WEST VALLEY WATER DISTRICT
855 W. Base Line Road, Rialto, CA 92376
PH: (909) 875-1804 FAX: (909) 875-1849

SPECIAL ENGINEERING, OPERATIONS AND PLANNING COMMITTEE MEETING AGENDA

WEDNESDAY, NOVEMBER 18, 2020 - 6:00 PM

NOTICE IS HEREBY GIVEN that West Valley Water District has called a meeting of the Engineering, Operations and Planning Committee to meet in the Administrative Conference Room, 855 W. Base Line Road, Rialto, CA 92376.

Teleconference Notice: In an effort to prevent the spread of COVID-19 (Coronavirus), and in accordance with the Governor's Executive Order N-29-20 and the order of the County of San Bernardino dated March 17, 2020, there will be no public location for attending this Committee Meeting in person. Members of the public may listen and provide public comment via telephone by calling the following number and access code: Dial (888)475-4499, Access Code: 840-293-7790 or you may join the meeting using Zoom by clicking this link: https://us02web.zoom.us/j/8402937790. Public comment may also be submitted via email to administration@wvwd.org. If you require additional assistance, please contact the Executive Assistant at administration@wvwd.org.

BOARD OF DIRECTORS

Director Greg Young (Chair)
Director Kyle Crowther

1. CONVENE MEETING

2. PUBLIC PARTICIPATION

The public may address the Board on matters within its jurisdiction. Speakers are requested to keep their comments to no more than three (3) minutes. However, the Board of Directors is prohibited by State Law to take action on items not included on the printed agenda.

3. DISCUSSION ITEMS

A. General Updates to Committee

B. Main Break Street Repairs (**Pg. 3)**

C. Roemer GAC Needs Replacement **(Pg. 9)**

D. Consider Task Order No. 2 with MBII for CMIS **(Pg. 20)**

E. Consider a PSA and Task Order No. 1 with TKE for Well 54 Drain Line **(Pg. 53)**

F. Consider a Budget Transfer to Fund PS7-2 for a Radio Survey **(Pg. 121)**

G. Consider Notice of Completion Recordation for the Construction of Casmalia **(Pg. 127)**

H. Consider Award Santa Ana to El-Co **(Pg. 132)**

I. Consider a WSA for Bloomington Business Park **(Pg. 134)**

J. Consider a WSA for Ventana at Duncan Canyon **(Pg. 174)**

4. ADJOURN

DECLARATION OF POSTING:

I declare under penalty of perjury, that I am employed by the West Valley Water District and posted the foregoing Finance Committee Agenda at the District Offices on November 16, 2020.

Maisha Mesa, Executive Assistant

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: RATIFY EXPENDITURES FOR WATER MAIN BREAK DAMAGE ON LOMA VISTA DRIVE IN THE CITY OF RIALTO

BACKGROUND:

On October 27, 2020, at approximately 1:00 am, West Valley Water District (District) experienced an 8-inch water main break in the area of West Loma Vista Drive and North Grapewood Avenue in the City of Rialto. District staff repaired the leak within hours; however, a section, 10 feet x 400 feet, of the road suffered from major damage. See photos attached as **Exhibit A**.

Due to the urgency of the repairs to the trench and street, and to minimize the risk of further damage and additional costs, District staff was directed to proceed with the repairs and bring back the final costs upon project completion to the Board of Director's for ratification at the next Board meeting. The scope of work consists of removing 4,000 square feet of existing asphalt 8 inches deep, installing new asphalt, performing soil compaction testing, grinding and overlaying rubberized asphalt, providing traffic control and striping.

DISCUSSION:

The District's on-call paving contractor, Hardy & Harper, Inc., is available to complete the project on the week of November 9, 2020. District staff cannot have a portion of the roadway out of service. Below is a cost summary:

Hardy & Harper, Inc.
$75,933.00

FISCAL IMPACT:

This item is included in the Fiscal Year 2020/21 Operating Budget and will be funded from Account Number 100-5410-540-5612 titled "Repair & Maintenance/Street Patching" with a budget of $500,000.

STAFF RECOMMENDATION:

Staff recommends that the Engineering, Operations and Planning Committee have this expenditure of $75,933.00 for Water Main Break Damage on Loma Vista Avenue be considered for ratification and to have this item considered by the full Board of Directors at a future meeting.

Respectfully Submitted,

Shamindra Manbahal

Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

CM:jc

ATTACHMENT(S):

1. Exhibit A - Photos
2. Exhibit B - Invoice

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee

EXHIBIT A

Photos

EXHIBIT B

Hardy & Harper, Inc.
asphalt paving contractor
32 RANCHO CIRCLE
LAKE FOREST, CA 92630
(714) 444-1851 FAX (714) 444-2801
STATE LIC. NO. 215952
DIR NO. 1000000076

To:	WEST VALLEY WATER DISTRICT	**Contact:**	
Address:	855 W. BASE LINE ROAD	**Phone:**	
	RIALTO, CA 92377	**Fax:**	
Project Name:	GRAPE WOOD & LONA VISTA DR / WVWD	**Bid Number:**	19-001863
Project Location:		**Bid Date:**	11/4/2020

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
1	REMOVE & REPLACE 4" (33X118)	3,894.00	SF	$19.50	$75,933.00

Total Bid Price: $75,933.00

Notes:

- ***INCLUSIONS:***
- LABOR, EQUIPMENT & MATERIAL
- PRICE BASED ON (1) MOVE-IN - $6,500.00 FOR EACH ADDITIONAL MOVE-IN
- PRICE BASED ON MINIMUM 8 HR SHIFTS
- PRICE GOOD THROUGH 01/30/2021
- CUT, LOAD, HAUL, SWEEP & TACK
- GRADES TO BE RECIEVED AT +/-.04' - NO FINE GRADE
- SURVEYING, ENGINEERING AND STAKING BY OTHERS. ALL FINISHED FILLS, INCLUDING FILLS AT GRADE BREAKS TO BE PAINTED ON THE GRADE / PAVEMENT BY PRIME CONTRACTOR AT 25' STATIONS AT NO COST TO HARDY & HARPER, INC. FILLS TO BE GIVEN PRIOR TO PAVING
- PROPOSAL & ENTIRE CONTENTS SHALL BE INCORPORATED INTO SUBCONTRACT - MINIMUM 6 WEEKS NOTICE FOR ALL SCHEDULING
- TRAFFIC CONTROL PER WATCH MANUAL
- ***EXCLUSIONS:***
- QCQA, ARHM, ENGINEERING, PERMITS, BONDS, FEES, INSPECTION FEES, SWPPP, LAYOUT, SURVEY, GRADE CHECKER, OIL INDEX
- TEMP AC, TRENCH/SLOT PAVING, MEDIAN PAVING, SAWCUT, CRACKFILL, WEEDKILL, FOG SEAL, PRIME COAT, SLURRY, SEAL COAT
- COLDMILL, INERTIAL PROFILE, MUST GRINDS, PROFILOGRAPH, PRE-PAVE IRI & GRINDING, CLEAN EXISTING AC, STEEL PLATES
- IMPORT/EXPORT, SUBGRADE PREP & REMOVAL/COMPACTION, GRADING, FINE GRADING, PCC BACKFILL, REDWOOD HEADER
- PROTECTION / LOCATING OF EXST. UTILITIES, UTILITY ADJUSTMENTS, SPEED BUMPS, POSTING
- DRAINAGE REQUIREMENTS W/ LESS THAN 2% FALL, TRAFFIC CONTROL, T/C PLANS, CMS BOARD, DETOURS, ROOT PRUNE/REMOVAL
- FABRIC & PLACEMENT, FABRIC REMOVALS / DISPOSAL, STRIPING, TEMP STRIPING & TABS, PROTECTION OF WORK AFTER SHIFT
- HAZARDOUS WASTE, WEATHER DELAYS, TEMPERATURE DELAYS, WATER & SOURCE, OPERATED WATER TRUCK / BUGGY, LIGHTS
- LIQUIDATED DAMAGES NOT DUE TO OUR OPERATION. THIS INCLUDES DAMAGES FOR LATE OPENINGS. TRAINING & FEES
- SAFETY TRAINING, TWIC, BADGING COST, SANDBLASTING, STRIPING REMOVALS, NIGHTS & WEEKENDS, AS BUILDS
- Payment in full upon completion or it is agreed that 1% per month will be charged when account becomes overdue.

Payment Terms:

NET 30

ACCEPTED: The above prices, specifications and conditions are satisfactory and are hereby accepted. **Buyer:** _____ **Signature:** _____ **Date of Acceptance:** _____	**CONFIRMED:** **Hardy & Harper, Inc.** **Authorized Signature:** _____ **Estimator:** Christiana Cook (909) 815-6752

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: AGREEMENT WITH PROMINENT SYSTEMS, INC. FOR GRANULAR ACTIVATED CARBON MEDIA REPLACEMENT AT THE OLIVER P. ROEMER WATER FILTRATION FACILITY

BACKGROUND:

The West Valley Water District (District) currently operates ten (10) pressurized vessels that contain granular activated carbon (GAC) at the Oliver P. Roemer Water Filtration Facility for total organic carbon (TOC) removal. TOC reacts with chlorine, a commonly used drinking water disinfectant, and forms disinfection byproducts in the distribution system. The goal of the GAC is to reduce the TOC levels to limit the levels of known and unknown disinfection byproducts which may have adverse health effects.

District staff has identified a need to replace the GAC in five (5) vessels. Common GAC products are made from coconut shell, coal, and wood products. The selection of carbon source is driven by contaminant reduction performance. Coconut shell carbons tend to have a higher percentage of micro-pores making it a good choice for groundwater treatment with trace levels of organics and disinfection byproducts. Wood carbons have more macro-pores making them better for de-colorization and removal of larger organics. Coal bases give an intermediate pore structure making them a good choice for purification of surface water treatment for TOC removal, taste and odor contaminant removal and per- and polyfluoroalkyl substance (PFAS) treatment.

DISCUSSION:

On October 5, 2020, a Request for Bids (RFB) was issued and publicly advertised on PlanetBids. Four (4) firms – Prominent Systems, Inc. (PSI), Calgon Carbon Corporation (CCC), EVOQUA Water Technologies (EWT) and Carbon Activated Corp (CAC) – submitted bids to provide the specified services. The project includes the purchase, removal and disposal of existing GAC and placement of new coal-based GAC that is NSF 61 certified for treatment of potable water. Attached as **Exhibit A** is the project summary.

The four bids were as follows:

Prominent Systems	Calgon Carbon	EVOQUA Water	Carbon Activated
$304,000.00	$328,133.00	$354,829.28	$437,545.00

FISCAL IMPACT:

This item is included in the Fiscal Year 2020/21 Capital Budget titled "GAC Vessel Media Replacement - Roemer" with a budget of $360,000.00.

The District has complied with the District's purchasing policy regarding this item.

STAFF RECOMMENDATION:

Staff recommends that the Engineering, Operations and Planning Committee approve an agreement with Prominent Systems, Inc. for GAC media replacement and to have this item considered by the full Board of Directors at a future meeting.

CM:jc

ATTACHMENT(S):

1. Exhibit A - Project Summary
2. Exhibit B - PSI Bid, CCC Bid, EWT Bid, and CAC Bid

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee

EXHIBIT A

Granular Activated Carbon (GAC) Media Replacement

PROJECT DESCRIPTION

The Oliver P. Roemer Water Filtration Facility (WFF) located at 3010 N. Cedar Ave. in the City of Rialto needs to replace Granular Activated Carbon in five (5) GAC vessels that holds 40,000 pounds each. The treatment system is from Calgon model 12-40. The GAC supplier(s) will remove the spent GAC media and haul it away and replace it with new bituminous GAC media 12 by 40 mesh coal base carbon.

SCHEDULE OF EVENTS

10/5/2020	Issuance of Request for Bids
10/13/2020	Deadline for Written Questions
10/19/2020	Bids Due by 4:00 PM
11/19/2020	District Approval of Contract (est. date)
12/1/2020	Issuance of Notice-to-Proceed (est. date)

SCOPE OF WORK

GAC Vessel Specifications

Description	Units	Design Capacity
Vessel Manufacturer		Calgon Corp.
Maximum Flow Rate	GPM	(1000 per train)
System Configuration	--	5 sets of two in series
Number of Vessels	--	
Carbon per Vessel	Pounds	40,000
Type of Carbon	--	SWRCB Approved
Inlet Pressure	PSI	125 max (Varies)
Vessel Diameter	Ft	12
Material of Construction	--	Carbon Steel
Pressure Rating	PSI	125 @ 140 °F

All treatment carbon replacement work must be performed by experienced technicians working under the observation of WVWD. The GAC Supplier shall provide all labor, equipment, and materials required to perform the following:

- Remove spent carbon using slurry techniques to place media directly into trucks. Haul removed carbon to licensed facility for thermal destruction or reactivation. Provide manifests and certificates documenting thermal destruction or reactivation of spent carbon.
- Inspect and photograph empty vessel(s); identify any equipment damage or service requirements. Replace seals as necessary. Provide photographs to WVWD. [Note: costs for seal replacement or other internal vessel rehabilitation need not be included at this time].
- Hose down the inside of the empty vessel using water from the nearby municipal hydrant. Flush all wash waters from the GAC vessels to the adjacent decant ponds.
- Deliver and load pre-washed new GAC (12 x 40 mesh coal base carbon) in the treatment vessels as a slurry.
- Backwash loaded GAC to stratify the bed and remove fines until visually clear water is produced to WVWD's satisfaction. Fines shall be retained on Supplier's slurry trailer. Water may be discharged to adjacent decant ponds.
- Pressurize the GAC vessels and verify proper operation.
- Chemically test the "loaded" vessel and verify the absence of bacteria.
- If bacteria are detected in the loaded vessel, conduct carbon sanitization using pH adjustment techniques. Sanitization additives shall be identified before work begins, may not be employed without WVWD's approval. Chemicals used to remove bacteria shall be neutralized and shall be removed from the vessels and discharged to the adjacent waste pit. Vessel shall then be retested to verify the absence of bacteria.

Responsibility of Carbon Supplier:

1. Supply of 40,000 lbs. of virgin activated carbon per vessel (i.e., 200,000 lbs. total), per specifications as defined below.
2. Delivery of virgin carbon to customer site in bulk slurry trailers dedicated to food grade/potable water service. Trailers must be sanitized by food grade wash-out prior to carbon loading for potable water contact. Food-grade washout certificates to be provided to WVWD upon request.
3. On-site supervision and removal of spent carbon from vessel absorbers via slurry transfer, and fill of absorbers with virgin carbon via slurry transfer.
4. Backwash of loaded GAC vessels to stratify the beds and to remove fines until visually clear water is produced to WVWD's satisfaction.
5. Compressed air supply.
6. Coordinate use of adjacent potable water hydrant with WVWD.

7. Transportation of spent carbon from the customer's site to destruction or reactivation facility with proper non-hazardous manifest. No bill of ladings allowed.
8. Destruction or reactivation of the spent carbon at a properly permitted facility.
9. Supply of certificate of thermal destruction or reactivation within 30 days of WVWD's request.
10. Provide certified laboratory results to verify the absence of bacteria in loaded GAC.
11. Sanitize carbon as may be required to remove bacteria from GAC.

EXHIBIT B

Granular Activated Carbon Replacement (2020-15), bidding on October 22, 2020 4:00 PM (Pacific)

Printed 10/23/2020

Bid Results

Bidder Details

Vendor Name Prominent Systems, Inc
Address 13095 E. Temple Avenue
Industry, CA 91746
United States

Respondee Dan Indrasena
Respondee Title Business Development Manager
Phone 424-245-9099 Ext.
Email dan@prominentinc.com
Vendor Type CADIR
License # 912647
CA DIR

Bid Detail

Bid Format Electronic
Submitted October 22, 2020 1:45:35 PM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 232032
Ranking 0

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Bid Acknowledgement	Bid Acknowledgement.pdf	Bid Acknowledgement
Noncollusion Declaration	affidavit_10222020.pdf	Noncollusion Declaration (with Notary Acknowledgement)
Designation of Subcontractors	Designation of Subcontractors.pdf	Designation of Subcontractors
Information of Bidders	Information of Bidders.pdf	Information of Bidders
Iran Contracting Act Certification	Iran Contracting Act Certification.pdf	Iran Contracting Act Certification
Public Works Registraion Certification	Public Works Contractor Registration Certification.pdf	Public Works Contractor Registration Certification

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	Section 1					
1	Total Cost to Replace the Granular Activated Carbon in five (5) vessels each holding 40,000 lbs					
		total	1	$304,000.00	$304,000.00	
				Subtotal	**$304,000.00**	
				Total	**$304,000.00**	

Granular Activated Carbon Replacement (2020-15), bidding on October 22, 2020 4:00 PM (Pacific)

Printed 10/23/2020

Bid Results

4 Bid Results

Bidder Details

Vendor Name	Carbon Activated Corp
Address	250 E. Manville Street Compton, CA 90220 United States
Respondee	Dale Kerr
Respondee Title	Operations
Phone	310-885-4555 Ext. 223
Email	dalek@activatedcarbon.com
Vendor Type	CADIR
License #	842091
CA DIR	

Bid Detail

Bid Format	Electronic
Submitted	October 20, 2020 2:12:56 PM (Pacific)
Delivery Method	
Bid Responsive	
Bid Status	Submitted
Confirmation #	231750
Ranking	0

Respondee Comment

No exceptions taken to bid specifications or instructions.

Buyer Comment

Attachments

File Title	File Name	File Type
Bid Acknowledgement	CAC Bid Acknowledgement.pdf	Bid Acknowledgement
Non Collusion Declaration	CAC Non-Collusion Declaration.pdf	Noncollusion Declaration (with Notary Acknowledgement)
Designation of Sibcontractors	CAC Designation of Subcontractors.pdf	Designation of Subcontractors
Information of Bidders	CAC Information.pdf	Information of Bidders
Iran Contracting Act Certification	CAC Iran Contracting Act Cert.pdf	Iran Contracting Act Certification
Public Works Contractor Registration Certificate	CAC Public Works Contractor Registration Cert.pdf	Public Works Contractor Registration Certification

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	Section 1					
1	Total Cost to Replace the Granular Activated Carbon in five (5) vessels each holding 40,000 lbs					
		total	1	$437,545.00	$437,545.00	Cost per filter is $87,509.00
				Subtotal	**$437,545.00**	
				Total	**$437,545.00**	

Granular Activated Carbon Replacement (2020-15), bidding on October 22, 2020 4:00 PM (Pacific)

Printed 10/23/2020

Bid Results

Bidder Details

Vendor Name Calgon Carbon Corporation
Address P.O. Box 717
Pittsburgh, PA 15230-0717
United States

Respondee Jeremy J. Jones
Respondee Title DWS Project Manager
Phone 412-419-5735 Ext.
Email mbu.ccc@kuraray.com
Vendor Type
License #
CA DIR

Bid Detail

Bid Format Electronic
Submitted October 22, 2020 5:49:30 AM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 231966
Ranking 0

Respondee Comment

Total of $328,133.00 includes 8% Tax. Caustic Disinfection not included in total. Caustic Disinfection adder = $7,200 per vessel, if you choose to add.

Buyer Comment

Attachments

File Title	File Name	File Type
Bid Acknowledgement	1 Bid Acknowldedgement.pdf	Bid Acknowledgement
Noncollusion Declaration (with Notary Acknowledgement)	2 Noncollusion Declaration (with Notary Acknowledgement).pdf	Noncollusion Declaration (with Notary Acknowledgement)
Designation of Contractors	3 Designation of Contractors.pdf	Designation of Subcontractors
Information of Bidders	4 Information of Bidders.pdf	Information of Bidders
Iran Contracting Act Certification	5 Iran Contracting Act Certification.pdf	Iran Contracting Act Certification
Public Works Contractor Registration Certification	6 Public Works Contractor Registration Certification.pdf	Public Works Contractor Registration Certification

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	Section 1					
1	Total Cost to Replace the Granular Activated Carbon in five (5) vessels each holding 40,000 lbs					
		total	1	$328,133.00	$328,133.00	Total includes 8% Tax. Caustic Disinfection not included in total. Caustic Disinfection adder = $7,200 per vessel, if you choose to add.
				Subtotal	**$328,133.00**	
				Total	**$328,133.00**	

Granular Activated Carbon Replacement (2020-15), bidding on October 22, 2020 4:00 PM (Pacific)

Printed 10/23/2020

Bid Results

Bidder Details

Vendor Name EVOQUA Water Technologies
Address 14250 Gannet Street
La Mirada, CA 90638
United States

Respondee Patricia Tinnerino
Respondee Title Account Manager
Phone 714-262-1560 Ext.
Email patricia.tinnerino@evoqua.com
Vendor Type
License #
CA DIR

Bid Detail

Bid Format Electronic
Submitted October 21, 2020 9:35:49 AM (Pacific)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 231706
Ranking 0

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Evoqua Bid Ack	Evoqua Bid Acknowledgement.pdf	Bid Acknowledgement
Evoqua Noncollusion	Evoqua Non collusion Declaration.pdf	Noncollusion Declaration (with Notary Acknowledgement)
Evoqua Designation of Subcontractors	Evoqua Designation of Subcontractors.pdf	Designation of Subcontractors
Evoqua Information	Evoqua Information for Bidders.pdf	Information of Bidders
Evoqua Iran	Evoqua Iran Contracting Act Certification.pdf	Iran Contracting Act Certification
Evoqua Public Works_DIR	Evoqua Public Works.pdf	Public Works Contractor Registration Certification

Line Items

Type	Item Code	UOM	Qty	Unit Price	Line Total	Comment
	Section 1					
1	Total Cost to Replace the Granular Activated Carbon in five (5) vessels each holding 40,000 lbs					
		total	1	$354,829.28	$354,829.28	
				Subtotal	**$354,829.28**	
				Total	**$354,829.28**	

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: APPROVE TASK ORDER NO. 2 WITH MICHAEL BAKER INTERNATIONAL FOR CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES FOR SANTA ANA AVENUE TRANSMISSION MAIN PROJECT PHASE I

BACKGROUND:

The West Valley Water District ("District") water distribution mains, transmission mains, services and valves serving a portion of the community of Bloomington are located within Santa Ana Avenue were constructed in the 1950's, 60's and 70's and lack the required supplies for domestic and fire flow demands in Pressure Zone 2 and Zone 3. The transmission mains are needed to improve water circulation for water quality. Due to these factors, the District has embarked on a project that includes the construction of two (2) transmission mains along Santa Ana Avenue. These new transmission mains will provide improved fire flow for the residences in the area. The new transmission main will replace the existing 4-inch water main serving this area and will be constructed within the street right of way.

To address this issue, the District initiated a project that includes the installation of new 12-inch diameter ductile iron (DI) water main approximately 1,330 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue, new 20-inch diameter DI water main approximately 1,320 linear feet along Santa Ana Avenue between Cedar and Larch Avenue in Zone 2 and installation of new 12-inch diameter DI water main approximately 40 linear feet along Linden Avenue, new 16-inch diameter DI water main approximately 1,230 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue in Zone 3.

DISCUSSION:

A Request for Proposal ("RFP") was posted on Planet Bids to thirteen (13) Consulting firms for Construction Management and Inspection Services ("CMIS") for Santa Ana Avenue Transmission Main Project Phase I. On November 3, 2020, the District received proposals in response to the RFP from four (4) consulting firms – TKE Engineering, Inc. ("TKE"), Engineering Resources of Southern California, Inc. ("ERSC"), Michael Baker International ("MBI"), and Albert A. Webb Associates ("Webb").

The written proposals were reviewed by a committee comprised of District Staff and were evaluated based on the following criteria:

- Past performance and qualifications of the proposal team members on similar projects.
- Familiarity with and capacity to handle all aspects of the work.
- Ability to complete the project within the proposed time frame.
- The proposed project approach, scope, manner, and thoroughness in which it is presented in the proposal.
- Firm's experience, staff availability, and financial responsibility.
- Consultant fees.

The four (4) proposals which were received were similar in qualifications and technical expertise. Each of their proposed costs for engineering design services for the project are shown below:

Consultant	Cost
TKE	$118,195.00*
ERSC	$180,640.00
MBI	$192,860.00
Webb	$248,320.00

Note: * Incorrect number of working days.

In order to determine the best value for the District, Staff first ensured that all proposals received met the minimum requirements in the scope of work by conducting a systematic proposal evaluation. Based on technical qualifications, overall evaluation, and costs, Staff concluded that MBI provided the best value for the District's needs for the CMIS for Santa Ana Avenue Transmission Main Project Phase I. The firm's design approach and overall understanding of the project's goals, further aided in the selection process for the RFP. Attached as **Exhibit A** is the Task Order No. 2 with MBI which includes the submitted Proposal.

FISCAL IMPACT:

The cost to perform the CMIS Santa Ana Avenue Transmission Main Project Phase I as proposed by MBI is $192,860.00. This item was included in the Fiscal Year 2020/21 Capital Improvement Budget under the W17035 Santa Ana Avenue Transmission Main Project with an available budget of $429,879.77. Sufficient funds are available in the project budget. A summary of the requested budget transfer is as follows:

CIP FY 2020-2021 Project Name	Current Budget	CMIS Cost	Remaining Budget
W17035 Santa Ana Avenue Transmission Main	$429,879.77	$192,860.00	$237,019.77

STAFF RECOMMENDATION:

It is recommended that the Board of Directors approve Task Order No. 2 with MBI for the W17035 CMIS for Santa Ana Avenue Transmission Main Project Phase I for the amount of $192,860.00 and have this item considered by the full Board of Directors at a future meeting and authorize the General Manager to execute the necessary documents.

BP:pa

ATTACHMENT(S):

1. Exhibit A - Task Order No. 2 with Michael Baker International

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee REFERRED TO BOARD

EXHIBIT A

TASK ORDER NO. 2

Construction Management, and Inspection Services

This Task Order ("Task Order") is executed this 19th day of November, 2020 by and between West Valley Water District, a public agency of the State of California ("District") and Michael Baker International ("Consultant").

RECITALS

A. On or about November 19th, 2020 District and Consultant executed that certain Agreement for Professional Services ("Agreement").

B. The Agreement provides that the District will issue Task Orders from time to time, for the provision of certain services by Consultant.

C. Pursuant to the Agreement, District and Consultant desire to enter into this Task Order for the purpose of setting forth the terms and conditions upon which Consultant shall render certain services to the District.

NOW, THEREFORE, THE PARTIES HERETO HEREBY AGREE AS FOLLOWS:

1. Consultant agrees to perform the services set forth on Exhibit "1" attached hereto and by this reference incorporated herein.

2. Subject to any limitations in the Agreement, District shall pay to Consultant the amounts specified in Exhibit "2" attached hereto and by this reference incorporated herein. The total compensation, including reimbursement for actual expenses, may not exceed the amount set forth in Exhibit "2," unless additional compensation is approved in writing by the District.

3. Consultant shall perform the services described in Exhibit "1" in accordance with the schedule set forth in Exhibit "3" attached hereto and by this reference incorporated herein. Consultant shall commence work immediately upon receipt of a notice to proceed from the District. District will have no obligation to pay for any services rendered by Consultant in advance of receipt of the notice to proceed, and Consultant acknowledges that any such services are at Consultant's own risk.

4. The provisions of the Agreement shall apply to this Task Order. As such, the terms and conditions of the Agreement are hereby incorporated herein by this reference.

[***SIGNATURES APPEAR ON FOLLOWING PAGE***]

IN WITNESS WHEREOF, the parties have caused this Task Order to be executed effective as of the day and year first above written.

DISTRICT:

WEST VALLEY WATER DISTRICT,
a public agency of the State of California

By _____
Channing Hawkins, President

By _____
Shamindra Manbahal, Acting General Manager

By _____
Peggy Asche, Board Secretary

APPROVED AS TO FORM:

TAFOYA LAW GROUP, APC

By _____
Robert Tafoya

CONSULTANT:

MICHAEL BAKER INTERNATIONAL

By_____

Name_____

Its_____

EXHIBIT "1"

TO

TASK ORDER NO. 2

SCOPE OF SERVICES

Construction Management, and Inspection Services per the attached proposal dated November 3, 2020.

Michael Baker
INTERNATIONAL

We Make A Difference

November 3, 2020

Ms. Rosa M. Gutierrez, P.E.
Senior Engineer
West Valley Water District
855 West Baseline Road
Rialto, CA 92376

Subject: Proposal for the Construction Management and Inspection Services
W17035 Santa Ana Avenue Transmission Main Project Phase 1

Dear Ms. Gutierrez:

Michael Baker International, (Michael Baker) is grateful for the opportunity to submit a Proposal for the Construction Management and Inspection Services W17035 Santa Ana Avenue Transmission Main Project Phase 1. Michael Baker's Construction Management Team is enthusiastic about this opportunity and is ready to begin filling the West Valley Water District's (District's) need right away. Mr. Patrick Hanify, will serve as the Contact Person and Construction Manager/Project Manager. Patrick has 15 years of Engineering and Construction Management experience in the public works and water resources fields.

The Michael Baker Construction Management Team has provided similar Construction Management Services on other WVWD projects such as the Bloomington Area Waterline Replacement Project – Phase 3A and is currently contracted to provide similar services for the Cedar I-10 project. Mr. Patrick Hanify will lead the team as the Project Manager/Construction Manager. He will be supported by Mr. Aaron Singer, as the alternate CM and primary inspector, along with Cooly Smith and Butch Samarzich performing inspection services. Aaron has over 4 years of experience managing complex construction projects, including past projects for WVWD. Cooly Smith and Butch Samarzich have over 40 and 35 years of experience respectively, in the water and wastewater construction and inspection fields.

The construction management effort will be performed from Michael Baker's Ontario Office. Not only is it nearby to the construction site, but Michael Baker (formerly RBF) has had an Ontario office since 2002 and can be ready to provide services immediately, with no mobilization effort. The office contains multiple conference rooms and available workspace for the entire Project team as well as the necessary project meetings that will need to take place throughout the project.

Michael Baker has read the RFP and understands the project and services required. Michael Baker will comply with all terms and conditions. Michael Baker is in compliance with all federal laws relating to affirmative action, drug-free workplace, minimum wage, and lobbying.

Once again, thank you for the opportunity to propose on this critical project. Michael Baker has enjoyed its relationships on past projects with WVWD and look forward to continuing to support WVWD. Please feel free to contact our team should you have any questions on the proposal or desire to negotiate any terms shown on the separate fee schedule.

Contact: Patrick Hanify
Construction/Project Manager
(909) 974-4971
phanify@mbakerintl.com

Sincerely,

Tanya Bilezikjian, PE, QSD/P
Vice President
tbilezikjian@mbakerintl.com
(Contractual Responsibility)

Patrick Hanify, PE, CCM, T2, D2, QSP/D, CISEC
Construction Manager
phanify@mbakerintl.com

1. Background of the Firm

Firm Background

Michael Baker International (Michael Baker) is a private company headquartered in Pennsylvania, since 1940. Michael Baker offers a professional staff of nearly 600 employees in California and over 3,500 employees globally. With an annual revenue of more than $1 billion, we have completed projects in over 90 countries, with over 700 local agencies.

Michael Baker is a full-service consulting firm providing planning, engineering, surveying, and related professional services with staff in our Ontario, Temecula, and Palm Desert offices serving both public agencies and private clients in the Inland Empire for over 20 years. We have expertise in construction management and inspection; water and wastewater engineering; survey and mapping; geographic information technology; transportation planning and engineering; traffic planning and design; civil, structural, and electrical engineering; land development; architecture, environmental planning; land use planning, urban design, and landscape architecture. Composing the best team of professionals is priority to Michael Baker to achieve the District's goal of a successful project. The project will be staffed from our Ontario office which have over 67 engineers, surveyors and planners available to staff support specific project assignments.

The Michael Baker team will provide the District with fully qualified and experienced Construction Management and Inspection staff that will act in the best interest of the District. Our Team will: act as the eyes and ears of the District; strive to ensure that the work is completed per plans, specifications, and local standards, and within the project schedule and budget. We will document the work of the contractor via construction reports and accompanied construction photographs and meet regularly with the contractor to discuss their ongoing commitment to the safety of the public and workers.

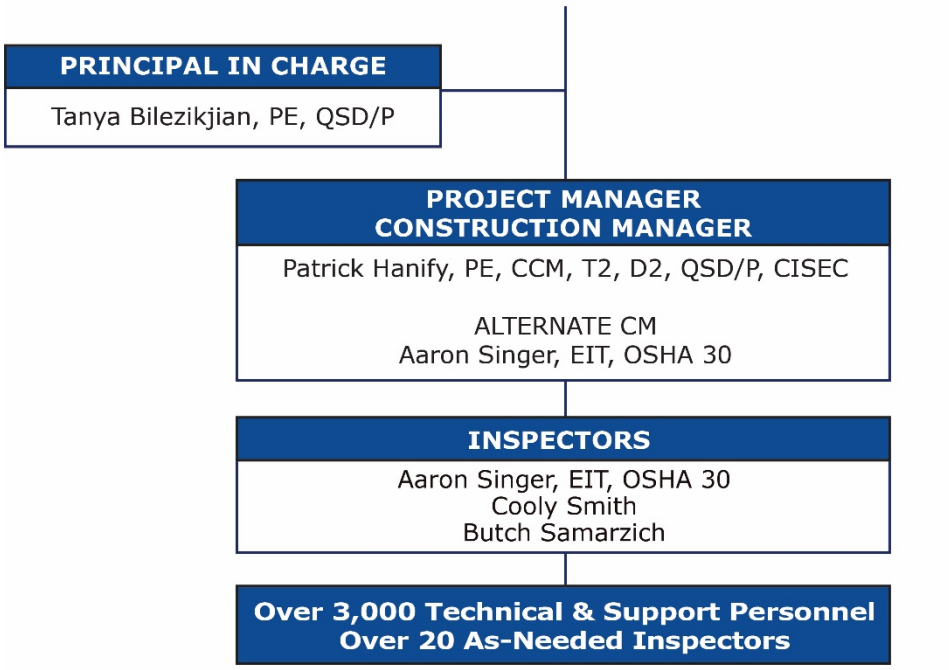
Company Overview
YEAR FOUNDED: 1940
FORM OF ORGANIZATION: Pennsylvania Corporation Parent Company: Michael Baker International Holdco Corporation – 100% Ownership
LEGAL NAME OF FIRM: Michael Baker International
OFFICES: Locally: 9 Nationally: 90
EMPLOYEES: 3,582
SOUTHERN CALIFORNIA OFFICE LOCATIONS: Camarillo, Carlsbad, Long Beach, Los Angeles, Ontario, Palm Desert, San Diego, Santa Ana, Temecula
CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS: #PW-LR-10000631983. Registration expires 6/30/2021.

Project Team

Michael Baker's proposed team understands the need to be flexible and highly responsive when executing task order requests. Our goal is to serve as an extension of your team and facilitate project success. Following is an Organization Chart prepared to take advantage of the strengths of our expert staff, while keeping the structure streamlined to maintain efficiency, quality, and accountability. The entire team is based out of Michael Baker's Ontario office and multiple members have provided similar services to the District's Bloomington Phase 3A Project. All key staff presented on the Michael Baker Team will be available to the extent proposed for the duration of the project. No person designated as "key" to the project will be removed or replaced without the prior concurrence of the District. Should the project inspector be unavailable due to illness, vacation, etc., they will be replaced by the project CM/FE. This is done to the maximum extent possible to avoid gaps in coverage and ensure staff with knowledge of the project performs this critical task.

Mr. Patrick Hanify, PE, CCM, T2, D2, QSP/D, CISEC will serve as the Construction Manager and be the District's primary point of contact. Patrick has provided similar services on similar pipeline replacement projects for West Valley and for water utilities throughout Southern California.

Organization Chart



LOCAL. AVAILABLE. RESPONSIVE.

With a local, committed, and qualified construction manager, we have the right chemistry and know-how to get the job done.

2. Statement of Understanding and Approach

Project Understanding

As identified in the 2020 Water Facilities Master Plan, the buildout of the District's service area includes development outside of the extent of the existing domestic water distribution system. New pipelines are recommended to serve future growth as well as increase the hydraulic reliability of the domestic water distribution system. This project includes replacement of distribution mains, transmission mains, services and valves in the community of Bloomington within Santa Ana Avenue. The transmission mains are needed to improve water circulation for water quality and improved fire flow for the residences in the area. This project includes the construction of two (2) transmission mains along primarily the southern side of Santa Ana Avenue. The new transmission main will replace the existing 4-inch water main serving this area and will be constructed within the street right of way. The construction includes the following:

1. Zone 2 - Installation of new 12-inch diameter ductile iron (DI) water main approximately 1,330 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue, new 20-inch diameter DI water main approximately 1,320 linear feet along Santa Ana Avenue between Cedar and Larch Avenue including tie-in connections, reconnecting service laterals and all necessary appurtenances. Existing water main and laterals to be abandoned. Refer to plans.
2. Zone 3 - Installation of new 12-inch diameter DI water main approximately 40 linear feet along Linden Avenue, new 16-inch diameter DI water main approximately 1,230 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue including tie-in connections, reconnecting service laterals and all necessary appurtenances. Existing water main and laterals to be abandoned.

Project Approach

Michael Baker will perform comprehensive construction management services throughout the entirety of a project and will provide technical and administrative management services for a project. Michael Baker will provide coordination and oversight of all activities related to the construction of the project, maintain close liaison with WVWD's designated staff, and copy the WVWD staff on all correspondence. Michael Baker will provide professional construction management services including but not limited to Pre-Construction, Construction Management, Records, Construction Reports, and Project Administration in accordance with the requirements of the Scope-of-Work.

Michael Baker will serve as an extension of the District's staff. Our construction management team has extensive experience overseeing the construction of water infrastructure from the perspective of a public utility. We have the right background to understand and represent the District's interests and work diligently to manage the project budget and construction quality.

Role of the Construction Management Team

The primary role of your CM team is to represent the District by protecting District's investment, managing the project risks associated with change order costs and potential delays, and guiding the Contractor through the startup and commissioning process to deliver the four typical metrics of every successful project:

1. On Time. Manage the schedule so the project is delivered within the planned timeframe, including any verified extensions, from breaking ground to commissioning.

2. On Budget. Manage the construction process and change orders to deliver the project within the budget, the planned contingency, and without claims.
3. Quality. Implement a quality assurance process to deliver good workmanship, long-lasting value, and a well-constructed plant Operations staff readily accepts.
4. Safely Built. Deliver the project constructed in a safe manner by the Contractor, with no recordable accidents.

Managing the Schedule

Schedule is a key driver with any Project. We will diligently work with the District, Designer, and Contractor to identify potential delays before they arise and look to implement schedule reducing strategies. Our team will make sure that the Contractor provides their Look Ahead Schedules. The Look Ahead Schedule will include activity IDs, activity descriptions, and activity float values that correlate to the baseline schedule. Schedule will be updated prior to every progress meeting and communicated to all involved Subcontractors, inspectors, operation, and management staff. Reviewing the monthly schedule update will reflect the Contractor's schedule performance and forecast dates of key activities and milestones. It will also show the critical activities leading to the achievement date of key milestones. Reviewing the schedule with the Contractor will help facilitate practical solutions to enhance the construction schedule, identify issues that could potentially impact the schedule, and mitigate schedule delays when encountered. Our team's experience working with Contractors gives us a unique perspective into the Contractor's scheduling process and will provide valuable insight and practical knowledge to help facilitate proactive solutions to any schedule-related challenges.

CM Safety Approach

Safety is the priority of our team. The selected Contractors will be responsible for site safety, but our job will be to review and help to oversee the safety procedures developed by the Contractor. Michael Baker's internal SLAM Safety Program will be the centerpoint of our safety approach: Stop, Look, Assess, and Manage risks. Michael Baker's Regional Construction Services Team includes more than 20 Cal-OSHA Certified and safety trained professionals all with an excellent safety record. Safety is our top priority, with the commitment of the Executive Management at Michael Baker, our staff is prepared to monitor construction site safety.

Safety is Michael Baker's #1 Concern

Document Control System

Michael Baker utilizes password-protected, web-based, project specific Document Tracking System web-site (BOX.com). The BOX system is available to allow the District, and all project team members, to obtain up-to-date construction management and inspection information including: Plans and Specifications, NPDES Permit and SWPPP Compliance Reporting and Documentation, Daily Reports, Submittals, RFI's, Punch Lists, Materials Tickets and Test Reports, Meeting Minutes, and Images seamlessly 24 hours a day. Use of these technologies allows Michael Baker the ability to perform nearly every conceivable construction management task, efficiently and economically.

Ultimately, our team's overarching role is to make sure the District receives the full value of its investment in the construction contract and the CM oversight.

Contract Compliance Procedures

Expediting and processing RFIs, submittal reviews, clarifications, change orders, and contract closeout activities are critical to all projects. The best opportunity to control and protect against change orders is during the processing of these documents and prior to the contractor moblizing to site. Our approach is to review and respond to as many of the RFIs and submittals as possible in the field, before involving the Design/Reviewing Engineer. Clearly there are RFIs that only the Design Engineer can address, and in such cases we will immediately transmit such RFIs to the Design Engineer for review. In our experience, many RFIs can be addressed by simply pointing the General Contractor to the appropriate section of the Contract Documents. Part of our responsibility is to monitor and vet both the RFIs and responses for clarity,

time impacts, scope changes, repeated questions, design intent changes, quality changes, cost changes, contract term changes, criticality, constructibility, response times, owner preferences, and solutions.

Proactive Dispute Avoidance & Resolution Leads to Fewer Claims

As the District's Construction Manager, Michael Baker will be the central conduit for communication between the Contractor, the District, and other jurisdictional parties. Our role is integral to managing requests for modifications in the Drawings and Specifications. Regardless of the good work that the consultant who prepared the contract documents has done, there will be differing site conditions, operational complications, equipment compatibility issues, conflicts or problems with the contract documents, and scope changes throughout construction of the project that will necessitate changes. Michael Baker applies a systematic approach to change order management so that contract changes are handled efficiently and fairly.

Experience has taught us that the best way to resolve a conflict is to avoid it in the first place. Michael Baker will take actions to avoid disputes including:

- Help the District to allocate risks clearly and fairly based on the Contract Documents
- Perform contract obligations on-time and maintain complete records
- Define problems quickly and work diligently to contain the condition and minimize impacts
- Cooperate with other team members and remain flexible

If conflicts do arise, Michael Baker will lead efforts to resolve the issues outside of litigation. We will apply our experience and expertise within the framework established in the Contract Documents to work towards an acceptable outcome.

Michael Baker will give the District a clear picture of the substance and implications surrounding a potential change so that the District can make a well-informed decision.

The greatest opportunity to drive a project to success comes in the preconstruction phase. Our value to the client and the team comes from our "lessons learned" and our construction management systems to collect and manage information.

Experience

2020	**Construction Management and Inspection for Zone 2 Waterline and Service Relocation in the Bloomington Area, Phase IIIA** Bloomington, CA *Agency: West Valley Water District* Cost: $58,330 (Fee)	• Michael Baker provided construction management, construction monitoring, and contract administration services for this $1.5 million project involving the installation of new 8" mainline, abandonment of existing services and mainline, and relocation of existing service laterals to serve Zone 2, in the Bloomington Area, as part of Phase IIIA. Work consisted of the installation of 5,601 LF of CML&C waterline, 141 relocated service laterals, 14 new Fire Hydrant assemblies, and repaving operations along 10th Street & 11th Street, between Linden Ave. and Locust Ave., and along Maple Ave.
2019	**Reservoir 2-3 Construction Management Inspection Services** Rialto, CA *Agency: West Valley Water District* Cost: $74,115 (Fee)	• Construction management and inspection services for site improvements to control erosion and to provide effective site drainage • Improvements included a new access road, storm drain piping, and energy dissipation measures • Contract administration, scheduling, RFI submittals, inspection reports, digital photos, progress payments, traffic control, site safety, community relations, and the final punch list

2020	**Warren 4-R Well Replacement Project** San Bernardino, CA *Agency: City of Riverside Public Utilities* *Contract Holder: Hillwood Investment* Cost: $5,680,000 (Construction)	• Engineering design and construction management, which included drilling, equipping, and testing of one ground water extraction well, • Installation of discharge and pump-to-waste pipelines to carry raw water to a nearby water main; CML and CMC bypass line; installation of a pre-lube system; abandonment of 12 wells; demolition of 4 wells; electrical improvements; conduits and wiring; and emergency generator connection
2017	**Raub 4-R and Raub 5-R Well Replacement Project** San Bernardino, CA *Agency: City of Riverside Public Utilities* *Contract Holder: Hillwood Investment* Cost: $5,680,000 (Construction)	• Installation of discharge and pump-to-waste pipelines to carry raw water to a nearby treatment facility and detention pond • Approximately 4,400 linear feet of 12-inch, 20-inch, and 24-inch DIP pipelines; approximately 1,300 linear feet of 20-inch CML and CMC bypass line; installation of a pre-lube system; abandonment of three wells; demolition of two wells; electrical improvements; conduits and wiring; and emergency generator connections at each well
2017	**Illinois Street Pipeline Construction Management** Lake Elsinore, CA *Agency: EVMWD* Cost: $195,529 (Fee)	• Michael Baker provided construction management for the Illinois Street Pipeline Project, which consists of replacing the 4-inch pipeline with a new 8-inch PVC pipeline in Illinois Street along with over 5,000 linear feet of additional sections. The project included a road crossing that was accomplished by jacking and boring a 16-inch steel casing under the road. This work required coordination with Cal Trans.
2014	**Construction Management and Inspection for Five Design-Build Pipeline Projects** Los Angeles County, CA *Agency: Golden State Water Company* Cost: $2,650,000 (Construction)	• Construction management and construction inspection services for five design-build pipeline projects in residential and commercial sections of the County • Project consisted of the installation of 10,700 linear feet of eight-inch ductile iron distribution pipeline, fire hydrants, and associated water meters, gate valves, and appurtenances to replace and abandon the existing 40- to 85-year-old cast iron pipeline system
2013	**Construction Inspection Services, Omnitrans E Street Corridor sbX Project** San Bernardino, CA *Agency: SBMWD* Cost: $300k (Fee)	• Michael Baker provided on-call construction inspection services for utility relocations associated with the Omnitrans E Street Corridor sbX Bus Rapid Transit Project. The project consists of 15.7 miles of a new public bus route utilizing Hospitality Lane, "E" Street, and Kendal Drive within the City of San Bernardino. Construction includes street widening; 16 stations; sbX stops at major activity centers; and relocation of water facilities, including water services and meter, water mains, underground vaults, fire hydrants, and other related items.

3. Scope of Work

Distribution of Responsibilities

The Michael Baker team listed in this proposal understand and can provide all of the scope of services as outlined in the RFP. However, in the interest of brevity we will not describe all the tasks in detail . We understand the services listed in the RFP and the Michael Baker team assigned to this project understands and accepts all of the Scope of Work outlined in the RFP. Michael Baker's team understands that the fundamentals for successful project delivery are the people, processes, and tools.

Michael Baker also acknowledges the following items:

- Michael Baker may not authorize any deviation from the Contract Documents or approve any substitute materials or equipment.
- Michael Baker may not undertake any of the responsibilities of the Contractor, Subcontractors, or Contractor's superintendent.
- Michael Baker may not expedite Work for the Contractor.
- Michael Baker may not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.
- Michael Baker may not advise on or issue directions as to safety precautions and programs in connection with the Work.
- Michael Baker may not authorize the Owner to occupy the Project in whole or in part.
- Michael Baker may not participate in specialized field or laboratory tests.

Task 1 - Construction Management Services

A. Schedules

- Michael Baker will review the construction progress schedule, schedule of Shop Drawing submissions, and schedule of values prepared by the Contractor. Michael Baker will consult with the District's Engineer concerning their acceptability. Michael Baker shall advise WVWD of problems and provide suggestions for correcting problems. Michael Baker shall assist in advising affected agencies and the public of schedule changes.

B. Meetings

- **Pre-Construction Conference -** Michael Baker will attend and document one pre-construction conference. Prepare and distribute agendas and meeting minutes to those in attendance. It is assumed that there will be one (1) two (2)-hour meeting attended by Michael Baker Staff.
- **Progress Meetings -** Michael Baker will plan, organize, attend, and document progress meetings, as-needed, with the Contractor in consultation with the District's Engineer. At a minimum, meeting attendees will review the contractor's look ahead schedule, review status of submittals, requests for information or clarification, and potential change orders, progress payments, and address issues affecting performance of the work. The budget is based on fifteen (15) bi-weekly one (1) hour meetings attended by Michael Baker's Construction Manager and Inspector. Michael Baker assumes these meetings will be conducted at the project site near the current location of the work.

C. Liaison

- Serve as the District's liaison with the Contractor, working principally through the Contractor's superintendent and assisting him in understanding the intent of the Contract Documents.
- Assist in obtaining additional details or information, when required at the job site for proper execution of the Work.
- Alert the Contractor directly and through his superintendent, to the hazards involved in accepting or acting upon instructions from the District or others, except instructions transmitted through the District's Engineer the Contractor itself.
- Consult with the District's Engineer in advance of required inspections, material tests or start of important phases of the Work. (Tie-ins, service change overs, abandonments, paving)

- Coordinate with District operations staff, as necessary, for shutdowns, tie-ins, water quality testing, and any other activity related to the District's existing system.

D. Shop Drawings

- Review and approve Shop Drawings per the Drawings and Specifications and District concurrence.
- Advise the District's Engineer and the Contractor or his superintendent immediately of the commencement of any Work requiring a Shop Drawing submission if the submission has not been approved by the District's Engineer.
- Respond to Request for Information (RFIs).
- The budget is based on tracking and routing thirty (30) combined submittals/RFI's, including some re-submittals. This assumes that the contractor will submit materials separately instead of large submittal packages per group. This number is based upon our experience with similar projects.

E. Review of Work, Rejection of Defective Work, Inspections and Tests

- Michael Baker will conduct on-site observations of the Work in progress to assist the District's Engineer in determining that the project is proceeding in accordance with the Contract Documents and that completed Work will conform to the requirements of the Contract Documents. Budget is based on nine (9) weekly site visits conducted by our Construction Manager separate from the scheduled progress meetings. These meetings will not be planned in advance with the contractor and will likely be no longer than one (1) hour in duration.
- Milestone on-site observation services serve to review compliance with the contract documents. These milestone observations do not constitute a complete Quality Control inspection program and will be provided to observe periodic, general compliance with the contract documents only.
- Report to the District's Engineer whenever it is believed that any Work is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents, or does not meet the requirements of any inspections, tests, or approval required to be made; and advise the District's Engineer when they believe the Work should be corrected, rejected, or should be uncovered for observation, or requires special testing or inspection. Michael Baker will consult with the inspection team for recommendations. The correspondence will likely be conveyed through a construction deficiency notice or a quality discrepancy report.
- Verify that tests, equipment, and systems start-ups and operating and maintenance instructions are conducted as required by the Contract Documents and in the presence of the required personnel, and that the Contractor maintains adequate records thereof; observe record and report to the District's Engineer appropriate details relative to the test procedures and start-ups. This will include the compaction tests as required by the Construction Contract.
- Accompany visiting inspectors representing public or other agencies having jurisdiction over the project, record the outcome of these inspections and report to the District's Engineer. It is anticipated that no such visits will occur on this project, however we will assume one (1) such visit may occur.

F. Interpretation of Contract Documents

- Transmit to the Contractor the District Engineer's clarifications and interpretations of the Contract Documents.

G. Modifications

- Receive, consider, and evaluate the Contractor's suggestions for modifications in Drawings or Specifications and report them with recommendations to the District's Engineer. Perform Change Order Analysis and make recommendations to the District's Engineer.
- Michael Baker shall advise WVWD when changes are needed and assist WVWD with preparation of Change Orders, as needed. We will receive, track, review and provide recommendations regarding all Contractor requests for changes, including whether the changes are warranted.

- Assumes the review and processing four (4) change order requests.

H. Records

- Maintain digital orderly files for correspondence, reports of job conferences, shop drawings and samples submissions, and Contract Documents including all addenda, change orders, field orders, additional Drawings issued subsequent to the execution of the Agreement, the District Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project- related documents.
- Michael Baker will keep a daily log, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list of visiting officials, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. We will provide copies to the District's Engineer. This will be done for the days on-site only and will request this information be included in the third-party inspection reports.
- Michael Baker will maintain a digital record of names, addresses, and telephone numbers of all the Contractors, Subcontractors, and major Suppliers of equipment and materials to the site.
- Michael Baker utilizes "BOX", a state of the art, password-protected, web-based, project specific Document Tracking System (DTS) web-site. This system provides real-time status and instant access for all project team members, to obtain up-to-date, construction management information including: Plans and Specifications, Submittals, RFI's, Punch Lists, Materials Tickets, Progress Payments, Meeting Minutes, and Photographic Images seamlessly, 24 hours a day.
- Michael Baker will maintain logs to file, track, and process correspondence, submittals, RFIs/RFCs, and other documents. Logs will be in Microsoft Excel format. Project correspondence will be conducted via email whenever possible and project documents will be transmitted and stored in digital format. Upon project completion, Michael Baker will provide an electronic copy of the project file database via thumb drive for the District to download.

I. Reports

- Furnish periodic reports as required of progress of the Work and the Contractor's compliance with the approved progress schedule and schedule of Shop Drawing submissions. The reports are to be accompanied with photographic documentation of project progress. Report and photographs can be submitted in digital format. Reports are due no later than two (2) days following the review of the work performed and shall be submitted to the District's Engineer.
- Consult with the District's Engineer in advance of scheduled major tests, inspection or start of important phases of the work.
- The budget is based on preparing two (2) summary reports, mid project and at project closeout but this information will be discussed and documented during progress meeting.

J. As-builts

- Review and verify Contractor's redline as-builts and provide the District Engineer with an original hard and scanned copy.

K. Payment Requisitions

- Review applications for payment with the Contractor for compliance with the established procedure for their submission and forward them with recommendations to the District's Engineer, noting particularly their relation to the schedule of values. Work completed, and materials and equipment delivered at the site, including final retention, substantially complete and recommended filing of Notice of Completion. Michael Baker will also ensure that payment requests are accompanied with the appropriate releases.
- It is assumed that the CM will be required to review up to six (6) contractor pay applications and that the inspection team will assist with quantities completed to date for each pay application.

L. Guarantees, Certificates, Maintenance and Operation Manuals

- During the course of Work, verify that guarantees, certificates, maintenance and operation manuals, and other data required to be assembled and furnished by the Contractor are applicable to the items actually installed; and submit this material to the District's Engineer for his review and forwarding to the Owner prior to final acceptance of the Project.

M. Completion

- Before the District issues a Certificate of Substantial Completion, submit to the Contractor a list of observed items requiring correction (punch-list). This will include comparison to preconstruction conditions.
- Conduct a final inspection with the District, District's Engineer, and Contractor. Prepare a final list of items to be corrected.
- Verify that all items on the final list have been corrected to the satisfaction of the District's Engineer.
- Michael Baker will complete all project close-out tasks within 30 days of the filing of the NOC and receipt of the Retention Pay Application.

Task 2 - Construction Inspection Services

In addition to working with the Construction Manager and WVWD on the tasks above and noted in the RFP the On-site inspector will also be providing:

A. The inspector will be present for the duration of the estimated 150 working day construction contract. The inspector will cover all major aspects of the work which can affect the quality and the long-term performance of the project. The inspector will wear personal protective equipment, including appropriate headgear, footwear and reflectorized vest when on the project site.

B. The Inspector will have on the project all necessary equipment, tools, and supplies needed to carry out the required duties. The Construction Inspection Services will include comprehensive observation and inspection. Additionally, the inspector will perform the following tasks as part of their construction inspection services, including:

- Review plans and specifications and other construction related documents.
- Photograph project prior, during and after construction.
- Interpret plans, specifications and regulations and ensure that contractors are following their contracts. Provide inspection to ensure projects are constructed according to project plans and specifications.
- Provide continuous inspection of the Work of the Contractor at the site when being performed.
- Maintain daily logs showing site and weather conditions; traffic control measures taken by the contractors: labor, equipment and materials used; quantity of work performed; and major incidents/safety violations. Daily logs are to be submitted to the Construction Manager upon project completion.
- Provide accurate measurements of work completed by contractors in accordance with contract documents.
- Review and evaluate proposed change orders and render recommendations to the Construction Manager.
- Monitor contractor's compliance with established safety regulations. Observe public safety and convenience. Coordinate with contractor access to adjacent businesses/residents during construction.
- Review soil compaction and materials testing. Ensure that contractors do not install materials without approved material testing. All failed tests will be noted and corrective measures taken.

Michael Baker Assumes the following:

- The District and/or Contractor will provide construction staking and Survey.
- Labor and Expenses to be billed on a Time and Materials Basis until the project is completed or the budget is expended

- ODC's to be billed at cost +15%
- Contractor to pay for all overtime inspection
- Source Inspection/Witness Testing will be quoted if needed and locations of inspection identified
- Contractor to pay for all processing costs related to submittals beyond the first resubmittal
- Overtime rates will be at the rates x 1.5 and double time x 2.0 provided in Section 7.
- For personnel types not shown, if needed, will be billed at the rates on the standard rate sheet for the year in which the agreement is executed.
- The Estimate does not include Permit Procurement.

4. References

Representative Projects	
Project Name: Bloomington Area Waterline Replacement Project, Phase 3A **Reference: West Valley Water District** 855 West Baseline Road Rialto, CA 92376 **Bertha Perez, Associate Engineer** **909-875-1804 x 349** **Time Period: 8/19 - 4/20**	**Description of Services:** Michael Baker provided construction management, construction monitoring, and contract administration services for this $1.5 million project involving the installation of new 8" mainline, abandonment of existing services and mainline, and relocation of existing service laterals to serve Zone 2, in the Bloomington Area, as part of Phase IIIA. Work consisted of the installation of 5,601 LF of CML&C waterline, 141 relocated service laterals, 14 new Fire Hydrant assemblies, and repaving operations along 10th Street & 11th Street, between Linden Ave. and Locust Ave., and along Maple Ave. Michael Baker was integrally involved in verifying quantities and ensuring quality control; providing community relations and monitoring site safety; coordinating survey; conducting bi-weekly progress meetings and preparing minutes; monitoring project schedules; and preparing and processing control documents.
Project Name: Reservoir 2-3 Site Improvements **Reference: West Valley Water District** 855 West Baseline Road Rialto, CA 92376 **Rosa Gutierrez, Senior Engineer** **909-875-1322 x 327** **Time Period: 11/18 – 12/19**	**Description of Services:** Michael Baker provided Construction Management and Construction Inspection Services to West Valley Water District to reduce site erosion and improve site access. The work consisted removal of an existing hillside spillway and replacement with a new 24" RCP line, Junction box, and dissipator along with a new access road to replace the steep existing dirt access road. The work took place on an exposed rural hillside within a residential area with steep grades and challenging site limitations. Construction management efforts to improve constructability and site inspection efforts allowed for a 17% net credit to the initial contract value and allowed for the District to pursue additional site improvements still under that same initial contract value.
Project Name: Warren 4R Well Replacement Project **Reference: Hillwood Properties** 901 Via Piemonte, Suite 175 Ontario, CA 91764 **Ned Sciotino** **909-382-2163** **Time Period: 11/17 – 2/20**	**Description of Services:** Michael Baker International was retained by Hillwood to provide engineering design and construction management for the Well Replacement Project, which included drilling, equipping, and testing one ground water extraction well, Warren 4R. The project also included installation of discharge and pump-to-waste pipelines for Warren 4R and existing Warren 1, to carry raw water offsite; approximately 2,200 linear feet of 12-inch DIP pipelines; approximately 1,755 linear feet of 24-inch CML and CMC bypass line; installation of a pre-lube system; abandonment of nine wells; demolition of six wells; electrical improvements; conduits and wiring; and an emergency generator connection at the well.
Project Name: Eaton Reservoir **Reference: Golden State Water Company** 630 East Foothill Boulevard San Dimas, CA 91773 **Dennis Ambayec, Capital Program Engineer** **818-476-2515** **Time Period: 8/18 – 4/20**	**Description of Services:** Michael Baker International provided Golden State Water Company construction management, inspection, and contract administration services for a 0.56-million-gallon welded steel water reservoir. The work encompassed erection of the tank and appurtenances as well as chlorination and disinfection, testing and clean-up, and 1,200 linear feet of 16-inch Ductile Iron Pipe, Site Improvements including site grading over 21,000 cubic yards of cut paving and site fencing. Michael Baker also provided contract administration, scheduling, requests for information (RFI) submittals, inspection reports, digital photos, progress payments, site safety, community relations, and the final punch list.

Representative Projects	
Project Name: Rix Wells Retrofit **Reference: San Bernardino Municipal Water District** 380 East Vanderbilt Way San Bernardino, CA 92408 **Steve Miller, Director of Water Utility** **909-453-6170** **Time Period: 4/17 – 12/18**	**Description of Services:** Michael Baker provided construction management and inspection services for the Regional Tertiary Treatment Rapid Infiltration and Extraction (RIX) Wells Retrofit Project, which constructed one new well; equipped four wells; constructed a DIP pipeline to convey produced well water to the existing RIX site; provided appurtenances, electrical and control systems, power control center and building; installed pre-purchased pumps, motors, and variable frequency drives; installed pre-purchased standby diesel emergency generator; repaired and reconstructed existing improvements affected by the work; and provided incidentals for a complete and usable facility.
Project Name: Water Canyon Main Replacement Phase 1 **Reference: City of Banning** 99 E. Ramsey Street Banning, CA 92220 **Luis Cardenas** **951-922-3143** **Dates of Service: 12/17 – 12/18**	**Description of Services:** Michael Baker provided construction management for the Water Canyon Main Replacement Project. Services include cost control, coordinating and tracking multiple contracts and permits, performing inspections, and attending construction meetings. The project's purpose was to replace aged pipelines and includes the installation of more than 7,000 linear feet of ductile iron pipelines, along with installation of valves, fittings, and appurtenances, connections to existing waterlines, and abandonment of the existing waterline in place. Flushing, pressure testing, disinfection, and Bac-T testing of the waterline was required.

5. Additional Information

Each project has its own unique set of critical issues. However, our experience with these types of water capital projects. Here are some key issues that projects such as the one described in the RFP that Michael Baker will resolve prior to them becoming bigger issues or will look to elevate prior to construction.

- Safety, Cost and schedule are always of primary concern. The good news is that early planning and identification of construction challenges and opportunities create additional certainty and security for the budget and schedule.
- Jurisdictional Permitting and Requirements – working with the Cities and the County or other public agencies for permitting and construction requirements is key for any project that occurs outside of WVWD property. The contractor should be made aware during bid time and the jurisdictional requirements including paving, other utilities, noise requirements, dust control requirements and working hours.
- Potholing – ensuring that the contractor potholes not only the tie-in locations but also all utility crossings and notify immediately of any conflict with the proposed alignment or design. Particularly the gas service lines and other items not necessarily identified on the plans.
- Tie-ins – The existing main line including the connections for this project include connecting to the existing mainlines. While WVWD has qualified contractors for handling and installing up to this type of material it is something that should be taken into consideration at all time when working near this type of main.

- In review of the plans and while performing a site visit it appears that the valves and existing condition in the Linden and Santa Ana intersection are as shown in the plan. Careful potholing and investigation should be taken into consideration in this area.
- BMP's – Requiring the contractor to work within the state stormwater permitting process and procedures to ensure WVWD is not held responsible for violations as the LRP. This is a very visible and well-traveled road and maintaining appropriate and required protections will be critical.
- Preconstruction Documentation - Requiring the contractor to provide thorough documentation of preconstruction conditions particularly outside of the Public Right-of-way will be imperative for the contractor to restore in-kind the new water service connection. The documents provided with the proposal may not be detailed enough to protect WVWD from claims either from the Contractor for restorations costs or from customers who feel the restoration is not satisfactory. Requiring Post Construction Documentation can also benefit WVWD and the Contractor from claims brought up after construction has concluded.
- Public convenience – This has specific impacts to this job as we have a mix of residential and commercial properties. As a result, requiring the contractor to provide thorough community outreach for the coordination of their work with the community through written announcements is an essential step to ensure project success. Critical communications should include, water and sewer service connections and interruptions, public street closures, private driveway closures, private property damage claims, private property restoration work, public complaints and Safety information. This is critical for this type of project and having clear language in the contract of the expectations and involvement required of the contractor is critical. Ways that this information can be conveyed to the public can be through project signs and door hangers. The documents provided with typical pipeline projects may not be detailed enough to protect WVWD from claims either from the Contractor for this effort or from customers who are impacted due to the lack of project understanding. The contractor should be prepared to document and investigate public complaints and advise the CM and the WVWD team of concerns and findings.

- Testing and Disinfection - Requiring the contractor to provide a thorough testing and disinfection plan includes testing pressures, sampling locations, disinfection procedures, injection points, discharge methods, discharge locations.
- Storage of Materials – Projects within the Public Right-of-Way storage of equipment and materials can impact project schedule and costs. The contractor should be made aware during bid time the lack of available area or the Local Jurisdiction's requirements for material and equipment storage within the Right-of-Way.
- Exercising of Existing Valves – as we learned from the Bloomington project it is recommended that WVWD operations staff exercise the valves that will be needed during tie-in and perform that work early in construction so that if other plans or arrangement need to be considered that it will not impact the project schedule or limit customer outages.

- Cedar Ave Intersection – Michael Baker currently is contracted to provide Design and Construction Management Services for a pipeline replacement on Cedar Ave and while this project will not overlap geographically it could impact in construction timing and are close enough that the project could have impact on each other related to traffic control and water supply
- Public Parking – also observed during our site visit was the number of cars utilizing

CONTRACTING WITH MICHAEL BAKER

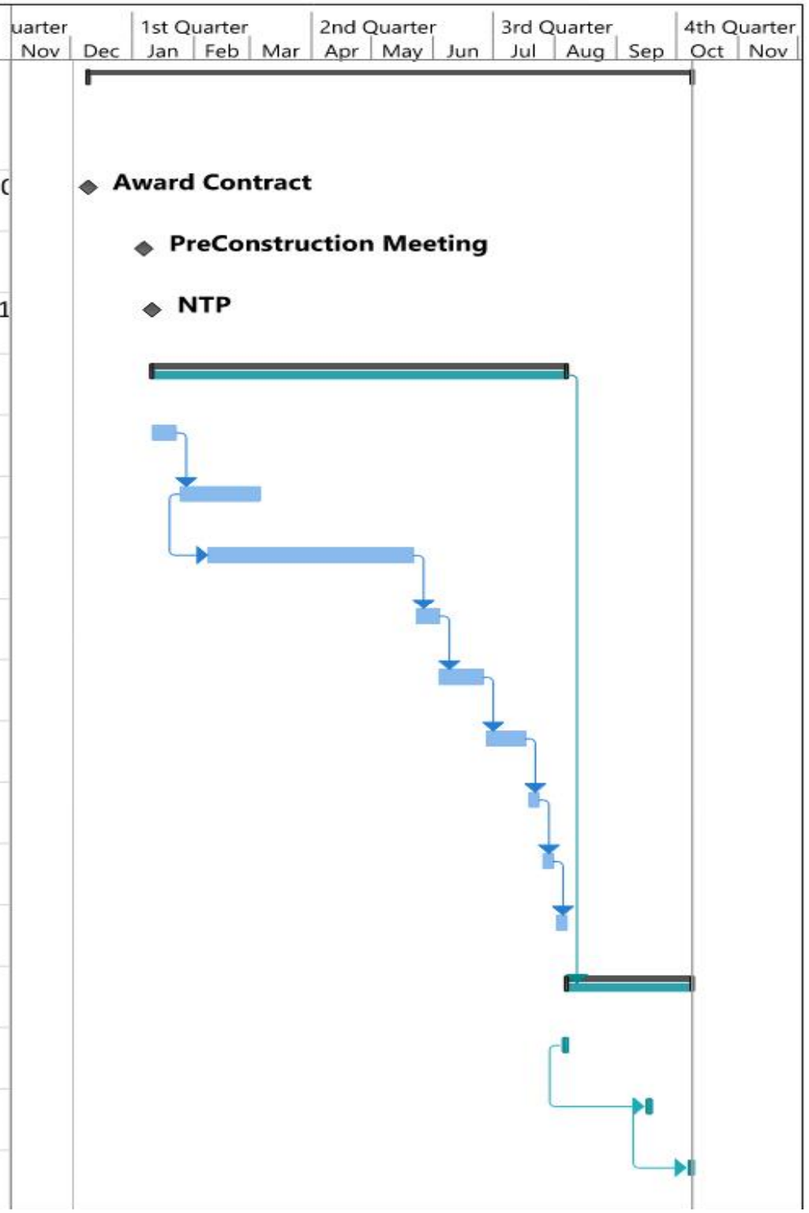
Michael Baker has contracted on thousands of projects over our 80-year history, including on numerous projects with West Valley Water District and is confident in our ability to come to mutually acceptable terms with all of our clientele. We understand it is the desire of the District for the selected bidder to accept the contract as-is. However, we assume that the agreement for this project will be the same as we have previously executed with the District as one was not provided with the RFP, if not, we would respectfully request the opportunity to discuss terms with the District, consistent with our prior master services agreements, purchase orders and single project contracts with West Valley Water District.

Top 5 Reasons to Select the Michael Baker Team

1. Project Ownership – We are invested in this project and the long-term success of West Valley. This project is in our own backyard, and we want to see it completed successfully.
2. A Plan to Mitigate Risk – We have developed a comprehensive plan to manage risk and have already identified eight key issues, described above.
3. Principal Engagement – Our approach includes regular and meaningful involvement by the team principals to proactively assist in managing staffing levels.
4. A CM Team Builder and Communicator – Patrick Hanify has a history delivering successful projects with West Valley and has managed several pipeline projects designed by Webb and Associates. This continuity with the existing project parties and familiarity with the project allows the Michael Baker team to keep the ball moving with little to no ramp-up time, getting the project off to a good, solid start.
5. As noted above, Michael Baker currently is contracted to provide Design and Construction Management Services for a pipeline replacement on Cedar Ave, the benefit of these project potentially having overlapping construction could allow for efficiencies in inspection and construction management efforts. Meetings can be held on the same day and in back to back fashion and there is potential for the same inspector to inspect both projects due to the proximity of the project locations.

6. Project Schedule

ID	Task Name	Duration	Start	Finish
1	**Santa Ana Avenue Transmission Main Project Phase 1**	**217 days?**	**Thu 12/10/20**	**Fri 10/8/21**
2	Award Contract	0 days	Thu 12/10/2(	Thu 12/10/2(
3	PreConstruction Meeting	0 days	Thu 1/7/21	Thu 1/7/21
4	NTP	0 days	Mon 1/11/21	Mon 1/11/21
5	**Construction**	**150 days**	**Mon 1/11/21**	**Fri 8/6/21**
6	Moblize, Video, Potholing, Critical Submit	10 days	Mon 1/11/21	Fri 1/22/21
7	Material Procurement and Delivery	30 days	Mon 1/25/21	Fri 3/5/21
8	Installation	75 days	Mon 2/8/21	Fri 5/21/21
9	Testing	9 days	Mon 5/24/21	Thu 6/3/21
10	Base Paving	16 days	Fri 6/4/21	Fri 6/25/21
11	Water services	15 days	Mon 6/28/21	Fri 7/16/21
12	Final Asphalt	5 days	Mon 7/19/21	Fri 7/23/21
13	Striping	5 days	Mon 7/26/21	Fri 7/30/21
14	Final Clean-up	5 days	Mon 8/2/21	Fri 8/6/21
15	**Project Closeout**	**45 days?**	**Fri 8/6/21**	**Fri 10/8/21**
16	Final Payment	1 day	Fri 8/6/21	Fri 8/6/21
17	Retention Release	1 day	Fri 9/17/21	Fri 9/17/21
18	Closeout Package Deliver	1 day	Fri 10/8/21	Fri 10/8/21



7. Cost Estimates of Consulting Fee

West Valley Water District
CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES
W17035 SANTA ANA AVENUE TRANSMISSION MAIN PROJECT PHASE 1

Michael Baker INTERNATIONAL

TASKS	Approximate Person Hours					Total Est. Hours	Michael Baker Labor Cost	Direct Cost	Total Estimated Fee
	Resident Engineer	Const. Manager	Civil Inspector	Field Engineer	Admin. Asst.				
Rates	$ 225.00	$ 178.00	$ 118.00	$ 115.00	$ 70.00				
Task 1 - Construction Manager									
Construction Management	0	220	0	0	80	300	$ 44,760	$ 1,700	$ 46,460
Subtotal Task 1 Amount:	**0**	**220**	**0**	**0**	**80**	**300**	**$ 44,760**	**$ 1,700**	**$ 46,460**
Task 2 - Field Observation									
Construction Inspection			1200			1200	$ 141,600	4,800	$ 146,400
Subtotal Task 2 Amount:	**0**	**0**	**1200**	**0**	**0**	**1200**	**$ 141,600**	**$ 4,800**	**$ 146,400**
TOTAL FOR TASKS 1-2	**0**	**220**	**1200**	**0**	**80**	**1500**	**$ 186,360.00**	**$ 6,500.00**	**$ 192,860.00**

8. Appendix – Project Team Resumes

Patrick Hanify, PE, QSD/QSP, CCM, T2, D2, LEED AP | Construction Manager

Years with Michael Baker: 15
Years with Other Firms: 0

Degrees

B.S., 2007, Civil Engineering, Geospatial Option, California State Polytechnic University, Pomona

Licenses/Certifications

Grade II Water Distribution Operator (D2), California, 2018, 49529
Grade II Water Treatment Operator (T2), California, 2018, 41009
LEED Accredited Professional, 2009
Professional Engineer - Civil, California, 2012, 79874
Certified Inspector of Sediment & Erosion Control, California, 2012, 0789
Qualified SWPPP Practitioner (QSP), California, 2011, 20942
Certified Construction Manager, 2018, 8612
Qualified SWPPP Developer (QSD), California, 2019, C79874

Mr. Hanify has been managing projects for the Michael Baker Construction Management Department. His responsibilities include the processing and reviewing RFIs, CCOs, RFQs, shop drawings and submittals. He also reviews baseline CPM schedules, progress payments and bid documents; upholds code requirements; conducts progress meetings and organize meeting minutes; coordinates daily operations with Contractors; field inspections and materials testing; documentation of projects utilizing record drawings, digital photography, observation reports and quantities; coordinating with various agencies, utilities and residents, ensuring traffic control and site safety; and maintaining public relations. His degree in Engineering coupled with his design experience in public works, water resources and land development projects, provide him with a solid foundation for Construction Management and Inspection work.

Experience

Construction Management and Inspection for Zone 2 Waterline and Service Relocation in the Bloomington Area, Phase IIIA, Bloomington, California. *West Valley Water District.* Project Manager / Construction Manager. Michael Baker provided construction management, construction monitoring, and contract administration services for this $1.5 million project involving the installation of new 8" mainline, abandonment of existing services and mainline, and relocation of existing service laterals to serve Zone 2, in the Bloomington Area, as part of Phase IIIA. Work consisted of the installation of 5,601 LF of CML&C waterline, 141 relocated service laterals, 14 new Fire Hydrant assemblies, and repaving operations along 10th Street & 11th Street, between Linden Ave. and Locust Ave., and along Maple Ave. Michael Baker was integrally involved in verifying quantities and ensuring quality control; providing community relations and monitoring site safety; coordinating survey; conducting bi-weekly progress meetings and preparing minutes; monitoring project schedules; and preparing and processing control documents.

Reservoir 2-3 Site Improvements, Access Road & Storm Drain, Fontana, California. *West Valley Water District.* Project Manager / Construction Manager. Michael Baker provided construction management and inspection services for site improvements to control erosion and to provide effective site drainage. Improvements included a new access road, storm drain piping, and energy dissipation measures. Michael Baker also provided contract administration, scheduling, requests for information (RFI) submittals, inspection reports, digital photos, progress payments, traffic control, site safety, community relations, and the final punch list.

Golden State Water Company, Various Design/Build Capital Improvement Pipeline Projects, Los Angeles County, California. Provided construction management services for the construction of this $6.2M project that encompassed nine different design-build water main replacement projects throughout Los Angeles County. The construction of these pipelines included 19,000 lf of 8in Main line, 4000lf of 12in main, 570 water services, 50 fire hydrants, and 80 Valves. Duties include conducting preconstruction meeting, conducting weekly project meetings, assist in monthly progress payments and recommendations, RFI coordination, and evaluate change orders and recommendations to the client. Michael Baker's duties included project and construction management, inspection, coordinating with the Design/Build Contractor who will obtain construction permits from the local agency and comply with the permit conditions, coordination with the Operations department to complete the field check review, shut-downs and final job walks, and coordinating the Design/Build Contractor works with the other GSWC departments including the design review and approval by GSWC and signature by the EDC project manager.

Illinois Street Pipeline Construction Management, Lake Elsinore, California. Elsinore Valley Municipal Water District. Project Manager/Construction Manager. Responsible for billing and invoicing, client and subcontractor coordination, conducting project meetings, change order negotiations/recommendations, construction observation and inspection, submittal, construction schedule, and RFI review. Michael Baker provided construction management for the Illinois Street Pipeline Project, which consists of replacing the 4-inch pipeline with a new 8-inch PVC pipeline in Illinois Street along with over 5,000 linear feet of additional sections. The project included a road crossing that was accomplished by jacking and boring a 16-inch steel casing under the road, 25 replacement water services, 4 new Fire Hydrant assemblies, 3 new blow-off assemblies, 6 new air-vac and repaving operations along. This work required coordination with Cal Trans and the City of Lake Elsinore.

Water Canyon Main Replacement Phase 1 Project, City of Banning. Michael Baker International was retained by the City of Banning, to provide Construction Management for the Water Canyon Main Replacement Project to replace aged pipelines. The City separately purchased the pipe to be installed during construction. This project included installation of over 7,000lf of Ductile Iron pipelines, along with installation of valves, fittings, and appurtenances, connections to existing waterlines and abandonment of the existing waterline in place. Flushing, pressure testing. Disinfection and Bac-T testing of waterline was required. Mr. Hanify worked as the Construction Manager for the Water Canyon Project that included conducting weekly project meetings, review and processing submittals and RFI's, construction observation, monthly progress payment recommendations, evaluate change orders and submit recommendations to the City, preparation of project records and close-out documents, schedule review, coordinate meeting minutes, process job control documents.

Hillwood - Raub 4-R & Raub 5-R Well Replacement Project, San Bernardino, California. Michael Baker provided Construction Management for the Well Replacement project that included the drilling, equipping and testing of the two ground water extraction wells Raub 4-R & 5-R. Work included Installation of discharge and pump-to-waste pipelines for Raub 4-R, Raub 5-R, and existing Raub 7, well pre-lube systems, abandonment of 3 wells and Demo of two 2 wells. Constructed approximately 4,400 linear feet of 12", 20" and 24" DIP pipelines, approximately 1,300 linear feet of 20" CML&CMC bypass line, conduits and equipment which are to handle or carry raw water to a nearby treatment facility. Mr. Hanify worked as the Construction Manager on this project that included conducting Project meetings, review submittals & RFI's, construction observation, monthly progress payment recommendations, evaluate change orders and submit recommendations to Hillwood, preparation of project records and close-out documents, schedule review, prepare, and distribute minutes to designees, process job control documents.

Mojave Water Agency Regional Recharge and Recovery (R3) Project, Victor Valley, California. Mojave Water Agency. Construction Manager. Responsible for construction management. Michael Baker provided engineering services to the Mojave Water Agency for the Regional Recharge and Recovery (R3) Project, a high profile water supply project in San Bernardino County. The project will ultimately recharge up to 40,000 acre-feet per year of State Water Project water into the Upper Mojave River flood plain, and will include the construction of up to 22 extraction recovery wells, three reservoirs, a 25,000 gpm pump station, and a fully integrated conveyance system to deliver water to a variety of retail agencies in the High Desert. The Phase I project included construction of six wells to extract up to 15,000 acre-ft per year, over 16 miles of 12-inch to 48-inch diameter pipe, a 2.65 MG welded steel reservoir, a flow control and recharge facility with 40,000 gpm capacity and up to 235 psi pressure drop, a pump station sized for 25,000 gpm with pumps installed to provide 15,000 gpm, and four turnout flow control facilities for delivering the water to member agencies.

Euclid Avenue Median Irrigation Pump Station Recycled Water Improvements, Ontario, California. Ontario Municipal Utility Company. Project Manager/Inspector. Michael Baker provided inspection services for the first project City's new backbone recycled water distribution system. The system includes over 4,200 linear feet of 6-inch recycled water PVC pipeline; a new irrigation system booster pump to irrigate the Euclid Avenue center median; a new recycled water booster pump station required to deliver recycled water from Inland Empire Utilities Agency's 1059 zone to the City's new recycled water distribution high zone.

Tanya Bilezikjian, PE, QSD/QSP | Principal In Charge

Ms. Bilezikjian works with a variety of clients to develop and manage Storm Water and NPDES programs throughout Southern California. Her client-focused approach has led to successful project outcomes and long-term client-consultant relationships, earning her the prized role of Trusted Advisor to her clients. She has direct experience managing large programs, negotiating permit language with State and Regional Water Boards, preparing complex individual NPDES permit applications, developing and delivering trainings, authoring program guidance documents, planning and identifying common sense solutions and improvements to both site-specific and program level challenges. Ms. Bilezikjian has focused her career on transportation agencies, utilities, and other government agencies, having managed multi-million dollar contracts for Caltrans, Southern California Edison, CA State Parks, and others. Ms. Bilezikjian has managed large teams in support of these projects, including both Michael Baker team members and multiple subconsultants, on multiple simultaneous task orders.

Years with Michael Baker: 14
Years with Other Firms: 4

Degrees

M.S., 2001, Civil Engineering/Environmental, University of California, Irvine

B.S., 1999, Chemical Engineering, University of California, Irvine

Licenses/Certifications

Construction General Permit Trainer of Record, California, 2010

Qualified SWPPP Developer (QSD), California, 2010, 00072

Qualified SWPPP Practitioner (QSP), California, 2010, 00072

Professional Engineer - Civil, California, 2008, 72119

Envision Sustainability Professional, 2019, 29797

Experience

MWD As-Needed Environmental Services for Wastewater and Storm Water, Southern California, California. *Metropolitan Water District.* Project Manager. Responsible for project management. Michael Baker conducted a review of the client's compliance with stormwater and wastewater requirements. Michael Baker audited ten NPDES permits and all the associated sampling and monitoring reports going back five years. Michael Baker also developed a summary report identifying the areas of deficiency regarding permit provisions and sampling and reporting requirements and developed a comprehensive permit reporting deadline and renewal table. Michael Baker performed a site visit and best management practice evaluation for the draining of the Palos Verdes Reservoir and assisted with stormwater compliance during significant construction activities at the Weymouth Treatment plant.

Santa Margarita Water District (SMWD) Middle Chiquita Canyon Water Facilities, Orange County, California. *Santa Margarita Water District.* Engineering Technician. Responsible for SWPPP. Michael Baker provided preliminary and final design services for a total of approximately 23,200 linear feet (LF) of domestic and recycled water transmission mains, two 2.0 million gallon (MG) domestic water reservoirs, and one 4.0 MG recycled water reservoir, which serve the Rancho Mission Viejo Company's Sendero and Esencia Developments. The project also included: alternative pipeline alignment analysis for routes through environmentally sensitive areas and agricultural areas; grading phasing analysis; and coordination with the Rancho Mission Viejo Company, California Department of Public Health, San Diego Gas and Electric, and the California Department of Fish and Wildlife.

Aaron Singer, EIT, OSHA 30 | Alternate Construction Manager, Field Engineer, Inspector

Years with Michael Baker: 2
Years with Other Firms: 3

Degrees

B.S.C.E., 2016, Civil Engineering, California Baptist University

Licenses/Certifications

Engineer-In-Training, California, 2015, 156752

Passed 8-Hr National PE Exam

Mr. Singer has been assisting with project management for Michael Baker Construction Management Department. His responsibilities include support with processing and in reviewing RFI's, CCO's, RFQ's, shop drawings and submittals. His work outside of Michael Baker providing design and field support in the commercial construction, transportation, and land development sectors has prepared him with a solid foundation for Construction Management and Inspection work.

Experience

Construction Management and Inspection for Zone 2 Waterline and Service Relocation in the Bloomington Area, Phase IIIA, Bloomington, California. *West Valley Water District.* Assistant Construction Manager/ Field Engineer. Michael Baker provided construction management, construction monitoring, and contract administration services for this $1.5 million project involving the installation of new 8" mainline, abandonment of existing services and mainline, and relocation of existing service laterals to serve Zone 2, in the Bloomington Area, as part of Phase IIIA. Work consisted of the installation of 5,601 LF of CML&C waterline, 141 relocated service laterals, 14 new Fire Hydrant assemblies, and repaving operations along 10th Street & 11th Street, between Linden Ave. and Locust Ave., and along Maple Ave. Michael Baker was integrally involved in verifying quantities and ensuring quality control; providing community relations and monitoring site safety; coordinating survey; conducting bi-weekly progress meetings and preparing minutes; monitoring project schedules; and preparing and processing control documents.

Reservoir 2-3 Site Improvements. *West Valley Water District*. Assistant Construction Manager/ Primary Construction Inspector. Michael Baker provided construction management and inspection services to West Valley Water District to manage site improvements for a reservoir. The work consisted of removal of an existing hillside spillway and replacement with a new 24" RCP line, Junction box, and dissipator, new AC access road, cut-off wall, curb and gutter, and site fencing.

Warren 4R Well Replacement Project. *Hillwood Development Group***.** Assistant Construction Manager. Responsible for assisting project manager with pre-construction meeting agendas minutes, assisting review and tracking of contractor's submittals, logging RFIs, observing construction, assisting with monthly progress payments and tracking, assisting review of change orders and processing documentation for Golden State Water Company, preparing project records and close-out documents, scheduling review, preparing and distribute minutes to designees, processing job control documents, and construction inspection. Michael Baker provided Construction Management for the Well Replacement project that included the drilling, equipping and testing of a ground water extraction well, well pre-lube systems, pump-to-waste line, utility Tie-in, and site development which included a Rollapart Structure and concrete building pad with concrete pump head, electrical housekeeping pads and cabinetry which included an SCE Transformer, removable bollards, access driveway, and site security fencing.

On-Call Plan Check and Inspection Services, San Bernardino, California. *San Bernardino Municipal Water Department*. Construction Inspector/Assistant Construction Manager. Responsible for Construction Inspection and Inspection Scheduling Support. Michael Baker provided On-Call Construction Inspection Services to the City of San Bernardino Municipal Water Department for Gateway South Building 5, a private commercial development, and Arrowhead Grove, another private development. Construction activities included the installation of a 12" DIP water line and commercial water services along with new sewer pipe main line, laterals, and structures.

Cooly Smith | Inspector

Years' Experience CM and Inspection: 22
Years' Experience with Operations and Maintenance of Water Utilities: 10

Training

Water Distribution D-3,

State of CA DHS

Water Treatment T-1,

State of CA DHS

Certified Backflow Tester, AWWA

Coating Inspector Level 1, NACE

NASSCO Cured in Place

Pipe CIPP 911-0643

Concrete Field Testing Technician

Grade 1, ACI

Recycled Water Site Confined space training

Mr. Cooly brings 30 years of experience in the construction and inspection of water, recycled water, sewer and public works projects. His career has progressed steadily from an operations and maintenance worker, to, construction observer and construction inspector. His experience covers a wide array of projects.

Experience

Vail Lake Native Vegetation Restoration RCWD, Temecula, California. Site Inspector for this native vegetation restoration of wetland and non-wetland waters of the United States as a result of installation of 14,000 lineal feet of a 48-inch pipeline to comply with mitigation requirements pursuant to Section 404 of the Federal Clean Water Act and Section 1600 et seq. of the California Fish and Game Code. Duties included inspection, preparing daily reports, coordinate with materials testing consultant, job photos, quality assurance, coordinate with maintenance and operations departments.

Vail Lake Transmission Main and Pump Station, Rancho California Water District (RCWD), Temecula, California. Inspection supervisor for this installation of 14,000 lineal feet of 48-inch CML & C pipeline and construction of a booster station capable of pumping 80 cfm of raw water to the District Vail Lake facilities for a cost of approximately $6 million. Duties included oversight of inspection staff, review daily reports, manage materials testing consultant, review project submittals, RFI's, correspondence, change orders, and monthly progress payments.

Hillside Trail Sewer Relocation at Bear Creek, Murrieta, CA – Supervising Construction Inspector responsible for a 300-foot relocation of sewer pipe and construction of two new manholes. Oversight of inspection activities, development of daily reports with photographic record detailing the workers, equipment, activities, and material incorporated. Provided utility coordination, coordination of materials testing, geotechnical, and other specialty inspection consultants. Reclamation Pond No. 5 Project, RCWD, Temecula, California - Supervising Construction Inspector for this $8 million Recycled Pond project. The project features include 1.5 million cubic yards of grading, construction of new pond number 5 and relining other ponds with new foundation and membrane, drainage structures, connection piping systems and controls, road construction, landscaping and irrigation. Duties include daily reports with photographic records, detailing the workers, equipment, activities and material incorporated into the project each day. Duties also include utility coordination, coordination of materials testing, geotechnical and other specialty inspection consultants.

District Headquarters and Senga Doherty Pump Station Solar Power Project, RCWD, Temecula, CA. Inspection Supervisor responsible for installation of 1.0 MW and a 0.5MW Photovoltaic System. Oversight of inspection staff, reviewed daily reports, managed materials testing consultants, reviewed project submittals, RFIs, correspondence, change orders, and monthly progress payments.

Soboba Casino Storage Reservoir, Soboba Band of Luiseno Indians, San Jacinto, CA – Senior Construction Inspector during the construction of the Tribes 1MG welded steel reservoir. The tank was designed to provide adequate capacity to serve the additional demand that the newly constructed casino would place on the tribe's water system. Cooly provided inspection during the entire project term including grading, ring pour, sand placement, welding, and performed coating inspections.

Robert "Butch" Samarzich | Inspector - Alternate

Years with Michael Baker: 2
Years with Other Firms: 35

Training

Safety Training

Mr. Samarzich has more than 37 years of experience on a wide variety of construction projects in both the public and private sector. He has an exceptional background in project management and field operations and has been responsible for site construction, including ensuring compliance with plans and specifications, coordinating subcontractors, and confirming all materials are in conformance with the project specifications and approved submittals. He has traveled throughout the United States working on numerous construction projects, supervising employees and ensuring successful project delivery. His experience encompasses grading for site development, water and sewer pipelines, coordinating with all public works stakeholders, and timely progress reporting. Mr. Samarzich's typical duties include performing construction inspection, administering contract documents; upholding code requirements; attending weekly progress meetings; coordinating with agencies, designers, utility companies, material testers, and surveyors; verifying quantities and quality assurance; monitoring the Contractor's construction schedule, permit compliance, traffic control plan, and safety plan; and maintaining public relations.

Experience

Gerald Desmond Bridge Replacement Project, S. Pico Avenue 20", 24", & 30" Water Transmission Main 300J, Long Beach, California. Construction Inspector. As part of our on-call services agreement, Michael Baker was selected by the LBWD to provide construction inspection services for this pipeline relocation project necessitated by the construction of the New Gerald Desmond Bridge in Long Beach. The work involved 100 LF of 24", 282 LF of 20", and 22 LF of 30" CML&C steel pipeline, butterfly valves, buttstraps, connections, blow-off's, and night work. Michael Baker's duties encompassed: providing construction inspection and contract administration; verifying quantities and ensuring quality control; monitoring the Contractor's safety plan; observing water knife potholing, pressure testing, chlorination, flushing, and Bac-T testing; and preparing daily construction reports, digital photos, and the punch list.

Eaton Kiowa Waalew Pump Station and Reservoirs. Construction Inspector. Michael Baker provided construction management and inspection services to the Golden State Water Company.

Well Automation and Rehabilitation Project No. MC 2101, Costa Mesa, California. Construction Inspector. Michael Baker provided construction management and inspection services to the Mesa Water District for this $10,488,500 comprehensive upgrade of all 5 of the District's clear water wells. The work included well rehabilitation and cleaning; SCADA upgrades, chemical system replacement; Arc Flash & electrical safety survey implementation; ozone treatment system and UV tower abandonment; and electrical, mechanical, structural, maintenance, and security upgrades.

On-Call Plan Check and Inspection Services, San Bernardino, California. *San Bernardino Municipal Water Department.* Construction Inspector. Responsible for Construction Inspection. Michael Baker provided On-Call Construction Inspection Services to the City of San Bernardino Municipal Water Department for Gateway South Building 5, a private commercial development, and Arrowhead Grove, another private development. Construction activities included the installation of a 12" DIP water line and commercial water services along with new sewer pipe main line, laterals, and structures.

EXHIBIT "2"

TO

TASK ORDER NO. 2

COMPENSATION

The fee estimated for Construction Management, and Inspection Services for the Santa Ana Avenue Transmission Main Phase I is **$355,884.00**.

TASK	DESCRIPTION	COST
Task 1 – Construction Manager		
	Construction Management	$46,460.00
Task 2 – Field Observation		
	Construction Inspection	$ 146,400.00
	Total Cost	**$192,860.00**

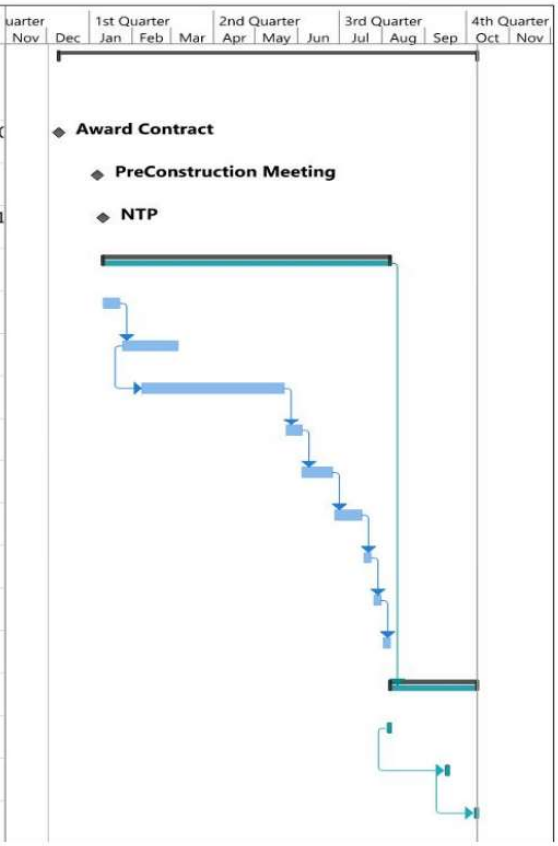
EXHIBIT "3"

TO
TASK ORDER NO. 2

SCHEDULE

The tentative schedule for the Construction Management and Inspection Services Santa Ana Avenue Transmission Main Project Phase I:

ID	Task Name	Duration	Start	Finish
1	**Santa Ana Avenue Transmission Main Project Phase 1**	**217 days?**	**Thu 12/10/20**	**Fri 10/8/21**
2	Award Contract	0 days	Thu 12/10/2(	Thu 12/10/2(
3	PreConstruction Meeting	0 days	Thu 1/7/21	Thu 1/7/21
4	NTP	0 days	Mon 1/11/21	Mon 1/11/21
5	**Construction**	**150 days**	**Mon 1/11/21**	**Fri 8/6/21**
6	Moblize, Video, Potholing, Critical Submit	10 days	Mon 1/11/21	Fri 1/22/21
7	Material Procurement and Delivery	30 days	Mon 1/25/21	Fri 3/5/21
8	Installation	75 days	Mon 2/8/21	Fri 5/21/21
9	Testing	9 days	Mon 5/24/21	Thu 6/3/21
10	Base Paving	16 days	Fri 6/4/21	Fri 6/25/21
11	Water services	15 days	Mon 6/28/21	Fri 7/16/21
12	Final Asphalt	5 days	Mon 7/19/21	Fri 7/23/21
13	Striping	5 days	Mon 7/26/21	Fri 7/30/21
14	Final Clean-up	5 days	Mon 8/2/21	Fri 8/6/21
15	**Project Closeout**	**45 days?**	**Fri 8/6/21**	**Fri 10/8/21**
16	Final Payment	1 day	Fri 8/6/21	Fri 8/6/21
17	Retention Release	1 day	Fri 9/17/21	Fri 9/17/21
18	Closeout Package Deliver	1 day	Fri 10/8/21	Fri 10/8/21



West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: APPROVE PROFESSIONAL SERVICES AGREEMENT AND TASK ORDER NO. 1 WITH TKE ENGINEERING, INC. FOR THE PROFESSIONAL ENGINEERING SERVICES FOR DEVELOPMENT OF CONSTRUCTION BID DOCUMENTS FOR WELL 54 DISCHARGE TO WASTE DRAIN LINE PROJECT

BACKGROUND:

The West Valley Water District ("District") requested proposals for qualified and experienced engineering firms to provide professional engineering services for the Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line Project ("Project"). WVWD's Pressure Zone 6, located within the District's Northern System, is generally bound by Duncan Canyon Road and Casa Grande Drive to the north and Highland Avenue to the south; Sierra Avenue and Brookside Avenue generally serve as the western boundaries while the Lytle Creek wash serves as the eastern boundary. Well 54 pumps from the Rialto Basin into the Zone 6 reservoirs.

Well 54 is the only source of supply in WVWD's Northern System serving Pressure Zone 6 and it has a pumping rate of 1,000 gpm that operates continuously 24 hours, 7 days a week ("24/7"). Every month there is a short-term shutdown and at startup, the well is pumped to waste for 15-20 minutes. During well rehabilitation or water quality issues, flushing can occur between two to four weeks 24/7. The site has no storm drain connection and the existing flushout releases water above ground into the gutter on Coyote Canyon Road and travels approximately 3,800 linear feet south of the Well 54 to the nearest storm drain inlet ("catch basin"). In the past, as a preliminary measure, water was discharged to a drain inlet located in Caltrans right-of-way (ROW). Unfortunately, once it crosses under the Ontario Interstate 15 freeway, the water also stays above ground until it reaches an inlet which connects to the City of Fontana's ("City") storm drain. The Hawker Crawford Channel ("Channel") is located approximately 1,100 linear feet North from Well 54 on Coyote Canyon Road. Drainage for the well water discharge will be required through a drain line. The Consultant will design a 4-inch diameter reinforce concrete standpipe at Well 54 and a drain line per the requirements of the City to the catch basin ("Option 1") or to the Channel ("Option 2"). The Consultant will prepare a Preliminary Design Report ("PDR") and perform an analysis to determine the best alternative for the drain line/connection per Option 1, Option 2 or any other recommended option taking into consideration cost for construction.

DISCUSSION:

District Staff posted the Request for Proposal ("RFP") on PlanetBids and sent out the RFP to eleven (11) consulting firms. On November 3, 2020, the District received one (1) proposal in response to the RFP from TKE Engineering, Inc. ("TKE").

The proposal was reviewed by a committee comprised of District Staff to ensure the proposal met the minimum requirements in the scope of work. Based on qualifications, technical experience, and cost, Staff concluded that TKE will provide value for the District's needs for the Project. The firm's design approach, overall understanding of the project's goals, and reasonable cost, further aided in the decision to select TKE for the RFP. Attached as **Exhibit A** is the District Professional Services Agreement and **Exhibit B** is the Task Order No. 1 with TKE which includes the submitted Proposal. A copy of the single source justification is included in **Exhibit C**.

FISCAL IMPACT:

The cost to perform the Project as proposed by TKE is $87,120.00. This item was included in the Fiscal Year 2020/21 Capital Improvement Budget under the W20010 Connect Flush-to-Waste Pipe from Well 54 to Drain Line Project. A summary of the available funds is as follows:

CIP FY 2020-2021 Project Name	Current Budget	Design Cost	Remaining Budget
W20010 Well 54 Discharge to Waste Drain Line	$100,000.00	$87,120.00	$12,880.00

STAFF RECOMMENDATION:

It is recommended that the Board of Directors approve Professional Services Agreement and Task Order No. 1 with TKE for the W20010 Well 54 Discharge to Waste Drain Line Project as proposed by TKE for the amount of $87,120.00 and authorize the General Manager to execute the necessary documents.

BP:pa

ATTACHMENT(S):

1. Exhibit A - Professional Services Agreement with TKE
2. Exhibit B - Task Order No. 1 with TKE for Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line
3. Exhibit C - Single Source Justification

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee REFERRED TO BOARD

EXHIBIT A

West Valley Water District

AGREEMENT FOR PROFESSIONAL SERVICES

With

TKE Engineering, Inc.

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AGREEMENT FOR PROFESSIONAL SERVICES

This AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") effective as of this __19th__ day of __November_____, 2020 ("Effective Date") is by and between West Valley Water District ("District") and __TKE Engineering, Inc._ ("Consultant"). The District and Consultant may be collectively referred to as the "Parties" and individually as a "Party."

RECITALS

A. The Parties desire to enter into this Agreement for the purpose of setting forth the terms and conditions upon which Consultant shall provide certain services to District.

NOW, THEREFORE, THE PARTIES HEREBY AGREE AS FOLLOWS:

Section 1. Term of Agreement.

(a) Subject to subsection (b) below, the term of this Agreement will be for a period of one (1) year commencing on the Effective Date and terminating one (1) year after the Effective Date.

(b) This Agreement shall renew automatically for continuous one (1) year periods for no more than two (2) additional years, unless either Party, prior to the end of the existing one (1) year period, delivers written notice to the other Party, that the Agreement shall not be extended.

Section 2. Scope and Performance of Services.

2.1 (a) District may, from time to time, by written instructions from the general manager or assistant general manager of the District ("Authorized Representative") issue task orders ("Task Orders") to the Consultant. The Task Order shall be in such form and content as shall be set forth on Exhibit "A" attached hereto and by this reference incorporated herein. The Task Order shall set forth: (i) the scope of services to be performed by Consultant; (ii) the compensation to be paid to Consultant; and (iii) the time to complete the Task Order. The provisions of this Agreement shall apply to all such Task Orders.

(b) For each Task Order, Consultant shall confer, as requested, with District representatives to review progress of work elements, adherence to work schedule, coordination of work, scheduling of review and resolution of problems which may develop.

2.2 Consultant will furnish all of the labor, technical, administrative, professional and other personnel, all supplies and materials, equipment, printing,

vehicles, transportation, office space and facilities, and all tests, testing and analyses, calculation, and all other means whatsoever, except as otherwise expressly specified in this Agreement, necessary or proper to perform and complete the services required of Consultant under this Agreement.

2.3 Consultant's designated representative(s) who are authorized to act on its behalf and to make all decisions in connection with the performance of services under this Agreement are listed in Exhibit "B" attached hereto and by this reference incorporated herein ("Key Personnel").

2.4 Consultant represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this Agreement in a thorough, competent and professional manner. Notwithstanding Section 3 below, in the event Consultant utilizes the services of subcontractors or sub-consultants, Consultant assumes sole and complete responsibility for the performance of the subcontractor or sub-consultant to the specifications provided hereunder for Consultant's work, and no adjustment will be made to Consultant's requirements under this Agreement for timely completion of services, complete performance of services, or delivery of products or deliverables in a timely fashion, and no adjustment will be made to performance deadlines, or compensation due to Consultant, due to or arising from issues Consultant may have with any subcontractor or sub-consultant. Consultant will at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described in this Agreement. In meeting its obligations under this Agreement, Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of Consultant under this Agreement.

Consultant warrants it will perform its engineering and design under the Task Order, as more particularly described in Exhibit A ("Task Order") in accordance with the current standards of care and diligence normally practiced by recognized engineering and design firms in performing services of a similar nature. Further, Consultant warrants that the engineering and design performed has been performed in accordance with the then current standards of care and diligence normally practiced by recognized engineering and design firms in performing services of a similar nature. If within one (1) year after substantial completion of the engineering and design work it is shown that there is an error in that work as a result of the Consultant's failure to meet those standards and the District has notified the Consultant in writing of any such error within that period, Consultant shall re-perform such engineering and design work within the original scope of such services, as may be necessary to remedy such error. All costs incurred by Consultant in performing such corrective services shall be the sole responsibility of the Consultant and such costs shall not be reimbursable in any way.

Section 3. Additional Services and Changes in Services

3.1 Consultant will not be compensated for any services rendered in connection with its performance of this Agreement that are in addition to or outside of those set forth in the Task Orders, unless such additional services are authorized in advance and in writing by District.

3.2 If Consultant believes that additional services are needed to complete a Task Order, Consultant will provide the Authorized Representative with written notification describing the proposed additional services, the reasons for such services, and a detailed proposal regarding cost.

3.3 District may order changes to a Task Order, consisting of additions, deletions, or other revisions, and the compensation to be paid Consultant will be adjusted accordingly. All such changes must be authorized in writing, and executed by Consultant and District. The cost or credit to District resulting from changes in a Task Order will be determined by the written agreement between the Parties.

Section 4. Familiarity with Services and Site.

4.1 By executing this Agreement, Consultant warrants that Consultant shall, prior to undertaking a Task Order:

(a) investigate and consider the services to be performed;

(b) carefully consider how and within what time frame the services should be performed;

(c) understand the facilities, difficulties, and restrictions attending performance of the services under a Task Order; and

(d) possesses all licenses required under local, state or federal law to perform the services contemplated by a Task Order, and maintain all required licenses during the performance of such Task Order.

4.2 If services involve work upon any site, Consultant warrants that Consultant has or will investigate the site and will be fully acquainted with the conditions there existing, before commencing its services under a Task Order. Should Consultant discover any latent or unknown conditions that may materially affect the performance of services, Consultant will immediately inform District of such fact and will not proceed except at Consultant's own risk until written instructions are received from the District.

Section 5. Compensation and Payment.

5.1 Subject to any limitations set forth in this Agreement, District agrees to pay Consultant the amounts shown in a Task Order.

5.2 Each month during the existence of a Task Order, Consultant shall furnish District with an original invoice for all services performed and expenses incurred during the preceding month in accordance with the fee schedule set forth in the Task Order. The invoice must detail charges by the following categories: labor (by subcategory), reimbursable costs, subcontractor contracts and miscellaneous expenses. The invoice must list, as applicable, the hours worked and hourly rates for each personnel category, the tasks performed, the percentage of the task completed during the billing period, the cumulative percentage completed for each task, and the total cost of the services.

5.3 District will independently review each invoice submitted by Consultant to determine whether the work performed and expenses incurred are in compliance with this Agreement. In the event that no charges or expenses are disputed, the invoice will be approved and paid. In the event any charges or expenses are disputed by District, the original invoice will be returned by District to Consultant for correction and resubmission.

5.4 Except as to any charges for work performed or expenses incurred by Consultant that are disputed by District, District will use its best efforts to cause Consultant to be paid within thirty (30) days of receipt of Consultant's invoice.

5.5 No payment or partial payment to Consultant shall constitute acceptance of any work completed by Consultant or waive any claims by the District for any reason whatsoever.

Section 6. Required Documentation Prior to Performance.

6.1 Consultant will not perform any services under this Agreement until:

(a) Consultant furnishes proof of insurance ("Insurance") as required under Exhibit "C" attached hereto and by this reference incorporated herein; and

(b) Consultant provides District with a Taxpayer Identification Number.

6.2 The District will have no obligation to pay for any services rendered by Consultant in advance of receiving written authorization to proceed for each Task Order, and Consultant acknowledges that any such services are at Consultant's own risk.

Section 7. Project Documents.

7.1 All original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer programs, files and other documents (collectively, "Project Documents") prepared, developed or discovered by Consultant in the course of providing services under this Agreement will become the sole property of District and may be used, reused or otherwise disposed of by District without the permission of Consultant. Consultant will take such steps as are necessary to perfect or protect the ownership interest of District in such Project Documents. Upon completion, expiration or termination of this Agreement, Consultant shall turn over to District all such original Project Documents in its possession; provided, however, that Consultant may retain copies of Project Documents.

7.2 Except as necessary for the performance of services under this Agreement, no Project Documents prepared under this Agreement, will be released by Consultant to any other person or entity without District's prior written approval. All press releases, including graphic display information to be published, must be approved and distributed solely by District, unless otherwise agreed to in writing by District.

Section 8. Consultant's Books and Records.

8.1 Consultant shall maintain any and all documents and records demonstrating or relating to Consultant's performance of services under this Agreement. Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, or other documents or records evidencing or relating to work, services, expenditures and disbursements charged to District under this Agreement. Any and all such documents or records must be maintained in accordance with generally accepted accounting principles and must be sufficiently complete and detailed so as to permit an accurate evaluation of the services provided by Consultant under this Agreement. Any and all such documents or records must be maintained for three (3) years following the final payment for each Task Order.

8.2 Any and all records or documents required to be maintained by this section must be made available for inspection, audit and copying, at any time during regular business hours, upon written request by District or its designated representatives. Copies of such documents or records must be provided directly to District for inspection, audit and copying when it is practical to do so; otherwise, unless an alternative is mutually agreed upon, such documents and records must be made available at Consultant's address indicated for receipt of notices in this Agreement.

8.3 Where District has reason to believe that any of the documents or records required to be maintained by this section may be lost or discarded due to dissolution or termination of Consultant's business, District may, by written request, require that custody of such documents or records be given to a person or entity mutually agreed upon and that such documents and records thereafter be maintained by such person or entity at Consultant's expense. Access to such documents and records shall be granted to District, as well as to its successors-in-interest and authorized representatives.

Section 9. Status of Consultant.

9.1 Consultant is and will at all times remain a wholly independent contractor and not an officer or employee of District. Consultant has no authority to bind District in any manner, or to incur any obligation, debt or liability of any kind on behalf of or against District, whether by contract or otherwise, unless such authority is expressly conferred under this Agreement or is otherwise expressly conferred in writing by District.

9.2 The personnel performing the services under this Agreement on behalf of Consultant will at all times be under Consultant's exclusive direction and control. Neither District, nor any elected or appointed boards, officers, officials, employees or agents of District, will have control over the conduct of Consultant or any of Consultant's officers, subcontractors or sub-consultants, employees or agents, except as provided in this Agreement. Consultant warrants that it will not at any time or in any manner represent that Consultant or any of Consultant's officers, employees or agents are in any manner officials, officers, employees or agents of District.

9.3 Neither Consultant, nor any of Consultant's officers, employees or agents, will obtain any rights to retirement, health care or any other benefits which may otherwise accrue to District's employees. Consultant expressly waives any claim to any such rights or benefits.

Section 10. Compliance with Applicable Laws.

Consultant shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this Agreement.

Section 11. Conflicts of Interest.

Consultant covenants that neither Consultant, nor any officer, principal nor employee of its firm, has or will acquire any interest, directly or indirectly, that would conflict in any manner with the interests of District or that would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that neither Consultant, nor any officer, principal or employee of its firm will make, participate in the making, or in any way attempt to use the position of Consultant to influence any decision of the District in which Consultant knows or has reason to know that Consultant, or any officer, principal or employee of Consultant has a financial interest as defined in Government Code section 87103.

Section 12. Confidential Information; Release of Information.

12.1 All information gained or work product produced by Consultant in performance of this Agreement will be considered confidential to the full extent permitted by law, unless such information is in the public domain or already known to Consultant. Consultant shall not release or disclose any such information or work product to persons or entities other than District without prior written authorization from an Authorized Representative, except as may be required by law.

12.2 Consultant, its officers, employees, or agents, shall not, without prior written authorization from an Authorized Representative or unless requested by the District counsel, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this Agreement. Response to a subpoena or court order will not be considered "voluntary" provided Consultant gives District notice of such court order or subpoena.

12.3 If Consultant, or any officer, employee, or agent of Consultant, provides any information or work product (including Project Documents) in violation of this Agreement, then District shall have the right to reimbursement and indemnity from Consultant for any damages, costs and fees, including attorneys' fees related to any unauthorized disclosure by consultant or, caused by or incurred as a result of Consultant's conduct.

12.4 Consultant shall promptly notify District should, Consultant, its officers, employees, or agents be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this Agreement and the services performed under this Agreement. District retains the right, but has no obligation, to represent Consultant or be present at any deposition, hearing or similar proceeding. Consultant agrees to cooperate fully with District and to provide District with the opportunity to review any response to discovery requests provided by

Consultant. However, this right to review any such response does not imply or mean the right by District to control, direct, or rewrite such response.

Section 13. Indemnification.

Consultant covenants and agrees that, during the term of this Agreement, any injury suffered as a result of Consultant's services shall be the sole responsibility of Consultant and its successors and assigns and District shall not be liable to Consultant, or any other person or persons whatsoever for any such injury, loss or damage to persons or property unless caused by the negligence or intentional acts of District or its Representatives (as solely defined below). Consultant shall defend, indemnify and hold District, its officers, directors and Representatives ("District Indemnitees") harmless from and against any and all claims, costs, liabilities, debts, demands, suits, actions, causes of action, obligations, proceedings, damages, judgments, liens and expenses of whatever nature, including attorneys' fees and disbursements (collectively, "Claims") which may be made against the District Indemnitees arising out of or in connection with (a) the retention by District of Consultant's services; (b) the performance of or failure to perform, the work covered by this Agreement which is caused or occasioned by any act, action, neglect on the part of Consultant, or its Representatives, in the performance of this Agreement and the work to be done under this Agreement; (c) the death and/or injury to any person or damage to any property (real or personal) and/or economic loss which may be caused or is claimed to have been caused, by the negligence, act or omission of Consultant or its Representatives or its or their property; (d) any violation or alleged violation by Consultant of any law or regulation now or hereafter enacted; and (e) any breach by Consultant of its obligations under this Agreement. The foregoing indemnity shall not apply to the extent any such Claims are ultimately established by a court of competent jurisdiction to have been caused by the negligence or willful misconduct of the District Indemnitees or any of them. District shall make all decisions with respect to its representation in any legal proceeding concerning this section. If Consultant fails to do so, District shall have the right, but not the obligation, to defend the same and charge all of the direct or incidental Claims of such defense, including attorneys' fees and costs, to Consultant and to recover the same from Consultant. The term "Representatives" shall mean employees, representatives, agents, contractors, subcontractors or any other persons directly or indirectly employed by any one of the foregoing or reasonably under the control of any of the foregoing or for whose acts any of the foregoing may be liable.

Section 14. Insurance.

Consultant agrees to obtain and maintain in full force and effect during the term of this Agreement the Insurance coverages listed in Exhibit "C." All Insurance policies

shall be subject to approval by District as to form and content. These requirements are subject to amendment or waiver if so approved in writing by an Authorized Representative.

Section 15. Assignment.

15.1 The expertise and experience of Consultant are material considerations for this Agreement. District has an interest in the qualifications of and capability of the persons and entities that will fulfill the duties and obligations imposed upon Consultant under this Agreement. Consultant may not assign or transfer this Agreement or any portion of this Agreement or the performance of any of Consultant's duties or obligations under this Agreement without the prior written consent of District. The District can withhold its approval/consent in its sole and absolute discretion. Any attempted assignment will be null and void, and will constitute a material breach of this Agreement entitling District to any and all remedies at law or in equity, including summary termination of this Agreement.

15.2 Consultant must obtain District's prior written approval before utilizing any subcontractors to perform any services under this Agreement, which approval may be withheld in District's sole and absolute discretion. This written approval must include the identity of the subcontractor and the terms of compensation. Approval by District does not imply any agreement to or endorsement by the District as to the competency or capability of any proposed subcontractor or sub-consultant, and District reserves any and all rights against both Consultant and such subcontractor or sub-consultant , for any failure to perform or other breach of any of the provisions of this Agreement, or the standards of performance defined herein, and no waiver is intended or to be implied by District's approval of any subcontractor or sub-consultant.

Section 16. Termination of Agreement.

16.1 District may terminate this Agreement, with or without cause, at any time by written notice of termination to Consultant. In the event such notice is given, Consultant shall cease immediately all work in progress.

16.2 Upon termination of this Agreement, all property belonging exclusively to District which is in Consultant's possession must be returned to District. Consultant shall promptly deliver to District a final invoice for all outstanding services performed and expenses incurred by Consultant as of the date of termination. Compensation for work in progress not based on an hourly rate will be prorated based on the percentage of work completed as of the date of termination.

16.3 Consultant acknowledges District's right to terminate this Agreement as provided in this section, and hereby waives any and all claims for damages that might otherwise arise from District's termination of this Agreement.

Section 17. Notices.

17.1 All written notices required or permitted to be given under this Agreement will be deemed made when received by the other Party at its respective address as follows:

To District:
West Valley Water District
855 West Base Line Road
P. O. Box 920
Rialto, CA 92377
Attention: Clarence C. Mansell, Jr.
General Manager

(Tel.) 909-875-1804
(Fax) 909-875-1849

To Consultant:
TKE Engineering, Inc
2305 Chicago Avenue
Riverside, CA 92507
Attention: Terry Renner, P.E., Q.S.D

Phone Number: (951) 680-0440
Email: trenner@tkeengineering.com

***** Please send all invoices by:***

Email: apinvoices@wvwd.org

or

Mail: West Valley Water District
Accounts Payable
P.O. Box 190
Rialto, CA 92377

17.2 Notice will be deemed effective on the date personally delivered or transmitted by facsimile. If the notice is mailed, notice will be deemed given three (3) days after deposit of the same in the custody of the United States

Postal Service, postage prepaid, for first class delivery, or upon delivery if using a major courier service with tracking capabilities.

17.3 Any Party may change its notice information by giving notice to the other Party in compliance with this section.

Section 18. General Provisions.

18.1 Authority to Execute. Each Party represents and warrants that all necessary action has been taken by such Party to authorize the undersigned to execute this Agreement and to bind it to the performance of its obligations hereunder.

18.2 Binding Effect. Subject to Section 15, this Agreement is binding upon the heirs, executors, administrators, successors and assigns of the Parties, including any subcontractors or sub-consultants of Consultant.

18.3 Entire Agreement. This Agreement, including the attached Exhibits "A" through "C," is the entire, complete, final and exclusive expression of the Parties with respect to the matters addressed in this Agreement and supersedes all other agreements or understandings, whether oral or written, between Consultant and District prior to the execution of this Agreement.

18.4 Modification of Agreement. No amendment to or modification of this Agreement will be valid unless made in writing and approved by Consultant and approved in writing by the Board of Directors of the District, or in writing by the General Manager, if such power has been delegated to General Manager. The Parties agree that this requirement for written modifications cannot be waived and that any attempted waiver will be void.

18.5 Facsimile Signatures. Amendments to this Agreement will be considered executed when the signature of a Party is delivered by facsimile transmission. Such facsimile signature will have the same effect as an original signature.

18.6 Waiver. Waiver by any Party to this Agreement of any term, condition, or covenant of this Agreement will not constitute a waiver of any other term, condition, or covenant. Waiver by any Party of any breach of the provisions of this Agreement will not constitute a waiver of any other provision, or a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by District of any services by Consultant will not constitute a waiver of any of the provisions of this Agreement.

18.7 Interpretation. This Agreement will be interpreted, construed and governed according to the laws of the State of California. Each Party has had the opportunity to review this Agreement with legal counsel. The Agreement will be construed simply, as a whole, and in accordance with its

fair meaning, and without resort to rules regarding draftsmanship. It will not be interpreted strictly for or against either Party.

18.8 Severability. If any provision of this Agreement shall be ruled invalid, illegal or unenforceable, the Parties shall: (a) promptly negotiate a substitute for the provisions which shall to the greatest extent legally permissible, effect the intent of the Parties in the invalid, illegal or unenforceable provision, and (b) negotiate such changes in, substitutions for or additions to the remaining provisions of this Agreement as may be necessary in addition to and in conjunction with subsection (a) above to give effect to the intent of the Parties without the invalid, illegal or unenforceable provision. To the extent the Parties are unable to negotiate such changes, substitutions or additions as set forth in the preceding sentence, and the intent of the Parties with respect to the essential terms of the Agreement may be carried out without the invalid, illegal or unenforceable provisions, the balance of this Agreement shall not be affected, and this Agreement shall be construed and enforced as if the invalid, illegal or unenforceable provisions did not exist.

18.9 Venue. The Parties agree any action or proceeding to enforce or relating to this Agreement shall be brought exclusively in the federal court located in Riverside County, California or state court located in San Bernardino County, California and the Parties hereto consent to the exercise of personal jurisdiction over them by such courts for purposes of any such action or proceeding.

18.10 Disputes. If any disputes should arise between the Parties concerning the work to be done under this Agreement, the payments to be made, or the manner of accomplishment of the work, Consultant shall nevertheless proceed to perform the work as directed by District pending settlement of the dispute.

18.11 Cooperation. Consultant shall cooperate in the performance of work with District and all other agents.

18.12 Time of Essence. Time shall be of the essence as to all dates and times of performance contained in this Agreement.

18.13 Counterparts. This Agreement may be signed and delivered in any number of counter parts, each of which, when signed and delivered, shall be an original, but all of which shall together constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed effective as of the day and year first above written.

DISTRICT:

WEST VALLEY WATER DISTRICT,
a public agency of the State of California

By _____
Channing Hawkins, President

By _____
Shamindra Manbahal, Acting General Manager

By_____
Peggy Asche, Board Secretary

APPROVED AS TO FORM:

TAFOYA LAW GROUP, APC

By _____
Robert Tafoya

CONSULTANT:

_____

By_____

Name_____

Its_____

EXHIBIT A

TASK ORDER

TASK ORDER NO. __1___

This Task Order ("Task Order") is executed this _____ day of _____, 2020 by and between West Valley Water District, a public agency of the State of California ("District") and _____ ("Consultant").

RECITALS

A. On or about _____, 2020 District and Consultant executed that certain Agreement for Professional Services ("Agreement").

B. The Agreement provides that the District will issue Task Orders from time to time, for the provision of certain services by Consultant.

C. Pursuant to the Agreement, District and Consultant desire to enter into this Task Order for the purpose of setting forth the terms and conditions upon which Consultant shall render certain services to the District.

NOW, THEREFORE, THE PARTIES HERETO HEREBY AGREE AS FOLLOWS:

1. Consultant agrees to perform the services set forth on Exhibit "1" attached hereto and by this reference incorporated herein.

2. Subject to any limitations in the Agreement, District shall pay to Consultant the amounts specified in Exhibit "2" attached hereto and by this reference incorporated herein. The total compensation, including reimbursement for actual expenses, may not exceed the amount set forth in Exhibit "2," unless additional compensation is approved in writing by the District.

3. Consultant shall perform the services described in Exhibit "1" in accordance with the schedule set forth in Exhibit "3" attached hereto and by this reference incorporated herein. Consultant shall commence work immediately upon receipt of a notice to proceed from the District. District will have no obligation to pay for any services rendered by Consultant in advance of receipt of the notice to proceed, and Consultant acknowledges that any such services are at Consultant's own risk.

4. The provisions of the Agreement shall apply to this Task Order. As such, the terms and conditions of the Agreement are hereby incorporated herein by this reference.

[***SIGNATURES APPEAR ON FOLLOWING PAGE***]

IN WITNESS WHEREOF, the parties have caused this Task Order to be executed effective as of the day and year first above written.

DISTRICT:

WEST VALLEY WATER DISTRICT,
a public agency of the State of California

By _____
Channing Hawkins, President

By _____
Clarence C. Mansell Jr., General Manager

By _____
Peggy Asche, Board Secretary

APPROVED AS TO FORM:

TAFOYA LAW GROUP, APC

By _____Robert Tafoya

CONSULTANT:

Vendor Name Here _____

By_____

Name_____

Its_____

EXHIBIT "1"

TO

TASK ORDER NO. __1__

SCOPE OF SERVICES

EXHIBIT "2"

TO

TASK ORDER NO. __1__

COMPENSATION

EXHIBIT "3"

TO

TASK ORDER NO. __1__

SCHEDULE

EXHIBIT B

KEY PERSONNEL

KEY PERSONNEL

1. Consultant's designated representative(s) who are authorized to act on its behalf and to make all decisions in connection with the performance of services under this Agreement are:

   Terry Renner, P.E., Q.S.D, Project Manager

2. Consultant shall exercise reasonable efforts to keep such key personnel employed in connection with the project as long as reasonably necessary to fulfill obligations under this Agreement. Consultant shall provide appropriate notice to the District prior to key personnel removal or replacement. Consultant shall submit the resume of the personnel nominated to fill the positions listed in the Request for Proposals ("RFP") to the District for review. Key personnel, included in the RFP, are the following:

   Terry Renner, P.E., Q.S.D, Project Manager
   Steven Ledbetter, P.E., Project Engineer
   Ron Musser, Director of Survey
   Michael P. Thornton P.E., P.L.S. – President
   Robert Doss, P.E. - Project Manager
   Octavio Parada – Project Manager
   David Kinzle – Project Manager
   Kathleen Robles –Project Manager
   Steve Dukett – Managing Director Development Services
   Mike Heath, P.E. - Project Engineer
   Gabor Pakozdi, P.E., Q.S.D. – Senior Engineer
   Steve Nix, P.E., P.L.S. – Senior Engineer
   Brian Wolfe, P.E. – Senior Engineer
   Dennis Donahue, P.E., P.L.S., Q.S.D. – Senior PC Engineer
   Michelle Arellano, P.E. – Senior Plan Check Engineer
   Jennifer Cioffi, P.E. - Project Engineer
   Monae Pugh - Traffic Specialist
   Mycal Balta – Survey
   Brett Enscoe – Survey
   Stephen Biscotti – Senior Public Works Inspector
   Brad Enscoe - Senior Public Works Inspector
   Patrick Palafox – Senior Public Works Inspector
   Marvin Lara, EIT – Associate Engineer
   Kristine Macalma, EIT – Associate Engineer
   Jose Martinez – Associate Engineer
   Yesenia Diaz – Associate Engineer
   Alex Estepa– Associate Engineer
   Jose Hernandez – Associate Engineer
   Chance Renner – Assistant Engineer
   Nyesha Burnatte – Engineering Technician
   Jayden Renner – Engineering Technician
   Michelle Sells – Accounting/Office Manager

Candice Velasco – Marketing Manager
Cassondra Gutierrez – Clerical
Diana Rodriguez – Clerical
Deana Vilches – Clerical
Tracey McLoughlin – Clerical

EXHIBIT C

INSURANCE

INSURANCE

A. **General Requirements**. Before commencing the performance of services under this Agreement, and at all other times this Agreement is effective, Consultant must procure and maintain the following types of insurance with coverage limits complying, at a minimum, with the limits set forth below**:**

Type of Insurance	Limits (combined single)
Commercial General Liability:	$1,000,000
Business Automobile Liability	$1,000,000
Professional Liability	$1,000,000
Workers Compensation	Statutory Requirement

B. **Commercial General Liability Insurance**. The amount of insurance set forth above must be a combined single limit per occurrence for bodily injury, personal injury, and property damage for the policy coverage. The insurance must be on an "occurrence" not a "claims made" basis.

C. **Business Automobile Insurance**. Automobile coverage must be written on forms subject to the written approval of District.

D. **Professional Liability Insurance**. This coverage must be on an "occurrence" basis, including coverage for contractual liability. The Professional Liability Insurance required by this Agreement must be endorsed to be applicable to claims based upon, arising out of or related to services performed under this Agreement.

E. **Workers Compensation**. Consultant must have a State of California approved policy form providing the statutory benefits required by law with employer's liability limits of no less than $1,000,000 per accident for all covered losses, or Consultant must provide evidence of an approved self-insurance program.

F. **Additional Insureds**. Each Commercial General Liability Insurance policy and Business Auto Insurance policy must provide that the District, its officials, officers, employees, agents and volunteers are "additional insureds" under the terms of the policy, and must provide that an act or omission of one the insureds will not reduce or avoid coverage to the other insureds.

G. **Deductibles and Self-Insured Retention**. Any deductibles or self-insured retentions applicable to the insurance policies required under this Agreement must be declared to and approved by District. In no event may any required insurance policy have a deductible, self-insured retention or other similar policy provision in excess of $50,000 without prior written approval by District in its sole discretion. At the option of District, either the insurer will reduce or eliminate such deductibles or self-insured retentions with respect to the District's additional insureds or Consultant will procure a bond guaranteeing payment of any losses, damages, expenses, costs or settlements up to the amount of such deductibles or self-insured retentions.

H. **Primary Insurance**. Each of the insurance policies maintained by Consultant under this Agreement must state that such insurance will be deemed "primary" so that any insurance that may be carried by District will be deemed excess to that of Consultant. This endorsement must be reflected on forms as determined by District.

I. **Certificates of Insurance and Endorsements**. Prior to commencing any services under this Agreement, Consultant must file with the District certificates of insurance and endorsements evidencing the existence of all insurance required by this Agreement, along with such other evidence of insurance or copies of policies as may reasonably be required by District. These certificates of insurance and endorsements must be in a form approved by the Legal Counsel. Consultant must maintain current certificates and endorsements on file with District during the term of this Agreement reflecting the existence of all required insurance. Each of the certificates must expressly provide that no material change in the policy, or termination thereof, will be effective except upon 30 days' prior written notice to District by certified mail, return receipt requested. The delivery to District of any certificates of insurance or endorsements that do not comply with the requirements of this Agreement will not waive the District's right to require compliance.

J. **Insurance Rating**. All insurance required to be maintained by Consultant under this Agreement must be issued by companies licensed by or admitted to conduct insurance business in the State of California by the California Department of Insurance and must have a rating of A or better and Class VII or better by the latest edition of A.M. Best's Key Rating Guide.

K. **Aggregate Limits**. The aggregate limits for each insurance policy required under this Agreement must apply separately and solely to the services performed under this Agreement. If the required policies do not have an endorsement providing that the aggregate limit applies separately to the services being performed, or if defense costs are included in the aggregate limit, then the required aggregate limits must be increased to an amount satisfactory to District.

L. **Waiver of Subrogation Rights**. Consultant and each insurer providing any insurance required by this Agreement must waive all rights of subrogation against District, its officials, officers, employees, agents and volunteers, and each insurer must issue a certificate to the District evidencing this waiver of subrogation rights.

M. **Failure to Maintain Required Insurance**. If Consultant, for any reason, fails to obtain and maintain the insurance required by this Agreement, District may obtain such coverage at Consultant's expense and deduct the cost of such insurance from payments due to Consultant under this Agreement or may terminate the Agreement.

N. **Effect of Coverage**. The existence of the required insurance coverage under this Agreement shall not be deemed to satisfy or limit Consultant's indemnity obligations under this Agreement. Consultant acknowledges that the insurance coverage and policy limits set forth in this Agreement constitute the minimum coverage and policy limits required. Any insurance proceeds available to District

in excess of the limits and coverage required by this Agreement, and which is applicable to a given loss, must be made available to District to compensate it for such losses.

EXHIBIT B

TASK ORDER NO. 1

Development of Construction Bid Documents for W20010 Well 54 Discharge to Waste Drain Line

This Task Order ("Task Order") is executed this 19th day of November, 2020 by and between West Valley Water District, a public agency of the State of California ("District") and TKE Engineering, Inc. ("Consultant").

RECITALS

A. On or about November 19th, 2020 District and Consultant executed that certain Agreement for Professional Services ("Agreement").

B. The Agreement provides that the District will issue Task Orders from time to time, for the provision of certain services by Consultant.

C. Pursuant to the Agreement, District and Consultant desire to enter into this Task Order for the purpose of setting forth the terms and conditions upon which Consultant shall render certain services to the District.

NOW, THEREFORE, THE PARTIES HERETO HEREBY AGREE AS FOLLOWS:

1. Consultant agrees to perform the services set forth on Exhibit "1" attached hereto and by this reference incorporated herein.

2. Subject to any limitations in the Agreement, District shall pay to Consultant the amounts specified in Exhibit "2" attached hereto and by this reference incorporated herein. The total compensation, including reimbursement for actual expenses, may not exceed the amount set forth in Exhibit "2," unless additional compensation is approved in writing by the District.

3. Consultant shall perform the services described in Exhibit "1" in accordance with the schedule set forth in Exhibit "3" attached hereto and by this reference incorporated herein. Consultant shall commence work immediately upon receipt of a notice to proceed from the District. District will have no obligation to pay for any services rendered by Consultant in advance of receipt of the notice to proceed, and Consultant acknowledges that any such services are at Consultant's own risk.

4. The provisions of the Agreement shall apply to this Task Order. As such, the terms and conditions of the Agreement are hereby incorporated herein by this reference.

[***SIGNATURES APPEAR ON FOLLOWING PAGE***]

IN WITNESS WHEREOF, the parties have caused this Task Order to be executed effective as of the day and year first above written.

DISTRICT:

WEST VALLEY WATER DISTRICT,
a public agency of the State of California

By _____
Channing Hawkins, President

By _____
Shamindra Manbahal, Acting General Manager

By _____
Peggy Asche, Board Secretary

APPROVED AS TO FORM:

TAFOYA LAW GROUP, APC

By _____
Robert Tafoya

CONSULTANT:

TKE ENGINEERING, INC.

By_____

Name_____

Its_____

EXHIBIT "1"

TO

TASK ORDER NO. 1

SCOPE OF SERVICES

Scope:

1. **Engineering Design Services for the Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line per the attached proposal dated November 3, 2020.**

REQUEST FOR PROPOSAL

Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line Project No. W20010

for:

West Valley Water District
855 West Base Line, Building B
Rialto, CA 92377

November 03, 2020

Prepared by:

TKE ENGINEERING, INC.
2305 Chicago Avenue
Riverside, California 92507
(9 5 1) 6 8 0 - 0 4 4 0

WWW.TKEengineering.COM

TABLE OF CONTENTS

CONTACT INFORMATION

Prepared for:

West Valley Water District

855 West Base Line, Building B
Rialto, CA 92377
Contact: Al Robles
Phone: (909) 875-1804
Email: arobles@wvwd.org

Prepared by:

TKE Engineering, Inc.

2305 Chicago Avenue
Riverside, CA 92507
Contact: Terry Renner
Phone: (951) 680-0440
Email: trenner@tkeengineering.com

TKE ENGINEERING, INC.

November 3, 2020

Mr. Al Robles
Purchasing Supervisor
WEST VALLEY WATER DISTRICT
855 W. Base Line Road
Rialto, CA 92376

Subject: Request for Proposal for Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line Project No. W20010

Dear Mr. Robles,

Thank you for the opportunity to present this material outlining TKE Engineering's (TKE) qualifications to provide professional engineering services to the West Valley Water District (WVWD). Enclosed herein are our qualifications to provide for Design Services for Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line Project. TKE is a full service, multi-disciplinary consulting firm located at 2305 Chicago Avenue, Riverside, CA 92507. TKE was established in 2000 and over the past twenty years has developed into one of Southern California's leading consulting engineering firms. TKE is highly qualified to perform the services required for successful project design and management, expedient and cost effective project delivery and we are enthusiastic about the opportunity to assist the WVWD in bettering the infrastructure of our communities and reaching their goals of improving ground water quality programs, throughout the Inland Empire and the WVWD region.

Why should the WVWD choose TKE to provide design engineering services? Please consider the following:

1. Our Team - WVWD will benefit greatly by continuing the vision, leadership, and dedication to community exhibited by TKE's project team. Our experience in the Inland Empire region, numerous accomplishments and management skills will help maintain continuity in the delivery of groundwater system improvements. In particular, Terry Renner, has a vast amount of experience with all aspects of water resources within Southern California, and more specifically the Inland Empire. Mr. Renner's experience extends from project planning to design and bidding through construction including several WVWD water and wastewater capital projects. In addition, Steven Ledbetter, our Project Engineer, also has a vast amount of experience with pipeline design for wastewater, water, and recycled water projects, including the management of projects with special funding source and permitting requirements. Mr. Renner is currently working with WVWD on the West Valley Conveyance Line project. His excellent project management skills, experience with wastewater conveyance projects and knowledge of state and grant regulations will provide a great benefit to WVWD, in particular, his experience with "cutting edge" creative engineering techniques focused on cost control, ensuring that projects provide the maximum value for the public's investment. Supporting Mr. Renner and Mr. Ledbetter will be TKE's Director of survey Ron Musser for surveys. More detailed information about each member of our project team is presented in our proposal. We will utilize the services of LOR Geotechnical, Inc. (LOR) for geotechnical and materials testing services, Inland Aerial Survey for aerial mapping, and C Below Subsurface Imaging (C Below) for potholing. After reading our proposal, we are sure you will be pleased with the amount of specialized experience our team brings to this project.

2. Our Experience and Qualifications - TKE is a full-service, multi-disciplinary firm capable of managing and delivering the project presented in the RFP. As described in our proposal, TKE has a vast amount of pipeline design experience, having designed 72 miles of pipe over the past 20 years. We specialize in the successful completion of projects with tight budgetary and scheduling constraints. TKE's broad range of successful services includes turnkey program and project management and delivery for a diverse array of pipeline design projects, including large and small diameter DIP, CMLC

and PVC for water projects. TKE vast experience includes every aspect of pipeline design and construction. TKE also has an excellent working relationship with the city of Fontana staff that will enable us to ensure efficient completion of the project. Our proposal details common pitfalls related to pipeline projects and TKE's understanding and approach to overcome these challenges. WVWD benefits from our broad range of experience through our intimate understanding of the common pitfalls for each project variation and our past history of successfully overcoming these challenges.

3. Our Commitment - TKE is committed to assisting WVWD in achieving its goal of delivering reliable public infrastructure. To deliver public infrastructure WVWD desires to partner with consultants to develop comprehensive projects, prepare cost effective designs, comply with funding resource requirements, and deliver projects within budget and on schedule. TKE is committed to completing all project tasks working closely with WVWD's project manager. to begin to demonstrate this commitment, TKE researched available records prior to proposal preparation. The project that WVWD endeavors to complete will include challenges and requires the consultant with the 'right' experience. TKE has completed similar projects and is highly qualified to provide all of the services that WVWD will require for successful project completion.

Prior to beginning any services, TKE's Project Manager will meet to discuss project requirements and scheduling needs. Our Project Manager will be in contact with WVWD staff and all design subconsultants each week to ensure they are progressing on schedule and are within their allocated budgets. It is this personal touch and contact that define our "local service" approach. We consider ourselves community builders and take ownership of projects assigned to TKE, ensuring that our personnel will be allocated on an as needed basis in order to complete all projects on schedule.

Our broad array of services and in-house team provides WVWD a trusted consultant to turn to in any challenge, no matter how simple or complex. We pride ourselves in the management and completion of special, atypical projects and thrive on challenging budgets and deadlines. It is this commitment to service and diverse array of offerings that makes us unique and drives our long-standing relationship with our client base and it is these qualities and that make us "the right fit" for WVWD.

4. Our Value - TKE's management team and staff are fundamentally committed to creating value in each task that we perform. As such, we have created a professional culture wherein each member of our staff constantly strives for increased efficiency, ultimately allowing us to provide highly professional services at competitive rates. This culture of constant value creation and increased efficiencies ensures that the services contracted to and provided by TKE will always mean good stewardship of public resources.

Thank you for your consideration. TKE would very much appreciates the opportunity to submit a comprehensive proposal to provide professional design services. If you have any questions, please call me at (951) 680-0440 or e-mail me at trenner@tkeengineering.com. Our fax number for your reference is (951)680-0490.

Sincerely,

Terry Renner, P.E., Q.S.D.
Senior Vice President
TKE Engineering, Inc.

SECTION B: FIRM BACKGROUND

1. FIRM OVERVIEW

TKE Engineering, Inc. (TKE), a California Corporation, was established in 2000, and in the last twenty years has developed into one of Southern California's premier full-service consulting engineering, surveying and construction management firms. TKE was established with the goal of providing turnkey services for municipal projects in order to benefit our community. As a result of the focus of a firm on this mission, TKE has earned a reputation for thoroughness, rapid turnaround, cost efficiency and overall quality of work. We are a highly motivated, dynamic firm with the goal of being your preferred consultant. TKE has been providing project and construction management services to municipalities for the past twenty years.

TKE's only office is located in a business owned 7,000 square foot office building at 2305 Chicago Avenue in Riverside located less than 20 minutes from West Valley Water District (WVWD) allowing us to mobilize and respond to the WVWD's needs at a moment's notice.

TKE provides turnkey design engineering services for water and watermaster system improvements to numerous water districts and municipalities throughout San Bernardino, Riverside, and Los Angeles Counties. In addition to design services, TKE also routinely provides the following municipal services: Project Development, CIP Design, Surveying, Traffic Engineering, Project Management, Plan and Map Checking, Program Management, Utility Company Coordination and Management, Public Outreach, Grant Funding, CDBG, HUD and Federally/State Funded Project Management, and Construction Surveying services. Our wide range of services provides our team with an intimate knowledge and experience of the common pitfalls associated with each project variation and our past history of successfully overcoming these challenges. This allows our team to provide quick and efficient decisions to be made related to field changes, which helps to reduce the potential for delays and costly change orders.

TKE is committed to providing high quality, comprehensive services to meet all of WVWD's needs. TKE's Project Manager will be in contact with WVWD staff biweekly to ensure that the project is progressing on schedule and within the allocated budget. It is this personal touch and contact that define our "local service" approach. We consider ourselves community builders and take ownership of projects assigned to TKE, ensuring that our personnel are highly trained and active to keeping the project on schedule within budget using our superior communication and management skills.

Our experience in the Inland Empire and within the WVWD, ability to recommend cost savings features, communication skills, numerous accomplishments, as well as management skills, will help maintain continuity in the delivery of WVWD's pipeline design project. TKE takes a team approach to all projects and emphasizes the importance of constant communication between all members of the team.

TKE's design team and staff are fundamentally committed to creating value in each task that we perform. As such, we have created a professional culture wherein each member of our staff constantly strives for increased efficiency, ultimately allowing us to provide highly professional services at competitive rates. This culture of constant value creation and increased efficiencies ensures that the services contracted to, and provided by TKE, will always mean good stewardship of public resources.

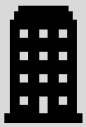
Financial Condition

TKE's organizational structure has steadily grown since our inception 20 years ago, which provides us with a solid foundation and ensures successful completion of the project. In TKE's twenty years of business, not a single TKE project has gone through litigation. TKE has an annual gross revenue of more than $4 million and there are no financial conditions that may impede TKE's ability to provide services, or complete the project as outlined in the RFP and Professional Services Agreement. No conditions or organizational conflicts of interest exist that will affect the ability of TKE to perform the required duties as described in this proposal.

SECTION B: FIRM BACKGROUND

TKE ENGINEERING INC. AT A GLANCE

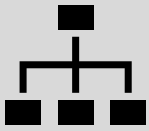
Size of Organization:
40 Professional Engineers, Designers, Plan Checkers, Project and Construction Managers, Inspectors, Surveyors, & Support Staff



Location of Office
TKE Engineering, Inc.
2305 Chicago Avenue
Riverside, CA 92507

Years in Business
TKE has conducted business for the past 20 years and has 20 years of experience in providing Water System Design for public clients.

Subsidiary
TKE is not a subsidiary company



Firm Owners
Michael Thornton, P.E., P.L.S. – President
Terry Renner, P.E., Q.S.D. – Senior Vice President
Steven Ledbetter – Vice President
2305 Chicago Avenue
Riverside, CA 92507
(951) 680-0440

West Valley Water District's Point of Contact
Terry Renner, P.E., Q.S.D. – Senior Vice President
2305 Chicago Avenue
Riverside, CA 92507
Phone: (951) 680-0440
Email: trenner@tkeengineering.com

2. STAFFING RESOURCES

Firm Staffing and Key Personnel

TKE has assembled an elite team of professionals to partner with the WVWD to provide Design Engineering services for the development of construction bid documents for well 54 discharge to waste drain line. Our management team is 100% accountable and responsible for TKE's work product and actively seeks feedback and suggestions on our services. Below is a summary of education, experience, and credentials of key personnel proposed to perform the design services for this project, professional resumes for each of our team members are presented in the appendix of this proposal.

We are sure that the successful results of our current and past performance in the delivery of professional design and construction staking services of water system improvement infrastructure projects, along with our firm's proven ability to utilize our experience to ensure that the community is provided with highly competent and experienced staff, will provide a valuable resource to the WVWD.

As shown in the organizational chart below, personnel that will be preliminary working on projects assigned to TKE include:

Mr. Terry Renner, P.E., Q.S.D. – Senior Vice President and Project Manager

Mr. Steven Ledbetter, P.E. – Vice President and Project Engineer

Mr. Ron Musser, P.L.S. – Senior Surveyor

TKE can also pull from any of our 40 members shown within our support staff section on the organizational chart, if the workload requires.

TKE has extensive experience with an excellent reputation in providing project design, and engineering services for numerous municipal agencies. Throughout our history, we have provided design engineering services for municipal agencies, including Water Districts, Cities, and Community Service Districts. We have successfully completed complex and challenging projects for a variety of municipal agencies who have continued to request that we partner with them in delivering value to their communities.

Education, Experience and Credentials

TKE fully recognizes WVWD's concern for high quality, timely performance, and precise communication when utilizing the services of a consultant for design projects are highly sensitive to time and accuracy and demand exclusive attention to all aspects of a project to ensure delays, change orders and scope changes do not cost WVWD time and money. Each project conducted by TKE is managed and staffed by a project team assembled to meet the specific needs of the project.

Below is a summary of education, experience and credentials of key personnel proposed to perform the work in any upcoming projects.

SECTION B: FIRM BACKGROUND

Terry M. Renner, P.E., Q.S.D. –Project Manager

Education:

Bachelor of Science - California State Polytechnic University, Pomona, Civil Engineering 2002

Experience:

20 Years

Credentials:

California Professional Civil Engineer #69984

California Qualified SWPPP Developer #24329

Arizona Professional Civil Engineer #55194

PM-10 Certified

Steven W. Ledbetter, P.E. – Project Engineer

Education

Bachelor of Science – California State Polytechnic University, Pomona, Civil Engineering (Environmental)

Experience

19 Years

Credentials

California Professional Civil Engineer #84044

Ronald A. Musser, P.L.S. – Senior Surveyor

Education

Riverside Community College

Experience

52 Years

Credentials

California Professional Land Surveyor #4230

Key Personnel Background

For this contract, Mr. Terry Renner, P.E., Q.S.D., Senior Vice President of TKE will serve as the Project Manager. He has 20 years of experience in civil engineering design and plan checking of public works infrastructure projects, including water, sewer, and recycled water improvements, transportation improvements, pavement rehabilitation improvements, drainage improvements, facilities improvements and recreation improvements. He has managed numerous projects and has delivered projects for the numerous Counties, Cities and public utility agencies. As a project manager, Mr. Renner has been responsible for design production of more than 500,000 linear feet of water pipeline including, supervising a staff of engineers and drafters, coordinating work between the production team and the client, and for submitting all deliverables in a timely manner. As a construction manager, Mr. Renner has been responsible for construction coordination and scheduling, utility relocation coordination, public relations, submittal review, supervising a staff of inspectors and subconsultants, weekly progress meetings, request for information responses, storm water management, progress payments, change order review and negotiations, labor compliance, and project closeout. He has successfully delivered a wide variety of complex and challenging projects and is dedicated to ensuring that the plans produced and projects managed by TKE continue to exceed industry standards.

Mr. Renner will be assisted by TKE's project team of project engineers, surveyors, and clerical staff to accomplish all of the tasks.

Mr. Ledbetter has over 19 years of professional experience in the civil engineering industry and will serve as the Project Engineer. He has designed various critical and challenging water system infrastructure projects from planning through design and implementation; all while ensuring that projects are executed as per specification in the stipulated time with quality. He has a well-rounded background with experience in: preparation and analysis of utility improvement plans and specifications including potable and non-potable water, wastewater, and drainage; utility master planning including computer modeling, analysis, and report preparation; water supply planning including feasibility studies, urban water management plans, water supply assessments and verifications; storm water compliance reporting including water quality management plans and storm water pollution prevention plans, permitting and grant writing for various State and Federal agencies.

Mr. Musser has over 53 years of experience in performing field and office surveying services for public projects, including roadway and highway projects. As Director of Surveying at TKE, Mr. Musser is responsible for supervising the survey crews. He is responsible for scheduling, topographic map preparation, pre-staking calculations and quality control of all survey activities. Mr. Musser's responsibilities include map checking compliance, having worked for Riverside County Surveying Department for 14 years, he is uniquely qualified to perform right-of-way engineering and mapping in Riverside County. Mr. Musser is also responsible for crew management, computer downloading of field data and coordination and project management of all daily field work.

Sub-Consultants

TKE's wide variety of services allows us to complete all services in-house, other than geotechnical investigation that will be provided by LOR Geotechnical, Inc. (LOR) and potholing and underground utility verification that will be provided by C Below Subsurface Imaging (C Below).

TKE has worked with LOR over the past twenty years on nearly every type of public works project and has an excellent working relationship with LOR's office and field staff. John Leuer, LOR's President, and contact person for this proposal, works from LOR's

office located at 6121 Quail Valley Court Riverside, CA 92507, he can be reached by phone at (951) 653-1760 or by email at jleuer@lorgeo.com.

LOR Geotechnical, Inc. (LOR) is a multi-disciplinary geotechnical, engineering, and consulting firm providing sound solutions and innovative strategies in the geotechnical, geologic, environmental, and construction inspection fields for their clients since 1988.

LOR's mission is to provide our clients with quality services that meet or exceed their expectations and satisfy their project needs. Our experience includes planned communities, commercial, industrial, and residential development projects, as well as public infrastructure improvements. Our clients include developers, public and private agencies, engineers, financial institutions, contractors, and homeowners. We have developed an excellent rapport with local, state, and federal agencies while providing our services.

LOR has a multi-disciplinary staff of highly qualified and experienced licensed professionals who hold registrations in the State of California. LOR's principals are directly involved in the implementation and completion of its professional services. Their engineers, geologists, environmental, and technical support personnel are committed to the personal, timely, and technically superior service which prompted the founding of the company. LOR provides geotechnical services throughout the Southern California area and offers a full-service Caltrans certified geotechnical laboratory.

TKE has worked with Inland Aerial Survey over the past twenty years on many types of public works projects and has an excellent working relationship with Inland Aerial Survey's office and field staff. Derek Hood, Inland Aerial's President, and contact person for this proposal, works from Inland Aerial's office located at 7117 Arlington Ave, Riverside, CA 92503, he can be reached by phone at (951) 687-4252 or by email at dhood@inlandaerial.com.

Inland Aerial Survey (IAS) Since their beginning in 1969, Inland Aerial Surveys, Inc. has been providing photogrammetry, aerial mapping and geo-spatial services to a continually expanding number of clients in both the private and public sector. They offer all photogrammetric services, while specializing in the compilation of aerial topographic digital data. Since their inception, IAS has been located in Riverside, CA. From this location, IAS has completed projects throughout California, Nevada, Arizona, Oregon, New Mexico, Hawaii and Mexico. Projects range from design scale 1"=20' with 1/2 foot contours to small scale mapping at 1"=500' with 10 foot contours.
Through the use of technologically advanced, precision equipment and capabilities, Inland Aerial Surveys has established a prominent reputation in the industry by providing an unequaled level of quality. An excellent reputation has been established by very close quality control of all phases

TKE has an excellent working relationship with C Below Subsurface Imaging (C Below). TKE has utilized C Below for potholing and underground utility verification on numerous projects over the past four years. Nick Loera, C Below's Business Development Manager, and contact person for this proposal, works from C Below's office located at 14280 Euclid Ave, Chino, CA 91710, he can be reached by phone at (888) 902-3569 or by email at NickL@CBelow.com.

C Below Subsurface Imaging *(C Below)* uses Ground Penetrating Radar (GPR) for locating reinforcing steel, prestressing strand, conduit and other indications in concrete and masonry structures. They use this method because it is one of the safest, fastest and most accurate methods currently available. With the ability to penetrate up to 18 inches of concrete, their technicians can map all indications directly on the scanning surface prior to coring, cutting or drilling. The survey results can also be saved and printed in 3-Dimensional detail providing a subsurface map for our client.

Underground Mapping C Below provides their clients with electronic and/or printed documentation of our utility investigation when mapping is added to their locating scope of work. Utility locations will be plotted in a client provided site drawing with clear, easy to read detail. Each utility is labeled and color coded in accordance with the indications marked in the field. They prepare CAD drawings to ensure the industry's most accurate drawings. The details of these drawings are based upon client specifications. Some of these options include depth, pipe diameter and materials, connection points, and all unknown utilities.

Potholing is also known as vacuum excavation and is used for the purpose of identifying the axis of an underground utility. When the utility is revealed, the type of material and utility size are documented. The data collected during these excavations are beneficial in all phases of construction. Based upon the soils conditions or scope, C Below will choose to use air or water to create the pothole. Potholes made to expose facilities encased in concrete, will stop at the encasement. The top of the encasement will then be recorded as the top of the facility. After documenting our findings, each pothole will be backfilled, compacted, and a perm-a-patch or hot patch will be provided depending upon client specifications. The top of the encasement will then be recorded as the top of the facility. After documenting our findings, each pothole will be backfilled, compacted, and a perm-a-patch or hot patch will be provided depending upon client specifications.

3.

Terry Renner, P.E., Q.S.D.
Project Manager
Preliminary Design Report

Steven Ledbetter, P.E.
Project Engineer
Utility Coordination
Permitting

Ron Musser
Director of Survey
Topographic Survey
Construction Survey

TKE Engineering, Inc. Support Staff

Michael Thornton, P.E., P.L.S. – *Principal-in-Charge*

Michael P. Thornton P.E., P.L.S. – *President*
Octavio Parada – *Project Manager*
Kathleen Robles –*Project Manager*
Mike Heath, P.E. - *Project Engineer*
Steve Nix, P.E., P.L.S. – *Senior Engineer*
Dennis Donahue, P.E., P.L.S., Q.S.D. – *Senior PC Engineer*
Jennifer Cioffi, P.E. - *Project Engineer*
Mycal Balta – *Survey*
Stephen Biscotti – *Senior Public Works Inspector*
Patrick Palafox – *Senior Public Works Inspector*
Kristine Macalma, EIT – *Associate Engineer*
Yesenia Diaz – *Associate Engineer*
Jose Hernandez – *Associate Engineer*
Nyesha Burnatte – *Engineering Technician*
Michelle Sells – *Accounting/Office Manager*
Cassondra Gutierrez – *Clerical*
Deana Vilches – *Clerical*
Robert Doss, P.E. - *Project Manager*
David Kinzle – *Project Manager*
Steve Dukett – *Managing Director Development Services*
Gabor Pakozdi, P.E., Q.S.D. – *Senior Engineer*
Brian Wolfe, P.E. – *Senior Engineer*
Michelle Arellano, P.E. – *Senior Plan Check Engineer*
Monae Pugh - *Traffic Specialist*
Brett Enscoe – *Survey*
Brad Enscoe - *Senior Public Works Inspector*
Marvin Lara, EIT – *Associate Engineer*
Jose Martinez – *Associate Engineer*
Alex Estepa– *Associate Engineer*
Chance Renner – *Assistant Engineer*
Jayden Renner – *Engineering Technician*
Candice Velasco – *Marketing Manager*
Diana Rodriguez – *Clerical*
Tracey McLoughlin – *Clerical*

Lor Geotechnical
Geotechnical

Inland Aerial
Aerial Mapping

C Below
Utility Verification/Potholing

SECTION C: STATEMENT OF UNDERSTANDING AND APPROACH

1. PROJECT UNDERSTANDING

WVWD desires to retain a qualified engineering consultant to provide professional engineering services for the development of construction bid documents and construction staking services for the Well 54 Discharge to Waste Drain Line Project.

TKE has a long 20 year history of designing pipeline projects for numerous of the surrounding communities in which we live and work in on a daily basis. In addition, TKE has worked with the City of Fontana for more than 20 years and will utilize our relationships with City Staff to help expedite this project. From our first project in 2000 to our latest project of this type, TKE has always understood the importance of these projects to the local community. Because of the current budgetary constraints in which local agencies find themselves, we understand the importance of maximizing the amount of improvements that can be built with available funding. TKE accomplishes this through creative engineering techniques and a collaborative effort with agency staff. Our team has helped reduce project costs and demonstrated the ability to build project coalitions time and time again.

We understand how important time and budget are to this type of project. Since funds are limited and time sensitive, it is important to have accurate cost estimates during the entire development of the project, as well as a proactive approach to project completion. This way, alternative design methods can be explored and implemented to keep the project within budget and on schedule. But money isn't the only thing that matters. Once the WVWD Board has given their support, they want to see it happen. WVWD recognizes this and has asked that the project be delivered to final completion within 6 months from the kick-off meeting. With our past history and detailed understanding of the City of Fontana, TKE is the right choice for this project.

2. PROJECT APPROACH AND METHODOLOGY

Successful project delivery is our goal. Our definition of successful project delivery is:

- Project completion that meets all project requirements
- Project completion within budget
- Project completion on schedule

Our goal is not limited to the design of the projects only, but includes the incorporation of value engineering and constructability review. Through the examination of specific design alternatives, we will identify the most cost effective project alternative that meets design requirements and will provide for the greatest opportunity for expedited construction. This allows us to consistently deliver projects that use public resources in a very wise and responsible manner. We have developed this project approach in order to maintain an expertise in our core business of water improvement projects with tight schedule and budgetary constraints.

Our approach to your project, recognizing that both schedule and budget are of primary concern, dictates that design and permitting decisions must be made quickly but carefully. When this is coupled with the various constraints present with any project, it is critical that WVWD choose a consultant with a proven track record of delivering. With a familiar team of senior level design and construction professionals, TKE is the right choice for this project.

With Pump to Waste Pipeline Projects, our experience tells us that there must be a proactive approach to completing the work. This approach includes early identification of critical design elements, experience with common challenges, preliminary design, permit acquisition and accurate cost estimating throughout the entire process. In preparing this proposal, our team reviewed the project site and the RFP, to establish key issues so we can be prepared to mobilize on a moment's notice to assist you.

We have identified the following key elements:

Identification of Critical Design Elements

Our approach to this critical issue will be to immediately initiate field review, perform very thorough records research, and document all the critical design elements so they can be presented to WVWD. This will provide a head start on instructing our survey team about what detailed information to collect. These elements include key ground elevation information at locations necessary to ensure appropriate cover, the location of any areas that will require special construction methods, easement acquisition or additional permitting requirements, and potholing critical underground utilities in order to ensure proper clearance and minimize relocations during construction of pipeline improvements.

Experience with Common Challenges

Permitting

TKE's wide range of successful project delivery has enabled us to forge relationships with the various resource agencies necessary for complex environmental and encroachment permitting. We have successfully acquired permits from SBCTA, Cal-OSHA Mining and Tunneling, Caltrans, San Bernardino Counties, US Army Corps of Engineers, US Fish and Wildlife Service, California Department of Water Resources, California State Water Resources Control Board, Union Pacific Railroad, Burlington Northern

Santa Fe Railroad, and Santa Ana Regional Water Quality Control Board, as well as local City permits, to name a small sample. Our long-standing relationships and permitting experience allows us to expedite the permitting process and provides WVWD knowledgeable experts to turn to in order to avoid future challenges.

Traffic Control

TKE's wide range of successful project design delivery and construction management has enabled us to understand common mistakes that lead to difficult, more expensive construction. TKE inherently analyzes all design alternatives against such factors as traffic control and tread paths to provide the most cost effective and constructible alternative available.

Right-of-Way

Upon determination of the pipeline alignment, TKE will assess right-of-way and/or easement needs. It appears that pipeline construction can occur within existing right-of-way limits. During alignment selection, TKE will analyze the proposed alignment alternatives and evaluate the requirements for any additional right-of-way or easement acquisition.

Appurtenances

One of the critical issues with pipeline design is related to the sizing and placement of appurtenances. Our experience in pipeline design allows us to avoid the common challenges. For instance, when sizing air vacs, one of the common issues that arises with inexperienced design teams is that the air vac is sized and located for common operation range only, and the filling and emptying operational range is not considered. This seemingly simple design issue can cause damage to the water system during the filling and emptying operation. We know these issues and have proven methods to avoid them.

Accurate Cost Estimating

TKE understands the limits on WVWD funding. Because of the limited budget for projects, it is vital to keep costs controlled. Our approach to controlling costs is to provide frequent and accurate cost estimates by using TKE's detailed cost estimating database. In addition to using this database, TKE utilizes our considerable experience with Construction Management to assist in providing constructability reviews and cost estimating based on current information from our on-going projects. Finally, with the current economic climate, construction costs are widely varying. We will also discuss the project's elements with local contractors to assure that we have the most current construction information available so that WVWD can get the most "bang for their buck".

3. PAST EXPEREINCE

Throughout our history of twenty years serving the Inland Empire region, we have provided multi-disciplinary planning, design and construction support services for large and small water system improvement projects. We have successfully completed complex and challenging projects for a variety of municipal agencies who have continued to request that we partner with them in delivering much needed infrastructure to their communities.

TKE has two unique advantages associated with the experience of TKE's project team. One benefit of TKE's project team is our extremely low internal turnover rate. As a result of our rigorous interview and testing procedures coupled with our extremely high employee satisfaction rates, TKE staff has years of experience working together. The close relationships each of our staff members have with one another provide the WVWD with an extremely well rounded and experienced team. As such, TKE's project team experience directly correlates with TKE's firm experience described below. The second benefit of TKE's project team is our internal training procedures. TKE has strived to develop techniques that reach outside the box and develop well rounded individuals committed to providing high quality, efficient services to meet all of our clients' needs. TKE trains our staff on every facet of design engineering to provide a level of knowledge that can identify problems in every phase. It is this commitment to service and diverse array of offerings that makes us unique and drives our long-standing relationships with our client base. Understanding that early identification of potential issues and strict compliance with the construction developments are important to ensure the WVWD's interests are protected, our team brings TKE management level professionals to projects ensuring that every aspect receives full and comprehensive consideration. It is this personal touch and contact that define our 'local service' approach. We consider ourselves community builders and take ownership of services requested from TKE, ensuring that our personnel have a background in the design and construction field provides the WVWD with a team which will maximize the potential to complete all services on schedule and within specified budget. TKE is committed to responding to our clients' needs as they arise.

Similar Services

TKE continues to provide numerous municipalities and agencies with Engineering and project support consulting design services and staffing for every facet of engineering and public works projects. In addition, we have worked on a wide variety of projects, ranging from multi-million dollar regional mega projects to minor replacement projects for a variety of government agencies. TKE recognizes the importance of staffing based on a client's need and workload. Our flexible support and qualified staff

enables our clients to serve their constituents in a cost effective and efficient manner.

A few examples of similar services provided by TKE are the West Valley Water District, Rubidoux Community Services District, Mission Springs Water District, and San Bernardino Municipal Water District, and City of Fontana. Each are discussed below:

West Valley Water District – TKE is currently serving West Valley Water District with pipeline design permitting coordination and sewer feasibility studies.

Rubidoux Community Services District – TKE is currently providing on-call design and construction management services to the Rubidoux Community Services District (RCSD) for various water and wastewater infrastructure projects. The projects include distribution and transmission water pipelines, gravity and force main sewers and lift stations.

Mission Springs Water District – TKE is currently serving Mission Springs Water District (MSWD) as its District Engineer. In addition, TKE is providing on-call engineering services on various capital improvements projects. Including Well 27 and 31 pump to Waste Line Dry Wells, Well 42 Reconstruction, and Desert Willows Waterline Replacement.

San Bernardino Municipal Water Department – TKE is currently serving as the San Bernardino Municipal Water Department's (SBMWD) on-call plan check and inspection engineering consultant. TKE is responsible for all plan checking and inspection services on numerous developer improvement projects to ensure the plans are developed and constructed to SBMWD, City of San Bernardino, Health Department and all other regulatory agency standards. TKE is currently and has been providing plan check and inspection services to SBMWD since 2005 for more than 46 pipeline projects totaling more than 100,000 linear feet of pipeline installation.

City of Fontana – TKE has provided design services to the City of Fontana for more than 20 years and has formed an excellent working relationship with the City.

4. RESPONSIBILITIES

TKE will be in constant communication with District Staff to ensure all decisions made have been properly vetted and approved by the District. TKE will review all issues and approach the District for any required information and direction. District Staff will be responsible for providing direction and approvals associated with any and all project questions, issues or directives.

SECTION D: SCOPE OF WORK

1. SCOPE OF WORK

Proposed Scope of Services

TKE is familiar with construction bid documents and construction staking services for all types of public works improvement project types and has specific experience with management of pump to waste water system consolidation projects.

Our design scope of services is presented in the following paragraphs:

Task 1. Development of Construction Documents

Task 1.1. WVWD Coordination

TKE will coordinate with WVWD staff to research all existing water system information including locations of water facilities, water mains, gate valves, connection points to storm drain channels or catch basins in the project areas. We will research all requirements associated with easements, encroachment permits, and required easements.

Task 1.2. Professional Surveying

Due to the size of the project, we propose to use conventional survey along with aerial photogrammetry to prepare the base construction drawings. Our field survey crew will locate existing street centerline monuments utilizing survey control data and set necessary aerial targets. The crew will measure the horizontal angle, horizontal distance, and vertical elevation difference between each survey monument. We will complete a traverse for each survey to ensure closure. Utilizing GPS survey methods, two first order horizontal monuments will be established for each pipeline project associating the survey to the NAD 83, California State Plane Coordinate System, Zone 5, Epoch 2011.0. The monuments will be adjusted to the California High-Precision Geodetic Network and its densification stations. Elevations will be tied to existing City benchmarks based on the NGVD 29 Datum. In addition, we will measure sewer and storm drain inverts. We will collect appropriate detail within the project limits and a minimum of one hundred (100) feet beyond the project site as required including slopes, bridges, railroad, trees, walkways, sidewalks, driveways, curbs, gutters, cross gutters, fire hydrants, water valves, manholes, water meters, signs, street lights, power poles, and all other visible features that may impact the construction of the proposed water system.

Task 1.3. Utility Research/Coordination

We will thoroughly research existing utility records and acquire copies of all available records. The purpose of the records research is to assemble survey records to establish locations of street centerlines and rights-of-way and determine locations of all existing utilities and improvements.

The research will consist of assembling copies of assessors' maps, tract maps, parcel maps, monument ties, benchmark data, corner records, street improvement plans, and utility drawings. We will notify Underground Service Alert to acquire a complete list of underground utility purveyors. The utility drawings will include existing drawings from WVWD, and drawings and/or atlas maps from all private utility companies, and/or agencies. We will send letters to utility companies and agencies requesting their data. We will maintain copies of the letters for future reference.

Task 1.4. Geotechnical Services

LOR Geotechnical will provide geotechnical services. They will collect soil samples as required to provide soil characteristics data for thrust restraint design, foundation design, slopes, landslides, embankments, liquefaction and trench shoring requirements development by contractors. In addition, they will prepare a report that will include excavation characteristics, soil bearing capacities, soil coefficient of friction, soil in-place density, and potential Geotechnical issue that may affect construction. They will complete a test boring in the project limits to determine the existing roadway section and identify any underlying roadway. In addition, they will prepare a summary table that will that will be included on the plans.

Task 1.5. Potholing

C Below will provide potholing excavation services for the project. They will submit a request to Underground Service Alert (USA) to notify USA members to attend a field meeting to review locations to be excavated. TKE will mark critical utility locations as defined by TKE and approved by WVWD staff, in the field. We propose to only excavate those facilities that would have a significant impact on pipeline profile design.

We will conduct a field meeting to request that utility representatives mark their facilities within specified locations. We will document meeting attendees for future reference. C Below will arrange for excavation of the interferences and measure all utilities that are excavated to record their horizontal and vertical alignments. We would then identify all facilities that require relocation, if any. In addition to the utility data, we will note the condition of existing pavement for design of replacement pavement sections.

For design purposes we have assumed a total of five potholes for the project.

Task 1.6. Permit Acquisition

After the 60% design review meeting, TKE will begin application preparation for required permits. Applicable permits include:

- San Bernardino County Flood Control District - Encroachment permit from the San Bernardino Flood Control District may be required for connection to flood control channel.
- City of Fontana – Storm Drain Permits for Connection of pump to waste pipeline to existing city storm drain.
- City of Fontana Encroachment Permit-Encroachment permit from the City of Fontana will be required.

Task 1.7. Preliminary Design Report

Task 1.7.1. Preliminary Cost Estimate

We will prepare a preliminary cost estimate for each option using an Excel spreadsheet and include descriptions of each item to be constructed, including any special construction methods, units, unit costs, total cost, soft costs for engineering, administration, any required right-of-way or easement acquisition, and permit fees.

Task 1.7.2. Hydraulic Flow Analysis

Once the drain line alignment has been determined, we will develop an estimated flow rate per the requirements of the City. In addition, we will estimate the drain line slopes and analyze the required pipe size and associated capacities to convey the required flow rate. A report shall be prepared that summarizes the proposed design, assumptions, and criteria of the analysis presented above. Upon draft completion, the letter report will go through a single review with WVWD Staff for completeness and consistency of conclusions. Thereafter, a final letter report will be prepared and delivered to WVWD.

Task 1.8. Contract Documents

TKE will attend a project kickoff meeting, progress meetings, coordination meeting and prepare plans and specifications as described below:

Task 1.8.1. Base Construction Drawings

We will prepare the base construction drawings on 24" by 36" sheets with the WVWD's standard title block using AutoCAD 2020 software at a drawing scale of 1"=40'. The base construction drawings will include a plan view based on the survey data collected. We will add the sheet north arrow, graphic scale, existing improvements and utilities (based on both assembled records and field data), property lines, public and private right-of-way, street centerline, street names, and survey data to the plan view portion of the drawings. Once the base drawings are complete, we will perform a careful field review to ensure all underground facilities are shown correctly.

Upon completion of the base construction drawings we will identify utility crossings deemed critical for potholing purposes. We will review the list of utilities with WVWD staff for acceptance and begin underground verification work.

Task 1.8.2. 60% Design

The title sheet shall include the title of the job, a vicinity map showing the City in relationship to surrounding communities, a location map showing the project limits, sheet index map, benchmark data, and construction notes.

The construction notes will include requirements for notifications, existing utility protection and relocation, pipeline materials, excavation, improvement restoration, and existing waterline abandonment requirements, if any.

The plan/profile sheets will include the plan view showing digital topographic data, existing improvements and utilities, centerline control, proposed pipeline, and pipeline appurtenances *(connections, air valves, main line valves, fire hydrants and blow offs).* The profile (at a drawing scale of 1"=40' horizontal and 1"=4' vertical) will show existing ground surface over the proposed pipeline, pipeline flow line, top of pipe, utility crossings, slopes, length of pipe, pipeline appurtenances, joint restraint requirements, and special bedding requirements all in accordance with WVWD standards.

The construction detail sheets will include WVWD standard details, connections, appurtenance details, and abandonment details, all at appropriate drawing scales.

The specifications shall be prepared in accordance with WVWD standards and will be prepared in Microsoft Word format.

After 60% design is complete, we will forward 2 copies of the drawings and one copy of the specifications along with a disc containing PDF copies of the plans and specifications to WVWD for review.

Task 1.8.3. Coordination with Agencies/Utilities

After incorporating WVWD comments, we will submit drawings to all agencies/utilities having underground facilities in the project area that may be affected by construction and request that they verify their facilities are shown correctly and that they furnish any construction requirements they desire. We will request that they respond within two weeks and we will follow up with telephone calls to confirm all agency requirements have been incorporated. We will document all conferences with utilities and agencies.

Task 1.8.4. 90% Design

We will incorporate WVWD's 60% comments and provide WVWD revised drawings and specifications. After 90% design is complete, we will forward 2 copies of the drawings and one copy of the specifications along with a disc containing PDF copies of the plans and specifications to WVWD for review.

Task 1.8.5. Final Drawings

After receiving final approval on the drawings, TKE will provide WVWD with digital (AutoCAD and PDF) copies of the drawings, specifications (Word and PDF) copies, and PDF copies of the construction schedule and engineer's estimate for final approval.

Task 1.9. Construction Schedule and Cost Estimate

At each submittal phase (60%, 90% and Final) TKE will prepare and update a detailed itemized construction schedule and engineer's estimate of probable cost. TKE schedule will be prepared using Microsoft project and will include detailed task items with key dates. The estimate will be prepared using an excel spreadsheet and will include descriptions of work, unit prices and quantities.

Task 1.10. Meetings

TKE will attend 4 (four) progress meetings with WVWD. One (1) internally with WVWD at kick-off, one (1) to review the PRD, one (1) at 60% design review, and one (1) at 90% design review to coordinate responses to all review comments. We will Prepare an agenda, record all meeting minutes, and submit a copy of minutes to WVWD within three (3) working days after each meeting.

Task 1.11. Bid Support Services

We will attend the pre-bid meeting, respond to five (5) Request for Information ("RFIs"), and prepare an addendum.

Task 2. Construction Staking Services

We will provide construction survey and staking for horizontal and vertical survey control points set at 50-foot intervals offset from and graded to finish surface for the storm drain line. Construction staking for storm drain line appurtenances including but not limited to proposed standpipe and manhole(s) shall be staked for actual location with a second stake for offset and grade. We will prepare grade sheets including field notes.

SECTION E: REFERENCES

1. REFERENCES

Please see below for a small, but representative list of agencies who have and continue to request TKE assist them in delivering valuable projects to their communities. We respectfully request that you verify our qualifications with the listed references.

AGENCY	CONTACT NAME	PHONE NUMBER AND EMAIL ADDRESS	DATES SERVICES PROVIDED
WEST VALLEY WATER DISTRICT 855 WEST BASE LINE, BUILDING B RIALTO, CA 9237	MS. ROSA GUTIERREZ SENIOR ENGINEER	PHONE: (909) 875-1322 EXT. 327 RGUTIERREZ@WVWD.ORG	2018 – PRESENT
CITY OF FONTANA ENGINEERING DEPARTMENT 16489 ORANGE WAY FONTANA, CA 92335	MR. JEFFREY KIM SENIOR CIVIL ENGINEER	PHONE: (909) 350-6724 JKIM@FONTANA.ORG	2000 – PRESENT
MISSION SPRINGS WATER DISTRICT 66575 2ND STREET DESERT HOT SPRINGS, CA 92240	MR. ARDEN WALLUM GENERAL MANAGER	PHONE: (760) 329-5169 FAX: (760) 660-4403 AWALLUM@MSWD.ORG	2001 – PRESENT
SAN BERNARDINO MUNICIPAL WATER DISTRICT 1350 S E STREET SAN BERNARDINO, CA 92408	MR. TED BRUNSON WATER UTILITY DIRECTOR	PHONE: (909) 684-7580 TED.BRUNSON@SBMWD.ORG	2003 – PRESENT
RUBIDOUX COMMUNITY SERVICES DISTRICT 3590 RUBIDOUX BLVD., RUBIDOUX, CA 92509	MR. JEFF SIMS ASSISTANT GENERAL MANAGER	PHONE: (951) 684-7580 JSIMS@RCSD.ORG	2001 – PRESENT
SAN ANTONIO WATER COMPANY 139 N EUCLID AVENUE UPLAND, CA 91786	MR. BRIAN LEE GENERAL MANAGER	PHONE: (909) 982-4107 BLEE@SAWATERCO.COM	2006 – PRESENT

SECTION E: REFERENCES

1. TKE's EXPERIENCE AND REFERENCES

The following projects performed by our team serve as a small sample of the success we have had with public agencies with projects similar to yours. We encourage you to confer with our references.

Pacific Avenue 16" and 12" Pipeline Replacement

City of Jurupa Valley, CA

Client Contact
Mr. Ronald Young
Rubidoux Community Services District
(951) 684-7580

Project Cost
$1.0 Million

Completion Date
March 2016

Project Team
Michael Thornton, P.E., L.S.
Terry Renner, P.E., Q.S.D.
Steven Ledbetter, P.E.
Ron Musser, L.S.
Stephen Biscotti

Description: The Pacific Avenue 16" and 12" Water Pipeline Improvements Project extends from Limonite Avenue To Mission Boulevard and is located in the City of Jurupa Valley. This project consisted of the construction of 5,525 linear feet of 16" and 12" ductile iron and polyvinyl chloride pipe, including connection to existing system, construction of new water system infrastructure, bore and jack with 24" steel casing, meter connections, appurtenances and demolition and abandonment of required existing facilities.

Services: Services include design, permitting, surveying, construction administration, construction inspection, coordination with agencies and consultants, and construction staking.

Well 42 Update and Construction

Mission Springs Water District

Client Contact
Mr. Arden Wallum
Mission Springs Water District
760.329.5169
awallum@mswd.org

Project Cost
$3.5 Million

Completion Date
August 2020

Project Team
Steven Ledbetter, P.E.
Zuzanna Rand, P.E.
Ron Musser, L.S.
Brad Enscoe

Description: TKE prepared updates to plans, specifications, and estimates, and provided construction management and inspection services for the construction of a new potable water production well capable of flowrates up to 2,000 gpm in the City of Desert Hot Springs. The new production well will replace an existing production well that was placed on standby due to uranium contamination. The project will save the District on costs related to on-going rental and periodic use, during peak flow events, of a package uranium treatment plant. The project includes well drilling and development, equipping the well, well building, and drainage and site improvements. The project is funded, in part, by a Proposition 84 Integrated Regional Water Management grant.

Services: Services include grant administration, records research, coordination with agencies and consultants, cost estimating, environmental coordination, permitting, bidding, construction management, construction staking, and inspection.

SECTION E: REFERENCES

Well 27 and 31 Drywells

Mission Springs Water District

Client Contact
Mr. Arden Wallum
Mission Springs Water District
760.329.5169
awallum@mswd.org

Project Cost
$200,000

Completion Date
June 2020

Project Team
Steven Ledbetter, P.E.
Zuzanna Rand, P.E.
Ron Musser, L.S

Description: TKE prepared plans, specifications, and estimates for the construction of pump to waste line to install a series of drywells to capture and recharge well discharges that occur during start-ups and shut-downs. The drywells are required to reduce operations and maintenance costs related to a typical detention basin. The project includes removal and replacement of all well discharge drain lines and construction of a series of drywells that are sized to accommodate peak monthly flows.

Services: Services include records research, topographic survey, design, cost estimating, preparation of specifications, bidding, construction management, construction staking, and inspection.

SECTION F: ADDITIONAL INFORMATION

1. ACCEPTANCE OF INSURANCE AND INDEMNITY REQUIREMENTS

TKE Engineering, Inc. accepts all insurance and indemnity requirements as listed in the Request for Proposal.

2. COMPLIANCE WITH LAWS AND REGULATIONS

TKE Engineering, Inc. is compliant with all federal laws relating to affirmative action, drug free work place, minimum wage, and lobbying.

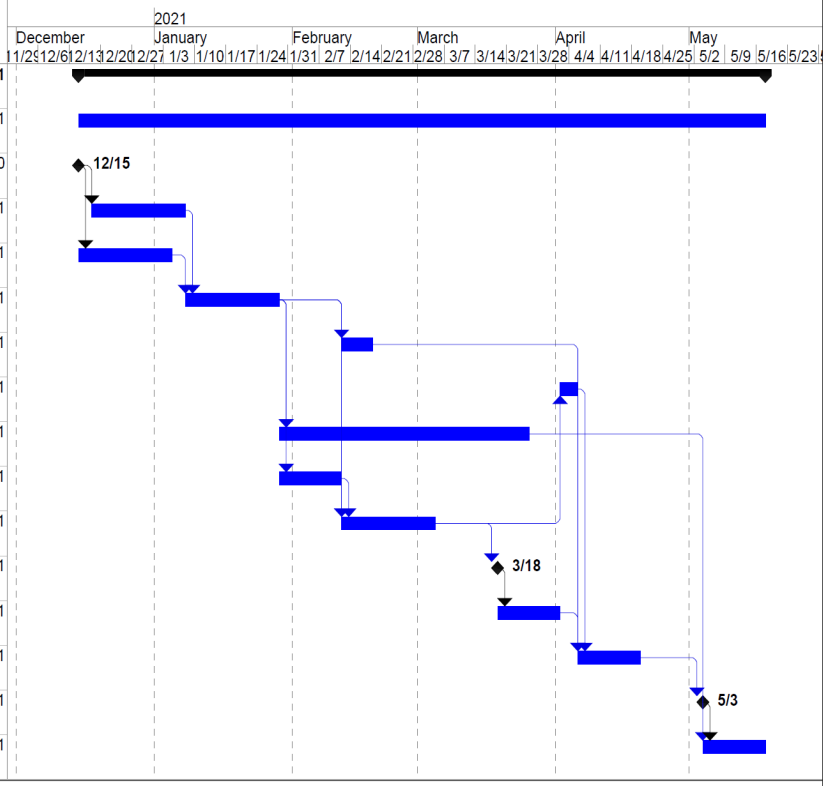
3. EXCEPTIONS

TKE Engineering, Inc. takes no exceptions to the requirements set forth in the subject RFP.

SECTION H: PROJECT SCHEDULE

West Valley Water District
Well 54 Discharge to Waste Drain Line
November 3, 2020
Project Schedule

ID	Task Name	Duration	Start	Finish
1	**Project Duration**	**110 days**	**Tue 12/15/20**	**Mon 5/17/21**
2	WVWD Coordination	110 days	Tue 12/15/20	Mon 5/17/21
3	"Kick Off" Meeting	0 days	Tue 12/15/20	Tue 12/15/20
4	Professional Surveying	15 days	Fri 12/18/20	Thu 1/7/21
5	Utility Research/Coordination	15 days	Tue 12/15/20	Mon 1/4/21
6	Base Construction Drawings	15 days	Fri 1/8/21	Thu 1/28/21
7	Geotechnical Services	5 days	Fri 2/12/21	Thu 2/18/21
8	Potholing	2 days	Fri 4/2/21	Mon 4/5/21
9	Permit Acquisition	40 days	Fri 1/29/21	Thu 3/25/21
10	Preliminary Design Report	10 days	Fri 1/29/21	Thu 2/11/21
11	60% Design	15 days	Fri 2/12/21	Thu 3/4/21
12	Design Review Meeting	0 days	Thu 3/18/21	Thu 3/18/21
13	Coordination with Agencies/Utilities	10 days	Fri 3/19/21	Thu 4/1/21
14	90% Design	10 days	Tue 4/6/21	Mon 4/19/21
15	Design Review Meeting	0 days	Mon 5/3/21	Mon 5/3/21
16	100% Design	10 days	Tue 5/4/21	Mon 5/17/21

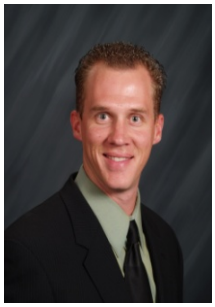


Project: Well 54 Discharge Pipeline De
Date: Mon 11/2/20

Task
Split
Milestone
Summary
Project Summary
External Tasks
External Milestone
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Progress
Deadline

Page 1

APPENDIX A: RESUMES



Mr. Terry Renner, P.E., Q.S.D.

Project Role
Project Manager

Education
BS, Civil Engineering, California State Polytechnic University, Pomona

Continuing Education
Caltrans SWPPP Certified QSP/QSD Training

Registration
Registered Civil Engineer, PE# 69984 (CA)

Professional Civil Engineer #55194 (AZ)

Qualified SWPPP Developer and Practitioner #24329

Affiliations
Riverside-San Bernardino Counties Branch, American Society of Civil Engineers

American Public Works Association

American Council of Engineering Companies of California

Mr. Renner is the Senior Vice President of TKE and has 20 years of experience in civil engineering infrastructure projects, including water and sewer improvements, drainage improvements, transportation improvements, facilities improvements and recreation improvements. He has managed numerous projects and has delivered projects for East Valley Water District, the City of San Bernardino Municipal Water Department, Elsinore Valley Municipal Water District, Eastern Municipal Water District, Mission Springs Water District, Rubidoux Community Services District, Maywood Mutual Water Company No. 1, and the cities of Fontana, Upland, Riverside, Redlands, Rialto, Calimesa, El Monte and Corona. As a project manager, Mr. Renner has been responsible for design production, supervising a staff of engineers and drafters, coordinating work between the production team and the client, and for submitting all deliverables in a timely manner. As a construction manager, Mr. Renner has been responsible for construction coordination and scheduling, utility relocation coordination, public relations, submittal review, supervising a staff of inspectors and subconsultants, weekly progress meetings, request for information responses, storm water management, progress payments, change order review and negotiations, labor compliance, and project closeout. He has successfully delivered a wide variety of complex and challenging projects and is dedicated to ensuring that the plans produced by TKE continue to exceed industry standards.

Related Experience

- *Baseline Gardens Consolidation Project, East Valley Water District, San Bernardino, CA* – Mr. Renner provided project and construction management services for the Baseline Gardens Consolidation Project which is located in the City and Unincorporated Area of San Bernardino County north of Baseline Road. Proposed improvements provided replacement of all existing water main, service laterals and meters and appurtenances for the previously owned Baseline Gardens Mutual Water system which was consolidated by East Valley Water District with State grant funding. TKE provided construction management and inspection services for approximately 18,000 linear feet of water system replacement improvements and 480 service laterals including, pipeline, valves, fire hydrants, meters and appurtenances.
- *2017-18 Annual Water Replacement Program, City of Hesperia, CA* – Mr. Renner was the Project Manager for this project which consists of replacement of 42,600 linear feet of 4" aging pipelines with 8-inch pipe and related appurtenances. Typical pipeline appurtenances for the project include, control valves, fire hydrants, air vacuum release valves, blowoffs, and water service piping to construct to the existing water meters which will remain. In addition, the project includes over 60 connections to existing water mains.
- *Recycled Water Pipeline Project, City of Hesperia, CA* – Mr. Renner was the Project Manager for this project which consists of construction of 8 miles of recycled water pipelines ranging for 16" to 8" in diameter including, plan and profiles, specifications, cost estimates, and DWR funding management. In addition, TKE is providing construction assistance services, grant funding management and inspection for pipeline construction.
- *Pacific Avenue 16" and 12" Water Pipeline Improvements Project, City of Jurupa Valley, CA* – Mr. Renner was the Project and Construction Manager for this project which consists of 5,525 linear feet of 16" and 12" ductile iron and polyvinyl chloride pipe, including connection to existing system, construction of new water system infrastructure, bore and jack with 24" steel casing, meter connections, appurtenances and demolition and abandonment of required existing facilities.

- *"I" Street Pipeline – City of San Bernardino, CA* – Mr. Renner is Project Manager of this project, which consists of the construction of 2,300' of 16" and 3,700' of 20" ductile iron pipe. The project included hanging the pipe beneath a flood control bridge crossing of the Devil's Creek and BNSF permitting for bore and jack crossing of railroad at Rialto Street, along with coordination with other agencies.
- *1158 Zone Recycled Water Program, City of Fontana, CA* – Mr. Renner was the Project Manager and Design Engineer for this project, which TKE prepared preliminary engineering report, utility permitting, plans, specifications, and estimates for the construction of approximately 50,000 linear feet of recycled water mains ranging from 6" to 24" in diameter. The project included San Bernardino County Flood Control District bridge crossings, DWR pipeline crossings and Southern California Edison easement crossings. TKE prepared a preliminary engineering report that identified potential users, projected use amounts alignment alternatives to provide service, environmental impacts and service retrofits. TKE also assisted with a funding application and processing of the application with the State of California State Water Resource Control Board.
- *1720 Zone West Transmission Main Pipeline – City of San Bernardino, CA* - Mr. Renner was Project Manager for this project which consisted of the construction of 14,500' of 36" cement mortar lined and coated steel pipe, Metropolitan Water District and San Gabriel Valley Water district encroachment permits, San Bernardino County Flood Control District, US Army Corp of Engineers, and Department of Fish and Game permitting for pipeline bore and jack crossing of Devil's Creek Diversion Channel/Cable Creek, BNSF permitting for bore and jack crossing of railroad at Palm Avenue, and coordination with other agencies for tie-ins to the proposed reservoir site.
- *Belleview and Vine Streets Alley Main Replacement Project, City of San Bernardino, CA* – Mr. Renner was the Project Manager and Design Engineer for this project, which provided construction of 2,400 linear feet of 8-inch ductile iron pipeline and appurtenances and 132 water services along Vine Street and Bellevue Street. The project included removal of all water meters from the rear side of the properties and construction of new meters on the street frontage.
- *College Pipeline - City of San Bernardino, CA* - Mr. Renner was Project Manager for this project. This project consisted of the construction of 2,500' of 24" and 36" ductile iron pipe, including restrained length calculations, joint specifications, system appurtenances, connections to the existing system, coordination with San Bernardino County Flood Control and BNSF Railroad for a railroad crossing encroachment permit, and coordination with other agencies for tie-ins to the proposed booster station.
- *In-Line Well Booster Pump and Chlorination Injection Replacement Project, City of Huntington Park, CA* – Mr. Renner was the Project Manager, Design Engineer and Construction Manager for this project, which TKE prepared plans, specifications, and estimates for the construction of in-line booster pumps for the installation of a manganese filtration plant capable of flowrates up to 1500 gpm in the City of Huntington Park. The redundant booster pumps are required to boost the water from well pump #4 through the filtration system and into the 70-foot tall welded steel reservoirs. The project included replacement of all well head piping and pump to waste discharge lines as well as the replacement of the existing chlorine chemical feed pumps with a vacuum chemical feed system to prevent chemical injectors from routine maintenance problems.
- *Jurupa Street Recycled Water Main Project, Ontario Municipal Utilities Company, City of Ontario, CA* – Mr. Renner was the Project Manager and Design Engineer for this project, which TKE prepared design, utility coordination, utility verification, plans, specifications, estimates and coordination with local businesses for the construction of approximately 4,700 linear feet of 8" recycled water main and related appurtenances. The project constructed an infill recycled water main to connect a previously constructed recycle water main which was currently serving potable water to the existing recycled water system.
- *Manganese Treatment Facility and 0.5 MG Reservoir Project, City of Huntington Park, CA* – Mr. Renner was the Project Manager, Design Engineer and Construction Manager for this project, which

TKE prepared plans, specifications, and estimates for the construction of a grant funded 70-foot tall welded steel reservoir replacement project and a fully redundant manganese filtration plant capable of flowrates up to 1500 gpm in the City of Huntington Park. The project included the removal of a structurally deficient steel reservoir and construction of the proposed welded steel reservoir including a ring footing with 45-foot deep 3-foot diameter caissons to combat liquefaction issues. The reservoir removal and replacement is located within fifteen feet of an existing 70-foot tall 2 million gallon steel reservoir to be protected during construction

- *Ogden Reservoir Pipeline - City of San Bernardino, CA* – Mr. Renner was Project Manager for this project. This project consisted of the construction of 7,385' of 36" ductile iron pipe, including restrained length calculations, joint specifications, system appurtenances, connections to the existing system, transit analysis, coordination with Caltrans to tie into a proposed waterline and Department of Water Resources for encroachment permits, and coordination with other agencies for tie-ins to the proposed booster station and reservoir site.
- *Holly Drive Reservoirs - San Antonio Water Company* – Mr. Renner served as Project Manager for *this* project to construct two new 120,000-gallon welded steel water storage reservoirs at the Holly Drive Tank Site. This project includes extensive earthwork and retaining walls of up to 20’ in height to accommodate the proposed reservoirs and the demolition of an existing 60,000-gallon reservoir. Additionally, TKE is managing all CEQA and permit compliance efforts for the project.
- *Holt Boulevard Sewer Improvements, City of Ontario, CA* – Mr. Renner served as Project Manager for *this* project evaluating existing conditions of Holt Boulevard Trunk Sewer and developed recommendations to repair the partially constructed sewer system. The trunk sewer contains numerous construction deficiencies including sags of as much as 10-inches, slipped joints, unsuitable bedding, failed trenches, and failed compaction. TKE designed removal and replacement sections along with Cured In Place Pipe (CIPP) slip lined sections within the 25-foot deep sewer system. The system includes both 24” and 30” diameter VCP sewer pipe and is very flat with slopes of 0.0012 feet per foot. Services included records research, coordination with agencies, preliminary analysis report, hydraulic calculations, cost estimating, topographic survey, design, forensic engineering, permitting, and bidding and construction support services.

APPENDIX A: RESUMES

Mr. Steven W. Ledbetter, P.E.

Project Role

Project Engineer

Education

BS, Civil Engineering (Environmental), California State Polytechnic University, Pomona

Registration

Registered Civil Engineer, PE# 84044 (CA),

Affiliations

Riverside-San Bernardino Counties Branch, American Society of Civil Engineers

Mr. Ledbetter has over 19 years of professional experience in the civil engineering industry. He has handled various critical and challenging projects from planning through design and implementation; all while ensuring that projects are executed as per specification in the stipulated time with quality. He has a well-rounded background with experience in: preparation and analysis of street and utility improvement plans and specifications including potable and non-potable water, wastewater, and drainage; utility master planning including computer modeling, analysis, and report preparation; water resource planning and management including feasibility studies, urban water management planning, water supply assessments and verifications, integrated regional water management planning, and groundwater management planning; storm water compliance reporting including water quality management plans and storm water pollution prevention plans and; and grant writing and administration for various State and Federal agency programs.

Related Project Experience

- *Mission Springs Water District, Desert Hot Springs, CA* - Mr. Ledbetter is currently serving Mission Springs Water District as its District Engineer. He is working with staff to manage more than $30 million in water and wastewater improvement projects. In addition, Mr. Ledbetter supports the District in several regional water resource planning elements, including Integrated Regional Water Management and Sustainable Groundwater Management. Services include budget development and management, technical analysis, capital project planning and delivery, management of other consultants, and presentations to their board of directors.
- *West Valley Water Reclamation Program, Mission Springs Water District, CA* – Mr. Ledbetter is providing program management services for the development and construction of the District's West Valley Water Reclamation Program (WVWRP). The WVWRP includes planning, design, and construction of a regional wastewater treatment plant, interceptor conveyance system, and local wastewater collection systems. Mr. Ledbetter is managing the completion of the WVWRP, including: participation and management of funding acquisition; staff, board, consultant, funding agencies, and public coordination and communications; assessment district formation; State Revolving Fund (SRF) and grant application processing; State invoicing and reporting; environmental compliance processing; preliminary engineering preparation; plans, specifications, and cost estimates (PS&E) preparation; bidding and construction; and all related services to successfully complete the WVWRP.
- *Chino Basin Watermaster, Rancho Cucamonga, CA* – Mr. Ledbetter serves as the City of Upland's representative on administrative and water resource matters at Chino Basin Watermaster. Mr. Ledbetter represents the City at pool and committee meetings and technical workshops ensuring the City's interests are protected. Mr. Ledbetter is currently overseeing the development of a Storage Management Plan, Optimum Basin Management Plan, and Safe Yield Recalculation, amongst other items. Mr. Ledbetter routinely meets with the City to discuss current issues, provide input, and receive direction on all Watermaster items.
- *Canyon Creek Resort Water Supply Assessment, Norco, CA* - The proposed Canyon Creek Resort development includes 551 dwelling units of low and medium density residential, hotel lodging, and 213 acres of open space within the eastern portion of the City of Norco. The development has an estimated water demand of 448 acre-feet per year. As project manager, Mr. Ledbetter is

providing an assessment of the projects water demand and water supplies available to serve the development over a 20-year period, including normal, single dry, and multiple dry water years.

- *Well 42 Design and Construction, Desert Hot Springs, CA* - Mr. Ledbetter is providing project and construction management services for the design and construction of Well 42. The project includes the preparation of plans, specifications, and estimates, and provided construction management and inspection services for the construction of a new potable water production well capable of flowrates up to 2,000 gpm in the City of Desert Hot Springs. The new production well will replace an existing production well that was placed on standby due to uranium contamination. The project includes well drilling and development, equipping the well, well building, and drainage and site improvements. The project is funded, in part, by a Proposition 84 Integrated Regional Water Management grant. Services include grant administration, records research, coordination with agencies and consultants, cost estimating, environmental coordination, permitting, bidding, construction management, construction staking, and inspection.
- *Vista Del Agua Water Supply Assessment, City of Coachella, CA* – The proposed Vista Del Agua development includes 1,640 single family and multi-family residential units on 275 acres of vacant land within the northern sections of the City of Coachella with an estimated water demand of 1,317 acre-feet per year. In accordance with SB 610, TKE provided an assessment of water supplies available to serve the development over a 20-year period, including normal, single dry, and multiple dry water years. Mr. Ledbetter was the project manager, providing the following services: records research, Project specific water demand analysis, City wide water supply and demand analysis, report preparation, and community meetings.
- *DHS 109 Industrial Park Water Supply Assessment and Water Supply Verification, Desert Hot Springs, CA* – The proposed DHS 109 Industrial Park development includes a total of 1,284,180 square feet of industrial floor area on 110 acres in the City of Desert Hot Springs with an estimated water demand of 910 acre-feet per year. As project manager, Mr. Ledbetter provided an assessment of the projects water demand and water supplies available to serve the development over a 20-year period, including normal, single dry, and multiple dry water years. In addition, Mr. Ledbetter provided verification that adequate water supplies exist to serve the project.
- *Groundwater Quality Protection Program Areas H and I Sewer Project, Desert Hot Springs, CA - Mr. Ledbetter is the project manager for the preparation of bidding documents for two areas in MSWD's Groundwater Quality Protection Program (GQPP), a septic to sewer conversion program. The Project includes approximately 25,000 linear feet of 8" vitrified clay pipe sewer improvements, including 676 4" service laterals. Once complete, MSWD will abate approximately 465 existing septic tanks that are impacting groundwater quality. The project includes records research, conventional topographic surveying, coordination with agencies, hydraulic calculations, preliminary design, cost estimating, geotechnical investigation, environmental coordination, preparation of construction plans and specifications, permit acquisition, and grant funding administration.*
- *Coachella Valley Regional Water Management Group (CVRWMG)* – Beginning in 2016 and continuing through today, Mr. Ledbetter represent Mission Springs Water District (District) at technical coordination and public outreach meetings related to the Integrated Regional Water Resource Management Program in the Coachella Valley. His responsibilities included representing the District at the meetings, review of technical memorandums and other project deliverables, assistance with grant funding applications, grant administration, and presentations to the District's board of directors and public. While representing the District at these meetings, Mr. Ledbetter was responsible for review of the 2018 Coachella Valley Integrated Regional Water Management and Storm Water Resource Plan update.
- *Horton Wastewater Treatment Plant Odor Control, Desert Hot Springs, CA* - Mr. Ledbetter is the project manager for the preparation of plans, specifications, and estimates for the construction of an odor control system for the District's existing Horton Wastewater Treatment Plant. The

proposed vapor phase odor control system will service the influent pump station and headworks facilities. The project will significantly reduce odor emissions to neighboring residential developments. The project includes coordination with the Regional Water Quality Control Board, Air Quality Management District, other agencies, vendors, and consultants. Services include records research, coordination with agencies, vendors, and consultants, design, cost estimating, technical and benefit cost analysis, regulatory agency coordination, permitting, bidding, construction management, construction staking, and inspection.

- *Well 33 Solar Project, Mission Springs Water District, CA* – Mr. Ledbetter is providing project and construction management services for the development and construction of a 1.0 megawatt solar photovoltaic system in the City of Desert Hot Springs. When complete, the project will offset approximately 25-percent of the District's energy consumption. In addition, Mr. Ledbetter assisted with the preparation of a grant application for the District through AQMD, a regional governmental agency responsible for meeting air quality health standards. The District was successful in achieving $3.3 million in funding for the renewable energy project. TKE provided the following services: grant preparation and administration, funding and consultant agreement preparation, preparation of bid documents, design-build contractor procurement, design review, SCE interconnection coordination, construction administration, and coordination with District staff and Board, consultants, funding agencies, and public.
- *"I" Street Water Main, San Bernardino Municipal Water Department, CA* – Mr. Ledbetter provided design engineering services for the project that included 7,200 linear feet of 16" and 20" pipe and related appurtenances; permitting with both San Bernardino County Flood Control District and Burlington Northern Santa Fe; crossing an existing bridge over a flood control channel by hanging pipe between existing girders; crossing a railway using jack and bore; and connections newly constructed transmission main and stub-outs for future expansions.
- *Calimesa Creek Storm Drain and Basin Improvements, City of Calimesa, CA* – Mr. Ledbetter is serving as the Project Manager for the Calimesa Creek Storm Drainage Improvements Project, located in the City of Calimesa along County Line Road between the Interstate 10 Freeway and 5th Street. The proposed project is planned to provide 100-Year flood protection to the City's Downtown Business District. In addition, the project will provide groundwater recharge of storm water, environmental restoration and enhancement, and increased protection to existing developments. The project will include environmental assessment and processing, preliminary engineering and project scoping, design, right-of-way acquisition, EPA funding coordination and management, and additional drainage system improvements.
- *Vulcan Basin, City of Fontana, CA* – Mr. Ledbetter provided preliminary civil design services for a flood control and aquifer recharge basin project. The project consisted of a 2,000 acre-foot retention and detention basin utilizing an abandoned formerly mined pit including 900,000 cubic-yards of earthwork, inlet, outlet, and spillway facilities, 7,100 linear feet of 24" recycled waterline and appurtenances, 21,800 linear feet of 144" to 48" reinforced concrete pipe storm drain. On behalf of the City, TKE successfully prepared a grant application for Proposition 1E funding. The project included hydrology and hydraulic analyses, preliminary basin sizing and grading plans, cost estimates, environmental compliance, land and right-of-way acquisition, aerial mapping, and related civil engineering services.

APPENDIX A: RESUMES

Mr. Ron Musser, P.L.S.

Project Role

Director of Survey

Registration

Professional Land Surveyor, LS# 4230 (CA),

Affiliations

American Council of Engineering Companies of California

Mr. Musser has over 50 years of experience in performing field and office surveying services for public and private projects including roadway and highway projects. Prior to joining TKE Engineering, Inc., Mr. Musser worked as a Partner in an engineering and surveying firm and supervised the mapping department providing mapping and calculations support for the firm's projects. He has performed design topographic surveying and construction staking on all of TKE's respective design and construction management projects over the past 8 years. In addition, he has prepared records of survey, parcel maps and tract maps in San Bernardino County, Riverside County, San Diego County, Orange County and Los Angeles County. He has performed boundary, topographic, ALTA, and precise level surveys as well as Global Positioning Surveys.

Related Experience

- *Groundwater Quality Protection Program Areas H & I Sewer Project, Desert Hot Springs, CA* – Mr. Musser served as the Project Surveyor for this project. The project consisted of preparation of bidding documents for two areas in MSWD's Groundwater Quality Protection Program (GQPP), a septic to sewer conversion program. The Project includes approximately 25,000 linear feet of 8" vitrified clay pipe sewer improvements, including 676 4" service laterals. Once complete, MSWD will abate approximately 465 existing septic tanks that are impacting groundwater quality. The project includes records research, conventional topographic surveying, coordination with agencies, hydraulic calculations, preliminary design, cost estimating, geotechnical investigation, environmental coordination, preparation of construction plans and specifications, permit acquisition, and grant funding administration.
- *Regional Conveyance Trunk Sewer Mission Springs Water District, CA* Mr. Musser was the Project Surveyor for this project. The project consisted of conducting a preliminary engineering analysis that evaluated potential service areas, trunk sewer alignments, wastewater flow rates, lift station capacity analysis, and other preliminary design criteria needed to identify the preferred alignment of the Regional Conveyance Trunk Sewer and potential flow diversions to the West Valley Water Reclamation Facility (WVWRF). TKE is also responsible for final design and contract documents for the preferred Regional Conveyance Trunk Sewer alignment from the intersection of Dillon Road and Avenida Manzana to the WVWRF. The project includes coordination with developers, other agencies, Regional Water Quality Control Board, and other consultants.
- *"I" Street Pipeline – City of San Bernardino, CA* – Mr. Musser is Project Surveyor of this project, which consists of the construction of 2,300' of 16" and 3,700' of 20" ductile iron pipe, including restrained length calculations, joint specifications, system appurtenances, connections to the existing system, San Bernardino County Flood Control District permitting for pipeline hanging under "I" Street bridge crossing of the Lytle Creek Channel, and SANBAG permitting for bore and jack crossing of railroad at Rialto Avenue. Proposed water system improvements provide a transmission main from the newly constructed pipelines in 2nd Street, Mill Street and Inland Center Drive for adequate water system conveyance
- *1158 Zone Recycled Water Program, City of Fontana, CA* – Mr. Musser served as the Project Surveyor for this project, which TKE prepared preliminary engineering report, utility permitting, plans, specifications, and estimates for the construction of approximately 50,000 linear feet of recycled water mains ranging from 6" to 24" in diameter. The project included San Bernardino County Flood Control District bridge crossings, DWR pipeline crossings and Southern California Edison easement crossings. TKE prepared a preliminary engineering report that identified potential

users, projected use amounts alignment alternatives to provide service, environmental impacts and service retrofits. TKE also assisted with a funding application and processing of the application with the State of California State Water Resource Control Board.

- *1720 Zone West Transmission Main Pipeline – City of San Bernardino, CA* - – Mr. Musser served as Project Surveyor for this project. This project consisted of the construction of 14,500' of 36" cement mortar lined and coated steel pipe, including restrained length calculations, joint specifications, system appurtenances, connections to the existing system, Metropolitan Water District and San Gabriel Valley Water district encroachment permits, San Bernardino County Flood Control District, US Army Corp of Engineers, and Department of Fish and Game permitting for pipeline bore and jack crossing of Devil's Creek Diversion Channel/Cable Creek, BNSF permitting for bore and jack crossing of railroad at Palm Avenue, and coordination with other agencies for tie-ins to the proposed reservoir site. Proposed water system improvements provided a transmission main from the Palm Avenue Reservoir to the newly constructed Ogden Reservoir for adequate water system conveyance.
- *Fontana City Wide Water/Wastewater Engineering, City of Fontana, CA* – Mr. Musser served as Project Surveyor on this project to improve water supply reliability and increase wastewater service area for the residents of the City of Fontana. The components include, recycle water direct reuse and recharge, enhanced storm water capture and recharge, imported water development, exchange water agreements and sewer analysis. TKE has performed extensive research, preliminary design and coordination with agencies to assist in the elimination of high maintenance basins and sewer lift stations, development of storm water and recharge basins, sewer service and recycled water service to residents, businesses and City facilities throughout the City of Fontana.
- *Jurupa Street Recycled Water Main Project, Ontario Municipal Utilities Company, City of Ontario, CA* – Mr. Musser was the Project Surveyor for this project, which TKE prepared design, utility coordination, utility verification, plans, specifications, estimates and coordination with local businesses for the construction of approximately 4,700 linear feet of 8" recycled water main and related appurtenances. The project constructed an infill recycled water main to connect a previously constructed recycle water main which was currently serving potable water to the existing recycled water system.
- *San Bernardino Avenue Trunk Sewer, City of Fontana, CA* - This project consisted of approximately 19,500 linear feet of 48-inch and smaller vitrified clay and reinforced concrete pipe sewer, two siphons, including bore and jacked pipe and casings, and numerous diversion gates for flow diversion. The trunk sewer was constructed on San Bernardino Avenue between Cypress Avenue and Mulberry Avenue. The facility was constructed to convey 25 million gallons of wastewater to a proposed lift station, which will convey the water to IEUA's regional plant number 4. TKE provided project and construction management and inspection services. In addition, TKE provided construction staking and topographic surveying throughout the completion of the project.
- *San Bernardino Avenue/Etiwanda Avenue Force Main, Inland Empire Utilities Agency, City of Fontana, CA* – Mr. Musser served as Project Surveyor for this project, which provided 8,360 linear feet of 24-inch and 30-inch parallel DIP force mains and PVC electrical and fiber optic conduits.
- *Upland Basin, City of Upland, CA*- Mr. Musser provided topographic design survey, aerial target placement, ALTA survey, Parcel Map preparation and construction staking for the 1300 acre-foot flood control and aquifer recharge basin project that included DSOD jurisdictional facilities, inlet and outlet facilities, and related work. The project included preparation of basin, street improvements, storm drain, spillway, and structural detail construction documents (drawings, specifications, and estimates), hydrology and hydraulic analyses, environmental compliance, storm water pollution prevention plan preparation, right-of-way acquisition, aerial mapping, and related civil engineering services.

Prepared by:

TKE Engineering, Inc.
2305 Chicago Ave.
Riverside, CA, 92507

EXHIBIT "2"

TO

TASK ORDER NO. 1

COMPENSATION

The fee estimated for Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line is **$87,120.00**.

TASK	DESCRIPTION	COST
Task 1 - Development of Construction Bid Documents		
	WVWD Coordination	$1,840.00
	Professional Surveying	$10,570.00
	Records Research	$2,530.00
	Geotechnical Services	$15,298.00
	Potholing	$8,080.00
	Permit Acquisition	$6,500.00
	Preliminary Design Report	$9,280.00
	Contract Documents	$21,080.00
	Construction Schedule and Cost Estimate	$1,920.00
	Meetings	$2,720.00
	Bid Support Services	$1,840.00
Task 2 - Construction Management		$ 4,600.00
	Reimbursables	$ 863.00
	Total Cost	**$87,120.00**

EXHIBIT "3"

TO
TASK ORDER NO. 1

SCHEDULE

The tentative design schedule for Development of Construction Bid Documents for Well 54 Discharge to Waste Drain Line:

West Valley Water District
Well 54 Discharge to Waste Drain Line
November 3, 2020
Project Schedule

ID	Task Name	Duration	Start	Finish
1	**Project Duration**	**110 days**	**Tue 12/15/20**	**Mon 5/17/21**
2	WVWD Coordination	110 days	Tue 12/15/20	Mon 5/17/21
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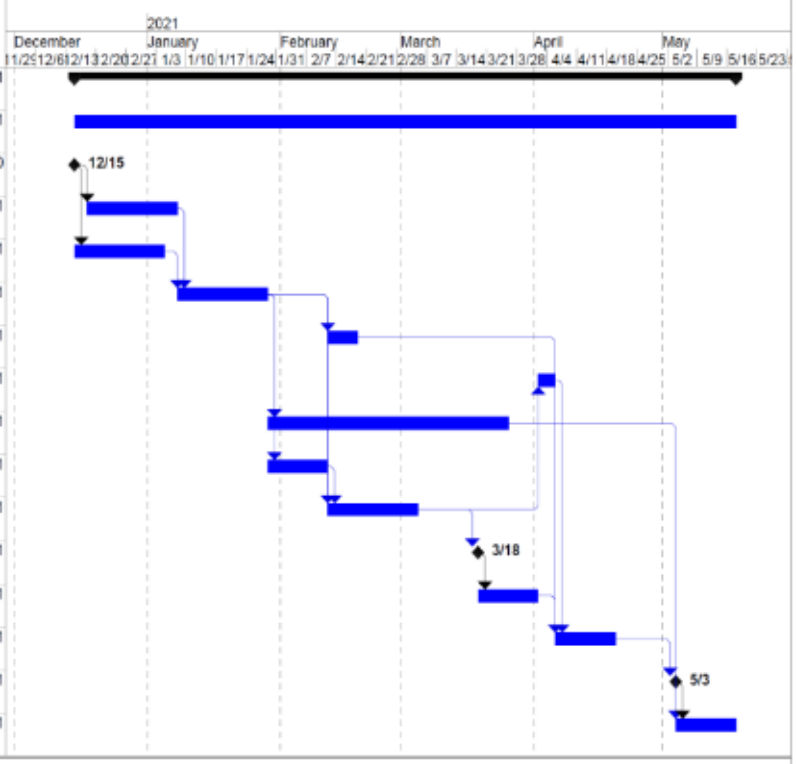
9	Permit Acquisition	40 days	Fri 1/29/21	Thu 3/25/21
10	Preliminary Design Report	10 days	Fri 1/29/21	Thu 2/11/21
11	60% Design	15 days	Fri 2/12/21	Thu 3/4/21
12	Design Review Meeting	0 days	Thu 3/18/21	Thu 3/18/21
13	Coordination with Agencies/Utilities	10 days	Fri 3/19/21	Thu 4/1/21
14	90% Design	10 days	Tue 4/6/21	Mon 4/19/21
15	Design Review Meeting	0 days	Mon 5/3/21	Mon 5/3/21
16	100% Design	10 days	Tue 5/4/21	Mon 5/17/21



Project: Well 54 Discharge Pipeline De
Date: Mon 11/2/20

Task
Split
Milestone
Summary
Project Summary
External Tasks
External Milestone
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Progress
Deadline

Page 1

EXHIBIT C

Single Source Justification

W20010 Well 54 Discharge to Waste Drain Line

1. **Why do we need to acquire the services?**

   As part of the Capital Improvement Plan Fiscal Year 2020/2021 Well 54 Discharge to Waste Drain Line project, we will need professional engineering services for the Development of Construction Bid Documents for this Project. The design services are necessary to safely and efficiently discharge the waste from Well 54 through a waste drain line.

2. **Why are the services the only ones that can meet your needs?**

   TKE Engineering, Inc. has provided professional engineering services in the past and the District has been satisfied with the quality of work they provided. Based on qualifications, and technical experience, TKE Engineering, Inc. will provide value for the District's needs for the Project.

3. **Were alternative services evaluated? If yes, why are those unacceptable?**

   No. Eleven (11) pre-approved Consulting firms were asked to provide a proposal via PlanetBids. Five (5) of these Consulting firms downloaded the RFP. One (1) proposal was received by TKE Engineering, Inc. Some of these Consulting firms provided feedback and specified they did not have available resources at the time to prepare a proposal by the due date or were not able to pursue due to lack of project knowledge.

4. **What efforts were made to get the best price?**

   District staff posted the RFP on PlanetBids. A reasonable attempt has been made to obtain competitive proposals from our pre-approved Consulting firms.

5. **Why is price fair and reasonable?**

   The quote received was reasonable in cost and included in Fiscal Year 2020/21 Capital Improvement Budget. Cost to perform the project met the requirements in the scope of work and is within the project budget.

6. **What impact is there if the single source is not used?**

   The design of the Well 54 Discharge to Waste Drain Line will be delayed and the District will need to find alternative measures to drain the discharge waste performed monthly. Well 54 is the only source of supply in the District's Northern System serving Pressure Zone 6 and operated continuously 24 hours, 7 days a week.

Recommendation:
It is recommended to use TKE Engineering, Inc. for completing the Development of Construction Bid Documents, approve Professional Services Agreement, and Task Order No. 1.

Signature: _____ Date: 11/10/2020

Name: Rosa M. Gutierrez, P.E.

Title: Senior Engineer

Signature: _____ Date: _____

Name: Shamindra Manbahal

Title: Acting Manager

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: APPROVE A BUDGET TRANSFER TO FUND THE PUMP STATION 7-2 PROJECT FOR A RADIO SURVEY

BACKGROUND:

Pressure Zone 7 is north of Pressure Zone 6 in West Valley Water District's ("District") North System. Storage is provided by R7-1, R7-2, R7-3, and R7-4 Reservoirs on Lytle Creek Road. There is no source of supply within Pressure Zone 7. Water is boosted from the Lower Pressure Zones 4, 5, and 6.

Currently there is one existing pump station, Pump Station 7-1, boosting water supplies to the upper pressure zone. Pump Station 7-2 ("PS7-2") is needed to supply future demands and provide redundancy in the event the other pump station is out of service for maintenance or repair.

On January 18, 2018, the Board of Directors directed the General Manager to enter into an agreement with Michael Baker International, Inc. ("MBI") to prepare the design for PS7-2 for the increased development that is projected to occur in Pressure Zone 7. On April 22, 2019, the District approved Amendment No. 1 for the design on an emergency generator which resulted in Change Order No. 1. On June 18, 2020, the District approved Changer Order No. 2 for the electrical design. Since their contract was established, MBI has successfully conducted the scope of work and provided deliverables as stated in the contract.

DISCUSSION:

On September 29, 2020, MBI recommended to install a new antenna for the new PLC at PS7-2. It was determined a radio survey would be required between the new Booster PS7-2 and the District office. The study would assess and determine the antenna height requirement and the proposed location for the radio path. The professional services will include project management and coordination, on-site radio survey, summary of recommended antenna height, radio transceiver, and recommended alternate signal path in needed. The District uses Tesco Controls, Inc. ("Tesco") for products, and services, and staff requested a proposal for the radio survey attached as **Exhibit A**.

Most of the District electrical panels are by Tesco. The Tesco panels are reliable and used for the District facilities for over 35 years. A copy of the single source justification is included in **Exhibit B**.

FISCAL IMPACT:

This project was a budgeted item in the Fiscal Year 2020/21 Capital Improvement Budget under the W18021 Pump Station 7-2 project. This project has a balance of $88,050.62 for encumbrance work for the design of PS7-2 and available funds of $696.62. The project needs funds to cover the cost of the radio survey in the amount of $4,985.00. The District's W17012 Bloomington Alley Way Main Replacement budget has funds available to transfer in the amount of $4,288.38. A summary of the requested budget transfer is as follows:

CIP FY 2020-2021 Project Name	Current Budget	Radio Survey Cost	Transfer From/To	Remaining Budget
W17012 Bloomington Alley Way Main Replacement	$28,209.00	$0.00	($4,288.38)	$23,920.62
W18021 Pump Station 7-2	$696.62	$4,985.00	$4,288.38	$0.00

STAFF RECOMMENDATION:

It is recommended that the Board of Directors approve the transfer of $4,288.38 from the W17012 Bloomington Alley Way Main Replacement budget to the W18021 Pump Station 7-2 Project to fund the project and authorize the General Manager to execute the necessary documents.

BP:pa

ATTACHMENT(S):

1. Exhibit A - Tesco Controls, Inc. Proposal
2. Exhibit B - Single Source Justification

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee REFERRED TO BOARD

EXHIBIT A

TESCO CONTROLS, INC. www.TescoControls.com

Corporate Office
8440 Florin Road, Sacramento, CA 95828
P.O. Box 299007, Sacramento, CA 95829
PH: 916.395.8800 FX: 916.429.2817

To: West Valley Water District
Attn: John Martin
Re: Radio Survey for Booster Station 7-2

Quote Date: October 22, 2020
Quote No.: 20J174Q01

Thank you for your interest in TESCO products, services, and solutions. We are pleased to quote the following scope of work pertaining to the above-referenced project. The scope includes on site radio survey between the new 7-2 Booster Station Site and the District Office. The purpose of this study is to assess and determine antenna height requirements at the new site and/or possible alternate radio paths if needed.

The site study will involve initial evaluation and equipment setup at Booster 7-2. Our Field Engineers will establish RF communications in the 900MHz range for the purpose of testing relative receive signal strength indication (RSSI) measurements as well as various other RF-related measurements at multiple elevations.

Item	Qty	Description	
1	Lot	**Professional Services to Include:** ▪ Project Management and Coordination ▪ Network & Telemetry – on site radio survey, summary of recommended antenna height(s), radio transceiver, and recommended alternate signal path if needed	
		TOTAL FOR ITEM 1:	**$4,985.00**

Terms and Conditions

- Quote is firm for 30 days unless otherwise stated.
- Price does include applicable sales tax, use tax, and applicable fees.
- TESCO price is FOB factory, full freight allowed.
- TESCO warranties against defect in design workmanship and materials for a period of one year from date of installation, and does not exceed 18 months from the date of shipment from the factory.
- TESCO carries liability insurance, with full workman's compensation coverage.
- Terms are net 30 days on approved credit accounts.
- Interest will be applied to all past due invoices.
- All merchandise sold is subject to lien laws.
- Final retention to be paid within 10 days after the project notice of completion.

Please feel free to contact us at (916) 395-8800 to discuss any questions or comments you may have regarding this quotation.

Sincerely,

Richard Martinez

Richard Martinez
Technical Sales
TESCO Controls, Inc.
(916) 395-8800

EXHIBIT B

Single Source Justification

W18021 Pump Station 7-2

1. **Why do we need to acquire the goods and services?**

   As part of the Capital Improvement Plan Fiscal Year 2020/2021 PS 7-2, the District will need a new Programmable Logical Controller (PLC) to communicate with the complex Supervisor Control and Data Acquisition (SCADA) system and will required a new antenna for design of this Project. The sensitive professional services provided by Tesco Controls, Inc. are necessary and will include a radio survey between the new PS 7-2 and the District office.

2. **Why are the goods or services the only ones that can meet your needs?**

   Most of the Districts electrical panels and programming are by Tesco Controls, Inc. A different manufacturer's equipment and services would be impractical for the specific needs of the District.

3. **Were alternative goods/services evaluated? If yes, why are those unacceptable?**

   No. In the past other companies have been used but due to the quality of the panels it gets replaced within a year by Tesco Controls, Inc.

4. **What efforts were made to get the best price?**

   None. This is a supplier of preference used by the District due to its quality products.

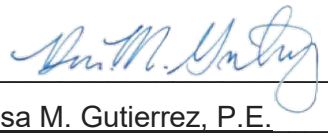
5. **Why is price fair and reasonable?**

   The quote received met the requirements in the scope of work and was determined to be reasonable in cost.

6. **What impact is there if the single source is not used?**

   The design of PS 7-2 will be delayed and is needed for the increased development that is projected to occur in Pressure Zone 7. PS 7-2 is needed to supply future demands and provide redundancy in the event the existing PS 7-1 is out of service. Existing PS 7-1 is the only pump station boosting water supplies to the upper pressure zones.

Recommendation:
It is recommended to use Tesco Controls, Inc. for completing the radio survey.

Signature:  Date: 11/10/2020

Name: Rosa M. Gutierrez, P.E.

Title: Senior Engineer

Signature: _____ Date: _____

Name: Shamindra Manbahal

Title: Acting General Manager

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: NOTICE OF COMPLETION RECORDATION FOR THE CONSTRUCTION OF THE CASMALIA STREET WATER MAIN REPLACEMENT PROJECT

DISCUSSION:

On April 23, 2020, the District entered into an Agreement with El-Co Contractors, Inc. ("El-Co") for the Casmalia Street Water Main Replacement project. The project includes replacement of 4-inch steel pipe with the installation of approximately 830 lineal feet of 8-inch ductile iron pipe, 10 lateral services, a new fire hydrant, and connections to existing waterlines within the street right-of-way of Casmalia Street and Lilac Avenue. Since the contract was established, El-Co has successfully conducted the scope of work and provided deliverables as stated in the contract.

The District's Project Manager on the project, Bertha Perez, P.E., has confirmed the substantial completion of the W17011 Casmalia Water Main Replacement Project. Attached as **Exhibit A** is a copy of the certificate of substantial completion.

FISCAL IMPACT:

No fiscal impact. This project was a budgeted item in the Fiscal Year 2020/21 Capital Improvement Budget under the W17011 Casmalia Water Main Replacement Project.

STAFF RECOMMENDATION:

It is recommended that the Board of Directors approve staff to file the Notice of Completion for the project and authorize the General Manager to execute the necessary documents.

BP:pa

ATTACHMENT(S):

1. Exhibit A - Notice of Substantial Completion for the Casmalia Water Main Replacement Project

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee REFERRED TO BOARD

EXHIBIT A

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	West Valley Water District	Project:	Casmalia Street Water Main Replacement
Contractor:	El-Co Contractors, Inc.		
Construction Manager:	Engineering Resources of Southern California – Joanna Rembis, P.E.		
Inspector:	ERSC – Phil Laos		

This Certificate of Substantial Completion applies to:

☒ All Work ☐ The following specified portions of the Work:

December 1, 2020

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, Inspector and Construction Manager, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract.

The following documents are attached to and made a part of this Certificate: Punchlist

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY PROJECT MANAGER:	RECEIVED:	RECEIVED:
By: Bertha Perez (Authorized signature)	By: Joanna Rembis (Authorized Signature)	By: Contractor (Authorized Signature)
Name: Bertha Perez, P.E.	Name: Joanna Rembis, P.E.	Name: John Wiles
Title: Project Manager	Title: Construction Manager	Title: General Manager
Date: 10/19/2020	Date: 10-16-2020	Date: 10-16-2020

MEMORANDUM

Date: October 14, 2020

To: John Wiles, El-Co Contractors, Inc.

From: Joanna Rembis, ERSC

Subject: Casmalia Street Main Replacement Project

On October 13, 2020 Phil Laos conducted a walk-through of the Casmalia Street Project to verify the work on Casmalia Street Main Replacement Project has been completed per the Contract Documents. The following remaining items need to be completed by the Contractor in accordance with the specifications and plans prior to the project being accepted as complete.

1. Remove storm drain protection and clean-up inlets.
2. Slurry seal the street per the County's limits a minimum of 30 days after placing pavement on the street.
3. Stripe the street a minimum 10 days after the street has been slurry sealed per County's direction.
4. Provide the as-builts for the project to WVWD.

Should you have any questions or comments regarding the above information, do not hesitate to call me at (951) 372-9196.

Sincerely,

Joanna Rembis

Joanna Rembis, PE
Project Engineer

Cc: Bertha Perez, WVWD

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: AWARD OF CONTRACT FOR CONSTRUCTION OF SANTA ANA AVENUE TRANSMISSION MAIN PROJECT PHASE I TO EL-CO CONTRACTORS, INC.

BACKGROUND:

The West Valley Water District ("District") water distribution mains, transmission mains, services and valves serving a portion of the community of Bloomington are located within Santa Ana Avenue were constructed in the 1950's, 60's and 70's and lack the required supplies for domestic and fire flow demands in Pressure Zone 2 and Zone 3. The transmission mains are needed to improve water circulation for water quality. Due to these factors, the District has embarked on a project that includes the construction of two (2) transmission mains along Santa Ana Avenue. These new transmission mains will provide improved fire flow for the residences in the area. The new transmission main will replace the existing 4-inch water main serving this area and will be constructed within the street right of way.

To address this issue, the District initiated a project that includes the installation of new 12-inch diameter ductile iron (DI) water main approximately 1,330 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue, new 20-inch diameter DI water main approximately 1,320 linear feet along Santa Ana Avenue between Cedar and Larch Avenue in Zone 2 and installation of new 12-inch diameter DI water main approximately 40 linear feet along Linden Avenue, new 16-inch diameter DI water main approximately 1,230 linear feet along Santa Ana Avenue between Linden Avenue and Cedar Avenue in Zone 3.

DISCUSSION:

A Request for Bids ("RFB") was posted on PlanetBids on October 16, 2020, for the construction of the Santa Ana Avenue Transmission Main Project Phase I. On November 6, 2020, four (4) bids were received. A summary of the bids received are as follows:

Bidder	Total Base Bid Items	Total Alternate Bid Items*	Total Bid Items
El-Co Contractors, Inc.	$972,635.00	$74,632.00	$1,047,267.00
TK Construction	$1,074,214.00	$78,560.00	$1,152,774.00
Paulus Engineering, Inc.	$1,186,843.40	$69,918.40	$1,256,761.80**
Weka, Inc.	$1,291,464.00	$39,280.00	$1,330,744.00**

Note:
* Grind and Overlay instead of Slurry Seal required by the City Inspector
** Due to minor differences in the sum of the Bid Schedule

Staff has reviewed the bid information and confirmed that El-Co Contractors, Inc. is the lowest responsible and responsive bidder. If awarded by the Board of Directors, work is anticipated to start within 30 days.

FISCAL IMPACT:

The cost of the Construction of the Santa Ana Avenue Transmission Main Project Phase I as proposed by El-Co Contractors, Inc. is $1,047,267.00. This item is included in the Fiscal Year 2020/2021 Capital Improvement Budget under the W17035 Santa Ana Avenue Transmission Main Project with a budget of $1,477,146.77. Sufficient funds are available in the project budget. A summary of the requested budget transfer is as follows:

CIP FY 2020-2021 Project Name	Current Budget	Construction Cost	Remaining Budget
W17035 Santa Ana Avenue Transmission Main	$1,477,146.77	$1,047,267.00	$429,879.77

STAFF RECOMMENDATION:

It is recommended that the Board of Directors award of contract for the construction of the W17035 Santa Ana Avenue Transmission Main Project Phase I to El-Co Contractors, Inc. in the amount of $1,047,267.00 and authorize the General Manager to execute the necessary documents.

BP:pa

MEETING HISTORY:
11/18/20 Engineering, Operations and Planning Committee REFERRED TO BOARD

West Valley Water District

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: CONSIDER A WATER SUPPLY ASSESSMENT FOR BLOOMINGTON BUSINESS PARK

BACKGROUND:

On July 16, 2020, Howard Industrial Partners ("Developer") submitted a request for West Valley Water District ("District") to prepare a Water Supply Assessment ("WSA") for its proposed project in the unincorporated community of Bloomington, known as Bloomington Business Park ("Project"). The Project proposes a development that consists of a 213-acre Specific Plan for an industrial site located north of Jurupa Avenue, south of Santa Ana Avenue, east of Alder Avenue, and west of Linden Avenue, as shown in **Exhibit A.** The initial development plan includes 10 acres of trailer parking, and a total building footprint of 2,078,140 square feet on 113 acres. The warehouse buildings include ancillary office space along with 800 tractor trailer stalls, 402 parking spaces, and landscaped areas. The project will require water for consumptive and sanitary purposes to support employees at the facility and for irrigation of landscaped areas. The Project covers an area that is currently developed primarily with rural residential uses, so it is assumed that these will be redeveloped into the proposed industrial use.

DISCUSSION:

The WSA is a necessary requirement for compliance with the California Environmental Quality Act ("CEQA"), furthermore, the California Water Code (Code) requires projects as defined in Section 10912 of the Code, to include a WSA in their environmental impact report. The WSA evaluates whether the total water supplies available during normal, single-dry, and multiple-dry water years projected within the latest adopted Urban Water Management Plan ("UWMP") will meet the anticipated water demand associated with the particular project, in addition to the existing and planned future uses.

A "Project" in the Water Code means any of the following:

1) A proposed residential development of more than 500 dwelling units.
2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4) A proposed hotel or motel, or both, having more than 500 rooms.
5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
6) A mixed-use project that includes one or more of the projects specified in this subdivision.
7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

This development is considered a project as defined by the Water Code per item number 5 above. The Code states that the District shall determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted UWMP, and if so, the District may incorporate the requested information from the UWMP in preparing the elements of the WSA.

UWMPs are prepared to support the District's long-term resource planning, and to ensure that adequate water supplies are available to meet existing and future water demands. The plans must be prepared every 5 years and submitted to the Department of Water Resources. The latest UWMP adopted by the District was the 2015 San Bernardino Valley Regional Urban Water Management Plan ("RUWMP"). The demand projections for water usage rates per acre were based on land use designations from City and County General Plans.

Attached as **Exhibit B** for your review is a WSA prepared by the District's consultant, Water Systems Consulting, Inc. The water demand for this Project is anticipated to be 328 acre feet per year. The anticipated water demand associated with the Project was accounted for in the most recently adopted UWMP and information from that plan was utilized in the preparation of this WSA.

As demonstrated in the 2015 RUWMP, the water supply available in 20 years in a normal, single dry and multiple dry water years is sufficient to meet the projected demand associated with the project.

FISCAL IMPACT:

No fiscal impact at this time.

STAFF RECOMMENDATION:

It is recommended that the Engineering, Operations and Planning Committee approve the Water Supply Assessment for Bloomington Business Park and have this item considered by the full Board of Directors at a future meeting.

Respectfully Submitted,

Shamindra Manbahal

Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

DG:mm

ATTACHMENT(S):

1. Exhibit A - Aerial Map
2. Exhibit B - Water Supply Assessment for Bloomington Business Park

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee

EXHIBIT A

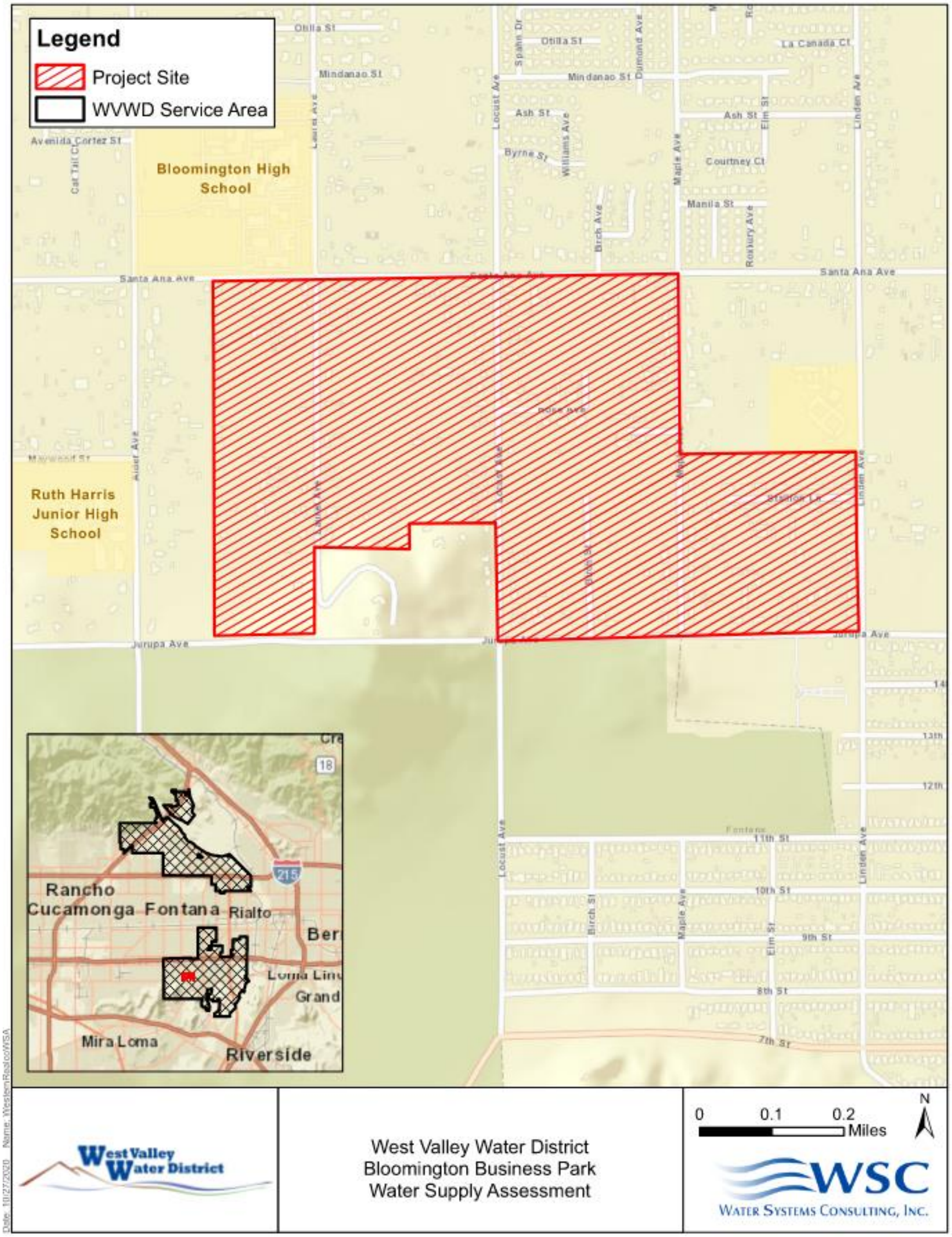

Legend
Project Site
WVWD Service Area
Bloomington High School
Ruth Harris Junior High School
Santa Ana Ave
Jurupa Ave
Locust Ave
Linden Ave
Maple Ave
Birch Ave
Laurel Ave
Alder Ave
Ash St
Otilla St
Mindanao St
Manila St
Courtney Ct
La Canada Ct
11th St
10th St
9th St
8th St
7th St
Rancho Cucamonga
Fontana
Rialto
Mira Loma
Riverside
0
0.1
0.2
Miles
N
West Valley Water District
West Valley Water District
Bloomington Business Park
Water Supply Assessment
WSC
Water Systems Consulting, Inc.
Date: 10/27/2020 Name: WesternRegionWSA

EXHIBIT B

Water Supply Assessment for Bloomington Business Park

Prepared for:

West Valley Water District

855 West Base Line Road
Rialto, CA 92377

Prepared Under the Responsible Charge of:

Kirsten Plonka, PE

California R.C.E. No. 70746, Expires 6/30/2021

11/5/2020

Prepared by:

WSC
WATER SYSTEMS CONSULTING, INC.

Table of Contents

Chapter I – Introduction

This Water Supply Assessment (WSA) has been prepared for the Bloomington Business Park (Project) in accordance with the provisions of Senate Bill No. 610 (SB 610). California Water Code references are provided throughout this document *in italic text* where relevant.

SB 610

For projects meeting certain criteria, a public water system supplier must prepare and approve a WSA that contains three parts:

- Explicit identification of existing and anticipated water supply entitlements, water rights and water service contracts, demonstrated by contracts, Capital Improvement Programs, and permit applications.
- If no water has been received from the source identified to supply the project, other competing purveyors that receive water from this source must be identified.
- If groundwater is a proposed supply, factors such as adjudicated rights, groundwater management practices and historical pumping must be presented to establish proper use of the resource.

The latest adopted Urban Water Management Plan (UWMP) may be utilized to provide the information required for the WSA. If the demands expected from the proposed project are not accounted for in the UWMP, a discussion must be included with regard to whether the water system's total projected water supplies during normal, single dry and multiple dry years over a 20-year period from the date of the report, will meet the projected demand of the proposed project in addition to the system's existing and projected future uses.

On the basis of the WSA, the public water supplier is required to provide "written verification" of "sufficient water supplies." The verification must consider the following factors:

- The availability of water over the next 20 years.
- The applicability of any urban water shortage contingency analysis prepared per Water Code Section 10632.
- The reduction in water supply allocated to a specific use by an adopted ordinance.
- The amount of water that can be reasonably relied upon from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer.

In June 2016 West Valley Water District (District) adopted the 2015 San Bernardino Valley Regional Urban Water Management Plan (RUWMP), as is required for water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet per year (AFY).

The RUWMP projected water supplies to meet future demands through the year 2040. It assessed the projected demand and supply and concluded that the District has, and will have, an adequate water supply to meet all demands within their service area to 2040.

The RUWMP contains the following information as required by Water Code Section 10910 for WSAs:

- A detailed description of each groundwater basin that supplies the District with potable water.
- Copies of the court decrees and judgments for each groundwater basin.
- A detailed description and analysis of the amount and location of groundwater pumped by the District for each groundwater basin for the last five years.
- A detailed description and analysis of the amount and location of the groundwater projected to be pumped from each groundwater basin by the District.
- An analysis of the sufficiency of each groundwater basin to meet the District's projected amounts to be pumped under normal, single dry year, and multiple dry year conditions for the next 20 years (2015 - 2040) in five-year increments.

This WSA incorporates information and direct citations from the RUWMP. Additional information can be found in the adopted RUWMP (https://wuedata.water.ca.gov/public/uwmp_attachments/6449323356/SBV_RUWMP_rev_with_appendices.pdf).

Project Overview

The Project proposes a development that consists of a 213-acre specific plan for an industrial warehouse site located north of Jurupa Avenue, south of Santa Ana Avenue, east of Alder Avenue, and west of Linden Avenue in the unincorporated San Bernardino County community of Bloomington, California. The Project is anticipated to include development of industrial warehouse uses by the year 2025. The initial development plan includes 10 acres of trailer parking, and a total building footprint of 2,078,140 square feet on 113 acres. The warehouse buildings include ancillary office space. The site will also contain 800 tractor trailer stalls, 402 parking spaces, and landscaped areas. The project will require water for consumptive and sanitary purposes to support employees at the facility and for irrigation of landscaped areas. The Project covers an area that is currently developed primarily with rural residential uses, so it is assumed that these will be redeveloped into the proposed industrial use.

Chapter II – Water Supply Assessment

Determination of a Project

California Water Code section 10910

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act Division 13 (commencing with Section 21000) of the Public Resources Code, under Section 21080 of the Public Resources Code shall comply with this part.

As defined in Section 10912(a) (5) of the California Water Code, *a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area,* must have a WSA included in their Environmental Impact Report. This particular Project falls into this category, and therefore requires a WSA.

Preparer

California Water Code section 10910

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

The project is located north of Jurupa Avenue, south of Santa Ana Avenue, east of Alder Avenue, and west of Linden Avenue in the unincorporated San Bernardino County community of Bloomington, California. The project is within the water service area of the District, a public water system as defined in Section 10912, and the District would supply water for the project. Figure 1 depicts the project location within the District's service area boundary.

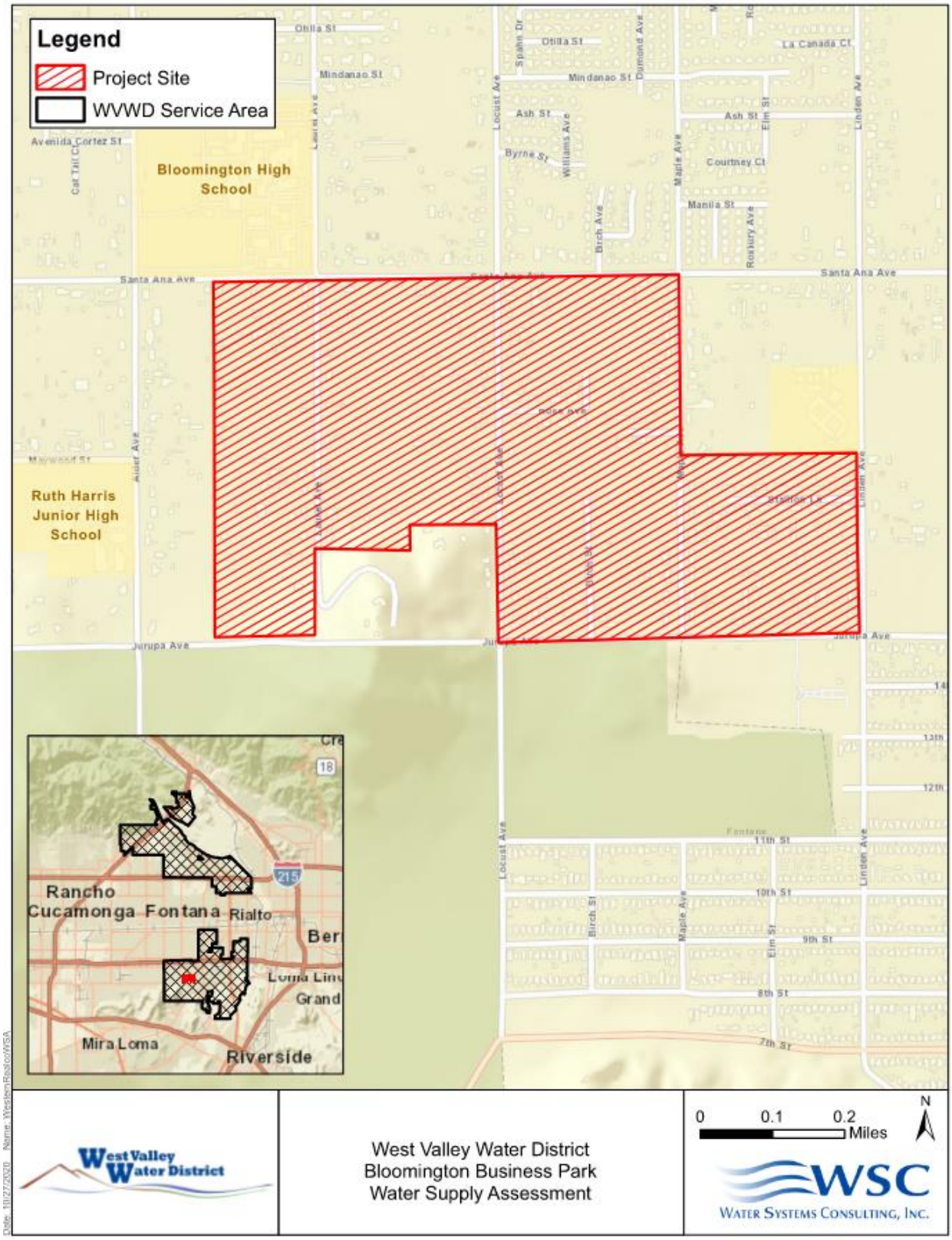


Figure 1. Project Location

Project Demands Inclusion in an UWMP

California Water Code section 10910

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(c) (2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

The 2015 RUWMP is the most recently adopted UWMP by the District and outlines water supplies that will be used by the District to fulfill projected future demand. The projected future water demands in the 2015 RUWMP were derived from three factors: the expected growth in service area population, the expected change in per-capita consumption, and the expected additional industrial growth. For planning purposes, the District estimated that beginning in 2020, its per-capita consumption would be approximately 10 percent higher than the observed 2015 value. This methodology assumes that all other non-residential water uses will increase proportionately to residential uses. Therefore, it was assumed industrial demand would increase by an additional 1,100 AFY beyond the projected demands determined using the per-capita methodology.

Demands were estimated for the Project using land use based water demand factors from the District's 2012 Water Master Plan (WMP) as shown in Table 1. The land use demand factors are applied to gross acreage for each land use including irrigation and parking areas.

Table 1. Estimated Project Demands

Land Use	Acres	WMP Factor (gpd/acre)	AFY
Light Industrial (Warehouse)	213	2,000	477

Based on the projections shown above, the total water demand for the Project by the year 2025 is 477 AFY.

The Project is redeveloping an area that is currently developed as rural residential. The District currently provides water service to 112 connections in the Project area. Based on the District's actual customer consumption records for the period of 2011 to 2019, the total water demand of these existing connections was 149 AFY in 2015 and has been as high as 159 AFY in both 2016 and 2018. For the purposes of this WSA, the demands in 2015 are used to represent the existing water use for the Project area because 2015 is the year used for future projections in the 2015 RUWMP. As the existing

customers in the Project area were being served by the District in 2015, existing demands of 149 AFY were included in the 2015 RUWMP for the Project area.

The projected demands for the Project are 477 AFY but will be offset by the removal of the existing connections with a demand of 149 AFY; therefore, the net additional Project demand is approximately 328 AFY. The RUWMP assumed that the District's total industrial demands would increase from 709 AFY in 2015 to 2,231 AFY in 2040, a total increase of 1,522 AFY. The net additional demands of the Project are less than the assumed increase in industrial demands in the RUWMP; therefore, the demands of the Project were included in the RUWMP. Information from the 2015 RUWMP was used for this WSA and is described in detail in the following sections.

System Description

Water Code section 10631 (Urban Water Management Plan Requirements)

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

A summary of the District's service area and population are included in this section. Additional information related to the population estimates and other factors affecting the District's water management planning are is published in the 2015 RUWMP.

The District is a County Water District, a public agency of the State of California, organized and existing under the County Water District Law (Division 12, Section 30,000 of the Water Code) of the State of California. Among other typical political subdivision powers, it has the power of taxation and eminent domain.

The District is located in southwestern San Bernardino County with a small part in northern Riverside County. The service area is shown in Figure 2. The District is adjacent to the western limits of the City of San Bernardino on the east; adjacent to and including the eastern part of the City of Fontana on the west; adjacent to the U.S. Forest Service boundary on the north; and the County of Riverside on the south. The District is divided into northern and southern sections by the central portion of the City of Rialto.

The current and estimated future populations within the District from the 2015 RUWMP are shown in Table 2.

Table 2. Population - Current and Projected

Population Served	2015	2020	2025	2030	2035	2040
Population Served	80,161	86,246	92,793	99,836	107,415	115,568

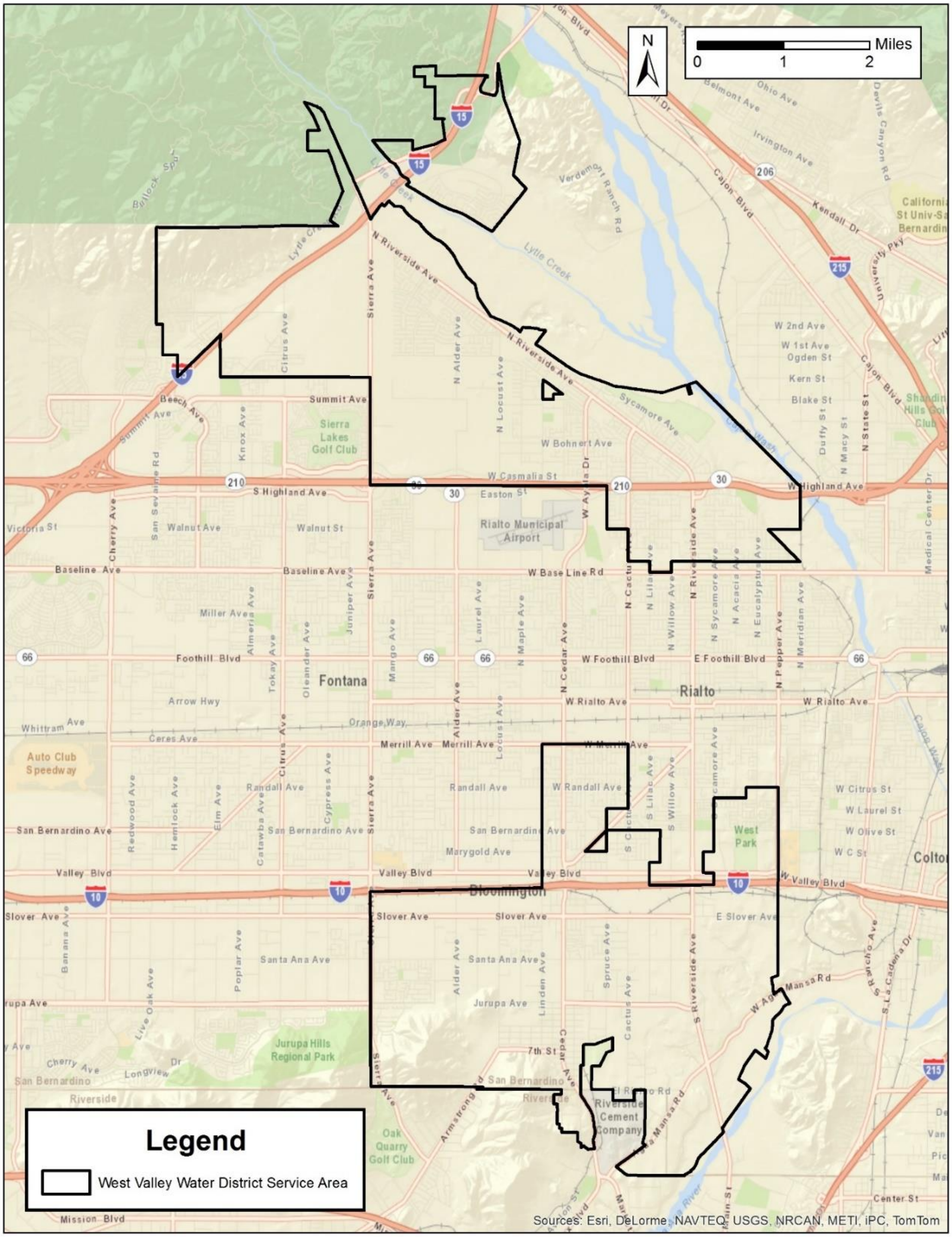


Figure 2. West Valley Water District Service Area

Water Demands

California Water Code section 10631

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

The Water Conservation Bill of 2009 (SBX7-7) is one of four policy bills enacted as part of the November 2009 Comprehensive Water Package. The Water Conservation Bill of 2009 provides the regulatory framework to support the statewide reduction in urban per capita water use described in the 20 by 2020 Water Conservation Plan. Consistent with SBX7-7, the District has determined and reported its existing baseline water consumption and established future water use targets in gallons per day per capita, as described in the 2015 RUWMP. To meet these targets the District has formulated a conservation program to meet these goals, as described in the 2015 RUWMP.

Water Uses by Sector

The District categorizes customers as single family residential, multi-family residential, landscape irrigation, agricultural irrigation, commercial, industrial, institutional, fire service, and hydrant uses. Water deliveries for each customer class for the years 2011 through 2015 are summarized in Table 3.

Table 3. Past Demands for Raw and Potable Water – Actual (AF)[1]

Use Type	Additional Description	Level of Treatment When Delivered	2011	2012	2013	2014	2015
Single Family		Drinking Water	12,017	12,789	12,400	11,958	9,786
Multi-Family		Drinking Water	531	597	566	553	504
Commercial		Drinking Water	1,450	1,625	1,690	1,654	1,453
Institutional		Drinking Water	1,020	1,232	1,160	1,157	825
Industrial		Drinking Water	886	876	762	770	709
Agricultural irrigation		Drinking Water	117	152	90	111	105
Landscape Irrigation		Drinking Water	1,355	1,674	1,687	1,799	1,319
Golf Course		Drinking Water	292	0	0	0	0
Fire Service		Drinking Water	2	2	1	2	2
Hydrant		Drinking Water	97	143	281	326	273
Sales/Transfers/Exchanges to other agencies	SB County Connection / Glen Helen	Drinking Water	0	0	0	10	92
Nonrevenue		Drinking Water	2,200	2,157	2,074	2,131	2,064
		Total	**19,966**	**21,246**	**20,710**	**20,472**	**17,131**

[1]Values provided in the 2015 RUWMP.

Projected future water use was estimated using two factors: the expected growth in service area population, and the expected change in per-capita consumption. For planning purposes, the District estimated that beginning in 2020, its per-capita consumption would be approximately 10 percent higher than the observed 2015 value. Actual values for 2020 consumption were not available at the time this WSA was prepared. While the District will continue to encourage conservation, this assumption reflects the possible change in behaviors that may occur after the current drought ends and mandatory drought restrictions are phased out. The estimated future demands are shown in Table 4 and Table 5. The District does not anticipate any routine or single large water sales to any agencies in the future. The District does not anticipate future water use related to saline barriers, groundwater recharge operations, or recycled water. For the purpose of projections, based on data from the past five years, nonrevenue water is assumed to be 10 percent of total sales. The District will continue efforts to decrease water loss and thereby reduce gallons per capita per day of water use.

Table 4. Demands for Raw and Potable Water – Projected (AF)[1]

Use Type	Additional Description	Level of Treatment	2020	2025	2030	2035	2040
Single Family		Drinking Water	11,654	12,538	13,490	14,514	15,616
Multi-Family		Drinking Water	600	646	695	747	804
Commercial		Drinking Water	1,730	1,861	2,002	2,154	2,318
Institutional		Drinking Water	982	1,057	1,137	1,223	1,316
Industrial		Drinking Water	1,944	2,008	2,077	2,151	2,231
Agricultural Irrigation		Drinking Water	100	80	40	20	0
Landscape Irrigation		Drinking Water	1,571	1,691	1,819	1,957	2,105
Golf Course		Drinking Water	0	0	0	0	0
Fire Service		Drinking Water	2	3	3	3	3
Hydrant		Drinking Water	325	349	376	404	435
Sales/Transfers/Exchanges to other agencies	SB County Connection / Glen Helen	Drinking Water	0	0	0	0	0
Nonrevenue		Drinking Water	1,891	2,023	2,164	2,317	2,483
	Total		**20,799**	**22,256**	**23,802**	**25,492**	**27,312**

[1]Projections developed in the 2015 RUWMP. Actual values for 2020 were not available at the time this WSA was prepared.

Table 5. Total Water Demands (AF)[1]

Demand	2015	2020	2025	2030	2035	2040
Potable and Raw Water	17,131	20,799	22,256	23,802	25,492	27,312
Recycled Water Demand	0	0	0	0	0	0
Total Water Demand	17,131	20,799	22,256	23,802	25,492	27,312

[1]Projections developed in the 2015 RUWMP. Actual values for 2020 were not available at the time this WSA was prepared.

Water Supplies

California Water Code section 10910

(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

District Overview

The District utilizes three primary sources for drinking water supply: local surface water from flows on the east side of the San Gabriel Mountains, including North Fork Lytle Creek, Middle Fork Lytle Creek, and South Fork Lytle Creek; groundwater; and imported water from the State Water Project (SWP). The District distribution system is divided into eight pressure zones; it currently has 25 existing reservoirs with a total storage capacity of approximately 72.61 million gallons. The District also operates a 14.4-MGD water filtration facility. These supplies are discussed further below. The contracts and entitlements for District water supplies are summarized in Table 8 and are enclosed in Appendix A through Appendix E.

Surface Water

The District has the right to divert and export 2,290 gpm out of the Lytle Creek Region when it is available as described in the Lytle Creek Judgment in Appendix A. The District can also purchase an additional 1,350 gpm of Lytle Creek flows through an agreement with the City of San Bernardino (San Bernardino is not able to utilize their surface water flows), which is treated at the Oliver P. Roemer WFF (see Appendix A). The District also utilizes Lytle Creek surface water flows for groundwater recharge in the Lytle Creek Basin.

The District is participating in regional planning efforts to capture additional stormwater for purposes of groundwater recharge.

State Water Project

The District receives SWP water from the San Bernardino Valley Municipal Water District (Valley District) through the Lytle Turnout off the San Gabriel Feeder Pipeline. SWP water is treated at the District's Oliver P. Roemer Water Filtration Facility (WFF) and used for potable supply, or can be used to supply non-potable customers, or for groundwater recharge in the Lytle Creek Basin. In 2006 the WFF was expanded to increase production capacity to 14.4 MGD. Ultimately this plant will have a capacity of 21.6 MGD. The District has been utilizing SWP water through the Lytle Turnout since 1999.

Groundwater Supplies

California Water Code section 10910

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

The District draws approximately 46 percent of its water supply from its wells. The District's normal operating practice is to pump its wells 16 hours a day during off peak hours to take advantage of Southern California Edison's time of use rate. If, for some reason, wells are not in service (maintenance or repair), the District has the ability and right to pump its wells up to 24 hours per day. The District has approximately 32 MGD production capability from all of its wells in operation 24 hours per day.

The District extracts groundwater from five regional groundwater basins: Bunker Hill and Lytle Creek (which are both part of the San Bernardino Basin Area), Rialto-Colton, Riverside North, and Chino Basins. All five basins have been adjudicated and are managed, as discussed further in the following sections specific to each basin.

The District, in a joint venture with the City of Rialto and Valley District, constructed 25,000 feet of 48-inch transmission line known as the Baseline Feeder, which is described in the Baseline Feeder

Agreement in Appendix E. Through an agreement with Valley District, the District can receive up to 5,000 AFY of supply through this transmission line. The District has received water through the Baseline Feeder since 1998. Because this water is not produced by the District, it is not included in Table 6.

The District's historical production is shown in Table 6.

Table 6. Groundwater Volume Pumped (AF)

Groundwater Type	Location or Basin Name	Water Quality	2011	2012	2013	2014	2015	2016	2017	2018	2019
Alluvial Basin	Lytle Creek	Drinking Water	2,983	4,002	3,776	3,262	2,159	1,850	2,365	2,416	2,572
Alluvial Basin	Riverside North	Drinking Water	3,144	3,932	3,389	2,992	2,065	2,745	1,089	1,542	1,301
Alluvial Basin	Rialto-Colton	Drinking Water	4,883	4,093	4,005	3,916	2,505	2,123	3,923	3,353	2,779
Alluvial Basin	Bunker Hill	Drinking Water	1,335	1,682	1,885	1,478	1,520	1,351	2,300	2,002	891
Alluvial Basin	Chino	Drinking Water	0	0	0	0	0	0	0	0	0
	Total		**12,345**	**13,709**	**13,055**	**11,648**	**8,249**	**8,069**	**9,677**	**9,313**	**7,543**

The San Bernardino Basin Area

The San Bernardino Basin Area (SBBA) was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969 (see Appendix B). The SBBA has a surface area of approximately 141 square miles and lies between the San Andreas and San Jacinto faults. The basin is bordered on the northwest by the San Gabriel Mountains and Cucamonga fault zone; on the northeast by the San Bernardino Mountains and San Andreas fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands. Alluvial fans extend from the base of the mountains and hills that surround the valley and coalesce to form a broad, sloping alluvial plain in the central part of the valley. The SBBA encompasses the Bunker Hill sub basin (DWR Number 8.02-06) defined by DWR and also includes a small portion of the Yucaipa Basin (8-02.07) and Rialto-Colton Basin (8-02.04) as defined by DWR. The SBBA also encompasses surface water.

The Western Judgment established the natural safe yield of the SBBA to be a total of 232,100 AF per year (AFY) for both surface water diversions and groundwater extractions (the Western Judgment is provided in Appendix B). Surface water is diverted from Mill Creek, Lytle Creek, and the SAR. The average surface water diversions in the SBBA for direct use from 1968 to 2000 were 39,000 AFY.

The Western Judgment allocates 64,862 AFY of the safe yield, which equates to 27.95 percent, to the Plaintiffs. The Plaintiffs include the City of Riverside (the successor to the Riverside Water Company and the Gage Canal Company), Riverside Highland Water Company, Meeks & Daley Water Company, and Regents of the University of California. The Riverside County agencies may not exceed their allocation unless they participate in “New Conservation” (explained below).

The Non-Plaintiffs’ (agencies within San Bernardino County, including the District) rights were defined in the Judgment as 167,238 AFY, which equates to 72.05 percent of the safe yield. San Bernardino agencies are allowed to extract more than 167,238 AFY from the SBBA, as long as they import and recharge a like amount of water into the SBBA. The Western-San Bernardino Watermaster provides an

annual accounting of both the plaintiff and non-plaintiff extractions and a comparison to the safe yield. The Watermaster bases the Valley District replenishment water requirement on the cumulative accounting of non-plaintiff extractions. If the cumulative extractions are less than the cumulative safe yield, there is a groundwater "credit" in the basin. In years when cumulative extractions are greater than their allocation, a "debit" is given. Recharge is also required to offset the export of water outside the SBBA in excess of the amount recorded during the base period (1959-1963). Credits are earned for any new supplies such as stormwater capture. As of the accounting performed for the 2015 Annual Western-San Bernardino Watermaster Report, the Non-Plaintiffs have 104,994 AF of net credit accumulated in the SBBA and are, therefore, not required to recharge. Although there is no recharge requirement under the Judgment, the Non-Plaintiffs have continued to recharge the SBBA.

Lytle Creek Sub basin

Lytle Creek Basin is part of the SBBA, and it is not identified as a separate sub-basin in DWR Bulletin 118-2003; however, the sub basin is an integral part of the Upper Santa Ana Valley Groundwater Basin and a major recharge area for both the Bunker Hill and Rialto-Colton sub basins. Historically, local agencies have recognized Lytle Creek sub basin as a distinct groundwater sub basin. In the Western Judgment, the Bunker Hill and Lytle Creek sub basins are combined into the SBBA. However, the three separate water-bearing zones and intervening confining zones of the Bunker Hill sub basin are not observed in the Lytle sub basin. Sediments within the Lytle sub basin are, for the most part, highly permeable, and the aquifer has a high specific yield. High permeability and specific yield tend to result in an aquifer that responds rapidly to changes in inflow (precipitation and streamflow) and outflow (groundwater pumping, streamflow, and subsurface outflow).

Lytle Creek sub basin is adjoined on the west by the Rialto-Colton sub basin along the Lytle Creek fault, and on the east and southeast by the Bunker Hill sub basin along the Loma Linda fault and Barrier G. The northwestern border of the sub basin is delineated by the San Gabriel Mountains, and runoff from the mountains flows south/southeast through Lytle and Cajon Creeks into the basin.

Numerous groundwater barriers are present within Lytle Creek sub basin, resulting in six compartments within the sub basin. Barriers A through D divide the northwestern portion of the sub basin into five sub-areas and the southeastern portion of the sub basin comprises the sixth sub-area. Barrier F divides the northwestern sub-areas from the southeastern sub-area. Studies have shown that the groundwater barriers are less permeable with depth. When groundwater levels are high during wet years, more leakage occurs across the barriers than when groundwater levels are lower (i.e., during dry years). The amount of pumping in each sub-area, in large part, controls the movement of groundwater across the barrier within the older alluvium but not the younger alluvium.

It is important to note that the water rights in Lytle Creek are set forth in long-standing court judgments governing the rights of the parties in that basin. The Lytle Creek Basin was adjudicated under the 1924 Judgment No. 17,030 from the Superior Court of San Bernardino County (Lytle Creek Judgment) and is managed by the Lytle Creek Water Conservation Association, which is made up of the successors to the stipulated parties of the judgment (a copy of the Lytle Creek Judgment is provided in Appendix J of the

2015 RUWMP and in Appendix A of this WSA). Table 7 shows historical extractions from the SBBA for years 2010-2018.

Table 7. Historic Groundwater Extractions and Surface Water Diversions from SBBA (AFY)

Entity	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-Plaintiffs									
Bear Valley Mutual Water Company (a)	17,524	16,862	15,560	15,259	17,102	15,166	12,746	33,868	14,972
City of Colton (a)	4,740	4,783	6,222	5,170	4,879	4,405	3,044	3,842	3,695
East Valley Water District (a)	18,120	18,408	19,538	18,796	17,896	13,500	12,791	15,214	14,545
City of Loma Linda (a)	4,863	5,401	5,776	5,571	5,449	4,670	4,708	5,070	5,158
City of Redlands (a)	28,960	31,908	31,918	29,641	29,100	18,524	16,319	24,216	21,710
City of Rialto (a)	5,325	3,377	3,109	4,082	4,132	3,726	4,291	3,885	4,413
San Bernardino Valley MWD (a)	291	618	3,790	7,485	8,178	6,874	5,643	4,921	6,327
City of San Bernardino (a)	49,185	50,331	50,250	46,853	44,798	37,415	36,519	38,478	40,158
West Valley Water District (a)	7,986	7,697	8,637	7,723	6,397	7,047	4,862	7,108	6,966
Yucaipa Valley Water District (a)	166	97	120	220	154	5	162	110	178
Other Agencies in San Bernardino and Private Entities (b)	16,474	19,288	23,053	17,597	15,062	12,176	10,260	11,431	11,295
Subtotal for Non-Plaintiffs	**153,634**	**158,770**	**167,973**	**158,397**	**153,147**	**123,508**	**111,345**	**148,143**	**129,417**
Plaintiffs									
Riverside Highland Water Company (c)	1,136	1,655	2,135	2,873	2,077	3,400	3,040	1,903	2,641
Agencies in Riverside County (d)	52,987	54,151	60,159	60,885	57,072	57,942	54,406	58,228	57,659
Subtotal for Plaintiffs	**54,123**	**55,806**	**62,294**	**63,758**	**59,149**	**61,342**	**57,446**	**60,131**	**60,300**
Total	**207,757**	**214,576**	**230,267**	**222,155**	**212,296**	**184,850**	**168,791**	**208,274**	**189,717**

Notes:

(a) Data from Volume 1 of the Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(b) Includes Crafton Water Company, Devore Water Company, Fontana Union Water Company, Loma Linda University, Mentone Citrus Growers, Mount Vernon Water Company, Mountain View Generating Station, Muscoy Mutual Water Company, San Bernardino County – Facility Management, Tennessee Water Company, Terrace Water Company, and Redlands water Company. Data from Volume 1 of the Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(c) Riverside-Highland Water Company's service area extends into both San Bernardino and Riverside counties. However, Riverside-Highland Water Company is a Plaintiff within the Western Judgment and therefore extractions for Riverside-Highland are typically included with those of Riverside County entities. Data from Table No. 11, Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(d) Includes Agua Mansa Water Company and Meeks & Daley Water Company, Regents of the University of California, and the City of Riverside. Data from Table Nos. 10, 12, and 13 of the Western-San Bernardino Annual Report for 2015 and 2018.

Rialto-Colton Basin

The Rialto-Colton subbasin underlies a portion of the upper Santa Ana Valley in southwestern San Bernardino County and northwestern Riverside County. This subbasin is about 10 miles long and varies in width from about 3.5 miles in the northwestern part to about 1.5 miles in the southeastern part. This subbasin is bounded by the San Gabriel Mountains on the northwest, the San Jacinto fault on the northeast, the Badlands on the southeast, and the Rialto-Colton fault on the southwest.

The District and its predecessors have been utilizing the Rialto Basin for water supply for more than 80 years. The Rialto Basin was adjudicated under the 1961 Decree No. 81,264 from the Superior Court of San Bernardino County (Rialto Basin Decree) (see Appendix C). Groundwater storage capacity of the basin is about 210,000 af (DPW 1934), with an estimated 120,000 af for the Rialto portion of the sub-basin and about 93,000 af for the Colton portion. The basin shows quick rises of water levels during high precipitation years and slower decline over several years.

Under normal conditions, when the basin is not in adjudication, the District has unlimited extraction rights. During drought conditions when the adjudication is in effect, the District's extraction right ranges from 3,067 afy in the most severe drought periods to a maximum of 6,134 afy. Existing wells in the Rialto Basin have the capacity to extract up to 10,000 afy during normal conditions.

North Riverside Basin

The North Riverside Basin (the portion of the Riverside Basin Area in San Bernardino County) is part of the 1969 Judgment No. 117,628 (Western Judgment- see Appendix B), under the Bunker Hill Basin. The Riverside Groundwater Basin is a large alluvial fill basin that is bounded by major faults and topographic barriers. Recharge to the basin occurs by the underflow from basins to the north, contributions from the Santa Ana River, and from percolation of surface water runoff from the surrounding uplands, in particular the Box Spring Mountains to the east. The District, which has no limits or restrictions on groundwater pumping in the basin, has been utilizing the North Riverside Basin for water supply for more than 60 years.

Extractions from the North Riverside Basin for use in Riverside County are limited to 21,085 AFY by the Judgment. Extractions for use in San Bernardino County are unlimited, provided that water levels at three index wells in the Rialto-Colton and Riverside North Basins stay above 822.04 feet MSL. The 2015 Integrated Regional Water Management Plan provided an estimate of 30,100 AFY as the sustainable supply from North Riverside for use in San Bernardino County, based on extractions from 1996 to 2005.

Chino Basin

The Chino Basin is an adjudicated basin managed by the Chino Basin Watermaster. The Chino Sub basin lies in the southwest corner of San Bernardino County. The Chino Sub basin is bordered to the east by the Rialto-Colton fault. In the other three directions, the Chino Sub basin is ringed by impermeable mountain rock, the San Gabriel Mountains to the north, the Jurupa Mountains and Puente Hills to the south and southwest. Average annual precipitation across the basin is 17 inches. This part of the San Bernardino Valley is drained by San Antonio Creek and Cucamonga Creek southerly to the Santa Ana River.

On January 2, 1975, several Chino Basin producers filed suit in California State Superior Court for San Bernardino County (the "Court") to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in Chino Basin Municipal Water District v. City of Chino et al. (Chino Basin Watermaster Judgment) adjudicating water rights in the Chino Basin and establishing the Chino Basin Watermaster (see Appendix D). The Judgment adjudicated all groundwater rights in Chino Basin and contains a physical solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. The Judgment also appointed the Watermaster to account for and implement the management of the Chino Basin. The Judgment declared that the initial operating safe yield of the Chino Basin is 145,000 AFY. The Basin is managed through implementation of the Chino Optimum Basin Management Plan. Per the Judgment, the District has a minimum of approximately 1,000 AFY of extraction rights. Extractions above that amount must be replenished with SWP water through a program with the Chino Basin Watermaster.

Recycled Water

The District does not currently have or use recycled water as a supply. The District's plans for recycled water are still preliminary, and the expected beneficial use has not been quantified.

Desalinated Water

The District does not currently use desalinated water as a supply and has no current plans to develop new desalinated water supplies.

Exchanges or Transfers

The District currently has interconnections with the Cities of Rialto, Colton and San Bernardino, the Fontana Water Company, Marygold Mutual Water Company, and Valley District which can be utilized as needed for short-term supply needs. These connections are not typically used for extended periods and are not relied on as a source of supply.

Future Water Supply and Projects

To meet the future demands within the system, the District plans to rehabilitate existing wells, to drill new wells, and equip wells with wellhead treatment if required. These wells are planned for various groundwater basins and pressure zones within the distribution system.

Groundwater is not the only planned supply source to be utilized by the District to meet the anticipated future demands. The District has expanded the Oliver P. Roemer Water Filtration Facility to allow additional treatment of SWP water when available. A future expansion of the plant will increase the ultimate capacity of the facility to 21.6 MGD.

Summary of Existing and Planned Sources of Water

The District's actual supplies used during 2015 are summarized in Table 8.

Table 8. Water Supplies – Historical, AFY

Water Supply	Additional Detail on Water Supply	Entitlement, Right or Contract	2015 Water Quality	2015	2016	2017	2018	2019
Surface Water	Lytle Creek	Lytle Creek Judgment & Water Purchase Agreement- Appendix A	Drinking Water	2,271	2,026	4,540	3,748	4,023
Purchased or Imported Water	SWP Water	No limit or contract; obtained from SBVMWD	Drinking Water	2,244	2,839	2,653	4,042	3,649
Groundwater	Lytle Creek	Lytle Creek Judgment & Water Purchase Agreement- Appendix A	Drinking Water	2,159	1,850	2,365	2,416	2,572
Groundwater	Riverside North	Western Judgment- Appendix B	Drinking Water	2,065	2,745	1,089	1,542	1,301
Groundwater	Rialto-Colton	Rialto Basin Decree- Appendix C	Drinking Water	2,505	2,123	3,923	3,353	2,779
Groundwater	Bunker Hill	Western Judgment	Drinking Water	1,520	1,351	2,300	2,002	891
Groundwater	Chino	Chino Basin Watermaster Judgment- Appendix D	Drinking Water	0	0	0	0	0
Purchased or Imported Water	Baseline Feeder (Bunker Hill)	Baseline Feeder Agreement- Appendix E	Drinking Water	4,367	3,380	3,151	3,701	3,512
	Total			**17,131**	**16,314**	**20,021**	**20,804**	**18,727**

The District plans to utilize a greater amount from each of its supply sources, up to the legal rights and availability. The District's available supplies for future years are summarized in Table 9.

Table 9. Water Supplies – Projected (AF)

Water Supply	Additional Detail on Water Supply	2020	2025	2030	2035	2040
Surface Water	Lytle Creek	5,500	5,500	5,500	5,500	5,500
Purchased or Imported Water	SWP Water	7,000	7,000	7,000	7,000	7,000
Groundwater	Riverside North	2,500	3,500	4,000	4,500	4,500
Groundwater	Rialto-Colton	4,500	6,000	6,000	6,000	6,000
Groundwater	SBBA Groundwater (Bunker Hill / Lytle)	9,500	14,000	17,000	19,500	19,500
Groundwater	Chino	0	900	900	900	900
Purchased or Imported Water	Baseline Feeder (Bunker Hill)	5,000	5,000	5,000	5,000	5,000
	Total	**34,000**	**41,900**	**45,400**	**48,400**	**48,400**

Supply Reliability

California Water Code section 10631

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

Groundwater

Some of the District's wells have been impacted by arsenic, perchlorate and volatile organic carbons (VOCs). The District has implemented wellhead treatment as needed and continues to monitor groundwater contamination and the movement of groundwater contaminant plumes. These past and ongoing groundwater treatment projects have demonstrated that treatment is an economically viable alternative for handling arsenic, perchlorate and VOCs. Based on current conditions, water quality is not anticipated to affect District supply reliability. However, water quality issues are constantly evolving. The District will take action to protect and treat supply when needed, but it is well recognized that water quality treatment can have significant costs.

Geologic hazards within Lytle Creek have the potential to disrupt the water supply system by restricting the flow and/or introducing large quantities of suspended solids to the runoff, thereby increasing turbidity levels. To deal with this water quality issue, the District added pre-treatment capability at the Oliver P. Roemer WFF to achieve both turbidity removal and total organic carbon reduction.

State Water Project

During times of State-wide drought conditions, the availability of SWP water may be reduced. These conditions are normally known in advance, providing the District with the opportunity to plan for the reduced supply. During a drought period, it is Valley District's priority to meet obligations to maintain lake levels at Big Bear Lake and to make direct deliveries to the water treatment plants operated by Redlands, the District, EVWD, YVWD, and SBMWD.

Reliability by Type of Year

During normal and wet years, Valley District uses SWP water for groundwater recharge. Therefore, this water is available for production during dry years. Through its use of groundwater storage, Valley District does not anticipate a reduction in the availability of SWP water during single or multiple dry years.

Due to the size of the groundwater basins utilized by the District, a single dry year will not affect well production. The annual amount produced in past normal, single dry, or multiple dry water years from a basin does not give an accurate representation of potential basin production. Factors such as lower system demand, cost of pumping, inoperable wells, pumping duration, replenishment costs, water quality, cost of supply and the ability to treat water all affect annual basin production numbers.

The District has been able to utilize up to 5,500 AFY during normal times from Lytle Creek surface flows and projects a minimum of 2,130 AFY during extended drought conditions. The District and its predecessors have been utilizing Lytle Creek surface flows for water supply for more than 130 years.

Regional Supply Reliability

The District is committed to minimizing the need to import water from other regions. The District operates a number of conservation programs to implement various Demand Management Measures, helping to reduce the need for imported water.

Sufficiency Assessment

California Water Code section 10910

(c) (3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

There has been a historical trend associated with drier years and an increase in water use among agencies. Conservation efforts have proven to be effective in decreasing water use in dry years, such as the past three years (2013-2015).

The District has estimated that demands could increase 10 percent during a single dry year. During a multiple dry year period, it is expected that conservation messaging and restrictions would lead to consumption dropping back down to normal year levels in the second dry year, and falling a further 10 percent in the third dry year.

The following tables summarize the anticipated supplies and demands for the District.

Table 10. Normal Year Supply and Demand Comparison (AF)

Totals	2020	2025	2030	2035	2040
Supply Totals[2]	34,000	41,900	45,400	48,400	48,400
Demand Totals	20,799	22,256	23,802	25,492	27,312
Difference	13,201	19,644	21,598	22,908	21,088

[1]Information provided in the 2015 RUWMP.
[2]Supply totals updated in this WSA.

Table 11. Single Dry Year Supply and Demand Comparison (AF)

Totals	2020	2025	2030	2035	2040
Supply Totals	33,030	38,530	42,030	45,030	45,030
Demand Totals	22,879	24,481	26,183	28,041	30,043
Difference	10,151	14,049	15,847	16,989	14,987
[1]Information provided in the 2015 RUWMP.					

Table 12. Multiple Dry Years Supply and Demand Comparison (AF)

Year	Totals	2020	2025	2030	2035	2040
First Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	22,879	24,481	26,183	28,041	30,043
	Difference	10,151	14,049	15,847	16,989	14,987
Second Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	20,799	22,256	23,802	25,492	27,312
	Difference	12,231	16,274	18,228	19,538	17,718
Third Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	18,719	20,030	21,422	22,943	24,580
	Difference	14,311	18,500	20,608	22,087	20,450
[1]Information provided in the 2015 RUWMP.						

Water Shortage Contingency Plan

Per California Water Code section 10632, the District has an adopted Water Shortage Contingency Plan that is included in the 2015 RUWMP.

Determination

California Water Code section 10911

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

The District has verified that it has the water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed Project, in addition to existing and planned future uses.

Reservation of Authority

Nothing in this WSA shall be construed to create a right or entitlement to water service, or any specific level of service nor does it affect existing law concerning the District's obligation to provide water service to its existing customers or to any potential future customers. **(See Government Code § 66473.7(m) and (n).)**

In addition, the District specifically reserves its authority to impose reasonable terms and conditions or to refuse water service to any existing customers or to any potential future customers, in order to conserve water in the face of an existing or threatened water shortage. **(See Water Code § 350, et. seq.)**

Conditions of Approval

This assessment of reliable water supply is conditioned on the following:

1. The property owner will install water efficient devices and landscaping according to the requirements of the District's water use efficiency ordinance(s), if any, at the time of construction of the project to reduce the impact of this project on District water supplies.

2. Prior to project construction, the property owner is required to meet with District staff to develop a plan of service. The plan of service will include, but not be limited to, water requirements to serve the project. If there is a change in the circumstances detailed in this water supply assessment, the District has the option to suspend the approval of this WSA.

3. This WSA will be reviewed every three (3) years until the project begins construction. The property owner shall notify the District when construction has begun. The review will ensure that the information included in this WSA remains accurate and no significant changes to the project or District's water supply have occurred. If the property owner has not contacted the District within three (3) years of approval of this WSA, it will be assumed that the proposed project no longer requires the estimated water demand calculated, the demand for this project will not be considered in assessments for future projects, and the assessment provided by this document will become invalid.

4. (a) Based on present information the District has determined that it will be able to provide adequate water supplies to meet the potable water demand for this project in addition to existing and future uses. Water service will be guaranteed by the satisfaction of all rules and regulations of the District. The District reserves the right to revisit this water supply assessment in the event of a potential increase in water demand to the project.

   (b) This WSA is not a commitment to serve the project, but a review of District's supplies based on present information available.

References

San Bernardino Valley Municipal Water District. (January 2015). *Upper Santa Ana River Watershed Integrated Regional Water Management Plan.*

Appendix A. Lytle Creek Judgment & Surface Water Purchase Agreement

Appendix B. Western Judgment

Appendix C. Rialto Basin Decree

Appendix D. Chino Basin Watermaster Judgment

Appendix E. Baseline Feeder Agreement

BOARD OF DIRECTORS
ENGINEERING, OPERATIONS AND PLANNING COMMITTEE
STAFF REPORT

DATE: November 18, 2020

TO: Engineering, Operations and Planning Committee

FROM: Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

SUBJECT: CONSIDER A WATER SUPPLY ASSESSMENT FOR VENTANA AT DUNCAN CANYON SPECIFIC PLAN

BACKGROUND:

On October 06, 2020, Frontier Communities ("Developer") submitted an application to West Valley Water District ("District") to review a Water Supply Assessment ("WSA") for its proposed project in the City of Fontana, known as Ventana at Duncan Canyon Specific Plan ("Project"). The Project proposes the development of a 105-acre Specific Plan for a mixed-use site located north of Lytle Creek Road, and east of the I-15 freeway, as shown in **Exhibit A.** The proposed project will be constructed in (2) phases, and will include the development of a mid-rise hotel, retail space, offices, restaurants, medium-density residential units and light manufacturing. The project covers an area that is currently undeveloped, and does not have any existing water connections to the District's system.

DISCUSSION:

The WSA is a necessary requirement for compliance with the California Environmental Quality Act ("CEQA"), furthermore, the California Water Code (Code) requires projects as defined in Section 10912 of the Code, to include a WSA in their environmental impact report. The WSA evaluates whether the total water supplies available during normal, single-dry, and multiple-dry water years projected within the latest adopted Urban Water Management Plan ("UWMP") will meet the anticipated water demand associated with the particular project, in addition to the existing and planned future uses.

A "Project" in the Water Code means any of the following:

1) A proposed residential development of more than 500 dwelling units.
2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4) A proposed hotel or motel, or both, having more than 500 rooms.

5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
6) A mixed-use project that includes one or more of the projects specified in this subdivision.
7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

This development is considered a project as defined by the Water Code per item number 6 above. The Code states that the District shall determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted UWMP, and if so, the District may incorporate the requested information from the UWMP in preparing the elements of the WSA.

UWMPs are prepared to support the District's long-term resource planning, and to ensure that adequate water supplies are available to meet existing and future water demands. The plans must be prepared every 5 years and submitted to the Department of Water Resources. The latest UWMP adopted by the District was the 2015 San Bernardino Valley Regional Urban Water Management Plan ("RUWMP"). The demand projections for water usage rates per acre were based on land use designations from City and County General Plans.

Attached as **Exhibit B** for your review is a WSA prepared by the Developer's consultant, Water Systems Consulting, Inc. The water demand for this Project is anticipated to be 358 acre feet per year. The anticipated water demand associated with the Project was accounted for in the most recently adopted UWMP and information from that plan was utilized in the preparation of this WSA.

As demonstrated in the 2015 RUWMP, the water supply available in 20 years in a normal, single dry and multiple dry water years is sufficient to meet the projected demand associated with the project.

FISCAL IMPACT:

No fiscal impact at this time.

STAFF RECOMMENDATION:

It is recommended that the Engineering, Operations and Planning Committee approve the Water Supply Assessment for Ventana at Duncan Canyon Specific Plan and have this item considered by the full Board of Directors at a future meeting.

Respectfully Submitted,

Shamindra Manbahal

Shamindra Manbahal, Acting General Manager
on behalf of Clarence C. Mansell Jr, General Manager

DG:mm

ATTACHMENT(S):

1. Exhibit A - Aerial Map
2. Exhibit B - Water Supply Assessment for Ventana at Duncan Canyon Specific Plan

MEETING HISTORY:

11/18/20 Engineering, Operations and Planning Committee

EXHIBIT A

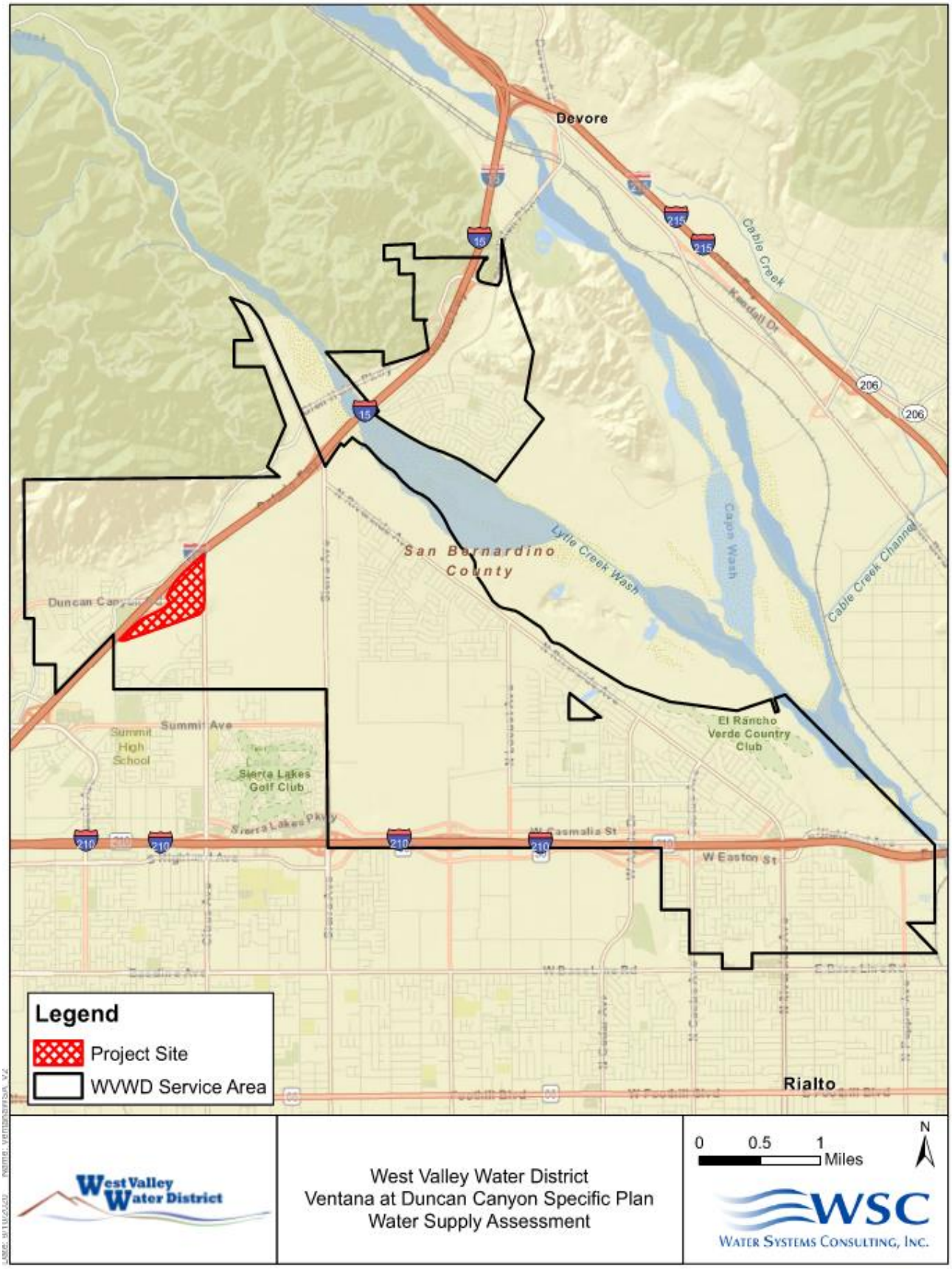

Devore
San Bernardino County
Duncan Canyon Rd
Summit Ave
Summit High School
Sierra Lakes Golf Club
Sierra Lakes Pkwy
El Rancho Verde Country Club
Cable Creek
Kendall Dr
Lytle Creek Wash
Cajon Wash
Cable Creek Channel
W Casmalia St
W Easton St
Rialto
Legend
Project Site
WVWD Service Area
West Valley Water District
Ventana at Duncan Canyon Specific Plan
Water Supply Assessment
0 0.5 1 Miles
N
WSC
Water Systems Consulting, Inc.

EXHIBIT B

West Valley Water District

Water Supply Assessment

for the

Ventana at Duncan Canyon Specific Plan

Prepared for:

Frontier Communities

Prepared Under the Responsible Charge of:

Kirsten Plonka, PE

California R.C.E. No. 70746, Expires 6/30/2021

10/29/2020

WSC
WATER SYSTEMS CONSULTING, INC.

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1 INTRODUCTION AND PURPOSE

This Water Supply Assessment (WSA) was prepared on behalf of Frontier Communities for West Valley Water District (WVWD) by Water Systems Consulting, Inc. (WSC) to satisfy the requirements of California Water Code (CWC) Section 10910 (Senate Bill 610) for the Ventana at Duncan Canyon Specific Plan (Project). The Project lies within the City of Fontana.

As required by Senate Bill 610 (SB 610), WVWD is responsible for assessing whether the total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for the Project, in addition to WVWD's existing and planned future uses. A water supplier's Urban Water Management Plan (UMWP) serves as a foundational document for a WSA. The water demands for the Project area were included in the projections made in the 2015 San Bernardino Valley Regional Urban Water Management Plan (2015 RUWMP) (1), as submitted to the California Department of Water Resources (DWR) in June 2016. Under this WSA, updated demands for this Project are provided and summarized in Section 4. Additional information from other sources is also incorporated into this WSA to document supplies from all sources, including groundwater and purchased water. Documentation includes identifying and quantifying water rights, contracts, and/or entitlements to the supply. WVWD must provide the results of the assessment to the City, as the Lead Agency, for inclusion in the CEQA document for the project. This WSA includes the following:

- Description of the Project and proposed water demand (Section 3 & 4)
- Overview of WVWD's water system (Section 2)
- Information on WVWD's current and projected water demands in the water service area (Section 5)
- Information on WVWD's current and projected water supplies (Section 6)
- Discussion of WVWD's water service area water supply reliability (Section 7)
- Comparison of WVWD's water service area water supplies and water demands for average, single dry, and multiple dry years (Section 8)
- Determination of WVWD's water service area water supply sufficiency (Section 9)

1.1 LEGISLATION

WVWD has determined that the Project is subject to review under CEQA (*Public Resources Code, Section 21000 et seq.*), and the state CEQA Guidelines (*California Code of Regulations, Section 15000 et. seq.*) WVWD has determined that the Project is a "project" as defined in CWC 10912 and has determined that a WSA is required for the Project.

SB 610 amended the Public Resources Code, effective January 1, 2002, to incorporate CWC requirements for certain types of development projects to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 seeks to promote more collaborative planning between local water suppliers, cities and counties by requiring detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects.

Under SB 610, water suppliers must prepare WSAs for projects meeting certain project size criteria and deliver them to local governments for inclusion in any environmental documentation. The Project requires a WSA because it is a mixed-use project that proposes the construction of residential development in excess of 500 dwelling units as well as commercial uses that exceed the criteria for building square footage.

1.2 DEFINITIONS

For the purposes of this WSA, the following defined terms are used:

- **Groundwater Production:** The amount of water produced from the Bunker Hill, Lytle, Rialto-Colton, Riverside North, and Chino Basins. These groundwater supply sources enter WVWD's distribution system based on metered flows at each well. WVWD provided annual groundwater production data for 2011-2019 in addition to 2015 RUWMP data.

  Through an agreement with Valley District, WVWD also receives up to 5,000 AFY of groundwater from wells in the Bunker Hill Basin.

- **Surface Water:** The amount of water produced from Lytle Creek.
- **Purchased Water:** The amount of water imported from the State Water Project (SWP) and put into the distribution system based on metered flows at the Lytle Turnout off the San Gabriel Feeder Pipeline.
- **Consumption:** The amount of billed metered water consumed by customers. The Project site does not contain any existing customers; therefore, no existing customer consumption data was analyzed in the preparation of this WSA.
- **Demand:** The amount of water distributed through the entire water system, which is the sum of groundwater production and purchased water. Demand includes non-revenue water, which is equal to the difference between water put into the distribution system and consumption.
- **Non-revenue water**: Unmetered water use and losses from the distribution system due to leaks, unauthorized connections, agency use (e.g., system flushing), or theft.
- **Water demand factor:** The calculated amount of water demand per unit (e.g., acre, sqft, dwelling unit, etc.) of a specific type of use (e.g., land use, development type, business type, etc.).

2 PUBLIC WATER SYSTEM OVERVIEW

WVWD is located in the southwest region of San Bernardino County, California, and serves the Cities of Rialto, Fontana, Colton, and Jurupa Valley, and unincorporated areas of San Bernardino County. Figure 2-1 shows WVWD's service area.

The Project is located entirely within the WVWD's northern section. WVWD's total water service area encompasses approximately 31 square miles and is located approximately 50 miles east of Los Angeles. WVWD is bounded by the City of Fontana to the west, the City of San Bernardino to the east, the U.S. Forest Service boundary to the north, and the County of Riverside to the south.

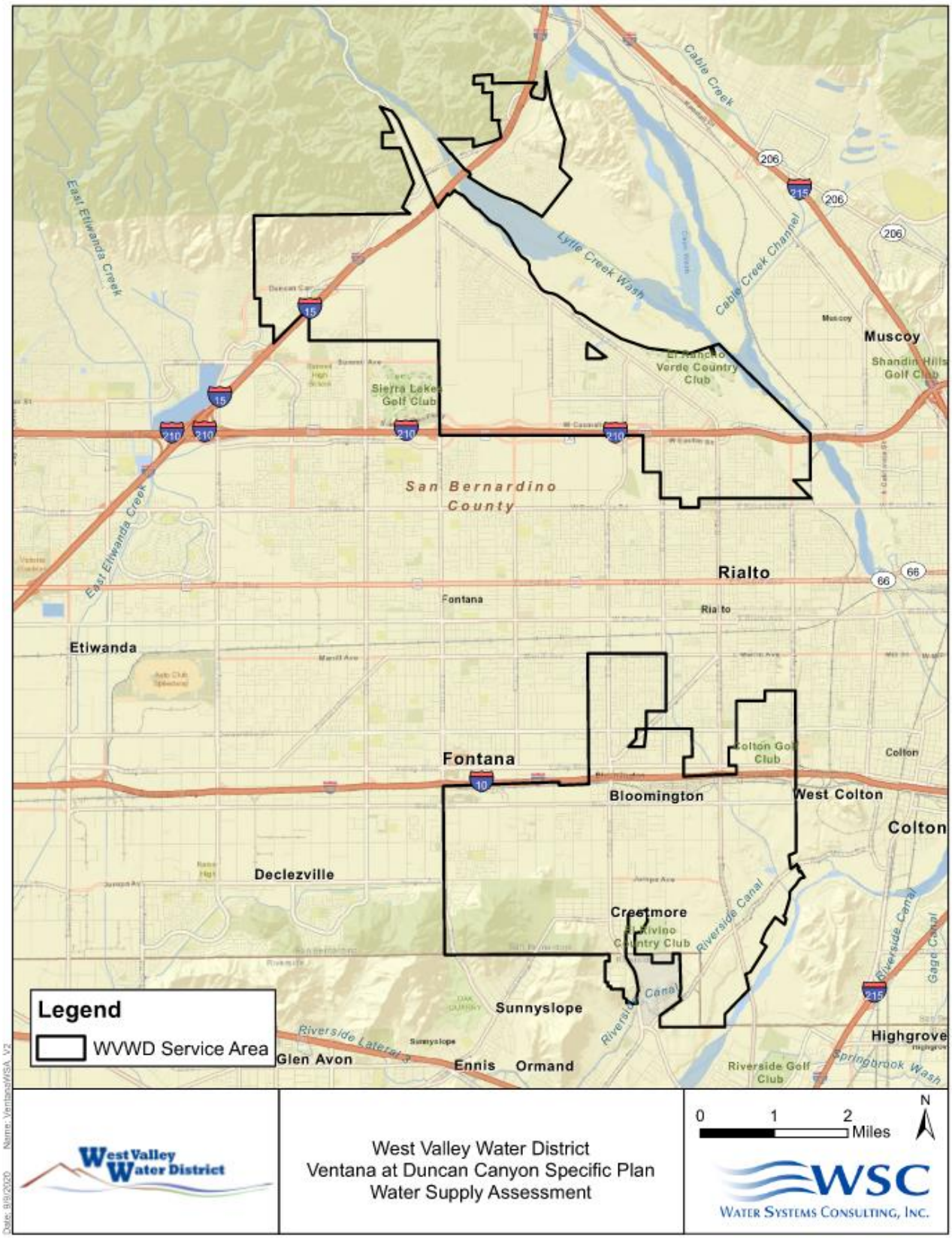

Figure 2-1. WVWD Water Service Areas (1)

2.1 CLIMATE

WVWD's climate is characterized by hot, dry summers and mild, wet winters. Table 2-1 presents average climate data for the service area, including temperature, rainfall and reference evapotranspiration (ETo). As shown in Table 2-1, the warmest months of the year are July and August, with an average temperature of 78 degrees Fahrenheit (°F), while the coldest month of the year is January with an average temperature of 52°F.

The annual average precipitation at WVWD is about 1.3 inches. As shown in Table 2-1, the majority of the rainfall occurs in the months of December through March. January and February are the wettest months with an average rainfall of approximately 3 inches.

Table 2-1. Historical Temperature, Rainfall and Reference Evapotranspiration (ETo) Data

	Average Temperature (°F)	Average Precipitation (in.)[1]	Average Standard ETo (in.)[2]
January	52.4	3.22	2.53
February	54.6	3.25	2.87
March	56.7	2.86	4.30
April	60.9	1.29	5.38
May	65.6	0.47	5.82
June	71.3	0.09	6.76
July	77.7	0.04	7.38
August	77.7	0.15	7.09
September	73.9	0.33	5.51
October	66.5	0.71	3.97
November	58.6	1.32	2.89
December	53.3	2.38	2.38

Notes:
[1]NOAA weather station 0407723 in San Bernardino; data from 1893 through 2004;**http://wrcc.dri.edu**;
[2]CIMIS weather station 44 at University of California, Riverside; data from 1986 through 2015; http://wwwcimis.water.ca.gov/

2.2 SERVICE AREA POPULATION

The historical, current, and projected populations for WVWD's water service area are shown in Table 2-2. The population projections were prepared as part of the 2015 RUWMP and based on number of connections WVWD serves and the 2012 Adopted Growth Forecast developed by the Southern California Association of Governments (SCAG).

Table 2-2. Historical, Current and Projected Population (1)

	2015	2020	2025	2030	2035	2040
WVWD Water Service Area Population	80,161	86,246	92,793	99,836	107,415	115,568

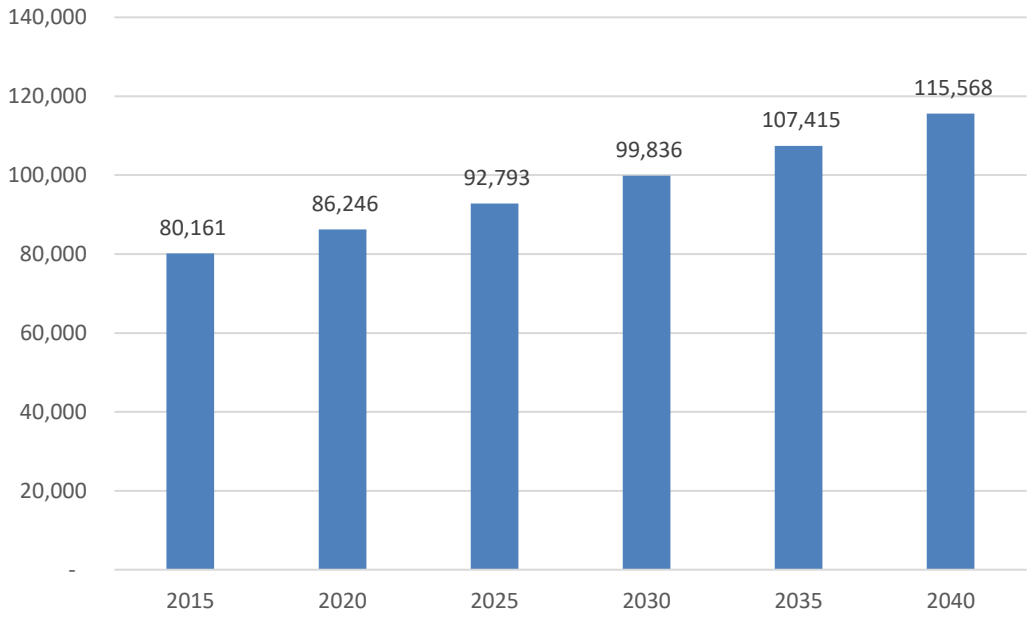

Figure 2-2. Historical, Current and Projected Population Trends (1)

2.2.1 Other Demographic Factors

The Ventana at Duncan Canyon Specific Plan (SP) area is located in the Ventana Major Developable Land and includes all land identified within this boundary as identified in the 2012 WMP (2). Growth within the Ventana Major Developable Land is projected to include residential, commercial, and parks. Figure 2-3 summarizes the known Major Developable Land areas within WVWD.

To make sure the demographic factors impacting the Ventana at Duncan Canyon SP are accurately captured, the growth rates utilized for projections calculated for this WSA are based on the most current and detailed data available from the 2015 RUWMP.

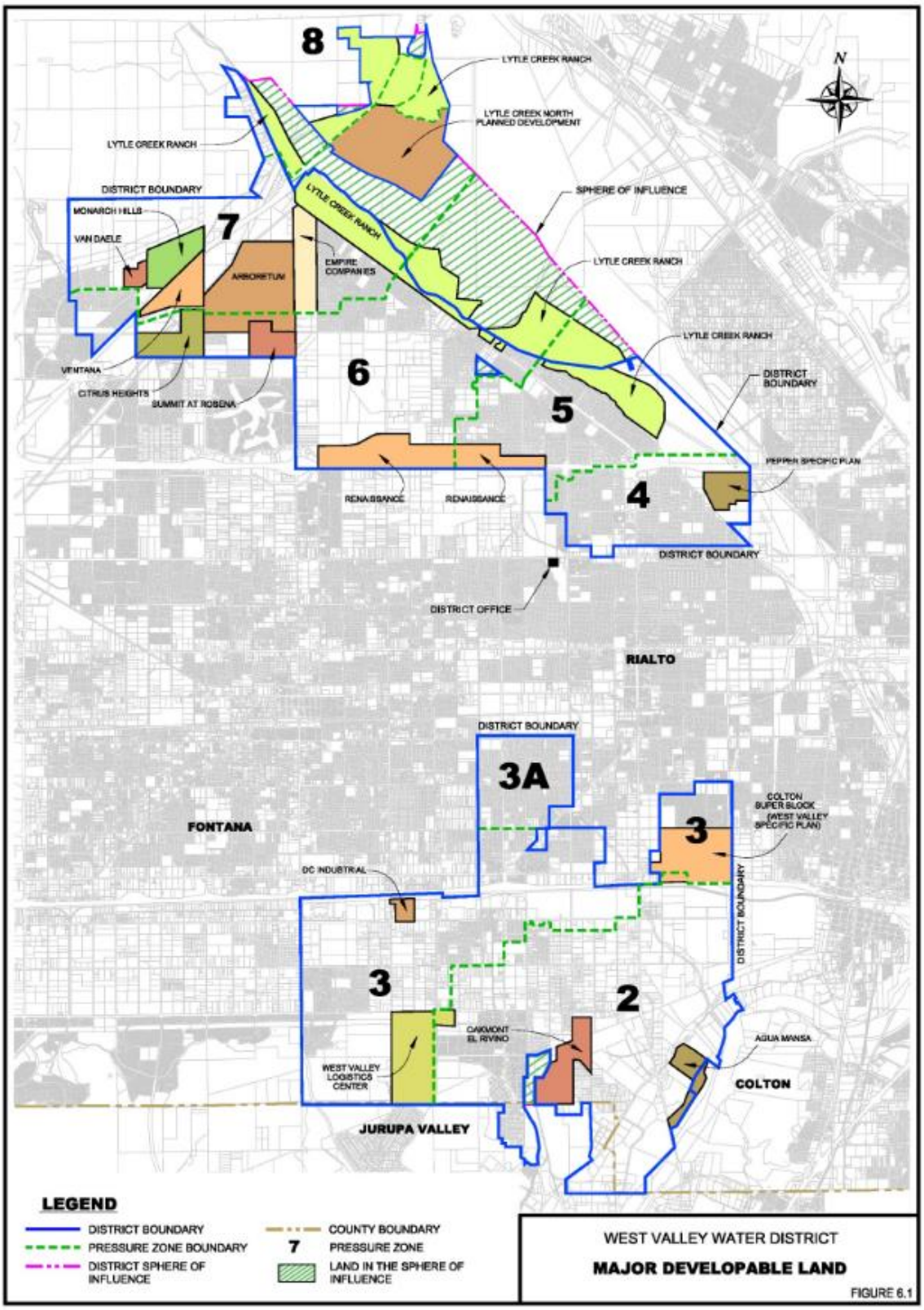

Figure 2-3. Planning Areas identified in the 2012 Water Master Plan (2)

3 PROJECT DESCRIPTION

The Project area consists of 105 acres in the northern portion of the City of Fontana, California, north of Lytle Creek Rd and east of Interstate-15. The Project site lies within pressure zone 7 of the northern section of WVWD's water service area, a public water system as defined in CWC Section 10912. Figure 3-1 depicts the Project location relative to WVWD's northern service area boundary.

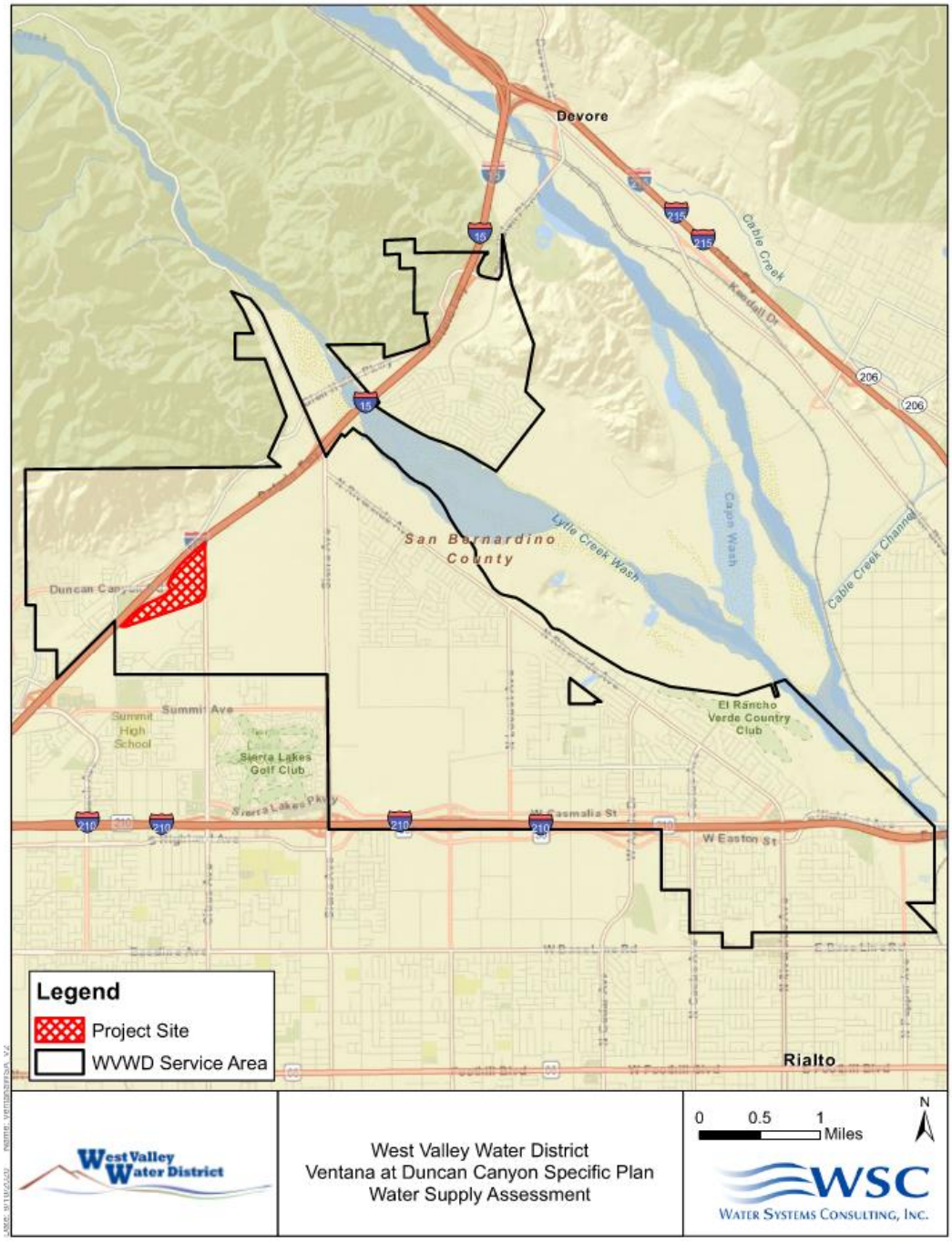

Figure 3-1. Project Vicinity

The land within the Project site is vacant, approximately all 105 acres. At the time this report was prepared, WVWD had a conceptual development scenario from Frontier Communities that featured net area for each planning area within the development. Demands were calculated based on net area for each phase. Future land uses are anticipated to include commercial, light manufacturing, office space, restaurants, retail, and medium to high density residential.

4 PROJECT WATER DEMAND

WVWD's 2015 RUWMP was based on existing and future water demands. The 2015 RUWMP projected future water use using two factors using a gallons per capita per day (GPCD) methodology: the expected growth in service area population, and the expected change in per-capita consumption. For future populations, the Southern California Association of Governments (SCAG) 2012 Adopted Growth Forecast was used for population projections in 2020 and in 2035 inside each of approximately 4,000 traffic analysis zones (TAZ) that cover southern California. GIS software was used to intersect WVWD's service area with the SCAG projections to calculate an estimated annual growth rate of approximately 1.5 percent for the WVWD service area. This growth rate was applied for years beyond 2015. The GPCD methodology (described in Section 5) assumes that all water use categories will grow at the same rate as population. SCAG's forecast used local planning data to estimate population. The planning data available at the time was assumed to include the Project area, therefore it incorporated a population growth estimate from the Project area. Per CWC Section 10910(c)(1), the Project's revised demands need to be accounted for in this WSA. Sections 4 and 5 present the methodology used to reconcile the 2015 RUWMP demand projections with the updated Project demands.

SCAG's population forecast data is not granular enough to determine how much population was assumed to come from the Project area. Therefore, if the additional projected demand from 2015 to 2030 is higher than the estimated Project demand, then it is assumed that demands for the Project were accounted for in the 2015 RUWMP. The 2015 RUWMP projected an additional Multi-Family Residential demand of 142 AFY by 2025 and 191 AFY by 2030 as well as an additional Commercial demand of 408 AFY by 2025 and 549 AFY by 2030. The Project's demands by 2025 and 2030 are less than the 2015 RUWMP projection for additional demands, as summarized in

Table 4-1. Since the 2015 RUWMP projections for additional demands are greater than the calculated Project demands, the 2015 RUWMP's supply and demand projections accounted for the Project. Information from the 2015 RUWMP was used for this WSA and is described in detail in the following sections.

Table 4-1 Additional Demand Projections Established in the 2015 RUWMP, Compared to the Total Project Demand, AFY

Use Type	Actual 2015 Demand	2015 RUWMP Demand, 2025	2015 RUWMP Demand, 2030	2025 – 2015 Difference (Additional Demand)	2030 – 2015 Difference (Additional Demand) [1]	Total Project Demand	Total Project Demand Compared to 2030 Projection[1]
Multi-Family	504	646	695	142	191	175	16
Commercial	1,453	1,861	2,002	408	549	183	366

[1]The excess in demand from 2030-2015 demonstrates an over-projection in the 2015 RUWMP. The total Project demand is less than the over-projection for 2030; therefore, the Project was included in demand estimates established in the 2015 RUWMP.

4.1 PROJECT WATER DEMAND PROJECTIONS

Water demand factors were applied to projected development units (acres) for each use type to estimate Project demands. Water demand factors were selected from the 2012 Water Master Plan (2) and applied to the Project land uses. The estimated water demand factors applied to the Project's future land use categories are provided in Table 4-2.

Although there is potential for the Project's land uses to vary according to densities for each respective land use and zoning category, the land use and development units used to estimate Project water demands were based on the development units provided by Frontier Communications, as shown in Table 4-3. As summarized in Table 4-3, the total estimated water demand for the Project is 358 AFY. If the actual land uses and development change from these assumptions, the associated water demand may change and would need to be reevaluated.

Table 4-2. Water Demand Factors for each Land Use Type

Land Use	Water Demand Factor, gpm/ac[1]
Commercial	2.43
Regional Mixed Use	2.62
Medium or Medium High Density Residential	2.62

[1]Demand Factor based on Table 5-1 of the 2012 Water Master Plan (2).

Table 4-3. Estimated Project Water Demands

Phase	Time Frame	Planning Area	Land Use(s)	Net Residential Area (acre)	Net Non-Residential Area (acre)	Non-Residential (sqft)	Demand Factor (gpm/ac)[1]	Project Residential Demand (AFY)	Project Commercial Demand (AFY)	Project Demand by Phase (AFY)
Phase 1	0 – 5 Years	1	Mid-rise Hotel, Retail, Restaurants	-	5.75	116,000	2.43	-	22.5	157
		5	Medium or Medium High Density Residential	16.76	-	-	2.62	70.7	-	
		6	Medium Density Residential	11.7	-	-	2.62	49.4	-	
		8	Retail, Restaurants	-	3.64	32,500	2.43	-	14.2	
Phase 2	5 - 10 Years	2	Mixed Use, Retail, Office, Residential	-	11.37	104,000	2.62	-	48.0	201
		3	Office, R & D, Light Manufacturing	-	5.05	100,000	2.43	-	19.8	
		4	Office, R & D, Retail	-	7.45	114,000	2.43	-	29.1	
		7	Medium Density Residential	12.95	-	-	2.62	54.6	-	
		9	Mixed Use, Retail, Restaurant	-	2.61	8,000	2.62	-	11.0	
		10	Office, R & D, Light Manufacturing	-	9.86	100,000	2.43	-	38.6	
Total				***41.4***	***45.7***	***574,500***				***358***

[1]Demand Factors sources described in **Table 4-2**.

5 WVWD WATER SERVICE AREA WATER DEMAND

The GPCD metric provides a way to gauge water use per person historically in order to project expected future demand patterns based on population projections. In the 2010 UWMP, WVWD calculated a baseline water use of 316 GPCD. WVWD used Target Method 4 to calculate a compliance water use target of 254 GPCD for 2020, and an interim water use target of 285 GPCD for 2015. In 2010, the actual consumption was calculated as 236 GPCD.

For the 2015 UWMP cycle, DWR had made a GIS-based Population Tool available to calculate service area population using Census Bureau data. WVWD used this tool to re-calculate its service area population, baseline per-capita use, and compliance targets. Details on per-capita use and targets are provided in the 2015 RUWMP.

This Project demands are accounted for in the 2015 RUWMP projections and do not affect District-wide GPCD. WVWD expects to meet or be below its required District-wide SB7 GPCD targets with or without the Project Demand.

6 WATER SUPPLY ANALYSIS

6.1 WATER SOURCES

WVWD utilizes three primary sources for drinking water supply: local surface water from the east side of the San Gabriel Mountains, including North Fork Lytle Creek, Middle Fork Lytle Creek, and South Fork Lytle Creek; groundwater; and imported water from the State Water Project (SWP). Groundwater is the primary source of supply. WVWD's distribution system is divided into eight pressure zones and utilizes 25 reservoirs for a total storage capacity of 72.6 million gallons (MG). WVWD also operates a 14.4 MGD water filtration facility. The following sections describe each water source in more detail and a summary of water supply purchases and production is provided in Table 6-3.

6.1.1 Purchased or Imported Water

WVWD purchases SWP water from the San Bernardino Valley Municipal Water District (Valley District) through the Lytle Turnout off the San Gabriel Pipeline Feeder. SWP water is treated at WVWD's Oliver P. Roemer Water Filtration Facility (WFF) and used for potable supply, or can be used to supply non-potable customers, or for groundwater recharge in the Lytle Creek Basin. In 2006, the WFF was expanded to increase production capacity to 14.4 MGD and will be expanded to have a capacity of 21.6 MGD. WVWD has utilized SWP water through the Lytle Turnout since 1999.

6.1.2 Groundwater

WVWD draws approximately 46% of its water supply from its wells (3). WVWD's normal operating practice is to pump its wells 16 hours a day during off peak hours to take advantage of Southern California Edison's time of use rate. If, for some reason, wells are not in service (maintenance or repair), WVWD has the ability and the right to pump its wells up to 24 hours per day. WVWD has approximately 32 MGD production capability from all its wells in operation 24 hours per day.

WVWD extracts groundwater from five regional groundwater basins: Bunker Hill, Lytle Creek, Rialto-Colton, Riverside North, and Chino Basins. All five basins have been adjudicated and are managed. Details on adjudication and management are provided in the 2015 RUWMP.

WVWD, in a joint venture with the City of Rialto and Valley District, constructed 25,000 feet of 48-inch transmission line known as the Baseline Feeder. Through an agreement with Valley District, WVWD can receive up to 5,000 AFY of supply through this transmission line. WVWD has received water through the Baseline Feeder since 1998.

WVWD's historical production for 2015 through 2019 is shown in Table 6-3.

6.1.2.1 San Bernardino Basin Area

The San Bernardino Basin Area (SBBA) was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The SBBA has a surface area of approximately 141 square miles and lies between the San Andreas and San Jacinto faults. The basin bordered on the northwest by the San Gabriel Mountains and Cucamonga fault zone; on the northeast by the San Bernardino Mountains and San Andreas fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands. Alluvial fans extend from the base of the mountains and hills that surround the valley and coalesce to form a broad, sloping alluvial plain in the central part of the valley. The SBBA encompasses the Bunker Hill sub basin (DWR Number 8.02-06) defined by DWR and also includes a small portion of the Yucaipa Basin (8-02.07) and the Rialto-Colton Basin (8-02.04) as defined by DWR. The SBBA also encompasses surface water.

The Western Judgment established the natural safe yield of the SBBA to be a total of 232,100 AF per year (AFY) for both surface water diversions and groundwater extractions (see Appendix B. Western JudgmentAppendix A. Lytle Creek Judgement & Surface Water Purchase Agreement). Surface water is diverted from Mill Creek, Lytle Creek, and the SAR. The average surface water diversions in the SBBA for direct use from 1968 to 2000 were 39,000 AFY.

The Western Judgment allocates 64,862 AFY of the safe yield, which equates to 27.95 percent, to the Plaintiffs. The Plaintiffs include the City of Riverside (the successor to the Riverside Water Company and the Gage Canal Company), Riverside Highland Water Company, Meeks & Daley Water Company, and Regents of the University of California. The Riverside County agencies may not exceed their allocation unless they participate in "New Conservation" (explained below).

The Non-Plaintiffs' (agencies within San Bernardino County, including the District) rights were defined in the Judgment as 167,238 AFY, which equates to 72.05 percent of the safe yield. San Bernardino agencies are allowed to extract more than 167,238 AFY from the SBBA, as long as they import and recharge a like amount of water into the SBBA. The Western-San Bernardino Watermaster provides an annual accounting of both the plaintiff and non-plaintiff extractions and a comparison to the safe yield. The Watermaster bases the Valley District replenishment water requirement on the cumulative accounting of non-plaintiff extractions. If the cumulative extractions are less than the cumulative safe yield, there is a groundwater "credit" in the basin. In years when cumulative extractions are greater than their allocation, a "debit" is given. Recharge is also required to offset the export of water outside the SBBA in excess of the amount recorded during the base period (1959-1963). Credits are earned for any new supplies such as stormwater capture. As of the accounting performed for the 2015 Annual Western-San Bernardino Watermaster Report, the Non-Plaintiffs have 104,994 AF of net credit accumulated in the SBBA and are, therefore, not required to recharge. Although there is no recharge requirement under the Judgment, the Non-Plaintiffs have continued to recharge the SBBA.

6.1.2.2 Lytle Creek Sub Basin

Lytle Creek Basin is part of the SBBA, and it is not identified as a separate sub-basin in DWR Bulletin 118-2003; however, the sub basin is an integral part of the Upper Santa Ana Valley Groundwater Basin and a major recharge area for both the Bunker Hill and Rialto-Colton sub basins. Historically, local agencies have recognized Lytle Creek sub basin as a distinct groundwater sub basin. In the Western Judgment, the Bunker Hill and Lytle Creek sub basins are combined into the SBBA. However, the three separate water-bearing zones and intervening confining zones of the Bunker Hill sub basin are not observed in the Lytle sub basin. Sediments within the Lytle sub basin are, for the most part, highly permeable, and the aquifer has a high specific yield. High permeability and specific yield tend to result in an aquifer that responds rapidly to changes in inflow (precipitation and streamflow) and outflow (groundwater pumping, streamflow, and subsurface outflow).

Lytle Creek sub basin is adjoined on the west by the Rialto-Colton sub basin along the Lytle Creek fault, and on the east and southeast by the Bunker Hill sub basin along the Loma Linda fault and Barrier G. The northwestern border of the sub basin is delineated by the San Gabriel Mountains, and runoff from the mountains flows south/southeast through Lytle and Cajon Creeks into the basin.

Numerous groundwater barriers are present within Lytle Creek sub basin, resulting in six compartments within the sub basin. Barriers A through D divide the northwestern portion of the sub basin into five sub-areas and the southeastern portion of the sub basin comprises the sixth sub-area. Barrier F divides the northwestern sub-areas from the southeastern sub-area. Studies have shown that the groundwater barriers are less permeable with depth. When groundwater levels are high during wet years, more leakage occurs across the barriers than when groundwater levels are lower (i.e., during dry years). The amount of pumping in each sub-area, in large part, controls the movement of groundwater across the barrier within the older alluvium but not the younger alluvium.

It is important to note that the water rights in Lytle Creek are set forth in long-standing court judgments governing the rights of the parties in that basin. The Lytle Creek Basin was adjudicated under the 1924 Judgment No. 17,030 from the Superior Court of San Bernardino County (Lytle Creek Judgment) and is managed by the Lytle Creek Water Conservation Association, which is made up of the successors to the stipulated parties of the judgment (see Appendix A. Lytle Creek Judgement & Surface Water Purchase Agreement). Table 6-1 shows historical extractions from the SBBA for years 2010-2018. Data for 2019 was unavailable at the time of preparation of this WSA.

Table 6-1 Historic Groundwater Extractions and Surface Water Diversions from SBBA (AFY)

Entity	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-Plaintiffs									
Bear Valley Mutual Water Company (a)	17,524	16,862	15,560	15,259	17,102	15,166	12,746	33,868	14,972
City of Colton (a)	4,740	4,783	6,222	5,170	4,879	4,405	3,044	3,842	3,695
East Valley Water District (a)	18,120	18,408	19,538	18,796	17,896	13,500	12,791	15,214	14,545
City of Loma Linda (a)	4,863	5,401	5,776	5,571	5,449	4,670	4,708	5,070	5,158
City of Redlands (a)	28,960	31,908	31,918	29,641	29,100	18,524	16,319	24,216	21,710
City of Rialto (a)	5,325	3,377	3,109	4,082	4,132	3,726	4,291	3,885	4,413
San Bernardino Valley MWD (a)	291	618	3,790	7,485	8,178	6,874	5,643	4,921	6,327
City of San Bernardino (a)	49,185	50,331	50,250	46,853	44,798	37,415	36,519	38,478	40,158
West Valley Water District (a)	7,986	7,697	8,637	7,723	6,397	7,047	4,862	7,108	6,966
Yucaipa Valley Water District (a)	166	97	120	220	154	5	162	110	178
Other Agencies in San Bernardino and Private Entities (b)	16,474	19,288	23,053	17,597	15,062	12,176	10,260	11,431	11,295
Subtotal for Non-Plaintiffs	**153,634**	**158,770**	**167,973**	**158,397**	**153,147**	**123,508**	**111,345**	**148,143**	**129,417**
Plaintiffs									
Riverside Highland Water Company (c)	1,136	1,655	2,135	2,873	2,077	3,400	3,040	1,903	2,641
Agencies in Riverside County (d)	52,987	54,151	60,159	60,885	57,072	57,942	54,406	58,228	57,659
Subtotal for Plaintiffs	**54,123**	**55,806**	**62,294**	**63,758**	**59,149**	**61,342**	**57,446**	**60,131**	**60,300**
Total	**207,757**	**214,576**	**230,267**	**222,155**	**212,296**	**184,850**	**168,791**	**208,274**	**189,717**

Notes:

(a) Data from Volume 1 of the Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(b) Includes Crafton Water Company, Devore Water Company, Fontana Union Water Company, Loma Linda University, Mentone Citrus Growers, Mount Vernon Water Company, Mountain View Generating Station, Muscoy Mutual Water Company, San Bernardino County – Facility Management, Tennessee Water Company, Terrace Water Company, and Redlands water Company. Data from Volume 1 of the Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(c) Riverside-Highland Water Company's service area extends into both San Bernardino and Riverside counties. However, Riverside-Highland Water Company is a Plaintiff within the Western Judgment and therefore extractions for Riverside-Highland are typically included with those of Riverside County entities. Data from Table No. 11, Western-San Bernardino Watermaster Annual Report for 2015 and 2018.

(d) Includes Agua Mansa Water Company and Meeks & Daley Water Company, Regents of the University of California, and the City of Riverside. Data from Table Nos. 10, 12, and 13 of the Western-San Bernardino Annual Report for 2015 and 2018.

6.1.2.3 Rialto-Colton Basin

The Rialto-Colton subbasin underlies a portion of the upper Santa Ana Valley in southwestern San Bernardino County and northwestern Riverside County. This subbasin is about 10 miles long and varies in width from about 3.5 miles in the northwestern part to about 1.5 miles in the southeastern part. This subbasin is bounded by the San Gabriel Mountains on the northwest, the San Jacinto fault on the northeast, the Badlands on the southeast, and the Rialto-Colton fault on the southwest.

The District and its predecessors have been utilizing the Rialto Basin for water supply for more than 80 years. The Rialto Basin was adjudicated under the 1961 Decree No. 81,264 from the Superior Court of San Bernardino County (Rialto Basin Decree) (see Appendix C. Rialto Basin Decree). Groundwater storage capacity of the basin is about 210,000 AF (DPW 1934), with an estimated 120,000 AF for the Rialto portion of the sub-basin and about 93,000 AF for the Colton portion. The basin shows quick rises of water levels during high precipitation years and slower decline over several years.

Under normal conditions, when the basin is not in adjudication, the District has unlimited extraction rights. During drought conditions when the adjudication is in effect, the District's extraction right ranges from 3,067 AFY in the most severe drought periods to a maximum of 6,134 AFY. Existing wells in the Rialto Basin have the capacity to extract up to 10,000 AFY during normal conditions.

6.1.2.4 North Riverside Basin

The North Riverside Basin (the portion of the Riverside Basin Area in San Bernardino County) is part of the 1969 Judgment No. 117,628 (see Appendix B. Western Judgment), under the Bunker Hill Basin. The Riverside Groundwater Basin is a large alluvial fill basin that is bounded by major faults and topographic barriers. Recharge to the basin occurs by the underflow from basins to the north, contributions from the Santa Ana River, and from percolation of surface water runoff from the surrounding uplands, in particular the Box Spring Mountains to the east. The District, which has no limits or restrictions on groundwater pumping in the basin, has been utilizing the North Riverside Basin for water supply for more than 60 years.

Extractions from the North Riverside Basin for use in Riverside County are limited to 21,085 AFY by the Judgment. Extractions for use in San Bernardino County are unlimited, provided that water levels at three index wells in the Rialto-Colton and Riverside North Basins stay above 822.04 feet MSL. The 2015 Integrated Regional Water Management Plan provided an estimate of 30,100 AFY as the sustainable supply from North Riverside for use in San Bernardino County, based on extractions from 1996 to 2005.

6.1.2.5 Chino Basin

The Chino Basin is an adjudicated basin managed by the Chino Basin Watermaster. The Chino Sub basin lies in the southwest corner of San Bernardino County. The Chino Sub basin is bordered to the east by the Rialto-Colton fault. In the other three directions, the Chino Sub basin is ringed by impermeable mountain rock, the San Gabriel Mountains to the north, the Jurupa Mountains and Puente Hills to the south and southwest. Average annual precipitation across the basin is 17 inches. This part of the San Bernardino Valley is drained by San Antonio Creek and Cucamonga Creek southerly to the Santa Ana River.

On January 2, 1975, several Chino Basin producers filed suit in California State Superior Court for San Bernardino County (the "Court") to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in Chino Basin Municipal Water District v. City of Chino et al. (Chino Basin Watermaster Judgment) adjudicating water rights in the Chino Basin and establishing the Chino Basin Watermaster. The Judgment adjudicated all groundwater rights in Chino Basin and contains a physical solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. The Judgment also appointed the Watermaster to account for and implement the management of the Chino Basin. The Judgment declared that the initial operating safe yield of the Chino Basin is 145,000 AFY. The Basin is managed through implementation of the Chino Optimum Basin Management Plan. Per the Judgment, the District has a minimum of approximately 1,000 AFY of extraction rights. Extractions above that amount must be replenished with SWP water through a program with the Chino Basin Watermaster.

6.1.3 Surface Water

WVWD has the right to divert and export out of the Lytle Creek Region 2,290 gpm when it is available. WVWD can also purchase an additional 1,350 gpm of Lytle Creek flows through an agreement with the City of San Bernardino (San Bernardino is not able to utilize their surface water flows), which is treated at the Oliver P. Roemer WFF. WVWD also utilizes Lytle Creek surface water flows for groundwater recharge in the Lytle Creek Basin.

6.2 TRANSFER OPPORTUNITIES

WVWD currently has interconnections with the Fontana Water Company, Marygold Mutual Water Company, Valley District, and the Cities of Rialto, Colton and San Bernardino which can be utilized as needed for short-term supply needs. These connections are not typically used for extended periods.

6.3 FUTURE WATER PROJECTS

To meet future demands within the system, WVWD plans to rehabilitate existing wells, drill new wells, and equip wells with wellhead treatment if required. These wells are planned for various groundwater basins and pressure zones within the distribution system.

WVWD has expanded the Oliver P. Roemer Water Filtration Facility to allow additional treatment of SWP water when available. A future expansion of the plant will increase the ultimate capacity of the facility to 21.6 MGD.

When planning future water supply sources, WVWD selects projects that will provide sufficient supply to meet peak day demands. When possible, these sources are planned by pressure zone, thereby reducing the need to lift water to a higher zone. WVWD currently pumps its wells 16 hours per day to take advantage of Southern California Edison's reduced off peak pumping rate. This pumping schedule lowers overall costs and allows WVWD operational flexibility.

As development progresses and increases demands are placed on the system, WVWD will determine which projects to implement. Although WVWD may not need to utilize each source to its full potential, construction of these water supply projects gives WVWD this option should one of more source be off-line due to maintenance. Known future supply developments are listed in Table 6-2.

Table 6-2. Future Water Supply Projects (1)

Name of Project	Capacity	Description	Date Supply Available
Expansion of Oliver P. Roemer WFF	21.6 MGD	Expansion to allow additional treatment of SWP water, when available and to be used during an average year.	2025

6.4 RECYCLED WATER

WVWD does not currently have a recycled water distribution system. WVWD's plans for recycled water are still preliminary, and the expected beneficial use has not been quantified.

To the extent feasible, if and when recycled water is available to WVWD, this water will be offered to WVWD customers.

6.5 WATER SUPPLY SUMMARY

WVWD's historical current, and projected water supplies are summarized in Table 6-3. These quantities are based on projected demands established in the 2015 UWMP.

Table 6-3. Water Supplies – Historical, AFY

Water Supply	Additional Detail on Water Supply	2015	2016	2017	2018	2019
Groundwater	Lytle Creek	2,159	1,850	2,365	2,416	2,572
	Riverside North	2,065	2,745	1,089	1,542	1,301
	Rialto-Colton	2,505	2,123	3,923	3,353	2,779
	Bunker Hill	1,520	1,351	2,300	2,002	891
	Chino	0	0	0	0	0
Purchased or Imported Water	SWP Water	2,244	2,839	2,653	4,042	3,649
	Baseline Feeder	4,367	3,380	3,151	3,701	3,512
Surface Water	Lytle Creek	2,271	2,026	4,540	3,748	4,023
Total		**17,131**	**16,314**	**20,021**	**20,804**	**18,727**

WVWD plans to utilize a greater amount from each of its supply sources, up to the legal rights and availability. WVWD's available supplies for future years are summarized in Table 6-4.

Table 6-4 Current and Projected Supplies, AFY

Water Supply	Additional Detail on Water Supply	2020	2025	2030	2035	2040
Groundwater	SBBA Groundwater (Bunker Hill/Lytle)	9,500	14,000	17,000	19,500	19,500
	Riverside North	2,500	3,500	4,000	4,500	4,500
	Rialto-Colton	4,500	6,000	6,000	6,000	6,000
	Chino	0	900	900	900	900
Purchased or Imported Water	SWP Water	7,000	7,000	7,000	7,000	7,000
	Baseline Feeder	5,000	5,000	5,000	5,000	5,000
Surface Water	Lytle Creek	5,500	5,500	5,500	5,500	5,500
Total		**34,000**	**41,900**	**45,400**	**48,400**	**48,400**

7 WATER SUPPLY RELIABILITY

7.1 WATER SUPPLY RELIABILITY

During normal and wet years, Valley District uses SWP for groundwater recharge. Therefore, this water is available for production during dry years. Through its use of groundwater storage, Valley District does not anticipate a reduction in the availability of SWP water during single or multiple dry years.

Due to the size of the groundwater basins utilized by WVWD, a single dry year will not affect well production. The annual amount produced in historical normal, single dry, or multiple dry water years from a basin does not give an accurate representation of potential basin production. Factors such as lower system demand, cost of pumping, inoperable wells, pumping duration, replenishment costs, water quality, cost of supply and the ability to treat water all affect annual basin production numbers.

WVWD has utilized up to 5,500 AFY during normal times from Lytle Creek surface flows and projects a minimum of 2,130 AFY during extended drought conditions. WVWD and its predecessors have utilized Lytle Creek surface flows for water supply for more than 130 years.

8 WATER SUPPLY AND DEMAND ANALYSIS

There has been a historical trend associated with drier years and an increase in water use among agencies. Conservation efforts have proven to be effective in decreasing water use in dry years, such as the historical drought of 2013-2015.

In the 2015 RUWMP, WVWD had estimated that demands could increase by 10 percent during a single dry year. During a multiple dry year period, it is expected that conservation messaging and restrictions would lead to consumption dropping back down to normal year levels in the second dry year and falling an additional 10 percent in the third dry year.

Table 8-1 presents a comparison of supply and demand projections in an Average Year, Table 8-2 presents a comparison of supply and demand projections for a Single Dry Year, and Table 8-3 presents a comparison of supply and demand projections for multiple dry years.

Table 8-1. Normal Year Supply and Demand Comparison, AFY

Totals	2020	2025	2030	2035	2040
Supply Totals[2]	34,000	41,900	45,400	48,400	48,400
Demand Totals	20,799	22,256	23,802	25,492	27,312
Difference	13,201	19,644	21,598	22,908	21,088

Notes:
1. **Information provided in the 2015 RUWMP.**
2. **Supply totals updated in this WSA.**

Table 8-2. Single Dry Year Supply and Demand Comparison, AFY

Totals	2020	2025	2030	2035	2040
Supply Totals	33,030	38,530	42,030	45,030	45,030
Demand Totals	22,879	24,481	26,183	28,041	30,043
Difference	10,151	14,049	15,847	16,989	14,987

Note:
1. **Information provided in the 2015 RUWMP.**

Table 8-3. Multiple Dry Year Supply and Demand Comparison, AFY

Year	Totals	2020	2025	2030	2035	2040
First Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	22,879	24,481	26,183	28,041	30,043
	Difference	10,151	14,049	15,847	16,989	14,987
Second Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	20,799	22,256	23,802	25,492	27,312
	Difference	12,231	16,274	18,228	19,538	17,718
Third Year	Supply Totals	33,030	38,530	42,030	45,030	45,030
	Demand Totals	18,719	20,030	21,422	22,943	24,580
	Difference	14,311	18,500	20,608	22,087	20,450

Note:
1. **Information provided in the 2015 RUWMP.**

9 DETERMINATION OF WATER SUPPLY SUFFICIENCY

9.1 DETERMINATION OF WATER SUPPLY SUFFICIENCY

According to the 2015 RUWMP, WVWD has adequate supplies to meet their customer demands and replacement water needs during average, single dry and multiple dry years throughout the 20-year planning period. Project demands determined in this WSA were less than the projected growth demands provided in the 2015 RUWMP. As a result, the Project demands were included in supply projections. It is concluded that WVWD has adequate supplies to meet demands during average, single dry and multiple dry years throughout the 20-year planning period.

WVWD is committed to minimizing the need to import water from other regions. WVWD will continue aggressive water conservation efforts to implement various Demand Management Measures, helping to reduce the need for imported water.

10 CONDITIONS OF APPROVAL

This assessment of reliable water supply is conditioned on the following:

1. The property owner will install water efficient devices and landscaping according to the requirements of the District's water use efficiency ordinance(s), if any, at the time of construction of the project to reduce the impact of this project on District water supplies.

2. Prior to project construction, the property owner is required to meet with District staff to develop a plan of service. The plan of service will include, but not be limited to, water and recycled water requirements to serve the project. If there is a change in the circumstances detailed in this water supply assessment, the District has the option to suspend the approval of this WSA.

3. This WSA will be reviewed every three (3) years until the project begins construction. The property owner shall notify the District when construction has begun. The review will ensure that the information included in this WSA remains accurate and no significant changes to the project or District's water supply have occurred. If the property owner has not contacted the District within three (3) years of approval of this WSA, it will be assumed that the proposed project no longer requires the estimated water demand calculated, the demand for this project will not be considered in assessments for future projects, and the assessment provided by this document will become invalid.

4. (a) Based on present information the District has determined that it will be able to provide adequate water supplies to meet the potable water demand for this project in addition to existing and future uses. Water service will be guaranteed by the satisfaction of all rules and regulations of the District. The District reserves the right to revisit this water supply assessment in the event of a potential increase in water demand to the project.

   (b) This WSA is not a commitment to serve the project, but a review of District's supplies based on present information available.

11 REFERENCES

1. **Water Systems Consulting, Inc.** *2015 San Bernardino Valley Regional Urban Water Management Plan* . Amended June 2017.

2. **West Valley Water District.** *2012 Water Master Plan.* 2012.

3. —. Overview. *West Valley Water District.* [Online] 2018. [Cited: September 14, 2020.] https://agencyeta.com/WVWD/about/overview/.

APPENDIX A. LYTLE CREEK JUDGEMENT & SURFACE WATER PURCHASE AGREEMENT

APPENDIX B. WESTERN JUDGMENT

APPENDIX C. RIALTO BASIN DECREE

APPENDIX D. CHINO BASIN WATERMASTER JUDGMENT

APPENDIX E. BASELINE FEEDER AGREEMENT