,190			3
Lyon Ave Sewer	802			
Schoolhouse Daycare	381			4
TR 22100-2*	6,791			59
TR 37593*	4,657	4,069	1,516	90
TR 32647 Pipeline Relocation and Lurin Tank Site Improvements	1,583			
TR 36475*	19,285	18,110	8,736	171
TR 36390 *	36,495	28,980		343
Total	73,862	52,015	10,252	

*Phased, multi-year projects with final closeout in 2025

TOTAL: 136,129 Linear Feet of Pipeline



2025 NOTABLE PROJECTS (MURRIETA)

THE RANCH APARTMENTS

- 324 units

NUTMEG APARTMENTS

- 210 units

OAKVIEW RANCH APARTMENTS

- 200 units

TOTAL: 734 New Units



Thank you.
