



---

## COMMUNICATIONS

---

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

---

## INFORMATION

---

4. UPCOMING PROJECTS STATUS REPORT – BURTON

Recommendation: Receive and file.

---

## ACTION

---

5. MID-CYCLE CAPITAL BUDGET UPDATE FOR FISCAL YEARS 2023-24 AND 2024-25 – JOHNSON / AKIYOSHI / BURTON

Recommendation: That the Board receive and file the Mid-Cycle Capital Budget Update for Fiscal Years 2023-24 and 2024-25 and approve the Fiscal Years 2023-24 and 2024-25 Mid-Cycle Capital Budget Project additions and changes as presented.

6. LAKE FOREST ZONE 4 EL TORO TANKS 1 & 2 REHABILITATION CONSULTANT SELECTION – MWE / MOEDER / BURTON

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Cannon Corporation in the amount of \$269,823 for engineering design services for the Lake Forest Zone 4 El Toro Tanks 1 and 2 Rehabilitation, Project No. 12568.

7. PLANNING AREA 39 LOS OLIVOS CAPITAL SANITARY SEWER IMPROVEMENTS – RIOS / AKIYOSHI / BURTON

Recommendation: That the Board authorize the General Manager to accept ICDC's construction contract with Shoffeitt Pipeline, Inc. in the amount of \$250,500, and authorize the addition of Project No. 12965 in the amount of \$462,000 to the FY 2023-24 Capital Budget for the Planning Area 39 Los Olivos Capital Sanitary Sewer Improvements.

---

**OTHER BUSINESS**

---

- 8. Directors' Comments
- 9. Adjournment

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

Note: This page is intentionally left blank.

May 22, 2024

Prepared by: E. Akiyoshi / M. Cortez /  
J. Moeder / R. Mori

Submitted by: K. Burton

Approved by: Paul A. Cook 

ENGINEERING AND OPERATIONS COMMITTEE

UPCOMING PROJECTS STATUS REPORT

SUMMARY:

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

BACKGROUND:

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

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit "A" – Upcoming Projects Status Report

Note: This page is intentionally left blank.

**Exhibit "A"**  
**UPCOMING PROJECTS STATUS REPORT**

| Project Name   | Planning   | Design     | Construction | Construction     |
|--|------------|------------|--------------|------------------|
|  |            |            |              | Final Acceptance |
| HVAC System Replacement at Sand Canyon HQ and Operations Center                        | Completed  | In-Process | Dec-24       | -                |
| Dyer Road Wellfield Facility Rehabilitation Group 1                                    | Completed  | In-Process | Jan-25       | -                |
| Silverado Bridge 174 DW Improvements   | Completed  | In-Process | Oct-24       | -                |
| Silverado Bridge 175 DW Improvements   | Completed  | In-Process | Sep-25       | -                |
| Silverado Bridge 177 DW Improvements   | Completed  | In-Process | Jul-24       | -                |
| MWRP Biosolids Lift Station and Sewer Improvement                                      | Completed  | In-Process | Apr-25       | -                |
| Serrano Creek Raw Water Pipeline Replacement   | Completed  | Completed  | In-Process   | Jul-24           |
| Radio Tower Improvements   | Completed  | In-Process | Oct-24       | -                |
| Irvine Business Complex Appurtenance Relocations Phase 3                               | Completed  | In-Process | Jul-24       | -                |
| SR 133 - 36" Trunk Sewer Protection  | Completed  | Completed  | In-Process   | Oct-24           |
| Woodbridge RW Replacement  | Completed  | Completed  | In-Process   | Jun-24           |
| Lake Forest Woods Sewer Improvements   | Completed  | In-Process | Oct-24       | -                |
| Santiago Canyon Pump Station Improvements  | Completed  | Completed  | In-Process   | Nov-24           |
| Coastal Z2 and Z4 Pump Stations Rehabilitation   | Completed  | In-Process | Aug-24       | -                |
| Rehabilitation of Irvine Desalter Wells 76, 110, 115R and Destruction of Wells 72, 106 | Completed  | Completed  | In-Process   | May-25           |
| Santiago Creek Dam Outlet Tower and Spillway Improvements                              | Completed  | In-Process | Feb-25       | -                |
| Rattlesnake Dam Risk Reduction Investigation   | Completed  | In-Process | -            | -                |
| Santiago Canyon Fleming Zone 8 Tank and Zone 8-9 BPS                                   | Completed  | Completed  | In-Process   | Feb-25           |
| Orange Heights Zone 6 Reservoir  | Completed  | On-Hold    | -            | -                |
| Generator Fuel Storage Upgrades  | Completed  | Completed  | In-Process   | Dec-25           |
| Sand Canyon Dam Instrumentation  | Completed  | In-Process | Sep-24       | -                |
| MWRP MPS-2 Pump Bases Replacement  | Completed  | Completed  | In-Process   | Sep-24           |
| UCI Meter Vault Replacement  | Completed  | In-Process | Jul-24       | -                |
| Lake Forest Zone B-C BPS   | Completed  | Completed  | In-Process   | Jun-24           |
| Lake Forest Zone 4 Tank Rehabilitations  | In-Process | May-24     | -            | -                |
| San Joaquin Reservoir Filtration   | Completed  | Completed  | In-Process   | Mar-25           |
| Sewer Siphon Improvements Phase II   | Completed  | In-Process | Aug-24       | -                |
| Well OPA-1 PFAS Treatment  | Completed  | Completed  | In-Process   | Jun-24           |
| Well ET-1 PFAS Treatment   | Completed  | Completed  | In-Process   | Jun-24           |
| SGU PFAS Treatment   | Completed  | Completed  | In-Process   | Jul-24           |
| Zone A to Rattlesnake Reservoir BPS  | Completed  | Completed  | In-Process   | Sep-24           |
| Syphon Reservoir Intersection Improvements and Access Road                             | Completed  | Completed  | In-Process   | Oct-24           |
| Orange Heights SAC/Baker Pipeline Relocation   | Completed  | Completed  | Nov-24       | -                |
| Syphon Reservoir Improvements  | Completed  | In-Process | Apr-25       | -                |
| Orange Heights Zn 5 to 6 and C+ to E Pump Stations                                     | Completed  | On-Hold    | -            | -                |
| MWRP Compressed Natural Gas and Diesel/Gasoline Fueling Station                        | Completed  | Completed  | In-Process   | Feb-25           |
| MWRP Tertiary Filter Rehabilitation  | Completed  | Completed  | In-Process   | Nov-25           |
| Operations Center Purchasing Warehouse   | Completed  | In-Process | Jul-24       | -                |

### UPCOMING PROJECTS STATUS REPORT

| Project Name  | Planning   | Design    | Construction | Construction     |
|---|------------|-----------|--------------|------------------|
|   |            |           |              | Final Acceptance |
| PA 1, Jeffrey Road Extension RW and DW (RA w/CDC)                         | Completed  | Completed | Completed    | Jun-24           |
| PA 51, Serrano Creek Sewer Relocation                                     | Completed  | Completed | Completed    | Jun-24           |
| PA 51, District 5 South Chinon DW, RW (RA with Heritage Fields)           | Completed  | Completed | Sep-24       | Nov-24           |
| PA 51, Marine Way from Skyhawk to Treble DW, RW (RA with Heritage Fields) | Completed  | Completed | Completed    | Jun-24           |
| PA 51, Treble from GP5 to Marine Way DW, RW (RA with Heritage Fields)     | Completed  | Completed | In-Process   | Nov-24           |
| PA 51 Lynx from Harrier to Marine Way DW, SS (RA with Heritage Fields)    | Completed  | Completed | Sep-24       | Nov-24           |
| PA 1, Orchard Hills Neighborhood 4 DW (RA with TIC)                       | Completed  | Completed | In-Process   | Jun-24           |
| PA 1, Orchard Hills Neighborhood 4 RW (RA with TIC)                       | Completed  | Completed | In-Process   | Jun-24           |
| East Orange, Orange Heights Tract 16199 SS, RW                            | Completed  | On-Hold   | -            | -                |
| East Orange, Orange Heights Tract 17995 DW, RW                            | Completed  | On-Hold   | -            | -                |
| East Orange, Orange Heights Jamboree and Chapman DW SS, RW                | Completed  | On-Hold   | -            | -                |
| City of Irvine Gateway Preserve Residential Village SAMP                  | Dec-24     | -         | -            | -                |
| CIP Asset Management Phase II - Linear Asset Prioritization               | In-Process | Oct-24    | -            | -                |
| Lead and Copper Rule Revision - Lead Pipe Inventory                       | In-Process | Oct-24    | -            | -                |



May 22, 2024

Prepared by: D. Johnson / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook



ENGINEERING AND OPERATIONS COMMITTEE

MID-CYCLE CAPITAL BUDGET UPDATE FOR FISCAL YEARS 2023-24 AND 2024-25

SUMMARY:

The Two-Year Capital Budget for Fiscal Years 2023-24 and 2024-25 was approved by the IRWD Board on April 26, 2023. Staff will present the Mid-Cycle Capital Budget Update for Fiscal Years 2023-24 and 2024-25. Staff recommends the Board receive and file the update for the Capital Budget and approve the recommended changes to the Capital Budget.

BACKGROUND:

In April 2023, the Board-approved Capital Budget included forecasted expenditures (forecasted work completed) for Fiscal Years 2023-24 and 2024-25 of \$105.1 million and \$111.0 million, respectively.

Staff's presentation summarizing the Mid-Cycle Capital Budget Update, attached as Exhibit "A", highlights the proposed changes to the total budget and the forecasted expenditures for FY 2024-25. For this capital budget update, the total budget increase will be \$1.54M. The three general system replacement projects have a budget increase of \$1.54M. In addition, two previously approved projects, the core network upgrade and enterprise server projects, were identified to be equally split between the potable, recycled and sewer systems as shown in the table below.

FISCAL IMPACTS:

The following table presents the resulting total budget changes to the Capital Budget:

| Project            | Project Title                 | Funding Source    | Current  | Proposed |
|--------------------|-------------------------------|-------------------|----------|----------|
| 12543              | Core Network Upgrades-DW      | Regional Potable  | 1.00M    | 0.33M    |
| 13008              | Core Network Upgrades-RW      | Regional Recycled |          | 0.33M    |
| 13009              | Core Network Upgrades-SS      | Regional Sewer    |          | 0.33M    |
| 12544              | Enterprise Server Upgrades-DW | Regional Potable  | 0.66M    | 0.22M    |
| 13010              | Enterprise Server Upgrades-RW | Regional Recycled |          | 0.22M    |
| 13011              | Enterprise Server Upgrades-SS | Regional Sewer    |          | 0.22M    |
| Sub-Total          |                               |                   | \$1.66M  | \$1.66M  |
| 11774              | Gen Sys Reps / Mods 23/24-DW  | Potable Repl      | 6.27M    | 6.63M    |
| 11777              | Gen Sys Reps / Mods 23/24-RW  | Recycled Repl     | 2.10M    | 2.66M    |
| 11780              | Gen Sys Reps / Mods 23/24-SS  | Sewer Repl        | 1.79M    | 2.41M    |
| Sub-Total          |                               |                   | \$10.16M | \$11.70M |
| Total All Projects |                               |                   | \$11.82M | \$13.36M |

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:


That the Board receive and file the Mid-Cycle Capital Budget Update for Fiscal Years 2023-24 and 2024-25 and approve the Fiscal Years 2023-24 and 2024-25 Mid-Cycle Capital Budget Project additions and changes as presented.

LIST OF EXHIBITS:


Exhibit "A" – Mid-Cycle Capital Budget Presentation

**FISCAL YEARS 2023-24  
AND 2024-25 MID-CYCLE  
CAPITAL BUDGET UPDATE**

ENGINEERING AND OPERATIONS COMMITTEE  
MAY 22, 2024



**Irvine Ranch  
Water District**




Irvine Ranch  
Water District


1

**PRESENTATION OUTLINE**

- Review FY 2023-24:
  - Forecasted Expenditures
  - Earned Value
- Proposed Budget Increases and Additions
- FY 2024-25 Mid-Cycle Forecasted Expenditures



Irvine Ranch  
Water District



2



### Original Forecast Expenditures Presented to the Board in April 2023

| Capital Project Categories | 2023-24 Forecast | 2024-25 Forecast |
|----------------------------|------------------|------------------|
| Operational                | \$34.3M          | \$13.9M          |
| Replacement - Facilities   | \$33.2M          | \$50.2M          |
| OCSD - CORF - Solids Lease | \$11.9M          | \$12.2M          |
| Development                | \$6.8M           | \$12.4M          |
| Water Banking              | \$5.0M           | \$5.9M           |
| Nonpotable Storage         | \$4.3M           | \$7.2M           |
| General Plant              | \$3.1M           | \$2.4M           |
| Sewage Treatment           | \$2.7M           | \$2.8M           |
| Planning                   | \$1.9M           | \$2.2M           |
| Water Resources            | \$1.1M           | \$1.1M           |
| Other                      | \$0.8M           | \$0.7M           |
| <b>Total</b>               | <b>\$105.1M</b>  | <b>\$111.0M</b>  |

3



### Actual Capital Project Earned Value in FY 2023-24

| Capital Project Categories | Original FY 23-24 Forecast | FY 23-24 Earned Value | Difference in Forecast and Actual Earned Value |
|----------------------------|----------------------------|-----------------------|--|
| Operational                | \$34.3M                    | \$26.2M               | (\$8.2M)                                       |
| Replacement - Facilities   | \$33.2M                    | \$34.5M               | \$1.3M   |
| OCSD - CORF - Solids Lease | \$11.9M                    | \$15.0M               | \$3.1M   |
| Development                | \$6.8M                     | \$6.8M                | (\$0.0M)                                       |
| Water Banking              | \$5.0M                     | \$0.3M                | (\$4.7M)                                       |
| Nonpotable Storage         | \$4.3M                     | \$5.0M                | \$0.7M   |
| General Plant              | \$3.1M                     | \$3.1M                | \$0.0M   |
| Sewage Treatment           | \$2.7M                     | \$0.3M                | (\$2.5M)                                       |
| Planning                   | \$1.9M                     | \$1.3M                | (\$0.6M)                                       |
| Water Resources            | \$1.1M                     | \$0.9M                | (\$0.2M)                                       |
| Other                      | \$0.8M                     | \$0.6M                | (\$0.1M)                                       |
| <b>Total</b>               | <b>\$105.1M</b>            | <b>\$93.9M</b>        | <b>(\$11.2M)</b>                               |

4



### Proposed Budget Changes

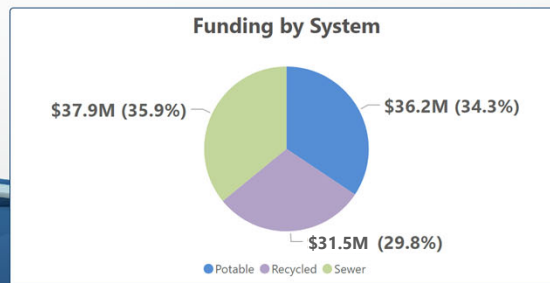
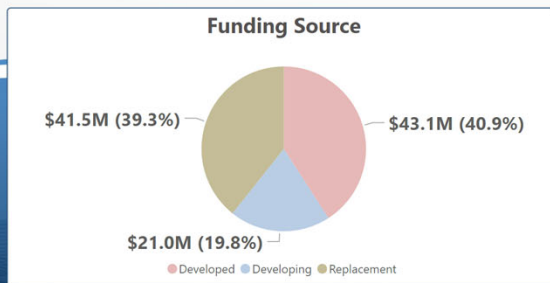
| Project Number | Project Title  | Current Budget  | Proposed Budget |
|----------------|--|-----------------|-----------------|
| 12543          | CORE NETWORK UPGRADES-DW                               | \$1.00M         | \$0.33M         |
| 13008          | CORE NETWORK UPGRADES-RW                               |                 | \$0.33M         |
| 13009          | CORE NETWORK UPGRADES-SS                               |                 | \$0.33M         |
| 12544          | ENTERPRISE SERVER UPGRADES-DW                          | \$0.65M         | \$0.22M         |
| 13010          | ENTERPRISE SERVER UPGRADES-RW                          |                 | \$0.22M         |
| 13011          | ENTERPRISE SERVER UPGRADES-SS                          |                 | \$0.22M         |
| 11774          | GENERAL SYSTEM REPLACEMENTS AND MODIFICATIONS DW 23/24 | \$6.28M         | \$6.63M         |
| 11777          | GENERAL SYSTEM REPLACEMENTS AND MODIFICATIONS RW 23/24 | \$2.10M         | \$2.66M         |
| 11780          | GENERAL SYSTEM REPLACEMENTS AND MODIFICATIONS SS 23/24 | \$1.79M         | \$2.41M         |
| <b>Total</b>   |  | <b>\$11.82M</b> | <b>\$13.36M</b> |

5



### Mid-Cycle Forecast Expenditures in FY 2024-25

| Description                       | FY 2024-25 Mid-Cycle Forecast Expenditures |
|-----------------------------------|--|
| FY 24-25 Original Forecast        | \$111.0M                                   |
| FY 24-25 Schedule Changes         | (\$5.4M)                                   |
| FY 24-25 Proposed Increases       | (\$0.0M)                                   |
| <b>FY 24-25 MC Forecast Total</b> | <b>\$105.6M</b>                            |



6

## RECOMMENDATION

That the Board receive and file the Mid-Cycle Capital Budget Update for Fiscal Years 2023-24 and 2024-25, and approve the Fiscal Year 2024-25 Mid-Cycle Capital Budget Project additions and changes as shown in the write-up.

May 22, 2024

Prepared by: N. Mwe / J. Moeder

Submitted by: K. Burton

Approved by: Paul A. Cook



## ENGINEERING AND OPERATIONS COMMITTEE

### LAKE FOREST ZONE 4 EL TORO TANKS 1 AND 2 REHABILITATION CONSULTANT SELECTION

#### SUMMARY:

The Lake Forest Zone 4 El Toro Tanks 1 and 2 were identified as a priority site for rehabilitation after completing a District-wide condition assessment review of IRWD's steel domestic water and recycled water storage tanks. Staff has reviewed proposals from three consultants and recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$269,823 with Cannon Corporation for engineering design services.

#### BACKGROUND:

In 2022, IRWD contracted with V&A Consulting Engineers to investigate and assess the condition of 14 steel tanks in the domestic water and recycled water systems. V&A completed the condition assessment in 2023 and staff reviewed the comprehensive evaluation to determine the initial list of steel tank rehabilitation projects. The first priority is to rehabilitate the Lake Forest Zone 4 El Toro Tanks, which due to various coating failures appears to be in the worst condition of the examined tanks. These two tanks are located at the same site in a residential community near the intersection of El Toro Road and Aliso Park Drive as shown on Exhibit "A".

The project includes rehabilitation and recoating of the 1.04 million gallon (MG) El Toro Tank 1 and 2.05 MG El Toro Tank 2, replacement of two concrete structures that house the isolation valves and flow meter, modifications to the yard piping, and site paving improvements. Construction of the project will require a phased approach to ensure one of the tanks remains online and hydraulically connected to the Zone 4 system while the other is being rehabilitated.

#### Consultant Selection:

Staff invited six consultants to submit proposals for engineering design services and received proposals from Cannon, Dudek, and Harper & Associates Engineering. Tetra Tech and Stantec Consulting Services declined to submit proposals due to the low availability of key personnel who specialize in this type of project and Simpson Gumpertz & Heger did not respond to the request for a proposal. Each firm that submitted a proposal presented unique project approaches and creative engineering solutions for achieving the project objectives. Cannon presented a comprehensive approach to completing the project, demonstrated a good understanding of the steel tank coating inspection and rehabilitation work, and has extensive tank rehabilitation experience. Cannon successfully provided the design and construction phase services for IRWD's 15 MG Zone 1 Tank Rehabilitation Project that was completed in January 2023. The consultant selection matrix is attached as Exhibit "B", and Cannon's proposal is attached as Exhibit "C".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement in the amount of \$269,823 with Cannon Corporation since its design approach, schedule, and staff hours are consistent with the project goals and objectives.

Design Schedule:

The design will be completed in accordance with the following schedule milestones:

|  |               |
|--|---------------|
| Kick-Off Meeting                               | June 2024     |
| Basis of Design Report Completion              | November 2024 |
| Final Design Completion                        | June 2025     |
| Bid Opening and Notice of Award (Construction) | August 2025   |

FISCAL IMPACTS:

The Lake Forest Zone 4 El Toro Tanks 1 and 2 Rehabilitation, Project No. 12568, is included in the FY 2023-24 Capital Budget and will be funded through 100% domestic water replacement funds. The existing budget is sufficient to fund the recommendation presented herein.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, the appropriate environmental document will be prepared when “meaningful information” becomes available.

RECOMMENDATION:

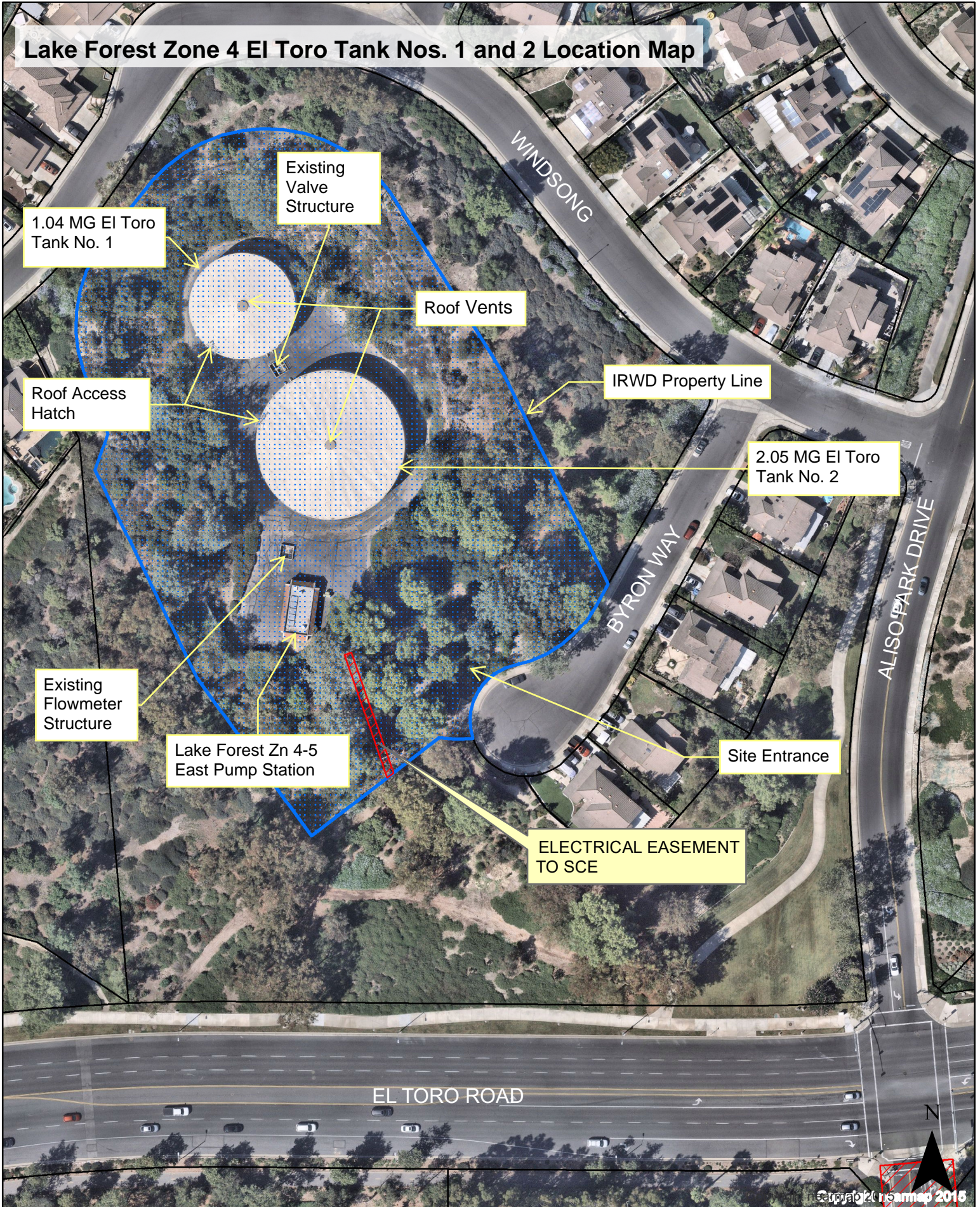
That the Board authorize the General Manager to execute a Professional Services Agreement with Cannon Corporation in the amount of \$269,823 for engineering design services for the Lake Forest Zone 4 El Toro Tanks 1 and 2 Rehabilitation, Project No. 12568.

LIST OF EXHIBITS:

- Exhibit “A” – Location Map
- Exhibit “B” – Consultant Selection Matrix
- Exhibit “C” – Cannon Corporation Proposal



# Lake Forest Zone 4 El Toro Tank Nos. 1 and 2 Location Map



Note: This page is intentionally left blank.

# Exhibit "B"

## CONSULTANT SELECTION MATRIX

| Lake Forest Zone 4 El Toro Tank 1 and 2 Rehabilitation Project |   |                        |                  |                                 |                  |                          |                  |
|--|---|------------------------|------------------|---------------------------------|------------------|--------------------------|------------------|
| Item   | Description   | Weights                | Cannon           | Harper & Associates Engineering | Dudek            |                          |                  |
| A  | <u>TECHNICAL APPROACH</u>                                 |                        |                  |                                 |                  |                          |                  |
| 1  | Project Understanding & Approach                          | 40%                    | 1                | 2                               | 3                |                          |                  |
| 2  | Project Experience  | 30%                    | 2                | 1                               | 3                |                          |                  |
| 3  | Project Team  | 30%                    | 1                | 2                               | 3                |                          |                  |
|  | <u>Weighted Score</u>                                     |                        | 1.3              | 1.7                             | 3.0              |                          |                  |
|  | <b>Ranking of Consultants</b>                             |                        |                  |                                 |                  |                          |                  |
| B  | <u>SCOPE OF WORK</u>                                      |                        |                  |                                 |                  |                          |                  |
| TASK   |   | Task Hours             | Fee              | Task Hours                      | Fee              | Task Hours               | Fee              |
| 1  | Project Management  | 114                    | \$21,532         | 424                             | \$85,493         | 169                      | \$52,521         |
| 2  | Basis of Design Report                                    | 336                    | \$106,939        | 665                             | \$127,754        | 223                      | \$129,275        |
| 3  | Final Design  | 756                    | \$127,514        | 1,025                           | \$176,384        | 718                      | \$244,650        |
| 4  | Engineering Services During Bidding                       | 63                     | \$12,338         | 117                             | \$25,714         | 83                       | \$19,401         |
|  | <b>Total Engineering Services Fee</b>                     | 1,269                  | <b>\$269,823</b> | 2,231                           | <b>\$415,345</b> | 1,193                    | <b>\$445,847</b> |
| 5  | <u>Optional Tasks</u>                                     |                        |                  |                                 |                  |                          |                  |
|  | Seismic Analysis  | Not included in scope  |                  | 133                             | \$31,455         | Not included in scope    |                  |
|  | Geotechnical for Seismic Analysis                         | Not included in scope  |                  | 76                              | \$20,005         | Not included in scope    |                  |
|  | Tank Interior Inspection                                  | Included               |                  | Included                        |                  | 30                       | \$15,104         |
|  | Site Regrading  | Included               |                  | Included                        |                  | 116                      | \$25,400         |
|  | <b>Total Engineering Services Fee with Optional Tasks</b> | 1,269                  | <b>\$269,823</b> | 2,440                           | <b>\$466,805</b> | 1,339                    | <b>\$486,351</b> |
| C  | <u>OTHER</u>  |                        |                  |                                 |                  |                          |                  |
|  | Number of Drawings  | 16                     |                  | 17                              |                  | 36                       |                  |
|  | Engineering Design Services Fee per Drawing               | \$16,864               |                  | \$24,432                        |                  | \$12,385                 |                  |
|  | <u>Sub Consultants</u>                                    |                        |                  |                                 |                  |                          |                  |
|  | Electrical  | In-house               |                  | Not included                    |                  | In-house                 |                  |
|  | Cathodic Protection/Corrosion                             | In-house               |                  | In-house                        |                  | R.F. Yeager              |                  |
|  | Civil/Mechanical  | In-house               |                  | Dexter Wilson Engr              |                  | In-house                 |                  |
|  | Structural  | In-house               |                  | Peterson Structural             |                  | Kelsey Structural        |                  |
|  | Geotech   | Not included           |                  | Converse Consultants            |                  | Leighton                 |                  |
|  | Noise Study   | Behrens and Associates |                  | Behrens and Associates          |                  | In-house                 |                  |
|  | Survey  | In-house               |                  | Cal Vada Surveying              |                  | GIS Surveyors            |                  |
|  | Hazardous Materials                                       | CSI Coating            |                  | In-house                        |                  | Aurora Industrial Health |                  |
|  | CCTV Assessments  | Empire Pipe & Cleaning |                  | Not included                    |                  | Not included             |                  |
|  | Exceptions taken to IRWD Std. Contract                    |                        |                  |                                 |                  |                          |                  |
|  | DIR Numbers Provided                                      | Yes                    |                  | Yes                             |                  | Yes                      |                  |
|  | Insurance (Professional & General Liability)              | Yes                    |                  | Yes                             |                  | Yes                      |                  |

Note: This page is intentionally left blank.

Exhibit "C"

# Irvine Ranch Water District

Proposal for  
Engineering Design Services for  
the Lake Forest Zone 4  
El Toro Tank 1 and 2  
Rehabilitation Project

**Cannon**

Reliable Responsive Solutions

# Table of Contents

Cover Letter

Section 1: Scope of Work and Methodology..... 1

Section 2: Team .....7

Section 3: Experience .....19

Section 4: Schedule .....24

Section 5: Required Statements.....25

- Joint Venture
- Conflict of Interest
- Contract Modifications
- Insurance Certification

**Budget** *(Submitted in a separate sealed envelope)*



**Subject: Engineering Design Services for the Lake Forest Zone 4  
El Toro Tank 1 and 2 Rehabilitation Project**

Dear Ms. Mwe:

Irvine Ranch Water District's (District) water storage system plays a critical role in balancing daily fluctuations in water demands and providing adequate water necessary for fire protection in the community. For this project, the District is looking to prepare a rehabilitation plan to upgrade the existing El Toro Zone 4 tanks.

Due to the broad customer base and large number of assets in your portfolio, it is imperative to spend your budget wisely and prolong the life of existing infrastructure in your system. Replacing aging structures or bringing them all into full compliance with current codes is an unavailable option due to the exorbitant costs associated. A system-wide tank evaluation report was prepared to rank the condition of each tank in your system, which also outlined some rehabilitation recommendations for each to maintain safe operations. It is our intent to evaluate the existing inspection report and incorporate these rehabilitation requirements into a constructible plan that will extend the life of the tanks. Repairing and recoating the steel structures will facilitate smooth operation and require less maintenance for many more years to come.

We have evaluated the District's reviewed the inspection reports, as-builts, visited the site, and reviewed goals for the project. We have identified key elements for the success of this project as outlined below. Read more about these key elements for success on page 2.

- Knowledge and Understanding of Code Requirements
- Design Experience and Expertise
- Cost Control
- Schedule

This proposal presents our scope of work and fee estimate to evaluate the coating systems for the two highest priority tanks in your system (the El Toro tanks), recommend corrective action, prepare construction details and bidding documents, and provide bidding support. Once complete, the District will have a set of documents to implement the tank rehabilitation and recoating process of the subject tanks.

Our proposed Project Manager, Mike Kielborn, PE LEED AP, brings direct experience working with Southern California municipalities on many previous tank design and rehabilitation projects, including the District, with the 15.0 MG Zone 1 Reservoir Rehabilitation Project. Cannon has completed several projects similar in nature to the proposed project for Las Virgenes Municipal Water District in Calabasas, including Jed Smith 1, McCoy, and Calabasas Tank Rehabilitation, Saddle Peak and Cordillera Tank Rehabilitation Project, among others. Read more about our relevant project experience on pages 20-23.

We are pleased to propose on this preventative maintenance project and are glad to see the District taking a proactive approach to extend the life of your tanks. We have assembled an experienced team with extensive tank construction and coating knowledge that will make this project a success.

Sincerely,



Mike Kielborn, PE, LEED AP, Civil Senior Principal Engineer  
11900 West Olympic Blvd., Suite 530  
Los Angeles, CA 90064  
☎ 310.664.1166 📱 310.633.4539 📠 310.382.5164  
✉ MichaelK@CannonCorp.us



George Jurica, PE, Principal in Charge  
16842 Von Karman Ave., Suite 150  
Irvine, CA 92606  
☎ 949.777.1585 ✉ GeorgeJ@CannonCorp.us  
📱 949.753.0775 🌐 CannonCorp.us

## Project Understanding

The District's water distribution system and storage amenities consist of numerous facilities that provide drinking water and fire protection to a service area of more than 181 square miles. The District must monitor and inspect the storage reservoirs in the system on a regular basis to confirm the longevity and safety of these facilities. Inspections that are completed can help prioritize the rehabilitation schedules and allow the District to budget for the necessary work. In an effort to streamline this process and prioritize where rehabilitation funds are allocated, a condition assessment of all 37 storage tanks in your system was performed. Based on this evaluation, the Zone 4 El Toro tanks were identified as critical facilities in need of repair and recoating. An inspection of these tanks was conducted with the tanks drained, which confirms that the interior coatings are failing, and several rafters and appurtenances show significant signs of corrosion and need immediate repair.

The El Toro Tank No. 1 is a welded steel tank that was constructed in 1965 and holds 1.04 million gallons of potable water. The El Toro Tank No. 2 is a welded steel tank that was constructed in 1969 and holds 2.05 million gallons of potable water. These tanks are located off of El Toro Road and provide water supply and fire protection storage to the Zone 4 distribution system, as well as serving as a forebay for the District's Lake Forest Zone 4-5 East pump station.

Because there are two tanks located on this site, each tank can be taken out of service independently and rehabilitated, while the other remains in service. Replacement of some of the valves may be required to facilitate a full seal, but isolation should be achievable once that work is completed. The isolation valves are located in a valve pit, which the District would like to enclose in a vault (or multiple vaults) with closing lids. The inlet/outlet configuration appears to have some flexibility in its design, but may not function in the most efficient manner to promote circulation of water within the tanks. We will evaluate the circulation pattern during the preliminary design phase and make recommendations on how to promote more efficient mixing and isolation of both tanks. Circulation of water around the site will also

take into consideration the need to supply the suction header for the pump station.

We intend to inspect both the interior and exterior of the reservoir, including the inlet/outlet setup, roof hatches, ladders, ventilation, valves, fittings, and connections for corrosion. Some of those items are holding up well, and some are not. The interior of Tank No. 1 is coated with coal tar, and needs to all be removed and replaced. The interior of Tank No. 2 is bubbling and also needs to be replaced. The exterior of both tanks are in good condition but have some nicks and minor corrosion that may need repair. Since the interiors of both tanks are being recoated, it makes sense to do an overcoat on the exterior at the same time, which will extend the overall longevity of the facilities. The date of application of the existing coatings is unknown, so we will test to determine the presence of lead and/or asbestos, and we can come up with a plan for possible abatement if necessary.

We anticipate the following modifications may be required as part of this project:

- Strip coal tar and recoat interior (Tank No. 1)
- Remove existing coating system and recoat interior (Tank No. 2)
- Blast, repair, and recoat corroded steel members
- Replace/repair the corroded inlet/outlet piping
- Repair access manway
- Replace level transducer and transmitter
- Replace cathodic protection anodes and parts
- Modify inlet/outlet structure and underground vaults
- Modify yard piping and replace valves as necessary
- Recoat all exposed piping, including vault piping
- Modify or replace roof vent components
- Clean, spot touch-up, and overcoat the exterior
- Install fiberglass interior ladders
- Seal floor drain and install new drain outlet or doorway
- Install overflow catch basin and air gap
- Install drainage catch basins
- Regrade and repave portions of the site



Based on visual evidence of ponding from walking the site, it is evident that the site does not drain properly, which has affected the integrity of some of the paving around the site. This project will require some repaving to be done in certain areas, so addressing the other grading and drainage issues would be prudent to do at this time as well. Because there is an existing storm drain that traverses the site, additional catch basins can be installed to aid in site drainage. We intend to install overflow catch basins at each tank as well, which will tie into the existing storm drain piping. The overflow and drains of both tanks currently connect directly to the storm drain system without an air gap, which is against DDW regulations. As part of this project, we intend to cut the overflow pipe and install an air gap and catch basin at each tank for the overflow to drain in to. The floor drains will need to be capped as well, and a new drain outlet or clean-out style doorway can be installed in its place. The catch basins will connect to the existing CMP storm drain pipe and drain out of the site. As an additional optional item, we will complete a CCTV of the existing storm drain pipe on the site to verify the integrity of the pipe, and identify deficiencies within the pipe. Should additional rehabilitation or repairs be needed on the CMP pipe, they can be addressed under separate scope at a later date.

Overall, the tank structures appear to be in good condition. The tank coatings are failing, but rehabilitation of the coatings will provide more years of life to the tanks. The removal of the interior coatings is imperative to confirm a proper recoating of the interior of the tanks. As part of this project, our team members will visually inspect the tanks to confirm the findings of the reports prepared and note other repairs necessary for inclusion in this project.

We have thoroughly evaluated the District's RFP for the El Toro Tanks Rehabilitation Project, reviewed the inspection reports, as-builts, visited the site, and reviewed goals for the project. Based on this research, we have identified what we consider are the key elements for the success of this project as outlined below.

## Key Elements for Success

### Knowledge and Understanding of Code Requirements

Developing design alternatives that meet the nuances and subtleties of governing codes and guidelines while remaining pragmatic and cost-effective. The code requirements at the time of construction of these tanks

differ from current code requirements.

The current D-100 specification provided by AWWA has served as the design standard for welded steel tanks since its inception. The ever-changing rules and regulations pertaining to potable water storage has forced us to change the way we design and construct these facilities, and the D-100 specification has been modified over time to provide additional structural stability and to meet these standards. The D-100 references the requirements of ASTM, ANSI, API, AISC, as well as many other published documents. As part of our preparation, our experts will evaluate the changes in code and determine the effect this has on the design and recoating process for this tank.

### Design Experience and Expertise

Assigning experienced engineers to work closely with the District staff to define the physical changes to the tanks based on the codes, regulations and needs of the system. We are well-versed in all of the design regulations for welded steel tanks, and will discuss the options for rehabilitation prior to initiating final design. Our intent is to develop a plan that can quickly and cost-effectively be implemented by the contractor selected to complete this project.

### Cost Control

Using recent, relevant experience with similar projects to develop cost-effective options to allow the District to prioritize improvements and control the project budget and spending.

### Schedule

Developing a project plan and schedule that allows adequate time to plan, design, review, finalize, and deliver the bid package to the District. Summertime water demand will add operational challenges during the draining and rehabilitation of the tank during hot summer months, so many Districts and Agencies tend to avoid this work in the summertime. Completion of the design work will need to take this into account. The sooner the design package is completed, the sooner a contractor can be selected to complete the work. To take advantage of getting competitive bid prices, it is best to have the bid package ready with plenty of advance notice to contractors, whose schedules can get booked in the fall/winter/spring. We have the resources and staffing available to begin this work immediately.

## Scope of Work

The following scope of work from the RFP will be followed as noted below.

### Task 1. Project Management

The project requires project set up, scheduling, controlling, and correspondence between the District and project team members. Correspondence includes telephone conversations, emails, project status reports, monthly status, and monthly progress Billings. The following is our understanding of those tasks.

#### Preparation of Project Status Reports

Cannon will prepare weekly and monthly status reports. Weekly status reports will be via email, and will summarize the progress made over the week, and tasks planned for the following week. As an attachment to monthly progress billings, Cannon will submit monthly progress reports indicating project status, project schedule updates, and summary of project design cost to date.

#### Meetings and Workshops

Cannon will organize, attend, and conduct meetings and workshops as follows:

- Four – 2-hour meetings
- Four – 2-hour site visit meetings
- One – 2-hour meeting (BOD Workshop)
- One – 2-hour meeting (BOD Presentation)
- Three – 2-hour meetings (Design Submittal Reviews)

Meeting agendas, draft and final minutes for meetings and workshops, and summary reports will be submitted to the District upon completion. Our team will attend a project kick-off meeting as one of the meetings, and conduct a site inspection after the kick-off meeting to discuss and evaluate additional items that are discovered during the inspection.

#### Quality Assurance/Quality Control

Our team has a robust QA/QC plan that ensures proper care is given to each project, from project planning to completion of the project. We will draw upon the knowledge and experience of our team members through open communication throughout the inspection and design process to make this project a success. This task also provides project oversight and coordination as

necessary for successful completion of the project.

## Task 2. Basis of Design Report (Preliminary Design)

### 2.1 Background Information

We will collect, review, and analyze available plans, records, and specifications regarding the project, as necessary to successfully complete contract engineering services for the project. We have already reviewed the inspection reports, studies, and as-built plans prepared for the project locations from previous years. We will use this information to evaluate and identify modifications needed to bring the tanks into code compliance. We will coordinate with the District on the modifications desired that will reduce the operations and maintenance effort required to maintain these tanks. This task will include one meeting with District staff to discuss our findings and prepare a summarized list of the priorities for each tank.

### 2.2 Site Condition Assessment

A review of the existing site conditions will take place to gather any additional information needed to outline the rehabilitation needs for the site. A visual exterior observation of the tanks will take place to determine the degree of exterior paint chalking and breaks, blisters, or other coating defects. We will also review applicable safety, sanitary, vandalism, and seismic concerns. Safety concerns will include ladder size/design observations, and roof access areas. Sanitary concerns will make note of items such as venting and other tank openings such as overflow air-gaps. Vandalism concerns will involve an evaluation of climb deterrents. Security will be determined with respect to the condition of existing vandal deterrent systems. Seismic concerns will address items such as obvious visual indications of tank movement, flexible couplings, and drain locations.

CCTV of the existing 21-inch storm drain pipe will also be conducted from the back of the tank site, down to El Toro road, as access within the pipe will allow. The smaller 12-inch section up the hillside may not be accessible by the camera, but will be included, if possible.

### 2.3 Tank Access Analysis

Access into the tank can be challenging if significant repairs are needed, or if specialized equipment that cannot fit through the access manways or roof hatches is required to complete the recoating process. These tanks do not

have access doorways, so all equipment and materials will have to fit through the manway or roof hatch unless a new access door is installed. Because we need to remove the floor drain, a new access doorway can be installed that will facilitate both of these needs. There may also be a location where a door sheet was utilized for construction, so we will look at that option as well if larger access is needed. The structural implications to these options will be reviewed, and specific recommendation will be made for each tank.

## 2.4 Grading Plan

Due to the uneven terrain and ponding occurring around the site, we will prepare a grading plan for the reservoir site that addresses the uneven pavement at the entrance to the site and the areas around the two tanks. It is anticipated that the project will include repaving the entire site (minus the area around the pump station) at the end of the Project, we will prepare a grading and paving plan to address the site issues. Survey of the site, including the paved areas within the fence line and the access road from Byron Way will be completed by Cannon's survey team and used to complete the grading and paving plans.

## 2.5 Noise Study

We have teamed with Behrens & Associates to perform the noise monitoring study for the project. Due to the close proximity of homes in this residential neighborhood, we will prepare a noise study for the Project that documents the baseline and anticipated noise levels during construction along with options for complying with the noise ordinance and options for addressing potential concerns from sensitive receptors in the surrounding community. The noise study shall include the following:

- Field measurements of existing ambient noise levels at the project site to understand the condition prior to construction.
- Compile and inventory the relevant mechanical characteristics of the equipment proposed for use during construction. Examine and analyze the manufacturer's data sheets to identify appropriate noise criteria to be used in the analysis. It is anticipated that the noise analysis will include evaluation of all blasting equipment and processes, air compressors, humidifiers, pumps and motors, and electrical equipment.

- Construct a 3-D computer model to analyze the ambient and expected noise levels during construction.
- Assess the impact of construction noise levels and offer mitigation measures (e.g., acoustic panels, baffles, barriers, adjusted work hours, etc.) to reduce the noise to acceptable levels. Any proposed mitigation measures shall be added to the noise model, which shall be re-run to confirm the measures are appropriate.

The construction of the site improvements shall comply with the City of Lake Forest's noise ordinance while also considering the sensitivity of the surrounding residential community. The final noise study shall be summarized in a Technical Memorandum that provides options for how to mitigate this issue during construction, and recommendations for implementation measures to include in the bidding documents. Should additional design of noise mitigation measures be needed for inclusion in the plans or bid documents, they can be provided under separate scope after they have been identified by the noise study.

## 2.6 Hazardous Materials Inspection and Testing

It is unclear if any coating films contain heavy metals. This information is critical to developing maintenance plans. We will collect samples from both the interior and exterior surfaces of the structure. Each retrieved coating sample will be analyzed for total lead, cadmium, and chromium content (% weight/ppm) using an accredited AIHA laboratory. Analysis will be completed using EPA Method 3050/3010B. A collected bulk sample will also be analyzed for asbestos content. This testing protocol meets the state and federal requirements for this type of work. The objective of the inspection is to identify locations where hazardous materials, such as asbestos and lead paint, may be present in the construction materials that will be disturbed during construction of the Project. We have teamed with CSI Services to perform a certified dive into the reservoir to collect the required information. We will prepare and submit a safety plan for IRWD review and approval prior to completing the work. The steel tanks will remain operational throughout the inspection. A technical report summarizing the inspection, the findings, laboratory results, and identification of any special permits or procedures required for the demolition or coating preparation for the Project will be submitted for review. CSI will also take measurements of the thickness of the coal tar on the floor of Tank 1, so haul off quantities can be calculated for the bids.

## 2.7 Structural Evaluation

In order to determine what structural components were used in construction of the tank, we will perform an interior inspection of the tank to gather beam, column, and rafter information. We will use an inflatable raft to float the surface of the tank, which will allow us to look at the structural integrity of the steel members of the tanks. This will be performed in conjunction with the hazardous materials testing, by our certified dive team. Once all of this information is gathered, we will perform a structural evaluation of the tank, and compare the existing structure to current AWWA D-100 design criteria standards. If improvements can be made to bring some of the tank components up to code, we will outline those items for discussion and inclusion in the project. If major structural modifications are required to bring the tanks up to code, those can be added as additional scope items at a later date if requested by the District.

## 2.8 Summary of Recommended Improvements

Using the information obtained in the research and field inspections tasks, we will prepare a summary of our recommendations for the work to be completed, and what standards must be adhered to for the work. Recommendations on coatings and appurtenances will be included in this summary. This will be a comprehensive summary based on the physical observations and our professional opinions. Specific items of note as part of this evaluation include:

- Coatings recommendations
- Inlet/outlet piping configurations
- Vault, valve, and piping modifications
- Seismic considerations (flexible pipe joints, sloshing wave height, overturning, etc.)
- Rafter repair or replacements
- Overflow modifications
- Floor drain and cleanout door upgrades
- Catch basins and storm drain connections
- Cathodic anode, handhole, and panel replacement
- Electrical upgrades (level transmitter and flowmeters)

## 2.9 Construction Sequence and Duration

To aid in the process of determining how much time the tanks will be out of service for the rehabilitation project, we will prepare an expected sequencing and duration for

items recommended. This will help aid in the planning and bidding phase, so contractors have a clear expectation of the work required and how long it is expected to take. Getting the tanks back in service in the shortest amount of time is highly beneficial to the District, and planning the outage duration is critical to the operation of the District's system.

## 2.10 Schedule of Work Items

A Schedule of Work items will be prepared for inclusion in the Bid Documents. The draft schedule of work will include bid item descriptions for each of the proposed improvement and demolition activities, along with specific quantities for each bid item.

## 2.11 Project Schedule

A project schedule will be prepared in Microsoft Project, which includes the design, bidding, and construction activities. The schedule will include critical factors impacting the project schedule to confirm that the project is completed in accordance with the proposed schedule.

## 2.12 Opinion of Probable Cost

A detailed and itemized opinion of probable construction cost for the proposed facilities will be prepared that corresponds to the Schedule of Work items in the Bid Documents.

## 2.13 Basis of Design Report (BOD)

We will prepare a basis of design memorandum that summarizes the information provided in the field inspection reports, as well as observations made at the site visits and information gathered from previous reports and as-built plans. We will prepare recommendations on corrective actions needed, and the implications those will have on the budget and schedule. This memo will serve as the design basis for the project moving forward.

## Task 3. Final Design

### 3.1 Project Manual

Using the District's standard format for Contract Documents, we will prepare the Project Manual for the tank rehabilitation. Technical specifications will be added to the District's front-end documents. Technical specifications for blasting and coatings will be prepared for the interior and exterior surfaces of each tank. Our experienced team will provide specifications for steel and welding repairs, roof vents, cathodic protection equipment and materials, exterior valves, chime gap, and piping.

### 3.2 Construction Plans

Plans for the rehabilitation of the tanks will be prepared using the applicable AWWA standards and specifications. We will prepare drawings to facilitate the repair of the tanks in areas that have been identified as needing attention. The following repairs are anticipated but are interchangeable based on the needs of the project after additional inspection and the BOD Report has been completed. Plan sets at 60%, 90% and 100% will be submitted for review. Plans will include the anticipated following sheets:

Title sheet • Notes sheet • Site plan • Tank No 1 Plan • Tank No 2 Plan • Piping plan • Piping details • Piping and vault details • Tank No 1 Details • Tank No 2 Details • Paving and Drainage Plan • Blasting and coating details/notes • Structural notes • Structural details • Structural details • Cathodic protection details

Specific design details will be developed for the recommended improvements identified in Task 2.8, and in the Final BOD Report. These details will be included in the above plan sheets for inclusion into the bid documents as part of the recoating project.

### 3.3 Project Schedule

An ongoing updated schedule will be provided to the District to show the design activities, and how the schedule will impact the construction timeline for the project. As milestones are completed, the schedule will reflect the real-time durations and anticipated completion of tasks.

### 3.4 Opinion of Probable Cost

We will provide a detailed construction cost estimate consistent with the Project Manual bid schedule at the 60%, 90%, and 100% levels of progress on the project, and upon submittal of the final Bid Documents. Our recent relevant experience on similar projects will allow us to provide a solid budgetary number for the work to be completed on this tank.

### 3.5 Design Deliverables

Based on the finalized project design, we will prepare and submit a Final Construction Documents Bid package. This submittal package will contain complete construction plans, technical specifications, and an opinion of probable

construction costs. The final plans will incorporate comments from the reviews of the previous submittals, and use the District's front-end bidding documents, supplemented with the specifications needed for construction. We will provide electronic copies and one master copy set of the complete bid package on permanent media.

## Task 4. Bidding Assistance

During the bidding period, Cannon will assist with providing information and clarification of bid documents to prospective bidders. This will include the preparation of up to two addenda including revisions to the design plans and specifications and assistance with addressing bidder questions. During the bidding process, we will attend the pre-bid conference and bid opening. If there are questions during the bidding phase, we will prepare responses to requests for information (RFIs) and prepare addenda as necessary. We will compile questions and distribute them to prospective bidders.

### 4.1 Plan Revisions

Should plan revisions be required to adequately satisfy bidders' questions, we will prepare updated sheets to clarify those questions. Updated construction drawings will be provided for issuance in an Addendum.

### 4.2 Specification Revisions

Should revisions to the technical specifications be required to adequately satisfy bidders' questions, we will prepare updated information to clarify those questions. Updated specification sections will be provided for issuance in an Addendum.

### 4.3 Bidder Questions

During construction, we will review and formally respond to Requests for Information and provide the contractor with the information needed to progress with construction.

### 4.4 Pre-Bid Meeting

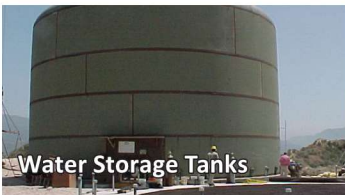
Cannon's project manager will attend a one two-hour pre-bid meeting and a site visit with potential bidding contractors.

Since 1976, Cannon has provided services to clients throughout Central California, Southern California, and Central Coast of California. Our staff of professionals includes registered civil, structural, mechanical, and electrical engineers; construction managers and inspectors; funding administrators; instrumentation and controls (SCADA) specialists; licensed land surveyors; and planners. In addition, we employ experts in 3D scanning and modeling, permitting and compliance, Low Impact Development (LID), and the LEED certification process.

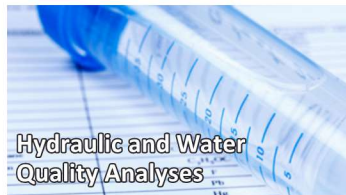
As a full-service engineering, surveying, and construction management firm, with more than 135 professionals, Cannon can provide services from grant management and project planning through design, construction, and project closeout. We have specialists in water resources, hydrology and hydraulics; water utilities, street rehabilitation, drainage design, sewer design, roadway design; sewer and dry utilities; resource coordination; and construction scheduling and inspections.

## Experience Counts

Cannon offers relevant expertise in the following areas:



Water Storage Tanks



Hydraulic and Water Quality Analyses



Pipelines



Structural Assessment and Design

## Team Proximity

Cannon's Los Angeles office is located less than 25 miles from the District. Our proximity allows our engineers to be readily accessible to the District during both design and construction.

In addition, because we are flexible with impromptu meetings, we are able to immediately respond to job site concerns.

## Office Locations

Services for the District will be provided primarily from our Los Angeles office with support from our other offices.

### Los Angeles

11900 W Olympic Blvd.  
Suite 530  
Los Angeles, CA 90064  
☎ 310.664.1166

### Ventura

305 S Kalorama St.  
Suite A  
Ventura, CA 93001  
☎ 805.503.4590

### Irvine

16842 Von Karman Ave.  
Suite 150  
Irvine, CA 92606  
☎ 949.753.8111

### San Luis Obispo

1050 Southwood Dr.  
San Luis Obispo, CA 93401  
☎ 805.544.7407

Cannon's DIR No.: 1000001861

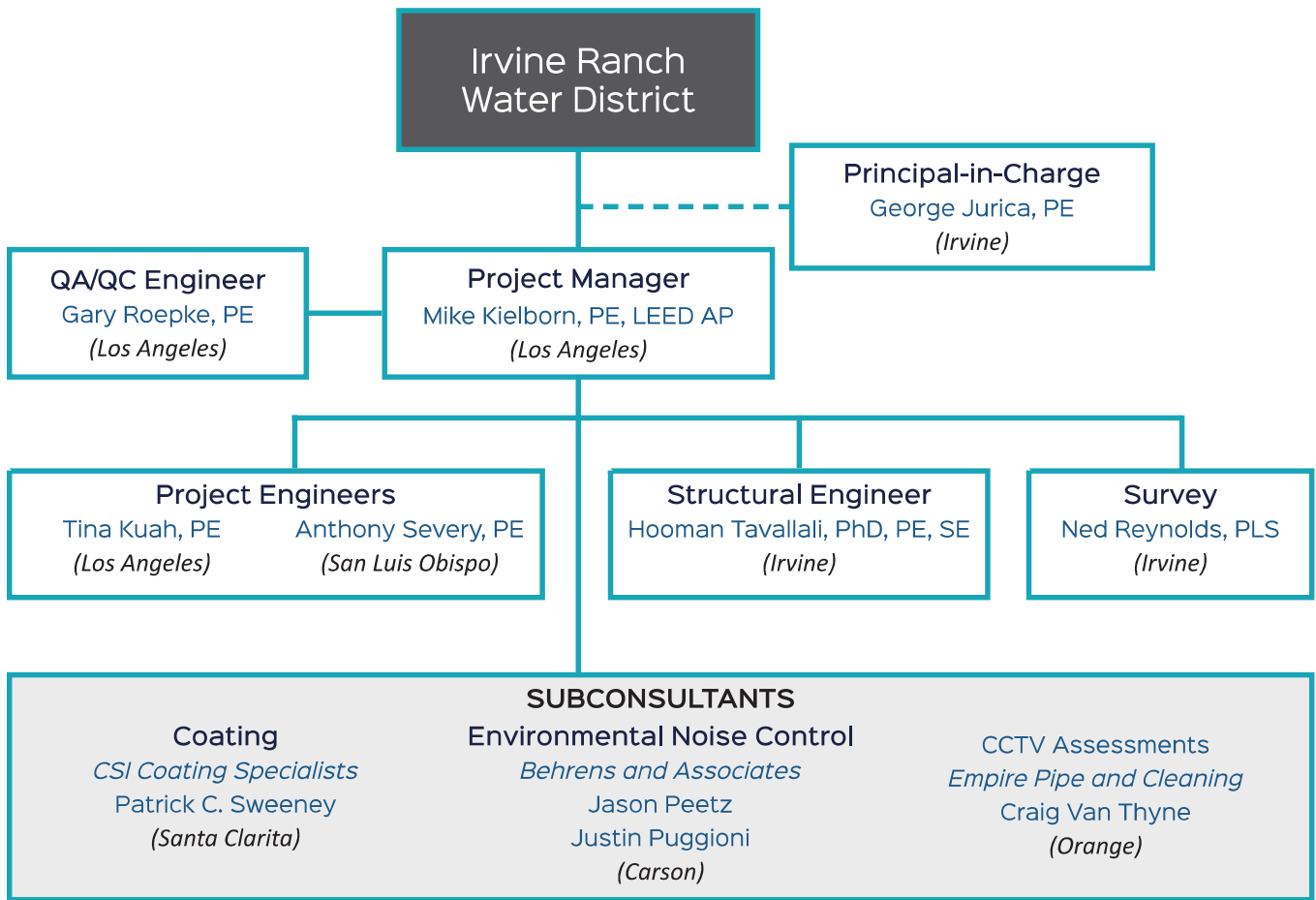
## Experience With Public Agencies/Utilities

Cannon has had the opportunity to build professional relationships with many water districts, cities, counties, and local agency representatives. The following abbreviated list presents a summary of some of those agencies:

- Irvine Ranch Water District
- Las Virgenes Municipal Water District
- Montecito Water District
- Calleguas Municipal Water District
- Camrosa Water District
- Casitas Municipal Water District
- Crescenta Valley Water District
- Golden State Water Company
- Goleta Water District
- Monte Vista Water District
- Santa Clarita Valley Water Agency
- City of Los Angeles
- County of Los Angeles
- County of San Luis Obispo
- City of Buellton
- City of Carpinteria
- City of El Monte
- City of Fullerton
- City of Goleta
- City of Solvang
- City of Ventura
- City of Garden Grove
- County of Ventura
- County of Santa Barbara

## Organizational Chart

The following key staff are experts in design and construction support services on water resource projects. In addition, they have a long history teaming on tank rehabilitation and water projects that have enabled them to fine-tune their collaboration and coordination to deliver successful projects on time and within budget. As requested in the RFP, we have included the office location of each staff member.



## Key Personnel Availability

The chart below depicts our key staffs' availability for the proposal project.

| Team Member, Role                                 | Availability |
|---|--------------|
| Mike Kielborn, PE, LEED AP Project Engineer       | 75%          |
| George Jurica, PE Principal-in-Charge             | 10%          |
| Gary Roepke, PE QA/QC Engineer                    | 25%          |
| Tina Kuah, PE Project Engineer                    | 85%          |
| Anthony Severy, PE Project Engineer               | 80%          |
| Hooman Tavallali, PhD, PE, SE Structural Engineer | 20%          |
| Ned Reynolds, PLS Land Surveyor                   | 35%          |
| Patrick C. Sweeney Coating                        | 20%          |
| Jason Peetz Environmental Noise Control           | 20%          |
| Justin Puggioni Environmental Noise Control       | 20%          |
| Craig Van Thyne, CCTV Assessments                 | 20%          |

## Mike Kielborn, PE, LEED AP Project Manager



### Professional Registration

- Registered Civil Engineer, California, No. 70112
- LEED Accredited Professional
- Certified Horizontal Directional Drilling (HDD) Inspector

### Education

- Bachelor of Science, Civil Engineering, Loyola Marymount University, Los Angeles, California

### Professional Affiliations

- Association of Water Agencies of Ventura County
- American Public Works Association
- American Water Works Association
- California Water Environment Association
- North American Society for Trenchless Technology
- National Association of Sewer Service Companies

Mr. Kielborn specializes in water and wastewater management planning; water supply, storage, and distribution; and sewer system engineering. Since 1999, Mr. Kielborn has provided construction management/inspection services, primarily working in underground utility construction and infrastructure design. Since 2003, he has served as Project Manager for improvements to water supply and wastewater systems for numerous reservoirs, pump stations, wells, surge tanks, major water transmission mains, and trunk sewers.

Mr. Kielborn is a certified Horizontal Directional Drilling Inspector. He has effectively translated his knowledge of construction practices into creating facility designs that are more efficiently constructible. Mr. Kielborn has developed excellent project management, cost estimation, in-field engineering management, inspection, coordination, and scheduling abilities for multi-million-dollar projects.

**Saddle Peak and Cordillera Tank Rehabilitation Project, Calabasas, California:** The Saddle Peak and Cordillera Tanks are welded steel tanks constructed in 1964 and 1993, respectively. Cannon was selected by LVMWD to provide tank improvements to both tanks, facilities, and appurtenances. Cannon prepared plans, specifications and opinions of probable costs for this project. Cannon also handled coordination meetings, construction observation, and construction staking. Mr. Kielborn served as Project Manager.

**Steel Tank Interior Rehabilitation at the Lenain Water Treatment Plant, Anaheim, California:** The City of Anaheim's chemical storage system at the Lenain Treatment Plant plays a critical role in supplying safe and clean potable water for distribution to the community. Preliminary research showed that two of the City's 3,000-gallon chemical storage tanks, which aided in disinfecting the City's drinking water supply, were experiencing coating failures. The City selected Cannon to provide engineering and design services for the tank's rehabilitation plan that would prolong the life of the facility and protect the water supply overall. Cannon's scope included evaluating the coating systems; recommending corrective action; assisting with chemical selection and procurement; preparing construction plans, details, and documents; and assisting during bidding and construction. Mr. Kielborn served as Project Manager

### Select Project Experience Summary

Mr. Kielborn has served as Project Manager or Project Engineer on the following projects:

- 15 MG Zone 1 Reservoir Coating and Improvements Project, Irvine, California
- Blanca and Kings Tanks Rehab Project Description, Morro Bay, California
- Chalk Hill Reservoir 2, Solvang, California
- Nutmeg Water Distribution Tank Rehabilitation, Morro Bay, California
- Lower Busch Storage Tank Replacement, Los Angeles County Water District No. 29, Malibu, California
- El Verano Hydropneumatic Tank Replacement, Atascadero, California



## George Jurica, PE Principal-In-Charge



Mr. Jurica has more than 45 years of experience as a Project Engineer, Project Manager, and Principal-In-Charge, with relevant experience encompassing planning, design, and construction of major public works infrastructure and facility projects. He has extensive experience working on public agency projects throughout Southern California.

### Select Project Experience Summary

#### Professional Registration

- Registered Civil Engineer, California, No. 44813, Arizona No. 27191, Colorado No. 18563, Texas No. 55430

#### Education

- Master of Business Administration, Construction Management, University of Denver, Denver, Colorado
- Bachelor of Science, Engineering, University of California, Los Angeles, California

#### Professional Affiliations

- Board Member – ACEC, Orange County
- Board Member – APWA, Southern California Chapter

#### Awards

- APWA, Southern California, 2013 California Private Sector Leader of the Year
- ASCE, Los Angeles, 2003 Outstanding Civil Engineer in the Private Sector

- Anaheim Modjeska Park Underground Storm Water Detention and Infiltration System, Anaheim, California
- San Juan Water Main Replacement, Sewer Main Improvements, and Street Reconstruction Project, Fullerton, California
- City of Long Beach Pedestrian Access Curb Ramps, Long Beach, California
- Newport Beach Concrete Street Pavement Reconstruction, Newport Beach, California
- City of Lake Forest ADA Access Ramp and Sidewalk Improvements, Lake Forest, California
- Jamboree and Main Intersection Improvement Project, I-405 NB On-Ramps to Kelvin, Irvine, California
- Cerritos Avenue Sidewalk Gap Closure, Anaheim, California
- LINK US / LA Metro Union Station, Los Angeles, California
- Shoemaker Bridge Replacement, Long Beach, California
- Engineering Design Services for Pavement Rehabilitation Projects, San Juan Capistrano, California
- Roadway Rehabilitation Program, Port of Long Beach, California
- Crystal Canyon Road Drainage and Pavement Rehabilitation Project, Eastern Orange County, California
- Jeffrey Road/Portola Parkway Infrastructure Improvements, Irvine, California
- Portola Parkway Infrastructure Improvements, Irvine, California
- Portola Parkway, Portola Springs, and Modjeska Project, Irvine, California
- On-Call Civil Engineering Services and Land Surveying Services, Rancho Palos Verdes, California
- Trail Improvements for the Palos Verdes Drive West Median Beautification Project, Rancho Palos Verdes (RPV), California
- Alta Mira Canyon Culvert Modification, Rancho Palos Verdes, California
- Farragut Avenue Improvements, Moreno Valley, California
- South Lasselle Safety Corridor, Moreno Valley, California
- POLB Pier B On-Dock Rail Support Facility, Long Beach, California

## Gary Roepke, PE QA/QC Engineer



### Professional Registration

- Registered Civil Engineer, California, No. 48693

### Education

- Bachelor of Science, Civil Engineering, Iowa State University, Ames, Iowa

### Professional Affiliations

- American Water Works Association
- American Public Works Association
- Association of Water Agencies of Ventura County
- Southern California Water Utilities Association
- American Society of Civil Engineers
- City and County Engineers Association

Mr. Roepke has more than 50 years of professional experience in a wide variety of civil engineering projects. He has been the project manager for municipal, industrial, commercial, and military facility projects involving lift stations for water systems, including treatment, supply, transmission, and distribution systems; pumping stations for drainage and flood control systems; wastewater collection and pumping systems; and construction administration, inspection, and start-up. Many of these projects included analysis of the existing lift station and pumping requirements, including studies, reports, and design of lift stations and pump stations to meet those requirements. These projects have consisted of both new construction and upgrades to existing facilities.

**AG 3 Non-Potable Tank Improvements, Camarillo, California:** Camrosa Water District needed to replace a 50,000-gallon, anchored, bolted steel, non-potable tank with a 100,000-gallon tank, due to damage and it being undersized. The tank is in an agricultural area at the end of Gerry Road in Camarillo and up a 1,300-foot unpaved road. The Cannon Team was selected to provide civil, structural, and electrical design; topographic survey; and geotechnical investigation and recommendations. The civil design involved access road improvements and paving around the new tank and site, drainage improvements/modifications, piping, appurtenances, and catch basin. We provided structural design for a retaining wall and concrete foundation. Our electrical team provided conduit design and coordination for District designed and engineered electrical equipment. We also provided a topographic survey. Mr. Roepke served as QA/QC Engineer.

**Saddle Peak and Cordillera Tank Rehabilitation Project, Calabasas, California:** The Saddle Peak and Cordillera Tanks are welded steel tanks constructed in 1964 and 1993, respectively. Cannon was selected by Las Virgenes Municipal Water District (LVMWD) to provide tank improvements to both tanks, facilities, and appurtenances. Cannon prepared plans, specifications, and opinions of probable costs for this project. Cannon also handled coordination meetings, construction observation, and construction staking. Mr. Roepke served as Senior Civil Engineer.

### Select Project Experience Summary

Mr. Roepke served as Project Manager, QA/QC Engineer, or Civil Senior Engineering on the following projects:

- 15 MG Zone 1 Reservoir Coating and Improvements Project, Irvine, California
- Nutmeg Water Distribution Tank Rehabilitation, Morro Bay, California
- Tank Fall Protection, Western Municipal Water District Riverside, California
- Cornell Pump Station Evaluation, Las Virgenes Municipal Water District, California
- 5.0-MG Reservoir, Ventura County Waterworks District No. 8, City of Simi Valley, California
- Reagan Presidential Library 1.5-MG Reservoir, Ventura County Waterworks District No. 6, City of Simi Valley, California
- 3.0-MG Groundwater Storage Reservoir, Los Angeles County Waterworks District 40, Palmdale, California

## Tina Kuah, PE Project Engineer



### Professional Registration

- Registered Civil Engineer, California, No. 70876

### Education

- Bachelor of Science, Civil Engineering, University of California, Los Angeles, California

### Professional Affiliations

- American Society of Civil Engineers
- American Water Works Association

Ms. Kuah brings 20 years of experience in performing transient surge analysis for pressurized water conveyance systems: potable, recycled, raw, and sewer. She is responsible for performing hydraulic (i.e., steady state) and water hammer analysis for pressurized and gravity flow systems subjected to pressure surges created by pump power failure, normal shutdown and startup of pumps, control valve operation, turbine failure and pipeline breaks. In addition, she designs the pressurized surge tanks, vacuum relief valves, flywheels, standpipes, and surge relief valves as protection for the system subjected to adverse pressure surges. Specializing in surge analysis, Ms. Kuah has also installed transient pressure monitors throughout water systems, gathered, and analyzed the actual pressures occurring in the systems. She has worked with numerous agencies and municipalities throughout California including the Los Angeles Department of Water and Power and the County and City of San Francisco Department of Public Works.

### 15 MG Zone 1 Reservoir Interior Coating and Improvements, Irvine, California:

Irvine Ranch Water District's (IRWD) Zone 1 Reservoir is a welded steel tank that holds 15 MG of potable water. IRWD needed to complete an evaluation of the tank and prepare a recoating and repair plan to rehabilitate the tank. The scope of work included evaluating interior coating options for the blistering walls; remediating portions of corroded interior steel; replacing damaged and/or corroded appurtenances; providing improvements for securing the submersible sample pump and tank mixer; and designing improvements for the internal cathodic protection system. Cannon provided engineering design services. This included a diver inspection, basis of design memorandum, and final repair plans and specifications. Cannon also provided construction support and coatings inspection throughout the duration of construction. Ms. Kuah served as Project Engineer.

**Saddle Peak and Cordillera Tank Rehabilitation Project, Calabasas, California:** The Saddle Peak and Cordillera Tanks are welded steel tanks constructed in 1964 and 1993, respectively. Cannon was selected by Las Virgenes Municipal Water District (LVMWD) to provide tank improvements to both tanks, facilities, and appurtenances. Cannon prepared plans, specifications, and opinions of probable costs for this project. Cannon also handled coordination meetings, construction observation, and construction staking. Ms. Kuah served as Project Engineer.

## Select Project Experience Summary

Ms. Kuah has served as Project Engineer on the following projects:

- Blanca and Kings Tanks Rehab Project Description, Morro Bay, California
- Nutmeg Water Distribution Tank Rehabilitation, Morro Bay, California
- Cornell Pump Station Evaluation, Las Virgenes Municipal Water District, California
- Suburban Water Systems, Plant 209 – Engineering Design Services, Covina, California
- Eureka Well Replacement Project, Nipomo Community Services District, Nipomo, California

## Anthony J. Severy, PE Project Engineer



### Professional Registration

- Civil Engineer, California, No. 82551

### Education

- Bachelor of Science, Civil Engineering, California Polytechnic State University, San Luis Obispo, California
- H2ONET Certified, Water Distribution Modeling

### Professional Affiliations

- American Society of Civil Engineers, Past President, Central Coast Chapter (2014-2015)
- Practitioner advisor for Cal Poly student chapter ASC

Mr. Severy specializes in water resource, street, and stormwater enhancement projects, Mr. Severy will work as part of the design team responsible for the majority of initial design, plan preparation, development of technical specifications and estimates, and data compilation. In addition, he assists with the development of proposals and fee estimates; provides field observation and generates reports; conducts project research; delivers communications to clients, agencies, and vendors; and provides calculations and modeling services. He will perform engineering design work that involves conventional practices as well as complex features such as conflicting design needs, innovative solutions where conventional methods are unsuitable, and difficult coordination requirements.

**City of Norwalk Distribution Pipeline Replacement, Norwalk, California:** Cannon was selected by the City of Norwalk to provide professional civil engineering and design for the City's Distribution Main Replacement Project as identified in the City's 2014 Water Master Plan. The project spanned across several streets totaling a length of 7,700 linear feet in replacement of 4- to 10- inch water mains. Cannon's scope of services included preliminary and final engineering and design items such as as-built research, investigation, and review; utility research and notification; field surveys; plans, specifications, and cost estimate (including probable construction cost); construction technical specifications and documents; pre-construction/construction services during the bidding period; and meetings and reports. As Project Engineer, Mr. Severy assisted in the design, detailing, and preparation of plans and construction documents for a new domestic Distribution water main.

**Water Main Replacement, Santa Monica, California:** As part of the City's ongoing phased program to upgrade aging, deteriorating, and undersized water mains, the City of Santa Monica identified 10 locations for its Water Main Replacement and Upgrade Project. The mains vary in length and diameter and are in the City's three pressure zones of 250, 350, and 500. Most of the water mains were confined in residential alleys with some in commercial alleys as well. Cannon was selected to provide engineering and design services for the water mains and was recently tasked with providing construction management and inspection services for installation of the replaced/upgraded pipelines. Mr. Severy served as Project Engineer.

### Summary of Select Project Experience

Mr. Severy served as Civil Engineer or Project Manager on the following project:

- Dean Zone Tank, Pump Station, and Disinfection Facility, Santa Clarita, California
- San Juan Area Water Main Replacement, Fullerton, California
- Avenue O-12 and 25th West Water Demand Analysis and Pump Station Design, Palmdale, California
- Olympic Water Transmission Main, Santa Monica, California
- Water Main Replacements, Beverly Hills, California
- Sweetwater Mesa Pipeline and Reservoir, Malibu, California
- Calleguas-Las Virgenes Municipal Water District Interconnection Project, West Lake Village, California

# Hooman Tavallali, Ph.D., PE, SE Structural Engineer



Mr. Tavallali brings 12 years of experience leading and managing structural design, including projects such as high-rise buildings, schools, hospitals, multi-family housing facilities, and commercial office buildings. His expertise includes reinforced concrete, steel, post-tensioned construction, masonry, deep foundation and shoring, and wood and cold form steel construction. Mr. Tavallali is responsible for tasks such as project budget and time management, quality control, providing design guidelines and employee training, and client service management.

## Professional Registration

- Civil Engineer, California, No. 82160
- Structural Engineer, California, No. 6738; Nevada No. 027089; Hawaii No. 19379

## Education

- Ph.D., Architectural Engineering (Structures), Pennsylvania State University, University Park, PA Dissertation: Cyclic Response of Concrete Beams Reinforced with Ultrahigh Strength Steel
- Master of Science, Civil Engineering, Sharif University of Technology, Tehran, Iran
- Bachelor of Science, Civil Engineering, Shiraz University, Shiraz, Iran

## Professional Affiliations

- Member, American Concrete Institute (ACI)
- Structural Engineering Association of California (SEAOC)
- Co-Chair, SEAOSC Disaster Emergency Services Committee, 2022-2023
- Vice Chair, Professional Practice Committee, SEAONC, 2021-2022

**Pump Station 1320 Zone, Anaheim, California:** Cannon is providing engineering and design services to deliver high-quality construction documents that will result in a robust water system lasting for decades to come. The City has grown since installation of the current infrastructure—over a century in some cases. Some infrastructure is undersized or lacking the redundancy required for the current and projected water needs of the community. Successful completion of this project will result in more reliability under shut down and emergency conditions, an improved system capacity, and a shift in maintenance staff-focus from reactionary to predictive/preventative.

**Port of Long Beach Pier J Berths 243-247 Wharf Concrete Repairs, Long Beach, California:** As part of an existing on-call contract between the Port of Long Beach, Cannon provided repair details for structural damage documented by Moffatt & Nichol in 2019 at Pier J. The inspections included both above and below water observations documented in photographs and written summaries. Cannon prepared and submitted a report identifying damage classified from severe to minor. The pier consists of a concrete working surface supported by pre-cast concrete piers driven into the seabed. The repair documents addressed specific damage types at each of the repair locations and included treating exposed rebar, patching spalled concrete, injecting cracks, and protective wraps.

## Select Relevant Experience Summary

- Las Virgenes Municipal Water District (LVMWD) Cornell Pump Station, Las Virgenes, California
- Santa Clarita Valley Water Association (SCVWA) Skyline Ranch Pump Station, Santa Clarita, California
- SCVWA Telemark-Peterson Recycled Pump Station, Santa Clarita, California
- Port of Long Beach 518-3137 Pier S Container Support Facility Project, Long Beach, California
- Blythe Station Integration, Phase 2, Blythe, California
- SpaceX Building 398 Modifications, Lompoc, California
- Vandenberg Space Force Base SLC-6 FUT Evaluations, Lompoc, California
- SOF Naval Special Warfar Group-11 Operations Support Facility, San Diego, California

# Ned Reynolds, PLS Land Surveyor



Mr. Reynolds brings more than 35 years of experience in the surveying field working with a variety of survey equipment such as manual and robotic total stations, static, RTK, and network GPS. As a land surveyor, he has served in the field and office on numerous public infrastructures, land development, industrial, residential, and commercial construction projects.

As a mapping specialist his responsibilities include directing field crews, establishing boundaries and annotation using AutoCAD Civil 3d for Subdivision, Record of Survey and ALTA Survey. He prepares Tract Maps, Lot Line Adjustments, Legal Descriptions for Easement Deeds, and Certificates of Correction and Condominium Plans.

## Professional Registration

- Professional Land Surveyor, California, No. 7725

## Professional Affiliations

- California Land Surveyors Association – State Chapter

## Software Skills

- AutoCAD (Civil 3D, Map)
- Trimble Business Center
- Trimble Access
- Legal-Aid

## Summary of Select Project Experience

Mr. Reynolds has served as Land Surveyor on the following projects:

- Potrero Canyon Reservoir #3, Banning, California
- KB Home Countryview Construction Staking, Riverside, California
- Artesia Blvd. Arterial Improvement, Gardena, California
- Coldwater Canyon, Pavement Design and Construction Support, Beverly Hills, California
- Alta Survey, followed by Tract No. 17747, Lighthouse project for Taylor Morrison, City of Costa Mesa, California
- Field surveying, boundary resolution, and topographic surveying Tract Nos. 77096 and 77097, Edgewood project for City Ventures Homebuilding, City of Long Beach, California
- Field surveying, boundary resolution, and topographic surveying for an ALTA survey followed by Lot Line Adjustment No. LL 0000795 and Tract No. 19021, Nolin project on Lincoln Avenue (East of Beach Blvd.) for Landsea Homes, City of Anaheim, California
- Field surveying for final monuments and subsequent certificate of correction for numerous subdivision maps, Southern California
- Field surveying, boundary resolution, and drafting for subdivisions and record of survey maps on approximately 50-75 field maps (with his professional survey stamp), Sonoma to San Diego County, California

# Subconsultants

**Behrens and Associates, Inc.**, Environmental Noise Control, provides specialized products and services for noise and vibration measuring, monitoring, mitigation and control. They offer technical support services for noise and vibration measurement, analysis, mitigation and noise abatement. Engineered solutions for construction site noise barriers, indoor and outdoor equipment enclosures, code and regulatory compliance, film and entertainment locations, EIR, EIS, HUD, OSHA, CAC Title 24, CEQA and Traffic Noise Programs are available.

**Behrens and Associates, Inc.**  
*Environmental Noise Control*



**DIR No.:** 1000018695

## Jason Peetz Environmental Noise Control

### Education

Bachelor of Science, Mechanical Engineering, University of California Los Angeles,

Mr. Peetz is an Acoustical Engineering Manager with extensive field noise and vibration measurement experience. Mr. Peetz manages the daily operations of the Behrens and Associates, Inc. acoustical engineering department and is responsible for maintaining and improving the quality of work produced by the department.

Mr. Peetz has developed an extensive background in field noise and vibration measurement, field data analysis, continuous noise and vibration monitoring, computer noise modeling, mitigation design, code compliance, environmental impact reports, indoor building acoustics, noise impact analysis, acoustical beamforming, noise source identification, and acoustical report writing. He utilizes these skills to complete acoustical projects in the oil and gas, industrial, commercial, construction, entertainment, and environmental industries.

His past work includes acoustical measurement, assessment, and mitigation design for drill rigs, hydraulic fracturing, compression, HDD pipeline operations, tunnel boring, water well drilling, water wellhead pumps, pile driving, demolition, soil stabilization, construction, public works, concerts, entertainment events, and vulnerable animal species. He has worked with clients to assess compliance and develop mitigation to comply with FERC, COGCC, CEQA, and HUD noise requirements, as well as numerous other city, township, county and state noise and vibration standards.

## Justin Puggioni Environmental Noise Control

### Education

- Bachelor of Engineering (BEng) in Mechanical & Manufacturing Engineering, University of Melbourne, Australia

Mr. Puggioni has extensive experience in most aspects of the acoustic engineering field. Since 2010 he has provided acoustic services including computer noise modeling for energy projects, residential and commercial noise studies, code compliance studies, construction noise projects, traffic noise mapping and noise/vibration monitoring. He has gained extensive field noise and vibration measurement, data collection and analysis experience on a wide variety of projects across the United States, Canada and Australia. With his experience delivering acoustics services for oil and gas, horizontal directional drilling, compressor stations, wind energy, solar energy and energy storage developments, Mr. Puggioni demonstrates strong technical leadership in environmental noise for energy infrastructure.

**Empire Pipe Cleaning and Equipment Inc.** has been providing sewer and storm drain cleaning and video inspection of pipelines for over 26 years. They work with their customers to provide annual maintenance contracts, project work, or single jobs. A list of their services includes the following:



- Pipeline CCTV Inspection
- Manhole Assessments
- Catch Basin Cleaning and Inspection
- Conduit Cleaning and Inspection
- Sewer and Storm Drain Cleaning
- Hydro-Excavating
- Smoke Testing

Empire uses trained and certified NAASCO MACP inspectors to assess the condition of the manhole and code the appropriate observations using WinCan MACP certified software. The software is specifically designed for CleverScan and a viewer will be supplied to the customer for condition assessment of the manholes. Crews have performed thousands of inspections for various agencies.

## Craig Van Thyne CCTV Assessments

### Professional Registrations

- NASSCO Certified CCTV Inspection Operator
- California State Contractors License C36 and C42  
License Number 363528

### Education

- Master of Science, Metallurgical Engineering, Colorado School of Mines
- Bachelor of Science, Metallurgical Engineering, Iowa State University

Mr. Van Thyne is the Vice-President and co-owner of Empire Pipe Cleaning and Equipment, Inc. (EPCE) since 2002. He is responsible for coordinating the field operations of the cleaning and television inspection project leaders.

**Cleaning and CCTV Inspection for Condition Assessment for LACDPW, California:** System cleaning, CCTV Inspection and development of inspection reports and databases. EPCE completed over 5,000,000 lineal feet of assessments in Accordance with NASSCO PACP Standards All projects were completed 100% without delays.

**CCTV Inspection for the Garden Grove Sanitary District, California:** System cleaning, CCTV inspection, and development of inspection reports, recordings, and databases of 675,000 feet of gravity sewers in accordance with NASSCO PACP standards in three phases as part of the District’s Sewer System Rehabilitation Plan.

**CCTV Inspection and Manhole Inspection for the City of Hermosa Beach, California:** System cleaning, CCTV inspection, and development of inspection reports, recordings, and databases of approximately 200,000 Lineal Feet in accordance with NASSCO PACP/MACP standards as part of the City’s Sewer Master Plan.

**CCTV Inspection and Manhole Inspection for the City of La Palma, California:** System cleaning, CCTV inspection, Manhole Inspections, and reporting approximately 180,000 Lineal Feet and associated Manholes in accordance with NASSCO PACP/MACP standards as part of the City’s Sewer Master Plan.

**CCTV Inspection for Condition Assessment for the City of Redondo Beach, California:** System cleaning, CCTV inspection, and development of inspection reports, recordings, and databases of approximately 600,000 Lineal Feet gravity sewers in accordance with NASSCO PACP standards as part of the City’s Sewer Master Plan.

**CCTV Inspection for City of Stanton, California:** System cleaning and development of inspection reports, recordings, and databases of 300,000 feet of gravity system in accordance with NASSCO PACP standards as part of the City’s Sewer Master Plan.



CSI Services, Inc. (CSI), Coating and Coating Inspection Specialists, is a standard procedure for evaluating the qualifications of coating (SSPC QP-5) certified coating inspection firm that provides third-party inspection and testing services throughout all areas of the coating, lining, and paint industries.



DIR No.: 1000010187

## Patrick Sweeney, PCS Coating Inspections Specialist



### Education

- Bachelor of Science, California State University at Los Angeles

### Certifications

- SSPC – Certified Protective Coatings Specialist #887-792-1267
- NACE International – Certified Coatings Inspector Level III Certificate #4324
- Instructor for NACE International Coating Inspector Program
- SSPC – Certified Protective Coating Inspector (PCI) Level III #21886
- SSPC – Certified Master Coating Inspector (MCI) #MCI0031
- SSPC – Certified Concrete Coating Inspector (CCI) Level III #94681

Mr. Sweeney has worked for over 30 years as a third-party coating professional supporting the quality of coating projects in the water, wastewater, transportation, petrochemical, and most other industries. He has successfully completed over 2500 storage tank projects. He routinely manages projects and completes maintenance and corrosion surveys and develops specifications on fuel and water storage tanks. He also has extensive experience on similar project such as bridges, dams, penstocks, pipelines, treatment plants, amusement parks, and other types of projects.

**Santa Clarita Valley Water Agency, California:** On going Project Manager/Inspector during the new construction and maintenance work on over 160 water storage tank projects. These assignments evaluations (wet and dry), specifications, and inspection services as part of a Master Tank Maintenance Plan.

**Eastern Municipal Water District, California:** Project manager and/or inspector during the lining/painting of over 75 different water storage tanks and various wastewater facilities. Scopes included surveys and specification development.

**U.S. Department of Defense:** Inspector for corrosion and coating evaluations on over 500 steel, concrete, and plastic storage tanks located throughout the Continental U.S., Hawaii, Alaska, Japan, Wake Island, Guantanamo Bay & South Korea that resulted in maintenance plans for over 90 military installations.

**U.S. Department of Energy:** Project Manager and inspector during the evaluation and repair of six different steel water storage tanks located at the Nevada National Security Site (NNSS) within Areas 6, 12, 15, 18, and 24.

**City of Long Beach Water Department, California:** 2019 Project Manager/Inspector during the evaluation on 32 water storage tank projects. These scope included the evaluation (wet and dry) and development of a Master Tank Maintenance Plan

**County of Ventura, California:** On-going Project Manager/Inspector during the new construction and maintenance work on over 60 water storage tank projects. These assignments evaluations (wet and dry), specifications, and inspection services as part of a Master Tank Maintenance Plan

**City of Simi Valley, California:** On-going Project Manager/Inspector during the evaluation of 25 water storage tanks. This included evaluations (wet and dry), specifications, and inspection services as part of a Master Tank Maintenance Plan.

## 15 MG Zone 1 Reservoir Interior Coating and Improvements

*Irvine, California*



Irvine Ranch Water District's (IRWD) Zone 1 Reservoir is a welded steel tank that holds 15 MG of potable water. It provides water supply and fire protection storage to the Zone 1 distribution system, as well as serving as a forebay for the District's East Irvine Zone 1-3 and South County Zone 1-3 booster pump stations.

IRWD needed to complete an evaluation of the tank and prepare a recoating and repair plan to rehabilitate the tank. The scope of work included evaluating interior coating options for the blistering walls; remediating portions of corroded interior steel; replacing damaged and/or corroded appurtenances; providing improvements for securing the submersible sample pump and tank mixer; and designing improvements for the internal cathodic protection system. IRWD selected Cannon to provide engineering design services. This included a diver inspection, basis of design memorandum, and final repair plans and specifications. Cannon also provided construction support and coatings inspection throughout the duration of construction.



Fee: \$169,522 / Year Completed: 2022

### Key Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager
- Tina Kuah, PE Project Engineer



**Reference:** Richard Mori, PE Manager Capital Projects  
Irvine Ranch Water District  
15600 Sand Canyon Ave., Irvine, CA 92618  
☎ 949.453.5571 ✉ [mori@irwd.com](mailto:mori@irwd.com)

# Jed Smith 1, McCoy, and Calabasas Tank Rehabilitation Project

*Calabasas, California*



The District completes inspections of eight tanks each year to evaluate and prioritize the rehabilitation needs of these tanks. Based on these evaluations, the District identified the Jed Smith 0.63 MG Tank 1, McCoy 2.0 MG Tank, and Calabasas 8.0 MG tanks that need repairs, blasting, and recoating. Underwater inspections of the tanks were completed, which confirmed the interior coatings are failing, structural repairs are needed, and the tanks need immediate repair.

Cannon was selected to complete the design bidding plan packages for the rehabilitation of these three tanks. Modifications required as part of the projects include: strip coal tar and recoat interior; replace spinner vent on roof with mushroom top vent; replace the roof hatch and seal; install a doggy-door-style access manway; remove level indicator; cover side vent openings with steel plates; inspect and replace cathodic system handhole covers as necessary; install solar-powered mixing/circulation system; power wash and coat the exterior; repair rafters; repair pinholes; repair openings in the roof, replace rafters; add new hardware and gaskets to roof vents; and flatten roof plates to remove warping. Cannon performed visual inspections of the tanks, including the interior rafters and roof, to determine the repairs needed to complete the project. Temporary storage tanks were needed at the McCoy tank to balance the system pressure, due to a lack of any other storage tanks in that pressure zone.



Fee: \$133,980

Project Dates: October 2023 - November 2028 (Active)

### Key Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager
- Tina Kuah, PE Project Engineer

**Reference:** John Soderberg, PE Assistant Engineer  
*Las Virgenes Municipal Water District*

4232 Las Virgenes Road, Calabasas, CA 91304

☎ 818.251.2141 ✉ JSoderberg@lvmwd.com

## Saddle Peak and Cordillera Tank Rehabilitation Project

Calabasas, California



Fees: \$ 59,100 / Year Completed: 2019

### Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager
- Gary Roepke, PE QA/QC Engineer
- Tina Kuah, PE Project Engineer

The Saddle Peak and Cordillera Tanks are welded steel tanks constructed in 1964 and 1993, respectively. Saddle Peak holds 2.3-million-gallons of potable water, providing water supply and fire protection to the Stunt Road service area. This tank was oversized for the demands generated and often remained partially filled. The need for water circulation and mixing was imperative. The Cordillera Tank holds 3.0-million-gallons of recycled water in the 1529-foot zone that supplies recycled water to eastern Calabasas.

Cannon was selected to provide tank improvements to both tanks, facilities, and appurtenances. Cannon prepared plans, specifications and opinions of probable costs for this project. Cannon also handled coordination meetings, construction observation, and construction staking. Recoating the exterior required special consideration, due to the location and quantity of the solar system equipment adjacent to the tank.

**Reference:** Coleman Olinger, Associate Engineer  
 Las Virgenes Municipal Water District  
 4232 Las Virgenes Road  
 Calabasas, CA 91302-1994  
 ☎ 818.251.2163 ✉ colinger@lvmwd.com

## Blanca and Kings Tanks Rehab Project Description

Morro Bay, California



Fees: \$56,848 / Year Completed: 2021

### Key Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager
- Tina Kuah, PE Project Engineer

The City of Morro Bay's (City) water distribution system and storage facilities consist of several reservoirs to balance the supply of fresh drinking water and provide fire protection to the City. Four reservoirs were identified at the Blanca Tank Site, and two reservoirs at the Upper Kings Tank Site were cleaned and assessed. The reports noted several deficiencies and coating failures at these locations.

Cannon reviewed the previous reports, visited the site to inspect and confirm repairs needed, prepared a summary recommendations report, reviewed and confirmed project needs with the City, and then prepared plans, specifications, cost estimates, and bidding documents for the tank rehabilitation repairs. We also assisted in the bidding process, as well as construction management, coordination, and observation of the repairs and coatings to ensure the tank rehabilitation improvements were completed as designed.

**Reference:** Eric Riddiough, PE City Engineer  
 City of Morro Bay  
 595 Harbor Street, Morro Bay, CA 93442  
 ☎ 805.772.6261 ✉ eriddiough@morrobayca.gov

## Chalk Hill Reservoir 2 Solvang, California



Fees: \$ 64,389 / Year Completed: 2017

### Key Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager

Reservoir No. 2, a welded steel tank that was constructed in 1982, was in need of repairs and recoating. Cannon provided welded steel repairs at a few locations on the roof and along the interior wall-roof joint; replacement of the existing impressed current cathodic protection system; modification of the inlet/outlet piping to promote more thorough mixing and turnover of the water within the reservoir; addition and replacement of roof vents to improve ventilation within the reservoir; installation of insect screens to locations on the tank that were open to the atmosphere; sealing of the gap between the ringwall and bottom of the steel tank (chime); and blasting and recoating of the tank.

**Reference:** Rodger Olds Public Works Director  
*City of Solvang*

411 Second Street, Solvang, CA 93463

☎ 805.688.5575 ✉ rolds@cityofsolvang.com

## Runkle Canyon Booster Pump Station and 2.0 MG Reservoir Simi Valley, California



Fees: Pump Station: \$ 150,000 - Reservoir: \$ 90,000  
Year Completed: 2014

### Key Project Team Members

- Michael Kielborn, PE, LEED AP Project Manager

The Runkle Canyon Development is a 400-unit KB Home Development located in the southwesterly portion of Simi Valley. To supply the tract with potable water and storage, a new 500 gpm booster pump station and 2.0 MG welded steel reservoir were designed.

The Runkle Canyon booster pump station included one operating and one standby pump, a pressure reducing station with pressure relief valves, all housed in a decorative block building. The reservoir was sized and designed to provide emergency, fire, and equalizing storage and meet AWWA D-100 standards.

The scope of services for both the pump station and reservoir included site grading, a drainage system including catch basins, access road paving, piping, the electrical equipment, controls and SCADA system, and project management. Interior and coating specifications were also prepared. Premium efficient motors for the pumping system were selected and specified to meet current energy efficiency standards. Plan review submittals were processed and approvals coordinated with both Golden State Water Company and the City of Simi Valley. The Pineview pump station was also upgraded as part of the project.

**Reference:** Ernie Gisler, PE, Capital Program Manager  
*Golden State Water Company*

3035 Prospect Park Drive, # 60, Rancho Cordova, CA 95670

☎ 916.853.3634 ✉ megan.eagisler@gswater.com

## Tank Fall Protection *Riverside, California*



### Key Project Team Members

- Mike Kielborn, PE, LEED AP Project Manager
- Tina Kuah, PE Project Engineer
- Gary Roepke, PE QA/QC Engineer

Western Municipal Water District (Western) planned to install tank fall protection systems, man-lift platforms, and prepare construction bid documents on 29 existing water tanks at 26 different sites. The client had removed the access stairs/ladders from their tanks to prevent unauthorized access and needed to provide safe access for workers when necessary. Western wanted the tank fall protection systems to be the single point clamp anchor system and a man-lift platform to allow staff and equipment to be unloaded and loaded.

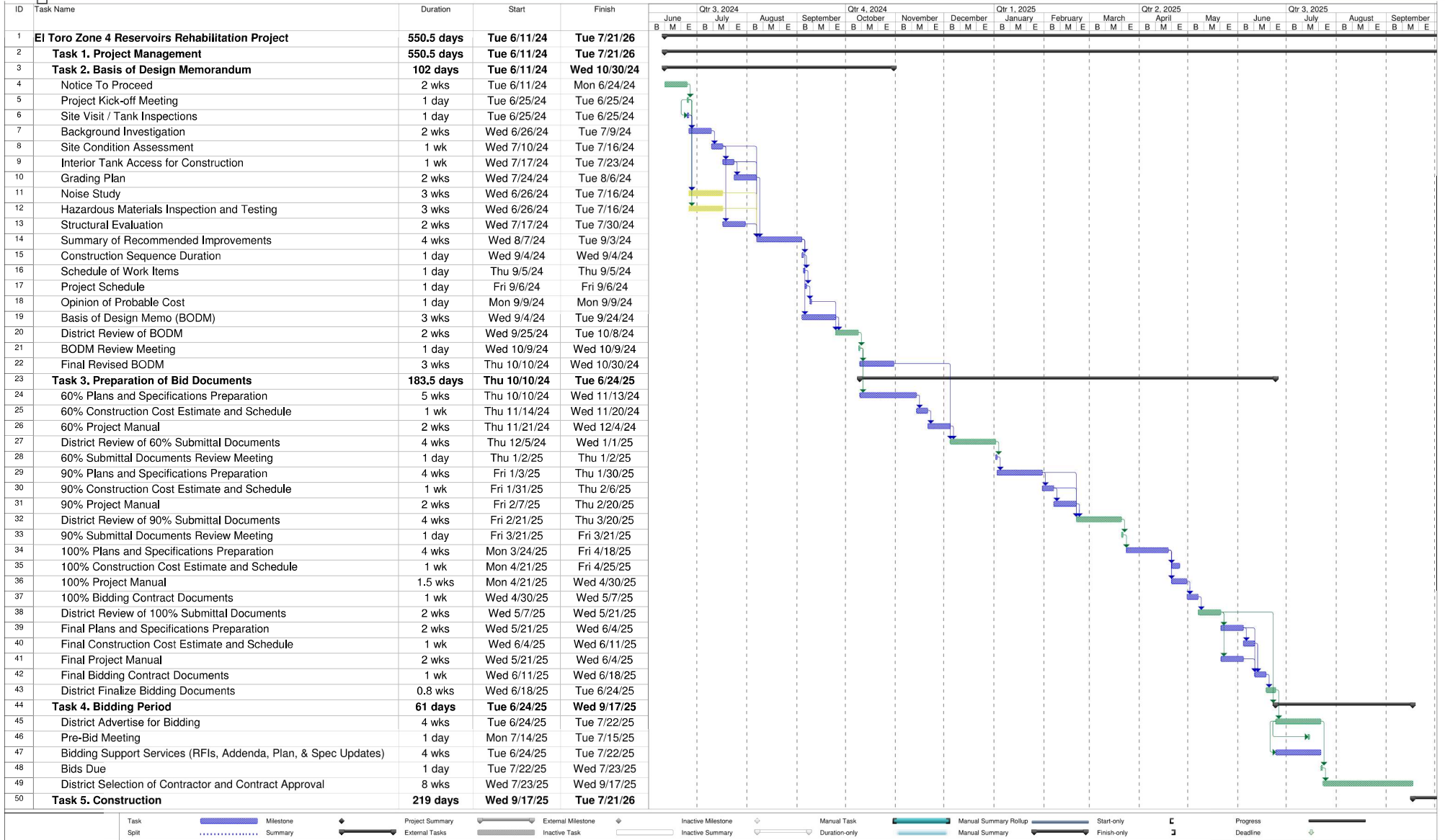
Western selected Cannon as consultant to design the systems, prepare construction bid documents and installation plans and specification for the fall protection equipment in three phases. The project's first phase nears completing in March 2018. There will be a second phase in June 2018 and a third phase in June of 2019.

The work includes installation of a perimeter ring system at the center vents and lanyards that workers can latch into from access platforms at the perimeter of the tanks. The system is intended to provide fall restraint as opposed to fall arrest. The lanyards do not allow the workers to access the exterior edges of the tank which relieves the system of fall arrest criteria.

**Fees:** \$85,000

**Year Completed:** 2020

**Reference:** Sonia Huff, Associate Civil Engineer,  
Western Municipal Water District,  
14205 Meridian Parkway, Riverside, CA 92518,  
☎ 951.571.7100 ✉ shuff@wmwd.com





Fee Proposal for Irvine Ranch Water District  
El Toro Tank 1 and 2 Rehabilitation Project


|   |  | Principal In Charge QA/QC |                | Principal Engineer |                 | Project Engineer |                 | Structural Engineer |                 | Project Drafter |                 | Engineering Assistant |                 | Subs/Survey CSI/Behrens/Mainline |               | Total            |         |
|---|--|---------------------------|----------------|--------------------|-----------------|------------------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------------|-----------------|----------------------------------|---------------|------------------|---------|
| Hourly Rate                               |  | \$270                     |                | \$248              |                 | \$185            |                 | \$185               |                 | \$155           |                 | \$115                 |                 | Lump Sum                         |               |                  |         |
| Design Tasks                              |  | Hrs                       | Cost           | Hrs                | Cost            | Hrs              | Cost            | Hrs                 | Cost            | Hrs             | Cost            | Hrs                   | Cost            | Cost                             | Hrs           | Cost             |         |
| <b>Task 1. Project Management</b>         |  |                           |                |                    |                 |                  |                 |                     |                 |                 |                 |                       |                 |                                  |               |                  |         |
| 1   | Preparation of Project Status Reports  |                           |                | 12                 | \$2,976         |                  |                 |                     |                 |                 |                 | 48                    | \$5,520         |                                  | 60            | \$8,496          |         |
| 2   | Meetings and Workshops                 |                           |                | 26                 | \$6,448         |                  |                 |                     |                 |                 |                 |                       |                 |                                  | 26            | \$6,448          |         |
| 3   | Quality Assurance/Quality Control      | 8                         | \$2,160        | 16                 | \$3,968         |                  |                 |                     |                 |                 |                 | 4                     | \$460           |                                  | 28            | \$6,588          |         |
| <b>Sub Total</b>                          |  | <b>8</b>                  | <b>\$2,160</b> | <b>54</b>          | <b>\$13,392</b> |                  |                 |                     |                 |                 |                 | <b>52</b>             | <b>\$5,980</b>  |                                  | <b>114</b>    | <b>\$21,532</b>  |         |
| <b>Task 2. Basis of Design Memorandum</b> |  |                           |                |                    |                 |                  |                 |                     |                 |                 |                 |                       |                 |                                  |               |                  |         |
| 1   | Background Information                 |                           |                | 4                  | \$992           | 4                | \$740           | 4                   | \$740           |                 |                 | 2                     | \$230           |                                  | 14            | \$2,702          |         |
| 2   | Site Condition Assessment              |                           |                | 4                  | \$992           | 4                | \$740           | 4                   | \$740           |                 |                 | 2                     | \$230           | \$4,620                          | 14            | \$7,322          |         |
| 3   | Tank Access Analysis                   |                           |                | 4                  | \$992           | 4                | \$740           | 4                   | \$740           |                 |                 | 2                     | \$230           |                                  | 14            | \$2,702          |         |
| 4   | Grading Plan                           |                           |                | 4                  | \$992           | 8                | \$1,480         |                     |                 | 24              | \$3,720         | 4                     | \$460           | \$14,500                         | 40            | \$21,152         |         |
| 5   | Noise Study                            |                           |                | 2                  | \$496           | 2                | \$370           |                     |                 |                 |                 |                       |                 | \$12,760                         | 4             | \$13,626         |         |
| 6   | Hazardous Materials Inspection Testing |                           |                | 2                  | \$496           | 2                | \$370           |                     |                 |                 |                 |                       |                 | \$9,163                          | 4             | \$10,029         |         |
| 7   | Structural Evaluation                  |                           |                | 4                  | \$992           |                  |                 | 28                  | \$5,180         |                 |                 |                       |                 | \$3,850                          | 32            | \$10,022         |         |
| 8   | Summary of Recommended Improvements    | 2                         | \$540          | 8                  | \$1,984         | 16               | \$2,960         | 8                   | \$1,480         |                 |                 | 8                     | \$920           |                                  | 42            | \$7,884          |         |
| 9   | Construction Sequence Duration         |                           |                | 2                  | \$496           | 8                | \$1,480         |                     |                 |                 |                 | 2                     | \$230           |                                  | 12            | \$2,206          |         |
| 10  | Schedule of Work Items                 |                           |                | 4                  | \$992           | 8                | \$1,480         |                     |                 |                 |                 | 2                     | \$230           |                                  | 14            | \$2,702          |         |
| 11  | Project Schedule                       |                           |                | 4                  | \$992           | 8                | \$1,480         |                     |                 |                 |                 | 8                     | \$920           |                                  | 20            | \$3,392          |         |
| 12  | Opinion of Probable Cost               | 2                         | \$540          | 4                  | \$992           | 8                | \$1,480         | 4                   | \$740           |                 |                 | 4                     | \$460           |                                  | 22            | \$4,212          |         |
| 13  | Basis of Design Report                 | 4                         | \$1,080        | 16                 | \$3,968         | 36               | \$6,660         | 16                  | \$2,960         | 16              | \$2,480         | 16                    | \$1,840         |                                  | 104           | \$18,988         |         |
| <b>Sub Total</b>                          |  | <b>8</b>                  | <b>\$2,160</b> | <b>62</b>          | <b>\$15,376</b> | <b>108</b>       | <b>\$19,980</b> | <b>68</b>           | <b>\$12,580</b> | <b>40</b>       | <b>\$6,200</b>  | <b>50</b>             | <b>\$5,750</b>  | <b>\$44,893</b>                  | <b>336</b>    | <b>\$106,939</b> |         |
| <b>Task 3. Final Design</b>               |  |                           |                |                    |                 |                  |                 |                     |                 |                 |                 |                       |                 |                                  |               |                  |         |
| 1   | Project Manual                         | 1                         | \$270          | 12                 | \$2,976         | 20               | \$3,700         | 8                   | \$1,480         |                 |                 | 24                    | \$2,760         |                                  | 65            | \$11,186         |         |
| 2a  | Construction Plans 60%                 | 2                         | \$540          | 20                 | \$4,960         | 40               | \$7,400         | 28                  | \$5,180         | 136             | \$21,080        | 24                    | \$2,760         |                                  | 250           | \$41,920         |         |
| 2b  | Construction Plans 90%                 | 2                         | \$540          | 16                 | \$3,968         | 24               | \$4,440         | 20                  | \$3,700         | 100             | \$15,500        | 22                    | \$2,530         |                                  | 184           | \$30,678         |         |
| 2c  | Construction Plans 100%                | 4                         | \$1,080        | 8                  | \$1,984         | 24               | \$4,440         | 12                  | \$2,220         | 80              | \$12,400        | 16                    | \$1,840         |                                  | 144           | \$23,964         |         |
| 3   | Project Schedule                       | 1                         | \$270          | 4                  | \$992           | 12               | \$2,220         |                     |                 |                 |                 | 8                     | \$920           |                                  | 25            | \$4,402          |         |
| 4   | Opinion of Probable Cost               | 2                         | \$540          | 4                  | \$992           | 8                | \$1,480         | 4                   | \$740           |                 |                 | 4                     | \$460           |                                  | 22            | \$4,212          |         |
| 5   | Final Design Deliverables              | 2                         | \$540          | 4                  | \$992           | 8                | \$1,480         | 8                   | \$1,480         | 40              | \$6,200         | 4                     | \$460           |                                  | 66            | \$11,152         |         |
| <b>Sub Total</b>                          |  | <b>14</b>                 | <b>\$3,780</b> | <b>68</b>          | <b>\$16,864</b> | <b>136</b>       | <b>\$25,160</b> | <b>80</b>           | <b>\$14,800</b> | <b>356</b>      | <b>\$55,180</b> | <b>102</b>            | <b>\$11,730</b> |                                  | <b>756</b>    | <b>\$127,514</b> |         |
| <b>Task 4. Bidding Assistance</b>         |  |                           |                |                    |                 |                  |                 |                     |                 |                 |                 |                       |                 |                                  |               |                  |         |
| 1   | Plan Revisions                         |                           |                | 4                  | \$992           | 4                | \$740           |                     |                 | 12              | \$1,860         |                       |                 |                                  | 20            | \$3,592          |         |
| 2   | Specification Revisions                |                           |                | 4                  | \$992           | 12               | \$2,220         |                     |                 |                 |                 | 4                     | \$460           |                                  | 20            | \$3,672          |         |
| 3   | Bidder Questions                       |                           |                | 10                 | \$2,480         | 10               | \$1,850         |                     |                 |                 |                 |                       |                 |                                  | 20            | \$4,330          |         |
| 4   | Pre-Bid Meeting                        |                           |                | 3                  | \$744           |                  |                 |                     |                 |                 |                 |                       |                 |                                  | 3             | \$744            |         |
| <b>Sub Total</b>                          |  |                           |                | <b>21</b>          | <b>\$5,208</b>  | <b>26</b>        | <b>\$4,810</b>  |                     |                 | <b>12</b>       | <b>\$1,860</b>  | <b>4</b>              | <b>\$460</b>    |                                  | <b>63</b>     | <b>\$12,338</b>  |         |
|   |  |                           |                |                    |                 |                  |                 |                     |                 |                 |                 |                       |                 |                                  | Reimbursables |                  | \$1,500 |
| <b>Totals</b>                             |  | <b>30</b>                 | <b>\$8,100</b> | <b>205</b>         | <b>\$50,840</b> | <b>270</b>       | <b>\$49,950</b> | <b>148</b>          | <b>\$27,380</b> | <b>408</b>      | <b>\$63,240</b> | <b>208</b>            | <b>\$23,920</b> | <b>\$44,893</b>                  | <b>1269</b>   | <b>\$269,823</b> |         |



May 22, 2024

Prepared by: B. Rios / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### PLANNING AREA 39 LOS OLIVOS CAPITAL SANITARY SEWER IMPROVEMENTS

#### SUMMARY:

Irvine Community Development Company, LLC (ICDC) is proceeding with the development of Planning Area 39 (PA 39) Los Olivos, which includes the construction of streets, storm drains, domestic water, sanitary sewer, and recycled water improvements. As part of the development, ICDC will construct IRWD capital facilities under an existing Supplemental Reimbursement Agreement. Staff recommends that the Board:

- Authorize the General Manager to accept ICDC's construction contract with Shoffeitt Pipeline, Inc. in the amount of \$250,500 for the PA 39 Los Olivos Capital Sanitary Sewer Improvements project, and
- Authorize the addition of Planning Area 39 Los Olivos Capital Sanitary Sewer Improvements, Project No. 12965 in the amount of \$462,000 to the FY 2023-24 Capital Budget.

#### BACKGROUND:

ICDC is moving forward with the residential development of PA 39 Los Olivos. The site is generally located south of the I-405 Freeway, and west of Irvine Center Drive. The project location map is shown as Exhibit "A." As part of this development, ICDC will design and construct IRWD's capital sanitary sewer improvements. The required IRWD capital facilities are documented in the August 2011 Planning Area 39 Sub-Area Master Plan and all subsequent addendums and updates prepared by Stantec Consulting Services, Inc. and Dudek.

The design and construction of the IRWD capital facilities will be performed under the terms of the Master Reimbursement Agreement between IRWD and ICDC approved by the Board in May 1997 and as further refined in the Supplemental Reimbursement Agreement for PA 39 that was approved in August 2011.

#### Los Olivos Sanitary Sewer Improvements:

The PA 39 Los Olivos Capital Sanitary Sewer Improvements consists of replacing approximately 800 feet of existing 10-inch sanitary sewer pipeline with new 12-inch sanitary sewer pipeline, all within the existing streets of the development. The required upsizing was related to an increase in the number of dwelling units for the development in the latest phase as identified in the most recent Sub-Area Master Plan update for Los Olivos. ICDC retained Stantec Consulting Services, Inc., to prepare the plans and received bids from four contractors. The bids ranged from \$250,500 to \$647,900. Staff recommends accepting the construction contract to the low bidder, Shoffeitt Pipeline, Inc., for a bid amount of \$250,500 as shown in Exhibit "B".

In addition, ICDC has received consultant proposals for engineering design, surveying, and geotechnical observation and testing services. Proposals for field archeological and paleontological monitoring were not necessary because those costs were included as a part of the previously approved improvements.

Staff has reviewed the consultant proposals and the construction bids and found the amounts to be acceptable. A summary of the PA 39 Los Olivos Capital Sanitary Sewer Improvement costs is shown below.

|                              |                |
|------------------------------|----------------|
| Design (Stantec)             | \$ 5,100       |
| Construction (Shoffeitt)     | \$250,500      |
| Geotechnical Services (NMG)  | \$24,912       |
| Surveying (Stantec)          | \$5,760        |
| ICDC Administration Fee (1%) | <u>\$2,505</u> |
|                              | \$288,777      |

FISCAL IMPACTS:

Staff requests the addition of Project No. 12965 to the FY 2023-24 Capital Budget as follows:

| Project No. | Current Budget | Addition <Reduction> | Total Budget |
|-------------|----------------|----------------------|--------------|
| 12965       | \$0            | \$462,000            | \$462,000    |

ENVIRONMENTAL COMPLIANCE:

Construction of capital sanitary sewer facilities for PA 39 Los Olivos is subject to CEQA. In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7 an Environmental Impact Report was certified by the City of Irvine, the lead agency on February 14, 2006 (SCH# 2005081099).

RECOMMENDATION:

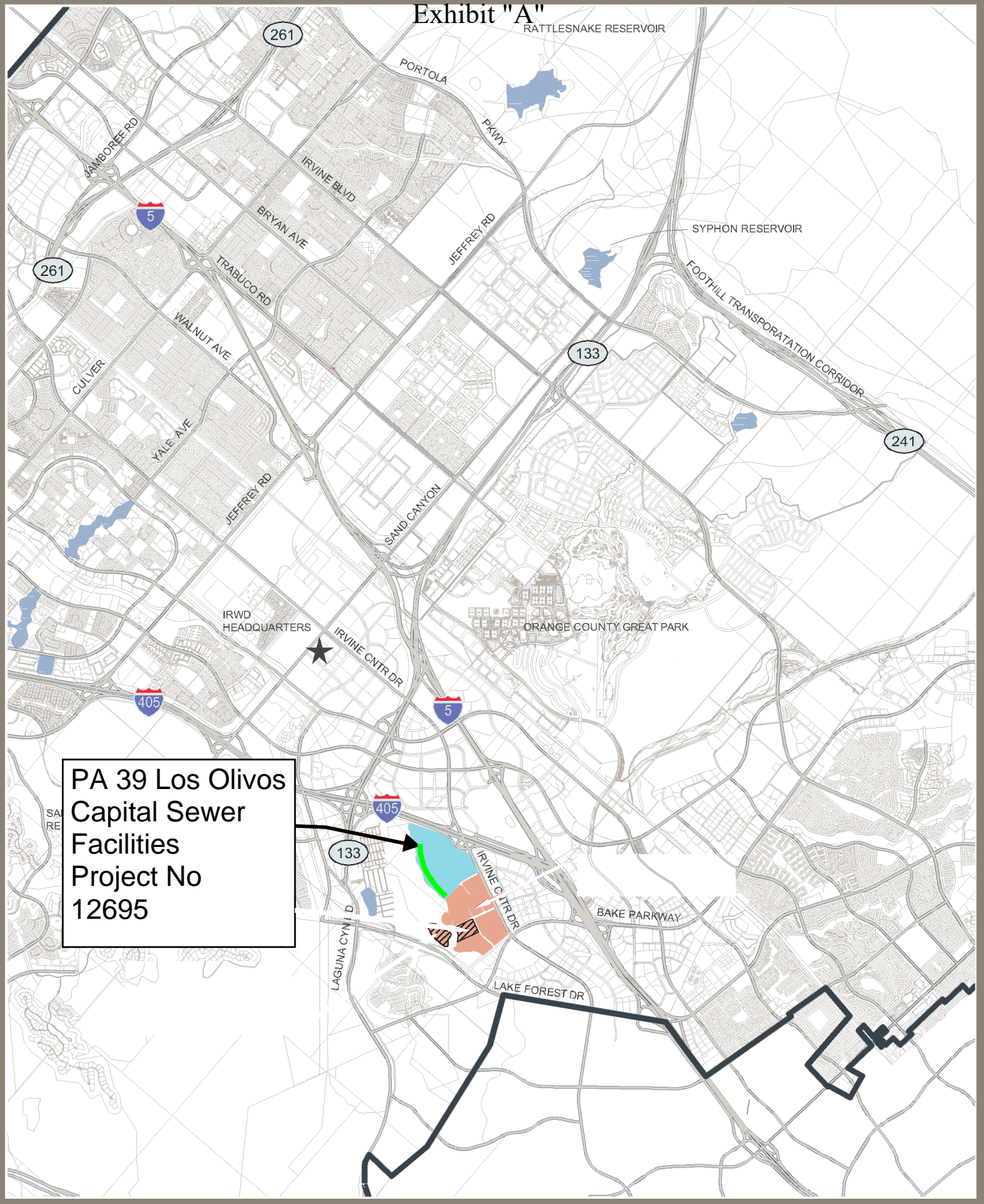
That the Board authorize the General Manager to accept ICDC’s construction contract with Shoffeitt Pipeline, Inc. in the amount of \$250,500, and authorize the addition of Project No. 12965 in the amount of \$462,000 to the FY 2023-24 Capital Budget for the Planning Area 39 Los Olivos Capital Sanitary Sewer Improvements.

LIST OF EXHIBITS:

- Exhibit “A” – Location Map
- Exhibit “B” – Bid Summary, PA 39 Los Olivos Capital Sanitary Sewer Improvements

# Exhibit "A"

RATTLESNAKE RESERVOIR



PA 39 Los Olivos  
Capital Sewer  
Facilities  
Project No  
12695

Note: This page is intentionally left blank.

# Exhibit "B"

**BID SUMMARY**  
**PLANNING AREA 39 (PA-39)**  
**LOS OLIVOS (PA-39, TRACTS 17216 & 17759)**  
**PHASE 1 IRWD SANITARY SEWER UPSIZING DANA STREET**  
**CONTRACT "B0" - IRWD CAPITAL IMPROVEMENTS (PREVAILING WAGE)**  
**TASK/PC ID NO.: LD-0039-ST.28.cn01**  
**BID PACKAGE NO. B00544**

c: Mike Morse  
Terri Moss  
Matt Lauener  
 File with Bid Key Map  
 Erica Marioneaux - Cost Matrix  
*\*out of office*

PRE-BID MEETING DATE: March 6, 2024  
 BID OPENING DATE: March 26, 2024  
 WITNESSED BY: J. Favela  
E. Marioneaux

**DECLINED PRIOR TO PRE-BID: N/A**  
**NO SHOW AT PREBID: NA**  
**DID NOT SUBMIT: Fydaq**

|                                       |   |                          |   |                              |
|---------------------------------------|---|--------------------------|---|------------------------------|
| ENGINEER'S ESTIMATE<br><b>Stantec</b> | LOW BIDDER<br><b>Shoffett Pipeline Inc.</b> | 2ND BIDDER<br><b>KEC</b> | 3RD BIDDER<br><b>Paulus Engineering</b> | 4TH BIDDER<br><b>L&amp;S</b> |
|---------------------------------------|---|--------------------------|---|------------------------------|

**CHECK LIST**

Required items to be included in bid package:

- Addendum 1 and 2
- Corporate Seal (if applicable)
- Correct Signatures (Page V-3)
- Bid Totals Correctly
- List of SubContractors
- Equipment/Material Source Information
- Contractors Rates/Reviewed
- 10% Bid Bond
- Construction Schedule
- Non-Collusion Certificate
- Contractor Prequalified
- Fuel Letter
- PVC Letter

|     |
|-----|
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| X   |
| N/A |
| N/A |

|                                   |
|-----------------------------------|
| Did not check, bidder was not low |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |

|                                   |
|-----------------------------------|
| Did not check, bidder was not low |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |

|                                   |
|-----------------------------------|
| Did not check, bidder was not low |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |

CODING\* ITEM DESCRIPTION QTY UNIT UNIT PRICE TOTAL UNIT PRICE TOTAL UNIT PRICE TOTAL UNIT PRICE TOTAL UNIT PRICE TOTAL

| CODING* | ITEM DESCRIPTION  | QTY | UNIT | UNIT PRICE   | TOTAL         | UNIT PRICE   | TOTAL         | UNIT PRICE   | TOTAL         | UNIT PRICE   | TOTAL         | UNIT PRICE   | TOTAL         |
|---------|---|-----|------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|
| C.      | <b>IRWD SANITARY SEWER UPSIZING IMPROVEMENTS</b>  |     |      |              |               |              |               |              |               |              |               |              |               |
| 12.     | INSTALL 12" PVC (SDR35) SEWER PIPE PER IRWD STANDARD DRAWING NO. S-6  | 810 | LF   | \$ 670.00    | \$ 542,700.00 | \$ 300.00    | \$ 243,000.00 | \$ 336.05    | \$ 272,200.50 | \$ 750.00    | \$ 607,500.00 | \$ 790.00    | \$ 639,900.00 |
| 13.     | CORE DRILL EXISTING MANHOLE TO CONNECT 12" PVC (SDR35) PIPE.  | 5   | EA   | \$ 10,000.00 | \$ 50,000.00  | \$ 15,000.00 | \$ 75,000.00  | \$ 9,100.00  | \$ 45,500.00  | \$ 10,200.00 | \$ 51,000.00  | \$ 11,500.00 | \$ 57,500.00  |
| 14.     | TESTING OF SEWER SYSTEM UPON COMPLETION OF SEWER CONSTRUCTION PRIOR TO PAVING. TESTING TO BE IN ACCORDANCE WITH IRWD SPECIFICATIONS AND APPLICABLE CITY OF IRVINE CODES AND ORDINANCES. | 1   | LS   | \$ 10,000.00 | \$ 10,000.00  | \$ 7,500.00  | \$ 7,500.00   | \$ 16,000.00 | \$ 16,000.00  | \$ 10,200.00 | \$ 10,200.00  | \$ 8,000.00  | \$ 8,000.00   |

\* PORTION OF ABOVE TOTAL BASE CONTRACT B0 PRICE THAT IS ELIGIBLE FOR IRWD CAPITAL REIMBURSEMENT

\$ 552,700.00

\$ 250,500.00

\$ 288,200.50

\$ 617,700.00

\$ 647,900.00

**BID SUMMARY**  
**PLANNING AREA 39 (PA-39)**  
**PHASE 1 IRWD SANITARY SEWER UPSIZING DANA STREET**  
**CONTRACT "B0" - IRWD CAPITAL IMPROVEMENTS (PREVAILING WAGE)**  
**(PREVAILING WAGE)**  
**TASK/PCID NO. LD-0039.ST.28.cn01**  
**BID PACKAGE NO. B00544**

c: MM Mike Morse      PRE-BID MEETING DATE: March 6, 2024  
      TM Terri Moss      BID OPENING DATE: March 26, 2024  
      ML Matt Lauener      WITNESSED BY: J. Favela  
      \_\_\_\_\_ File with Bid Key Map      E. Marioneaux  
      \_\_\_\_\_ Erica Marioneaux - Cost Matrix  
      *KA Out of Office*

|                                |
|--------------------------------|
| DECLINED PRIOR TO PRE-BID: N/A |
| NO SHOW AT PREBID: N/A         |
| DID NOT SUBMIT: N/A            |

**CONSULTANT PROPOSALS:**

**Engineer of Record**

Base Contract (Excluding IRWD Capital Reimbursable Items)  
 IRWD Capital Reimbursement  
**Total:**

|   |
|---|
| SOLE SOURCE<br>Stantec Consulting Services Inc. |
|---|

\$5,100.00

**Survey and Staking**

Base Contract (Excluding IRWD Capital Reimbursable Items)  
 IRWD Capital Reimbursement  
**Total:**

|   |
|---|
| SOLE SOURCE<br>Stantec Consulting Services Inc. |
|---|

\$5,760.00

**Geotechnical**

Base Contract (Excluding IRWD Capital Reimbursable Items)  
 IRWD Capital Reimbursement  
**Total:**

|                                       |
|---------------------------------------|
| SOLE SOURCE<br>NMG Geotechnical, Inc. |
|---------------------------------------|

\$24,912.00

IRWD CAPITAL FACILITY - CONSTRUCT BY ICDC AND REIMBURSED BY IRWD