I hereby certify that the following agenda was posted at least 24 hours prior to the time of the meeting so noticed below at 24251 Los Alisos Boulevard, Lake Forest, California.

DENNIS P. CAFFERTY, Secretary
of the El Toro Water District and
the Board of Directors thereof

AGENDA

EL TORO WATER DISTRICT

SPECIAL MEETING OF THE BOARD OF DIRECTORS

January 3, 2022
7:30 a.m.

Director Mark Monin will be attending remotely from:

Atlantic Aviation
275 E. Tropicana Ave.
Las Vegas, NV 89169

Director Jose Vergara will be attending remotely from:

27231 Eastridge Drive
Lake Forest, CA 92630

Members of the public who wish to comment on any item within the jurisdiction of the District or on any item on the agenda, attend the meeting in person at the District's office or may observe and address the Meeting by joining at this link: https://us02web.zoom.us/j/83265055158 (Meeting ID: 832 6505 5158).

Members of the public who wish only to listen to the telephonic meeting may dial in at the following numbers (669) 900-6833 or (346) 248-7799 with the same Meeting ID noted above. Please be advised the Meeting is being recorded.

CALL TO ORDER – President Freshley

PLEDGE OF ALLEGIANCE – Director Gaskins

ORAL COMMUNICATIONS/PUBLIC COMMENTS

Members of the public may address the Board at this time or they may reserve this opportunity with regard to an item on the agenda until said item is discussed by the Board. Comments on other items will be heard at the times set aside for "COMMENTS REGARDING NON-AGENDA ENGINEERING COMMITTEE ITEMS" or for "COMMENTS REGARDING NON-AGENDA FIC ITEMS." The public may identify themselves when called on and limit their comments to three minutes.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Determine need and take action to agendize item(s) which arose subsequent to the posting of the Agenda. (ROLL CALL VOTE: Adoption of this recommendation requires a two-thirds vote of the Board members present, or, if less than two-thirds of the Board members are present, a unanimous vote of those members present.)

1. Bond Underwriter RFQ and Selection
(Reference Material Included)

Staff will provide an update on the request for proposals and subsequent selection of an underwriter for the upcoming funding issuance to support several near-term capital projects.

2. Capital Project Financing Update (Reference Material Included)

Staff will provide an update on the evaluation of the funding issuance methodology relative to revenue bonds or certificates of participation.

3. Joint Transmission Main Pump Station Project (Reference Material Included)

Staff will review and comment on proposals received for engineering design services for the JTM Pump Station Project.

Recommended Action: Staff recommends that the Board of Directors authorize the General Manager to enter into a contract with Black & Veatch in the amount of $177,845 for engineering design services for the JTM Pump Station Design. Staff further recommends that the Board authorize the General Manager to fund the project costs from the District's Capital Reserves in accordance with the District's adopted Capital Reserve Policy.

ADJOURNMENT

The agenda material for this meeting is available to the public at the District's Administrative Office, which is located at 24251 Los Alisos Blvd., Lake Forest, Ca. 92630. If any additional material related to an open session agenda item is distributed to all or a majority of the board of directors after this agenda is posted, such material will be made available for immediate public inspection at the same location.

Request for Disability-Related Modifications or Accommodations

If you require any disability-related accommodation, including auxiliary aids or services, in order to participate in this public meeting, please telephone the District's Recording Secretary, Polly Welsch at (949) 837-7050, extension 225 at least forty-eight (48) hours prior to said meeting. If you prefer, your request may be submitted in writing to El Toro Water District, P.O. Box 4000, Laguna Hills, California 92654, Attention: Polly Welsch.

Agenda Item No. 1

STAFF REPORT

To: BOARD OF DIRECTORS **Meeting Date: January 3, 2022**

From: Jason Hayden, Chief Financial Officer

Subject: Bond Underwriter Responses to RFQ and Selection

Attached for your review (Attachment B) are responses from four bond underwriting firms who are interested in working with the District to complete the financing of the capital projects and the refinancing of the SRF Loans. A summary of the responses is included in Attachment A.

Staff is recommending the District select Bank of America Securities to lead the District's debt issuance process. This recommendation is based on the following factors:

- Bank of America Securities is the second largest Underwriter of California water/wastewater bonds based on par amount of issuances and is therefore experienced and capable of completing the District's issuance process;
- Bank of America is currently working on a similar new debt/refinancing SRF loan issuance for Yucaipa Valley Water District and has other recent experience in refinancing SRF loans;
- Bank of America staff that would be assigned to the District's financing is qualified and experienced in issuing debt for California agencies, with experience and qualifications at least similar to the other underwriting firms;
- Bank of America provided a robust analysis of the bond rating process for the District and the District's credit strengths and weaknesses. Bank of America appears qualified and capable of helping the District manage the bond rating process to achieve as high of a rating as possible;
- Bank of America's marketing plan and distribution network is very strong and this would allow a large number of potential purchasers to participate in bidding for the District's debt issuance;
- The pricing proposal from Bank of America is the most favorable of the four responses received; when combined with the attributes discussed above the Bank of America proposal seems to be the most beneficial for the District.

A final comment about the underwriter proposals, all four firms seemed to indicate there are benefits to issuing revenue bonds when compared to certificates of participation.

Attachment A
Summary of Bond Underwriter Proposals

	Bank of America	Morgan Stanley	Stifel	D.A. Davidson
Price	$ 92,600	$ 172,000	$ 101,300	$ 159,100
NHA Advisors Rank[(1)]	16.5	17	12	15.5
California Water/Wastewater Experience since 1/1/2019	26 Transactions, $3 Billion of PAR	31 Transactions, $3.1 Billion of PAR	40 Transactions, $866 Million of PAR	5 Transactions, $55 Million of PAR
Staff Experience Notes	Experience with SRF Loan Refinancings	Experience with inaugural issuances	Has completed the largest number of water financings	Recently completed a California Water District Financing
Credit Rating Estimate	A+ to AA-	AA Category	A+	AA- category
Marketing / Distribution	Large and extensive distribution network	Largest retail brokerage network	Large distribution network	Wealth management offices in Newport Beach
Revenue Bonds or COPs	COPs historically 10-15 bps higher in rates, recommends revenue bonds	In weak market, COPs are 3-5 bps higher in rates	Indicated spread premium exists for COPs	Thorough analysis showing 8.5 bps higher interest rate for COPs, translating to an estimated $80,000 in additional cost

(1) NHA Advisors ranked the Underwriters from 1 to 5 (5 is best) on four criteria (highest possible score is 20):
Assigned Staff, Firm Experience, Credit & Structuring Ideas, and Marketing/Distribution

Attachment B
Bond Underwriter Proposals

El Toro Water District

Underwriter/Broker-Dealer Request for Qualifications:
2022 Water Revenue Bonds

December 16, 2021

BofA Securities, Inc.
555 California Street, Suite 1160
San Francisco, CA 94104

BofA SECURITIES

EL TORO WATER DISTRICT

BofA SECURITIES

December 16, 2021

Mark Northcross
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903
Mark@NHAadvisors.com

Leslie Bloom
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903
Leslie@NHAadvisors.com

Dear Mark and Leslie:

BofA Securities ("BofA") is pleased to submit our response to the El Toro Water District's (the "District") Underwriter/Broker-Dealer Request for Qualifications ("RFQ"). While we detail our credentials and capabilities herein, we'd like to highlight the following:

- ***Municipal Market Leadership -*** BofA has a long and rich history in the public finance sector, ranking as the #1 senior manager of all municipal issues in each of the last nine years, including in 2021. This market leadership spans multiple years and provides our firm with valuable insight on investors' preferences regarding credit and structure.
- ***Relevant Financing Experience -*** BofA has long been a leading underwriter of water and wastewater utility revenue bonds in California as well as nationally. Since 2019, our firm has served as senior manager for 110 such transactions totaling more than $12.6 billion nationally, including 26 financings with an aggregate par amount of approximately $3.0 billion within California. Importantly, ***the core banking team assigned to cover the District has a long history of successfully underwriting California water/wastewater bonds.*** This experience includes bringing inaugural Revenue Bond and COP credits to market, refinancing State loans and cash flow modeling for issuers such as Irvine Ranch Water District, Orange County Water District, Mesa Water District, Rancho California Water District, Eastern Municipal Water District, and Cucamonga Valley Water District and Vallecitos Water District, among others.
- ***Recognized Distribution Strengths -*** BofA's municipal business is directly supported by our industry leading and wholly-owned capital markets distribution network. BofA has long been committed to building and maintaining this fully integrated, multi-channel platform. Importantly, our retail presence throughout the United States totals more than 18,800 retail financial advisors and includes 77 Merrill Lynch, Pierce, Fenner & Smith Incorporated ("Merrill") offices in California managing $360 billion of assets.
- ***Willingness and Ability to Commit Capital -*** While many firms can manage pricings in stable markets, we believe a firm's ability and willingness to commit capital is often one of the most critical factors in the success of a financing during challenging market conditions. BofA has a long-standing practice of actively using capital to support our municipal issuer clients under all market conditions. This leadership is further demonstrated by our ranking for 28 consecutive years as the #1 underwriter of competitive issues – the only objective measure of capital commitment and pricing capabilities.

We appreciate the opportunity to present our qualifications and strongly believe that the combination of our professionals, commitment, experience and pricing capabilities will be of benefit to the District in any market environment. Please feel free to contact either of us if you have any questions about our proposal or would like to receive any additional information.

Sincerely,

Holly Vocal
Managing Director
(415) 913-2327
holly.vocal@bofa.com

Jack Tsang
Director
(213) 345-9578
jack.tsang@bofa.com

Table of Contents

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Bank of America Corporation and its affiliates (collectively, the "BAC Group") comprise a full service securities firm and commercial bank engaged in securities, commodities and derivatives trading, foreign exchange and other brokerage activities, and principal investing as well as providing investment, corporate and private banking, asset and investment management, financing and strategic advisory services and other commercial services and products to a wide range of corporations, governments and individuals, domestically and offshore, from which conflicting interests or duties, or a perception thereof, may arise. In the ordinary course of these activities, parts of the BAC Group at any time may invest on a principal basis or manage funds that invest, make or hold long or short positions, finance positions or trade or otherwise effect transactions, for their own accounts or the accounts of customers, in debt, equity or other securities or financial instruments (including derivatives, bank loans or other obligations) of the Company, potential counterparties or any other company that may be involved in a transaction. Products and services that may be referenced in the accompanying materials may be provided through one or more affiliates of Bank of America Corporation. We have adopted policies and guidelines designed to preserve the independence of our research analysts. These policies prohibit employees from offering research coverage, a favorable research rating or a specific price target or offering to change a research rating or price target as consideration for or an inducement to obtain business or other compensation. We are required to obtain, verify and record certain information that identifies the Company, which information includes the name and address of the Company and other information that will allow us to identify the Company in accordance, as applicable, with the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) and such other laws, rules and regulations as applicable within and outside the United States.

We do not provide legal, compliance, tax or accounting advice. If any person uses or refers to any such tax statement in promoting, marketing or recommending a partnership or other entity, investment plan or arrangement to any taxpayer, then the statement expressed herein is being delivered to support the promotion or marketing of the transaction or matter addressed and the recipient should seek advice based on its particular circumstances from an independent tax advisor. Notwithstanding anything that may appear herein or in other materials to the contrary, the Company shall be permitted to disclose the tax treatment and tax structure of a transaction (including any materials, opinions or analyses relating to such tax treatment or tax structure, but without disclosure of identifying information or any nonpublic commercial or financial information (except to the extent any such information relates to the tax structure or tax treatment)) on and after the earliest to occur of the date of (i) public announcement of discussions relating to such transaction, (ii) public announcement of such transaction or (iii) execution of a definitive agreement (with or without conditions) to enter into such transaction; provided, however, that if such transaction is not consummated for any reason, the provisions of this sentence shall cease to apply.

1. Assigned staff's experience related to water and wastewater transactions since January 1, 2019.

Dedicated Financing Team. **Holly Vocal**, *Managing Director*, based in San Francisco, will be the day-to-day contact and lead banker for the District's financing and will coordinate the delivery of all necessary resources. Ms. Vocal has over 15 years of experience in public finance and has senior managed water/wastewater financings for the Sacramento Regional County Sanitation District, California Department of Water Resources, City of Los Angeles, City of Milpitas, City of Modesto and the San Mateo-Foster City Financing Authority. **Jack Tsang**, *Director* based in Los Angeles, will serve as co-lead banker for the District. Mr. Tsang works closely with Ms. Vocal in our coverage of water/wastewater clients and has executed a variety of Western Region clients including Rancho California Water District, Eastern Municipal Water District, Western Municipal Water District, Cucamonga Valley Water District, Mesa Water District, Orange County Water District, Irvine Ranch Water District and Los Angeles County Sanitation Districts. **Jeff Bower**, *Managing Director* based in our Los Angeles and the firm's senior water/wastewater banker for the Western U.S., will serve as a senior banker providing utility specific expertise. Mr. Bower has spent his entire career working with water/wastewater financings, including The Metropolitan Water District of Southern California, San Diego County Water Authority, Eastern Municipal Water District and many other large and small agencies (both retail and wholesale) throughout the West. **Geoffrey Sauers**, *Vice President* based in Los Angeles, will serve as lead project banker for the District. **Kirubiel Ayele** and **Lamson Ho** in our Los Angeles will provide analytic and quantitative support.

Catherine Crews, *Managing Director*, will be the District's lead fixed rate underwriter. Ms. Crews offers the District more than 15 years of experience underwriting fixed rate debt for numerous credits nationally, including extensive experience with water/wastewater credits. **Brendan Troy**, *Managing Director*, will round out the desk by providing additional pricing and marketing expertise, leveraging his 17 years of experience which includes many California issuers. Both are based in BofA's New York City Office. **Grace Gaoaen**, *Director* in our San Francisco office, will be responsible for marketing the District's financings to retail investors. **Brandi Harkins**, *Vice President* in Los Angeles, will provide California trading support for the District's financing.

Complementing our core banking and underwriting team is a veteran credit strategist who is an expert in working with rating agencies as well as investors on credit related issues. **Brad Gewehr**, *Senior Vice President* in New York has over 30 years of experience in municipal credit. Mr. Gewehr will provide the District with guidance on obtaining the highest possible ratings on the proposed 2022 Water Revenue Bonds (2022 Bonds). Brad will work behind the scenes to address any investor questions regarding credit and/or structure. The organization chart for our proposed financing team is as follows and detailed team resumes are provided in **Appendix A**.

CORE INVESTMENT BANKING TEAM

Holly Vocal, *Managing Director* Lead Banker; San Francisco ☎: (415) 913-2327 ✉: holly.vocal@bofa.com	**Jack Tsang,** *Director* Co-Lead Banker; Los Angeles ☎: (213) 345-9578 ✉: jack.tsang@bofa.com	**Jeff Bower,** *Managing Director* Senior Banker, Utilities; Los Angeles ☎: (213) 345-9580 ✉: jeffrey.bower@bofa.com	**Geoffrey Sauers,** *Vice President* Project Banker; Los Angeles ☎: (213) 345-9581 ✉: geoffrey.sauers@bofa.com

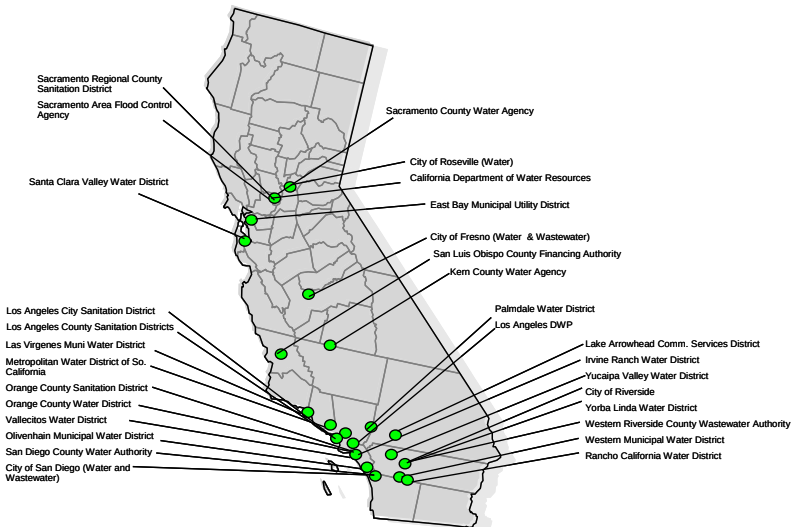
BANKING SUPPORT		**UNDERWRITING**	
Kirubiel Ayele, *Associate* Support Banker; Los Angeles ☎: (213) 345-9577 ✉: kirubiel.ayele@bofa.com	**Lamson Ho,** *Analyst* Support Banker; Los Angeles ☎: (213) 345-9582 ✉: lamson.ho@bofa.com	**Catherine Crews,** *Managing Director* Underwriter; New York ☎: (212) 449-5081 ✉: catherine.crews@bofa.com	**Brendan Troy,** *Managing Director* Lead Underwriter; New York ☎: (212) 449-5081 ✉: brendan.troy@bofa.com

RATING & INVESTOR RELATIONS	**RETAIL MARKETING**	**TRADING**
Brad Gewehr, *Sr. Vice President* Rating & Inv. Rel. Strategist; New York ☎: (646) 743-1336 ✉: bradley.gewehr@bofa.com	**Grace Gaoaen,** *Director* Retail Specialist; San Francisco ☎: (415) 627-2137 ✉: grace.c.gaoaen@bofa.com	**Brandi Harkins,** *Vice President* Public Finance Trader; Los Angeles ☎: (213) 345-4344 ✉: brandi.harkins@bofa.com

2. Firm's experience providing broker-dealer services for water and wastewater transactions since January 1, 2019 (including financings in progress) and any notable achievements related thereto.

Our banking team offers extensive experience over the last three decades in the California water/wastewater finance market. **Since 2019, BofA is the #2 ranked underwriter of California water/wastewater bonds having senior managed 26 transactions for $3.0 billion of par.** As such, we are well positioned to help the District convey its credit to the rating analysts and potential investors. Our core banking team for the District has served as senior manager for numerous water/wastewater financings in California including multiple inaugural credits/bond sales. Notably, BofA also has substantial experience senior managing a variety of municipal utility credits sold as COPs or Revenue Bonds.

Banking Team's California Senior Managed Water/Wastewater Utility Clients



The table below provide our senior managed experience with California water/wastewater financings since 2019.

Sale Date	Issuer	Issue Description	Par Amount ($Millions)	Tax Status	Bid
11/16/21	San Francisco City/Co Public Util Comm	Wastewater Revenue Bonds (Green)	260.835	E	C
11/15/21	Pasadena City-California	Water Revenue Ref Bonds	22.480	E	C
08/24/21	Los Angeles Co Sanitation Dt	Capital Proj Revenue Bonds	41.645	E	N
06/15/21	So California Metro Water Dt	Sub Water Revenue Ref Bonds	222.160	T	N
06/15/21	San Mateo-Foster City Pub Fin Auth	Wstwtr Refunding & Revenue Bonds	348.590	E	N
04/13/21	Cucamonga Valley Water Dt	Water Revenue Ref. Bonds	21.085	E	N
04/13/21	Cucamonga Valley Water Dt	Water Revenue Ref. Bonds	33.785	T	N
01/06/21	Rancho Calif Wtr Dt Fin Auth	Refunding Revenue Bonds	46.395	T	N
12/03/20	San Buenaventura City	Ref Water & Wstwtr Rev Bonds	102.925	T	N
10/27/20	Modesto City-California	Wastewater Rev Ref Bonds	25.470	E	N
10/27/20	Modesto City-California	Wastewater Rev Ref Bonds	68.840	T	N
09/29/20	Chico-California	Sewer Revenue Ref. Bonds	19.735	E	N
09/09/20	San Francisco City/Co PUC	Water Revenue Bonds	61.330	E	N
09/09/20	San Francisco City/Co PUC	Water Revenue Bonds	134.535	E	N
09/09/20	San Francisco City/Co PUC	Water Revenue Bonds (Green)	150.895	E	N
07/08/20	San Diego Co Water Auth	Water Revenue Ref. Bonds (Green)	117.690	E	N
07/08/20	San Diego Co Water Auth	Water Revenue Ref. Bonds (Green)	283.470	T	N
06/23/20	Western Muni Wtr Dt Facs Au	Water Revenue Bonds	90.260	E	N
05/27/20	Mesa Water Dt	Rev Certificates of Participation	55.985	E	N
05/20/20	Eastern Municipal Water Dt	Ref Water & Wstwtr Rev Bonds	122.145	E	N
01/22/20	Tahoe-Truckee Sani Agency	Wastewater Revenue Ref Bonds	20.110	E	C
10/22/19	Milpitas Pub Fin Auth	Wastewater Revenue Bonds	29.840	E	N
09/17/19	Rancho Calif Wtr Dt Fin Auth	Refunding Revenue Bonds	118.090	E	N
07/30/19	Silicon Valley Clean Water	Wastewater Revenue Notes	209.300	E	C
06/25/19	Los Angeles Dept Wtr & Pwr	Wtr Sys VRD Rev Bonds	130.000	E	N
05/14/19	San Mateo-Foster City	Wastewater Revenue Bonds	270.000	E	N
Total Senior Managed Transactions: 26			**$3,007.600**		

Highlighted deals include SRF loan refunding component.

As part of this experience, BofA has senior managed bond transactions which refinanced State loans as part of the issuer's plan of finance, including for the City of San Buenaventura's $102.9 million 2020 Revenue Water and Wastewater Bonds, City of Modesto's $

94.3 million 2020 Wastewater Revenue Refunding Bonds, and the Los Angeles County Sanitation Districts' $41.6 million Capital Projects Revenue Bonds, 2021 Series A (District No. 14 Revenue Bonds) (Green Bonds). **Given this**

experience, BofA is familiar with the administrative and closing logistics involved with the State Water Resources Control Board. BofA is also currently senior managing a transaction for Yucaipa Valley Water District which includes refinancing of some of their outstanding SRF loans and existing bonds, as well as a new combined water and wastewater credit.

The case study below for the Los Angeles County Sanitation Districts Financing Authority highlights our team's recent experience with refinancing State loans for economic savings.

LOS ANGELES COUNTY SANITATION DISTRICTS FINANCING AUTHORITY

$41,645,000 Capital Projects Revenue Bonds, 2021 Series A (District No. 14 Revenue Bonds) (Green Bonds)

BofA served as sole underwriter for the District's Capital Projects Revenue Bonds, 2021 Series A ("2021A Bonds"). **The Bonds refinanced the District's California State Water Resources Control Board loans for economic savings.** As part of the District's overall plan of finance, it also defeased its remaining senior lien debt so that its outstanding 2015A Bonds and the 2021A Bonds became senior lien obligations – leading to rating upgrades by S&P to "AA" (Stable) and Fitch to "AA" (Positive). BofA and the District's municipal advisor monitored the market and analyzed a variety of financing alternatives in order to meet the District's structuring goals. The Bonds were designated as Green Bonds and the POS was posted on August 13th; allowing ample time to market the transaction before pricing on August 24th. Despite a weaker tone in the Treasury market due to strong corporate earning releases on the morning of pricing, the District's bonds were well received with more than $259 million in total orders placed by 22 institutional investors. This tremendous demand allowed the District to lower yields in all maturities by 2-8 basis, resulting in total PV savings of $4.9 million (9% of refunded par) and an All-in TIC of 0.70%).

3. *Please include a discussion and analysis of the District's credit rating and any structuring ideas or strategies that are conducive for an optimal credit rating. Please include in your discussion whether or not a debt service reserve fund is necessary or required. Also, describe any impact a 1.10x rate covenant may have.*

Dedicated Credit Strategies Team. BofA maintains a dedicated Credit Strategy and Investor Relations Group to help issuers craft compelling rating agency presentations and to engage with investors. As previously mentioned, Mr. Gewehr will be fully engaged with the banking team in providing key input related to the rating process. Mr. Gewehr also serves as a conduit for information with investors, offering valuable feedback regarding current buyer preferences and facilitating one-on-one investor meetings and conference calls to discuss specific investor inquiries. BofA's credit strategists are committed to helping the District achieve the highest possible inaugural credit ratings.

Credit Rating Considerations. The rating agencies consider a variety of qualitative and quantitative factors when determining the overall rating for water and sewer utilities. Moody's and S&P continue to be criteria-centered, applying a scorecard based on weighted factors, then notching the factors according to individual strengths and weaknesses. However, Fitch published new criteria in April 2020 that moved away from the weighted assessment and now observes the relationship between multiple key rating drivers, comparing them to other sector entities.

For Moody's and S&P, though there is variability in the emphasis placed on specific rating criteria, there are recurrent factors that drive the agencies' analysis, including **system characteristics, service area economics, market position, legal framework, rate management, and overall financial strength.** We analyzed these factors based on information from the District's FY2021 Annual Financial Report and Financing Options Presentation dated 12/13/2021.

- **Strong System Characteristics and Local Economy:** We view the District's system characteristics and economic fundamentals as strong, supported by its stable, diverse, and affluent service area with low customer concentration. The District also maintains a solid rate setting methodology and flexibility. Industry risk also remains low, as an essential service provider for the District's client base. Additionally, the District's willingness and ability to adjust rates to deal with a changing environment is viewed as a credit positive.
- **Debt Service Coverage:** Rating agencies place significant emphasis on a utility's financial position and its ability to fund operations, capital needs, and meet debt obligations. Key ratios used to measure the financial profile include debt service coverage, days-cash-on-hand, and various leverage ratios. Notably, the District has maintained strong historical debt service coverage (including 1.64x coverage in FY2021) and projects coverage in excess of 1.3x over the next five years (inclusive of the planned new bond issuance). Because debt service coverage represents a significant portion of the rating agencies' weighted score (40% of the financial profile for

S&P and 15% of the overall score for Moody's), maintaining debt service at projected levels will ensure a strong assessment.

DEBT SERVICE COVERAGE

Sub-Factor	AAA	AA	A	BBB	BB	B & Below
Moody's Criteria	>2.00x	2.00x ≥ n > 1.70x	1.70x ≥ n > 1.25x	1.25x ≥ n > 1.00x	1.00x ≥ n > 0.70x	≤ 0.70x
S&P Criteria	≥ 1.60x	1.40x - 1.60x	1.20x -1.40x	1.10x - 1.20x	1.00x - 1.10x	≤ 1.00x

- **Debt Burden:** As of FY2021, the District maintained a manageable debt burden, achieving a 'AAA' assessment from Moody's (debt to operating revenues) and an 'A' assessment from S&P (debt to capitalization). The addition of $25.5 million in net new borrowing will lower Moody's assessment to 'Aa' based on FY2021 revenues, but S&P's 'A' assessment should remain unchanged. Over the following five-year period, the District's projected increases in operating revenue will improve its debt to operating revenues ratio, absent of additional increases in leverage, and will support a continued strong assessment for this category.

DEBT RATIOS

Sub-Factor	AAA	AA	A	BBB	BB	B & Below
Debt to Operating Revenues						
Moody's Criteria	< 2.00x	2.00x < n ≤ 4.00x	4.00x < n ≤ 7.00x	7.00x < n ≤ 8.00x	8.00x < n ≤ 9.00x	≥ 9.00x
Debt to Capitalization						
S&P Criteria	≤ 20%	20%-35%	35%-50%	50%-65%	65%-80%	> 80%

- **Cash/Reserve Levels:** The District's liquidity, supported by its Board mandated reserve policy, remains a key credit strength. Calculated days cash on hand for FY2021 was approximately 259 days. **Continued maintenance of a strong liquidity profile will provide an offsetting credit factor to the potentially lower debt service coverage and increased debt burden as a result of the 2022 Bonds, and also will provide cushion as the District potentially sees increased water rates due to current drought conditions.**

DAYS LIQUIDITY ON HAND

Sub-Factor	AAA	AA	A	BBB	BB	B & Below
Moody's Criteria	> 250	250 ≥ n > 150	150 ≥ n > 35	35 ≥ n > 15	15 ≥ n > 7	≤ 7
S&P Criteria	≥ 150	90 - 150	60 - 90	30 - 60	15 - 30	≤ 15

- **Legal Framework:** Moody's is the sole agency that considers a utility's legal framework within its weighted rating criteria, taking into account the rate covenant and debt service reserve fund (DSRF). We note that a 1.10x rate covenant and lack of a DSRF results in a 'Baa' assessment or lower from Moody's. S&P generally views legal provisions as being credit-neutral or credit-negative. An adequate legal framework for S&P includes a rate covenant of at least 1.0x and a debt service reserve fund (DSRF) in an amount equivalent to at least half of the average annual debt service requirements. **Nonetheless, the District's ability to maintain strong debt service coverage in excess of the covenant is key, as debt service coverage represents a more significant portion of the rating agencies' weighted score.**

Based on our preliminary analysis, we estimate a rating range of 'Aa3' from Moody's and 'AA-/A+' from S&P.

Credit Rating Recommendations. Given the modest issue size (<$50 million), we recommend that the District obtain a single rating from either Moody's or S&P. We do not believe there will be a material marketing benefit by using two ratings. Based on our high level assessment of Moody's criteria, there appears to be a slightly stronger case for a 'Aa' category rating, but there are other notching factors that may come into play. Also, while a DSRF is still part of Moody's credit assessment, it has become a smaller component of their overall scorecard, particularly with offsetting factors such as strong liquidity positions. S&P has traditionally placed less emphasis on DSRF as long as actual and projected debt service coverage levels are strong and there are ample reserves available. We do note that based on our experience, there is more of a bias towards using S&P over Moody's due to a lack of a DSRF.

Structuring Recommendations. We understand the District and its municipal advisor have thoroughly analyzed various structuring alternatives for its proposed issuance, and generally agree with its baseline structuring assumptions, including wrapping of the new money around the SRF loan refunding to allow for stronger coverage levels over the next several years. That said, one thing we did look at was whether it generates material benefit to coverages by structuring for more upfront savings from the SRF loan refunding. Based on our estimates, it may

improve coverage levels by approximately 0.15x, but it would reduce PV savings by approximately $50,000. We view this as marginal benefit, but it is something the District and its municipal advisor could consider if coverage levels become a focus for the rating analysts.

As the District prepares for its proposed bond sale, it will need to adopt a formal debt policy (if there isn't one already) per the requirements under SB 1029 of the California Government Code. As part of the debt policy, the District should consider target bond coverage levels as well as policies to manage its OPEB liabilities. Notably, having a formal coverage policy should give the rating agencies comfort that the District will strive to manage its finances to ensure sufficient revenues are available to pay debt service. As for OPEBs, while the District's total liability is slightly elevated for an agency of its size, we don't view it as a glaring negative on the credit, particularly given the District doesn't have any net pension liabilities. Furthermore, the rating agencies don't necessarily view OPEBs with the same amount of risk as pension given the level of OPEBs are generally much more manageable, benefits are easier to change than pension, and legal protections for OPEBs appear to be limited in most cases.

In terms of the absence of a DSRF, we do not believe this presents a risk of a negative action from S&P. As mentioned, Moody's places more value on DSRFs than the other rating agencies. Even with a 1.10x rate covenant, if the District's liquidity position is strong (which we believe it is given the 259 days of cash on hand for FY 2021), S&P should be fine without sizing any DSRF. Notably, an additional bonds test based on a 1.10x requirement shouldn't be an issue if calculated based on recurring revenues (i.e. excludes connection fees, etc.) and maximum annual debt service.

4. Marketing plan to obtain lowest possible interest rates.

The successful marketing and distribution of municipal obligations is a hallmark of BofA, as evidenced by our consistent first place underwriting league table ranking and by our consistent top secondary market-making. Our ability and willingness to commit capital distinguishes us in both the national and California market. BofA's strong balance sheet and commitment capabilities as well as our expansive distribution, both nationally and in the California, result in BofA consistently leading the public finance and municipal bond market.

Vast Distribution Network. BofA boasts one of the industry's largest and most extensive distribution networks, comprised of over 680 domestic branch offices supported by 18,800+ Merrill retail financial advisors (with 77 local California offices and 2,123 retail financial advisors). Our approach to marketing and selling the District's bonds generally is to leverage our vast distribution network, as detailed as follows, to reach a broad universe of retail and institutional investors.

BofA'S DISTRIBUTION NETWORK HIGHLIGHTS[1]			
Institutional	**National Retail**	**California Retail**	**Orange County**
300+ institutional sales reps 9 offices nationwide	680+ retail offices 18,855 retail financial advisors	77 retail offices[2] 2,123 retail financial advisors	7 retail offices[2] 295 retail financial

(1) Source: Bank of America. Global Wealth and Investment Management (GWIM) is the wealth and investment management division of Bank of America Corporation. As of August 17, 2021 GWIM entities had client balances of $3.65 trillion. Client Balances consists of assets under management (AUM) of GWIM entities, client brokerage assets, assets in custody of GWIM entities, loan balances and deposits of GWIM clients held at Bank of America, N.A. and affiliated banks.

(2) Includes both Merrill and Bank of America Private Bank Offices.

- **National, California and Local Retail:** Unlike a number of our competitors which rely on joint ventures, third party agreements and electronic clearing houses to reach retail investors, Bank of America Corporation has its own wholly-owned retail division, the Global Wealth & Investment Management division, with $3.7 trillion in client balances and the Merrill sales division (as of 9/30/2021), which numbers 18,855 retail financial advisors, who, in 2021 YTD, added 4,200+ net new households under coverage. Within MBAM a team of nine retail marketing specialists in five locations across the country facilitate Merrill retail FAs in their transactions in brokerage account municipal bonds.
- **Middle Market Network:** Embedded within the municipal institutional sales group is a team with specialized coverage of middle market institutional investors. The middle market team covers a range of investor types including additional insurance companies, Registered Investment Advisors, money managers, municipalities, community banks, etc. As one of the largest commercial depository institutions in the U.S., Bank of America N.A. has deep and established relationships with thousands of middle market corporations, insurance companies, trust departments, specialty funds and local money managers that borrow from and keep their cash reserves on deposit at the Bank. These long-standing depository relationships with middle market investors provide BofA a competitive advantage to also serve these institutions' investment needs.

- **Institutional Distribution:** BofA has 23 institutional municipal salespeople servicing institutional investors nationwide. Our institutional municipal salesforce is exclusively dedicated to selling municipal securities. Primary institutional investor clients covered by this sales team include asset managers, Separately Managed Accounts, Exchange Traded Funds, commercial banks, hedge funds, property and casualty insurance companies, life insurance companies, family offices, and international investors such as sovereign wealth funds, etc.

Marketing Strategy. In what follows, we list specific strategies we would employ to market the District's bonds to retail and institutional buyers:

	**Ignite Early Conversations with EMMA Notice:** We recommend that the District post a "Notice of Potential Bond Sale" on EMMA once a plan of finance has been ironed out. At that point, our underwriters can direct key investor targets we have identified, to the public EMMA notice and facilitate preliminary conversations.
	**Internet Roadshow:** We recommend the use of a slides-only online investor presentation to showcase the District's credit to the market and address upfront common credit inquiries that investors may have.
	**Establish Retail Priority:** We could provide first priority for orders placed during the order period to be filled for: (1) California Retail, and (2) National Retail investors.
	**Dedicated California Retail Liaison:** Grace Gaoaen, our lead California-based retail marketing specialist, will oversee our in-State and local retail marketing to ensure we solicit individual retail orders from our Merrill and Bank of America Private Bank retail financial advisors.
	**Internal Sales Call:** Our banking team will orchestrate a call internally with our sales team prior to pricing to address details of the transaction, as well as highlight key credit metrics relevant to the District.
	**One-On-One Investor Calls:** Finally, we have seen increased interest from investors for one-on-one calls with credits not frequently in the market. BofA's credit strategies team, in connection with BofA's sales team, could help assist in arranging these calls, as investors express interest.

Investor Targeting Strategy. Our marketing team will target a broad investor mix including the following:

- **Top Holders of National and California Water / Wastewater Bonds:** Top holders of national and local California water/wastewater credits would be another core target for the District's sale. Top holders within this universe include Vanguard, MetLife, BlackRock, TIAA-CREF, Northern Trust, Travelers, among others. This universe of prospective investors will be a particular focus of our pre-sale marketing efforts.
- ***Green Bond Investors:*** A number of California water and sewer utilities have applied the **green** bond designation to their bond sales. While there is no consistent yield benefit yet in the current market in selling **green** bonds, it may help bring in additional buyers given the buyer base for **green** bonds continues to grow. BofA has worked with multiple California water/wastewater issuers to identify projects previously financed from bond or State loan proceeds that classify as ***green***. This allows *refunding* bonds to carry the **green** designation without the need for a third party certification.
- **Accounts with Cash to Spend:** Fund flows can be the primary driver of investor purchase decisions. We will monitor redemption flows in advance of the sale to better calibrate where to initiate investor dialogue.

National Water/Sewer Investors

Investor	Par Held
Vanguard	$10,138.85
Blackrock	5,969.00
Tiaa-Cref	5,385.62
Franklin Resources	3,706.53
Capital Group	3,532.19
Travelers	3,306.80
Northern Trust	3,179.84
Goldman Sachs	3,137.30
Invesco	3,114.08
FMR LLC	2,366.96

California Water/Sewer Investors

Investor	Par Held
Vanguard	$1,083.11
Blackrock	677.16
Franklin Resources	209.21
Tiaa-Cref	466.92
Invesco	145.06
Goldman Sachs	264.47
Fmr Llc	254.59
Capital Group	340.96
Northern Trust	284.68
Travelers	471.85

National Green Bond Investors

Investor	Par Held
Vanguard	$6,036.69
Blackrock	3,739.22
Tiaa-Cref	3,587.16
Invesco	2,044.13
Franklin Resources	1,844.01
Capital Group	1,687.31
FMR LLC	1,263.72
Travelers	1,254.36
Goldman Sachs	1,075.55
New York Life Group	1,051.05

Source: Bloomberg. Dollars in millions.

5. *Estimated interest rates assuming yields and/or spreads to MMD as of Friday, December 10th. Please describe the rate impact, if any, of issuing COPs versus revenue bonds.*

As part of setting up the District's proposed bond sale, one key marketing distinction that must be considered is whether the District will sell Revenue Bonds or COPs. While in both cases the security for the bonds is the net revenues of the District, the fact that the bonds are issued as "COPs" has some market implications. While this difference may fluctuate depending on market sentiment at the time of sale, it has historically ranged from approximately 10-15 basis points higher in interest rates. As such, the District may want to explore the formation of a joint powers authority (JPA) to allow for the issuance of revenue bonds. Entities such as the California Municipal Finance Authority (CMFA), which is located locally in Carlsbad, or California Statewide Communities Development Authority (CSCDA) offer services to assist municipal issuers in the formation of a JPA, or the District can also consider partnering with the County or a city it serves to form a JPA and achieve the same purpose. We note that according to the websites of both JPAs there is an upfront fee based on the size of the transaction, as well as an annual fee based on the total amount of bonds outstanding. As such, if the District does not anticipate issuing bonds with any frequency, it may be more beneficial to pursue a formation of the JPA with another local municipality (i.e. City of Lake Forest, etc.) to minimize any cost associated with the JPA. The indicative interest rate scale below assumes the District issues revenue bonds rated 'AA-' by S&P. Should the bonds be rated 'A+' by S&P, the spreads to the MMD would be approximately 10 basis points higher.

Tax-Exempt Water Revenue Bonds (10-year Call)
As of December 10, 2021

Years to Maturity	Coupon	Spread	MMD	Yield	Years to Maturity	Coupon	Spread	MMD	Yield
1	5.00%	2	0.15%	0.17%	12	5.00%	10	1.08%	1.18%
2	5.00%	-2	0.25%	0.23%	13	5.00%	12	1.10%	1.22%
3	5.00%	-2	0.36%	0.34%	14	5.00%	13	1.12%	1.25%
4	5.00%	0	0.48%	0.48%	15	5.00%	15	1.14%	1.29%
5	5.00%	2	0.60%	0.62%	16	5.00%	17	1.17%	1.34%
6	5.00%	2	0.75%	0.77%	17	5.00%	17	1.20%	1.37%
7	5.00%	3	0.87%	0.90%	18	5.00%	17	1.23%	1.40%
8	5.00%	5	0.95%	1.00%	19	5.00%	17	1.26%	1.43%
9	5.00%	5	0.99%	1.04%	20	5.00%	17	1.29%	1.46%
10	5.00%	7	1.03%	1.10%	25 (Term)	5.00%	18	1.43%	1.61%
11	5.00%	8	1.06%	1.14%	30 (Term)	5.00%	18	1.48%	1.66%

BofA has relevant experience working with municipal issuers to issue Revenue Bonds through a conduit (JPA). For example, in October 2012, we worked with Cucamonga Valley Water District (CVWD) and its municipal advisor to issue new money Revenue Bonds through the Cucamonga Valley Water District Financing Authority, a JPA formed between CVWD and the CMFA. At time of the bond issuance, it was estimated that the marketing benefit of Revenue Bonds vs. COPs was in the range of 15 to 20 basis points on the $38 million financing (equating approximately $520,000 to $700,000) vs. the initial cost of approximately $24,000 for the forming of the JPA.

6. *Please provide a detailed proposal on management fee, takedown and expenses. Please provide your preferred underwriter counsel's name and firm. Stradling Yocca Carlson & Rauth will be serving as bond and disclosure counsel on the 2022 Bonds.*

Serving as senior managing underwriter is a high priority for BofA. Our proposed fees and expenses are detailed in the following table based on an estimated $38 million financing. We propose an average takedown of $1.50 per bond and estimate all-in gross spread of $2.23 per bond. We are not proposing a management fee.

If agreeable, we recommend Katten Muchin Rosenman LLP as underwriter's counsel. Mr. Scully has served as underwriter's counsel on several California water/wastewatever financings and is very familiar with California utility revenue bond/COP structures.

Katten Muchin Rosenman LLP
Craig M. Scully, *Partner*
(212) 940-8557
craig.scully@kattenlaw.com

PROPOSED UNDERWRITER'S DISCOUNT

Spread Detail	Per Bond	Amount
Average Takedown	$1.500	$ 57,000.00
Expenses	0.730	27,743.65
	$2.230	**$ 84,743.65**

Breakdown of Expenses	Per Bond	Amount
Underwriter's Counsel	$0.526	$20,00.00
IPREO[(1)]	0.102	3,879.65
Out of Pocket & 15c2-12 Review	0.053	2,000.00
CUSIP Fees[(2)]	0.028	1,064.00
DTC Clearance Fee	0.021	800.00
	0.730	**$27,743.65**

Note: Based on $38 million principal amount.
(1) Includes Gameday order monitor.
(2) Based on 22 CUSIPs across one series.

Appendix A

Resumes

CORE INVESTMENT BANKING TEAM	
Contact	**Background**
Holly Vocal *Managing Director* 555 California St, Suite 1160 San Francisco, CA 94104 (415) 913-2327 holly.vocal@bofa.com	Role: **Banker** Experience: Holly has over 15 years of experience in public finance and specializes in state and local government bond issuers. Ms. Vocal has been the principal banker over 150 financings totaling over $12 billion in par. She works on all aspects of project generation and public finance including capital planning, bond structuring and credit analysis. Holly has specialized knowledge in developing comprehensive financing plans to address the needs of issuers, culminating with the structuring and issuance of bonds. Holly has worked with California utility issuers such as the California Department of Water Resources, East Bay Municipal Utility District and San Francisco Public Utilities Commission. Background: B.A. – University of California, Berkeley; FINRA Series 7, 53 and 63.
Jack Tsang *Director* 333 S. Hope Street, Suite 3820 Los Angeles, CA 90071 (213) 345-9578 jack.tsang@bofa.com	Role: **Co-Lead Banker** Experience: Mr. Tsang has 18 years of experience in public finance and has worked on over $25 billion of senior managed municipal finance transactions, including issues for many California water/sewer utilities including the City of Los Angeles (wastewater), Eastern Municipal Water District, Western Municipal Water District, Rancho California Water District, Orange County Water District, Irvine Ranch Water District, Cucamonga Valley Water District, and Los Angeles County Sanitation District. Background: B.S. – University of California, Riverside. FINRA Series 7 and 63 licensed.
Jeff Bower *Managing Director* 333 S. Hope Street, Suite 3820 Los Angeles, CA 90071 (213) 345-9580 jeffrey.bower@bofa.com	Role: **Senior Banker, Utilities** Experience: Jeff rejoined BofA in mid-2008 from UBS/PaineWebber where he had worked for the prior 11 years. During his public finance career he has senior managed over $40 billion for general municipal, solid waste and water/wastewater issuers in California, Hawaii, Arizona, Nevada and Washington. His experience includes senior managed Certificates of Participation, Lease Revenue, Revenue and G.O. Bond financings for many of the largest counties, cities and western water/wastewater issuers including the County of Los Angeles, City of Los Angeles, The Metropolitan Water District of Southern California, Eastern Municipal Water District, Cucamonga Valley Water District, Irvine Ranch Water District, Rancho California Water District, Western Municipal Water District, East Bay Municipal Utility District, San Diego County Water Authority, Sacramento Regional County Sanitation District, Orange County Sanitation District, Las Vegas Valley Water District and King County, WA (Sewer). Background: B.A. – Dartmouth College; M.B.A. – University of California, Los Angeles. FINRA Series 7, 53 and 63.
Geoffrey Sauers *Vice President* 333 S. Hope Street, Suite 3820 Los Angeles, CA 90071 (213) 345-9581 geoffrey.sauers@bofa.com	Role: **Execution Banker** Related Experience: Mr. Sauers has 8 years of public finance experience and joined BofA in April 2011. Since joining BofA, Mr. Sauers has assisted on a variety of debt financings such as general obligation bonds, revenue bonds, and COP/LRB transactions. Mr. Sauers has lead analytical and execution support for numerous local government financings including the City and County of Los Angeles, Los Angeles County Sanitation Districts, Cucamonga Valley Water District, City and County of Honolulu, City of Azusa, City of Huntington Beach and Missoula County. Background: B.A. – University of Southern California; FINRA Series 7 and 63.

CORE INVESTMENT BANKING TEAM	
Contact	**Background**
Kirubiel Ayele *Associate* 333 South Hope Street, Suite 3820 Los Angeles, CA 90071 Phone: (213) 345-9577 kirubiel.ayele@bofa.com	Role: **Analytical & Execution Support** Related Experience: Mr. Ayele joined BofA full time in 2015. Since joining our team, Mr. Ayele has worked on various bond issues for Rancho California Water District, Western Municipal Water District, Orange County Water District, County of Los Angeles, State of Hawaii, City of Phoenix, City and County of Honolulu, County of Riverside and City of Azusa, among others. Prior to joining BofA, he worked in the investment services industry at Northwestern Mutual specializing in deal execution and asset management. Background: B.A. – University of Southern California. FINRA Series 7, 52 and 63 licensed

UNDERWRITING, CREDIT STRATEGIES AND RETAIL MARKETING	
Contact	**Background**
Underwriting	
Catherine Crews *Managing Director* One Bryant Park, 9th Floor New York, NY 10036 212-449-5081 catherine.crews@bofa.com	Role: **Lead Underwriter** Experience: Catherine is a member of the underwriting desk and has approximately 15 years of experience in in the municipal business. She has underwritten over $50 billion in senior managed deals covering a wide range of credit types and structures. Prior to joining the underwriting desk in 2005, Ms. Crews was a financial analyst in the Health Care and Higher Education Group, where she provided quantitative and analytical analysis. Ms. Crews' clients include Eastern Municipal Water District, Bay Area Toll Authority, Long Island Power Authority, Trinity Health, Boston University, Louisville Arena, the State of Oregon, the State of California and the State of New Jersey. Background: B.A. - Bucknell University; FINRA Series 7, 53 and 63.
Brendan Troy *Managing Director* One Bryant Park, 9th Floor New York, NY 10036 (212) 449-5081 brendan.troy@bofa.com	Role: **Fixed Rate Underwriter** Related Experience: Mr. Troy has 19 years of experience in the underwriting of both fixed rate and variable rate securities, and he is currently one of BofA's lead fixed rate underwriters. His underwriting experience includes financings for numerous municipal issuers throughout the country. Mr. Troy has an extensive portfolio of water / wastewater underwritings including the Metropolitan Water District of Southern California, Honolulu Board of Water Supply, Honolulu Wastewater and City of Los Angeles (wastewater). Background: B.A. – Vanderbilt University, MBA – New York University. FINRA 7, 52 and 63 licensed.
Credit Strategies and Investor Relations	

UNDERWRITING, CREDIT STRATEGIES AND RETAIL MARKETING	
Contact	**Background**
Brad Gewehr *Senior Vice President* One Bryant Park, 12th Floor New York, NY 10036 (646) 743-1336 bradley.gewehr@bofa.com	Role: **Credit Strategist & Investor Relations** Experience: Brad provides municipal credit expertise to our West Coast clients. Prior to joining BofA, he was with UBS where he was the head of their municipal credit strategies group. He has over 34 years of experience in public finance and has assisted numerous municipal issuers on credit analyses and strategies. Importantly, Mr. Gewehr spent many years at Moody's as a Managing Director where he supervised a staff of analysts responsible for assigning and maintaining ratings on municipal tax-backed, utility revenue, and lease credits in 26 states. Background: B.A. – Amherst College; M.B.A. – New York University. FINRA Series 7, 16, 24, 53 and 63.
Retail Marketing	
Grace Gaoaen *Director* 101 California St, Suite 1400 San Francisco, CA 94111 (415) 627-2137 grace.c.gaoaen@bofa.com	Role: **California Retail Liaison** Experience: Grace carries over 20 years of experience in marketing Oregon municipal bonds to retail investors throughout the western region. Grace joined BofA 2005 where she utilized her extensive retail marketing experience to better enhance BofA's platform. Background: B.S. – Saint Mary's College of California. FINRA Series 7 and 63.

El Toro Water District
Water Revenue Bonds, Series 2022

Response to Underwriter/Broker-Dealer Request for Qualifications
December 16, 2021

Morgan Stanley
1999 Avenue of the Stars, Suite 2400
Los Angeles, CA 90067

Morgan Stanley

Morgan Stanley

1999 Avenue of the Stars, Suite 2400
Los Angeles, CA 90067

December 16, 2021

Mark Northcross
NHA Advisors

Leslie Bloom
NHA Advisors

Dear Mark and Leslie:

On behalf of Morgan Stanley (the "Firm"), we are pleased to respond to the El Toro Water District's ("ETWD" or the "District") Request for Underwriting Qualifications ("RFQ") in connection with the anticipated issuance of Water Revenue Bonds, Series 2022 ("2022 Bonds"). We highlight Morgan Stanley's qualifications to serve the District below.

#1 Underwriter of California Water and Wastewater Bonds. Since 2019, Morgan Stanley is the #1 underwriter of California water and wastewater bonds and certificates of participation ("COPs"), with 31 senior or sole managed transactions totaling $3.1 billion in par, a market share of 18.6%. This includes negotiated transactions for Moulton Niguel Water District, South Coast Water District, Orange County Water District, City of Santa Monica Water Enterprise, Los Angeles Department of Water and Power, Metropolitan Water District of Southern California, Vallecitos Water District, City of San Diego Water System, San Diego County Water Authority, Eastern Municipal Water District, California Department of Water Resources, and the California State Water Resources Control Board, among others. The breadth and depth of our experience with California water/wastewater systems provides Morgan Stanley with insights and innovative solutions that add significant value to our clients' financings and will benefit the District's upcoming inaugural issuance of water revenue bonds from structuring, credit, marketing, and underwriting perspectives.

Extensive Experience with Inaugural Issuances. Morgan Stanley has longstanding experience with debt IPOs and introducing new credits to the market, especially in the water and wastewater sector. In recent years, the Firm has worked extensively with numerous water and wastewater issuers across the country to develop comprehensive rating presentations for new credits, restructure existing credits with amended indentures, and reintroduce existing credits to the marketplace. Most recently, Morgan Stanley senior managed the City of Santa Monica inaugural public market sale of Water Revenue Bonds in August 2021, the City of Aurora, Colorado's inaugural public market sale of Sewer Revenue Bonds in April 2021, and the Buffalo Sewer Authority's first sale of Sewer Revenue Bonds in nearly 20 years in June 2021. Additional experience includes senior managed financings for the City of Long Beach (Sewer), Pittsburgh Water and Sewer Authority, City of Tulare (Water), City of Tulare (Sewer), Lake Worth Beach Combined Utility, Capital Region Water, and City of Cleveland (Water), among others. We also senior managed the inaugural subordinate lien issuances for both the San Diego County Water Authority and the City of San Diego (Water). Our extensive experience in this field makes Morgan Stanley well-positioned to serve the District as underwriter for its upcoming inaugural issuance of water revenue bonds.

Unparalleled Distribution Network and Local Presence. Morgan Stanley is uniquely positioned to maximize demand for the District's bonds, as we are one of the only firms with a complete distribution system that reaches the full breadth of individual retail investors, high-net-worth individuals, middle markets investors, and large institutions active in the municipal market. Morgan Stanley Wealth Management ("MSWM") is the largest retail system in the U.S. and California with nearly 16,000 financial advisors nationally who manage seven million accounts that currently hold $180 billion of municipal bonds. This includes 70 offices in California (including six offices in Orange County) with 202 financial advisors who manage $46 billion in assets, including over $2 billion of municipal bonds. On the institutional side, Morgan Stanley is widely recognized as a premier firm with longstanding, extensive relationships with investors and a willingness to provide liquidity in the secondary market. The Firm's institutional fixed income professionals have access to more than 9,000 investors who manage approximately 75% of all assets in the United States and 50% worldwide and cover a comprehensive range of potential institutional purchasers of the District's bonds. ***Our broad investor coverage allows us to create strong demand for our clients' bonds from whichever investor classes are actively participating in the market at any given time.*** Morgan Stanley is also one of the largest and most active participants in the secondary market for water/wastewater revenue bonds, which provides Morgan Stanley with deep insight into price levels and investor trends that we would leverage to generate demand for the District's bonds.

Strong Capital Position and Willingness to Underwrite. Morgan Stanley maintains one of the largest and most liquid capital positions in the industry. As of the quarter ended September 30, 2021, the Firm reported $12 billion of uncommitted (excess net) capital, which allows the Firm to absorb a municipal underwriting liability of $172 billion under current regulatory requirements. Our Tier 1 Capital Ratio of 17.6% was the highest of any public securities firm. Most importantly, Morgan Stanley regularly makes commitments to support our municipal clients' primary market offerings, as evidenced by our commitment to underwrite nearly $5 billion of municipal bonds for our clients in 2021.

Thank you for the opportunity to present our qualifications and please do not hesitate to contact us for additional information regarding our proposal.

Sincerely,

Dan Kurz

Dan Kurz, *Executive Director*
(310) 788-2171
Daniel.Kurz@morganstanley.com

RESPONSE TO REQUEST FOR UNDERWRITING/BROKER-DEALER QUALIFICATIONS

El Toro Water District
Water Revenue Bonds, Series 2022

December 16, 2021

Table of Contents

1. Financing Team Experience

In order to provide the District with the highest level of service, Morgan Stanley has assembled an extremely experienced financing team that possesses a wide range of expertise in public finance, with a particular focus on California water and wastewater financings. Morgan Stanley's team will be led by **Dan Kurz, Executive Director,** who has 17 years of public finance and consulting experience and will manage the day-to-day responsibilities of any engagement with the District. Most relevant to the District, Dan has extensive experience working with water and wastewater systems throughout California. Since 2019, Dan has executed senior or sole managed financings for Moulton Niguel Water District, South Coast Water District, Orange County Water District, Vallecitos Water District, Eastern Municipal Water District, South Placer Wastewater Authority, Marin Municipal Water District, Marina Coast Water District, San Diego County Water Authority, City of San Diego (Water System), and Metropolitan Water District of Southern California, among others. Dan also has experience leading inaugural transactions for water and wastewater issuers, including the City of Santa Monica inaugural sale of Water Revenue Bonds in August 2021 and the City of Aurora, Colorado's inaugural sale of Sewer Revenue Bonds in April 2021. Dan's approach to any engagement with the District would be to fully understand the District's goals and priorities, evaluate its financing alternatives, and utilize the Firm's extensive resources to ensure the District achieves its objectives.

Dan will be supported by Morgan Stanley's deep team of experts and specialists. **John Sheldon, Managing Director and Head of National Infrastructure,** will provide project oversight and ensure that the full resources of Morgan Stanley are available to the District to successfully complete its financing. John is one of the leading municipal water and wastewater financing specialists in the country and has over 30 years of experience covering California water and wastewater systems. **Jack Medall, Associate**, will provide analytical and execution support as he has done for numerous water and wastewater systems throughout California, originally for a municipal advisory firm and now for Morgan Stanley. **Safdar Mirza, Executive Director and Head of Municipal Capital Markets**, will oversee all quantitative analyses. **Zach Solomon, Executive Director and Head of U.S. Municipal Sustainable Finance,** is one of the leading municipal Green/Sustainability Bond experts nationally and will be available to help the District with any ESG designation. **Shannon Canning, Vice President**, from Morgan Stanley's Municipal Credit and Investor Relations Group will be available to assist and advise the District on all credit-related issues, as well as on marketing the District's credit to investors. **Dan Kelly, Executive Director and Deputy Head of Municipal Syndicate, Luke Hale, Executive Director,** and **Taylor Ryan, Associate,** will serve as underwriters for the District's financing. **Stuart Perilstein, Managing Director and Co-Head of Municipal Institutional Sales,** will lead the institutional sales and distribution efforts for the District, while **Lindsey Wetzel, Executive Director and Head of Municipal Retail Sales,** will lead the marketing and distribution efforts to Morgan Stanley's extensive retail network. We provide resumes for the full Morgan Stanley team along with a team chart in **Appendix A**.

2. Firm Experience

#1 Underwriter of California Water/Sewer Bonds. Since 2019, Morgan Stanley ranks as the #1 underwriter of California water and wastewater bonds and COPs, with 31 senior or sole managed transactions totaling $3.1 billion in par, a market share of 18.6%. Our experience since January 2019 includes negotiated senior or sole managed transactions for Moulton Niguel Water District, South Coast Water District, Orange County Water District, City of Santa Monica Water Enterprise, Los Angeles Department of Water and Power, Metropolitan Water District of Southern California, Vallecitos Water District, City of San Diego Water System, San Diego County Water Authority, Eastern Municipal Water District, South Placer Wastewater Authority, Marina Coast Water District, California Department of Water Resources, and the California State Water Resources Control Board, among others. Morgan Stanley's industry leading experience provides us with a deep understanding of the critical structuring and credit issues facing California water and wastewater systems, and a demonstrated ability to successfully lead and aggressively price these types of transactions. In **Appendix B,** we provide case studies for three recent California water/wastewater transactions (City of Santa Monica, South Coast Water District, and Moulton Niguel Water District) that we believe are comparable to the District's upcoming transaction and demonstrate the high quality of service Morgan Stanley provides. Our lead banker to the District, Dan Kurz, led Morgan Stanley's team on each transaction, and the underwriters, salesforce, and credit specialists from Morgan Stanley who would work on the District's upcoming financing are also the same.

Top Underwriters of CA Water/Wastewater Bonds

January 1, 2019 to Present

Rank	Firm	Par ($MM)	# of Issues	Market Share (%)
1	***Morgan Stanley***	***3,104.8***	***31***	***18.6***
2	BofA	2,946.5	26	17.6
3	J P Morgan	2,105.8	29	12.6
4	Citi	1,717.9	20	10.3
5	Goldman Sachs	1,550.3	13	9.3

Source: SDC Platinum

Extensive Experience with Inaugural Issuances. Morgan Stanley has longstanding experience with debt IPOs and introducing new credits to the market, especially in the water and wastewater sector. In recent years, the Firm has worked extensively with numerous water and wastewater issuers across the country to develop comprehensive rating presentations for new credits, restructure existing credits with amended indentures, and reintroduce existing credits to the marketplace. Most recently, Morgan Stanley (led by Dan Kurz) senior managed the City of Santa Monica's inaugural public market issuance of Water Enterprise Revenue Bonds, Series 2021. In addition, Dan led Morgan

Stanley's efforts on the City of Aurora, Colorado's inaugural public market issuance of Sewer Revenue Bonds in April 2021. Morgan Stanley also senior managed the Buffalo Sewer Authority's first sale of Wastewater Revenue Bonds in nearly 20 years in June 2021. Additional recent inaugural issuance experience includes senior managed financings for the City of Long Beach (Sewer), Pittsburgh Water and Sewer Authority, City of Tulare (Water), City of Tulare (Sewer), Lake Worth Beach Combined Utility, Capital Region Water, and City of Cleveland (Water), among others. We also senior managed the inaugural subordinate lien issuances for both the San Diego County Water Authority and the City of San Diego (Water). Our extensive experience in this field makes Morgan Stanley well-positioned to serve the District as underwriter for its upcoming inaugural issuance of water revenue bonds.

3. Credit and Structuring Strategy

Credit Considerations

As one of the leading underwriters of water and wastewater bonds in California and nationally, Morgan Stanley has extensive experience working with issuers and their municipal advisors to develop comprehensive rating agency strategies for issuers seeking an inaugural credit rating. As analyzed below, we anticipate that the 2022 Bonds will achieve ratings in the AA category, subject to additional review of the District's credit characteristics and financial projections. We summarize below our preliminary credit strategy for the District, including number of ratings, credit strengths to highlight, an indicative rating "scorecard" outcome, and potential enhancements to achieve the best result.

Number of Credit Ratings. Over the past few years, it has become increasingly common for issuers to utilize fewer credit ratings, with no impact on pricing. According to Municipal Market Analytics, over 63% of municipal bonds issued in the primary market in 2021 year-to-date had only one or two ratings, compared to 50% with only one or two ratings in 2012. In fact, nearly 30% of issuance in 2021 has come to market with a single credit rating, up from 26% in 2020, with the majority issued by smaller local government issuers and utilities. For an inaugural issuance, we generally recommend at least two ratings and anticipate that any combination of two ratings between S&P, Moody's, and Fitch is equally effective (assuming a comparable bond rating from each agency). While investors, now more than ever, do their own "homework" on a credit, they still rely upon the rating agencies for insights, and having two agencies issue reports will provide investors with more insight into the District's credit story that can prove especially beneficial to an inaugural sale. ***However, in the District's case, given its credit strengths, expected rating outcome, and current market conditions that favor issuers, we anticipate that a single credit rating will be sufficient to achieve a successful transaction.*** Should the District elect to pursue a single rating, we would recommend S&P, which has a favorable view of California water/wastewater credits generally and is well respected by investors. Notably, Morgan Stanley has successfully senior managed several water/wastewater revenue bond issues of similar size over the past few years with only one underlying rating, including the City of Santa Monica's 2021 Water Revenue Bonds, which featured a single credit rating from S&P and received very strong market reception from a wide range of investors, all of whom were comfortable with a single credit rating.

Credit Strengths to Highlight. Based on our review of the District's annual financial reports (including FY 2021), 2021-22 Rate Update Study, 2021-2022 Budget, Board and Committee meeting reference materials, and the other supporting documents provided with the RFQ, we have identified the following credit strengths that we believe the District should highlight to achieve the strongest rating outcome: (i) Essential service provider to a strong service area with a diverse, primarily residential customer base and top ten customers that accounted for less than 3% of total water usage in FY 2021; (ii) Consistent track record of raising rates to support financial stability, ongoing system improvements, and critical investments in infrastructure; (iii) Revenue growth from $25.3 million in FY 2017 to $28.1 million in FY 2021 (11.0%) and expected to grow another 20.9% to $34.0 million by FY 2026; (iv) Robust liquidity position, with $16.3 million of unrestricted reserves as of November 30, 2021 compared to $23.3 million of operating expenses (net of non-cash expenses) in FY 2021, which equals over 255 days' cash on hand; (v) Manageable capital improvement program with limited near-term needs for additional debt beyond 2022; (vi) Elimination of senior lien debt once the SRF loans are refunded, placing the 2022 Bonds on parity with the Texas Capital loan, which will become the District's senior-most lien going forward; and (vii) Strong financial management, established fiscal policies, and proactive, long-term financial planning. In addition, we anticipate the District's historical and projected debt service coverage levels will be a particular focus of the credit analysts. We would highlight that on a historical basis, the District has consistently achieved strong coverage in excess of 1.6x annual debt service in each of the past five fiscal years (FY 2017 to FY 2021) and that while coverage is projected to fall temporarily to the 1.4x range immediately following the issuance of the 2022 Bonds, the District anticipates it will quickly grow to exceed 1.6x. Furthermore, as discussed in more detail in our bond structuring recommendations below, the District may be able to structure the 2022 Bonds to further enhance its near-term debt service coverage, which we believe will help it achieve the highest possible credit rating.

Indicative Scorecard Rating. To help assess the potential rating outcome for its 2022 Bonds, we have utilized S&P's ratings "scorecard" to estimate an indicative rating for the District. Although this scorecard includes certain qualitative factors and does not incorporate any below-the-line notching adjustments, it provides insight into the potential outcome that can help determine whether to approach an agency for a rating as well as key metrics to highlight to the rating agencies to help procure the strongest possible ratings. As illustrated in the adjacent figure, the S&P scorecard is divided into two sections: Enterprise Risk Profile and Financial Risk Profile, and we have estimated scores for each sub-category based on our review of the District's credit profile and inclusive of the upcoming issuance. Based on these assumptions, we anticipate the District is well positioned to achieve a rating in the AA range (subject to additional review of the District's financial performance and excluding any potential notching factors). We provide our full scorecard analysis for the District in **Appendix C**.

El Toro Water District
S&P Preliminary Scorecard (Morgan Stanley Estimate)

Enterprise Risk Profile (50%)	Weighting	Score	Weighted Score
Economic Fundamentals	*45%*	1	0.45
Industry Risk	*20%*	1	0.20
Market Position	*25%*	1	0.25
Operational Management	*10%*	1	0.10
Results			**1.00**
Financial Risk Profile (50%)			
Coverage Metrics	*40%*	3	1.20
Liquidity & Reserves	*40%*	2	0.80
Debt & Liabilities	*10%*	3	0.30
Financial Management	*10%*	1	0.10
Results			**2.40**
Initial Indicative Rating			**AA Category**

Debt Service Reserve Fund. Morgan Stanley believes there is no need for the District to establish a reserve fund for its 2022 Bonds. Investors and rating agencies have become less demanding of debt service reserve funds for essential service utilities in recent years, instead focusing on overall reserve and liquidity levels, and as previously noted, the District's liquidity position is strong. The rating agencies, in particular, have expressed that reserve funds for essential service utilities are less important because these utilities are higher rated, have significant ability to raise rates if needed, and typically have significantly more liquidity than other types of municipal entities, while investors in highly-rated, essential service utility revenue bonds have not expressed concerns with lack of a debt service reserve fund. For these reasons, we do not believe there will be a pricing penalty or any material rating agency or investor concerns with issuing the 2022 Bonds without a reserve fund.

Rate Covenant. The majority of California water/wastewater issuers have rate covenants in the 1.10x to 1.25x range for senior lien bonds. Thus, with a rate covenant of 1.10x for its 2022 Bonds (consistent with the rate covenant on the Texas Capital loan), the District would fall at the lower end of the range. However, we anticipate that the District's historical and projected coverage metrics will be more critical to its rating outcome than the legal requirements. For example, actual coverage metrics account for 20% of S&P's overall scorecard methodology for water/wastewater utilities (as discussed above), whereas an issuer's rate covenant is not explicitly factored into the analysis, though S&P does caution that the absence of a rate covenant or weak legal provisions could be viewed as a credit-negative that could notch a rating lower. In Moody's scorecard methodology, meanwhile, the rate covenant accounts for 5% of the outcome; however, the net difference in scoring between a 1.10x rate covenant versus a 1.20x rate covenant would result in less than a 1% adjustment to the overall indicative score. Thus, we conclude that while a rate covenant in the 1.20x or 1.25x range would provide some additional security to bondholders, we believe the District's historical and projected coverage metrics will ultimately be much more important in the determination of the District's credit rating, and we can cite other California water/wastewater districts with ratings in the AA category and 1.10x rate covenants, such as Eastern Municipal Water District (AA+ ratings on its working lien with a 1.10x rate covenant).

Private Credit Rating Evaluation Services. If the District is concerned that a 1.10x rate covenant will result in a lower credit rating, it could consider obtaining private feedback from the rating agencies prior to requesting a public rating. S&P, Fitch, and Moody's all offer a Rating Evaluation Service (or Rating Assessment Service) that allows an issuer to receive feedback on the potential indicative ratings of various hypothetical security structures (e.g. a rate covenant of 1.10x versus 1.20x versus 1.25x). This information is kept private, and then the issuer has the option to formally request a public rating for the final structure, though it is not required to do so. The costs of these private evaluations vary by transaction size and the number of alternatives requested, but are typically around $25,000, with all or a portion of that fee credited toward the cost of the public rating, if the decision is made to request one.

Bond Structure

It is our understanding that the District plans to issue its 2022 Bonds to fund $25.5 million that, along with a potential contribution of accumulated Capital Reserves and the release of cash restricted for the District's SRF Loans, will fund various capital projects with a total combined cost of $34.2 million, including a reservoir cover replacement, turnout main, pump station, water filtration plant reuse project, SOCWA capital project, and advanced metering infrastructure. Additionally, we understand it is the intention of the District to refinance its existing SRF Loans to release the associated reserves, eliminate the current senior/subordinate structure and move all of its debt onto a parity lien, and potentially achieve cash flow savings. The objectives of the plan of finance that we evaluate below are to help the District achieve a low cost of funds, maximize savings from the refinancing, enhance near-term debt service coverage, minimize risk, and achieve the highest possible credit rating. As underwriter, Morgan Stanley would anticipate working closely with the District and its Municipal Advisor to further refine and evaluate this plan of finance to ensure the final structure achieves the District's goals at the time of the bond sale.

Assumptions. Our analysis is based on the following assumptions: (i) tax-exempt bond yields as of December 10, 2021; (ii) bonds feature a 10-year par call; (iii) bonds are issued on parity with the Texas Capital Loan and the SRF loans are retired, eliminating all senior debt; (iv) credit ratings in the AA category with no bond insurance (discussed more below); (v) June 1 principal payments with December 1 and June 1 interest payments, starting on December 1, 2022; (vi) no Debt Service Reserve Fund ("DSRF") with no impact on credit ratings or pricing; and (vii) estimated costs of issuance of $250,000 and an underwriter's discount as detailed in Section 6. We also assume that the $2.3 million of restricted cash that secures the District's SRF loans will be released upon the refinancing of these loans and applied toward project costs along with a potential contribution of $6.4 million of Capital Reserves.

Indicative New Money Financing Results. In the adjacent table, we summarize indicative financing results for the new money component of the District's 2022 Bonds. We have structured the new money bonds with a 30-year final maturity, with principal amortization that begins in 2036, such that debt service "wraps" around the debt service associated with the District's SRF loans and Texas Capital loan. This wrapped structure minimizes near-term debt service, which enhances near-term debt service coverage, a key consideration of the rating agencies. In addition, this structure takes advantage of attractive market conditions, which feature long-term interest rates near their historical lows, to lock-in a low cost of funds over the life of the bonds, which we estimate at 2.75% in the current market. We estimate average annual debt service for the new money bonds at $810,273 through 2035 (the interest-only years) increasing to $1.8 million from 2036 to 2052 (when principal amortizes). We discuss the coverage implications of the 2022 Bonds, inclusive of both the new money and refunding bonds, below.

Summary of Indicative Financing Results (New Money)

Market Conditions as of December 10, 2021

Sources	
Par	$22,375,000
Premium	$3,384,453
Total Sources	**$25,759,453**
Uses	
Total Project Fund Deposit	$25,530,600
Issuance Costs	$228,853
Total Uses	**$25,759,453**
Principal Amortization	**2036-2052**
Average Life	**23.46 Years**
All-in-TIC	**2.75%**
Total Debt Service	**$41,222,346**
Average Annual Debt Service (2023-2035)	**$810,273**
Average Annual Debt Service (2036-2052)	**$1,805,224**

Indicative Refunding Results: Base Case (Uniform Savings). In the current market, we estimate the District can refund each of its three SRF loans for positive savings, as summarized in the adjacent table. These results assume the refunding is structured to generate uniform cash flow savings with respect to each SRF loan. As shown, the combined net present value ("NPV") savings of the refunding totals $778,459 (3.27% of refunded par). While these savings are relatively modest, a refunding of the SRF loans accomplishes other key objectives including (1) eliminating all debt senior to the 2022 Bonds, which will help the District achieve the highest possible credit rating and lower the interest rate on its 2022 Bonds, saving the District additional money over the life of those bonds, and (2) allowing the District to release the $2.3 million of restricted reserves that secure the SRF loans, which the District can use to fund capital projects, contribute to the escrow to downsize the refunding bonds, or return to its unrestricted reserves.

Summary of Indicative Refunding Results Base Case (Detail)

Market Conditions as of December 10, 2021

	2010 SRF Loan	2013 SRF Loan	2018 SRF Loan	Combined
Refunded Par	$2,236,137	$18,555,914	$3,035,582	$23,827,633
Refunding Par	$1,895,000	$15,405,000	$2,615,000	$19,915,000
Principal Amortization	2023-2032	2023-2035	2023-2030	2022-2034
All-in-TIC	1.01%	1.32%	0.90%	1.26%
Average Life	6.09 Years	7.82 Years	4.95 Years	7.28 Years
Total Cashflow Savings	$202,764	$411,365	$73,179	$687,308
Average Cashflow Savings	$20,276	$31,643	$9,147	$61,067
NPV Savings ($)	**$199,827**	**$472,439**	**$106,193**	**$778,459**
NPV Savings (%)	**8.94%**	**2.55%**	**3.50%**	**3.27%**

Indicative Refunding Results: Alternative Case (Deferred Principal Until 2026). As an alternative to the Base Case uniform savings structure described above, the District could structure the refunding bonds with deferred principal (without extending the final maturity relative to each respective SRF loan), which would reduce near-term debt service and enhance debt service coverage. In alternative provided, we estimate the District defers principal repayment on the refunding bonds until 2026. Debt service on the refunding bonds is structured uniform to each respective SRF loan thereafter, and the final maturity of each SRF loan is matched so as not to extend the term of the debt. This structure increases average annual cash flow savings by nearly $1 million per year through 2025 compared to the Base Case. However, it results in cash flow dis-savings from 2026 to final maturity when principal amortizes. In total, NPV savings are very similar between the scenarios, as the deferred structure moves savings to the near-term, when they are discounted less heavily than the latter years that have dis-savings. However, deferring principal increases the all-in true interest cost ("all-in TIC") of the refunding bonds by three basis points compared to the Base Case, and results in nearly $360,047 of additional debt service costs over the life of the bonds.

Comparison of Indicative Refinancing Results

Market Conditions as of December 10, 2021

	Base Case: Uniform Savings	Alternative Case: Deferred Principal
Refunded Par	$23,827,633	$23,827,633
Refunding Par	$19,915,000	$19,460,000
Principal Amortization	2023-2052	2026-2052
Average Life	7.28 Years	8.51 Years
All-in TIC	**1.26%**	**1.29%**
Total Debt Service	**$25,909,168**	**$26,269,214**
Avg. Cashflow Savings (2022-2025)	**$61,717**	**$1,061,006**
Avg. Cashflow Savings (2026-2035)	**$44,044**	**($391,676)**
NPV Savings	**$778,459**	**$790,916**
NPV Savings	**3.27%**	**3.32%**

Coverage Implications. As noted above, we anticipate the District's projected near-term debt service coverage will be a key consideration of the rating agencies in their review of the District's credit, and that maximizing this coverage will help the District achieve the highest possible rating. As summarized in the adjacent table, we anticipate a "wrapped" new money structure with the Base Case uniform savings refunding structure will result in a minimum coverage level of 1.47x in FY 2023 based on the Net Revenue projections provided with the RFQ. Alternatively, one of the benefits of the Alternative Case deferred principal refunding structure is that it enhances near-term debt service coverage. In this scenario, projected FY 2023 coverage is increased to 2.16x. However, in the Alternative Case projected coverage is lower relative to the Base Case beginning in FY 2026 due to deferring principal repayments to begin in this year. Furthermore, we note that maximum annual debt service ("MADS") coverage projections are lower in the Alternative Case, and the rating agencies will typically incorporate a MADS coverage analysis into their credit evaluation along with annual projections, diminishing the value of the Alternative Case. For these reasons, we preliminarily conclude it the Base Case uniform savings structure is most advantageous to the District, however as underwriter we would anticipate working with the District and its Municipal Advisor to further evaluate various structuring alternatives to ensure the final structure delivers the best result for the District.

Summary of Projected Coverages

Market Conditions as of December 10, 2021

	FY 2022[3]	FY 2023	FY 2024	FY 2025	FY 2026
Net Revenues[1]	**$5,223,179**	**$5,633,269**	**$5,995,471**	**$6,337,365**	**$6,599,853**
Base Case Debt Service[2]	$2,947,905	$3,828,316	$3,680,745	$3,679,131	$3,675,660
Coverage	**1.77x**	**1.47x**	**1.63x**	**1.72x**	**1.80x**
MADS Coverage[4]	**1.36x**	**1.47x**	**1.63x**	**1.72x**	**1.80x**
Deferred Principal Debt Service[2]	$2,947,905	$2,603,942	$2,293,895	$2,293,681	$4,218,460
Coverage	**1.77x**	**2.16x**	**2.61x**	**2.76x**	**1.56x**
MADS Coverage[4]	**1.24x**	**1.33x**	**1.42x**	**1.50x**	**1.56x**

(1)Net Revenues based on projections provided by the Municipal Advisor
(2)Debt Service includes Texas Capital Loan Debt Service
(3) FY 2022 Debt Service reflecting payments made on SRF Loans and Texas Capital Loan
(4) Base Case MADS occurs in FY 2023, and each following year; Deferred Principal MADS occurs in FY 2027

Potential Enhancement: Coupon Strategy. Over the past year, demand for lower coupons has grown significantly among both institutional and retail investors, allowing issuers to take advantage of the lower yield-to-maturities on lower coupons to reduce their funding costs and lower their annual debt service payments. Reflecting this change, in Section 5, we provide an indicative interest scale that includes a mix of 3%, 4%, and 5% coupon bonds that we believe will maximize demand for the District's bonds while also blending a low cost of funds today with future option value. The District could look to further decrease its all-in cost of funds by increasing the number of bonds with 3%, or even 2%, coupons. In addition, these lower coupon bonds would reduce the annual debt service requirements of the 2022 Bonds, modestly increasing annual debt service coverage. Morgan Stanley recently successfully employed this strategy in water revenue bond transactions for the City of Santa Monica (66% of bonds with coupons of 3% or less), Vallecitos Water District (54% of bonds with coupons of 3% or less), and City of Aurora, Colorado (100% of bonds with 2.25% coupons), to help them lower their cost of funds. However, there are trade-offs between couponing strategies the District should consider. Although lower coupon bonds achieve a lower cost of funds and lower debt service costs today, higher coupon bonds are more likely to be "in the money" for a future refunding, potentially allowing the District to capture future savings. As illustrated in the above table, a 2.375% coupon bond has the lowest yield-to-maturity ("YTM"), but the highest stated yield. We also provide an Option Adjusted Yield ("OAY"), which incorporates the theoretical value of the call option into the yield calculation to allow for a comparison of bonds with different coupons or call features. The OAY analysis indicates each alternative is comparable in the current market. Coupon strategy can be utilized to generate demand from different investor segments and offering a range of coupons can maximize overall demand. As underwriter, Morgan Stanley would anticipate pursuing the couponing strategy that best meets the District's objectives at the time of pricing in consultation with the District and its Municipal Advisor.

Couponing Comparison[1]

Market Conditions as of December 10, 2021

	4% Coupon	2.375% Coupon
Maturity (30 Year)	6/1/2052	6/1/2052
Coupon	4.00%	2.375%
MMD	1.48%	1.48%
Spread (10Y Call)	+40 bps	+98 bps
Stated Yield	**1.88%**	**2.46%**
Yield to Maturity	**3.01%**	**2.46%**
Option Adjusted Yield	**2.23%**	**2.32%**

1. Option value assumes 15% volatility

Potential Enhancement: Bond Insurance. Morgan Stanley has extensive experience working with utilities and other issuers to help them evaluate whether insuring their bonds would lower their overall cost of funds, which occurs when bond insurance reduces the present value of total debt service on the bonds (by reducing bond yields relative to uninsured bonds) by more than the cost of the insurance policy. In the current market, assuming the District receives a rating in the "AA" category, we would not anticipate that the benefit that bond insurance could have would outweigh the cost. However, if the District receives a rating in the "A" category, we would work with the District and its Municipal Advisor to analyze the benefit utilizing our proprietary model. For example, Morgan Stanley recently sole managed an inaugural utility revenue bond issuance for Buffalo Sewer Authority with an underlying rating of "A+" from S&P that successfully utilized bond insurance to reduce the Authority's overall cost of funds.

4. Marketing Plan

As one of the leading underwriters of California water/wastewater financings with a comprehensive distribution network that reaches all levels of institutional, professional retail, and individual retail investors, Morgan Stanley is confident in its ability to market and distribute the District's 2022 Bonds to a wide range of investors in order to

maximize competition and achieve the lowest all-in cost of funds. Below, we detail our recommended marketing approach for the District's 2022 Bonds.

Investors to Target. For the District's inaugural sale of water revenue bonds, Morgan Stanley would leverage its deep insight into the investor base for California water revenue bonds gained from our active participation as an industry leader in both the primary and secondary markets to maximize demand. We would begin by contacting investors who recently placed orders for other comparable transactions but did not get their full allotment of bonds and thus may still be looking to fill those positions. To assist in these efforts, Morgan Stanley's Investor Relations Group keeps an up-to-date dataset of all buyers of Morgan Stanley led financings, allowing us to constantly have a sense of who is active in the municipal market at any given time. Our dataset is granular enough to target investors by tax status, maturity and call feature. In the figure above, we highlight recent buyers of Morgan Stanley led water and wastewater revenue bond transactions, including our sole managed transaction for the City of Santa Monica's inaugural Water Enterprise Issuance on August 10, 2021, which was 2.7x subscribed. In addition, we would target other large holders of California tax-exempt water/wastewater revenue bonds, as summarized in the adjacent table which lists the top 10 holders of tax-exempt California water/wastewater revenue bonds as of December 2021, based on publicly available information. We anticipate these investors are well positioned to bid aggressively for the bonds, considering their familiarity with this sector of the market. ***This includes clients of Morgan Stanley's retail, who collectively hold $3.4 billion of tax-exempt California water and wastewater revenue bonds, more than any single institutional investor.*** As underwriter, we would aggressively target our retail network to generate demand for the District's bonds.

Recent Buyers of Morgan Stanley Led Tax-Exempt, California Water/Sewer Revenue Bond Transactions

Source: Morgan Stanley

Top Holders: Tax-Exempt CA Water/Sewer Revenue Bonds

As of December 2021

Rank	Firm	Par ($000s)
1	***Morgan Stanley Wealth Management***	***$3,406,985***
2	Vanguard	2,761,492
3	Blackrock	1,640,837
4	Franklin	1,562,555
5	Nuveen	1,255,425
6	CapRe	466,380
7	Met Life	462,880
8	PIMCO	261,112
9	JP Morgan Asset Mgmt	258,193
10	American Century	256,332

Source: Emaxx, Morgan Stanley

Strategies to Enhance Institutional Demand. Morgan Stanley's proven marketing strategies are designed to ensure a broad institutional outreach strategy, as institutional investors buy in large block sizes and are generally the major participants in any given financing. Our core institutional marketing approach includes an **internal sales memorandum** that highlights the key points of the financing to our sales team and distributing marketing materials to investors as early as feasible to allow for maximum flexibility in marketing, pricing, and entering the market. We would also recommend that the District consider a "slides-only" (no audio) **online investor roadshow**, which we have found to be a cost-effective and time-efficient tool to enhance the marketing of a transaction, particularly for inaugural transactions, as in the case of our recent senior managed water/wastewater transactions for the City of Santa Monica and City of Aurora. Morgan Stanley would prepare the presentation, with input from the District and finance team, using the rating agency presentation as a starting point, and coordinate the logistics of posting it online.

Strategies to Enhance Retail Demand. Issuers who work with Morgan Stanley enjoy exclusive access to the retail clients of Morgan Stanley Wealth Management – the largest retail brokerage network in California and the nation – for placement of their new issue securities. MSWM consists of nearly 16,000 financial advisors across 544 offices nationally, who manage $3 trillion of assets, including $180 billion of municipal bonds. This includes 70 retail offices throughout California (including six offices in Orange County), with 2,041 financial advisors who manage one million accounts and $43.5 billion of municipal bonds. Morgan Stanley would encourage the District to consider marketing its bonds to MSWM and other retail investors using the following strategies, which we have found can materially increase retail investor participation: (i) the District could provide retail investors (individual) with **order priority**. To ensure institutional investor engagement, the District can reserve the right to limit retail allotments to 50% of each maturity. Retail priority would attract more retail investors and encourage them to place orders if they believe their orders will be filled first. This would also force institutional investors to be more aggressive with their bids for the District's bonds, driving down the borrowing cost; (ii) Morgan Stanley (and District staff, if interested) can set up a **broker call** (or virtual meeting) at our MSWM offices in one of our six offices in Orange County (Laguna Niguel being most proximate to the District) to present the transaction to the local brokers and brokers from our other offices, a strategy we would utilize to directly educate retail advisors about the District's many credit strengths.

Potential Enhancement: Green/Sustainability Bond Designation. In addition to the marketing efforts described above, we also believe that the District may have the opportunity to use a Green or Sustainability Bond designation to broaden its investor base. Socially-responsible investing ("SRI") continues to be a rapidly growing trend across all asset classes, as investors increasing incorporate ESG (Environment, Social, and Governance) factors into their investment decisions. Green, Social, and Sustainability Bonds present the District with an attractive opportunity to tap into this increasingly important market. Morgan Stanley continues to believe that an ESG designation can enhance the marketing effort and that issuers of Green/Sustainability Bonds are poised to benefit significantly over the long term. As the #1 underwriter of ESG-designated bonds nationally with 140 negotiated Green/Social/Sustainability

Bond financings (35 more than any other underwriter), Morgan Stanley is well positioned to help the District determine whether its 2022 Bonds would qualify for such a designation, if desired.

Leveraging Morgan Stanley's Municipal Credit and Investor Relations Group. Morgan Stanley maintains a dedicated Municipal Credit and Investor Relations Group that provides two very important services for our issuing clients: (i) credit analysis and (ii) investor relations. First, our Credit and Investor Relations Group is available to help the banking team to develop an effective rating agency presentation to focus the issuer's credit narrative on issues most relevant to each rating agency. Second, they provide credit insights to Morgan Stanley's municipal syndicate desk and salespeople to ensure that investors, or more specifically credit analysts, have all the information they need to make a credit decision on a bond. Our team will be available to make sure that the District has access to the investor credit analysts responsible for covering the District (and vice-versa). Effectively communicating the District's credit stories in the best possible light to investors will maximize investor participation and minimize the District's borrowing cost.

5. Indicative Interest Rates

To the right, we provide an indicative tax-exempt scale based on market conditions as of December 10, 2021, as requested. This scale was provided to us by our underwriters and is based on several factors, including the District's credit characteristics, the estimated maturity sizes and anticipated investor segment participation for each transaction, pricings of comparable California water/wastewater financings over the past few months, recent trading of California water/wastewater revenue bonds, and other market factors including current and projected interest rates and ratios and technical supply and demand factors. This scale is comprised of the coupons that our underwriters anticipate would generate the greatest demand from investors in the current market. However, as discussed in our response to the previous question, we would anticipate working with the District to structure the bonds with the maturities that best meet the District's objectives at the time of the bond sale, and note that Morgan Stanley has a strong track record of selling bonds with 2% and 3% coupons, subject to market conditions, if desired.

Indicative Interest Rates: El Toro Water District

Market Conditions as of December 10, 2021

Maturity	MMD	Call Date	Coupon	Spread	Yield
6/1/2023	0.130%	NC	4.000%	2 bps	0.150%
6/1/2024	0.230%	NC	4.000%	3 bps	0.260%
6/1/2025	0.330%	NC	5.000%	3 bps	0.360%
6/1/2026	0.420%	NC	5.000%	4 bps	0.460%
6/1/2027	0.540%	NC	5.000%	5 bps	0.590%
6/1/2028	0.650%	NC	4.000%	6 bps	0.710%
6/1/2029	0.810%	NC	4.000%	7 bps	0.880%
6/1/2030	0.900%	NC	4.000%	8 bps	0.980%
6/1/2031	0.970%	NC	4.000%	10 bps	1.070%
6/1/2032	1.010%	NC	4.000%	12 bps	1.130%
6/1/2033	1.050%	6/1/2032	4.000%	15 bps	1.200%
6/1/2034	1.060%	6/1/2032	4.000%	20 bps	1.260%
6/1/2035	1.090%	6/1/2032	4.000%	25 bps	1.340%
6/1/2036	1.120%	6/1/2032	4.000%	30 bps	1.420%
6/1/2037	1.140%	6/1/2032	4.000%	35 bps	1.490%
6/1/2038	1.170%	6/1/2032	4.000%	38 bps	1.550%
6/1/2039	1.200%	6/1/2032	4.000%	40 bps	1.600%
6/1/2040	1.230%	6/1/2032	4.000%	40 bps	1.630%
6/1/2041	1.260%	6/1/2032	3.000%	70 bps	1.960%
6/1/2042	1.290%	6/1/2032	3.000%	73 bps	2.020%
6/1/2047(T)	1.430%	6/1/2032	4.000%	77 bps	2.200%
6/1/2052(T)	1.480%	6/1/2032	3.000%	40 bps	1.880%

(T) Denotes Term Bond

Revenue Bonds Versus COPs. Morgan Stanley's team has extensive experience financing new money projects via both JPA revenue bonds as well as revenue COPs. Historically, JPA revenue bonds enjoyed a slight pricing advantage over revenue COPs, as investors nationally were more comfortable with a traditional "revenue bond" structure. However, over the past several years, we have found investors to be increasing familiar with the "revenue COP" structure commonly used by California utilities to finance new money projects. ***As a result, we anticipate that in the current market, with conditions that are favorable to issuers, there would be no interest rate differential should the District sell revenue COPs rather than JPA revenue bonds.*** However, in a weaker market, there could be a small pricing difference (estimated at 3-5 basis points) for COPs.

6. Fee Proposal

The tables to the right summarize our proposed takedowns and expenses to serve as underwriter for the District's upcoming sale. As shown, we propose a takedown of $3.50 per bond for all maturities, and we are not proposing a management fee. We estimate our out-of-pocket expenses at $0.799 per bond based on a par amount of $40 million, inclusive of underwriter's counsel at an estimated amount of $20,000. Our proposal is for a sole managed transaction. For underwriter's counsel, we propose Jade Turner-Bond of Nixon Peabody, whom we have found to have a deep understanding of the key issues facing California water and wastewater districts. However, we would be happy to work with any qualified underwriter's counsel. Our fees and expenses are contingent on the successful close of the financing. ***We strongly desire to work with the District on its upcoming transaction, and we welcome further discussion of our fee levels at the District's request.***

Proposed Fees and Expenses

Assumes $40 million in Par Amount

	Amount ($)	$/Bond
Takedown	$140,000.00	$3.500
Management Fee	-	-
Expenses	31,974.73	0.799
Estimated Gross Spread	**$171,974.73**	**$4.30**

Proposed Expense Detail

Assumes $40 million in Par Amount

	Amount ($)	$/Bond
Underwriters' Counsel	$20,000.00	$0.500
Day Loan	1,111.11	0.028
Ipreo - Dalnet Book Running System	762.13	0.019
Ipreo - Game Day	1,306.50	0.033
Ipreo - News Services Charge	48.99	0.001
DTC Charges	800.00	0.020
CUSIP Fees	911.00	0.023
CUSIP Disclosure Fee	35.00	0.001
Internet Roadshow	2,000.00	0.050
CDIAC Fee	5,000.00	0.125
Estimated Expenses	**$31,974.73**	**$0.799**

Appendix A
Financing Team Resumes

Morgan Stanley's El Toro Water District Financing Team

Day-to-Day Contact/Project Manager

Dan Kurz
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Project Oversight

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Day-to-Day Project Management

Dan Kurz, Executive Director. Dan will lead the team and manage the day-to-day responsibilities of any engagement with the District. Dan has 17 years of public finance and consulting experience. From Morgan Stanley's Los Angeles office, Dan provides investment banking services to municipal issuers throughout the western region, with a particular focus on the California water and wastewater sector. Since 2019, Dan has executed senior or sole managed financings for Moulton Niguel Water District, South Coast Water District, Orange County Water District, Vallecitos Water District, Eastern Municipal Water District, South Placer Wastewater Authority, Marin Municipal Water District, Marina Coast Water District, San Diego County Water Authority, City of San Diego (Water System), and Metropolitan Water District of Southern California, among others. Dan also has experience leading inaugural transactions for water and wastewater issuers, including the City of Santa Monica's Water Enterprise's inaugural public market issuance in August 2021, the City of Aurora, Colorado's inaugural public market issuance of Sewer Revenue Bonds in April 2021. Prior to joining Morgan Stanley, Dan worked for five years in San Diego for a consulting firm that provided economic valuations to a range of local corporate, non-profit, and governmental agencies. Dan has a B.A. in Economics from Cornell University and both a M.B.A. and M.A. of Urban Planning from the University of California, Los Angeles.

Project Oversight

John Sheldon, Managing Director and Head of National Infrastructure. John began his municipal finance career in 1989 and joined Morgan Stanley in 1997. In his 32 years in public finance, he has extensive experience serving as senior banker to issuers in California and throughout the western United States, with a particular focus on water and wastewater issuers. John's senior managed experience includes water and/or wastewater utility financings for issuers such as the California Department of Water Resources, Irvine Ranch Water District, Metropolitan Water District of Southern California, Los Angeles Department of Water and Power, East Bay Municipal Utility District, City of San Diego, San Diego County Water Authority, San Francisco Public Utilities District, Monterey County Water Resources Agency, Livermore Amador Valley Water Management Agency, West Basin Municipal Water District,

and the water utilities of the cities of Torrance, Roseville and Santa Barbara, among others. In addition to his work with water and wastewater issuers, John's expertise covers other utility revenue bonds, general obligation bonds, lease revenue securities and COPs, tax allocation bonds, and assessment bonds, and he has extensive experience with all types of variable rate and fixed-rate debt, refundings and restructurings, swaps, and escrow restructurings. John received a M.B.A. from the Wharton School at the University of Pennsylvania and a B.A. in mathematics from Occidental College.

Quantitative Analysis

Safdar Mirza, Executive Director and Head of Municipal Capital Markets. Safdar joined Morgan Stanley's Municipal Capital Markets Group in New York in 2002 after having worked in the Firm's San Francisco Public Finance office. Safdar is one the Public Finance Department's lead quantitative bankers with respect to complex financings such as leveraged financings, cash flow restructurings, multiple new money/refunding issues and financings involving derivative products. Prior to joining Morgan Stanley, Safdar worked at Public Financial Management, the nations' largest municipal financial advisory firm, where he served state, county and California city clients on a variety of financings. He has successfully completed financing for a wide array of clients, including the San Francisco Public Utilities Commission, Metropolitan Water District of Southern California, Los Angeles Department of Water and Power, Southern California Public Power Authority, Burbank Water and Power, Imperial Irrigation District, West Basin Municipal Water District, and Irvine Ranch Water District, the cities of San Francisco, Oakland, San Diego, and University of California, among others. Safdar received his B.A. from U.C. Berkeley in Economics.

Analysis and Execution

Jack Medall, Associate. Jack joined the Firm in August 2021 after having worked at PFM Financial Advisors in Los Angeles since 2015. He joined Morgan Stanley's Los Angeles Public Finance Office where he is part of the Firm's coverage of West Coast accounts. Since entering the business, Jack has served as quantitative and execution support for many California water and wastewater issuers, including, Moulton Niguel Water District, Eastern Municipal Water District, Irvine Ranch Water District, Inland Empire Utilities Agency, Coachella Valley Water District, Contra Costa Water District, Alameda County Water Authority, City of Los Angeles, City of Redding, among other West Coast water and wastewater issuers. Jack has a B.S. in Industrial and Systems Engineering from the University of Southern California.

ESG and Sustainability Expertise

Zach Solomon, Executive Director and Head of U.S. Municipal Sustainable Finance. Zach is an Executive Director in Morgan Stanley's Public Finance group and leads Morgan Stanley's U.S. Municipal Sustainable Finance practice nationally (which ranks #1 in Green, Social and Sustainability Bonds underwritten for municipal and not-for-profit issuers) in addition to his responsibilities in the U.S. Public-Private Partnerships group. In this capacity, Zach is responsible for developing Green Bond and Sustainability Bond frameworks and marketing strategies for municipal and not-for-profit issuers across the United States. His responsibilities also include giving municipal issuers access to Morgan Stanley's leading *Investing with Impact* wealth management platform. In addition, investors' focus on ESG factors has evolved beyond a bonds' label (Green, Sustainability or Social), as institutional buyers are very attentive to an issuer's overall environmental stewardship and related capital plans and practices (the "E" in ESG); workforce development/retainment policies and track record, and overall impact on the community ("S"); and management practices, particularly in challenging times such as COVID ("G"). Zach serves on Morgan Stanley's Global Sustainability Bond Council and ESG Center of Excellence. Zach is a graduate of Georgetown University and Columbia Business School.

Long-Term Underwriting

Luke Hale, Executive Director. Luke has 17 years of Public Finance experience and will support the underwriting of the District's financing. Luke joined Morgan Stanley's Municipal Syndicate desk in 2010 after spending nearly eight years working in Morgan Stanley's San Francisco and New York public finance offices. Luke is one of Morgan Stanley's lead underwriters for California water and wastewater revenue bonds. Over the past three years, he has underwritten transactions for San Diego County Water Authority, City of San Diego (Water System), Moulton Niguel Water District, Eastern Municipal Water District, Metropolitan Water District of Southern California, Los Angeles Department of Water and Power, San Francisco Public Utilities Commission, South Placer Wastewater Authority, City of Los Angeles (Wastewater System), Irvine Ranch Water District, and the California State Water Resources Control Board, among others. Luke has an undergraduate degree from Connecticut College.

Dan Kelly, Executive Director and Deputy Head of Municipal Syndicate. Dan is the Deputy Head of Morgan Stanley's Long-Term Municipal Syndicate, where he serves as the lead underwriter on negotiated transactions for issuers across the country. In this role, Dan has recently served as Morgan Stanley's lead underwriter on senior or sole managed California water/wastewater financings for South Coast Water District, California Department of Water Resources, South Placer Wastewater Authority, and Metropolitan Water District of Southern California, among others. In addition, Dan also has primary responsibility for bidding on competitive transactions, both long-term and short-term, for Morgan Stanley. Dan's competitive underwriting experience provides Dan with deep insight into market trends and investor demand that he is able to leverage to achieve aggressive pricing on behalf of Morgan Stanley's issuing clients for their negotiated financings. Dan is also responsible for overseeing the pricing the Firm's portfolio of short-term variable rate tax-exempt securities and for the distribution of these securities within the Morgan Stanley system, with a particular emphasis on corporations, high net worth individuals, and institutional accounts. A 23-year industry veteran, Dan received a B.A. in Economics from Fairfield University.

Taylor Ryan, Associate. Taylor joined the Firm's Long-Term Syndicate Desk in 2017 as an analyst. She provides transactional and pricing support for municipal issuers across the country. She has assisted in pricing and execution for over $5 billion in par amount for a range of issuers, including the State of California. Taylor's recent California water and wastewater underwriting experience include senior and sole managed financings for South Coast Water District, Marina Coast Water District, Moulton Niguel Water District, and Metropolitan Water District of Southern California, among others. Taylor has an undergraduate degree from Hamilton College.

Credit and Investor Relations

Shannon Canning, Vice President. Shannon recently took on a new role as the lead credit contact for the Public Finance Department for municipal and not-for-profit issuers. Shannon provides credit insights to Morgan Stanley's municipal syndicate and salespeople to ensure that investors, or more specifically credit analysts, have all the information they need to make an informed credit decision on a bond. Prior to joining the municipal syndicate, she spent a year on the Municipal Trading Desk focusing on credit.

Marketing and Distribution

Stu Perilstein, Managing Director and Co-Head of Municipal Institutional Sales. Stu joined Morgan Stanley in June 2000 and currently serves as Co-Head of Municipal Institutional Sales. He has developed and maintained relationships with a multitude of both institutional and retail clients. Prior to his role on the municipal sales desk, Stu worked in Morgan Stanley's Public Finance Group and provided analytical and technical support for a wide range of issuers as a member of the Infrastructure Group. Stu is responsible for distribution to Morgan Stanley's institutional clients as well as providing them liquidity through the secondary market. He holds a B.A. in Accounting and Statistics from Macquarie University in Sydney, Australia.

Lindsey Wetzel, Executive Director and Head of Municipal Retail Sales. In her role as Head of Municipal Products for the Capital Markets Division at Morgan Stanley Wealth Management, Lindsey is responsible for the development and distribution of tax-exempt fixed income credit analysis and sales ideas. Lindsey and her team leverage firm-wide strategy and content to drive and deliver our highest conviction sales ideas to Financial Advisors and their clients as they create and maintain their investment portfolios. Prior to her current role, she was in institutional Municipal Bond trading, where she traded national high-grade credits and was a part of the California trading team. She has 18 years' experience in the municipal bond industry, beginning her career at Morgan Stanley in 2003 as an analyst in Wealth Management sales and underwriting. Lindsey was a Co-Chair for the 2018 Municipal Bond Women's Forum and has been on the board of the San Francisco Municipal Bond Club since 2005. Lindsey earned a B.A. from Dartmouth College.

Appendix B
Case Studies

$70,525,000 City of Santa Monica Water Enterprise Revenue Bonds, Series 2021. On August 10, 2021, Morgan Stanley senior managed the City of Santa Monica's sale of $70.5 million of Water Enterprise Revenue Bonds, Series 2021. The Bonds were issued to finance improvements to the City's water system, each designed to further develop a diverse, sustainable, and drought-resilient local water supply in accordance with the City's Sustainable Water Master Plan. The sale was the City's inaugural public market issuance of Water Enterprise bonds supported by net revenues of the Water Enterprise. Morgan Stanley worked with the City and its Financial Advisor to evaluate various couponing structures for the Bonds, with the City ultimately selecting a lower coupon structure to reduce the City's overall funding costs. S&P assigned an inaugural rating of AAA to the City's Water Enterprise Revenue Bonds. Morgan Stanley led a comprehensive marketing campaign highlighted by an investor roadshow that was viewed by 18 different accounts. In total, the City received $187.3 million of investor orders for the Bonds from 33 institutional and professional retail accounts, a subscription multiple of 2.66x, with some maturities with subscription levels over 9.0x. ***Due to strong investor demand, Morgan Stanley was able to decrease yields by up to ten basis points in certain maturities following the order period.*** Ultimately, the Bonds achieved an all-in TIC of 2.09% with an average life of 18.2 years.

Relevance to El Toro Water District: This transaction demonstrates Morgan Stanley's ability to market and price an inaugural California water revenue credit. It also demonstrates our team's ability to evaluate various financings alternatives to help an issuer achieve its desired structure and financing objectives. Morgan Stanley also aggressively marketed and priced the bonds, which featured a single credit rating from S&P, and received very strong market reception from a wide range of investors.

$32,845,000 South Coast Water District Financing Authority Revenue Bonds, Series 2020A. On October 15, 2020, Morgan Stanley sole managed South Coast Water District's Revenue Bonds, Series 2020A totaling $32.8 million. The Bonds were rated AA+ by both S&P and Fitch. The Series 2020A Bonds were issued to provide funds to finance the acquisition and construction of improvements to the District's Water System and Wastewater System. This was Morgan Stanley's second engagement with the District, having served as sole manager for the District's Revenue Bonds, Series 2019A in February of 2019 which included both new money and refunding components. Morgan Stanley structured $29.3 million of the Series 2020A Bonds (89.25% of the total) with sub-5.00% coupons in order to reduce the District's funding costs. This included $16.3 million (49.55% of the total) with sub-3.00% coupons in the 2045 and 2050 maturities. The Bonds attracted significant investor demand, with $87.4 million of investor orders from 19 different accounts during the order period, a 2.66x subscription multiple, with certain maturities up to 7.43x subscribed. Investors were largely bond funds and SMAs, but the District also received $1.6 million of individual retail orders in the 2021 and 2037 maturities. ***Due to strong demand, Morgan Stanley was able to reduce bond yields by as much as five basis points in certain maturities on the day of pricing.*** The Bonds achieved an all-in TIC of 2.45%, with an 18.3 year average life (final maturity in 2050).

Relevance to El Toro Water District: This transaction demonstrates Morgan Stanley's ability to successfully market and price a California water/wastewater revenue bond financing with characteristics similar to the District's contemplated financing in terms of size, credit, term, tax status, and purpose. It also demonstrates the Firm's ability to aggressively price, and re-price, California water revenue bonds to help an issuer achieve the lowest cost of funds. It was also the Firm's second consecutive sole managed transaction for the District, which we believe is a testament to the high quality of service that we provide.

$48,605,000 Moulton Niguel Water District 2019 Revenue Refunding Bonds. On January 24, 2019, Morgan Stanley sole managed Moulton Niguel Water District's 2019 Revenue Refunding Bonds totaling $48.6 million in par. The 2019 Bonds were issued to refund on a current basis the District's outstanding 2009 Certificates of Participation (Build America Bonds). Morgan Stanley worked with the Municipal Advisor and the District to prepare the rating agency presentations, which resulted in an upgrade to AAA by S&P and affirmation of the District's AAA rating by Fitch. In addition, ***Morgan Stanley conducted a comprehensive marketing campaign highlighted by an online investor roadshow that was viewed by 14 professional retail and institutional investors who collectively placed orders totaling $40.61 million.*** In total, the 2019 Bonds received $100.6 million of orders for $48.6 million of bonds, a subscription level of 2.1x and certain maturities were 5.3x subscribed. ***As a result, Morgan Stanley was able to tighten spreads by as many as six basis points compared to pre-marketing levels.*** In addition, ***Morgan Stanley committed $16.4 million of its own capital at the end of the order period to maintain attractive pricing levels*** and help the District achieve its financing objectives. Ultimately, the transaction achieved over $10.2 million of net present value savings (17.0% of refunded par) for the District.

Relevance to El Toro Water District: This transaction demonstrates the Firm's ability to structure, market, and price a peer California water revenue financing. It also highlights our team's ability to work collaboratively with an issuer and its municipal advisor to achieve the strongest possible ratings outcome. In addition, it illustrates Morgan Stanley's willingness to aggressively price and re-price bonds, and to commit capital to preserve aggressive pricing.

Appendix C
S&P Scorecard

El Toro Water District

S&P Preliminary Scorecard (Morgan Stanley Estimate)
FY 2021 Data (unless otherwise noted)

S&P Sub-Factor Enterprise Risk Profile (50%)	Category	Weighting	Statistic	Score	Weighted Score
Economic Fundamentals[1]	*MHHEBI[2] | GDP Rate*	*45%*	136% | 2.2%	1	0.45
Industry Risk	*Macro Factors*	*20%*	Very Low	1	0.20
Market Position[1]	*Bill/MHHEBI[2] | Poverty Rate*	*25%*	< 1% | < 10%	1	0.25
Operational Management	*Management Review*	*10%*	Strong	1	0.10
Results					**1.00**
Financial Risk Profile (50%)					
Coverage Metrics	*Debt Service Coverage*	*40%*	1.20x to 1.40x	3	1.20
Liquidity & Reserves[3]	*Days Cash on Hand | Total Cash*	*40%*	> 150 days | $5MM to $20MM	2	0.80
Debt & Liabilities[4]	*Debt/Cap | Pension Funded Ratio*	*10%*	35% to 50% | n/a	3	0.30
Financial Management	*Financial Performance*	*10%*	Strong	1	0.10
Results					**2.40**
Initial Indicative Rating					**AA**

			Financial Risk Profile					
			1	2	3	4	5	6
			Extremely Strong	Very Strong	Strong	Adequate	Vulnerable	Highly Vulnerable
Enterprise Risk Profile	1	Extremely Strong	aaa	aa+	aa-	a	bbb+/bbb	bb+/bb
	2	Very Strong	aa+	aa/aa-	a+	a-	bbb/bbb-	bb/bb-
	3	Strong	aa-	a+	a	bbb+/bbb	bbb-/bb+	bb-
	4	Adequate	a	a/a-	a-/bbb+	bbb/bbb-	bb	b+
	5	Vulnerable	bbb+	bbb/bbb-	bbb-/bb+	bb	bb-	b
	6	Highly Vulnerable	bbb-	bb-	bb-	b+	b	b-

(1) 2019 data
(2) MHHEBI = Median Household Effective Buying Income (Note: Median Household Income used as a proxy)
(3) Adjusted assuming $6.4 million of Capital Reserves and $2.3 million of restricted SRF Reserves are expended on capital projects to be funded in 2022
(4) Debt inclusive of upcoming issuance

Sources: S&P RatingsDirect; U.S. Census Bureau; U.S. Bureau of Economic Analysis; El Toro Water District 2021 Annual Report; El Toro Water District 2021-22 Rate Study

Appendix D
MSRB G-17 Disclosure Letter

December 16, 2021

El Toro Water District
24251 Los Alisos Blvd,
Lake Forest, CA 92630

Attn: Mr. Jason Hayden, *Chief Financial Officer*
Re: Disclosures by Morgan Stanley Pursuant to MSRB Rule G-17

Dear Mr. Hayden,

We are writing to provide you, as Chief Financial Officer of El Toro Water District ("Issuer"), with certain disclosures relating to the captioned bond issue ("Bonds"), as required by the Municipal Securities Rulemaking Board ("MSRB") Rule G-17 as set forth in MSRB Notice 2019-20 (Nov. 8, 2019).[1]

Morgan Stanley & Co. LLC proposes to serve as an underwriter, and not as a financial advisor or municipal advisor, in connection with the issuance of the Bonds.

As part of our underwriting services, we may provide advice concerning the structure, timing, terms, and other similar matters concerning the issuance of the Bonds.

As the issuer of the Bonds, you will be a party to the bond purchase agreement and certain other legal documents to be entered into in connection with the issuance of the Bonds.

I. Dealer-Specific Conflicts of Interest Disclosures

- Conflicts of Interest/Payments to or from Third Parties
  - Morgan Stanley has entered into a distribution agreement with its affiliate, Morgan Stanley Smith Barney LLC ("MSSB"), whereby Morgan Stanley will distribute municipal securities to retail investors through the financial advisor network of MSSB. This distribution arrangement became effective on June 1, 2009. As part of this arrangement, Morgan Stanley will compensate MSSB for its selling efforts with respect to the Bonds.
- Conflicts of Interest – Full Service Financial Services Firm
  - Morgan Stanley and its affiliates may purchase, sell or hold a broad array of investments and may actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of customers. Such investment and trading activities may involve or relate to assets, securities and/or instruments of the Issuer and/or the Obligor (whether directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the Issuer. Morgan Stanley and its affiliates also may communicate independent investment recommendations, market advice or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and at any time may hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

II. Transaction-Specific Disclosures

- Disclosures Concerning Complex Municipal Securities Financing
  - Since we have not recommended a "complex municipal securities financing" to the Issuer or Obligor, additional disclosures regarding the financing structure for the Bonds are not required under MSRB Rule G-17.

III. Standard Disclosures

- Disclosures Concerning the Underwriters' Role
  - MSRB Rule G-17 requires an underwriter to deal fairly at all times with both issuers and investors.
  - The underwriters' primary role is to purchase the Bonds with a view to distribution in an arm's-length commercial transaction with the Issuer. The underwriters have financial and other interests that differ from those of the Issuer.

[1] Revised Interpretive Notice Concerning the Application of MSRB Rule G-17 to Underwriters of Municipal Securities (effective Mar. 31, 2021).

- Unlike a municipal advisor, an underwriter does not have a fiduciary duty to the Issuer under the federal securities laws and is, therefore, not required by federal law to act in the best interests of the Issuer without regard to its own financial or other interests.
- The Issuer may choose to engage the services of a municipal advisor with a fiduciary obligation to represent the Issuer's interest in this transaction.
- The underwriters have a duty to purchase the Bonds from the Issuer at a fair and reasonable price, but must balance that duty with their duty to sell the Bonds to investors at prices that are fair and reasonable.
- The underwriters will review the official statement for the Bonds in accordance with, and a part of, their respective responsibilities to investors under the federal securities laws, as applied to the facts and circumstances of this transaction.[1]

- Disclosures Concerning the Underwriters' Compensation
  - The underwriters will be compensated by a fee and/or an underwriting discount that will be set forth in the bond purchase agreement to be negotiated and entered into in connection with the issuance of the Bonds. Payment or receipt of the underwriting fee or discount will be contingent on the closing of the transaction and the amount of the fee or discount may be based, in whole or in part, on a percentage of the principal amount of the Bonds. While this form of compensation is customary in the municipal securities market, it presents a conflict of interest since the underwriters may have an incentive to recommend to the Issuer a transaction that is unnecessary or to recommend that the size of the transaction be larger than is necessary.

If you or any other Issuer officials have any questions or concerns about these disclosures, please make those questions or concerns known immediately to the undersigned. In addition, you should consult with the Issuer's own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent you deem appropriate.

Please note that nothing is this letter should be viewed as a commitment by the underwriters to purchase or sell all the Bonds and any such commitment will only exist upon the execution of any bond purchase agreement or similar agreement and then only in accordance with the terms and conditions thereof.

You have been identified by the Issuer as a primary contact for the Issuer's receipt of these disclosures and that you are not a party to any disclosed conflict of interest relating to the subject transaction. If our understanding is incorrect, please notify the undersigned immediately. **We are required to seek your acknowledgement that you have received this letter.** Accordingly, please send me an email to that effect, or sign and return the enclosed copy of this letter to me at the address set forth above. Otherwise, an email read receipt from you or automatic response confirming that our email was opened by you will serve as an acknowledgment that you received these disclosures.

We look forward to working with you and the Issuer in connection with the issuance of the Bonds. Thank you.

Sincerely,

Dan Kurz

_____

Dan Kurz, *Executive Director*
MORGAN STANLEY & CO. LLC

Acknowledgement:

_____

Jason Hayden, *Chief Financial Officer*
El Toro Water District

Date: _____

[1] Under federal securities law, an issuer of securities has the primary responsibility for disclosure to investors. The review of the official statement by the underwriters is solely for purposes of satisfying the underwriters' obligations under the federal securities laws and such review should not be construed by an issuer as a guarantee of the accuracy or completeness of the information in the official statement.

Appendix E
Legal Disclaimer

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Any non-historical interest rates used herein are hypothetical and take into consideration conditions in today's market and other factual information such as the issuer's or obligated person's credit rating, geographic location and market sector. As such, these rates should not be viewed as rates that Morgan Stanley guarantees to achieve for the transaction should we be selected to act as underwriter. Any information about interest rates and terms for SLGs is based on current publicly available information and treasury or agency rates for open-market escrows are based on current market interest rates for these types of credits and should not be seen as costs or rates that Morgan Stanley guarantees to achieve for the transaction should we be selected to act as underwriter.

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El Toro Water District

Request for Proposal for Underwriting Services

December 16, 2021

STIFEL | Public Finance

December 16, 2021

Mark Northcross
NHA Advisors
mark@nhaadvisors.com

Leslie Bloom
NHA Advisors
leslie@nhaadvisors.com

Re: Proposal for El Toro Water District Underwriter Services

Dear Mark and Leslie,

Thank you for the opportunity to present Stifel's credentials to provide underwriting services to the El Toro Water District. Stifel offers the District superior insight into the California municipal market, extensive experience underwriting similar utility credits, and a proven track record of service.

- **Stifel Combines California Municipal Expertise with a National Platform.** Stifel is the most active municipal bond underwriter, both in California and nationally. In 2020, alone, Stifel served as senior or sole underwriter on more than 880 negotiated bond issues nationally, totaling $17.9 billion, and 196 bonds sales for California issuers, totaling $4.8 billion. We consistently bring to market roughly one-quarter of *all* California municipal issues, priced from one of our two California underwriting desks, affording our underwriters and sales teams on-the-pulse insights into investor preferences and interests.
- **Specialized Utility Sector Knowledge**. Since January 1, 2019, Stifel has senior managed more than 40 California negotiated water or wastewater financings totaling $866.4 million in par and co-managed 5 issues totaling $1.7 billion. Our lead-managed experience includes recent financings for other Southern California utilities, including the Fallbrook Public Utility District, Jurupa Community Services District, Crescenta Valley Water District and the utility enterprises of the cities of Brea, Covina, Culver City, Escondido, Garden Grove, Oceanside, Tustin and Whittier. We've also worked with issuers on a variety of financings paired with (anticipated or actual) State Revolving Fund loans or federal WIFIA loans, as well on utility financings marketed with a "green bond" designation.
- **Aggressive Pricing Results.** Stifel will leverage all corners of its fixed income distribution network to drive down interest rates on the District's bonds. We coordinate efforts among our underwriters and sales staff, which include 22 institutional municipal sales specialists, approximately 200 fixed-income generalists, and over 280 retail sales professionals based in one of 36 local California sales offices focused specifically on *in-state* individual "retail" investors. Our three California-based underwriters combine personal with professional knowledge of California communities to facilitate dialogue with sales professionals and portfolio managers. Our underwriters price bonds aggressively and have the capacity and willingness to take bonds into inventory when necessary. As evidence of our superior pricing results, we cite our November 9, 2021 sale of a $21.5 million AA- rated wastewater financing for Escondido at interest rates from 6 to 16 basis points lower in each maturity than the AA- rated and AA-rated BAM insured (!) $20.2 million water revenue financing for the North Coast County Water District, priced by a competitor on the same day.
- **Banking Team with a History of Success for the District and in the Region.** Stifel is proud of its prior service to the District, as placement agent for the 2016 loan, and our expansive experience in the region as the most active underwriter serving cities, schools, and utility districts within Orange County, as well as the County itself. Since January 2019, we've raised roughly $2.2 billion of investment capital for public infrastructure and operations within Orange County, including general government financings for the cities of Mission Viejo and Aliso Viejo, within the District's service area, and water financings for the cities of Garden Grove and Tustin. We bring a hands-on approach to understanding our issuer clients, analyzing their structuring alternatives and showcasing their credits to rating analysts and investors to secure the most efficient borrowing.

We appreciate the opportunity to provide the District with our qualifications to underwrite the 2022 Revenue Bonds and look forward to earning this business.

Sincerely,

Eileen Gallager
Managing Director
Stifel, Nicolaus & Company, Incorporated
(415) 364-6829
egallagher@stifel.com

Sara Oberlies Brown
Managing Director
Stifel, Nicolaus & Company, Incorporated
(415) 364-6872
sbrown@stifel.com

Table of Contents

Cover Letter

I. FINANCING TEAM

Assigned staff's experience related to water and wastewater transactions since January 1, 2019

Stifel will serve the District with an experienced team of bankers, underwriters, and sales and investor marketing professionals that have decades of experience and a proven track record with California utility credits. On the following pages we have provided resumes for our senior team members.

Eileen Gallagher, a Managing Director based out of the San Francisco office, will serve as the banking lead for the financing. Her recent utility experience includes financings for the city utility enterprises of Concord, Hercules, Milpitas, Morgan Hill, Santa Rosa and Turlock, as well as financings for the Livermore-Amador Valley Water Management Agency and the Santa Clara Valley Water District; she is currently engaged on water financings for the City of Hollister and the Marin Municipal Water District. Throughout her 24-year career, Eileen has senior or sole managed hundreds of financings totaling billions of dollars. Since January 1, 2019, alone, Eileen has led 50 separate financings totaling over $2 billion. Eileen earned a BA in cognitive science from Brown University and an M.B.A. in finance and marketing from Northwestern University's Kellogg Graduate School of Management. She currently serves as a Governor's appointee to the Board of Directors of the California Housing Finance Agency.

Water/Wastewater Experience:

- $ 9M Hercules 2021 Wastewater
- $55M Livermore-Amador 2021 Sewer
- $28M Morgan Hill 2020 Sewer
- $105M Santa Rosa 2020 Sewer
- $117M Turlock 2020 Water BANs
- $17M Milpitas 2019 Water
- $95M Santa Clara Valley 2019 Water

Sara Oberlies Brown, a Managing Director based out of the San Francisco office, will bring her deep regional expertise to the team. Sara has worked with many municipal entities in the Orange County and San Diego County region, including recent financings for the cities of Chula Vista, Oceanside, Santee, and San Marcos, a recent wastewater financing for Escondido and water financing for Poway. Throughout her 23-year career, Sara has led hundreds of financings totaling approximately $9.7 billion in par, including 34 water/wastewater bonds totaling $823 million in par. Sara is the Head of Stifel's CA General Government Group, a member of the Public Finance Executive Committee and member of the Department's Diversity & Inclusion Program Development Committee. Sara received a Bachelor of Arts degree from Syracuse University and Master's in Public Sector Financial Management from the University of Maryland.

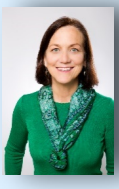
Water/Wastewater Experience:

- $22M Escondido Sewer
- $13M Poway Water
- $70M Santa Monica Water
- $9M Oceanside 2020 Water
- $23M Oxnard 2020 Water
- $25M Oceanside 2019 Water
- $5M Whittier 2020 Water
- $50M Escondido 2019 Water
- $15M Tustin 2020 Water

Sandrine Maurice, an Associate in the San Francisco office, will assist Eileen and Sara on this financing. Sandrine joined Stifel's Public Finance department in 2019 and supports senior bankers in preparing quantitative analysis, preparing credit presentations and performing due diligence. Prior to Stifel, Sandrine worked as a municipal credit analyst for a bond insurer and a valuation service. She has assisted on a variety of California municipal financings including recent utility financings for the cities of Crescenta, Hercules, Oceanside and Turlock. Sandrine received a Bachelor of Science degree from Pennsylvania State University.

Municipal Underwriting. Stifel has one of the largest municipal capital markets teams in the industry and a national platform of professionals focused on the marketing, sales & trading and underwriting of municipal bonds. We have three California-based underwriters primarily focused the "specialty state" California market. Stifel's underwriting team includes **Betsy Kiehn,** head of Stifel's Municipal Capital Markets Group, and **Marcus Peters**, from our San Francisco underwriting desk, and **Ben Stern**, from our Los Angeles underwriting desk. The three together lead more California municipal underwritings than any other firm. They collectively make commitments for the firm on over 200 issues totaling more than $6 billion each year, supported by sales teams focusing, respectively, on municipal institutional investors, taxable investors and individual "retail" investors. Stifel's consistent market presence provides our team with unrivaled insights into investor demand to provide the most aggressive pricing results for our issuer clients. All three will be available, as needed, to provide ongoing perspective on market conditions and will lead our marketing and pricing process.

Banking Group



Eileen Gallagher
Managing Director
egallagher@stifel.com | *(415) 364-6829*
- 24+ years of municipal finance experience
- Has raised over $10 billion for municipal entities
- BA: Brown University
- MBA: Northwestern University
- FINRA Licenses: Series 7, 50, 53
- Office: San Francisco

Sara Oberlies Brown
Managing Director
sbrown@stifel.com | (415) 364-6872
- 23+ years of municipal finance experience
- Has raised over $800 million in funding for utility systems
- BA: Syracuse University
- MBA: University of Maryland
- FINRA Licenses: 50, 52, 53, & 63
- Office: San Francisco

Sandrine Maurice
Associate
maurices@stifel.com | *(415) 364-2503*
- 7+ years of municipal finance and fixed income experience
- Has provided analytical support on a variety of credits
- BS: Pennsylvania State University
- FINRA Licenses: Series 50, 52, & 63
- Office: San Francisco

Capital Markets Group

Betsy Kiehn
Head of Municipal Institutional Sales, Trading & Underwriting
- 15+ years of experience
- Leads Stifel's national municipal market presence
- Underwrites over 100 primary market bond issues annually
- Former president and current member of the governing board of the SF Municipal Bond Club
- Office: San Francisco

Ben Stern
Head of California Underwriting
- 25+ years of public finance experience
- A municipal market expert and creates markets in dozens of issues every day
- Underwrites over 100 primary market bond issues annually
- Stifel's lead taxable underwriter
- Office: Los Angeles

Marcus Peters
Managing Director
- 6+ years of experience as a municipal credit analyst and fixed income sales and trading liaison
- Leads a third of the California municipal underwritings
- Office: San Francisco

II. UNDERWRITING EXPERIENCE

Firm's experience providing broker-dealer services for water and wastewater transactions since January 1, 2019 (including financings in progress) and any notable achievements related thereto

Most Active Municipal Bond Underwriter. Stifel is the top ranked municipal bond underwriter both nationally and in California. Since 2019, Stifel underwrote as sole or senior managing underwriter on a negotiated basis more than 2,347 financings totaling nearly $51 billion. In California, our experience tops the rankings with 569 financings ($17 billion and 23% market share). We consistently bring to market roughly a quarter of all California municipal issues –all priced from one of our two California underwriting desks. Stifel's consistent market presence keeps our "finger on the pulse" of developing market trends and emerging challenges and hones our understanding of which investors have the most cash to put to work.

Top California Senior Underwriters Since 2019

Rank	Firm	# of Issues	Mkt. Share	Par ($M)
1	**Stifel**	**569**	**23.2%**	**$16,942**
2	Raymond James	318	13.0	7,986
3	Piper Sandler	270	11.0	9,291
4	RBC	264	10.8	14,908
5	Citi	137	5.6	23,263

Source: SDC (Full to Book if Joint) negotiated senior managed transactions; ranked by # of issues; As of December 15, 2021

Top Underwriter of California Water and Sewer Financings. As the top underwriter of California negotiated utility revenue bonds by number of transactions, Stifel has significant experience designing and implementing financing structures for essential service utility revenue credits throughout the state. Since 2019, we have senior managed 40 California negotiated water or wastewater financings totaling $866.4 million in par value and co-managed another 5 totaling $1.7 billion. This experience includes recent Southern California utility financings for the Fallbrook Public Utility District, Jurupa Community Services District, Crescenta Valley Water District and utility enterprises for the cities of Brea, Covina, Culver City, Escondido, Garden Grove, Oceanside, Tustin and Whittier. Additionally, Stifel is currently engaged in several water and wastewater utility financings totaling over $200 million. Please see **Appendix A** for a list of Stifel's California long-term water and wastewater utility financings since January 1, 2019.

Top CA Water/Wastewater Underwriters Since 2019

Rank	Firm	# of Issues	Mkt. Share	Par ($M)
1	**Stifel**	**40**	**17.2%**	**$ 866**
2	J P Morgan	25	10.7	1,632
3*	BofA	22	9.4	2,434
3*	Morgan Stanley	22	9.4	2,687
5	Piper Sandler	19	8.2	364

Source: SDC (Full to Book if Joint) negotiated senior managed transactions; ranked by # of issues; As of December 15, 2021
* Indicates tie

III. CREDIT STRATEGY AND STRUCTURING CONSIDERATIONS

Please include a discussion and analysis of the District's credit rating and any structuring ideas or strategies that are conducive for an optimal credit rating. Please include in your discussion whether or not a debt service reserve fund is necessary or required. Also, describe any impact a1.10x rate covenant may have.

Credit Highlights and Challenges. To understand the District's credit, we reviewed the District's recent audited financials, budget, outstanding debt and projected pro forma for the 2022 Bonds. To frame our discussion, we ran these details through S&P's published criteria framework which evaluates both broad Enterprise Risks and specific system Financial Risks. While the blended water and wastewater enterprise credit is somewhat unusual, the District's credit has many positive elements. We highlight the following:

Illustrative S&P Rating Matrix

Rating Factor	Sub Factors	Weigh	Rating	Weighted Score
Enterprise Risk Profile Assessment	Economic Fundamentals	45%	1	0.5
	Industry Risk	20%	2	0.4
	Market Position	25%	2	0.5
	Operational Management Assessment	10%	3	0.3
			Weighted Subscore	1.7
Financial Risk Profile Assessment	All-In Coverage	40%	3	1.2
	Liquidity & Reserves	40%	2	0.8
	Debt & Liabilities	10%	3	0.3
	Financial Management Assessment	10%	3	0.3
			Weighted Subscore	2.6
			Indicative Rate	A+

- **Economic Fundamentals:** The District benefits from its monopolistic role providing essential services to an affluent customer base in a vibrant economic region. Average median household income (MHI) of the District's customers in Laguna Woods, Lake Forest, Laguna Hills, Aliso Viejo, and Mission Viejo is exceptionally high at $97,132. Its service area is moderate in size, encompassing a population of about 50,000, and its customer base is diverse with the top ten ratepayers representing only 3.3% of FY20 revenues.
- **Pro-active Rate Adoption:** The District has a history of rate increases and performs an annual review of rates, reflecting positively on the District's proactive management.
- **Liquidity & Reserves:** The District has strong liquidity with ~$18 million of cash and investments as of June 30, 2020, equivalent to nearly 300 days of operating expenses.
- **Drought:** In reviewing the District's pro forma, we'd consider the sensitivity of projections the impacts of the ongoing drought, as and to the extent that conservation efforts reduce the forecast revenue growth and/or increase costs to purchase water. The combined water/sewer enterprise and the District's efforts to pursue recycled water mitigates some of these concerns.
- **Outstanding Debt:** The District has outstanding three State Revolving Fund (SRF) loans secured by a mix of water and wastewater revenues and a Texas Capital loan secured by Net Revenues of the combined water and wastewater enterprises on a basis subordinate to the outstanding SRF loans. The SRF loans will be callable on any date but the Texas Capital loan is not callable until December 2026. We understand that the District may refund all three of the SRF loans to their original terms so that the proposed approximately $25 million new money issued can be issued with a first lien on enterprise net revenues on parity to the outstanding Texas Capital loan.
- **Rate Covenant and All in Coverage:** Using the projected fiscal year 2023 Net Revenues provided with the Request for Proposals, debt service coverage is projected to fall within S&P's threshold for "Strong". However, the existing rate covenant for the Texas Capital loan is permissive, requiring debt service coverage of only 110%, inclusive of unencumbered cash balances and sum sufficient debt service coverage otherwise. This permissive covenant mitigates the need for rate increases on the District's customer base *but* it may affect the ultimate rating outcome, given S&P's heavy weighting on coverage. Similarly, if the SRF loans are not refunded at this time, the rating agencies may further notch down the rating to account for the subordinate lien position.

The District's credit compares favorably to a peer group on wealth factors and diversified customer base and is comparable to A/A+ and even AA- rated peers on many other dimensions. As demonstrated below, the permissive rate covenant is more consistent with "A" rated issuers. We believe many of the District's distinctive elements would push it closer to a rating at the upper end of the "A" category and have assumed an "A+" rating with reasonable prospects for insurance in our analysis. Given the very narrow pricing differences between an A rated utility and an AA rated utility, we don't recommend tightening the rate covenant to secure a higher rating at this

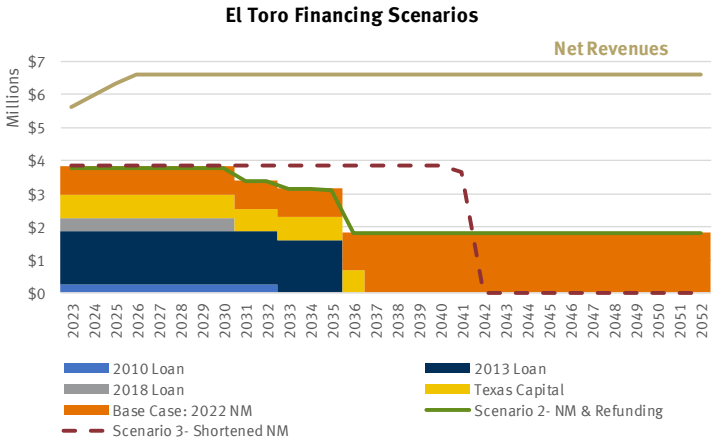
Comparable District Credit Analysis

Agency	Santa Paula Utility Authority	Oxnard Financing Authority	Palmdale	El Toro Water District	Indio Water Authority	Lemoore	FallBrook PUC	Fillmore	Woodland Finance Authority
S&P Rating	**'A'**	**'A'**	**'A'**	**TBD** (2022)	**'A+'**	**'A+'**	**'A+'**	**'A+'**	**'A+'**
Review Date	Nov-19	Nov-20	Jan-21	**TBD** (2022)	May-18	Feb-19	Jan-21	Apr-21	Nov-21
Insured	AA (Assured)	AA (BAM)	AA (BAM)	**TBD** (2022)	AA (BAM)	AA (BAM)	AA (BAM)	AA (Assured)	AA (Assured)
Reserve	Surety	Surety	Surety	**TBD** (2022)	No	Surety	None	None	Surety
Approximate Population	30,300	210,000	126,000	50,000	84,000	26,000	33,000	15,500	63,600
Median HH Income	92% of US Avg	92% of US Avg	97% of US Avg	154% of US Avg	94% of US Avg	92% of US Avg	95% of US Avg	95% of US Avg	108% of US Avg
Current Rate Covenant	1.20x	1.00x	1.10x	1.10x	1.20x	1.25x	1.20x	1.20x	1.20x
Current ABT	1.20x	1.00x	1.10x	1.10x	1.20x	1.25x	1.25x	1.20x	1.20x
Total Accounts	7,407	42,804	26,837	9,977	22,903	7,198	5,011	4,394	16,756
Top Customer	2.00%	5.90%	3.32%	1.21%	1.47%	22.06%	1.14%	5.74%	5.85%
Top Ten Customers	5.90%	11.90%	9.65%	3.30%	<10%	33.21%	6.30%	12.85%	12.23%
Rate Stabilization Fund	Yes	No	Yes	**TBD** (2022)	Yes	Yes	Yes	No	No
Debt Coverage	1.29x	1.7x	1.55x	1.5x	2.35x	1.5x	1.3x	2.5x	1.45x
Days Cash on Hand	609	191	187	293	500	432	321	630	755

Sources: S&P Reports, Official Statements, Continuing Disclosure Reports.

time. With no outstanding publicly-issued debt, the District has latitude in both number of ratings and choice of rating agencies. Given the proposed financing size, we believe one rating would be sufficient and assume the use of S&P.

Structuring Considerations. For our **"base case"** bond sizing analysis, we considered a new money issuance generating project funds of $25.5 million, with new money debt amortized over 30 years and "wrapped" around the outstanding loans to minimize up-front debt service.



- ***No Reserve Fund:*** California essential service credits with ratings in the "A" or "AA" category are able to sell bonds without reserve funds at no penalty. We don't recommend the District fund a reserve fund for the proposed 2022 issuance.
  - ***Payment Dates*** We used the same January and July 1 payment dates as the Texas Capital Loan and present coverage with the July 1 payments associated with the prior year fiscal year as the source of revenues.
  - ***Refunding SRF Loans*** Our second scenario incorporates a refunding of the SRF loans to their original term with new money. While the refundings don't generate compelling savings, they are essentially neutral economically, beneficial for cleaning up the lien structure and arguably enhancing to the rating and marketing process. The refundings to their original term don't offer much relief to the front end debt structure with new money principal amortized already in the later years. Stretching out the amortization of these refundings by at least a few years would be less efficient but would enable for a more level overall structure; we would refine this option further if it were of interest to the District.

Refunding Results

	2010 SRF	2013 SRF	2018 SRF	Total
Refunded Par	$2,236,137	$18,555,914	$3,035,582	$23,827,633
Final Maturity	7/1/2032	7/1/2035	7/1/2030	7/1/2035
Gross Savings	$160,966	$71,404	$21,153	$253,523
Avg. Annual Savings	$14,633	$5,100	$2,350	$18,109
NPV Savings ($)	**$165,165**	**$170,983**	**$63,623**	**$399,771**
NPV Savings (%)	**7.39%**	**0.92%**	**2.10%**	**1.68%**

- ***Amortization Term*** For our third scenario, given the drop off in the District's debt profile beginning in 2036, we considered shortening the final maturity of the new money component to less than 30 years to reduce interest carry in the early years. The benefits of this approach are moderated by the extremely flat yield curve in the current market; however, we would continue to evaluate this option as the pricing date approaches.

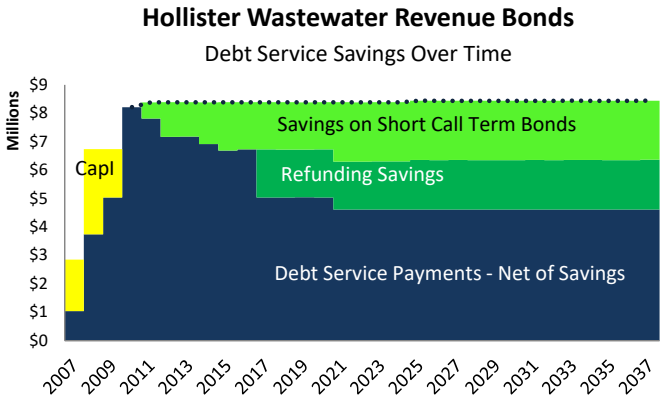
Financing Summary

	Base Case	Scenario 2	Scenario 3
Par	$21,510,000	$41,925,000	$41,535,000
Final Maturity	7/1/2052	7/1/2052	7/1/2041
TIC	2.81%	2.44%	2.03%
Total Debt Service	$41,726,550	$68,071,725	$61,306,975
MADS*	**$3,814,813**	**$3,771,463**	**$3,756,063**
MADS Coverage*	**1.66x**	**1.68x**	**1.69x**

*Inclusive of outstanding loans; coverage utilizing FY25 revenues

- ***Short Call Option*** If and to the extent the District expects to generate significant impact fees and/or state or federal grants or loans in the coming years, we'd consider incorporating a short call option on the portion of the debt to facilitate prepayment accordingly, as illustrated in the Hollister case study, described below.
- ***Bond Insurance and Surety*** Depending on the District's ultimate rating and market conditions at the time of sale, bond insurance and/or a surety reserve could bolster the District's pricing results. We would solicit bids for both and make a recommendation on acceptance of either or both products as we begin the marketing process.

Hollister Case Study. In 2006, the City of Hollister was under a development moratorium until a costly new $120 million wastewater treatment plant could be financed and built. The City wanted to leverage impact fees to mitigate the necessary rate increases on existing customers but those are economically sensitive – and were non-existent during the moratorium! Instead, the City phased in steep rate increases over four years, hoping that later year increases could be offset by impact fee revenues. To minimize necessary rate increases, Stifel drafted a permissive, two-pronged rate covenant requiring (i) 110% coverage including impact fees and balances in a rolling reserve and (ii) 100% coverage net of impact fees and reserves. We structured the 2006 Bonds with capitalized interest – to support the phase in of the rate increases– and a series of special term bonds, each with a different short call option. As and when development revenues resumed, the City was able to retire the special term bonds in turn at par, lower annual debt payments accordingly, and reduce the planned rate increases. Between 2009 and 2014, the City was able to prepay $25 million of principal through four separate bond calls. In 2016, Stifel refinanced the 2006 Bonds for savings and replicated similarly staggered short call options. Just this past June 2020, the City was able to retire early another $4.8 million in principal. In total, the City has saved over $86 million, lowering annual debt payments by over $3.8 million and providing the City great flexibility to manage its wastewater rates.



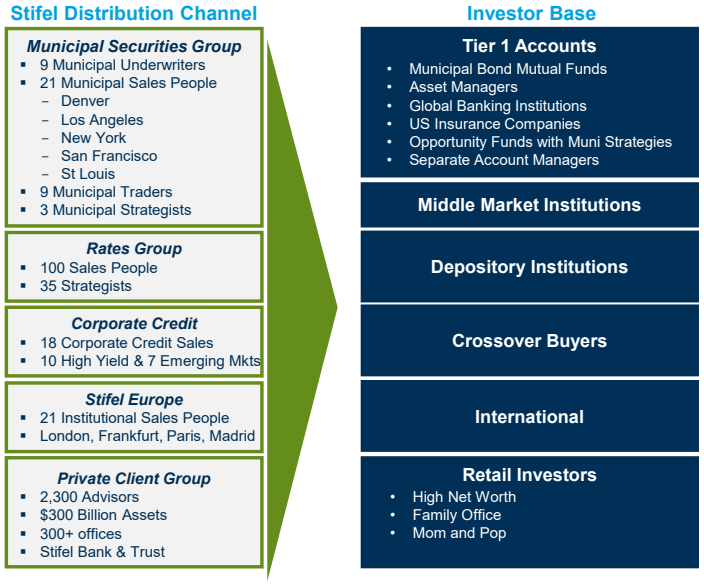
IV. MARKETING PLAN

Marketing plan to obtain lowest possible interest rates.

Distribution Network. Stifel's marketing plan aims to leverage Stifel's broad distribution platform, enhanced with market insight and knowledge of similar credits to the advantage of the District. The core component of our distribution heft is the firm's Municipal Securities Group, which includes 21 institutional sales professionals covering Tier 1 and Middle Market institutional buyers, as well as the large Separately Managed Accounts (SMAs) and bank trust departments that constitute the "Professional Retail" audience. We add to that base nearly 200 crossover and corporate institutional salespeople and strategists in this country and Europe who cover banks, crossover buyers and international investors. Additionally, on November 1, Stifel acquired Vining Sparks, a fixed-income brokerage firm that adds about 125 people to our fixed-income distribution team largely focused on banks and depository institutions.

Stifel Attributes	Advantages to the District's Bonds
Most active underwriter in the CA municipal market, underwriting an average of 4 CA financings per week, every week	• Stifel provides real-time market insight that we use to constantly adapt our marketing strategy in light of dynamic market conditions to benefit subsequent issues. • Every regular buyer of CA municipal bonds has a relationship with one of our dedicated sales professionals.
Breadth of experience with smaller water and wastewater systems, whose operating realities are very different from the large providers	• As an inaugural credit with an unusual combined pledge of combined revenues, the rating presentation will need to be thoughtfully developed, addressing the financial strengths of the systems and the financial policies and practices that have been put in place to allow for lower debt service coverage in the rate and additional bonds covenants. Stifel's bankers understand the rating criteria well and are able to bring to the discussion strategies employed by other, similarly situated water/wastewater utilities.
Broad distribution network that includes retail investors, traditional municipal bond funds, SMAs and a large and growing audience of "crossover buyers"	• We think the District will achieve the lowest possible borrowing cost if it is able to create competition among investors across five or six different investor categories. It was the implementation of this strategy that allowed Stifel to achieve interest rates that were as much as 16 basis points better for our Escondido wastewater bonds relative to another underwriter's pricing of the North Coast County Water District's bonds the exact same day.
Unrivaled experience within the County, including water bonds for the Garden Grove and Tustin and lease financings for Mission Viejo and Aliso Viejo	• "Economic Fundamentals" of the service area are the single largest factor in S&P's rating criteria and it is also –particularly with the intense scrutiny on drought conditions and wildfires– the focus for investors. Stifel's bankers and sales professionals understand the economic drivers of the County and are best able to articulate these to the credit markets.

Finally, Stifel has more than 370 Private Client sales offices, from which approximately 2,300 sales executives manage $374 billion in assets. In California, these retail sales professionals are located in 36 community offices, including three in Orange County. In some market conditions, these individual investors can consume a very large segment of a high grade issuance like this. However, with interest rates so low, we expect individual interest in high-grade bonds such as these will be limited to only a few million dollars, concentrated in the early maturities and at about year 15. We expand our reach to the community of interested residents of the area by utilizing mailers, newspaper advertisement and/or social media.



Targeted Investor Segments. The table below identifies key institutional investors that we currently expect to be the target audience for the District's Bonds, based on similarly sized water/wastewater credits, with similar ratings in the Orange County/San Diego County area. We will continue to modify this list as the bond sale approaches and these investors or others demonstrate demand for similar credits.

Buyers of Recent Water/Wastewater Credits in Orange/San Diego County[1]

Bond Funds	Trading Accounts	SMAs	Institution/Insurance
American Century	16th Amendment Advisors	**Blackrock SMA**	**Faraday Capital LP**
Boston Company Trust[2]	Raymond James Arb	**Breckinridge Capital**	Globe Life Insurance
Eaton Vance Tabs		Chilton Investment Co.	Northwestern Mutual
Franklin - Templeton Funds[2]	**Bank**	Credit Suisse Asset Mgmt	
Goldman Asset Management	Texas Capital Bank	First Republic Bank	
Loomis Sayles & Co. Inc. Boston	**US Trust Bank Of America**	**Gurtin/PIMCO - SMA**	
Northern Trust(1)	Zions First National	Highmark Capital Mgmt	
Nuveen		TIAA-CREF Trust	
Performance Trust Cap Partners Inc		Wells Fargo/WELLS	

[1] Includes tax-exempt water/wastewater revenue bonds issued in the past year by the cities of Garden Grove, Poway and Escondido and the Fallbrook PUD.
[2] Also has an SMA that buys these bonds.
Bold font represents those investors we presently consider "anchor orders" for this type of credit.

As Stifel works to marshal interest in the Bonds, our strategy will be to target a broad array of potential buyers across different investor segments to create competition that drives down interest rates. In **Appendix B,** we show a recent pricing comparable that illustrates Stifel's ability to leverage that competition in favor of our clients. Stifel's pricing of the Escondido wastewater bonds resulted in spreads that were as much as 16 basis points lower than our competitor's pricing of the North Coast County Water District bonds, despite North Coast County having the same rating and adding bond insurance to several maturities.

V. INDICATIVE INTEREST RATES

Estimated interest rates assuming yields and/or spreads to MMD as of Friday, December 10th. Please describe the rate impact, if any, of issuing COPs versus revenue bonds.

Preliminary Market Interest Rates. Stifel's proposed indicative tax-exempt interest rates, reflecting current market conditions as of December 10, 2021, are provided to the right. This scale assumes a "standard" 10 year call and underlying credit rating in the range of "A+". Our scale assumes credit spreads over the "AAA" rated Municipal Market Data (MMD) benchmark index ranging from +5 to +15 bps for the first ten years, and then rising from +15 to +40 bps on the longer maturities, using 4% coupons throughout. We'd proposed using serial bonds for the first 20 years to take advantage of the lower rates on the shorter end of the yield curve and term bonds maturing in 2046 and 2052 to provide large, liquid "block" sizes appealing to institutional investors. To anchor our price thoughts, we reference the recent sales for Woodland Financing Authority, Center JUSD, and Middletown USD. These financings were of similar size and had similar ratings as the District's proposed sale. Our uninsured spreads are

consistent with Woodland Financing Authority. On an insured basis we would expect this to price comparable to a 'A+' GO bond. If the district was to secure an 'AA' rating, we would expect the spreads to be up to five basis points lower.

Bonds vs COPs. As often discussed, the market generally prefers "bonds" to "COPs", as COPs are often associated with less desirable general fund abatement leases rather than highly sought-after utility revenue credits. Even institutional investors (who well understand that the two are effectively the same) often command a spread premium for COPs for the impact on future liquidity if they need to sell the debt before maturity to less sophisticated investors.

2022 Financing Proposed Scale

Maturity (7/1)	Coupon	MMD (12/10)	Insured Spread	Insured Yield	Uninsured Spread	Insured Yield
2022	4.00%	0.13%	+5	0.18%	+10	0.23%
2023	4.00%	0.23%	+10	0.33%	+15	0.38%
2024	4.00%	0.34%	+13	0.47%	+20	0.54%
2025	4.00%	0.43%	+15	0.58%	+25	0.68%
2026	4.00%	0.55%	+15	0.70%	+25	0.80%
2027	4.00%	0.67%	+15	0.82%	+25	0.92%
2028	4.00%	0.82%	+15	0.97%	+25	1.07%
2029	4.00%	0.91%	+15	1.06%	+25	1.16%
2030	4.00%	0.97%	+18	1.15%	+28	1.25%
2031	4.00%	1.01%	+20	1.21%	+30	1.31%
2032	4.00%	1.05%	+25	1.30%	+35	1.40%
2033	4.00%	1.06%	+30	1.36%	+40	1.46%
2034	4.00%	1.09%	+33	1.42%	+43	1.52%
2035	4.00%	1.12%	+35	1.47%	+45	1.57%
2036	4.00%	1.14%	+38	1.52%	+48	1.62%
2037	4.00%	1.17%	+40	1.57%	+50	1.67%
2038	4.00%	1.20%	+40	1.60%	+50	1.70%
2039	4.00%	1.23%	+40	1.63%	+50	1.73%
2040	4.00%	1.26%	+40	1.66%	+50	1.76%
2041	4.00%	1.29%	+40	1.69%	+50	1.79%
2042	4.00%	1.32%	+40	1.72%	+50	1.82%
2046T	4.00%	1.43%	+40	1.83%	+50	1.93%
2052T	4.00%	1.49%	+40	1.89%	+50	1.99%

*Market Conditions as of 12/10/2021

VI. FEE PROPOSAL

Please provide a detailed proposal on management fee, takedown and expenses. Please provide your preferred underwriter counsel's name and firm. Stradling Yocca Carlson & Rauth will be serving as bond and disclosure counsel on the 2022 Bonds.

Underwriting Fee Proposal. Our underwriting proposals generally include four components: (i) a management fee, (ii) a sales takedown, (iii) underwriter's counsel costs and (iv) other underwriting expenses.

Management Fee. A management fee generally compensates bankers for the work in preparing a transaction for market. We would forego a management fee unless NHA Advisors prefers that we take the laboring oar in preparing the credit presentation; in that case, we would propose a fee of $25,000 for leading this task.

Sales Takedown. The sales component or takedown is designed to adequately compensate our sales professionals for marketing the bonds as aggressively as possible, ensuring the lowest interest cost for the District. Assuming a sole managed financing, we propose **an average sales takedown of $3.42 per $1,000 of bonds** for a transaction that closes within the first four months of 2022. We request the discretion to allocate takedowns by maturity with the understanding that the average takedown will not exceed that of our proposal.

Stifel's Proposed Fees- 2022 Financing

Par Amount:		$41,925,000
		Total
Spread Details	$/bond	Amount ($)
Management Fee	$0.00	$0
Expenses	0.53	22,131
Average Takedown	3.42	143,550
Total Gross Spread	**$3.95**	**$165,681**

Expense	$/bond	Amount ($)
Underwriter's Counsel	$0.24	$10,000
Continuing Disclosure Report	0.02	700
Out-of-Pocket Expenses	0.01	500
Ipreo Costs	0.06	2,613
Blue Sky Survey	0.01	500
DTC Setup	0.02	800
CDIAC (CA Only)	0.12	5,000
CUSIP Numbers	0.02	769
Day Loan	0.03	1,249
Total Expenses	**$0.53**	**$22,131**

Underwriter's Counsel. We plan to engage underwriter's counsel to prepare the Bond Purchase Agreement and assist in due diligence efforts. Assuming Stradling prepares the offering documents and provides Stifel with a "10(b)5 opinion" on the official statement, we would anticipate Underwriter's Counsel fees of $10,000. We propose to use Albert Reyes of Kutak Rock as underwriter's counsel, or, alternatively, Brian Quint of Quint & Thimmig.

Underwriting Expenses. The majority of our other expenses include fixed and variable regulatory and transaction processing costs –such as IPREO, DTC, CDIAC and CUSIP fees set by third parties and billed at cost.

Summary. We believe this is an aggressive proposal that balances low cost with effective sales distribution. While underwriting fees and expenses are an important factor in the selection of the underwriting firm, it is considerably more important to select a firm that is best able to develop and implement a marketing strategy for the bonds, targeting a broad network of investors. By succeeding in these two areas, the underwriter will be able to minimize the total interest costs of any issuance. How the bonds are marketed and underwritten has a far greater impact on total costs of the financing than do a small difference in fees.

APPENDIX A - STIFEL'S SENIOR-MANAGED WATER/WASTEWATER EXPERIENCE SINCE JANUARY, 1, 2019

Sale Date	Issue Size ($M)	Name of Issuer	Issue Description	Active Role with Lead Bankers?
11/09/21	$21.55	Escondido, City of	Wastewater Revenue Ref. Bonds, Series 2021	X
11/04/21	$12.93	Poway Public Financing Authority	Water Revenue Bonds, Series 2021A	X
08/11/21	$54.79	Livermore-Amador Valley Water Management Agency	Sewer Revenue Ref. Bonds, Series 2021	X
07/01/21	$22.92	Solano Irrigation District	2021 Water Revenue COPs	
05/11/21	8.95	Oceanside, City of	Water Revenue Ref Bonds, Ser 2021 (Taxable)	X
04/08/21	9.09	Suisun/Solano Water Authority	Water Revenue Ref. Bonds, Taxable Series 2021	
02/03/21	23.35	Oxnard, City of	Water Revenue Bonds, Series 2021A	
01/12/21	14.85	Fallbrook Public Utility District	2021 Wastewater Revenue Ref. Bonds, Series A	X
01/12/21	5.04	Fallbrook Public Utility District	2021 Wastewater Revenue Ref. Bonds, Taxable Series B	X
12/10/20	14.43	Salinas, City of	Wastewater Revenue Ref. Bonds, Series 2020A (Taxable)	
12/03/20	8.39	Martinez, City of	Water Revenue Bonds, Series 2020A	
12/03/20	3.18	Martinez, City of	Water Revenue Ref. Bonds, Series 2020B (Taxable)	
12/02/20	17.69	Morgan Hill Financing Authority	Sewer Revenue Bonds, Series 2020	X
11/18/20	117.75	Turlock Public Financing Authority	Water Revenue Bond Anticipation Notes, Series 2020	X
11/10/20	52.37	Santa Rosa, City of	Wastewater Revenue Bonds, Series 2020A (Tax Exempt)	X
11/10/20	51.64	Santa Rosa, City of	Wastewater Revenue Ref. Bonds, Series 2020B (Taxable)	X
10/22/20	23.22	Garden Grove, City of	Water Revenue Bonds	X
10/15/20	17.96	Brea, City of	2020 Water Revenue Ref. Bonds	
09/01/20	11.10	Crescenta Valley Water District	Water Revenue COPs, Series 2020	
07/09/20	25.28	Oceanside, City of	2020 Water Revenue Bonds	X
06/11/20	1.92	Jurupa Community Services District	Sewer Revenue Ref. Bonds, Series 2020	
06/11/20	3.49	Jurupa Community Services District	Water Revenue Ref. Bonds, Series 2020	
05/19/20	5.62	Whittier Utility Authority	Water Ref. Revenue Bonds Series 2020	X
02/11/20	14.91	Tustin, City of	Water Ref. Revenue Bonds, Series 2020 (Taxable)	X
12/12/19	16.51	Carmichael Water District	2019 Water Revenue COPs Series A	
12/12/19	15.78	Carmichael Water District	2019 Water Revenue COPs Series (Taxable)	
12/04/19	37.13	Norco Financing Authority	Enterprise Revenue Bonds, Series 2019	
11/13/19	20.38	Escondido, City of	Water System Revenue Ref. Bonds, Series 2019A	X
11/13/19	30.00	Escondido, City of	Water System Revenue Ref. Bonds, Series 2019B	X
10/24/19	17.21	Milpitas Municipal Financing Authority	2019 Water Revenue Bonds	X
10/01/19	19.36	Culver City, City of	Wastewater Facilities Revenue Bonds, 2019 Series A	
07/30/19	9.93	Covina, City of	2019 Taxable Wastewater Revenue Ref. Bonds	
07/23/19	23.48	Brea, City of	2019 Water Revenue Ref. Bonds	
04/09/19	15.23	Santa Clara Valley Water District	Water Ref. Revenue Bonds, Series 2019A	X
04/09/19	80.04	Santa Clara Valley Water District	Water Ref. Revenue Bonds, Series 2019B (Taxable)	X
03/07/19	8.79	Suisun/Solano Water Authority	2019 Water Revenue Bonds	
03/05/19	27.38	Lemoore, City of	Water Revenue Bonds, Series 2019	

Stifel Distribution Network Pricing Advantage
Pricing Comparison (Between Similar Credits)
City of Escondido Wastewater Revenue Bonds (Priced November 9, 2021)
North Coast County Water District (Priced November 9, 2021)

Issuer	City of Escondido Wastewater Revenue Bonds				North Coast County Water District Water Revenue Certificates of Participation				
Par Amt	$21,550,000				$20,210,000				
Rating	'AA-'				'AA-'				
Insurance	None				AGM				
Underwriter	Stifel				D.A. Davidson				
Optional Call	9/1/2031 @ 100%				9/1/2031 @ 100%				
Pricing Date	November 9, 2021				November 9, 2021				
Year	Par (9/1)	Coupon	Yield	Yield Spread to MMD	Par (10/1)	Coupon	Yield	Yield Spread to MMD	Stifel Pricing Benefit
2022					355,000	4.00	0.23	+9	
2023	280,000	4.00	0.26	+4	370,000	4.00	0.33	+10	-6
2024	295,000	1.25	0.36	+5	385,000	4.00	0.42	+11	-6
2025	295,000	1.25	0.49	+5	400,000	4.00	0.56	+11	-6
2026	305,000	1.25	0.65	+7	420,000	4.00	0.73	+14	-7
2027	1,020,000	4.00	0.76	+3	435,000	4.00	0.85	+11	-8
2028	1,060,000	4.00	0.90	+3	450,000	4.00	1.00	+12	-9
2029	1,100,000	4.00	1.03	+5	470,000	4.00	1.13	+14	-9
2030	1,145,000	4.00	1.10	+7	490,000	4.00	1.20	+16	-9
2031	1,195,000	4.00	1.20	+13	510,000	4.00	1.28	+20	-7
2032	1,240,000	4.00	1.32	+22	530,000	4.00	1.42	+32	-10
2033	1,285,000	4.00	1.37	+26	550,000	4.00	1.44	+32	-6
2034	1,340,000	4.00	1.44	+30	575,000	4.00	1.54	+38	-8
2035	1,390,000	4.00	1.49	+33	600,000	4.00	1.59	+41	-8
2036	1,445,000	4.00	1.53	+35	625,000	4.00	1.68	+47	-12
2037	1,505,000	4.00	1.58	+37					
2038	1,565,000	4.00	1.64	+40					
2039	1,630,000	4.00	1.67	+40					
2040	1,695,000	4.00	1.70	+40					
2041	1,760,000	4.00	1.73	+40	3,515,000	4.00	1.89	+56	-16
2042									
2043									
2044									
2045									
2046					4,290,000	4.00	2.07	+59	
2047									
2048									
2049									
2050									
2051					5,240,000	4.00	2.13	+60	

Sources: EMMA; Bloomberg. Prepared by Stifel on December 16, 2021.

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SOURCES AND USES OF FUNDS

El Toro Water District
2022 Water Revenue Bonds
****
Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans Insurance

Dated Date	03/16/2022
Delivery Date	03/16/2022

Sources:	
Bond Proceeds:	
Par Amount	21,510,000.00
Premium	4,432,655.50
	25,942,655.50

Uses:	
Project Fund Deposits:	
Project Fund	25,530,600.00
Delivery Date Expenses:	
Cost of Issuance	200,000.00
Underwriter's Discount	107,550.00
Bond Insurance (25bps)	104,316.38
	411,866.38
Other Uses of Funds:	
Contingency	189.12
	25,942,655.50

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of similiar outstanding bonds
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

BOND SUMMARY STATISTICS

El Toro Water District
2022 Water Revenue Bonds
****

Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Dated Date	03/16/2022
Delivery Date	03/16/2022
First Coupon	07/01/2022
Last Maturity	07/01/2052
Arbitrage Yield	1.844588%
True Interest Cost (TIC)	2.813853%
Net Interest Cost (NIC)	3.144245%
All-In TIC	2.888439%
Average Coupon	4.000000%
Average Life (years)	23.497
Par Amount	21,510,000.00
Bond Proceeds	25,942,655.50
Total Interest	20,216,550.00
Net Interest	15,891,444.50
Total Debt Service	41,726,550.00
Maximum Annual Debt Service	1,824,400.00
Average Annual Debt Service	1,377,492.71

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of similiar outstanding bonds
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

BOND PRICING

El Toro Water District
2022 Water Revenue Bonds
****
Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Yield to Maturity	Call Date	Call Price
Serial Bond:								
	07/01/2036	280,000	4.000%	1.520%	123.542 C	2.086%	07/01/2032	100.000
	07/01/2037	975,000	4.000%	1.570%	123.007 C	2.218%	07/01/2032	100.000
	07/01/2038	1,010,000	4.000%	1.600%	122.688 C	2.320%	07/01/2032	100.000
	07/01/2039	1,050,000	4.000%	1.630%	122.369 C	2.410%	07/01/2032	100.000
	07/01/2040	1,095,000	4.000%	1.660%	122.051 C	2.491%	07/01/2032	100.000
	07/01/2041	1,140,000	4.000%	1.690%	121.735 C	2.564%	07/01/2032	100.000
	07/01/2042	1,185,000	4.000%	1.720%	121.419 C	2.631%	07/01/2032	100.000
		6,735,000						
Term Bond 2046:								
	07/01/2046	5,225,000	4.000%	1.830%	120.269 C	2.839%	07/01/2032	100.000
Term Bond 2052:								
	07/01/2052	9,550,000	4.000%	1.890%	119.647 C	3.007%	07/01/2032	100.000
		21,510,000						

Dated Date	03/16/2022	
Delivery Date	03/16/2022	
First Coupon	07/01/2022	
Par Amount	21,510,000.00	
Premium	4,432,655.50	
Production	25,942,655.50	120.607417%
Underwriter's Discount	(107,550.00)	(0.500000%)
Purchase Price	25,835,105.50	120.107417%
Accrued Interest		
Net Proceeds	25,835,105.50	

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of similiar outstanding bonds
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

BOND DEBT SERVICE

El Toro Water District
2022 Water Revenue Bonds
****

Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Period Ending	Principal	Interest	Debt Service
07/01/2022		250,950	250,950
07/01/2023		860,400	860,400
07/01/2024		860,400	860,400
07/01/2025		860,400	860,400
07/01/2026		860,400	860,400
07/01/2027		860,400	860,400
07/01/2028		860,400	860,400
07/01/2029		860,400	860,400
07/01/2030		860,400	860,400
07/01/2031		860,400	860,400
07/01/2032		860,400	860,400
07/01/2033		860,400	860,400
07/01/2034		860,400	860,400
07/01/2035		860,400	860,400
07/01/2036	280,000	860,400	1,140,400
07/01/2037	975,000	849,200	1,824,200
07/01/2038	1,010,000	810,200	1,820,200
07/01/2039	1,050,000	769,800	1,819,800
07/01/2040	1,095,000	727,800	1,822,800
07/01/2041	1,140,000	684,000	1,824,000
07/01/2042	1,185,000	638,400	1,823,400
07/01/2043	1,230,000	591,000	1,821,000
07/01/2044	1,280,000	541,800	1,821,800
07/01/2045	1,330,000	490,600	1,820,600
07/01/2046	1,385,000	437,400	1,822,400
07/01/2047	1,440,000	382,000	1,822,000
07/01/2048	1,500,000	324,400	1,824,400
07/01/2049	1,560,000	264,400	1,824,400
07/01/2050	1,620,000	202,000	1,822,000
07/01/2051	1,685,000	137,200	1,822,200
07/01/2052	1,745,000	69,800	1,814,800
	21,510,000	20,216,550	41,726,550

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of similiar outstanding bonds
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

AGGREGATE DEBT SERVICE

El Toro Water District
2022 Water Revenue Bonds
****

Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Period Ending	2022 Water Revenue Bonds	SRF Loan 2010	SRF Loan 2013	SRF Loan 2018	Texas Capital Loan	Aggregate Debt Service
07/01/2022	250,950				558,558.61	809,508.61
07/01/2023	860,400	258,145.70	1,602,958.00	409,045.89	684,262.70	3,814,812.29
07/01/2024	860,400	258,145.91	1,602,958.00	409,046.40	684,262.22	3,814,812.53
07/01/2025	860,400	258,145.94	1,602,958.00	409,046.59	684,262.86	3,814,813.39
07/01/2026	860,400	258,145.90	1,602,957.99	409,045.73	684,262.34	3,814,811.96
07/01/2027	860,400	258,145.80	1,602,957.99	409,046.03	684,262.94	3,814,812.76
07/01/2028	860,400	258,145.53	1,602,958.00	409,046.67	684,262.54	3,814,812.74
07/01/2029	860,400	258,145.88	1,602,958.01	409,045.80	684,262.56	3,814,812.25
07/01/2030	860,400	258,145.50	1,602,958.00	409,046.55	684,263.00	3,814,813.05
07/01/2031	860,400	258,145.97	1,602,958.00		684,262.34	3,405,766.31
07/01/2032	860,400	258,145.69	1,602,958.00		684,262.64	3,405,766.33
07/01/2033	860,400		1,602,958.00		684,262.44	3,147,620.44
07/01/2034	860,400		1,602,957.99		684,262.74	3,147,620.73
07/01/2035	860,400		1,602,958.05		684,263.06	3,147,621.11
07/01/2036	1,140,400				684,262.32	1,824,662.32
07/01/2037	1,824,200					1,824,200.00
07/01/2038	1,820,200					1,820,200.00
07/01/2039	1,819,800					1,819,800.00
07/01/2040	1,822,800					1,822,800.00
07/01/2041	1,824,000					1,824,000.00
07/01/2042	1,823,400					1,823,400.00
07/01/2043	1,821,000					1,821,000.00
07/01/2044	1,821,800					1,821,800.00
07/01/2045	1,820,600					1,820,600.00
07/01/2046	1,822,400					1,822,400.00
07/01/2047	1,822,000					1,822,000.00
07/01/2048	1,824,400					1,824,400.00
07/01/2049	1,824,400					1,824,400.00
07/01/2050	1,822,000					1,822,000.00
07/01/2051	1,822,200					1,822,200.00
07/01/2052	1,814,800					1,814,800.00
	41,726,550	2,581,457.82	20,838,454.03	3,272,369.66	10,138,235.31	78,557,066.82

Notes:
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BOND SOLUTION

El Toro Water District
2022 Water Revenue Bonds
****
Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Period Ending	Proposed Principal	Proposed Debt Service	Existing Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		250,950	558,559	809,509	5,223,179	4,413,670	645.22834%
07/01/2023		860,400	2,954,412	3,814,812	5,633,269	1,818,457	147.66831%
07/01/2024		860,400	2,954,413	3,814,813	5,995,471	2,180,658	157.16293%
07/01/2025		860,400	2,954,413	3,814,813	6,337,365	2,522,552	166.12516%
07/01/2026		860,400	2,954,412	3,814,812	6,599,853	2,785,041	173.00598%
07/01/2027		860,400	2,954,413	3,814,813	6,599,853	2,785,040	173.00595%
07/01/2028		860,400	2,954,413	3,814,813	6,599,853	2,785,040	173.00595%
07/01/2029		860,400	2,954,412	3,814,812	6,599,853	2,785,041	173.00597%
07/01/2030		860,400	2,954,413	3,814,813	6,599,853	2,785,040	173.00594%
07/01/2031		860,400	2,545,366	3,405,766	6,599,853	3,194,087	193.78467%
07/01/2032		860,400	2,545,366	3,405,766	6,599,853	3,194,087	193.78467%
07/01/2033		860,400	2,287,220	3,147,620	6,599,853	3,452,233	209.67754%
07/01/2034		860,400	2,287,221	3,147,621	6,599,853	3,452,232	209.67752%
07/01/2035		860,400	2,287,221	3,147,621	6,599,853	3,452,232	209.67749%
07/01/2036	280,000	1,140,400	684,262	1,824,662	6,599,853	4,775,191	361.70271%
07/01/2037	975,000	1,824,200		1,824,200	6,599,853	4,775,653	361.79438%
07/01/2038	1,010,000	1,820,200		1,820,200	6,599,853	4,779,653	362.58944%
07/01/2039	1,050,000	1,819,800		1,819,800	6,599,853	4,780,053	362.66914%
07/01/2040	1,095,000	1,822,800		1,822,800	6,599,853	4,777,053	362.07225%
07/01/2041	1,140,000	1,824,000		1,824,000	6,599,853	4,775,853	361.83405%
07/01/2042	1,185,000	1,823,400		1,823,400	6,599,853	4,776,453	361.95311%
07/01/2043	1,230,000	1,821,000		1,821,000	6,599,853	4,778,853	362.43015%
07/01/2044	1,280,000	1,821,800		1,821,800	6,599,853	4,778,053	362.27100%
07/01/2045	1,330,000	1,820,600		1,820,600	6,599,853	4,779,253	362.50978%
07/01/2046	1,385,000	1,822,400		1,822,400	6,599,853	4,777,453	362.15172%
07/01/2047	1,440,000	1,822,000		1,822,000	6,599,853	4,777,853	362.23123%
07/01/2048	1,500,000	1,824,400		1,824,400	6,599,853	4,775,453	361.75471%
07/01/2049	1,560,000	1,824,400		1,824,400	6,599,853	4,775,453	361.75471%
07/01/2050	1,620,000	1,822,000		1,822,000	6,599,853	4,777,853	362.23123%
07/01/2051	1,685,000	1,822,200		1,822,200	6,599,853	4,777,653	362.19147%
07/01/2052	1,745,000	1,814,800		1,814,800	6,599,853	4,785,053	363.66834%
	21,510,000	41,726,550	36,830,517	78,557,067	201,385,315	122,828,248	

Notes:
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UNDERWRITER EXCLUSION DISCLOSURE

El Toro Water District
2022 Water Revenue Bonds
****
Market Conditions as of December 10th, 2021
Assumes 'A+' Underlying Rating
Base Case: Level New Money; Wrapped Around Outstanding Loans
Insurance

Stifel, Nicolaus & Company, Incorporated ('Stifel') has been engaged or appointed to serve as an underwriter or placement agent with respect to a particular issuance of municipal securities to which the attached material relates and Stifel is providing all information and advice contained in the attached material in its capacity as underwriter or placement agent for that particular issuance. As outlined in the SEC's Municipal Advisor Rule, Stifel has not acted, and will not act, as your municipal advisor with respect to the issuance of the municipal securities that is the subject to the engagement.

Stifel is providing information and is declaring to the proposed municipal issuer that it has done so within the regulatory framework of MSRB Rule G-23 as an underwriter (by definition also including the role of placement agent) and not as a financial advisor, as defined therein, with respect to the referenced proposed issuance of municipal securities. The primary role of Stifel, as an underwriter, is to purchase securities for resale to investors in an arm's-length commercial transaction. Serving in the role of underwriter, Stifel has financial and other interests that differ from those of the issuer. The issuer should consult with its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it deems appropriate.

These materials have been prepared by Stifel for the client or potential client to whom such materials are directly addressed and delivered for discussion purposes only. All terms and conditions are subject to further discussion and negotiation. Stifel does not express any view as to whether financing options presented in these materials are achievable or will be available at the time of any contemplated transaction. These materials do not constitute an offer or solicitation to sell or purchase any securities and are not a commitment by Stifel to provide or arrange any financing for any transaction or to purchase any security in connection therewith and may not relied upon as an indication that such an offer will be provided in the future. Where indicated, this presentation may contain information derived from sources other than Stifel. While we believe such information to be accurate and complete, Stifel does not guarantee the accuracy of this information. This material is based on information currently available to Stifel or its sources and is subject to change without notice. Stifel does not provide accounting, tax or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your advisors and / or counsel as you deem appropriate.

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SOURCES AND USES OF FUNDS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022

Sources:	2022 New Money	2022 Refunding	Total
Bond Proceeds:			
Par Amount	21,460,000.00	20,465,000.00	41,925,000.00
Premium	4,422,124.95	3,808,126.30	8,230,251.25
	25,882,124.95	24,273,126.30	50,155,251.25

Uses:	2022 New Money	2022 Refunding	Total
Project Fund Deposits:			
Project Fund	25,530,600.00		25,530,600.00
Refunding Escrow Deposits:			
Cash Deposit		23,937,357.91	23,937,357.91
Delivery Date Expenses:			
Cost of Issuance	153,559.93	146,440.07	300,000.00
Underwriter's Discount	107,300.00	102,325.00	209,625.00
Bond Insurance (25bps)	87,109.08	83,070.23	170,179.31
	347,969.01	331,835.30	679,804.31
Other Uses of Funds:			
Contingency	3,555.94	3,933.09	7,489.03
	25,882,124.95	24,273,126.30	50,155,251.25

Notes:
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3. Interest rate assumptions are based on current market conditions and similar credits.
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5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND SUMMARY STATISTICS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022
First Coupon	07/01/2022
Last Maturity	07/01/2052
Arbitrage Yield	1.588520%
True Interest Cost (TIC)	2.435069%
Net Interest Cost (NIC)	2.772982%
All-In TIC	2.515744%
Average Coupon	4.000000%
Average Life (years)	15.591
Par Amount	41,925,000.00
Bond Proceeds	50,155,251.25
Total Interest	26,146,725.01
Net Interest	18,126,098.76
Total Debt Service	68,071,725.01
Maximum Annual Debt Service	3,087,200.00
Average Annual Debt Service	2,247,209.63

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
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5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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SUMMARY OF REFUNDING RESULTS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022
Arbitrage yield	1.588520%
Escrow yield	0.000000%
Value of Negative Arbitrage	
Bond Par Amount	20,465,000.00
True Interest Cost	1.354998%
Net Interest Cost	1.518613%
Average Coupon	4.000000%
Average Life	7.298
Par amount of refunded bonds	23,827,632.93
Average coupon of refunded bonds	1.779381%
Average life of refunded bonds	6.498
PV of prior debt to 03/16/2022 @ 1.588520%	24,203,282.75
Net PV Savings	399,770.73
Percentage savings of refunded bonds	1.677761%

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND PRICING

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Bond Component	Maturity Date	Amount	Rate	Yield	Price		Yield to Maturity	Call Date	Call Price
Serial Bond:									
	07/01/2023	1,405,000	4.000%	0.330%	104.726				
	07/01/2024	1,465,000	4.000%	0.470%	108.036				
	07/01/2025	1,525,000	4.000%	0.580%	111.134				
	07/01/2026	1,585,000	4.000%	0.700%	113.927				
	07/01/2027	1,645,000	4.000%	0.820%	116.433				
	07/01/2028	1,710,000	4.000%	0.970%	118.449				
	07/01/2029	1,780,000	4.000%	1.060%	120.576				
	07/01/2030	1,850,000	4.000%	1.150%	122.476				
	07/01/2031	1,520,000	4.000%	1.210%	124.448				
	07/01/2032	1,585,000	4.000%	1.300%	125.928				
	07/01/2033	1,410,000	4.000%	1.360%	125.272	C	1.551%	07/01/2032	100.000
	07/01/2034	1,465,000	4.000%	1.420%	124.620	C	1.763%	07/01/2032	100.000
	07/01/2035	1,520,000	4.000%	1.470%	124.080	C	1.936%	07/01/2032	100.000
	07/01/2036	275,000	4.000%	1.520%	123.542	C	2.086%	07/01/2032	100.000
	07/01/2037	970,000	4.000%	1.570%	123.007	C	2.218%	07/01/2032	100.000
	07/01/2038	1,010,000	4.000%	1.600%	122.688	C	2.320%	07/01/2032	100.000
	07/01/2039	1,050,000	4.000%	1.630%	122.369	C	2.410%	07/01/2032	100.000
	07/01/2040	1,090,000	4.000%	1.660%	122.051	C	2.491%	07/01/2032	100.000
	07/01/2041	1,135,000	4.000%	1.690%	121.735	C	2.564%	07/01/2032	100.000
	07/01/2042	1,180,000	4.000%	1.720%	121.419	C	2.631%	07/01/2032	100.000
		27,175,000							
Term Bond 2046:									
	07/01/2046	5,220,000	4.000%	1.830%	120.269	C	2.839%	07/01/2032	100.000
Term Bond 2052:									
	07/01/2052	9,530,000	4.000%	1.890%	119.647	C	3.007%	07/01/2032	100.000
		41,925,000							

Dated Date	03/16/2022	
Delivery Date	03/16/2022	
First Coupon	07/01/2022	
Par Amount	41,925,000.00	
Premium	8,230,251.25	
Production	50,155,251.25	119.630891%
Underwriter's Discount	(209,625.00)	(0.500000%)
Purchase Price	49,945,626.25	119.130891%
Accrued Interest		
Net Proceeds	49,945,626.25	

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

SAVINGS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Date	Prior Debt Service	Refunding Debt Service	Savings	Present Value to 03/16/2022 @ 1.5885205%
07/01/2022		238,758.34	(238,758.34)	(237,659.04)
07/01/2023	2,270,149.59	2,223,600.00	46,549.59	62,637.61
07/01/2024	2,270,150.31	2,227,400.00	42,750.31	58,205.59
07/01/2025	2,270,150.53	2,228,800.00	41,350.53	56,184.05
07/01/2026	2,270,149.62	2,227,800.00	42,349.62	56,461.91
07/01/2027	2,270,149.82	2,224,400.00	45,749.82	58,934.24
07/01/2028	2,270,150.20	2,223,600.00	46,550.20	58,970.19
07/01/2029	2,270,149.69	2,225,200.00	44,949.69	56,860.40
07/01/2030	2,270,150.05	2,224,000.00	46,150.05	57,268.58
07/01/2031	1,861,103.97	1,820,000.00	41,103.97	47,108.14
07/01/2032	1,861,103.69	1,824,200.00	36,903.69	43,004.71
07/01/2033	1,602,958.00	1,585,800.00	17,158.00	24,415.44
07/01/2034	1,602,957.99	1,584,400.00	18,557.99	25,369.12
07/01/2035	1,602,958.05	1,580,800.00	22,158.05	28,076.71
	26,692,281.51	26,438,758.34	253,523.17	395,837.65

Savings Summary

PV of savings from cash flow	395,837.65
Plus: Refunding funds on hand	3,933.09
Net PV Savings	399,770.74

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

AGGREGATE DEBT SERVICE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Period Ending	2022 New Money	2022 Refunding	Texas Capital Loan	Aggregate Debt Service
07/01/2022	250,366.67	238,758.34	558,558.61	1,047,683.62
07/01/2023	858,400.00	2,223,600.00	684,262.70	3,766,262.70
07/01/2024	858,400.00	2,227,400.00	684,262.22	3,770,062.22
07/01/2025	858,400.00	2,228,800.00	684,262.86	3,771,462.86
07/01/2026	858,400.00	2,227,800.00	684,262.34	3,770,462.34
07/01/2027	858,400.00	2,224,400.00	684,262.94	3,767,062.94
07/01/2028	858,400.00	2,223,600.00	684,262.54	3,766,262.54
07/01/2029	858,400.00	2,225,200.00	684,262.56	3,767,862.56
07/01/2030	858,400.00	2,224,000.00	684,263.00	3,766,663.00
07/01/2031	858,400.00	1,820,000.00	684,262.34	3,362,662.34
07/01/2032	858,400.00	1,824,200.00	684,262.64	3,366,862.64
07/01/2033	858,400.00	1,585,800.00	684,262.44	3,128,462.44
07/01/2034	858,400.00	1,584,400.00	684,262.74	3,127,062.74
07/01/2035	858,400.00	1,580,800.00	684,263.06	3,123,463.06
07/01/2036	1,133,400.00		684,262.32	1,817,662.32
07/01/2037	1,817,400.00			1,817,400.00
07/01/2038	1,818,600.00			1,818,600.00
07/01/2039	1,818,200.00			1,818,200.00
07/01/2040	1,816,200.00			1,816,200.00
07/01/2041	1,817,600.00			1,817,600.00
07/01/2042	1,817,200.00			1,817,200.00
07/01/2043	1,820,000.00			1,820,000.00
07/01/2044	1,820,800.00			1,820,800.00
07/01/2045	1,819,600.00			1,819,600.00
07/01/2046	1,816,400.00			1,816,400.00
07/01/2047	1,816,200.00			1,816,200.00
07/01/2048	1,818,800.00			1,818,800.00
07/01/2049	1,819,000.00			1,819,000.00
07/01/2050	1,816,800.00			1,816,800.00
07/01/2051	1,817,200.00			1,817,200.00
07/01/2052	1,820,000.00			1,820,000.00
	41,632,966.67	26,438,758.34	10,138,235.31	78,209,960.32

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND DEBT SERVICE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

Period Ending	Principal	Interest	Debt Service
07/01/2022		489,125.01	489,125.01
07/01/2023	1,405,000	1,677,000.00	3,082,000.00
07/01/2024	1,465,000	1,620,800.00	3,085,800.00
07/01/2025	1,525,000	1,562,200.00	3,087,200.00
07/01/2026	1,585,000	1,501,200.00	3,086,200.00
07/01/2027	1,645,000	1,437,800.00	3,082,800.00
07/01/2028	1,710,000	1,372,000.00	3,082,000.00
07/01/2029	1,780,000	1,303,600.00	3,083,600.00
07/01/2030	1,850,000	1,232,400.00	3,082,400.00
07/01/2031	1,520,000	1,158,400.00	2,678,400.00
07/01/2032	1,585,000	1,097,600.00	2,682,600.00
07/01/2033	1,410,000	1,034,200.00	2,444,200.00
07/01/2034	1,465,000	977,800.00	2,442,800.00
07/01/2035	1,520,000	919,200.00	2,439,200.00
07/01/2036	275,000	858,400.00	1,133,400.00
07/01/2037	970,000	847,400.00	1,817,400.00
07/01/2038	1,010,000	808,600.00	1,818,600.00
07/01/2039	1,050,000	768,200.00	1,818,200.00
07/01/2040	1,090,000	726,200.00	1,816,200.00
07/01/2041	1,135,000	682,600.00	1,817,600.00
07/01/2042	1,180,000	637,200.00	1,817,200.00
07/01/2043	1,230,000	590,000.00	1,820,000.00
07/01/2044	1,280,000	540,800.00	1,820,800.00
07/01/2045	1,330,000	489,600.00	1,819,600.00
07/01/2046	1,380,000	436,400.00	1,816,400.00
07/01/2047	1,435,000	381,200.00	1,816,200.00
07/01/2048	1,495,000	323,800.00	1,818,800.00
07/01/2049	1,555,000	264,000.00	1,819,000.00
07/01/2050	1,615,000	201,800.00	1,816,800.00
07/01/2051	1,680,000	137,200.00	1,817,200.00
07/01/2052	1,750,000	70,000.00	1,820,000.00
	41,925,000	26,146,725.01	68,071,725.01

Notes:
1. Preliminary and subject to change.
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4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND SOLUTION

El Toro Water District
2022 Water Revenue Bonds
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Market Conditions as of December 10th, 2021
Assumes 'A' Underlying Rating
Wrapped New Money
DSRF; Capitalized Interest Through 07/01/2022

Period Ending	Proposed Principal	Proposed Debt Service	Existing Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		250,367	797,317	1,047,684	5,223,179	4,175,495	498.54545%
07/01/2023		858,400	2,907,863	3,766,263	5,633,269	1,867,006	149.57186%
07/01/2024		858,400	2,911,662	3,770,062	5,995,471	2,225,409	159.02844%
07/01/2025		858,400	2,913,063	3,771,463	6,337,365	2,565,902	168.03467%
07/01/2026		858,400	2,912,062	3,770,462	6,599,853	2,829,391	175.04095%
07/01/2027		858,400	2,908,663	3,767,063	6,599,853	2,832,790	175.19890%
07/01/2028		858,400	2,907,863	3,766,263	6,599,853	2,833,590	175.23614%
07/01/2029		858,400	2,909,463	3,767,863	6,599,853	2,831,990	175.16172%
07/01/2030		858,400	2,908,263	3,766,663	6,599,853	2,833,190	175.21751%
07/01/2031		858,400	2,504,262	3,362,662	6,599,853	3,237,191	196.26868%
07/01/2032		858,400	2,508,463	3,366,863	6,599,853	3,232,990	196.02383%
07/01/2033		858,400	2,270,062	3,128,462	6,599,853	3,471,391	210.96155%
07/01/2034		858,400	2,268,663	3,127,063	6,599,853	3,472,790	211.05598%
07/01/2035		858,400	2,265,063	3,123,463	6,599,853	3,476,390	211.29922%
07/01/2036	275,000	1,133,400	684,262	1,817,662	6,599,853	4,782,191	363.09566%
07/01/2037	970,000	1,817,400		1,817,400	6,599,853	4,782,453	363.14807%
07/01/2038	1,010,000	1,818,600		1,818,600	6,599,853	4,781,253	362.90845%
07/01/2039	1,050,000	1,818,200		1,818,200	6,599,853	4,781,653	362.98829%
07/01/2040	1,090,000	1,816,200		1,816,200	6,599,853	4,783,653	363.38801%
07/01/2041	1,135,000	1,817,600		1,817,600	6,599,853	4,782,253	363.10811%
07/01/2042	1,180,000	1,817,200		1,817,200	6,599,853	4,782,653	363.18804%
07/01/2043	1,230,000	1,820,000		1,820,000	6,599,853	4,779,853	362.62929%
07/01/2044	1,280,000	1,820,800		1,820,800	6,599,853	4,779,053	362.46996%
07/01/2045	1,330,000	1,819,600		1,819,600	6,599,853	4,780,253	362.70900%
07/01/2046	1,380,000	1,816,400		1,816,400	6,599,853	4,783,453	363.34800%
07/01/2047	1,435,000	1,816,200		1,816,200	6,599,853	4,783,653	363.38801%
07/01/2048	1,495,000	1,818,800		1,818,800	6,599,853	4,781,053	362.86854%
07/01/2049	1,555,000	1,819,000		1,819,000	6,599,853	4,780,853	362.82864%
07/01/2050	1,615,000	1,816,800		1,816,800	6,599,853	4,783,053	363.26800%
07/01/2051	1,680,000	1,817,200		1,817,200	6,599,853	4,782,653	363.18804%
07/01/2052	1,750,000	1,820,000		1,820,000	6,599,853	4,779,853	362.62929%
	21,460,000	41,632,967	36,576,994	78,209,960	201,385,315	123,175,355	

Notes:
1. Preliminary and subject to change.
2. The use of the 'A' rating is consistent with the rating of the outstanding prior bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

BOND SOLUTION

El Toro Water District
2022 Refunding of 2010 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		22,692	22,692		(22,692)	
07/01/2023	160,000	237,800	237,800	258,146	20,346	108.55580%
07/01/2024	170,000	241,400	241,400	258,146	16,746	106.93700%
07/01/2025	175,000	239,600	239,600	258,146	18,546	107.74038%
07/01/2026	185,000	242,600	242,600	258,146	15,546	106.40804%
07/01/2027	190,000	240,200	240,200	258,146	17,946	107.47119%
07/01/2028	195,000	237,600	237,600	258,146	20,546	108.64711%
07/01/2029	205,000	239,800	239,800	258,146	18,346	107.65049%
07/01/2030	215,000	241,600	241,600	258,146	16,546	106.84830%
07/01/2031	220,000	238,000	238,000	258,146	20,146	108.46469%
07/01/2032	230,000	239,200	239,200	258,146	18,946	107.92044%
07/01/2033						
07/01/2034						
07/01/2035						
07/01/2036						
07/01/2037						
07/01/2038						
07/01/2039						
07/01/2040						
07/01/2041						
07/01/2042						
07/01/2043						
07/01/2044						
07/01/2045						
07/01/2046						
07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	1,945,000	2,420,492	2,420,492	2,581,458	160,966	

BOND SOLUTION

El Toro Water District
2022 Refunding of 2013 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		184,450	184,450		(184,450)	
07/01/2023	950,000	1,582,400	1,582,400	1,602,958	20,558	101.29917%
07/01/2024	990,000	1,584,400	1,584,400	1,602,958	18,558	101.17130%
07/01/2025	1,030,000	1,584,800	1,584,800	1,602,958	18,158	101.14576%
07/01/2026	1,070,000	1,583,600	1,583,600	1,602,958	19,358	101.22240%
07/01/2027	1,110,000	1,580,800	1,580,800	1,602,958	22,158	101.40169%
07/01/2028	1,155,000	1,581,400	1,581,400	1,602,958	21,558	101.36322%
07/01/2029	1,205,000	1,585,200	1,585,200	1,602,958	17,758	101.12024%
07/01/2030	1,250,000	1,582,000	1,582,000	1,602,958	20,958	101.32478%
07/01/2031	1,300,000	1,582,000	1,582,000	1,602,958	20,958	101.32478%
07/01/2032	1,355,000	1,585,000	1,585,000	1,602,958	17,958	101.13300%
07/01/2033	1,410,000	1,585,800	1,585,800	1,602,958	17,158	101.08198%
07/01/2034	1,465,000	1,584,400	1,584,400	1,602,958	18,558	101.17129%
07/01/2035	1,520,000	1,580,800	1,580,800	1,602,958	22,158	101.40170%
07/01/2036						
07/01/2037						
07/01/2038						
07/01/2039						
07/01/2040						
07/01/2041						
07/01/2042						
07/01/2043						
07/01/2044						
07/01/2045						
07/01/2046						
07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	15,810,000	20,767,050	20,767,050	20,838,454	71,404	

BOND SOLUTION

El Toro Water District
2022 Refunding of 2018 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		31,617	31,617		(31,617)	
07/01/2023	295,000	403,400	403,400	409,046	5,646	101.39958%
07/01/2024	305,000	401,600	401,600	409,046	7,446	101.85418%
07/01/2025	320,000	404,400	404,400	409,047	4,647	101.14901%
07/01/2026	330,000	401,600	401,600	409,046	7,446	101.85402%
07/01/2027	345,000	403,400	403,400	409,046	5,646	101.39961%
07/01/2028	360,000	404,600	404,600	409,047	4,447	101.09903%
07/01/2029	370,000	400,200	400,200	409,046	8,846	102.21034%
07/01/2030	385,000	400,400	400,400	409,047	8,647	102.15948%
07/01/2031						
07/01/2032						
07/01/2033						
07/01/2034						
07/01/2035						
07/01/2036						
07/01/2037						
07/01/2038						
07/01/2039						
07/01/2040						
07/01/2041						
07/01/2042						
07/01/2043						
07/01/2044						
07/01/2045						
07/01/2046						
07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	2,710,000	3,251,217	3,251,217	3,272,370	21,153	

RFP EXEMPTION DISCLOSURE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money; Refunding Outstanding SRF Loans

As outlined in the SEC's Municipal Advisor Rule, Stifel, Nicolaus & Company, Incorporated ('Stifel') is providing the attached material and all information and advice contained therein in response to a request for proposals or request for qualifications (the 'RFP') by a municipal issuer or obligated person with respect to a specific issue of municipal securities. Stifel has not acted, and will not act, as your municipal advisor with respect to the issuance of the municipal securities that is the subject to the RFP.

Stifel is providing information and is declaring to the proposed municipal issuer and any obligated person that it has done so within the regulatory framework of MSRB Rule G-23 as an underwriter (by definition also including the role of placement agent) and not as a financial advisor, as defined therein, with respect to the referenced proposed issuance of municipal securities. The primary role of Stifel, as an underwriter, is to purchase securities for resale to investors in an arm's- length commercial transaction. Serving in the role of underwriter, Stifel has financial and other interests that differ from those of the issuer. The issuer should consult with its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it deems appropriate.

These materials have been prepared by Stifel for the client or potential client to whom such materials are directly addressed and delivered for discussion purposes only. All terms and conditions are subject to further discussion and negotiation. Stifel does not express any view as to whether financing options presented in these materials are achievable or will be available at the time of any contemplated transaction. These materials do not constitute an offer or solicitation to sell or purchase any securities and are not a commitment by Stifel to provide or arrange any financing for any transaction or to purchase any security in connection therewith and may not relied upon as an indication that such an offer will be provided in the future. Where indicated, this presentation may contain information derived from sources other than Stifel. While we believe such information to be accurate and complete, Stifel does not guarantee the accuracy of this information. This material is based on information currently available to Stifel or its sources and is subject to change without notice. Stifel does not provide accounting, tax or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your advisors and / or counsel as you deem appropriate.

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
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5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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SOURCES AND USES OF FUNDS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022

Sources:	2022 New Money	2022 Refunding	Total
Bond Proceeds:			
Par Amount	21,075,000.00	20,460,000.00	41,535,000.00
Premium	4,796,756.55	3,807,890.00	8,604,646.55
	25,871,756.55	24,267,890.00	50,139,646.55

Uses:	2022 New Money	2022 Refunding	Total
Project Fund Deposits:			
Project Fund	25,530,600.00		25,530,600.00
Refunding Escrow Deposits:			
Cash Deposit		23,937,357.91	23,937,357.91
Delivery Date Expenses:			
Cost of Issuance	152,221.02	147,778.98	300,000.00
Underwriter's Discount	105,375.00	102,300.00	207,675.00
Bond Insurance (25bps)	77,768.42	75,499.02	153,267.44
	335,364.44	325,578.00	660,942.44
Other Uses of Funds:			
Contingency	5,792.11	4,954.09	10,746.20
	25,871,756.55	24,267,890.00	50,139,646.55

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND SUMMARY STATISTICS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022
First Coupon	07/01/2022
Last Maturity	07/01/2041
Arbitrage Yield	1.457469%
True Interest Cost (TIC)	2.034086%
Net Interest Cost (NIC)	2.301238%
All-In TIC	2.128108%
Average Coupon	4.000000%
Average Life (years)	11.901
Par Amount	41,535,000.00
Bond Proceeds	50,139,646.55
Total Interest	19,771,975.01
Net Interest	11,375,003.46
Total Debt Service	61,306,975.01
Maximum Annual Debt Service	3,673,200.00
Average Annual Debt Service	3,177,899.35

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

SUMMARY OF REFUNDING RESULTS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Dated Date	03/16/2022
Delivery Date	03/16/2022
Arbitrage yield	1.457469%
Escrow yield	0.000000%
Value of Negative Arbitrage	
Bond Par Amount	20,460,000.00
True Interest Cost	1.355025%
Net Interest Cost	1.518647%
Average Coupon	4.000000%
Average Life	7.299
Par amount of refunded bonds	23,827,632.93
Average coupon of refunded bonds	1.779381%
Average life of refunded bonds	6.498
PV of prior debt to 03/16/2022 @ 1.457469%	24,395,753.71
Net PV Savings	395,455.63
Percentage savings of refunded bonds	1.659651%

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND PRICING

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Bond Component	Maturity Date	Amount	Rate	Yield	Price		Yield to Maturity	Call Date	Call Price
Serial Bond:									
	07/01/2023	1,400,000	4.000%	0.330%	104.726				
	07/01/2024	1,465,000	4.000%	0.470%	108.036				
	07/01/2025	1,525,000	4.000%	0.580%	111.134				
	07/01/2026	1,585,000	4.000%	0.700%	113.927				
	07/01/2027	1,645,000	4.000%	0.820%	116.433				
	07/01/2028	1,710,000	4.000%	0.970%	118.449				
	07/01/2029	1,780,000	4.000%	1.060%	120.576				
	07/01/2030	1,850,000	4.000%	1.150%	122.476				
	07/01/2031	1,845,000	4.000%	1.210%	124.448				
	07/01/2032	1,915,000	4.000%	1.300%	125.928				
	07/01/2033	1,995,000	4.000%	1.360%	125.272	C	1.551%	07/01/2032	100.000
	07/01/2034	2,075,000	4.000%	1.420%	124.620	C	1.763%	07/01/2032	100.000
	07/01/2035	2,155,000	4.000%	1.470%	124.080	C	1.936%	07/01/2032	100.000
	07/01/2036	2,245,000	4.000%	1.520%	123.542	C	2.086%	07/01/2032	100.000
	07/01/2037	3,015,000	4.000%	1.570%	123.007	C	2.218%	07/01/2032	100.000
	07/01/2038	3,140,000	4.000%	1.600%	122.688	C	2.320%	07/01/2032	100.000
	07/01/2039	3,265,000	4.000%	1.630%	122.369	C	2.410%	07/01/2032	100.000
	07/01/2040	3,395,000	4.000%	1.660%	122.051	C	2.491%	07/01/2032	100.000
	07/01/2041	3,530,000	4.000%	1.690%	121.735	C	2.564%	07/01/2032	100.000
		41,535,000							

Dated Date	03/16/2022	
Delivery Date	03/16/2022	
First Coupon	07/01/2022	
Par Amount	41,535,000.00	
Premium	8,604,646.55	
Production	50,139,646.55	120.716616%
Underwriter's Discount	(207,675.00)	(0.500000%)
Purchase Price	49,931,971.55	120.216616%
Accrued Interest		
Net Proceeds	49,931,971.55	

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

SAVINGS

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Date	Prior Debt Service	Refunding Debt Service	Savings	Present Value to 03/16/2022 @ 1.4574691%
07/01/2022		238,700.01	(238,700.01)	(237,691.13)
07/01/2023	2,270,149.59	2,218,400.00	51,749.59	66,438.29
07/01/2024	2,270,150.31	2,227,400.00	42,750.31	56,973.11
07/01/2025	2,270,150.53	2,228,800.00	41,350.53	55,020.84
07/01/2026	2,270,149.62	2,227,800.00	42,349.62	55,375.16
07/01/2027	2,270,149.82	2,224,400.00	45,749.82	57,939.45
07/01/2028	2,270,150.20	2,223,600.00	46,550.20	58,053.46
07/01/2029	2,270,149.69	2,225,200.00	44,949.69	56,000.98
07/01/2030	2,270,150.05	2,224,000.00	46,150.05	56,487.82
07/01/2031	1,861,103.97	1,820,000.00	41,103.97	46,710.29
07/01/2032	1,861,103.69	1,824,200.00	36,903.69	42,610.47
07/01/2033	1,602,958.00	1,585,800.00	17,158.00	23,934.04
07/01/2034	1,602,957.99	1,584,400.00	18,557.99	24,932.03
07/01/2035	1,602,958.05	1,580,800.00	22,158.05	27,716.75
	26,692,281.51	26,433,500.01	258,781.50	390,501.55

Savings Summary

PV of savings from cash flow	390,501.55
Plus: Refunding funds on hand	4,954.09
Net PV Savings	395,455.64

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
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AGGREGATE DEBT SERVICE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Period Ending	2022 New Money	2022 Refunding	Texas Capital Loan	Aggregate Debt Service
07/01/2022	245,875	238,700.01	558,558.61	1,043,133.62
07/01/2023	843,000	2,218,400.00	684,262.70	3,745,662.70
07/01/2024	843,000	2,227,400.00	684,262.22	3,754,662.22
07/01/2025	843,000	2,228,800.00	684,262.86	3,756,062.86
07/01/2026	843,000	2,227,800.00	684,262.34	3,755,062.34
07/01/2027	843,000	2,224,400.00	684,262.94	3,751,662.94
07/01/2028	843,000	2,223,600.00	684,262.54	3,750,862.54
07/01/2029	843,000	2,225,200.00	684,262.56	3,752,462.56
07/01/2030	843,000	2,224,000.00	684,263.00	3,751,263.00
07/01/2031	1,168,000	1,820,000.00	684,262.34	3,672,262.34
07/01/2032	1,160,000	1,824,200.00	684,262.64	3,668,462.64
07/01/2033	1,401,800	1,585,800.00	684,262.44	3,671,862.44
07/01/2034	1,403,400	1,584,400.00	684,262.74	3,672,062.74
07/01/2035	1,404,000	1,580,800.00	684,263.06	3,669,063.06
07/01/2036	2,988,600		684,262.32	3,672,862.32
07/01/2037	3,668,800			3,668,800.00
07/01/2038	3,673,200			3,673,200.00
07/01/2039	3,672,600			3,672,600.00
07/01/2040	3,672,000			3,672,000.00
07/01/2041	3,671,200			3,671,200.00
	34,873,475	26,433,500.01	10,138,235.31	71,445,210.32

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND DEBT SERVICE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Period Ending	Principal	Interest	Debt Service
07/01/2022		484,575.01	484,575.01
07/01/2023	1,400,000	1,661,400.00	3,061,400.00
07/01/2024	1,465,000	1,605,400.00	3,070,400.00
07/01/2025	1,525,000	1,546,800.00	3,071,800.00
07/01/2026	1,585,000	1,485,800.00	3,070,800.00
07/01/2027	1,645,000	1,422,400.00	3,067,400.00
07/01/2028	1,710,000	1,356,600.00	3,066,600.00
07/01/2029	1,780,000	1,288,200.00	3,068,200.00
07/01/2030	1,850,000	1,217,000.00	3,067,000.00
07/01/2031	1,845,000	1,143,000.00	2,988,000.00
07/01/2032	1,915,000	1,069,200.00	2,984,200.00
07/01/2033	1,995,000	992,600.00	2,987,600.00
07/01/2034	2,075,000	912,800.00	2,987,800.00
07/01/2035	2,155,000	829,800.00	2,984,800.00
07/01/2036	2,245,000	743,600.00	2,988,600.00
07/01/2037	3,015,000	653,800.00	3,668,800.00
07/01/2038	3,140,000	533,200.00	3,673,200.00
07/01/2039	3,265,000	407,600.00	3,672,600.00
07/01/2040	3,395,000	277,000.00	3,672,000.00
07/01/2041	3,530,000	141,200.00	3,671,200.00
	41,535,000	19,771,975.01	61,306,975.01

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

BOND SOLUTION

El Toro Water District
2022 Water Revenue Bonds
****
Market Conditions as of December 10th, 2021
Assumes 'A' Underlying Rating
Wrapped New Money
DSRF; Capitalized Interest Through 07/01/2022

Period Ending	Proposed Principal	Proposed Debt Service	Existing Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		245,875	797,259	1,043,134	3,750,000	2,706,866	359.49373%
07/01/2023		843,000	2,902,663	3,745,663	3,750,000	4,337	100.11580%
07/01/2024		843,000	2,911,662	3,754,662	3,750,000	(4,662)	99.87583%
07/01/2025		843,000	2,913,063	3,756,063	3,750,000	(6,063)	99.83858%
07/01/2026		843,000	2,912,062	3,755,062	3,750,000	(5,062)	99.86519%
07/01/2027		843,000	2,908,663	3,751,663	3,750,000	(1,663)	99.95567%
07/01/2028		843,000	2,907,863	3,750,863	3,750,000	(863)	99.97700%
07/01/2029		843,000	2,909,463	3,752,463	3,750,000	(2,463)	99.93437%
07/01/2030		843,000	2,908,263	3,751,263	3,750,000	(1,263)	99.96633%
07/01/2031	325,000	1,168,000	2,504,262	3,672,262	3,750,000	77,738	102.11689%
07/01/2032	330,000	1,160,000	2,508,463	3,668,463	3,750,000	81,537	102.22266%
07/01/2033	585,000	1,401,800	2,270,062	3,671,862	3,750,000	78,138	102.12801%
07/01/2034	610,000	1,403,400	2,268,663	3,672,063	3,750,000	77,937	102.12244%
07/01/2035	635,000	1,404,000	2,265,063	3,669,063	3,750,000	80,937	102.20593%
07/01/2036	2,245,000	2,988,600	684,262	3,672,862	3,750,000	77,138	102.10021%
07/01/2037	3,015,000	3,668,800		3,668,800	3,750,000	81,200	102.21326%
07/01/2038	3,140,000	3,673,200		3,673,200	3,750,000	76,800	102.09082%
07/01/2039	3,265,000	3,672,600		3,672,600	3,750,000	77,400	102.10750%
07/01/2040	3,395,000	3,672,000		3,672,000	3,750,000	78,000	102.12418%
07/01/2041	3,530,000	3,671,200		3,671,200	3,750,000	78,800	102.14644%
07/01/2042					3,750,000	3,750,000	
07/01/2043					3,750,000	3,750,000	
07/01/2044					3,750,000	3,750,000	
07/01/2045					3,750,000	3,750,000	
07/01/2046					3,750,000	3,750,000	
07/01/2047					3,750,000	3,750,000	
07/01/2048					3,750,000	3,750,000	
07/01/2049					3,750,000	3,750,000	
07/01/2050					3,750,000	3,750,000	
07/01/2051					3,750,000	3,750,000	
07/01/2052					3,750,000	3,750,000	
	21,075,000	34,873,475	36,571,735	71,445,210	116,250,000	44,804,790	

Notes:
1. Preliminary and subject to change.
2. The use of the 'A' rating is consistent with the rating of the outstanding prior bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.

BOND SOLUTION

El Toro Water District
2022 Refunding of 2010 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		22,692	22,692		(22,692)	
07/01/2023	160,000	237,800	237,800	258,146	20,346	108.55580%
07/01/2024	170,000	241,400	241,400	258,146	16,746	106.93700%
07/01/2025	175,000	239,600	239,600	258,146	18,546	107.74038%
07/01/2026	185,000	242,600	242,600	258,146	15,546	106.40804%
07/01/2027	190,000	240,200	240,200	258,146	17,946	107.47119%
07/01/2028	195,000	237,600	237,600	258,146	20,546	108.64711%
07/01/2029	205,000	239,800	239,800	258,146	18,346	107.65049%
07/01/2030	215,000	241,600	241,600	258,146	16,546	106.84830%
07/01/2031	220,000	238,000	238,000	258,146	20,146	108.46469%
07/01/2032	230,000	239,200	239,200	258,146	18,946	107.92044%
07/01/2033						
07/01/2034						
07/01/2035						
07/01/2036						
07/01/2037						
07/01/2038						
07/01/2039						
07/01/2040						
07/01/2041						
07/01/2042						
07/01/2043						
07/01/2044						
07/01/2045						
07/01/2046						
07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	1,945,000	2,420,492	2,420,492	2,581,458	160,966	

BOND SOLUTION

El Toro Water District
2022 Refunding of 2013 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		184,392	184,392		(184,392)	
07/01/2023	945,000	1,577,200	1,577,200	1,602,958	25,758	101.63315%
07/01/2024	990,000	1,584,400	1,584,400	1,602,958	18,558	101.17130%
07/01/2025	1,030,000	1,584,800	1,584,800	1,602,958	18,158	101.14576%
07/01/2026	1,070,000	1,583,600	1,583,600	1,602,958	19,358	101.22240%
07/01/2027	1,110,000	1,580,800	1,580,800	1,602,958	22,158	101.40169%
07/01/2028	1,155,000	1,581,400	1,581,400	1,602,958	21,558	101.36322%
07/01/2029	1,205,000	1,585,200	1,585,200	1,602,958	17,758	101.12024%
07/01/2030	1,250,000	1,582,000	1,582,000	1,602,958	20,958	101.32478%
07/01/2031	1,300,000	1,582,000	1,582,000	1,602,958	20,958	101.32478%
07/01/2032	1,355,000	1,585,000	1,585,000	1,602,958	17,958	101.13300%
07/01/2033	1,410,000	1,585,800	1,585,800	1,602,958	17,158	101.08198%
07/01/2034	1,465,000	1,584,400	1,584,400	1,602,958	18,558	101.17129%
07/01/2035	1,520,000	1,580,800	1,580,800	1,602,958	22,158	101.40170%
07/01/2036						
07/01/2037						
07/01/2038						
07/01/2039						
07/01/2040						
07/01/2041						
07/01/2042						
07/01/2043						
07/01/2044						
07/01/2045						
07/01/2046						
07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	15,805,000	20,761,792	20,761,792	20,838,454	76,662	

BOND SOLUTION

El Toro Water District
2022 Refunding of 2018 SRF Loan

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
07/01/2022		31,617	31,617		(31,617)	
07/01/2023	295,000	403,400	403,400	409,046	5,646	101.39958%
07/01/2024	305,000	401,600	401,600	409,046	7,446	101.85418%
07/01/2025	320,000	404,400	404,400	409,047	4,647	101.14901%
07/01/2026	330,000	401,600	401,600	409,046	7,446	101.85402%
07/01/2027	345,000	403,400	403,400	409,046	5,646	101.39961%
07/01/2028	360,000	404,600	404,600	409,047	4,447	101.09903%
07/01/2029	370,000	400,200	400,200	409,046	8,846	102.21034%
07/01/2030	385,000	400,400	400,400	409,047	8,647	102.15948%
07/01/2031						
07/01/2032						
07/01/2033						
07/01/2034						
07/01/2035						
07/01/2036						
07/01/2037						
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07/01/2047						
07/01/2048						
07/01/2049						
07/01/2050						
07/01/2051						
07/01/2052						
	2,710,000	3,251,217	3,251,217	3,272,370	21,153	

UNDERWRITER EXCLUSION DISCLOSURE

El Toro Water District
2022 Financing
2022 Financing
Assumes 'A+' Underlying Rating
Market Conditions as of December 10, 2022
Wrapped Level New Money Shortened; Refunding Outstanding SRF Loans

Stifel, Nicolaus & Company, Incorporated ('Stifel') has been engaged or appointed to serve as an underwriter or placement agent with respect to a particular issuance of municipal securities to which the attached material relates and Stifel is providing all information and advice contained in the attached material in its capacity as underwriter or placement agent for that particular issuance. As outlined in the SEC's Municipal Advisor Rule, Stifel has not acted, and will not act, as your municipal advisor with respect to the issuance of the municipal securities that is the subject to the engagement.

Stifel is providing information and is declaring to the proposed municipal issuer that it has done so within the regulatory framework of MSRB Rule G-23 as an underwriter (by definition also including the role of placement agent) and not as a financial advisor, as defined therein, with respect to the referenced proposed issuance of municipal securities. The primary role of Stifel, as an underwriter, is to purchase securities for resale to investors in an arm's-length commercial transaction. Serving in the role of underwriter, Stifel has financial and other interests that differ from those of the issuer. The issuer should consult with its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it deems appropriate.

These materials have been prepared by Stifel for the client or potential client to whom such materials are directly addressed and delivered for discussion purposes only. All terms and conditions are subject to further discussion and negotiation. Stifel does not express any view as to whether financing options presented in these materials are achievable or will be available at the time of any contemplated transaction. These materials do not constitute an offer or solicitation to sell or purchase any securities and are not a commitment by Stifel to provide or arrange any financing for any transaction or to purchase any security in connection therewith and may not relied upon as an indication that such an offer will be provided in the future. Where indicated, this presentation may contain information derived from sources other than Stifel. While we believe such information to be accurate and complete, Stifel does not guarantee the accuracy of this information. This material is based on information currently available to Stifel or its sources and is subject to change without notice. Stifel does not provide accounting, tax or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your advisors and / or counsel as you deem appropriate.

Notes:
1. Preliminary and subject to change.
2. The use of the 'A+' rating is consistent with the rating of the similiar outstanding bonds.
3. Interest rate assumptions are based on current market conditions and similar credits.
4. The City's actual results may differ, and Stifel makes no commitment to underwrite at these levels.
5. Costs of issuance and underwriter's discount are estimates for discussion purposes.
6. Analysis was performed with no changes to the term or the structure of the debt service from the currently outstanding issue.
7. The escrow has been funded with SLGS but in no way is Stifel recommending this or any other investment strategy.

Proposal for Underwriter/Broker-Dealer Services

For the El Toro Water District

2022 Water Revenue Bonds

Prepared by:

Fixed Income Capital Markets
Public Finance Office

505 Montgomery St. 11th Floor
San Francisco, CA 94111
(415) 848-6708

December 16, 2021

Mark Northcross
Leslie Bloom
NHA Advisors
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903

Dear Mr. Northcross and Ms. Bloom:

On behalf of D.A. Davidson & Co, we thank you for the opportunity to respond to the El Toro Water District's (the "District") Request for Qualifications for Underwriting/Broker-Dealer Services in connection with its 2022 Water Revenue Bonds financing. If selected, D.A. Davidson ("DADCO") will provide the District with a team of bankers, traders, underwriters, and institutional & retail sales professionals experienced in underwriting and selling California municipal bonds. We have highlighted our value added below.

Nationally Ranked Underwriter with Proven Expertise in Municipal Bonds – DADCO has been providing investment-banking and financial services for over 85 years and consistently ranks near the top of the league tables in terms of lead-managed bond underwritings on a national basis. In 2021, DADCO currently ranks #5 in terms of number of negotiated underwritings nationwide with 399 senior or sole managed financings across the country. *(Source: Thomson Reuters – 2012-2021 National Negotiated Rankings by Number of Issues).*

Banking Team and Trading Desk with Extensive Experience Working with Water Utilities - The California water and wastewater practice is an expansion of DADCO's countrywide reach and will leverage this depth of knowledge and investor base to enhance pricing for the District's upcoming transaction. The Firm also has significant experience in secondary market trading of California bonds through our Wealth Management offices directly to retail. Since January 1, 2019, DADCO has served as Lead or Co-Lead manager for 161 water and wastewater bonds representing $1.713 billion in par. The firm is currently engaged in 43 water and wastewater bonds representing $175 million in par. Of note, DADCO has proven its dedication to the water and wastewater sector through the recent hiring of Tom Innis who has led his previous firms to industry leading positions in this sector both in California and Nationally. Tom and the proposed financing team recently worked to successfully price a $20.210 mm public offering for the "AA-" North Coast County Water District. We are eager to bring this recent and relevant experience to achieve the same great results for the District. Tom will also be working with Jonas Biery, who he partners with to lead DADCO's National Utility Team. Jonas brings the issuer perspective from previously serving as the Business Services Manager for the City of Portland's sewer/storm water utility. In addition, our trading desk in Los Angeles is led by Peter Bouzane, who has 28+ years of experience trading and underwriting California bonds.

Strong Institutional AND Retail Sales Teams with Offices in Newport Beach and Costa Mesa – DADCO has a very strong capital position, with $158 million in net capital and $154.5 million in excess net capital (as of September 30, 2021), both of which have more than doubled since 2011. The Firm's experienced salesforce consists of 60 institutional sales people serving over 1,200 institutional clients and virtually all of the top 100 institutional holders of municipal bonds. Our Wealth Management Group provides added value through California retail sales led by Branch Manager Danny Thomas in our Newport Beach and Costa Mesa offices and Peter Bouzane from our Los Angeles Trading desk.

Thank you for your consideration and we hope to have the opportunity to work with the District and its finance team on its upcoming bond financing.

Sincerely,

Tom Innis,
Managing Director

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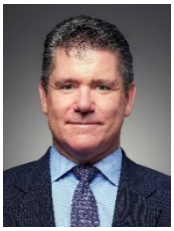
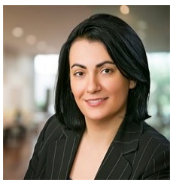
1. Proposed Finance Team

D.A. Davidson is committed to the highest level of service and has assembled a team of experienced professionals who would be assigned to the District's upcoming bond financing.



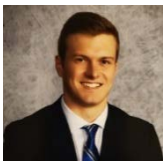
Tom Innis, Managing Director, will be the Lead Banker for the District and its municipal advisor. He will be responsible for the day-to-day management of the transaction and development of the plan of finance. Mr. Innis will coordinate marketing and sales, pre-pricing, pricing and closing of the transaction and will ensure full firm resources are available to the District. Mr. Innis has senior managed over $15 billion in par in bond issues for California issuers over 20+ years of public finance experience. He had led his previous firms' utility practices to top ranking in California and Nationally and has been an active speaker at ACWA, working with one of the District's Board Members. Tom will be available for all face-to-face meetings, teleconferences, and presentations as required. He can be contacted at 415-848-6708 or by email at tinnis@dadco.com.

Jonas Biery, Vice President, will support and provide back up to Mr. Innis on the transaction, with particular focus on disclosure review, credit analysis and pricing support. Mr. Biery has over 15 years of public finance experience acting as lead or active participant in hundreds of municipal bond transactions. He will lend his wealth of knowledge within the utility sector to this financing. Mr. Biery has previously served as chair of the GFOA's Committee on Governmental Debt Management and as a member of the MSRB Compliance Advisory Group, and was previously the Business Services Manager for the City of Portland, Oregon's sewer/storm water utility. He can be contacted at 503-863-5089 or by email by email at jbiery@dadco.com.



Dana Cojocaru-Ivoska, Senior Vice President, will support Mr. Innis and Mr. Biery, coordinate quantitative and qualitative analysis and presentation materials, and assist in day-to-day responsibilities. She has over 15 years of public finance experience having served in this capacity on 70 senior-managed bond issues and 7 bank placement transactions in CA since 2016 with over $600 million in par. Dana has extensive California financing experience including water districts, cities, special districts, K-12, health care, and higher education. Ms. Cojocaru-Ivoska can be contacted at 916-788-7263 or by email at dcojocaru-ivoska@dadco.com.

Shaliese Gramoll, Senior Public Finance Associate, will assist the team with day-to-day responsibilities. She joined D.A. Davidson's California team in November 2019. She has 4 years in the finance industry and is a member of the Women in Public Finance. Shaliese can be contacted at 303-764-6056 and by email at sgramoll@dadco.com.



Ryan Coolidge, Analyst, will assist the team with quantitative analysis, issue sizing and structuring. He joined D.A. Davidson's California team in March of 2021 after spending time with Mesirow Financial's Public Finance Team. Ryan can be contacted at 949-999-4025 and by email at rcoolidge@dadco.com.

Brian Courtney, Managing Director – Head Underwriter, and his sales team coordinate marketing and pricing efforts for the District's Water Revenue Bonds. Brian's 25 years of experience as trader and underwriter in the municipal bond market allows him to provide live market commentary on structure, timing, and pricing. He is also experienced in pricing and allotment of firm's negotiated product, competitive underwritings, secondary trading, and hedging of firm's risk positions. Brian covers all California issuers and is an expert in pricing debt for development financings. He can be contacted directly at 303-764-6044 and by email at bcourtney@dadco.com.

Peter Bouzane, Senior Vice President, and his team in Los Angeles will work in conjunction with underwriting on the marketing and sales efforts for the District. Peter is an experienced California municipal market trader with 28+ years of experience and has worked with numerous issuers in the fixed income capital markets. Peter has been focused on the sales and trading of retail municipal bonds in the State of California since 2000. He will work directly with our Wealth Management Group to identify and qualify retail buyers from the surrounding areas for the credit. He currently manages D.A. Davidson's California Municipal Retail desk in Los Angeles and can be contacted at 213-244-9226 or by email at pbouzane@dadco.com.

2. Firm's experience

D.A. Davidson has done extensive work for water and wastewater districts across the country totaling over 99 senior led deals totaling over $849 Million in par since January 1, 2019**.** A full list of these transactions can be found in ***Appendix A.***

Of note, DADCO has proven its dedication to the water and wastewater sector through the recent hiring of Tom Innis who has led his previous firms to industry leading positions in this sector both in California and Nationally. Tom and the proposed financing team recently worked to successfully price a $20.210 mm public offering for the "AA-" North Coast County Water District. We are eager to bring this recent and relevant experience to achieve the same great results for the District. Tom will also be working with Jonas Biery, who he partners with to lead DADCO's National Utility Team. Jonas brings the issuer perspective from previously serving as the Business Services Manager for the City of Portland's sewer/storm water utility.

3. Credit Rating

Based upon preliminary comparison of District metrics to key rating agency benchmarks and methodologies, we believe that the District will be rated in the "AA" category. We have conservatively assumed a rating of "AA-" from Standard & Poor's, but believe a rating one-notch higher at "AA" is potentially achievable. We do not believe that there would be a material marketing benefit to justify the cost of pursuing a second rating from Moody's or any other rating agency.

Credit Strengths

Key metrics of the District are mostly similar to median metrics for a combined water/sewer utility with a rating of "AA-". The region's median family income and the District's customer base characteristics are particularly strong. The District has a manageable debt profile, and total annual debt service payments upon issuance of the 2022 bonds will remain lower than typical, both of which are credit strengths.

Potential Credit Weaknesses

We identify two potential weaknesses relative to comparable utilities. First, the District's minimum legal coverage requirement of 1.10X is lower than typical, though this is mitigated somewhat by actual/projected coverage generally at levels of 1.50X or higher. The District could pursue an ascending (combined) debt service schedule to increase coverage in the earlier years of amortization, but the tradeoff would be higher overall interest costs due to delaying principal payments. We believe that the incremental interest cost reduction of a one-notch rating increase is not likely to offset the additional interest costs of converting to an ascending debt structure.

Second, The District's cash balance is somewhat low relative to comparable utilities. Typical balance levels for an "AA" category utility generally is north of 450 days, and per the District's FY2020 audit, we estimate the District's balance at just over 300 days of operating expenses. While 300 days is certainly adequate, maintaining an increased balance over time could contribute to a future rating increase. We do not believe that a debt service reserve would be required for the 2022 bonds, and including a required reserve is unlikely to significantly move the dial on the assigned rating or marketing results.

Credit Recommendations

When the existing debt reserves are released upon refunding of the SRF loans, that additional amount could potentially be used to increase cash balances, or applied to the refunding to reduce future debt service (thereby improving debt service coverage ratios). Either of these decisions would be a credit positive result.

If the District's bonds are rated AA- or lower, it is possible that purchasing bond insurance could be financially beneficial. Pending rating results, DADCO can perform a comparative analysis using actual bond insurance bids to determine whether incremental interest benefit of using insurance would be greater than the cost of purchasing the bond insurance premium, as we did with our recent work for North Coast County Water District.

Given the District's likely rating, we do not recommend altering the proposed amortization structure, bond terms, or financial projections in any significant way. The interest rate delta between a "AA-" and a "AA" utility credit is approximately 2-5 basis points on the short end and up to 10 basis points on the longer end, all else being equal. However, the increased costs of altering the debt service structure or revenue projections to increase coverage are likely greater than the potential interest cost reduction. We would recommend that the District stay the course per the current plan, assuming a minimum AA- rating, and aspiring for a higher result.

4. Marketing Plan

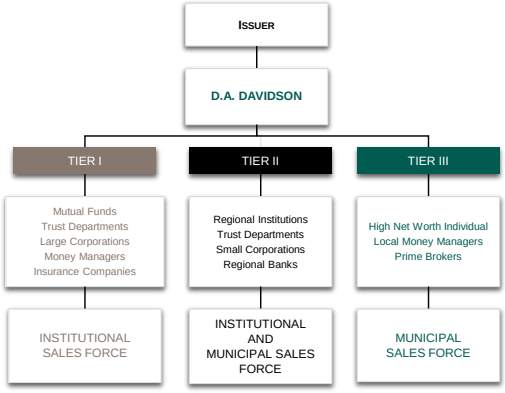
Marketing Strategy

DADCO's marketing strategy will take direct advantage of our broad California and national distribution network and emphasize our *Wealth Management presence in Newport Beach and Costa Mesa.* Our regional underwriting desks (including one in Los Angeles) are very active in both the primary and secondary markets for municipal bonds, and our sales/trading operations average $100 million per day in orders. Our underwriters provide our clients with ongoing and valuable feedback on changing market conditions and investor appetites and our sales force maintains close relationships with the nation's most active portfolio managers, achieving streamlined, superior execution for our clients with thorough and effective distribution.

In all, DADCO has approximately 60 underwriters, traders, and institutional sales people who service over 1,200 accounts. Year in and year out, institutional investors typically account for about 90% of the demand for municipal bonds when they are first issued, and our sales force has strong relationships with this important investor base.

Institutional Sales Force

- 1,200 national, regional, and local accounts
- 60 fixed-income institutional sales and trading personnel nationally covering over 1,200 Tier I, II, and III and other institutional accounts
- Work with portfolio and fund managers who are actively engaged in acquiring new issue municipal bonds



A distinct advantage D.A. Davidson has over many other underwriters is our ability to sell bonds directly to retail customers, particularly those in the District's service area. Our ability to generate significant retail demand working with our Wealth Management Group, and its offices in Newport Beach and Costa Mesa, provides us with leverage over the institutional funds and allows us to fully penetrate the bond market, which ultimately results in more attractive pricing and lower debt service for the District's proposed bonds.

Retail Sales Force (as of 6/30/2021)

- 73 locations nationally with over 375 registered financial advisors managing over $58.88 Billion in assets
- In California, 15 offices serving close to 27,565 accounts and over $10.9 billion in assets under management
- Specialists in municipal bonds attract sales people who better understand municipal bond buyers
- ***Wealth Management Offices located in Newport Beach and Costa Mesa***

DADCO will target investors who are purchasing bonds at different points on the yield curve at the time of sale with the specific maturities available on the transaction. Although all segments of the market will be included in marketing, given the approximate size and underlying credit of the proposed transactions, retail will be targeted through our Wealth Management vertical primarily in the District service area and neighboring communities in Orange County.

	Years to Maturity																													
Investor Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Money Market Funds																														
Money Managers																														
Individual & Professional Retail																														
SMA																														
Banks & Trust Departments																														
Insurance Companies																														
Bond Funds																														

Should the market be volatile at the time of pricing, DADCO has the capital base, resources, and willingness to commit capital to assure successful marketing of your bonds. With over $300.7 million in shareholder's equity, $158 million in net capital and $154.5 million in excess net capital as of September 30, 2021, D.A. Davidson can, and frequently does, support our clients' offerings in volatile or adverse market conditions

in order to stabilize their transactions. The Firm has underwritten deals as large as $195 million as Senior Manager and we regularly commit capital between 10 – 25% of the par amount of issues. Finally, the Lead Banker and Managing Director of the Underwriting Desk make the determination as to whether the Firm's capital will be committed on any given transaction.

5. Estimated Interest Rates

The tables below show our estimated interest rates assuming yields and spreads to "AAA" MMD yields as of Friday, December 10th for both revenue bonds and certificates of participation ("COPs"), assuming credit rating of "AA" and "AA-".

"AA" Rated - Revenue Bonds				
Maturity Date	Coupon (%)	Yield-to-Call (%)	MMD Yield (12/10/21)	Spread to AAA MMD
09/01/2022	4.000	0.200	0.140	0.06
09/01/2023	4.000	0.350	0.240	0.11
09/01/2024	4.000	0.480	0.350	0.13
09/01/2025	4.000	0.550	0.450	0.10
09/01/2026	4.000	0.710	0.570	0.14
09/01/2027	4.000	0.840	0.700	0.14
09/01/2028	4.000	0.990	0.840	0.15
09/01/2029	4.000	1.080	0.930	0.15
09/01/2030	4.000	1.150	0.980	0.17
09/01/2031	4.000	1.200	1.020	0.18
09/01/2032	4.000	1.260	1.060	0.20
09/01/2033	4.000	1.300	1.070	0.23
09/01/2034	4.000	1.400	1.100	0.30
09/01/2035	4.000	1.450	1.120	0.33
09/01/2036	4.000	1.480	1.140	0.34
09/01/2037	4.000	1.540	1.170	0.37
09/01/2038	4.000	1.580	1.200	0.38
09/01/2039	4.000	1.620	1.230	0.39
09/01/2040	4.000	1.660	1.260	0.40
09/01/2041	4.000	1.700	1.290	0.41
09/01/2042	4.000	1.730	1.320	0.41
09/01/2043	-	-	1.350	-
09/01/2044	-	-	1.380	-
09/01/2045	-	-	1.410	-
09/01/2046	2.375	2.500	1.430	1.07
09/01/2047	-	-	1.440	-
09/01/2048	-	-	1.450	-
09/01/2049	-	-	1.460	-
09/01/2050		-	1.470	
09/01/2051	-	-	1.480	-
09/01/2052	4.000	1.950	1.490	0.46
TOTAL				

"AA-" Rated - Revenue Bonds					
Maturity Date	Coupon (%)	Yield-to-Call (%)	MMD Yield (12/10/21)	Spread to AAA MMD	Spread
09/01/2022	4.000	0.230	0.140	0.09	-0.03
09/01/2023	4.000	0.390	0.240	0.15	-0.04
09/01/2024	4.000	0.530	0.350	0.18	-0.05
09/01/2025	4.000	0.600	0.450	0.15	-0.05
09/01/2026	4.000	0.760	0.570	0.19	-0.05
09/01/2027	4.000	0.890	0.700	0.19	-0.05
09/01/2028	4.000	1.040	0.840	0.20	-0.05
09/01/2029	4.000	1.130	0.930	0.20	-0.05
09/01/2030	4.000	1.200	0.980	0.22	-0.05
09/01/2031	4.000	1.250	1.020	0.23	-0.05
09/01/2032	4.000	1.310	1.060	0.25	-0.05
09/01/2033	4.000	1.350	1.070	0.28	-0.05
09/01/2034	4.000	1.450	1.100	0.35	-0.05
09/01/2035	4.000	1.500	1.120	0.38	-0.05
09/01/2036	4.000	1.530	1.140	0.39	-0.05
09/01/2037	4.000	1.590	1.170	0.42	-0.05
09/01/2038	4.000	1.630	1.200	0.43	-0.05
09/01/2039	4.000	1.670	1.230	0.44	-0.05
09/01/2040	4.000	1.710	1.260	0.45	-0.05
09/01/2041	4.000	1.750	1.290	0.46	-0.05
09/01/2042	4.000	1.780	1.320	0.46	-0.05
09/01/2043	-		1.350	-	
09/01/2044	-		1.380	-	
09/01/2045	-		1.410	-	
09/01/2046	2.450	2.580	1.430	1.15	-0.08
09/01/2047	-		1.440	-	
09/01/2048	-		1.450	-	
09/01/2049	-		1.460	-	
09/01/2050			1.470		
09/01/2051	-		1.480	-	
09/01/2052	4.000	2.050	1.490	0.56	-0.10

"AA" Rated - COP				
Maturity Date	Coupon (%)	Yield-to-Call (%)	MMD Yield (12/10/21)	Spread to AAA MMD
09/01/2022	4.000	0.220	0.140	0.08
09/01/2023	4.000	0.390	0.240	0.15
09/01/2024	4.000	0.520	0.350	0.17
09/01/2025	4.000	0.620	0.450	0.17
09/01/2026	4.000	0.750	0.570	0.18
09/01/2027	4.000	0.880	0.700	0.18
09/01/2028	4.000	1.020	0.840	0.18
09/01/2029	4.000	1.110	0.930	0.18
09/01/2030	4.000	1.170	0.980	0.19
09/01/2031	4.000	1.250	1.020	0.23
09/01/2032	4.000	1.310	1.060	0.25
09/01/2033	4.000	1.400	1.070	0.33
09/01/2034	4.000	1.500	1.100	0.40
09/01/2035	4.000	1.550	1.120	0.43
09/01/2036	4.000	1.580	1.140	0.44
09/01/2037	4.000	1.670	1.170	0.50
09/01/2038	4.000	1.730	1.200	0.53
09/01/2039	4.000	1.770	1.230	0.54
09/01/2040	4.000	1.810	1.260	0.55
09/01/2041	4.000	1.850	1.290	0.56
09/01/2042	4.000	1.880	1.320	0.56
09/01/2043	-	-	1.350	-
09/01/2044	-	-	1.380	-
09/01/2045	-	-	1.410	-
09/01/2046	2.500	2.650	1.430	1.22
09/01/2047	-	-	1.440	-
09/01/2048	-	-	1.450	-
09/01/2049	-	-	1.460	-
09/01/2050	-	-	1.470	-
09/01/2051	-	-	1.480	-
09/01/2052	4.000	2.100	1.490	0.61
TOTAL				

"AA-" Rated - COP					
Maturity Date	Coupon (%)	Yield-to-Call (%)	MMD Yield (12/10/21)	Spread to AAA MMD	Spread
09/01/2022	4.000	0.260	0.140	0.12	-0.04
09/01/2023	4.000	0.440	0.240	0.20	-0.05
09/01/2024	4.000	0.570	0.350	0.22	-0.05
09/01/2025	4.000	0.670	0.450	0.22	-0.05
09/01/2026	4.000	0.800	0.570	0.23	-0.05
09/01/2027	4.000	0.930	0.700	0.23	-0.05
09/01/2028	4.000	1.070	0.840	0.23	-0.05
09/01/2029	4.000	1.160	0.930	0.23	-0.05
09/01/2030	4.000	1.220	0.980	0.24	-0.05
09/01/2031	4.000	1.300	1.020	0.28	-0.05
09/01/2032	4.000	1.360	1.060	0.30	-0.05
09/01/2033	4.000	1.450	1.070	0.38	-0.05
09/01/2034	4.000	1.550	1.100	0.45	-0.05
09/01/2035	4.000	1.600	1.120	0.48	-0.05
09/01/2036	4.000	1.650	1.140	0.51	-0.07
09/01/2037	4.000	1.750	1.170	0.58	-0.08
09/01/2038	4.000	1.830	1.200	0.63	-0.10
09/01/2039	4.000	1.870	1.230	0.64	-0.10
09/01/2040	4.000	1.910	1.260	0.65	-0.10
09/01/2041	4.000	1.950	1.290	0.66	-0.10
09/01/2042	4.000	1.980	1.320	0.66	-0.10
09/01/2043	-	-	1.350	-	-
09/01/2044	-	-	1.380	-	-
09/01/2045	-	-	1.410	-	-
09/01/2046	2.650	2.750	1.430	1.32	-0.10
09/01/2047	-	-	1.440	-	-
09/01/2048	-	-	1.450	-	-
09/01/2049	-	-	1.460	-	-
09/01/2050		-	1.470		-
09/01/2051	-	-	1.480	-	-
09/01/2052	4.000	2.200	1.490	0.71	-0.10

Regarding the impact of issuing COPs versus revenue bonds, the type of debt financing mechanism selected will be based on the type of the available revenue stream. Both COPs and revenue bonds are ultimately obligations of the District's general fund, do not require voter approval and can have annual debt repayment that can be customized to match the District's available revenue stream. To determine the rate impact of issuing COPs versus revenue bonds DADCO performed the following analyses:

We first set up the new money structure wrapped around the current refunding (assuming a cash escrow) of the 2010, 2013, and 2018 SRF Loans, and also around the outstanding Texas Capital Loan (not included in the refundings). For our analysis, we assumed the "AA" revenue bond scale, no capitalized interest for the new money portion, no reserve fund and the RFQ specifications.

For the current refunding of the SRF loans, we used the same "AA" revenue bond scale and solved proportional to their current debt service (but with semi-annual interest payments) and to the District's fiscal year ending June 30 maturity (e.g. 2010 SRF Loan has a 1/12/2032 maturity, and the New Money bonds have 9/1 principal maturity, so the refunding bonds of the 2010 SRF Loan have a 9/1/31 maturity, which falls inside the 7/1/31-6/30/32 FY).

We then ran a similar analysis utilizing the "AA" COP scale. For a "AA" rated certificates of participation

structure we see an interest rate differential in the 2-7 basis points (0.02%-0.07%) on the shorter maturities and 10-15 bps (0.10%-0.15%) rate differential on the longer maturities versus a revenue bond structure. This resulted in a True Interest Cost ("TIC") for the revenue bond structure of 8.5bps (0.085%) better than a COP transaction. Over the life of the bonds, that translates in over $698,000 less in debt service. The following table summarizes this analysis.

	"AA" Rated Revenue Bonds vs. COPs (Combined NM + SRF Refundings)		
	Revenue Bonds	Certificates of Participation	Difference
Dated Date	3/1/2022	3/1/2022	
Par amount	$ 42,760,000	$ 43,070,000	$ 310,000
Project Fund	$ 25,530,600	$ 25,530,600	
Total Escrow Deposit (Cash)	$ 23,919,548	$ 23,919,548	
DSRF	N/A	N/A	
Capitalized Interest	None	None	
Cost of Issuance	$ 200,000	$ 200,000	
Underwriter's Discount ($2.50/bond)	$ 106,900	$ 107,675	$ 775
Average Life	15.336	15.374	
Total D/S (New Money)	$ 41,174,147	$ 41,798,163	$ 624,015
Total D/S	$ 66,990,947	$ 67,689,563	$ 698,615
Maximum Debt Service	$ 3,003,444	$ 3,024,425	$ 20,981
Average Annual Debt Service	$ 2,196,425	$ 2,219,330	$ 22,905
Average Coupon	3.695%	3.718%	0.023%
TIC	2.366%	2.451%	0.085%
All-In TIC	2.401%	2.486%	0.085%
NPV Savings ($) - All SRFs Combined	$ 757,174	$ 678,003	$ (79,171)
NPV Savings (%) - All SRFs Combined	3.178%	2.845%	-0.332%
Gross Savings - All SRFs Combined	$ 875,895	$ 797,322	$ (78,573)
Optional Call	9/1/32 @ 100%	9/1/32 @ 100%	

6. Proposal on Management Fee, Takedown and Expenses, Preferred Underwriter Counsel

Please find below our proposed total compensation and breakdown between management fee, average takedown and detailed expenses assuming gross bond size of $40-45 million (new money + SRF Loan refundings)

Underwriter's Discount	$ Amount	$ Per Bond
Average Takedown	$85,520	$2.00
Management Fee	$0	$0.00
Expenses (detailed below)	$21,389	$0.50
Gross Spread	**$106,909**	**$2.50**
Expenses (detailed below)	**$ Amount**	**$ Per Bond**
Underwriter's Counsel	$10,000	$0.23
Out of Pocket Expenses	$800	$0.02
CDIAC	$5,000	$0.12
IPREO	$3,472	$0.08
DTC	$800	$0.02
CUSIP	$798	$0.02
Day Loan	$369	$0.01
Pershing	$150	$0.00
Total Expenses	**$21,389**	**$0.50**
Maturity Date	**Takedown per Bond**	**Total Takedown**
2022 - 2051	$2.00	$85,520
Totals	**$2.00**	**$85,520**

For underwriter's counsel we propose James Wawrzyniak from Jones Hall, with whom we successfully worked in the past on similar bond issues. His contact information is:

James A Wawrzyniak Jr., Esq.
jwawrzyniak@joneshall.com
(415) 391-5780 x258
Jones Hall, A Professional Law Corporation
475 Sansome Street, Suite 1700
San Francisco, CA 94111

We believe our fees to be favorable to the District compared to typical total compensation for other recent similarly sized California utility revenue bonds. Nonetheless, our proposed fee will provide the District with excellent execution, an opportunity to bring new investors to the table, and provide ratepayers with the lowest cost of funds.

Appendix A: Water and Wastewater Deals

D.A. Davidson &Co Water and Wastewater Financing Experience January 1, 2019 - Present					
Delivery Date	**Par Amount (Millions)**	**Issuer**	**Issue Description**	**State**	**Role**
12/10/2021	1.480	Waverly City-Nebraska	GO Water Refunding Bonds	NE	SOLE
12/10/2021	1.785	Waverly City-Nebraska	GO Sewer Refunding Bonds	NE	SOLE
12/09/2021	9.085	Tangipahoa Water Dt	Water Revenue Bonds	LA	SOLE
11/23/2021	20.210	North Coast Co Water Dt	Certificates of Participation	CA	SOLE
10/14/2021	7.550	Elsinore Valley Muni Water Dt	Special Tax Bonds	CA	SOLE
10/12/2021	18.770	Temescal Valley Water Dt	Special Tax Bonds	CA	SOLE
10/06/2021	5.515	Stanwood-Washington	Water & Sewer Rev & Ref Bonds	WA	SOLE
09/29/2021	71.630	Lakehaven Wtr & Swr Dt	Water and Sewer Revenue Bonds	WA	SOLE
09/28/2021	4.485	King Co Water Dt #90	Water Revenue Bonds	WA	SOLE
09/23/2021	4.800	Elsinore Valley Muni Water Dt	Special Tax Bonds	CA	SOLE
09/23/2021	5.145	Elsinore Valley Muni Water Dt	Special Tax Bonds	CA	SOLE
09/08/2021	4.555	Warren Water Dt	Water Revenue Ref Cap Loan Notes	IA	SOLE
08/26/2021	.705	Hayes Center Vlg-Nebraska	GO Water Bonds	NE	SOLE
08/24/2021	1.650	Hixton Vlg-Wisconsin	Water & Sewer Sys Rev Ref Bonds	WI	SOLE
07/22/2021	1.185	Daviess Co Pub Water Sup Dt #2	Waterworks Refunding Rev Bonds	MO	SOLE
07/14/2021	15.025	St Charles Par Consol Wtr & Wstwtr Dt #1	Water Revenue Refunding Bonds	LA	SOLE
06/30/2021	.540	David City-Nebraska	GO Sewer Bonds	NE	SOLE
06/30/2021	.585	Shelton Village-Nebraska	GO Water Refunding Bonds	NE	SOLE
06/24/2021	18.590	Rockwood Water People's Util Dt	Water Revenue & Refunding Bonds	OR	SOLE
06/23/2021	3.055	Seward City-Nebraska	Sewer Revenue Refunding Bonds	NE	SOLE
06/10/2021	5.900	Keokuk Municipal Waterworks	Water Revenue & Refunding Bonds	IA	SOLE
06/10/2021	1.335	Boyd Vlg-Wisconsin	Sewer System Rev Ref Bonds	WI	SOLE
06/01/2021	.195	Tekamah City-Nebraska	GO Water Bonds	NE	SOLE
05/28/2021	7.660	Wenatchee City-Washington	Water and Sewer Revenue Ref Bonds	WA	SOLE
05/20/2021	2.395	Trenton City-Missouri	Ref Certificates of Participation	MO	SOLE
05/20/2021	4.945	Trenton City-Missouri	Ref Certificates of Participation	MO	SOLE
05/20/2021	2.312	Barton Co Consol Pub Wtr Supp Dt #1	Water Refunding Revenue Bonds	MO	SOLE
05/13/2021	.785	Dexter-Iowa	Sewer Revenue Refunding Bonds	IA	SOLE
05/11/2021	5.840	Boone City-Iowa	Sewer Revenue Ref Cap Loan Notes	IA	SOLE
04/21/2021	4.840	Newton City-Iowa	Sewer Revenue Bonds	IA	SOLE
04/19/2021	2.350	Daviess Co Pub Water Sup Dt #3	Ref & Imp Certs of Participation	MO	SOLE
03/31/2021	5.055	Webster City-Iowa	Water Revenue Imp & Ref Bonds	IA	SOLE
03/31/2021	2.892	Cole Camp-Missouri	Comb Wtrwrks & Swrg Sys Ref Bond	MO	SOLE
03/30/2021	.985	Gretna City-Nebraska	GO Water Refunding Bonds	NE	SOLE
03/25/2021	.785	Wilson Co Rural Water Dt #11	Water System Revenue Bonds	KS	SOLE
03/25/2021	8.970	Iowa Lakes Regional Water	Water Revenue Ref Bonds	IA	SOLE
03/19/2021	.306	Rocky Mount Sewer Dt	Sewer Refunding Rev Bonds	MO	SOLE
03/11/2021	6.875	Benton Irrigation Dt	Water Revenue Refunding Bonds	WA	SOLE
03/03/2021	.905	Thurston Co Public Utility Dt #1	Water Revenue Bonds	WA	SOLE
02/24/2021	2.430	Cashmere City-Washington	Wtr & Swr Revenue Ref Bonds	WA	SOLE
02/24/2021	8.885	Cashmere City-Washington	Wtr & Swr Revenue Ref Bonds	WA	SOLE
02/10/2021	6.735	Thurston Co Public Utility Dt #1	Water System Rev & Ref Bonds	WA	SOLE
12/10/2020	2.120	Woodward City-Iowa	GO Sewer Improvement & Ref Bonds	IA	SOLE
12/02/2020	5.405	Kelso City-Washington	Water & Sewer Imp & Ref Rev Bonds	WA	SOLE
11/16/2020	1.440	Crossville City-Tennessee	Water & Sewer Revenue Imp Bonds	TN	SOLE
11/16/2020	30.755	Crossville City-Tennessee	Water & Sewer Rev Ref & Imp Bonds	TN	SOLE
11/06/2020	15.725	Southern Iowa Rural Wtr Assoc	Water Rev Ref Cap Loan Notes	IA	SOLE
11/05/2020	81.650	Omaha City-Nebraska	Sanitary Sewerage Sys Rev Bonds	NE	SOLE
11/05/2020	129.375	Omaha City-Nebraska	Sanitary Sewerage Sys Rev Bonds	NE	SOLE
11/05/2020	7.635	Lexington City-Missouri	Waterworks Revenue Bonds	MO	SOLE
10/01/2020	21.685	Papio-Missouri River Natl Res Dt	Flood Protect & Wtr Qual Bonds	NE	SOLE
09/30/2020	5.280	Blaine-Washington	Water & Sewer Rev Ref Bonds	WA	SOLE
09/11/2020	4.655	Molalla City-Oregon	Full Faith & Credit Fin Agreement	OR	SOLE
09/08/2020	6.655	Warren Water Dt	Water Rev Ref Cap Loan Notes	IA	SOLE
09/08/2020	7.965	Yelm City-Washington	Water Revenue Refunding Bonds	WA	SOLE
07/29/2020	2.765	Nevada City-Iowa	Water Revenue Refunding Bonds	IA	SOLE
07/27/2020	.522	Jefferson Co Pub Wtr Sup Dt #2	Waterworks Refundign Rev Bonds	MO	SOLE
07/01/2020	.380	Alcester-South Dakota	Sewer Utility Revenue Ref Bonds	SD	SOLE
06/01/2020	7.135	Pasco City-Washington	Water & Sewer Refunding Bonds	WA	SOLE
06/01/2020	16.415	Pasco City-Washington	Water & Sewer Imp Rev Bonds	WA	SOLE
05/15/2020	4.845	Tangipahoa Parish Sewerage Dt 1	Revenue Bonds	LA	SOLE
04/29/2020	5.000	Osceola City-Iowa	Sewer Revenue Refunding Bonds	IA	SOLE
04/17/2020	1.635	Seward City-Nebraska	Water System Rev Ref Bonds	NE	SOLE
03/26/2020	1.000	Brandon-South Dakota	Water Utility Revenue Bonds	SD	SOLE
03/25/2020	.295	Wonder Lake Village-Illinois	Special Svc Area Rev Ref Bonds	IL	SOLE
03/25/2020	3.525	Wonder Lake Village-Illinois	Special Svc Area Rev Ref Bonds	IL	SOLE

03/17/2020	8.920	Silverdale Water Dt #16	Water Revenue Bonds	WA	SOLE
03/04/2020	7.340	King Co Water Dt #20	Water Revenue Bonds	WA	SOLE
03/03/2020	.385	Fremont Sanitation Dt	Wastewater Rev Refunding Bonds	CO	SOLE
03/03/2020	.465	Fremont Sanitation Dt	Wastewater Rev Refunding Bonds	CO	SOLE
03/01/2020	12.605	Washington Co Rural Water Dt #3	Refunding & Capital Imp Rev Bonds	OK	SOLE
03/01/2020	12.605	Washington Co Rural Water Dt #3	Refunding & Capital Imp Rev Bonds	OK	SOLE
12/30/2019	15.500	Fort Oglethorpe City-Georgia	Water & Sewer Rev Ref & Imp Bonds	GA	SOLE
12/23/2019	.775	Sedgwick Co Rural Water Dt #2	Water Utility System Rev Bonds	KS	SOLE
12/07/2019	19.725	Lake Stevens Sewer Dt	Sewer Revenue Refunding Bonds	WA	SOLE
12/03/2019	9.455	Iowa Lakes Regional Water	Water Revenue Refunding Bonds	IA	SOLE
12/01/2019	14.660	Jenks Public Works Authority	Utility System Revenue Bonds	OK	SOLE
11/25/2019	.875	Johnson Co Rural Water Dt #1	Revenue Refunding Bonds	NE	SOLE
10/17/2019	6.765	Cottage Grove-Oregon	Full Faith & Credit Obligations	OR	SOLE
10/15/2019	4.695	Red Lodge-Montana	Water System Revenue Ref Bonds	MT	SOLE
10/01/2019	.424	Maywood Village-Nebraska	GO Water Refunding Bonds	NE	SOLE
09/12/2019	19.450	Omaha City-Nebraska	Sanitary Sewerage Sys Ref Bonds	NE	SOLE
09/05/2019	2.915	Goldsby Public Works Authority	Sales Tax Revenue Bonds	OK	SOLE
08/21/2019	7.420	Harrisburg-Oregon	General Obligation Bonds	OR	SOLE
08/05/2019	1.280	Olathe Town- Colorado	Water & Sewer Revenue Ref Bonds	CO	SOLE
08/02/2019	8.270	Gig Harbor City-Washington	Water & Sewer Revenue Ref Bonds	WA	SOLE
07/31/2019	.425	Laurel City-Nebraska	GO Sewer Bonds	NE	SOLE
07/25/2019	3.070	Trenton City-Missouri	Facilities Lease Purchase Agmt	MO	SOLE
07/12/2019	2.240	Trenton City-Missouri	Certificates of Participation	MO	SOLE
06/27/2019	.110	Fort Calhoun City-Nebraska	Storm Sewer BANs	NE	SOLE
05/31/2019	1.750	Story City-Iowa	Sewer Revenue Bonds	IA	SOLE
05/07/2019	.820	Wayne City-Nebraska	Combined Utility Revenue Bonds	NE	SOLE
04/23/2019	1.050	Cripple Creek-Colorado	Water Revenue Refunding Bonds	CO	SOLE
04/18/2019	.202	Bunceton City-Missouri	Comb Wtrwrks & Swrg Sys Rev Bonds	MO	SOLE
04/10/2019	9.145	Dupont City-Washington	Water & Stormwater Revenue Bonds	WA	SOLE
04/05/2019	6.440	Keokuk Municipal Waterworks	Water Revenue Bonds	IA	SOLE
03/14/2019	22.270	Independence Water & Sanitation Dt	Special Revenue Bonds	CO	SOLE
02/26/2019	.224	Pilot Grove City-Missouri	Sewer Revenue Bonds	MO	SOLE
02/21/2019	1.100	Lincoln City-Missouri	Comb Wtrwrks & Swrge Sys Bonds	MO	SOLE
02/16/2021	2.275	West St Paul City-Minnesota	GO Sewer Revenue Bonds	MN	LEAD
12/02/2021	1.090	Eagle Bend City-Minnesota	GO Wtr & Swr Revenue Ref Bonds	MN	CO-MGR
11/17/2021	2.095	Grand Forks City-North Dakota	Sewer Reserve Rev Ref Bonds	ND	CO-MGR
10/07/2021	1.130	Douglas Co-Minnesota	GO Watershed Improvement Bonds	MN	CO-MGR
09/02/2021	.790	Evansville City-Wisconsin	GO Sewerage Bonds	WI	CO-MGR
08/18/2021	3.505	Dubuque City-Iowa	Water Revenue Refunding Bonds	IA	CO-MGR
06/23/2021	10.280	Cedar Rapids City-Iowa	Water Revenue Bonds	IA	CO-MGR
06/01/2021	36.715	Wichita City-Kansas	Water & Sewer Util Rev Bonds	KS	CO-MGR
06/01/2021	4.800	Bay Colony West MUD	Unlimited Tax Bonds	TX	CO-MGR
05/20/2021	35.270	Olathe City-Kansas	Wtr & Swr Sys Imp & Ref Rev Bonds	KS	CO-MGR
04/15/2021	26.875	Tyler City-Texas	Water and Sewer Revenue Bonds	TX	CO-MGR
02/11/2021	6.395	Madison City-Minnesota	GO Wtr & Swr Imp Ref Bonds	MN	CO-MGR
12/23/2020	30.005	Cascade Water Alliance	Water System Ref Ref Bonds	WA	CO-MGR
12/03/2020	2.355	Granite Falls City-Minnesota	GO Sewer & Improvement Ref Bonds	MN	CO-MGR
11/24/2020	.825	Gary City-Minnesota	GO Wastewater Rev Ref Bonds	MN	CO-MGR
11/12/2020	23.140	Alderwood Water & Wastewater Dt	Water & Sewer Rev Ref Bonds	WA	CO-MGR
11/05/2020	1.825	Cloquet City-Minnesota	GO Water & Sewer Rev Bonds	MN	CO-MGR
11/05/2020	10.685	Spanish Fork City-Utah	Water Revenue Bonds	UT	CO-MGR
11/03/2020	86.575	Tigard City-Oregon	Water System Rev Ref Bonds	OR	CO-MGR
10/02/2020	6.125	Columbia City-Missouri	Sewerage Sys Ref Rev Bonds	MO	CO-MGR
08/27/2020	31.110	St Joseph City-Missouri	Special Oblig Ref & Imp Bonds	MO	CO-MGR
08/05/2020	73.345	Spanish Fork City-Utah	Sewer Revenue Bonds	UT	CO-MGR
03/12/2020	.805	Canby City-Minnesota	GO Storm Sewer Rev Ref Bonds	MN	CO-MGR
02/20/2020	3.670	Jordan City-Minnesota	General Obligation Bonds	MN	CO-MGR
02/03/2020	39.800	Portland City-Oregon	2nd Lien Wtr Sys Rev Ref Bonds	OR	CO-MGR
12/04/2019	1.625	Platteville City-Wisconsin	Water & Sewer System Rev Bonds	WI	CO-MGR
12/01/2019	49.910	Wichita City-Kansas	Water & Sewer Utility Ref Bonds	KS	CO-MGR
11/14/2019	1.510	Renville Co-Minnesota	GO Drainage Bonds	MN	CO-MGR
10/22/2019	112.005	Portland City-Oregon	2nd Lien Wtr Sys Rev Ref Bonds	OR	CO-MGR
10/15/2019	3.405	Fairfax City-Minnesota	GO Utility Rev & Imp Ref Bonds	MN	CO-MGR
09/19/2019	7.500	Williamson Co MUD #32	Unlimited Tax Bonds	TX	CO-MGR
09/01/2019	8.125	Harris Co MUD #457	Unlimited Tax Bonds	TX	CO-MGR
09/01/2019	11.200	Harris Co MUD #489	Unlimited Tax Bonds	TX	CO-MGR
09/01/2019	3.380	Lancaster MUD #1	Unlimited Tax Bonds	TX	CO-MGR
09/01/2019	9.395	Morningstar Ranch MUD#1	Unlimited Tax Utility Bonds	TX	CO-MGR
09/01/2019	11.800	Fort Bend Co MUD #134E	Unlimited Tax Bonds	TX	CO-MGR
08/27/2019	11.800	Camarillo Public Fin Auth	Water Revenue Bonds	CA	CO-MGR
07/01/2019	6.450	Galveston Co MUD #45	Unlimited Tax Bonds	TX	CO-MGR
07/01/2019	16.000	Harris Co MUD #495	Unlimited Tax Bonds	TX	CO-MGR
06/01/2019	24.500	Clear Lake Water Authority	Wtrwrks & Swr Sys Comb Rev Bonds	TX	CO-MGR
06/01/2019	2.220	Travis Co MUD #16	Unlimited Tax Park Bonds	TX	CO-MGR
05/09/2019	6.000	Siena MUD #2	Unlimited Tax Bonds	TX	CO-MGR

05/01/2019	2.200	Harris-Waller Cos MUD #2	Unlimited tax Bonds	TX	CO-MGR
05/01/2019	4.500	Harris Co MUD #502	Unlimited Tax Bonds	TX	CO-MGR
05/01/2019	2.550	Galveston Co MUD #12	Unlimited Tax Bonds	TX	CO-MGR
05/01/2019	6.465	Fort Bend Co MUD #5	Unlimited Tax Bonds	TX	CO-MGR
05/01/2019	8.310	Harris Co MUD #167	Unlimited Tax Bonds	TX	CO-MGR
04/01/2019	2.625	Harris Co MUD #416	Unlimited Tax Bonds	TX	CO-MGR
04/01/2019	5.600	Northwest Harris Co MUD #12	Unlimited Tax Bonds	TX	CO-MGR
04/01/2019	3.000	Harris Co MUD #381	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	2.730	Harris Co MUD #411	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	3.000	Harris Co MUD #481	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	5.210	Fort Bend Co MUD #187	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	10.480	Montgomery Co MUD #113	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	5.600	Galveston Co MUD #44	Unlimited Tax Bonds	TX	CO-MGR
03/01/2019	2.100	Live Oak Creek MUD #1	Unlimited Tax Utility Bonds	TX	CO-MGR
02/15/2019	41.325	Texas Water Development Board	Water Financial Assistance Bonds	TX	CO-MGR
02/15/2019	8.540	North Texas Municipal Water Dt	Regional Wastewater Sys Rev Bonds	TX	CO-MGR
02/01/2019	3.795	Harris Co MUD #11	Wtrwrks & Swr Comb Tx & Rev Bonds	TX	CO-MGR
02/01/2019	8.075	Fort Bend Co MUD #48	Unlimited Tax Bonds	TX	CO-MGR
02/01/2019	6.005	Northwest Harris Co MUD #19	Unlimited Tax Bonds	TX	CO-MGR
02/01/2019	5.930	Fort Bend Co MUD # 131	Unlimited Tax Bonds	TX	CO-MGR

Important Required Disclosures and Disclaimers Regarding our Proposal

This proposal is submitted in response to your Request for Qualifications for Underwriting/Broker-Dealer Services for the District's proposed 2022 bonds, received on December 8, 2021. The contents of this proposal and any subsequent discussions between us, including any and all information, recommendations, opinions, indicative pricing, quotations and analysis with respect to any municipal financial product or issuance of municipal securities, are provided to you in reliance upon the exemption provided for responses to requests for proposals or qualifications under the municipal advisor rules (the "Rules") of the Securities and Exchange Commission (Rule 15Ba1-1 et seq.).

In submitting this proposal, we are not undertaking to act as a "municipal advisor" to you or any other person within the meaning of Section 15B of the Securities Exchange Act of 1934 and the Rules. In connection with this proposal and the transactions described herein, we are not acting as a financial advisor or municipal advisor to you or any other person, and are not subject to any fiduciary duty to you or to any other person. We understand that you will consult with and rely on the advice of your own municipal, financial, tax, legal and other advisors in connection with your evaluation of this proposal and the transactions described herein.

Neither this material nor any of its contents may be disclosed, sold, or redistributed, electronically or otherwise, without prior written consent of D.A. Davidson Companies. The information presented herein is based on public information we believe to be reliable, prevailing market conditions, as well as our views at this point in time. We make no representation or warranty with respect to the accuracy or completeness of this material. Past performance is not necessarily indicative of future results. D.A. Davidson Companies does not assume any liability for any loss which may result from the reliance by any person upon such material. We make no representations regarding the legal, tax, regulatory, or accounting implications of entering into a Transaction.

Required Disclosure Pursuant to MSRB Rule G-23: An underwriter's primary role will be to purchase as principal, or arrange for the placement of the securities in a commercial arm's length transaction with the issuer, and may have financial and other interests that differ from those of the issuer.

D.A. Davidson & Co. is providing the information contained herein for informational purposes only in anticipation of being engaged as underwriter. The primary role of an underwriter is to purchase securities with a view to distribution in an arm's-length, commercial transaction with the issuer.

STAFF REPORT

To: BOARD OF DIRECTORS **Meeting Date: January 3, 2022**

From: Jason Hayden, Chief Financial Officer

Subject: Capital Project Financing Update

At the December 13, 2021 Finance & Insurance Committee meeting, Staff discussed with the Board two options for issuing the debt to refinance the SRF Loans and finance the capital projects:

1. Create a non-profit El Toro Water District Financing Corporation and use this entity to issue Certificates of Participation (COPs), similar to what the District has done in the past;
2. Form a Joint Power Authority (JPA) with the California Statewide Communities Development Authority (CSCDA) and utilize this entity to issue revenue bonds in lieu of the COPs. This would differ from the method the District used in the past to issue debt but Staff has been advised by the local government financial advisor (NHA Advisors) and bond counsel that this method of issuing debt complies with all applicable California Statutes, is not any more difficult to manage during the issuance or compliance processes, and potentially has some advantages in the bond market place because revenue bonds are well understood and accepted by all potential purchasers of local government debt.

During the discussion at the December 13, 2021 meeting, several questions were asked by the Board; the questions and the information that responds to those questions are summarized below:

1. What advantages do revenue bonds have that made Staff present these as an alternative?

Revenue bonds are a type of debt instrument in which a local government entity pledges a particular revenue source to pay the principal and interest on the bonds; bond holders then have a first lien on those revenues. Revenue bonds are commonly issued by local governments throughout the United States and are therefore well understood and accepted by market participants. As a result, by issuing revenue bonds in lieu of COPs, the District would expand the potential market for the District's debt and potentially achieve better market prices from higher demand for the debt. As a result, the District could achieve some interest cost savings, quantified by a couple of the potential bond underwriters as either 3 to 5 basis points (0.03% to 0.05%) or potentially up to $80,000 in net present value over the life of the bonds.

2. What is CSCDA and how long has it been in existence?

The California Statewide Communities Development Authority (CSCDA) was created in 1988, under California's Joint Exercise of Powers Act, to provide California's local governments with an effective tool for the timely financing of community-based public benefit projects.

Although cities, counties and special districts are able to issue their own debt obligations or serve as a conduit issuer of private activity bonds that promote economic development and provide critical community services, many local agencies find stand-alone financings too costly or lack the necessary resources or experience to facilitate the bond issuance and perform post-issuance activities for the term of the bonds. In response, CSCDA was created by and for local

governments in California, and is sponsored by the California State Association of Counties and the League of California Cities.

Currently, more than 530 cities, counties and special districts have become Program Participants to CSCDA – which serves as their conduit issuer and provides access to an efficient mechanism to finance locally-approved projects. CSCDA has issued more than $65 billion in tax-exempt bonds to help local governments build community infrastructure, provide affordable housing, create jobs, make access available to quality healthcare and education, and more. CSCDA provides an important resource to our local government members.

3. Is there a cost to utilize CSCDA to create the JPA?

Yes, there is a one-time cost of $10,000 that can be paid out of the bond proceeds.

4. Are there additional challenges in the issuance or post-issuance compliance processes when issuing revenue bonds through a JPA?

District Staff and the District's General Counsel had extensive discussions with NHA Advisors and bond counsel from Stradling Yocca Carlson & Rauth about this issue. Both NHA Advisors and bond counsel confirmed that issuing revenue bonds is a common occurrence for all kinds of local governments in California and there are no significant differences in the issuance or post-issuance compliance processes between revenue bonds and COPs.

5. What are the post-issuance compliance processes?

The District will be subject to the Municipal Securities Rulemaking Board (MSRB) regulations for municipal issuers. The primary post-issuance compliance responsibility the District will have is complying with the continuous disclosure regulations promulgated by the MSRB. The District will need to register with the MSRB's Electronic Municipal Market Access (EMMA) system and will then be required to file disclosure reports on an annual basis (the Annual Financial Statements will need to be filed every year with EMMA). The District will also be required to file with EMMA any changes in financial condition that could materially impact the value of the bonds (an example of this would be a missed principal or interest payment or the breach of a bond covenant such as the debt service coverage ratio). The District has the option of hiring a firm to manage its compliance process or the District could rely on Finance Department Staff to manage this process.

6. Additional questions about CSCDA.

Several additional questions about CSCDA were asked during the meeting, several of these questions are addressed in the Annual Financial Statements of CSCDA which are included as Attachment A. The information responding to these questions is presented below:

- Who is the Board of CSCDA? The Board consists of seven Commissioners appointed by the California State Association of Counties (CSAC) and the League of California Cities (LCC). Currently the Commissioners include two retired City Managers, a retired Assistant City Manager, a County Development Services Manager, two County Treasurers, and a County Legislative Representative.
- Who controls CSCDA? Ultimately, the members of the organization, but CSAC and LCC currently appoint the Board.
- What is the capital structure of CSCDA? CSCDA acts as a conduit for public financing so it does not have a significant amount of assets. As of June 30, 2020, the organization had $7,906,826 in Assets and $7,906,826 in liabilities, and therefore did not have any Net Position.

Several of the other questions will be addressed by Bond Counsel at the meeting, including:

- How does the ETWD/CSCDA JPA Board function?

- Is the ETWD Board giving up control by virtue of the JPA?
- What happens if the California legislature dissolves or changes the authorization for JPAs?
- If the JPA is dissolved, what happens to the ETWD Debt?

Staff's recommendation for issuance structure.

Assuming the questions addressed in this Staff Report resolve Board member's concerns, based on all of the information Staff has analyzed, revenue bonds seem to be the best choice for issuing the debt. Revenue bonds are issued by all kinds of entities (counties, cities, agencies, water districts) throughout California, do not seem to have significant process challenges when compared to COPs, and have the potential to reduce the cost of issuing the debt by lowering the cost of interest. In addition, as noted in the Underwriter Selection Staff Report, all four of the responding Bond Underwriter firms indicated would recommend issuing revenue bonds because they are more accepted in the municipal bond market and provide the potential to save the District on interest costs.

Attachment A
CSCDA Audited Financial Statements

CALIFORNIA STATEWIDE COMMUNITIES DEVELOPMENT AUTHORITY (CSCDA)

Independent Auditor's Report
Financial Statement
and Supplementary Information

June 30, 2020

MANN, URRUTIA, NELSON, CPAS & ASSOCIATES, LLP
1760 CREEKSIDE OAKS DRIVE, SUITE 160
SACRAMENTO, CALIFORNIA 95833

CALIFORNIA STATEWIDE COMMUNITIES DEVELOPMENT AUTHORITY
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JUNE 30, 2020

INDEPENDENT AUDITOR'S REPORT

To the Board of Commissioners
California Statewide Communities Development Authority
Sacramento, California

We have audited the accompanying statement of fiduciary assets and liabilities - agency funds - of the California Statewide Communities Development Authority, as of June 30, 2020, and the related notes to the financial statement.

Management's Responsibility for the Financial Statement

Management is responsible for the preparation and fair presentation of this financial statement in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statement that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on this financial statement based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statement is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statement. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statement.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statement referred to above presents fairly, in all material respects, the financial position of the California Statewide Communities Development Authority, as of June 30, 2020 in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis as listed in the table of contents, be presented to supplement the basic financial statement. Such information, although not a part of the basic financial statement, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statement in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statement, and other knowledge we obtained during our audit of the basic financial statement. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statement. The schedule of fiduciary fee collections/charges and disbursements related to the conduit finance activities - agency funds is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The schedule of fiduciary fee collections/charges and disbursements related to the conduit finance activities - agency funds is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statement. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statement and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statement or to the basic financial statement themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of fiduciary fee collections/charges and disbursements related to the conduit finance activities - agency funds is fairly stated, in all material respects, in relation to the basic financial statement as a whole.

Mann, Urrutia, Nelson CPAs

Sacramento, California
November 16, 2020

Management's Discussion and Analysis

The California Statewide Communities Development Authority (CSCDA) was created in 1988, under California's Joint Exercise of Powers Act, to provide California's local governments with an effective tool for the timely financing of community-based public benefit projects.

Although cities, counties and special districts are able to issue their own debt obligations or serve as a conduit issuer of private activity bonds that promote economic development and provide critical community services, many local agencies find stand-alone financings too costly or lack the necessary resources or experience to facilitate the bond issuance and perform post-issuance activities for the term of the bonds.

In response, local governments formed CSCDA. CSCDA was created by and for local governments in California, and is sponsored by the California State Association of Counties (CSAC) and the League of California Cities (the League).

Today, over 500 cities, counties, and special districts have become Program Participants to CSCDA - which serves as their conduit issuer and provides access to an efficient and effective mechanism to finance locally-approved public benefit projects. At June 30, 2020, the aggregate amount of CSCDA's conduit debt obligations outstanding issued on behalf of program participants totaled $28.7 billion.

CSCDA helps local governments build community infrastructure, provide affordable housing, create jobs, make access available to quality healthcare and education, and more. CSCDA provides an important resource to its local government members by ensuring that local community projects get funded quickly and reliably.

Conduit Finance Activity

During the fiscal year ended June 30, 2020, CSCDA served as issuer for $1.7 billion in conduit revenue bonds related to its Private Activity and Public Agency Finance Programs.

Private Activity Finance Program projects are those owned by the private sector, but which provide specific public benefits as authorized under the Internal Revenue Code and approved by the local City Council or County Board of Supervisors. During the year ended June 30, 2020, CSCDA provided conduit financing for 38 Private Activity Finance Program projects ranging from construction of affordable and senior housing apartments to erecting hospital and educational infrastructure to building new manufacturing facilities. In total, CSCDA provided conduit access to the tax-exempt and taxable municipal finance marketplace for approximately $1.4 billion in Private Activity Finance Program projects.

Public Agency Finance Program projects are those where CSCDA serves as the conduit issuer for financing where a city, county, and/or special district is the borrower. CSCDA frequently conducts these types of financings on a pooled basis with more than one government entity participating in a single financing, thereby spreading the costs of issuance across borrowers to produce a lower-cost transaction than each local government would enjoy on its own. During the year ended June 30, 2020, CSCDA conducted 5 Public Agency Finance Program conduit issuances totaling approximately $107 million and benefiting 5 of its public agency members.

PACE Finance Program allow property owners in participating cities and counties to finance renewable energy, energy water efficiency improvements, seismic improvements and electric vehicle charging infrastructure on their property. Participation in the assessment is 100% voluntary by the property owner. The improvements installed on the owner's property are financed by the issuance of bonds. The bonds are secured by a voluntary contractual assessment levied on the owner's property. Property owners who wish to participate in PACE agree to repay the money through the voluntary contractual assessment collected with property taxes. The voluntary contractual assessments are levied by CSCDA and collected in annual installments through the applicable county secured property tax bill. During the year ended June 30, 2020, there were 116 bond issuances totaling $184 million through the CSCDA PACE program.

Overview of the Financial Statement

This discussion and analysis is intended to serve as an introduction to CSCDA's financial statement. CSCDA's financial statement comprises two components: 1) the statement of fiduciary assets and liabilities- agency funds and 2) notes to the financial statement.

Financial Statement. CSCDA has only one financial statement, the statement of fiduciary assets and liabilities-agency funds, which appears on page 6. This statement reports assets held in an agency capacity for others and that are not the property of CSCDA itself. As an issuer which acts exclusively in a conduit capacity, CSCDA has no assets, liabilities, revenues, or expenses of its own. Instead, cash flows related to the collection of CSCDA service fees are treated as discussed below in the sections titled "Bond Issuance" and "Bond Administration" while costs associated with CSCDA's operations are handled as discussed below in the sections titled "General Administrative Activities." Because of this structure, in accordance with Accounting Principles Generally Accepted in the United States of America, CSCDA does not report either a statement of net position and governmental fund balance sheet or a statement of activities and governmental fund revenues, expenditures, and changes in fund balance.

Notes to the Financial Statement. The notes provide additional information that is essential to a full understanding of the data provided in the financial statement. The notes to the financial statement can be found on pages 7 - 11 of this report.

Analysis of Fiduciary Assets and Liabilities-Agency Funds

Agency funds reported by CSCDA in the statement of fiduciary assets and liabilities-agency funds are the property of others. These agency funds fall into one of three categories, each of which is reported in the schedule of fiduciary fee collections/charges and disbursements related to the conduit finance activities - agency funds, which appears on page 13 as information supplemental to the financial statement. The categories are: 1) bond issuance, 2) bond administration, and 3) general administrative activities:

Bond Issuance. This agency fund represents amounts received from borrowers in CSCDA's name to pay for the program manager's services as well as for the program sponsorship, and marketing provided by CSAC and the League. CSCDA bills the borrower in advance for bond issuance fees and then places the payment on deposit with US Bank. Amounts held are invested in cash and cash equivalents.

Once bonds are issued, the trustee distributes payments pursuant to agreements approved by the CSCDA Board of Commissioners and for services provided to CSCDA. For the year ended June 30, 2020, CSCDA collected approximately $8.0 million for bond issuance services and CDLAC deposits. At June 30, 2020, the related accounts held approximately $2.2 million.

Bond Administration. This agency fund represents amounts assessed by CSCDA for the performance of ongoing administration and compliance work to help keep long-term bond issues in good standing. Bond administration fees are generally paid in advance by the borrower (sometimes several years in advance) and are remitted into various accounts with US Bank until the associated ongoing administration services are performed. These monies are invested either in cash and cash equivalents or in United States government treasury STRIPs.

Amounts held are considered to be the property of the payer until such time as the ongoing administration services are carried out by the program manager or others. Such services are primarily performed by the program manager and a housing compliance monitoring firm, each of which receives payments as services are rendered. For the year ended June 30, 2020, CSCDA collected approximately $9.7 million in payments and prepayments for ongoing bond administration activities. At June 30, 2020, the related accounts held approximately $3.7 million for bond administration activities pending performance of bond administration services.

General Administrative Activities. This agency fund represents amounts held in bank accounts where they are owned jointly by CSAC and the League. These accounts are funded by set-asides made prior to the distribution of bond administration service fees. Amounts held in these reserve accounts are first used, under the direction of the CSCDA Board of Commissioners, to pay the expenses of the CSCDA Executive Director and General Counsel, both of whom are engaged under contract with CSCDA. Remaining amounts are used by CSCDA for purposes such as marketing, funding public agency education programs, purchasing public official's insurance for the Board of Commissioners, to reimburse Commissioner expenses, and paying audit, legal, and other professional services expenses. For the year ended June 30, 2020 these accounts funded $394,880 in general administrative expenses of which $62,543 was paid to the Executive Director and $152,646 was paid to General Counsel. At June 30, 2020, the general administrative activities agency fund totaled $403,666.

Related Parties

CSCDA maintains agreements with CSAC and the League for the provision of program sponsorship, and marketing. In exchange, both organizations receive shares of the distributions made from agency funds collected for bond issuance and bond administration services. For the year ended June 30, 2020, CSAC and the League together received $6,228,794, shared equally between them. Program administration services are performed under contract with CSCDA by Bridge Strategic Partners. For the year ended June 30, 2020, this company was paid $4,150,872. Prior program administration fees are paid pursuant to an Agreement between CSCDA and HB Capital Resources, Ltd. For the year ended June 30, 2020 this company was paid $4,316,673.

Requests for Information

This financial report is designed to provide a general overview of CSCDA's finances for all those interested. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

California Statewide Communities Development Authority
1100 K Street, Suite 101
Sacramento, California 95814

CALIFORNIA STATEWIDE COMMUNITIES DEVELOPMENT AUTHORITY
STATEMENT OF FIDUCIARY ASSETS AND LIABILITIES
AGENCY FUNDS
AS OF JUNE 30, 2020

ASSETS	
Cash and investments	$ 7,902,303
Other assets	4,523
Total Assets	$ 7,906,826
LIABILITIES	
Accounts payable	$ 1,543,824
Agency obligations	6,363,002
Total Liabilities	$ 7,906,826

See accompanying notes to the financial statement

CALIFORNIA STATEWIDE COMMUNITIES DEVELOPMENT AUTHORITY
NOTES TO THE FINANCIAL STATEMENT
JUNE 30, 2020

NOTE 1 - NATURE OF ORGANIZATION

The California Statewide Communities Development Authority (CSCDA) is a conduit finance issuer only. It has no revenues, expenses. assets, or liabilities of its own. Debt obligations issued through CSCDA are those of the governments, non-profit organizations, and private companies who use CSCDA's own governmental status to access the tax-exempt and taxable municipal finance marketplace. Once a borrower uses CSCDA to issue debt, financial servicing of that debt falls to a trustee, or potentially to the investor itself in certain private placements. CSCDA maintains no ongoing interest in bonds issued through its conduit and no debt servicing responsibility.

CSCDA is a public agency established in 1988 as a Joint Powers Authority (JPA). It is sponsored by the California State Association of Counties and the League of California Cities and is set up per the provisions of California's Joint Exercise of Powers Act. Under this law, any two or more public agencies may by agreement jointly exercise powers common among them. In this manner, through CSCDA, local governments have a vehicle they control to complete public benefit projects that otherwise may not have been economical or practical to pursue were the local jurisdiction to have served as issuer. CSCDA is a cooperative repository of public benefit finance expertise that allows its members to use an array of tax-exempt programs without the burden of managing the associated set of issuance and ongoing administrative responsibilities directly themselves.

CSCDA is governed by a seven-member commission. CSCDA's Board of Commissioners (the "Board" or "Commission") is appointed by the California State Association of Counties (CSAC) and the League of California Cities (the "League") (see Note 4 - Related Parties), which together represent the interests of counties and cities throughout the state. This Board is required by the joint powers agreement to establish public benefit finance criteria and to evaluate every submitted project on the basis of benefit provided, after receiving the requisite local approval. No project can proceed without the approval of the commissioners which ensures the preservation of both city and county interests. Since January 16, 2014, administration of CSCDA has been managed by an Executive Director engaged under contract by the Board.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

General

The accompanying financial statement of CSCDA has been prepared in conformity with accounting principles generally accepted in the United States of America as applied to governmental units. The financial statement is presented using the accrual basis of accounting. As discussed in Note 1, however, CSCDA has no revenues or expenses to report for the period covered.

Agency Fund - Bond Issuance and Ongoing Bond Administration

While CSCDA has no revenues of its own, the Program Manager (see Note 4 - Related Parties) oversees the collection of bond issuance and ongoing bond administration fees received in CSCDA's name. Such fees are published in CSCDA's fee schedule and are generally assessed as percentages of bonds issued or bonds outstanding. Fee collections, some of which are prepaid by borrowers, are deposited into one or more third-party trustee accounts where they are held until distributed to CSAC, the League, the Program Manager, the Prior Program Manager, or other designated payees. CSCDA recognizes no revenues or expenses related to these fee collections and disbursements, all of which are reported in the financial statements of CSAC, the League, the Program Manager, and other third parties. Funds held in third-party trustee accounts related to bond issuance and ongoing bond administration activities, and reported within the statement of fiduciary assets and liabilities - agency funds, amounted to $5,959,336 at June 30, 2020.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Agency Fund - General Administrative Activities

Prior to the distribution of bond administration service fees to CSAC, the League, and the Program Manager (see Note 4 - Related Parties), an allocation is made to accounts owned by CSAC and the League and held for them. These accounts are first used, under the direction of the Commission, to pay the expenses of the CSCDA Executive Director and General Counsel, both of whom are engaged under contract with CSCDA. Remaining amounts are used to buy insurance for CSCDA, fund certain marketing activities, reimburse Commissioner expenses, and support other general administrative activities. Amounts held in reserve accounts are for CSAC and the League and are reported within the statement of fiduciary assets and liabilities - agency funds. The general administrative activity agency fund totaled $403,666 at June 30, 2020.

Recently Adopted Government Accounting Standards

Government Accounting Standards Board Statement No. 84

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*. This Statement establishes criteria for identifying fiduciary activities of all state and local governments. Additionally, this Statement describes four fiduciary funds that should be reported, as well as provides for recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. Adoption of this standard as of June 30, 2020 had no effect on CSCDA's current year financial statements.

Future Government Accounting Standards Board Statements

This statement is not effective until July 1, 2021 and may be applicable for CSCDA. However, CSCDA has not determined the effects, if any, on the financial statements.

Government Accounting Standards Board Statement No. 91

In May 2019, GASB issued Statement No. 91, *Conduit Debt Obligations*. The primary objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. The Statement clarifies the existing definition of a conduit debt obligation; establishes that a conduit debt obligation is not a liability of the issuer; establishes standards for accounting and financial reporting of additional commitments and voluntary commitments extended by issuers and arrangements associated with conduit debt obligations; and improves required note disclosures. The Authority has not determined what impact, if any, this pronouncement will have on the financial statements. Application of this statement is effective for the Authority's fiscal year ending June 30, 2022.

NOTE 3 - CONDUIT FINANCE ACTIVITY

CSCDA's conduit finance activity for the year ended June 30, 2020 appears as follows:

Private Activity Finance Programs	No. of Projects Financed	No. of Bonds Issued	Debt Issued
Qualified 501(c)(3) Nonprofit	7	7	$ 204,550,362
Affordable Multifamily Housing	31	31	1,224,891,076
Total Private Activity	38	38	$ 1,429,441,438

NOTE 3 - CONDUIT FINANCE ACTIVITY (Continued)

Public Agency Finance Programs	No. of Program Participants	No. of Bonds Issued	Debt Issued
Statewide Community Infrastructure Program (SCIP)	2	2	$ 52,570,000
Community Facilities Districts (CFDs)	2	2	19,625,000
Municipal	1	1	35,000,000
Total Public Agency	5	5	$ 107,195,000

Property Assessed Clean Energy (PACE) Finance Programs	No. of Bonds Issued	Debt Issued
Open PACE Program	116	$ 184,063,842
Total PACE	116	$ 184,063,842
Total Debt Issued	159	$ 1,720,700,280

At June 30, 2020 the aggregate amount of CSCDA's conduit debt obligations outstanding issued on behalf of program participants totaled $28.7 billion.

The amount of conduit debt obligations authorized, but unsold as of June 30, 2020 was $275,000,000.

NOTE 4 - RELATED PARTIES

CSCDA has entered into Intellectual Property License, Royalty, and Administrative Agreements with CSAC and the League (see Note 1-Nature of Organization) for sponsorship and marketing of CSCDA's conduit finance programs. In addition, per the provisions of the CSCDA Joint Powers Agreement, CSAC and the League appoint individuals to serve on CSCDA's seven-member commission.

CSCDA has also entered into Program Administration Agreements with Bridge Strategic Partners for the provision of comprehensive staff services for daily operational and marketing purposes. Acting as CSCDA's staff, Bridge Strategic Partners personnel implement the issuance policies established by CSCDA's Board of Commissioners, execute aspects of the deal qualification and structuring process, analyze and present transactions to CSCDA's Board of Commissioners for review and approval, and work with the financial and legal community, local agencies and regulatory bodies, and others to ensure that conduit bonds issued in CSCDA's name remain in good standing. CSCDA has an ongoing prior administration agreement with HB Capital Resources Ltd. related to bond administration fees for bond issuances prior to July 1, 2015.

Pursuant to the above referenced program administration agreements, HB Capital Resources Ltd. receives a percentage of bond administration fees paid by borrowers for bond issuances prior to July 1, 2015 and Bridge Strategic Partners receives a set percentage of the bond issuance and ongoing bond administration fees assessed to borrowers in CSCDA's name after June 30, 2015, with such percentages varying based upon deal type. Under the intellectual Property License, et seq. Agreement, CSAC and the League receive an equal portion of the remaining bond issuance and ongoing bond administration fees. CSAC, the League, HB Capital Resources and Bridge Strategic Partners pay all their own expenses related to the provision of their respective activities or services. For the year ended June 30, 2020, CSAC and the League of California Cities together received $6,228,794 split equally between them, while Bridge Strategic Partners received $4,150,872 and HB Capital Resources received $4,316,673.

NOTE 5 - CASH AND INVESTMENTS

Cash and investments at June 30, 2020 consisted of the following:

Investments	
Money Market Funds	$ 5,157,152
U.S. Treasury Obligations	2,745,151
Total investments	$ 7,902,303

Agency Fund Investments Authorized by CSCDA's Investment Practice

The table below identifies the investment types authorized by CSCDA for agency funds held for the benefit of CSCDA's conduit issuance activities. "None," in the context used in the table, means there are no limitations. (This table does not address investments of conduit bond proceeds held by bond trustees that are governed by the provisions of the associated conduit debt agreements.)

Authorized Investment Type	Maximum Maturity	Maximum % of Portfolio	Maximum Investment in one Issuer
Money Market Funds	N/A	None	None
U.S. Treasury Obligations	None	None	None

Disclosures Relating to Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in interest rates. One of the ways that CSCDA manages the exposure of agency funds is by authorizing the purchase of shorter term and longer term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity over time as necessary to provide the cash flow and liquidity needed for conduit operations.

Information about the sensitivity of the fair values of agency fund investments to market rate fluctuations is provided by the following table that shows the distribution of investments by maturity:

	Maturities				
Investment Type	12 Months or Less	13 to 24 Months	25 to 60 Months	More Than 60 Months	Total
Money Market Funds	$ 5,157,152	$ -	$ -	$ -	$ 5,157,152
U.S Treasury Obligations	201,769	201,423	573,805	1,768,154	2,745,151
Total	$ 5,358,921	$ 201,423	$ 573,805	$ 1,768,154	$ 7,902,303

Disclosures Relating to Credit Risk

Generally, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. CSCDA mitigates the credit risk of agency funds by limiting permitted investments to U.S. Treasury obligations or money market funds that carry the assignment of a BBB or better rating by a nationally-recognized statistical rating organization. At June 30, 2020, agency fund investments were held entirely in money market funds and U.S. Treasury obligations with Standards & Poor's ratings of AAA and AA+, respectively. However, under GASB 40, U.S. Treasury obligations are not considered to have credit risk.

NOTE 5 - CASH AND INVESTMENTS (Continued)

Concentration of Credit Risk

CSCDA's investment practice with respect to agency funds limits concentration of credit risk by restricting investments to U.S. Treasury obligations or money market funds. CSCDA's agency fund investment position at June 30, 2020, was in compliance with this practice.

Custodial Credit Risk

The custodial credit risk for agency fund investments is the risk that, in the event of the failure of the counterparty to a transaction, the beneficiaries of the agency funds will not be able to recover the value of their investments or collateral securities that are in the possession of another party. CSCDA's agency fund investments are not exposed to custodial credit risk because their existence is not evidenced by securities that exist in physical or book entry form.

The custodial credit risk for agency fund deposits is the risk that, in the event of the failure of a depository financial institution, CSCDA will not be able to recover collateral securities that are in the possession of an outside party. Deposits that potentially subject CSCDA to custodial credit risk consist of demand deposits and money market accounts in excess of amounts insured by the Federal Deposit Insurance Corporation (FDIC). It is the practice of CSCDA to place its demand deposits and money market accounts with a high-credit, quality financial institution. At June 30, 2020, CSCDA held all of its funds at one financial institution which provides FDIC coverage of deposits up to $250,000. Deposits not covered by the FDIC are secured in accordance with the California Government Code, which requires that financial institutions secure deposits made by state and local governmental units by pledging securities in an undivided collateral pool held by a depository regulated under state law. The market value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. Collateral is considered held in CSCDA's name.

Fair Value Measurements

CSCDA categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles (GASB 72). The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level I inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs. The Authority has the following recurring fair value measurements as of June 30, 2020:

		Fair Value Measurements Using:	
Investment Type	Total	Level 1	Level 2
Money Market Funds	$ 5,157,152	$ 5,157,152	$ -
U.S. Treasury Obligations	2,745,151	-	2,745,151
Total	$ 7,902,303	$ 5,157,152	$ 2,745,151

NOTE 6 - COMMITMENTS AND CONTINGENCIES

The World Health Organization declared the worldwide coronavirus (COVID-19) outbreak a public health emergency on January 30, 2020 and officially declared it as a pandemic as of March 11, 2020. Management has performed an evaluation of certain financial statement line items such as accounts payable and agency obligations to determine whether valuation or impairment adjustments should be made. Management has determined that the amounts reported on the financial statement are properly valued as of June 30, 2020. However, since the duration and full effects of the COVID-19 outbreak are yet unknown there could be future negative impacts to the financial condition of CSCDA..

SUPPLEMENTARY INFORMATION

The following page contains information that is supplemental to the operations of the California Statewide Communities Development Authority (CSCDA). The information that appears shows the consolidated activity and balances of accounts used to collect issuance and administrative fees remitted to CSCDA by borrowers. Amounts collected in these accounts are the property of the California State Association of Counties (CSAC), the League of California Cities (the League), and certain conduit borrowers for which services have not yet been performed, but who have deposited funds for the future payment of those services. CSCDA holds no right or title to these accounts.

CALIFORNIA STATEWIDE COMMUNITIES DEVELOPMENT AUTHORITY
SCHEDULE OF FIDUCIARY FEE COLLECTIONS/CHARGES AND DISBURSEMENTS
RELATED TO THE CONDUIT FINANCE ACTIVITIES
AGENCY FUNDS
FOR THE YEAR ENDED JUNE 30, 2020

	Bond Issuance	Bond Administration	General Administrative Activities	Total
Amounts Collected and Charged in Benefit of Conduit Finance Activities of CSCDA				
Bond issuance fees	$ 5,322,556	$ -	$ -	$ 5,322,556
Bond administrative fees	-	9,409,428	-	9,409,428
Deposits	2,677,251	-	-	2,677,251
Investment income:				
Interest	36,138	17,958	-	54,096
Change in fair value of investments	-	282,859	-	282,859
Total Amounts Collected and Charged in Benefit of Conduit Finance Activities of CSCDA	8,035,945	9,710,245	-	17,746,190
Amounts Disbursed in Benefit of Conduit Finance Activities of CSCDA				
Program Administration:				
Program Manager - Bridge Strategic Partners, LLC	2,741,454	948,413	-	3,689,867
Prior Program Manager - HB Capital Resources, Ltd.	-	4,316,673	-	4,316,673
Program Governance and Marketing:				
CSAC	1,378,987	1,735,410	-	3,114,397
League of California Cities	1,378,987	1,735,410	-	3,114,397
Compliance Monitoring:				
Urban Futures Bond Administration, Inc.	-	184,800	-	184,800
Bridge Strategic Partners, LLC	-	461,005	-	461,005
Executive Director & General Counsel Compensation	-	-	215,189	215,189
General Administrative:				
Others	-	-	179,691	179,691
Deposits returned and Other	2,686,150	(2,500)	-	2,683,650
Total Amounts Disbursed in Benefit of Conduit Finance Activities of CSCDA	8,185,578	9,379,211	394,880	17,959,669
Transfers	-	(452,671)	452,671	-
Change in Account Balances	(149,633)	(121,637)	57,791	(213,479)
Account Balances, July 1, 2019	2,386,014	3,844,592	345,875	6,576,481
Account Balances, June 30, 2020	$ 2,236,381	$ 3,722,955	$ 403,666	$ 6,363,002

See accompanying notes to the financial statement

Agenda Item No. 3

STAFF REPORT

To: **Board of Directors** **Meeting Date: January 3, 2022**

From: **Hannah Ford, Engineering Manager**

Subject: **Joint Transmission Main (JTM) Pump Station Project Design**

INTRODUCTION / BACKGROUND

As described in the October 2021 Engineering-Finance Committee Meeting, the District would like to construct a 2 cubic feet per second (cfs) pump station to lift the HGL in the JTM to the District's Gravity Zone. Pursuing this project offers the following benefits:

- Enhanced reliability through an alternative pipeline that brings water into the District's system on the west side of the I-5 Freeway
- Helps mitigate the impacts of a common failure of the AMP and Baker Pipelines
- Improved water quality by introducing a fresher supply on the west side of the service area
- Potential to access alternative water supplies generated by neighboring agencies and introduced into the JTM

These benefits would prove especially useful when the District lacks its typical water supply reliability (i.e., the R-6 reservoir is out of service). The next planned outage of the R-6 reservoir is October 2022 to replace the floating cover and liner. Expediting construction of the JTM pump station would benefit the R-6 reservoir floating cover and liner replacement project and other future rehabilitation projects of the District's critical water supply infrastructure.

Earlier this year, the District hired Tetra Tech to develop a conceptual design, which established feasibility and estimated overall project costs at approximately $2.5M. In November, the District invited a shortlist of five qualified firms to respond to a Request for Proposals (RFP) for final design services. The following describes the proposal evaluation and ultimate recommendation.

PROPOSAL EVALUATION

On Monday, December 10th, the District received three proposals for the final design from Black & Veatch, Tetra Tech, and Dudek. Attachment A contains a copy of each proposal, and Figure 1 summarizes the proposed fee.

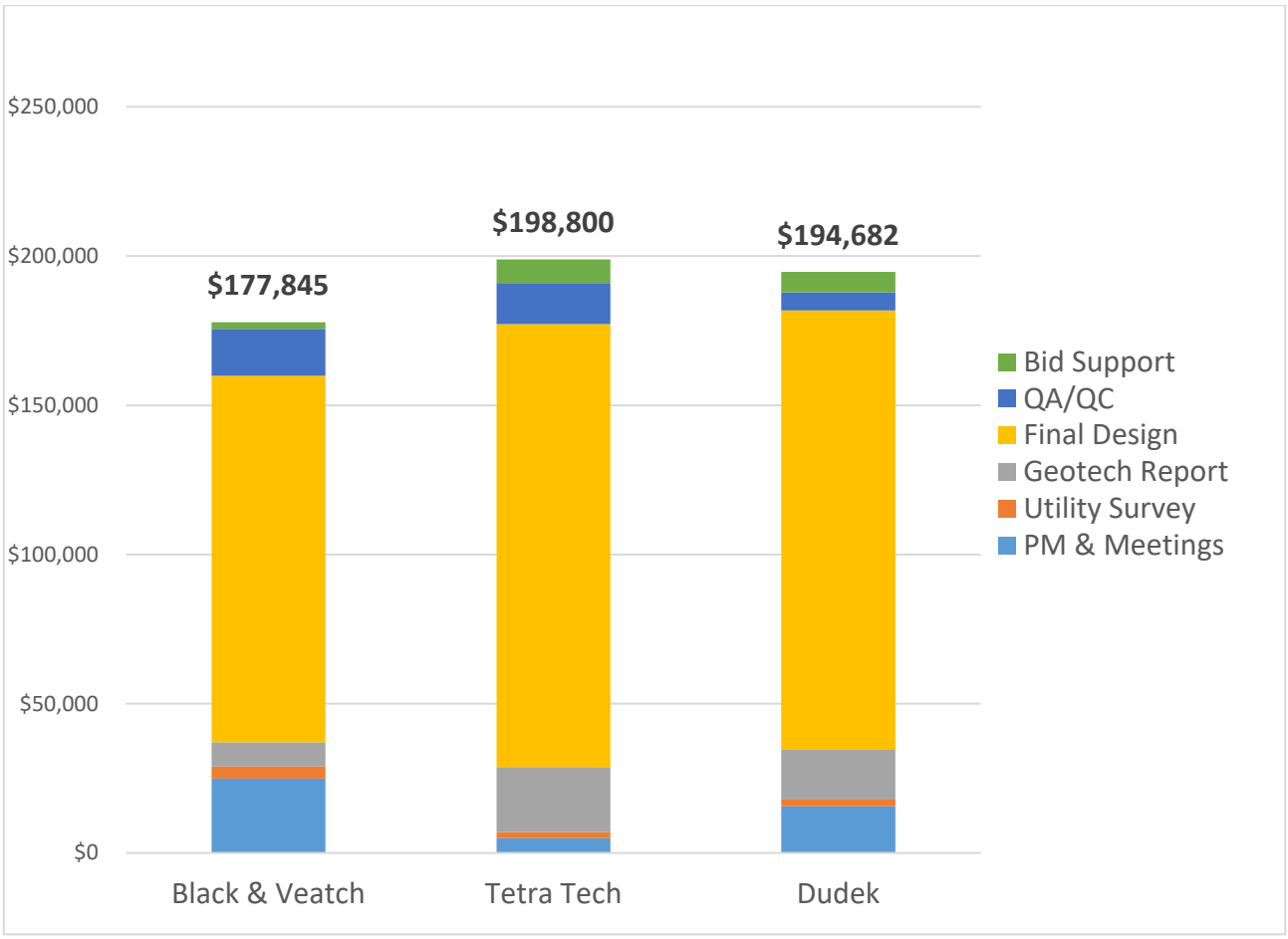


Figure 1 – JTM Pump Station Design Fee Summary

The spread between the low and high fee is relatively low at approximately 11 percent. Each consultant that proposed is qualified to perform the work. The selected consultant, Black & Veatch, offers the following advantages:

- Lowest fee,
- Innovative approach to access JTM supply during pump station construction,
- Optimized layout that reduces cost,
- High level of quality assurance/quality control,
- In-house discipline design support, and
- Proactive approach to project management.

In addition, Black & Veatch is a reputable consulting firm with whom the District has previous successful experience, including on the recent Aeration Basin Diffuser Replacement Project.

Recommended Action:

Staff recommends that the Board of Directors authorize the General Manager to enter into a contract with Black & Veatch in the amount of $177,845 for engineering design services for the JTM Pump Station Design. Staff further recommends that the Board authorize the General Manager to fund the project costs from the District's Capital Reserves in accordance with the District's adopted Capital Reserve Policy.

BLACK & VEATCH CORPORATION
5 PETERS CANYON RD, SUITE 300, IRVINE, CA 92606
949-471-3922 **P**

20 December 2021

Hannah Ford, P.E.
Project Manager
El Toro Water District
24251 Los Alisos Blvd., Lake Forest, California, 92630

Subject: Black & Veatch Proposal to Provide Engineering Services for the Joint Transmission Main (JTM) Pump Station Project

Dear Ms. Ford:

Black & Veatch (BV) is pleased to submit this letter Proposal for design engineering services for the JTM Pump Station project. We are excited to begin work on this assignment and look forward to working with ETWD to ensure your project objectives are met.

We understand the schedule constraints you're working with in pushing to construct the JTM pump station before the R-6 shutdown. Our team will focus immediately on helping you identify the longest equipment lead times and developing the procurement packages. We will also get right to work on developing a site layout that meets the project intent and provides ample operator access without impeding the flow of traffic throughout the site.

This Proposal summarizes our understanding and approach for your project. We have attached an annotated scope of work (Attachment A) which clarifies in more detail our specific deliverables and assumptions for this project.

Project Understanding

ETWD currently receives its water supply through two main sources: the Allen McColloch Pipeline (AMP) and the Baker Water Treatment Plant through the Baker Pipeline. The Baker Pipeline and AMP supply ETWD through connections on the northeast side of the system.

The Joint Transmission Main (JTM) pipeline, fed from Diemer Water Treatment Plant and East Orange County Feeder No. 2, traverses ETWD's service area and passes near the R-1 / R-2 reservoir site along Mouton Parkway. ETWD has performed a conceptual design to evaluate the opportunity to access the water supply from the JTM as an alternative water source into the Gravity Pressure Zone (EL 570.00). The main project objective is to expediently develop a cost-effective JTM Pump Station design that is capable to deliver 2 cubic feet per second (cfs) capacity into the system to capture the following benefits:

- Enhanced reliability through an alternative pipeline that brings water into ETWD's system on the west side of the I-5 Freeway
- Mitigated impacts of a common failure of the AMP and Baker Pipeline
- Improved water quality by introducing a fresher supply on the west side of the service area.
- Potential to access alternative water supplies generated by neighboring agencies and introduced into the JTM.

Project Approach

BV understands the importance of this project and the need to complete the project on schedule. We have identified your project's key challenges and developed approaches to effectively address those challenges. Our approach will result in a high quality and reliable design that is completed on time.

PROJECT CHALLENGES

Integrating the new JTM Pump Station into the ETWD may be more complex than it appears due to JTM HGL as well as site and operational constraints. After review of the RFP documents and meeting with your staff, we have developed the following table and paragraphs which summarize our understanding of the key factors for the success of this project.

Project Challenge	*Key Factors for Success*
Pre-Procurement of Equipment	✓ Early identification of equipment for pre-procurement (pump, valve, MCC) ✓ Gain buy-in from ETWD internal stakeholders to identify preferred manufacturers, make, model, etc. ✓ Early development of the Equipment Prepurchase Packages
Hydraulics	✓ Pump size, type, and construction are compatible with potentially negative NPSHa
Pump Station Controls	✓ Pumping control strategy capitalizes on periods of higher HGL in the JTM to reduce operating costs
Pump Station Siting	✓ Provides space for portable generator connection. ✓ Does not interrupt the flow of traffic through the site for ETWD access, chemical deliveries, and others. ✓ Minimize earthwork – reduced construction cost, improves construction schedule
Temporary Bypass Pump Station	✓ Temporary system to provide JTM supply during construction and R-6 outage

PRE-PROCUREMENT OF EQUIPMENT

One of the primary objectives of the JTM PS Design is to allow ETWD to access alternative water sources during the outage of Reservoir R6 which is planned to begin in October 2022. In order to expedite long the lead time equipment, the scope of work includes development of key equipment pre-procurement packages to pre-purchase.

Our team has recent experience developing procurement packages for complex projects located in Southern California that we can leverage to hit the ground running on procurement services for ETWD. Our procurement package is divided into multiple sections, which includes the instruction to equipment bidders, schedule milestones, detailed technical performance aspects for equipment, start-up support services, and warranty and legal requirements that can be custom tailored or reference specific ETWD requirements.

BV's local team has already begun reaching out to local equipment suppliers and vendors to estimate equipment lead times.

During the project kick-off meeting, our team will finalize the major equipment list and approximate lead times to initiate the discussion on pre-procurement with the District.

Equipment	Estimated Lead Time
Pump	10 – 15 weeks
Vertical Turbine Motor	10 weeks
MCC	10 weeks
SCE Transformer	4-6 months
Steel Pipe	10 weeks
Discharge Pressure Valves	10 weeks
Flow Meters	10 weeks

PUMP STATION HYDRAULICS

The RFP indicates the HGL of the JTM ranges from 450' to 490' while the R-1 and R-2 reservoir water level ranges from 460' to 492', meaning flows from JTM cannot always be fully utilized and thus, it is not a consistently reliable source of water.

Our team will focus on the suction side hydraulic grade line elevations, which are reported to vary widely (ie pressure of the JTM may be as low 450' elevation). The resulting HGL could be below the pump bowl setting and/or suction pipeline alignment profile which requires special considerations to address a **negative** Net Positive Suction Head Available (NPSHa). Our team's analysis will consider the low hydraulic pressure scenarios on the pump "suction-side" to ensure pumping efficiencies and to avoid costly pump cavitation issues.

BV's hydraulics expert, **Stephane Lecina**, will review the system hydraulics and identify the optimal pumping head required for the JTM to serve the 570 Gravity Zone. Stephane will work closely with BV's national pump expert, **Raghu Kadava**, in identifying the correct pump type and operating parameters to provide optimal performance.

We will coordinate with your team on the pump type selection and discuss the different features of a vertical and centrifugal pump for this application to ensure that your operations team is comfortable and confident in the selected pump.

Vertical pump cans may offer improved suction side hydraulics compared to centrifugal type pumps. BV will evaluate pump selection to ensure the JTM PS handles the wide range of operational scenarios.

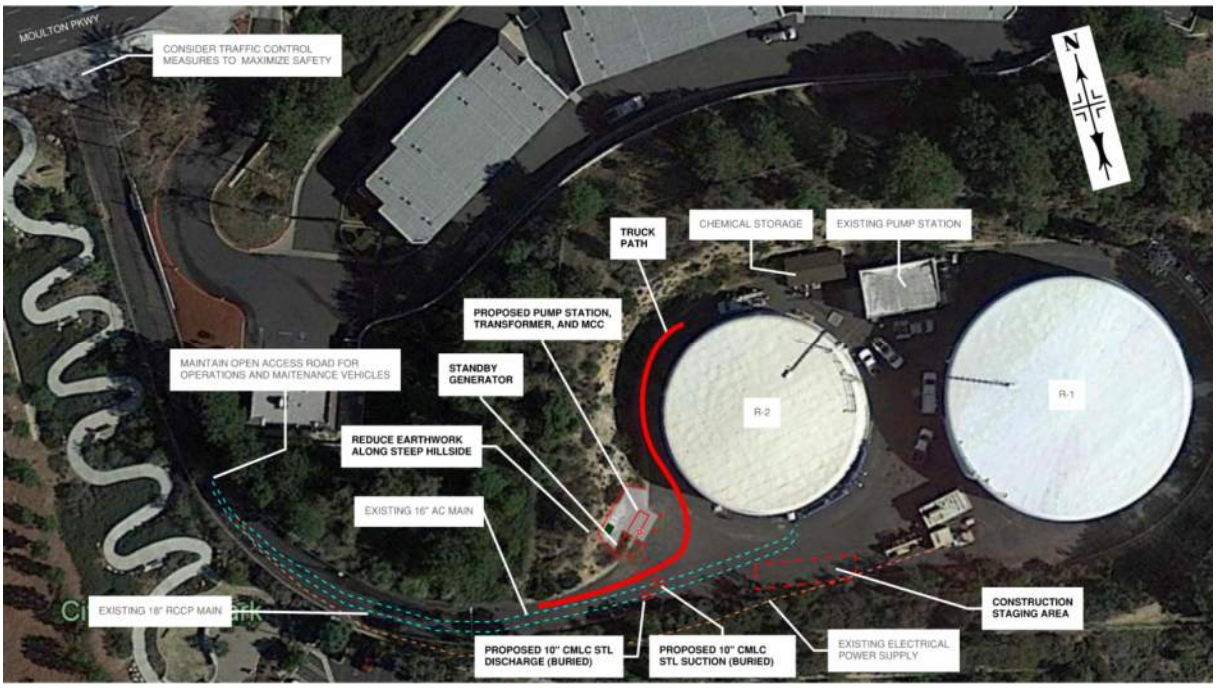
CONTROLS

Through our efforts on recent pump station projects, our team has developed a clear understanding of the operational control strategies that can implemented by the ETWD to assure reliable pumping systems. This new pump station will require a clear, defined strategy that can be easily incorporated into the District's electronic operation and maintenance (EOM) system for use by Operations. Our hydraulics team will work with our instrumentation and controls engineer, **Andrew Franklin**, to develop a pumping control strategy that incorporates the JTM's fluctuating pressure ranges to ensure that the JTM will be a continuous and reliable source to the District's Gravity Zone. We will work collaboratively with the District to develop a well-thought out operational strategy that will result in an energy-efficient operation.

PUMP STATION SITING

BV has developed a preliminary overall site plan as a starting point for the facilities layout and discussions with ETWD staff. Key highlights include:

- **Maintain Site Access & Parking.** Careful consideration to layout of permanent pump station and temporary contractor staging area to avoid disruptions to operations and chemical delivery truck access.
- **Avoid significant earthwork.** Carefully plan layout to avoid import and export of native materials.
- **Ensure operator safety.** Provide sufficient working space to allow for safe working conditions, meet code required setbacks for electrical equipment.
- **Consider noise barriers and aesthetic measures.** Provide District selection of architectural components such as noise barriers to attenuate sound.
- **Traffic Safety.** Special considerations and traffic control safety measures to be included into the Project general requirements to increase public safety!

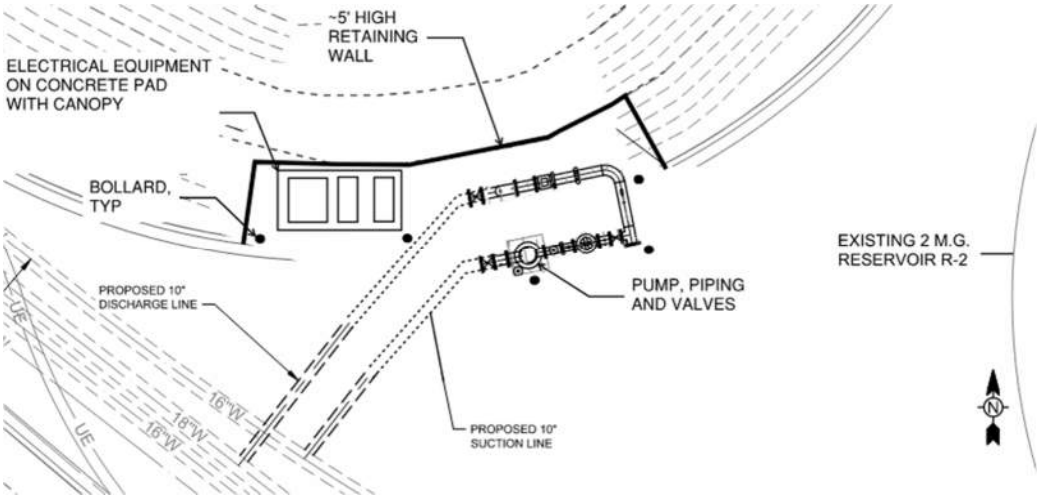


The 2021 Conceptual Design Memo proposed locating the pump station inside a block building that is built into the existing hillside. This option requires a significant amount of grading and excavation, increasing both cost and duration of the construction phase. There may be an opportunity for an alternative outdoor pump station location that maintains path of travel throughout the site, reduces earthwork, and minimizes structural design.

This proposal assumes the pump and piping will be constructed outdoor, not within a CMU building. This benefits the project by minimizing earthwork to the smallest necessary for a CMU retaining wall (approximately 5-feet tall). The electrical and control panels will be rated for outdoor environments and will receive a canopy to protect against weather and UV damage. We understand an enclosed block wall building may still be desired and will provide an estimate to perform that design upon request.

The 2021 memo also showed a design with one or two pumps. Following our hydraulic analysis, BV will provide confirmation of pumping needs, however, initially it appears one pump will serve this project's purpose. A redundant pump may not be necessary since a stop in JTM flow will not result in a disruption of system supply, so long as the R-1 and R-2 reservoirs are online. This reduces the pump station footprint, further reducing costs and helping the overall schedule.

We will prepare a preliminary site layout with 3 different pump station siting options to gain your input on the optimal design and location. This preliminary plan will be reviewed at the **30% design meeting** (workshop) to help solicit input from ETWD on the preferred pump station design and location.

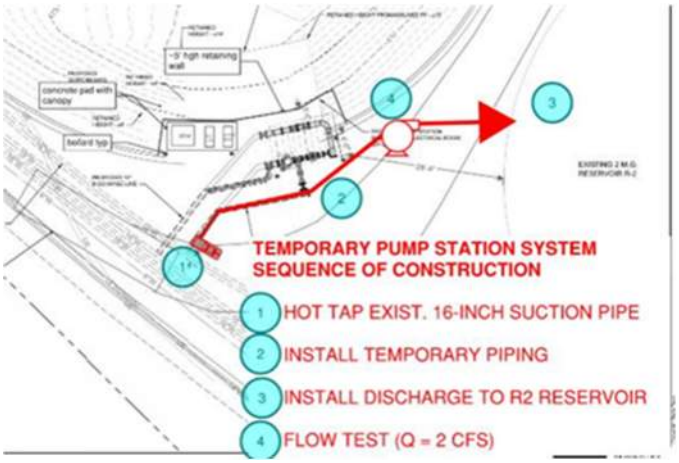


Preliminary Alternative Pump Station Layout

Temporary Bypass Pump Station

The timing of the JTM PS construction is critical due to the planned R-6 reservoir outage. To maintain a reliable and continuous water supply during the R-6 reservoir outage, BV will evaluate options to provide a temporary pumping system during the JTM PS construction. This concept would help ensure the alternative JTM water supply (2 CFS) is secured prior to the R-6 outage planned in October 2022. A potential concept is presented below, and other options will be discussed and evaluated with District staff.

A temporary pump station that connects to the JTM can be put in place before the R-6 outage. Construction of the JTM pump station would proceed as planned in the proposed layout area. There is sufficient space for the portable pump system within the planned construction area and away from the normal truck routes. The temporary pumping system will minimize operational disruptions and may also be used for bypass during start-up and testing prior to installation of the second connection tie-in and final delivery of water to the gravity zone.



QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

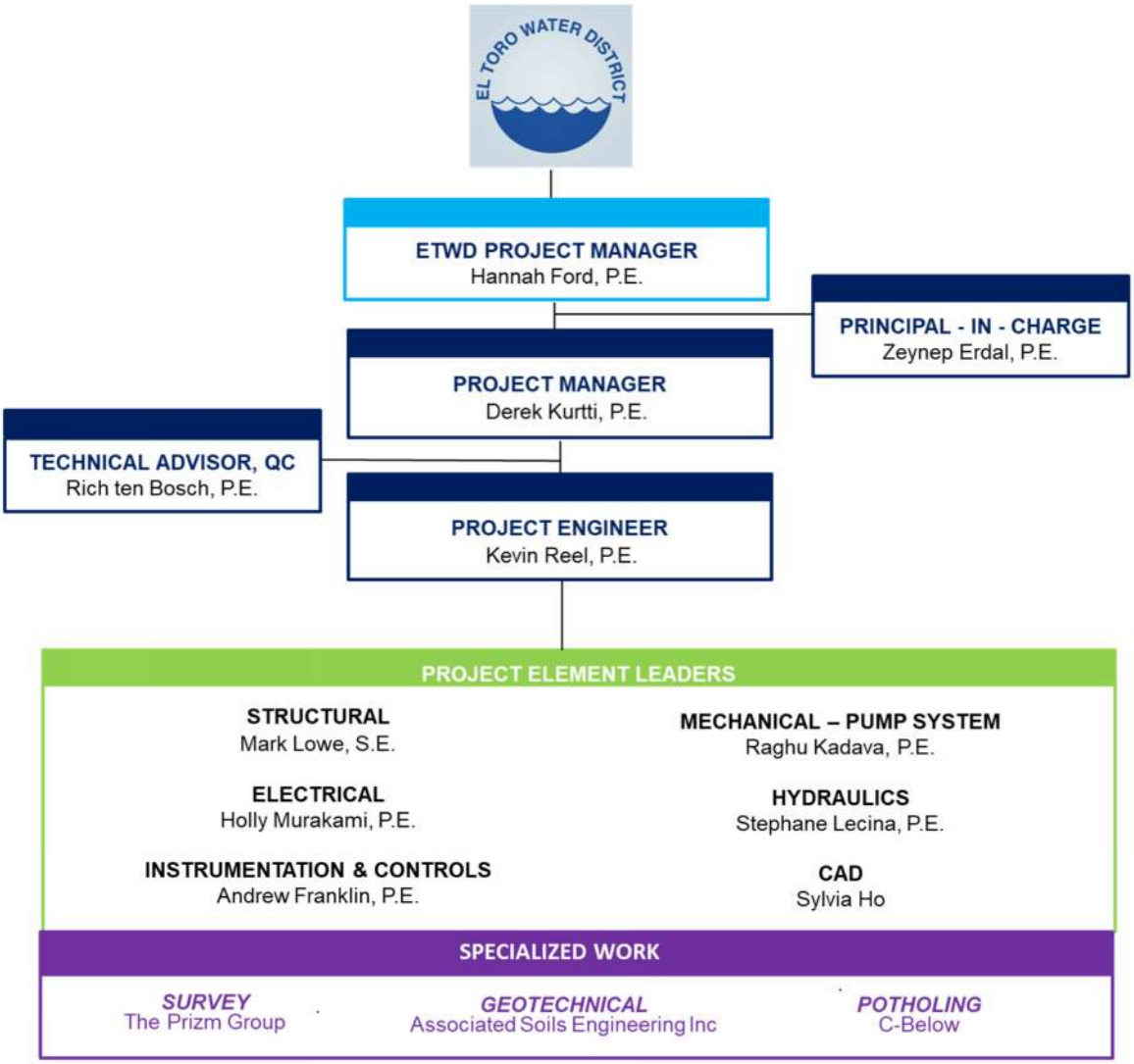
BV has a high level of commitment to quality. Our Quality Management System (QMS) has been established to be compliant with the ISO 9001 process, which demonstrates our dedication to providing quality focused design engineering, procurement, construction, and startup and commissioning services.

Our robust and proven QA/QC program ensures that your project will receive a thorough and complete set of bidding documents, resulting in fewer addenda and concise construction bids.

To provide quality deliverables that will meet your expectations, we will follow our proven QMS which details policies, processes, procedures and work instructions. We will develop a Quality Management Plan (QMP) specific to the design phase. The plan will be the responsibility of all project team members but will be verified and implemented by our local Project Manager and Quality Manager.

PROJECT TEAM

BV has assembled a local team of with relevant experience to delivery this project on-time and on budget. Our team has completed recent design work assignments for southern California projects that has a solid track record and skills needed for the successful completion of this important project. The team will work with your engineering and operations staff to deliver a design project that works with your system and achieves the goals you set out to accomplish. Our local leadership team is supported by key technical experts, independent QA/QC advisors, and a focused group of discipline support engineers to provide the great talent that is well suited for the ETWD JTM Pump Station design.



PROJECT TEAM QUALIFICATIONS

We have assembled a local team with extensive experience with pump stations in Southern California. Our core management team of Zeynep Erdal, Derek Kurtti, and Kevin Reel understand how to communicate with your team and within ours, bringing continuity and efficient delivery. A few of the key team members are highlighted below.

Zeynep Erdal, PE

PRINCIPAL-IN-CHARGE

Availability: 10%

Dr. Erdal is a Client Director for Black & Veatch. She has experience working on projects across California, including your recent aeration basin upgrades. Zeynep is excited to work with you to make sure the proposed pump station is delivered in a way that exceeds your expectations and saves the District money.

Why Zeynep?

- Understands ETWD staff through current engineering projects
- Zeynep is committed to providing the resources needed to deliver this project on-time and on-budget.

Derek Kurtti, PE

PROJECT MANAGER

Availability: 20%

Derek brings a successful blend of contracting, design, and management experience to the team. He is an effective leader and communicator who knows how to support and listen to his team. He also understands how to listen to your story and work with your team to reach your goals.

Why Derek?

- Excellent communicator and able to work with different stakeholder to build consensus
- Extensive construction experience working with pump stations
- Derek is detail orientated and meeting your schedule while producing high quality contract documents.

Kevin Reel, PE

PROJECT ENGINEER

Availability: 40%

Kevin Reel is a registered Civil Engineer working with Black & Veatch Water, based in Los Angeles, California. He has experience in a variety of water reuse, wastewater, stormwater, and water treatment plant facilities design projects. His strengths include process-mechanical facilities design, plant and pipeline hydraulics, pipeline design, and pump station design.

Why Kevin?

- Highly skilled pump station design engineer.
- Recent experience working on potable water pump station design and construction.

Firm Background

BLACK & VEATCH CAPABILITIES AND EXPERIENCE

Black & Veatch is a leading global engineering, consulting and construction company specializing in infrastructure development in energy, water, telecommunications, management consulting, federal and environmental markets. Founded in 1915, Black & Veatch is an employee owned $3.4 Billion company.

Through over 100 years of our history, our professionals have provided the best technology-based solutions for all facets to the water and wastewater industry. Our success is secured through meeting our client's expectations, meeting schedules and providing optimized cost-effective solutions.

Over the past 30 years, Black & Veatch has developed a strong California presence with 8 offices and nearly 425 professionals, 200 of those professionals in Southern California. Leveraging the local experience of team members in California and the specialized expertise of our professionals who have experience in similar projects means you get a team that is extremely knowledgeable and knows how to leverage past project experiences.

Black & Veatch has pump station experience across the country.

Relevant Experience

Your project will require a range of experience in hydraulics, pump selection, structural design, electrical design, system controls, and equipment pre-procurement. Our team has the experience needed to successfully execute your project. BV has worked on a multitude of potable water pump station designs in Southern California in which we have dealt with challenges similar to those on your project, such as limited construction time and varying hydraulic conditions. Through our team's combined experience, we know how to effectively address these challenges and will provide feasible design resolutions. We have included a selection of our relevant experience in this section to showcase our team's qualifications.

KEY TEAM MEMBERS

Kevin Reel, Project Engineer
Raghu Kadava, Pumps
Holly Murakami, Electrical Engineer
Mark Lowe, Structural Engineer

CLIENT REFERENCE

Metropolitan Water District of Southern California
Motamedi Kamyr
Senior Project Manager
213-217-6581
kmotamedi@mwdh2o.com

Greg Avenue Pressure Control Structure - Pump Modifcations and New Control Building Project

LOS ANGELES, CA

The Metropolitan Water District of Southern California initiated the Greg Avenue Pressure Control Structure – Pump Modifcations and New Control Building Project, as one component of its Drought Response Program. The overall age and condition of the pumps, as well as the long-term reliability of SWP water availability, prompted Metropolitan to evaluate options to increase reliability of the Greg Avenue Pump Station and increase fow through the East Valley Feeder. The purpose of the Project is to provide Metropolitan with a reliable pump station to transfer water into the western Los Angeles service area during drought emergencies.

Relevant Project Features

- Potable water pump station design
- Alternate operating modes analysis
- Detailed construction sequencing that minimized system shutdowns

KEY TEAM MEMBERS
Rich ten Bosch, Engineering Manager
Holly Murakami, Electrical Engineer
Mark Lowe, Structural Engineer
Raghu Kadava, Pumps Specialist
Stephane Lecina, Hydraulics

CLIENT REFERENCE
Sandy Scott-Roberts
OCWD Project Manager
(714) 378-3292 sscott@ocwd.com

Groundwater Replenishment System Final Expansion Plant 2 Pump Station

FOUNTAIN VALLEY / HUNTINGTON BEACH, CA

BV designed the Plant 2 Secondary Effluent (P2 SE) Pump Station will convey the additional flow for the system to the Advanced Water Treatment Facility from OCSD's Plant 2. The P2 SE Pump Station will be equipped with 5 vertical pumps each rated at 20 mgd. The pumps are housed in a concrete masonry building with a separate electrical room. The project involves extensive hydraulic analysis, geotechnical evaluations, and structural analysis.

Relevant Project Features

- Potable water pump station design and construction
- Vertical turbine pumps
- System hydraulics evaluation

KEY TEAM MEMBERS
Kevin Reel, Engineering Manager
Raghu Kadava, Pumps Specialist
Mark Lowe, Structural Engineer

CLIENT REFERENCE
Asif Sheikh, P.E., Principal Civil Engineer
Burbank Water and Power
(818) 238-3500

Burbank Valley Pumping Plant Retrofit

BURBANK, CA

BV led the design of retrofits for a 11,000 drinking water booster pump station, including two 350 HP and two 500 HP horizontal split case pumps. The retrofits of the booster station include replacement of pumps, motors, synchronous starters, and pump suction and discharge piping and appurtenances. Project elements included developing pump station retrofit layout and civil improvement plans, development of a transient analysis for the distribution network, preparing front-end and technical specifications, and coordination with the Client.

Relevant Project Features

- Potable water pump station design and construction
- System hydraulics evaluation
- Structural analysis

KEY TEAM MEMBERS
Kevin Reel, Project Engineer
Raghu Kadava, Pump Specialist

CLIENT REFERENCE
Jeffrey MacMaster, Associate Engineer
619-466-0585
Jeffrey.Macmaster@HELIXWATER.org

Chet Harritt Pump Station

Lakeside, CA

Helix Water District retained BV to design the replacement of their existing Chet Harritt Pump Station and associated components. The pump station replacemen design included Technical Memoranda that analyzed the optimized pumping configuration for an operating range of 5 to 45 MGD, as well as the best location site the new pumps in an enclosed CMU building. The new Chet Harritt Pump Station is designed to include 3-150hp pumps (2 duty + 1 standby) and 2-350hp pumps (1 duty + 1 standby) with variable frequency drives. BV performed a thorough alternatives analysis to recommend the optimal configuration to meet wide pump total discharge head and flow range.

Relevant Project Features

- Hydraulic and Pump Alternatives Analysis.
- Vertical Turbine Pumps.

Estimated Level of Effort

BV's estimated level of effort is presented in the Table 1. A breakdown of subconsultant tasks is presented in Table 2.

Table 1 - Black & Veatch Estimated Level of Effort (Hours)

Task/Description	Principal-in Charge and QA/QC	Project Manager	Senior Engineer	Project Engineer II	Project Engineer I	Tech	Admin/ Clerical	Total Hours
Task 1: Project Management and Meetings *(Subtotal)*	***8***	***44***	***0***	***24***	***16***	***0***	***24***	**116**
Task 1a Project Management (8 mo)	*8*	*32*					*24*	*64*
Task 1b Meetings (4ea, in-person)		*12*		*24*	*16*			*52*
Task 2: Utility Research and Document Review				**2**	**4**		**2**	**8**
Task 3: Comprehensive Geotechnical Report					**2**			**2**
Task 4: Final Design *(Subtotal)*	**12**	**20**	**52**	**140**	**208**	**208**	**12**	**652**
Task 4a 60% Design (29 dwgs + specs)	*4*	*8*	*24*	*64*	*80*	*128*	*8*	*316*
Task 4b 90% Design (29 dwgs + specs + OPCC)	*2*	*6*	*12*	*40*	*56*	*64*	*2*	*182*
Task 4c Final Design (29 dwgs + specs + OPCC)	*2*	*2*	*8*	*12*	*32*	*16*	*2*	*74*
Task 4d Key Equipment Prepurchase Packages	*4*	*4*	*8*	*24*	*40*			*80*
Task 5: Consultant Quality Control Reviews	***2***		***64***					**66**
Task 6: Bid Phase Support (1 Pre-bid Mtg and 1 Addenda)		***4***		***6***				**10**
TOTAL	**22**	**68**	**116**	**172**	**230**	**208**	**38**	**854**

Table 2 – Subconsultants Level of Effort (Hours)

Task/Description	Project Manager	Engineer	Field Crew	Technician	Clerical Staff	Total Hours
Task 2 - Utility Research and Document Review						
Field Investigations - Potholing (3 locations) - *C Below*	*1*		*5*		*2*	8
Task 3 - Comprehensive Geotechnical Report - *ASE*	***1***	***22***	***8***	***24***	***3***	**58**
Task 4 - Final Design						
Task 4a 60% Design						
Site Survey - ***The Prizm Group***	*4*		*16*	*15*		35
TOTAL	**6**	**22**	**29**	**39**	**5**	**101**

Fee

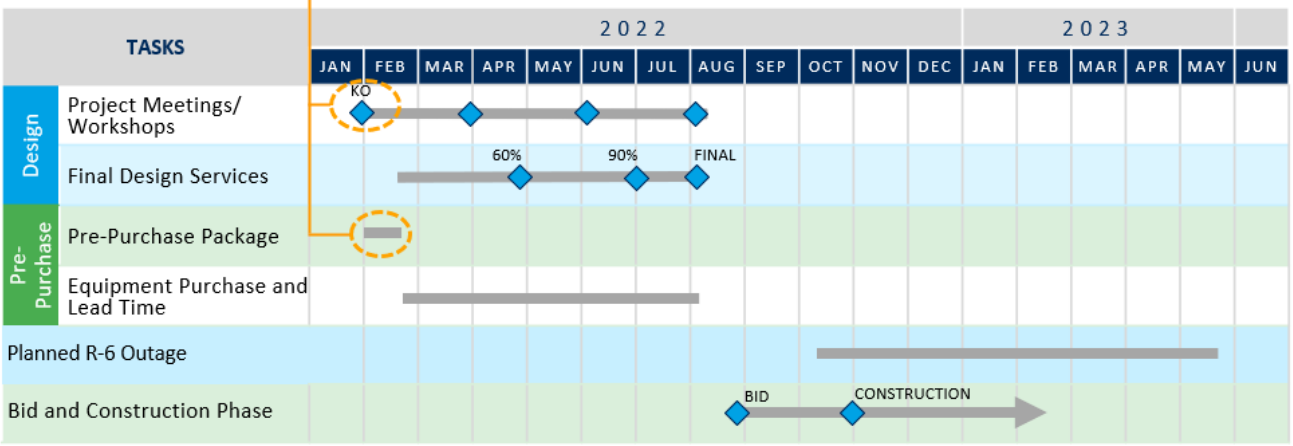
Black & Veatch's proposed fees and schedule of hourly rates is provided in a separate file marked "Proposed Fee – ETWD JTM Pump Station Proposal".

Schedule

Black & Veatch understands that ETWD is planning to shut down R-6 Reservoir beginning in October 2022 to perform a necessary cover replacement. Expediting the construction of this project is critical to providing a continuous water supply to the gravity zone system. This project will enhance water reliability for ETWD operations by allowing water supply into the gravity zone system and will enhance the ETWD critical water supply infrastructure. An overall project schedule is included in Attachment B.

Derek Kurtti, PE

"Right away at the KO workshop we'll try to nail down the prepurchase packages and get that process started. By the 30% Workshop we should have the majority of the project "solved" and can focus on completing the bid documents and getting into construction."



Legal and Insurance Requirements

INSURANCE

Black & Veatch can comply with the District's requirements for insurance coverage. We have included a sample certificate in Attachment C.

CONTRACT

Black & Veatch has reviewed sample contract agreement and is willing to execute as written. However, Black & Veatch respectfully requests the following revision to Section 5.3 Indemnity: To the end of the first sentence please add the following language "excluding, however, such liability, claims, losses, damages or expenses arising from DISTRICT's sole or active negligence or willful acts".

We appreciate the opportunity to provide professional services to ETWD and look forward to starting work on this project. If you have any questions about this proposal, please contact me or our project manager Derek Kurtti at +1-949-471-3898 or KurttiD@bv.com

Very truly yours,

BLACK & VEATCH CORPORATION

Zeynep Erdal P.E.
Project Director/Principal-in-Charge

Cc: pw,dk,jjn

Attachments:
Attachment A – Proposed Scope of Work
Attachment B – Proposed Baseline Design Schedule
Attachment C – Sample Insurance Certificate
Attachment D – Team Resumes

ATTACHMENT A

PROPOSED SCOPE OF WORK

Black & Veatch (BV) understands that the ETWD is requesting professional design services to design the JTM Pump Station, and the work will be performed in six tasks. The scope of work is based upon the information contained in Section VI of the Request for Proposal. We have included and followed the outlined scope of work the District has provided in the RFP work to be used as a basis for any subsequent contract negotiations. Additional information or information regarding deliverables is included as italics text.

Task 1 Project Management and Meetings

Task 1a Project Management

Consultant shall communicate and coordinate as needed with ETWD staff to provide updates, follow up on action items, and manage the project on budget and on schedule. The Consultant shall prepare and submit a concise monthly status report with the monthly invoice statement that includes the following:

- ETWD's standard form that includes a summary of expenditures by task showing total budget, billing to date, current billing, remaining amount.
- A summary of work progress/items complete for all work tasks;
    - An estimate of actual percent complete based on progress compared to percent complete based on budget expended; and
    - An updated progress schedule using a Gantt-type format.

This task will cover the duration of the project and includes; scheduling; invoicing; routing communications; preparation of monthly project status reports; and providing overall project direction and guidance to the team.

The monthly payment applications will include 1) a narrative of the activities that occurred during the billing period, 2) a summary of the % complete for each task and the overall project, and 3) an updated schedule using MSProject. The schedule included with this proposal (Attachment B) assumes an 8mo project duration, it will be updated upon NTP and updated again monthly for submittal to ETWD.

Task 1b Meetings

Consultant shall administer an interactive project kick-off workshop that serves as a decision-making forum for key pump station design decisions (including all of those listed in Section III of this RFP). In addition, Consultant shall conduct progress meetings throughout the duration of the design phase of the project. While no design submittal is required at 30%, ETWD requests a progress meeting at that point to review incorporation of input provided at the interactive project kick-off workshop. For all workshops and meetings, Consultant shall prepare and submit a meeting agenda to ETWD staff at least one business day in advance of the meeting and shall document and submit meeting minutes, highlighting action items and decisions, to ETWD staff within three days of the meeting. At each meeting, Consultant shall present and discuss an updated project schedule, project milestones, and planned activities. Assume a minimum of four (4) meetings throughout the design process:

- Interactive Project Kick-Off Workshop
- 30% Progress Meeting
- 60% Design Review Meeting
- 90% Design Review Meeting

BV will schedule and facilitate project workshops. We will develop agendas and submit to ETWD 2-3 days in advance for review and input. Meeting minutes will be prepared and transmitted to ETWD within 1 week following the meeting. The minutes will include a list of action items and decisions.

This proposal assumes the meetings and workshops will take place in-person at ETWD offices and will each require up to 2 hours. BV will host virtual meetings as needed per ETWD direction or in accordance with other guidance.

Deliverables:

1. ***List of equipment data sheets recommended for owner purchase***
2. ***Workshop & meeting agenda and review materials***
3. ***Meeting minutes and decision log***

Task 2 Utility Research and Document Review

Consultant shall develop a data request and review requested data. Consultant shall research, obtain, and review all available documents, reports, field records, maintenance records, record drawings, and atlas maps. Attachment B contains ETWD's as built information of the R-1 / R-2 site.

Consultant shall prepare and submit utility request letters to all utility companies listed on the Dig-alert website or identified by ETWD staff as having utilities in the vicinity of the Project. Consultant shall maintain a detailed utility log of all utility companies contacted and responses received. Consultant shall submit this detailed utility log for ETWD review at each design milestone.

BV will develop a pothole plan recommending up to three (3) utilities that will be investigated including:

1. ***Proposed 16" suction line (near point of connection)***
2. ***Proposed 18" discharge line (near point of connection)***
3. ***One additional buried utility, TBD***

BV's subconsultant, C-Below, will pothole up to three (3) utilities within the project site to a maximum depth of 10 ft below ground surface.

Deliverables:

1. ***Data request log and records***
2. ***Pothole Plan***
3. ***Pothole report***
    a. ***Includes horizontal, vertical, and elevation data with pictures.***

Task 3 Comprehensive Geotechnical Report

Consultant shall prepare a comprehensive geotechnical soils report for the site based upon the current 2019 California Building Code requirements, addressing (at a minimum) geotechnical information required by code and as necessary to construct the new pump station.

BV's subconsultant, Associate Soils Engineering, Inc. will perform two (2) exploratory test pits to a minimum depth of 5ft and until the bedrock is exposed. The result will be a report providing recommendations for retaining walls and concrete slab on grade, including slope stability, earthwork factors, and other as outlined their attached quote.

Deliverables:

1. ***Draft Geotechnical Report for ETWD review***
2. ***Final Geotechnical Report***

Task 4 Final Design

Final design shall include plans, technical specifications, and construction cost estimate at the appropriate design completion levels for each submittal. Plans shall be developed in AutoCAD latest version. Consultant shall develop hydraulics, surge analysis, design criteria, civil, mechanical, structural, electrical, and instrumentation drawings and specifications for JTM Pump Station components. Civil improvements shall be shown in relation to the rest of the site and any associated components. New pipelines outside of the pump station shall be plan and profile pipeline design sheets with appropriate detail sheets.

Consultant shall coordinate with Southern California Edison (SCE) to obtain construction requirements to provide electrical service to accommodate the pump station loads and telemetry requirements. Consultant shall assume at least one site meeting with the SCE service planner.

ETWD will self-perform programming and SCADA integration required as part of this project.

Attachment B contains the available as-builts for R-1 / R-2 reservoir site. Consultant review and conduct additional site investigations, such as potholing and topographic surveying, as necessary to convey design intent to the contractor.

Consultant shall electronically submit the following design submittals to ETWD at the following completion levels:

- 60% Design
- 90% Design
- Final Signed Bid Documents

Each submittal will include PDFs via email link. Technical specifications will be prepared for all components of the project. Consultant shall provide technical specifications in 5-digit CSI format. After the 60% and 90% design submittal, ETWD will provide comments for the Consultant to incorporate as part of the subsequent design submittal.

Task 4a 60% Design

Based upon comments received at the Interactive Kickoff Workshop, the Consultant shall prepare bid documents to a point of 60% completion. The 60% design drawings shall be developed to the following approximate levels of completion:

1. A title sheet or sheets with ETWD's approval signature block, a location map, the Project name and number, issue block with dates and revision number, summary of applicable codes and standards, drawing index, sheet number block, space for professional stamp, name, street address, phone, fax, and email address of the Design Engineer and all Subconsultants (100% complete).
2. General Drawings:
    a. List of drawings (100% complete);
    b. Site plan (100% complete);
    c. Drawing symbols, numbering & tagging conventions, symbols, and abbreviations (100% complete);
    d. Hydraulic profile (100% complete);
    e. Design criteria (100% complete);
    f. Process flow diagram (100% complete);
    g. Pipe material schedule (100% complete);
    h. Equipment schedule (100% complete);
    i. Valve schedule (90% complete); and
    j. Survey (100% complete).
3. Civil Drawings:
    a. General Notes (60% complete);
    b. Details (60% complete);
    c. Yard piping, paving, grading, and stormwater drawings (60% complete); and
    d. Yard piping/utility profiles (60% complete)
4. Structural Drawings:
    a. General notes, plans and sections (100% complete); and
    b. Plans and sections (60% complete)
5. Mechanical Drawings:
    a. Plans, sections, and details (60% complete).
6. Electrical Drawings:
    a. General notes, symbols, abbreviations (90% complete);
    b. Main switchgear single line diagram (90% complete);
    c. Load schedules (90% complete);
    d. Panel schedules (90% complete);
    e. Single line diagram (90% complete);
    f. Electrical distribution site plan (60% complete);
    g. Conduit plan (30% complete);
    h. Ground plan (60% complete); and
    i. Lighting and receptacle plan (60% complete);
7. Instrumentation:
    a. Legends and symbols (90% complete);
    b. Control system block diagrams/network architecture (90% complete); and
    c. Process and instrumentation diagrams (P&IDs) (90% complete).

The 60% design specifications shall be developed according to the following:

1. Table of Contents (100%)

2. Identifications of ETWD and Consultant standard specifications intended for use.
3. Major equipment specifications (90% complete).
4. Concrete specifications (90% complete).
5. Piping and valve specifications (90% complete).
6. Control narratives (90% complete).
7. Balance of specifications (60% complete)

Consultant shall submit hydraulic calculations showing, at a minimum, pump and system curves that indicate efficiency and required horsepower.

Consultant shall submit a 60% construction cost estimate based on manufacturer provided information and recent construction bid tab data.

30% Progress Meeting
As noted in Task 1, this proposal includes a "30% Progress Meeting". For that meeting, this proposal includes effort for BV to develop a preliminary site layout (plan) with up to three (3) alternate pump station layouts. This plan will be the basis to solicit input from ETWD engineering and operations staff to identify the merits of several potential pump locations on the site, specifically to ensure access and travel within the site are not impeded.

Topographic Survey
BV's subconsultant, The Prizm Group, will create an overall topographic map that includes details and site elevations around the proposed pump location.

Deliverables;
1. ***Preliminary Pump Station Siting Plan***
2. ***60% Design Drawings and Technical Specifications***
3. ***60% Construction Cost Estimate***
4. ***Design Calculations***

Assumptions:
- ***Design drawings will be based on BV standard drawing templates.***
- ***Technical specifications will be developed from existing BV standard specifications; the 5-digit CSI format shall be used for specification numbering.***

Task 4b 90% Design

Based upon comments received from ETWD and feedback received at the 60% Design Review Meeting, the Consultant shall prepare the bid documents to a point of 90% completion. The 90% design shall incorporate the results of final site investigations, final project layout and features, detailed design of project features, detailed drawings and specifications, design calculations (civil, electrical, mechanical, structural), and quality management reviews. All drawings and specifications should be completed to a 90% level at a minimum.

Consultant shall submit hydraulic calculations showing, at a minimum, pump and system curves that indicate efficiency and required horsepower.

Consultant shall submit a 90% construction cost estimate based on manufacturer provided

information and recent construction bid tab data.

Deliverables:

1. ***90% Design Drawings and Technical Specifications***
2. ***90% Construction Cost Estimate***

Assumptions:

- ***This proposal includes an OPCC developed from vendor and material quotes and current known labor rates such as by RSMeans. The estimate will also compare costs with recent bid tab data.***

Task 4c Final Design

Based upon comments received from ETWD and feedback received at the 90% Design Review Meeting, the Consultant shall prepare the bid documents to a point of final completion. All drawings and specifications should be completed to a 100% level at a minimum.

Consultant shall submit final hydraulic calculations showing, at a minimum, pump and system curves that indicate efficiency and required horsepower.

Consultant shall submit a final construction cost estimate based on manufacturer provided information and recent construction bid tab data.

Deliverables:

1. ***Final Design Drawings and Technical Specifications (signed and sealed)***
2. ***Final Construction Cost Estimate***

Task 4d Key Equipment Prepurchase Packages

To expedite schedule of long lead items, the Consultant shall recommend which equipment ETWD should pre-purchase. After agreeing on which equipment to pre-purchase, Consultant shall expedite the development of pre-purchase packages. Upon ETWD review of pre-purchase packages and incorporation of comments, Consultant shall develop complete packages for ETWD to solicit cost competitive proposals and purchase in advance of construction. Consultant shall aid in the review and selection of submitted proposals for equipment pre-purchase. Consultant shall develop bid documents to ultimately transfer pre-purchased equipment to the contractor with provisions to minimize risk during construction.

Deliverables:

1. ***Procurement packages will be developed based on the equipment and manufacturer decisions made following the project KO workshop.***
2. ***Procurement packages (up to 3 equipment packages)***

Assumptions:

1. ***Procurement packages will be developed based on the equipment and manufacturer decisions made following the project KO workshop.***
2. ***The procurement packages will be developed for one or all of the following:***
   a. ***Pump/motor assembly***
   b. ***Discharge control valve (w/ actuator)***
   c. ***Motor control center***

Task 5 Consultant Quality Control Reviews

The Consultant shall administer a program of quality assurance and quality control procedures for producing quality work. Specific procedures shall cover, but not be limited to, planning, checking, reviewing and scheduling the work. All documents prepared by the Consultant shall be subject to the Consultant's in-house procedures prior to submittal to ETWD for review. Discipline checks shall be made of all design calculations, drawings, specifications, construction cost estimates, and reports. Checking shall be performed by qualified individuals who are not directly involved in the design or supervision of the work. The Consultant shall identify a senior staff person responsible for all quality assurance and quality control reviews, including individual expertise and time commitment.

Task 6 Bid Period Support Services

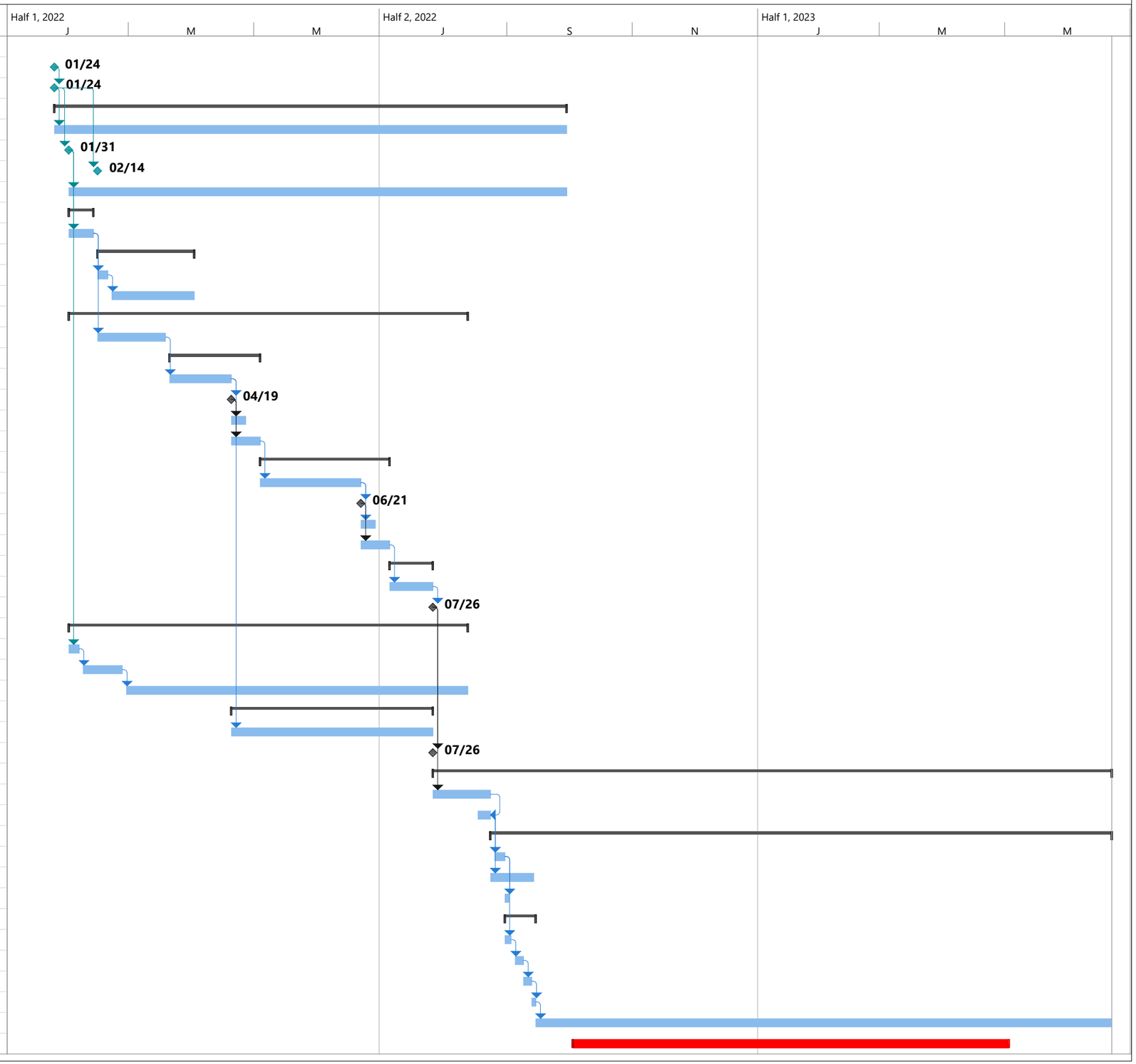
Consultant shall support ETWD during project bidding by reviewing and responding to questions from the prospective Contractors. Consultant shall respond to bidder questions by preparing written responses and sketches as-needed to address questions during bidding.

Deliverables:

1. ***Up to 1 addendum including response to bidder questions (electronic PDF)***

ATTACHMENT B
Proposed Baseline Design Schedule

ID	Task Name	Duration	Start
1	Joint Transmission Main (JTM) Pump Station Project Schedule		
2	BOARD APPROVAL / NOTICE OF AWARD	0 days	Jan 24 '22
3	Notice to Proceed	0 days	Jan 24 '22
4	**1.0 Project Management**	**179 days**	**Jan 24 '22**
5	1.1 Project Mangement	179 days	Jan 24 '22
6	Kick-Off Meeting	0 days	Jan 31 '22
7	Stakeholder Workshop (JTM)	0 days	Feb 14 '22
8	Meetings (4 planned progress meetings)	174 days	Jan 31 '22
9	**2.0 Utility Research and Document Review**	**10 days**	**Jan 31 '22**
10	Obtain and conduct research of available documents	10 days	Jan 31 '22
11	**3.0 Geotechnical Report**	**35 days**	**Feb 14 '22**
12	Conduct Geotechnical Investigation	5 days	Feb 14 '22
13	Prepare and Submit Geotechnical Investigation Report	30 days	Feb 21 '22
14	**4.0 Final Design**	**140 days**	**Jan 31 '22**
15	Finalize basis of design for JTM Pump Station components	25 days	Feb 14 '22
16	**60% Drawings and Specifications**	**32 days**	**Mar 21 '22**
17	Develop 60% Drawings and Specifications	22 days	Mar 21 '22
18	Submit 60% Submittal to ETWD	0 days	Apr 19 '22
19	Prepare 60% Cost Estimate	5 days	Apr 20 '22
20	ETWD Submittal Review	2 wks	Apr 20 '22
21	**90% Drawings and Specifications**	**45 days**	**May 04 '22**
22	Develop 90% Drawings and Specifications	35 days	May 04 '22
23	Submit 90% Drawings to ETWD	0 days	Jun 21 '22
24	Prepare 90% Cost Estimate	5 days	Jun 22 '22
25	ETWD Review of 90% Submittal	2 wks	Jun 22 '22
26	**Final Drawings and Specifications**	**15 days**	**Jul 06 '22**
27	Develop Final Drawings and Specifications	15 days	Jul 06 '22
28	Submit Final Drawings to ETWD	0 days	Jul 26 '22
29	**Key Equipment Prepurchase Packages**	**140 days**	**Jan 31 '22**
30	Identify Equipment Long-Lead Items	5 days	Jan 31 '22
31	Draft Technical Performance Specsifications (for pre-purchase)	15 days	Feb 07 '22
32	Assist ETWD with procurement activities	120 days	Feb 28 '22
33	**5.0 Quality Control Reviews**	**70 days**	**Apr 20 '22**
34	Administer Project QA/QC	70 days	Apr 20 '22
35	Submit qc records to ETWD	0 days	Jul 26 '22
36	**5.0 Bid Support Services**	**236 days**	**Jul 27 '22**
37	ETWD Advertise JTM Pump Station (By Others)	20 days	Jul 27 '22
38	Respond to Contractor questions	4 days	Aug 18 '22
39	**Construction Phase**	**216 days**	**Aug 24 '22**
40	Mobilization	3 days	Aug 26 '22
41	Submit Shop Drawings	15 days	Aug 24 '22
42	Transfer Pre-Purchased Equipment to Contractor	2 days	Aug 31 '22
43	**Install Temporary Pumping System**	**11 days**	**Aug 31 '22**
44	Hot Tap Exist 16-inch Pipeline	3 days	Aug 31 '22
45	Install Temporary Piping	4 days	Sep 05 '22
46	Install Dicharge to R2 Reservoir	2 days	Sep 09 '22
47	Perform Flow Test (Verify 2 CFS)	2 days	Sep 13 '22
48	**Construct JTM Pump Station Facility**	10 mons	Sep 15 '22
49	**Planned R-6 Outage**	**152 days**	**Oct 03 '22**



ATTACHMENT B - Sample Certificate of Insurance

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

11/1/2022

DATE (MM/DD/YYYY) 12/20/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED 1482177 BLACK & VEATCH CORPORATION 11401 LAMAR OVERLAND PARK KS 66211	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Zurich American Insurance Company — 16535 INSURER B : Lexington Insurance Company — 19437 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 18106182 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	N	N	GLO 4641358	11/1/2021	11/1/2022	EACH OCCURRENCE	$ 2,000,000
A	CLAIMS-MADE X OCCUR			GLO 1365630	11/1/2021	11/1/2022	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 4,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 4,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY	N	N	BAP 4641355 (AOS)	11/1/2021	11/1/2022	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$ XXXXXXX
	X OWNED AUTOS ONLY; SCHEDULED AUTOS						BODILY INJURY (Per accident)	$ XXXXXXX
	X HIRED AUTOS ONLY; X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	UMBRELLA LIAB OCCUR			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ XXXXXXX
	DED RETENTION $							$ XXXXXXX
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N	N/A	N	WC 4641353 (AOS)	11/1/2021	11/1/2022	X PER STATUTE OTH-ER	
A	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N			WC 4641354 (ID, MA, WI)	11/1/2021	11/1/2022	E.L. EACH ACCIDENT	$ 1,000,000
A	(Mandatory in NH)			WC 1365632	11/1/2021	11/1/2022	E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
A	If yes, describe under DESCRIPTION OF OPERATIONS below			WC 1365631 (NE)	11/1/2021	11/1/2022	E.L. DISEASE - POLICY LIMIT	$ 1,000,000
B	PROFESSIONAL LIABILITY	N	N	026030198	11/1/2021	11/1/2022	$10,000,000 PER CLAIM $10,000,000 ANNUAL AGGREGATE	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

18106182
Sample

CANCELLATION See Attachments

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Joseph M Agnello

POLICY NUMBER: GLO 4641358, GLO 1365630
COMMERCIAL GENERAL LIABILITY
CG 20 10 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:
COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
AS REQUIRED BY WRITTEN CONTRACT	AS REQUIRED BY WRITTEN CONTRACT

Information required to complete this Schedule if not shown above will be shown in the Declarations.

A. **Section II - Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or

2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to Section III -Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of Insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Units of Insurance shown in the Declarations

Attachment Code: D560353 Master ID: 1482177, Certificate ID: 18106182

Waiver Of Subrogation (Blanket) Endorsement

Policy No.	Eff.Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer	Add'l. Prem	Return Prem.
GLO 4641358	11/1/2021	11/1/2022	11/1/2021			
GLO 1365630	11/1/2021	11/1/2022	11/1/2021			

Named Insured: BLACK & VEATCH CORPORATION

This endorsement modifies the insurance provided under the following:

Commercial General Liability Coverage Part

The following is added to the **Transfer Of Rights Of Recovery Against Others To Us Condition:**

If you are required by a written contract or agreement, which is executed before a loss, to waive your rights of recovery from others, we agree to waive our rights of recovery. This waiver of rights shall not be construed to be a waiver with respect to any other operations in which the insured has no contractual interest.

POLICY NUMBER: BAP 4641355 (AOS)

COMMERCIAL AUTO
CA 20 48 02 99

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement indentifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective:11/1/2021
Named Insured: BLACK & VEATCH CORPORATION

SCHEDULE

Name of Person(s) or Organization(s): AS REQUIRED PER WRITTEN CONTRACT

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to the endorsement.)

Each person or organization shown in the Schedule is an "insured" for Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured Provision contained in **Section II** of the Coverage Form.

Waiver of Transfer Of Rights Of Recovery Against Others To Us

Policy No.	Eff.Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
BAP 4641355 (AOS)	11/1/2021	11/1/2022	11/1/2021			

This endorsement is issued by the company named in the Declarations. It changes the policy on the effective date listed above at the hour stated in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured: BLACK & VEATCH CORPORATION

Address (including ZIP code): 11401 LAMAR OVERLAND PARK KS 66211

This endorsement modifies insurance provided under the:

Business Auto Coverage Form
Truckers Coverage Form
Garage Coverage Form
Motor Carrier Coverage Form

SCHEDULE

Name of the Person or Organization:
AS REQUIRED BY WRITTEN CONTRACT

We waive any right of recovery we amy have against the designated person or organization shown in the schedule because of payments we make for injury or damage caused by an "accident" or "loss" resulting from the ownership, maintenance, or use of a covered "auto" for which a Waiver of Subrogation is required in conjunction with work performed by you for the designated person or organization. The waiver applies only to the designated person or organization shown in the schedule.

WC 00 03 13

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

AS REQUIRED PER WRITTEN CONTRACT

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.
(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Effective Policy No. WC 4641353 (AOS), WC 4641354 (ID, MA, WI), WC 1365632, WC 1365631 (NE)

Insured: BLACK & VEATCH CORPORATION

Effective Date: 11/1/2021

ATTACHMENT D
Team Resumes

Zeynep K. Erdal, PhD, P. E.

Principal-in-Charge

Dr. Erdal leads Black & Veatch's Integrated Solutions practice and has worked on some of the largest infrastructure renewal planning and implementation programs including the $1B San Mateo CleanWater Program, and $3B City of San Diego Pure Water Program. Dr. Erdal has diverse experience for water and wastewater for public and private facilities.

PROJECT EXPERIENCE

Elsinore Valley Municipal Water District | Regional Reclamation Plant Concept Design, Lake Elsinore, CA

Process Lead. Dr. Erdal was the Senior Technical Consultant (STC), and led development of WRP capacity and alternatives evaluation using whole-plant process modeling. The facility has low nutrient requirements (Lake Elsinore discharge TN: 1.5 mg/L, TP: 0.05 mg/L). Liquid and solids handling options were selected, and sizing, construction requirements, footprint and site plans were developed for 16-mgd Bardenpho/MBR expansion followed with tertiary filtration and future IPR systems.

City of San Louis Obispo | WRF Upgrades and Water Resource Recovery Design, San Louis Obispo CA

Senior SME. Dr. Erdal served as the STC for the facility upgrades design and value engineering workshops, for the stringent SLO Creek discharge requirements surpassing drinking water standards, including nutrient and DBP limits (e.g.; NDMA). Design included conversion of the facility to MBR technology and UV disinfection providing short term permit compliance with ability to achieve potable reuse in the later phases of the project. Design also included ability to manage wet weather peak flows, produce Title 22 equivalent discharge quality, and Title 22 reuse.

City of San Diego | Pure Water Program, Conveyance and North City WWTP Expansion and Upgrades Design, San Diego, CA

Senior SME and QA/QC. Dr. Erdal provided Senior SME services for the facility expansion and upgrades design at North City WWTP to provide 30 mgd recycled source water for the downstream advanced water treatment (AWT) facility under the Pure Water Program, and for the ongoing conveyance systems design including Morena Pump Station and associated odor control facilities.

City of Clovis | Water Reclamation Facility, Clovis, CA

Process Lead. Served as the Process Lead for the design build operate (DBO) delivery of this award winning greenfield 2.5-mgd MBR BNR facility designed for modular expansion of new headworks, fine screens, membrane bioreactors, solids handling, UV disinfection, blower building, tertiary effluent storage and pump station, standby power and new electrical service. Waste activated sludge was reduced through use of Cannibal technology and dewatered for offsite hauling.

Eastern Municipal Water District (EMWD) | Temecula Regional Water Reclamation Facility (TVRWRF) 23-mgd Expansion, Temecula, CA

Process Lead. Led the planning and design of the 10-mgd expansion of the TVRWRF which includes a new treatment train consisting of influent splitter structure, primary clarifiers, fine screens, membrane bioreactors, disinfection and a blower building, tertiary effluent pump station expansion, standby power and new SCE electrical service. The solids handling facilities are being expanded with two digesters and rotary drum thickener for waste activated sludge. She also led the MBR equipment pre-selection/pre-bid package development and procurement, and supported the subsequent final design & construction.

OFFICE LOCATION
Irvine, CA

EDUCATION
PhD, Civil Engineering, Virginia Tech, 2002

MS, Environmental Engineering, The Ohio State University, 1995

BS, Environmental Engineering, Middle East Technical University (METU), Ankara, 1991

PROFESSIONAL REGISTRATION
PE – CA, C74679

PROFESSIONAL AFFILIATIONS
Water Environment Federation (WEF)

WateReuse Association

American Water Works Association (AWWA)

International Water Association (IWA)

YEAR STARTED CAREER
1997

YEAR STARTED WITH B&V
2019

City of Oxnard | Water Purification Facility Preliminary Design Services; Oxnard, CA

Process Lead. Led the concept and pilot design development for full advanced treatment consisting of pretreatment, microfiltration (MF), reverse osmosis (RO), hydrogen peroxide based ultraviolet advanced oxidation process (UVAOP), wetlands polishing and post treatment. The 25-mgd ultimate capacity advanced purification facility was designed to produce high quality water for indirect potable reuse (IPR) via groundwater augmentation. She also served as the Senior Technology Consultant for the AWT pilot testing and the related TDS Management Plan.

City of Carlsbad | Water Recycling Facility Phase III Expansion. Encina, CA

QA/QC. As part of the Owner's Engineer Team for this DB project, provided review of operational conditions at the upstream wastewater treatment plant and at the WRF, startup issues, resolution development for the UF units and the whole system, and coordination with CA DDW.

City of Redlands | WWTP Expansion and MBR Conversion. Redlands, CA

SME and QA/QC. Dr. Erdal served as the process lead and startup engineer for the WWTP expansion and MBR conversion through DB delivery completed in 2006. She provided process modeling, flow balancing, MBR and nutrient removal optimization services. The facility consist of primary clarifiers, headworks, splitter structure, RAS fine screens, conventional and membrane bioreactor trains, disinfection and a blower building. Subsequent efforts included performance testing, proces smodeling, coordination with equipment supplier, etc. Original membranes are still in use.

Lake Arrowhead Community Services District | Grass Valley Treatment Plant Expansion and Recycled Water Project; CA

Lead Process Engineer. Dr. Erdal was the process lead for selection and design of the treatment technologies (Trickling Filters, MBRs, and MF/UF membranes) suitable for this secondary treatment expansion and recycled water project. She led the process design for the selected membrane technology during pre- and final design of the facility, completed in parallel with a technology pilot testing that allowed MF/RO system sizing tailored for the challenging secondary effluent.

West Basin Municipal Water District | Carson Water Recycling Plant Phase II MBR Expansion; Carson, CA

Process Lead/PM. Dr. Erdal led the technology development, pilot testing and design of a tertiary nitrification facility for industrial reuse at downstream refineries for boiler water and cooling tower makeup water uses, customers of West Basin, and the City of LA DWP. She led the first T-MBR pilot program in US that allowed successful evaluation and design criteria development, as well as downstream RO design and operation requirements.

Laguna County Sanitation District | Water Reclamation Facility Planning; Santa Maria, CA

Process Lead. Dr. Erdal led facilities troubleshooting and process design, and subsequent facilities master planing for expansion. The facility's innovative liquid treatment system has the first MBR/RO in CA put into operation in 2001, consisting of a headworks, trickling filter, equalization ponds, tertiary membrane filtration (MF), drum screens, high TDS stream membrane bioreactor (MBR) system and reverse osmosis (RO) system, UV disinfection, and storage prior to recycling. The high TDS streams are treated separately through MBR/RO trains and blended for reuse.

SOCWA | J.B. Latham Advanced Wastewater Treatment (AWT) Plant Preliminary Design; Dana Point, CA

Project Manager and Process Lead. Dr. Erdal led pilot testing and design of MF followed with UV disinfection system was completed also incorporating geotechnical site assessment, power requirements assessment and pump station/ storage location assessments. She developed the bid packages and led the procurement for the MF and UV systems under SRF funding.

Derek Kurtti, P.E.

Project Manager

Derek has 15 years of experience with the design and construction of water/wastewater infrastructure in California. He spent the first eight years of his career as a construction engineer and manager working for two large contractors before transitioning to engineer consulting. This experience has provided him with a balanced perspective and the ability to look at design through the eyes of a contractor with a focus on constructability, cost, and project efficiency. He has a proven ability to work with a broad set of stakeholders, create a positive and focused team environment, and drive the consensus needed to deliver projects on schedule.

PROJECT EXPERIENCE

Moulton Niguel Water District | Reservoir Management System; Orange County, CA | 2017

Project Engineer. The project replaced existing chlorine gas disinfection systems with bulk sodium hypochlorite and ammonia chemical delivery systems at three reservoir sites. Project scope included designing new chemical facilities, demolishing existing facilities, making SCADA connections, improving site security, and performing reservoir mixing systems analysis. Derek completed multiple design tasks and provided support during the construction phase.

Walnut Valley Water District | Sylvan Glen Reservoir Seismic Retrofit and Site Improvements Project; Diamond Bar, CA | 2016

Project Manager. Provided engineering manager, engineer of record, and construction inspector roles for the seismic retrofit and site improvement project. Provided project support from initial design inception through construction completion including oversight and coordination of special inspections for soils and concrete testing. Project included adding seismic anchors to an existing above-ground steel reservoir; removal and replacement of interior coating system; inlet and outlet piping improvements; site security upgrades; and miscellaneous electrical improvements.

City of Riverside | Ferric Chloride Pumping and Storage Station Project; Riverside, CA | 2015-2016

Design Engineer/Construction Manager. Responsible for design of a new chemical storage and metering station including chemical storage tanks, mechanical and yard piping, double containment, and insulated pipes. Prepared a technical design report outlining key project components and providing recommendations, and prepared mechanical design elements. During construction reviewed submittals and RFIs, assisted the City in review of project issues and resolution of changes (unknown utility, changed equipment), and provided on-going construction oversight and support.

South Coast Water District | Niguel Shores Master Meters; Dana Point, CA | 2017

Project Manager. Prepared plans and specifications for the design and construction of a new recycled water meter vault, including piping connections to existing asbestos concrete pipe mains, and replacement of an existing recycled water meter. Project included coordination with the City of Dana Point; site survey; geotechnical investigations (borings); utility investigations (potholes).

OFFICE LOCATION

Irvine, CA

EDUCATION

B.S., Civil Engineer, California Polytechnic State University, San Luis Obispo, CA 2006

PROFESSIONAL REGISTRATION

PE – 2016, California, C84676

PROFESSIONAL ASSOCIATIONS

Orange County Water Association - Director

California Water Environment Association

American Water Works Association

WateReuse Association

American Society of Civil Engineers

YEAR CAREER STARTED

2006

YEAR STARTED WITH B&V

2020

South Coast Water District | Lift Station 2 Force Main Replacement Value Engineering Study; Laguna Beach, CA | 2016

Project Engineer. Prepare and presented to the Water District board a value engineering study of the various alternatives to replace a 2-mile-long force main including; review existing design criteria; trenchless rehabilitation of the existing force mains; alternative alignments; hydraulic analysis; impacts of each alternative on the private golf course and environmentally sensitive areas; recommendation of alternative; and summary of construction and regulatory issues. Presented the findings and report before the District Board for consideration.

City of Huntington Beach | Water Well No. 5 Facility Replacement Project; Huntington Beach, CA | 2016

Project Engineer. Preliminary design of a $2.5 million project to replace the existing 600 gpm capacity well with a new 1,500 gpm capacity well. Tasks include agency approvals, hydrogeology and geotechnical, surveying, and design of new well and wellhead, architectural, structural, electrical, controls/SCADA, and security system. The project also includes a new chlorine containment structure for a one-ton container and 150-lb. cylinders and a fluoride room. The 600-foot-deep well is driven by a dual drive natural gas engine and electrical motor/variable frequency drive.

Coachella Valley Water District | Booster Pump Station 3501 Replacement Project; Desert Hot Springs, CA | 2018.

Project Engineer. Preparation of the preliminary design for the replacement booster pumping station consisting of four 500 horsepower (hp) vertical turbine pumps delivering a maximum flow of 3,320 gpm from the Improvement District 1 (ID 1) Pressure Zone to the Sky Valley Pressure Zone. Project design tasks and components include new pumps, piping, electrical building, and connections to the existing above-grade steel reservoirs and two lower pressure zones; hydraulic analysis; surge tank; pump selection; site layout; electric service provider coordination; emergency generator sizing/selection; site survey; utility potholes; and geotechnical borings and testing.

City of Burbank | Beachwood Sparks Force Main and Pump Station Replacement; Burbank, CA | 2015

Project Engineer. Provided project and construction management support throughout the lifecycle of the project. Assisted in quality control reviews prior to bid and construction. Reviewed and responded to submittals and request for information (RFI)s, assisted in resolution of field construction issues and public outreach. The project included 12,000 linear feet of 24-inch HDPE pipe along the Sparks-Chandler alignment, replacement of three dry-pit submersible 150 hp pumps, construction of a new valve vault, removal and replacement of valves and appurtenances, and recoating the pump station wet well. The project also included construction of new sewer maintenance manholes, air relief valves, blow-off assemblies, and tie-in to the new 24-inch force main.

Walnut Valley Water District | Industry Business Center Recycled Water Booster Pumping Station; Diamond Bar, CA | 2017

Project Manager and Engineer of Record. Construction of a new 2,700 gpm booster pumping station to service the new Industry Business Center Development irrigation system. Project includes a hydraulic analysis and pump selection; four vertical multi-stage, centrifugal, variable speed pumps; discharge piping and appurtenances; connections to exists recycled water mains; coordination with electrical service provider for new transformer; connection to existing SCADA; perimeter block wall with monument sign; site grading and paving; and coordination with site developer.

South Coast Water District | Niguel Shores Master Meters; Dana Point, CA | 2017

Project Manager. Prepared plans and specifications for the design and construction of a new recycled water meter vault, including piping connections to existing asbestos concrete pipe mains, and replacement of an existing recycled water meter. Project included coordination with the City of Dana Point; site survey; geotechnical investigations (borings); utility investigations (potholes).

South Coast Water District | Lift Station 2 Force Main Replacement Value Engineering Study; Laguna Beach, CA | 2016

Project Engineer. Prepare and presented to the Water District board a value engineering study of the various alternatives to replace a 2-mile-long force main including; review existing design criteria; trenchless rehabilitation of the existing force mains; alternative alignments; hydraulic analysis; impacts of each alternative on the private golf course and environmentally sensitive areas; recommendation of alternative; and summary of construction and regulatory issues. Presented the findings and report before the District Board for consideration.

Kevin Reel, P.E., ENV SP

Project Engineer

Kevin Reel is a registered Civil Engineer working with Black & Veatch Water, based in Los Angeles, California. He has experience in a variety of water reuse, wastewater, stormwater, and water treatment plant facilities design projects. His strengths include process-mechanical facilities design, plant and pipeline hydraulics, pipeline design, and pump station design.

PROJECT EXPERIENCE

Helix Water District | Chet Harritt Pump Station Replacement and Lake Jennings Aeration System; Lakeside, CA | 2021 - Ongoing

Project Engineer. Responsible for leading the development of facility layout and process-mechanical piping design for a new building containing a raw water pump station with vertical turbine pumps, compressor room, and electrical room.

Drainage Services Department | Upgrading of Tai Po Sewage Treatment Works; Hong Kong | 2020 - Ongoing

Engineering Manager. Responsible for leading the development of facility layouts, plant hydraulics, and cost estimating for plan study of new liquid stream, solids handling/co-digestion, and reuse treatment facilities as part of a 160 MLD sewage treatment works upgrade.

Regional San | Channel Aeration Blower Replacement Project; Elk Grove, CA | 2016-2020

Engineering Manager. Responsible for leading civil and process mechanical design for a $13M turbo blower replacement, blower building construction, and aeration pipeline replacement project at a 330 MGD wastewater treatment plant. Coordinated laser scanning of existing tunnels and pipe stress analysis and design. Prepared process-mechanical layouts, yard piping, paving, and grading drawings, stormwater design, and stamped civil and mechanical drawings and specifications.

Burbank Water and Power | Burbank Valley Pumping Plant Retrofit; Burbank, CA | 2019 - 2021

Engineering Manager. Responsible for leading design of retrofits for a 11,000 drinking water booster pump station, including two 350 HP and two 500 HP horizontal split case pumps. The retrofits of the booster station include replacement of pumps, motors, synchronous starters, and pump suction and discharge piping and appurtenances. The project also includes the design of a new booster station PLC controller and new remote I/O panels for an existing Blend Facility and Disinfection Facility. Responsibilities included developing pump station retrofit layout and civil improvement plans, managing the design team, overseeing development of a transient analysis for the distribution network, preparing front-end and technical specifications, and coordination with the Client.

Metropolitan Water District of Southern California | Greg Avenue Pressure Control Structure; Burbank, CA | 2019 - 2021

Engineering Manager. Responsible for leading development of a Task Order to provide revisions to surge tank isolation vault design, electrical utility design revisions, and pump power factor correction/grounding switch cabinet revisions. Currently providing services during construction and managing submittal review, RFI response, and change

OFFICE LOCATION

Los Angeles, CA

EDUCATION

BS, Civil Engineering, California Polytechnic State University – San Luis Obispo, 2013

PROFESSIONAL REGISTRATION

PE – 2016, CA, #86572
ENV SP – Envision Sustainability Professional

PROFESSIONAL ASSOCIATIONS

California Water Environment Association

Water Environment Federation

YEAR CAREER STARTED

2012

YEAR STARTED WITH B&V

2013

order preparation as construction proceeds with new 3000 HP split case pumps, a new Control Building, replaced surge tank system, and site improvements.

City of Paso Robles | Wastewater Treatment Plant Tertiary Treatment Facilities Detailed Design; Paso Robles, CA | 2015 - 2019

Project Engineer. Prepared detailed design of cloth media disk filter facilities, high service pump station chamber, flow diversion structure, and recycled water storage pond at a 5.5 MGD Title-22 tertiary treatment plant upgrade. Design included preparation of specifications for major equipment such cloth media filters and a package pump station. Also provided construction support including shop drawing review, site visits, UV factory acceptance testing observation, chemical feed pump integration assistance, and SCADA site acceptance testing support. Awards: *2020 Wastewater Project of the Year, Global Water Awards; Engineering Achievement, CWEA.*

City of Beverly Hills | La Cienega and Frank Fenton Field Stormwater Project; Beverly Hills, CA | 2018 - 2020

Engineering Manager. Performed feasibility evaluation for 24 AF stormwater diversion and infiltration facility at a public park. Coordinated with City and County to collect stormwater record drawings determine tributary watersheds during storm events. Developed preliminary design report for 21 AF stormwater diversion, detention, and pump station facility using fully buried modular precast stormwater detention basins.

Placer County Water Agency | Ophir Water Treatment Plant; Auburn, CA | 2016 - 2018

Project Engineer. Responsible for process-mechanical design, civil piping layouts, and hydraulic design of residuals handling and chemical handling facilities for a 10 MGD, $68M potable water treatment plant. Lead design of gravity thickeners, submersible and double disc pump stations, splitting structure, and a chemical building. Awards: *2016 Black & Veatch Water Award for Client Satisfaction*

San Francisco Public Utilities Commission | CS-235 Biosolids Digester Facilities Project; San Francisco, CA | 2018 - Ongoing

Project Engineer. Responsible for design of large diameter pipe crossings, facility layouts, discipline coordination, and eductor, wetwell, pipe thrust, and air valve calculations. Design includes review of laser scans to markup tunnel, gallery, and pipe chase drawings.

Regional San | BNR Project; Elk Grove, CA | 2013 - 2018

Project Engineer. Responsible for preparing and editing site utility drawings, interfacing with client, performing design calculations, writing technical memoranda, and coordinating with disciplines in the design of a 330 MGD capacity biological nutrient removal (BNR) basin. Coordinated standard specifications and details and performed calculations including horizontal end suction centrifugal pump station design, stormwater runoff, pipeline sizing, pipe loading, and air release.

San Francisco Public Utilities Commission | CS-249 Mountain Tunnel Inspection; San Francisco, CA | 2016-2017

Project Engineer. Performed groundwater sampling, assisted in photo documentation and visual assessment, and Schmidt hammer testing during a permit-required confined space entry inspection of an 18-mile-long water supply tunnel.

California American Water | Chromium VI Treatment Project; Sacramento, CA | 2015-2016

Staff Engineer. Designed a 3300 ft+ linear transmission pipeline for installation in a residential roadway. Design includes pipeline plans, profiles, details, site modification at connection point, and all civil and mechanical specifications.

City of Mesa | Signal Butte Water Treatment Plant; Mesa, CA | 2016

Staff Engineer. Wrote code study at a 30 MGD water treatment plant, summarizing code classifications for enclosed facilities. Prepared hazardous materials inventory statement with chemical descriptions.

Southern Nevada Water Authority | AMSWTF Filter Improvements Demonstration; NV, | 2016

Staff Engineer. Developed plant hydraulic profile from Forebay to Coagulation process for a 600 MGD Water Treatment Plant.

Rich ten Bosch, P.E.

Technical Advisor / QA/QC Manager

Mr. ten Bosch is a Senior Engineering Manager. In addition to serving as the Engineering Manager on many of B&V's high profile projects, he has provided techincal expertise and quality control review on many of the region's projects. He has specific experience and expertise in pump station and reservoirs systems. His 11 years of in field experience have helped produced cost-effective constructable designs.

PROJECT EXPERIENCE

Orange County Water District | Groundwater Replenishment (GWR) System Final Expansion, Fountain Valley, CA | Current

Engineering Manager. OCWD and OCSD are implementing the GWR System Project, an innovative water supply program to maximize local resources. OCWD is currently in construction of the Final Expansion to the GWR System, which will increase the capacity of the Advanced Water Purification Facility (AWPF) by 30 mgd to a total of 130 mgd. Rich lead the design effort which in addition to the AWTF included two prestressed concrete reservoirs and a pump station. Preliminary design included a detail hydraulic analysis of the storage and pumping system. The total construction cost of the project was $211M.

Orange County Water District | Groundwater Replenishment (GWR) System Initial Expansion, Fountain Valley, CA | 2016

Engineering Manager. OCWD completed the Initial Expansion to GWR which increased production capacity from 70 mgd to 100 mgd. Rich's responsibilities included leading the effort for the design of two steel equalizations storage tanks and a pump station. Preliminary design included a detail hydraulic analysis of the storage and pumping system. The total construction cost of the project was $116M.

Orange County Sanitation District | Task Design Manager, Secondary Activated Sludge Facility 2 at Plant No. 1, Project P1-102, Fountain Valley, CA | 2011

Engineering Manager. Project developed 60 mgd of additional secondary treatment capacity. Specific task responsibilities included directing preliminary and final design of blower building, aeration basins, and piping tunnels. Performed complex plant hydraulic analysis, which included three separate secondary facilities, complex flow diversion structures, and limited available hydraulic head. Directed detailed construction sequencing plan, and comprehensive plant control strategy. Ensured conformance to client's detail design guidelines and standards. The total construction cost of the project was $210M.

Orange County Sanitation District | Effluent Pump Station Annex, Project J-77, Fountain Valley, CA | 2004

Project Engineer. Directed design and construction support of a new effluent pump station. The Effluent Pump Station Annex will provide a firm pumping capacity of up to 240 mgd to the existing 120-inch Ocean Outfall No. 2 and 78-inch Ocean Outfall No. 1, depending on the mode of operation.

OFFICE LOCATION

Irvine, CA

EDUCATION

B.S., Agricultural Engineering, California Polytechnic State University at San Luis Obispo, 1982

M.S., Civil Engineering, University of California at Los Angeles, 1986

PROFESSIONAL REGISTRATION

PE – 1990, California, C45340

PROFESSIONAL ASSOCIATIONS

WEF

CWEA, Santa Ana River Basin Section

YEAR CAREER STARTED

1982

YEAR STARTED WITH B&V

1993

City of Rialto | Rialto Highland Reservoir, CA | 1998

Technical Advisor. Directed the design of a new 5.0 mgd groundwater storage reservoir including flow control valve vault, chlorination facilities, and connecting piping and valves. The secondary outlet was incorporated into the design to offer the City flexibility in complying with future state regulations, including a flow through configuration with 180-degree separation between the inlet and outlet. The new reservoir was designed to work in parallel with an existing reservoir located at a separate site, but hydraulically connected to a pressure zone in the City's water distribution system.

City of Tustin Main Street Facilities | CA | 1998

Project Engineer. Responsible for design of wellhead pump and discharge piping for a new Well No. 4, chlorine storage and feed facilities, (future) fluoridation facilities, emergency chlorine scrubbing equipment, cast-in-place buried concrete reservoir with booster pump station.

DC Ranch | Zone 5 Reservoir and Booster Pump Station, Scottsdale, AZ | 1998

Project Engineer. Coordinated and managed the design for a 3 MG buried cast-in-place potable storage reservoir, booster pump station, 150-lb gaseous chlorine system, 10,000-gallon surge tank, and associated facilities.

City of Brawley | Water Treatment Plant, Brawley, CA | 1999

Project Engineer. Designed a new 15-mgd conventional WTP, including raw water storage, pump station, chemical feed systems, flocculation, sedimentation and filtration with dual media filters. The plant serves as a regional water supply for Westmorland. Specific responsibilities included preliminary design and detailed hydraulic analysis.

Andrew Franklin, P.E.

Instrumentation and Controls

Mr. Franklin is an instrumentation and control systems engineer with twenty years of increasing responsibility for designing and implementing control systems. Experienced with all phases of control systems projects including master planning, design, programming, scheduling, vendor selection, acquisition, installation, technical writing and technical presentation.

Specific expertise includes project design, implementation, commissioning and management regarding process control in the water, wastewater, and power generation industries. These industries employ various automation platforms such as distributed control systems (DCS), programmable logic controllers (PLC), and human machine interfaces (HMI) and their monitoring and control of various process instrumentation devices. He also has similar experience with process control networks utilizing fiber and copper media in a LAN and WAN topology. Additional expertise includes field commissioning of HVAC, boiler and chiller systems.

PROJECT EXPERIENCE

Orange County Water District| Groundwater Replenishment System (GWRS) Final Expansion | Fountain Valley, California

I&C Engineer. I&C Engineer for the Groundwater Replenishment System Final Expansion project that will bring the Advanced Water Treatment Facility (AWTF) to its ultimate capacity of 130 mgd from the initial expansion of 100 mgd. This assignment included the design review and compliance of the instrumentation for the chemical feed, UV disinfection, MF, RO and miscellaneous systems. The design addresses water quality issues raised by the addition of lower quality OCSD Plant 2 effluent to the AWTF's influent mix.

Eastern Municipal Water District | Perris II Desalination Facility Project | Menifee, California

I&C Engineer. The P2D project included the development of a groundwater Reverse Osmosis potable water treatment facility. Responsible for leading the SCADA network implementation and design compliance; commissioning plan review and design review of plant systems including; RO transfer pump station and building; 3 MGD permeate RO system with feed pumping station, RO CIP and Flush systems, systems; RO process building with process, chemical, control, electrical, mechanical and administrative areas; Decarbonator CO2 removal system; Finished Water Chlorine Contact tank, pump and building; brine receiving station and pump station. The facility will supplement the existing potable water system with 5.4 MGD and was planned for future expansion. The final OPCC was estimated at $50 million with Contractor bid within 0.4%.

City of Anaheim | COA Automation and Control System Replacement | Anaheim, California

Senior Control Systems Engineer. Project upgraded the SCADA System for City of Anaheim's Lenain Water Treatment Plant. Provided a reliable, highly functional, open, and modern process control and data acquisition system for the water utility. Responsible for designing server upgrade and virtualization, SCADA software upgrade to Wonderware system platform, plan control room reconfiguration, manage the programming and replacement and upgrade of the SCADA software.

OFFICE LOCATION
Irvine, CA

EDUCATION
BS, Mechanical Engineering, University of California at Berkeley, 2000

PROFESSIONAL REGISTRATION
PE – 2007, CA, M33973

PROFESSIONAL ASSOCIATIONS
American Indian Science and Engineering Society

YEAR CAREER STARTED
2000

YEAR STARTED WITH B&V
2020

City of Roseville | City of Roseville SCADA System Replacement | Roseville, California

Senior Control Systems Engineer. Project to take 60% SCADA System replacement design to 100%, convert existing DYNAC database to iFIX database structure, furnish and configure iFIX SCADA application software, furnish and configure Proficy Historian, replacing standalone and legacy SCADA HMI applications.

Charles County | Waldorf Automation RTU Replacement System Configuration and Commissioning Services | Charles County, Maryland

Senior Control Systems Engineer. Provide RTU System configuration and commissioning services for the replacement of existing communications network, new Modicon SCADA RTUs, instrument replacement and additions, and control and electrical modifications at water distribution and collection system sites.

City of Arlington | John Kubala Water Treatment Plant Expansion II | Arlington, California

Control Systems Engineer. Upgraded the existing SCADA HMI application from iFIX 3.5 to iFIX 5.0.Developed new SCADA HMI screens for expansion of the water treatment plant. Modified existing screens and dynamos to accommodate additions to existing areas of the plant. Reverse engineered existing Visual Basic scripts and dynamos in order for additions to function properly. Performed factory acceptance testing, complete end to end testing, strategy field testing and startup of the SCADA system. Created PLC programming, installation, testing, and startup schedule matrix in order to coordinate with vendors and contractors.

City of Roseville | Dry Creek Wastewater Treatment Plant Chlorine Conversion to UV Disinfection Upgrade | Roseville, California

Control Systems Engineer. Programmed the recycled water production and storage control strategies, developed a detailed mode of operation equipment matrix, created a software submittal with control logic flow charts, and performed PLC power usage calculations for the Recycled Water/UV Bypass Water Pump Station. Created interconnect drawings and SCADA screens for the new centrifuge system. Programmed the temporary hypochlorite system. Facilitated loop checks from field to SCADA level during startup of the UV system. Contributed to control system programming design standards.

City of Roseville | Pleasant Grove Wastewater Treatment Plant Aeration Upgrades | Roseville, California

Control Systems Engineer. Programmed pump control at the PGWWTP recycled water pump station and emergency storage basins. Programmed reversible control logic for the bar screens conveyor belt. Created operational test procedures for the recycled water pump station and emergency storage basin pumps. Created SCADA screen for the new oxidation ditch.

Disneyland Resort | Cooling Tower Water Quality Monitoring | Anaheim, California

Lead Control Systems Engineer. Responsible for leading the project to improve the water quality detection and treatment for Disneyland Resort's chiller plant cooling towers. The project included a pilot test site for installing redundant instrumentation implemented into the resort's Environmental Management System, replacing chemical feed controllers resort wide and improved monitoring of live and historical data for alarm generation and reporting.

Disneyland Resort | Star Wars Galaxy's Edge |Anaheim, California

Control Systems Engineer. Responsible for programming all Micrologix PLCs and Wonderware HMI for the Boiler skids and utility monitoring of all the buildings in the new Star Wars Galaxy's Edge land at Disneyland Resort. Other activities included commissioning of Boilers, Utilities, and HVAC systems. Delivered on-time in support of the aggressive opening day schedule.

Disneyland Resort | Team Disney Anaheim Chiller Replacement | Anaheim, California

Lead Control Systems Engineer. Provided control systems design and construction services for the replacement of a centrifugal chiller with a screw chiller at the Team Disney Anaheim building at Disneyland Resort. Responsible for designing the addition to the building management system, programming the building controller and environmental management system, start-up and commissioning of the new screw chiller.

Raghu Kadava, P.E.

Mechanical Engineer

Mr. Kadava has 12 years of experience as a mechanical engineer on projects involving pump station design of both water and wastewater systems, hydraulic and transient analyses, pump selections, and technical specifications. His responsibilities on these projects have entailed system modeling, design, specifications and piping & instrumentation drawings. He also has experience on witness testing of pumps and hydraulic physical models. He also has experience on the design of surge control systems and compressed air system, valves and piping. Over his career and in various capacities, he was involved in the design and/or improvements of over 100 pumping stations, performed transient analyses on over 20 transmission and distribution systems. He is a contributing member of Hydraulic Institute Standards for intake, vibration and foundation.

PROJECT EXPERIENCE

Helix Water District | Johnstown Pump Station Replacement; San Diego County, CA

Hydraulics Pump Specialist. Design of a 4.8-MGD potable water pump station using three constant speed vertical turbine pumps, 150 HP each. The project includes all ancillary design of the pump station replacement including hydraulic analysis, pump selection and optimization, and design of the new building. Duties include review of District hydraulics, analysis of pump demands and system curves, pump selection and optimization, assistance with pump and mechanical layout, and development of pump specifications.

Metropolitan Water District of Southern California | Greg Ave Pump Station Project; Burbank, CA

Hydraulics and Pump Engineer. Design of improvements for an existing pressure control structure and pump station facility. Improvements included addition of a new control building, replacement of all major mechanical equipment (pumps, valves, piping and surge tanks), and new electrical and I&C. Due to the size of the pumps (55 cfs each) and motors (3,000 HP each), this major equipment was pre-procured to ensure schedules were met. Duties included development of system head calculations, pump analysis and selection, mechanical layout guidance, and pump specification preparation.

Eastern Municipal Water District | Perris and Elder Booster Pump Station; Moreno Valley, CA

Mechanical Engineer & Pump Specialist. Design and construction of a 500 HP, 8 MGD pump station, using four 100HP vertical turbine pumps and variable frequency drives. Duties included review of system hydraulics, analysis of pump demands and system curves, pump selection and optimization,

OFFICE LOCATION

Kansas City, Missouri

EDUCATION

MS, Mechanical Engineering, University of Missouri-Rolla, 2004

BS, Mechanical Engineering, Jawaharlal Nehru Technological University, India, 2002

PROFESSIONAL REGISTRATION

PE – 2010, NM, 1994

YEAR CAREER STARTED

2004

YEAR STARTED WITH B&V

2006

assistance with pump and mechanical layout, and development of pump specifications.

Helix Water District | Fletcher Hills 2 Pump Station Replacement Construction; La Mesa, CA

Pump Specialist. Black & Veatch provided resident engineering and inspection oversight for a new pump station constructed in a concrete masonry building with three vertical turbine style 60 HP pumps installed in steel cans. Provided support for the District and construction team related to installed pumps and testing requirements.

Burbank Water & Power| Burbank Valley Pumping Plant Retrofit; Burbank, CA

Pump Specialist. Retrofit design for a 24 cfs drinking water booster pump station, including two 350 HP and two 500 HP horizontal split case pumps. The retrofit included replacement of pumps, motors, synchronous starters, and pump suction and discharge piping and appurtenances. Responsibilities included pump analysis and selection, and pump specification oversight.

Eastern Municipal Water District | Cactus Avenue Pump Station; Moreno Valley, CA

Pump Engineer. Design and construction of a 70 cfs pump station that includes six 500 HP pumps with variable frequency drives, on-site emergency power generation system, and a surge control system. Assisted the team in pump analysis and selection, and pump review assistance during construction.

Eastern Municipal Water District | Murrieta Road Booster Pump Station; Perris, CA

Pump Engineer. Design of a 22 MGD potable water pump station, using four vertical turbine, VFD driven pumps. A unique characteristic of the pump station is the ability to pump in two directions depending on the supply availability, requiring careful design of automated valves and pump controls. Duties include analysis of hydraulics, pump optimization and selection for dual zone pumping, and preparation of pump specifications.

County of San Diego | Rancho San Diego Pump Station Rehabilitation; Spring Valley, CA

Pump Specialist. Provided hydraulic analysis, pump selection and pump specification assistance on the design of a 7 MGD dry-pit/wet-well configuration sewer lift station using three 250-HP horizontal chopper pumps, variable frequency driven. During construction, performed pump submittal review, and coordination with the pump vendor.

County of San Diego | Jamacha Sewer Pump Station | Spring Valley; CA

Pump Specialist. The scope consisted of increasing the baseline capacity of the pump station to accommodate additional flow (1.9 MGD) during the Jamacha Siphon Bypass condition. The initial scope of work involved evaluation of rehabilitation versus replacement. It was ultimately decided to replace the existing pump station. Subsequent to the PDR phase, Black & Veatch was tasked with performing the detailed design for the replacement pump station.

Johnson County WaterOne | Engineering Services Agreement; Overland Park, KS

Pump Technical Specialist. Provided engineering services to the Owner on several active projects. Reviewed technical specifications and witnessed factory acceptance tests for pumps up to 1250 hp vertical turbine pumps and 1500 hp horizontal split case pumps. Reviewed vibration analysis reports on existing installations and recommended improvements for the pumps. Provided engineering services to the client in resolving several mechanical and hydraulics problems on pump stations involving hydraulic transient analysis, pump system curves, etc. Assisted the client in resolving natural frequency issues involving 1250 hp motor replacement on a vertical turbine pump.

Stephane Lecina, P.E.

Hydraulics

Mr. Lécina specializes in hydraulics. His areas of expertise are hydraulic design, transient and surge analysis. Stéphane has performed hydraulic analysis and modeling for pumping systems, gravity and open channel systems, hydropower facilities, large conveyance systems, water and wastewater treatment plants. He has had the responsibility of hydraulics technical lead, managing a team of hydraulic modelers and is a practice leader for hydraulics.

PROJECT EXPERIENCE

West Harris County Regional Water Authority | Review of Surge Analyses of Surface Water Project | Texas,

Hydraulics & Transient Expert. Peer review of proposed system operation, and surge protection systems for a large water conveyance system (25 miles long) including two pumping stations (190 mgd peak flow) and two points of delivery. Provided recommendations to improve operation and surge protection performance.

Orange County Water District | Groundwater Replenishment System, Pumping Station & Conveyance System | Fountain Valley, CA

Hydraulics & Transient Expert. Reviewed hydraulic & surge analysis and proposed surge protection design. 14-mile-long conveyance system to multiple injection wells and recharge basins, system capacity of 120 mgd.

California Water Services | Palos Verdes Pipeline & Pump Station Design, Hydraulic and Surge Analyses | Palos Verdes, California

Hydraulics Technical Lead. Analyses of system wide hydraulic conditions to identify pump requirements for new pumping station. Design of new pumping station pump configuration, control, and surge protection. Recommendations of surge protections system-wide, including five additional pumping stations and two floating reservoirs with maximum system flow of 50 mgd.

PG&E | Helms Pump Storage Hydraulics & Transient Analyses | San Francisco, California

Hydraulics & Transient Expert. Analysis of transient conditions in upper tunnels, penstocks and piping of the 1,212 MW facility (3 pump turbine units, each rated for 3,000 cfs at 1625 feet). Identification of surge pressures along the entire conveyance system, during load rejections at maximum load and pump trip at maximum capacity. Hydraulic model developed and calibrated to match field data from load rejection tests

Central Arizona Project | FCAP Water Line Extension Improvements, Hydraulic & Transient Analyses | Phoenix, Arizona

Hydraulic Engineer. Hydraulics and transient analyses performed to identify the surge requirements to prevent unacceptable transient conditions as a result of the operation of the line extension feeding off the CAP Black Mountain Reservoir. Gravity system includes control valves at the filtration facility and end discharge valves.

TECHINT Engineering & Construction| Rio Colorado Water Pipeline, Peer Review| Buenos Aires, Argentina

Hydraulics & Transient Expert. Review of system hydraulics for a 140 km long potable water transfer (1.2 m diameter GRP pipe) including 2 pumping stations. Review of pipeline profile and air management needs. Review of surge protection system with one-way feed tanks, stand pipe and pressure regulation stations. Optimization of pipeline profile and recommendation for air valve operation and localization.

OFFICE LOCATION

Sacramento, CA

EDUCATION

Dipl-Ing (1997), Engineer Degree at the National Polytechnic Institute of Grenoble University, France. Hydraulics and Fluids Mechanics

PROFESSIONAL REGISTRATION

PE – 2010, California, 76915
European Engineer (Eur-Ing), 2001, Hydraulics & Fluid Mechanics, 26437

YEAR CAREER STARTED

1999

YEAR STARTED WITH B&V

2001

City of Folsom | Wastewater Pump Stations Condition Assessment | Folsom, California

Hydraulic Engineer. Perform hydraulic evaluation of nine pumping stations of capacity ranging from 50 to 5000 gpm. On-site testing recording operating conditions, comparison to original manufacturers performance curves and diagnostics of cause of loss of performance.

Central Arizona Project – Community Water Company | Green Valley Project RENEWS, Hydraulic & Transient Analyses; | Phoenix, Arizona

Hydraulic Engineer. Hydraulics and transient analyses performed to identify the surge requirements to prevent unacceptable transient conditions as a result of the operation of the line extension feeding off the CAP Black Mountain Reservoir. System includes pumps and bypass valves and outlet flow control valves.

Garrison Diversion Conservancy District | Red River Valley Water Supply Project, Review of Hydraulics and Operation | North Dakota

Independent Technical Reviewer. Review of water transfer from the Missouri River to the Sheyenne River, 167 mile long of 72-inch diameter steel pipe. Review of basis of design, including pump operation, surge protection and air management associated with pumping over multiple high points.

California American Water | Cr VI Well Head Treatment System, Hydraulic Analysis | Sacramento, California

Hydraulic Engineer. Review of pump operation to quantify potential loss of flow with proposed well head treatment systems. Hydraulic analysis of the discharge lines for pump selection. Reviewed operation of surge tanks also used for air trap and storage, provided recommendations for modifications.

El Dorado Irrigation District | Folsom Lake Intake Pumping Station Improvements | Placerville, California

Hydraulics Technical Lead. Analyses of multiple expansion phases of the Folsom Lake Intake Pumping Station. Pump performance tests and hydraulic model calibration; used for the design of the pump control scheme, dynamic air venting systems and surge protection systems (two surge tanks).

Town of Gilbert / City of Chandler | San Tan Vista Water Treatment Plant Phase I & II, Hydraulic Control and Surge Analysis | Gilbert, Arizona

Project Engineer. Hydraulic studies of the finished water pumping stations. Preliminary pump sizing. Surge Analyses and design of surge protection for both pumping stations. Detailed analyses of the Chandler Zone 2 RSS line with extension to Intel facility. Sizing of surge requirement for valve operation and preliminary design of control system and operating strategy.

Mark Lowe, S.E.

Structural Engineer

Mark Lowe is a registered Structural Engineer with more than 35 years of experience in structural design, project engineering and management. He has worked on various and numerous projects including water and waste water treatment facilities, seismic retro-fit/rehabilitation, retail & office buildings, educational buildings, industrial & process facility plants. His experience covers design of concrete, steel, masonry, and wood structures with specialized design experience in vibration attenuation, seismic bracing of equipment and blast/overpressure design.

PROJECT EXPERIENCE

City of San Jose– Santa Clara RWF | Digester Gas Improvements Project; San Jose, CA | 2014 - 2020

Lead Structural Engineer. Responsible for the structural analyses and design of elevated support racks that carry digester gas, heating water and other hazardous piping that are conveyed throughout the existing wastewater treatment facility. The total length of pipe support rack is 2400 linear feet and improves the overall safety of the facility by relocating the hazardous piping out of the existing below-grade tunnels. Coordination between structural and mechanical design ensured the vertical, lateral seismic and thermal loading conditions were included and accounted for within the rack supports.

Final Expansion of Groundwater Replenishment System, GWRS Project | Orange County Water District | Fountain Valley, CA|2017-2019

Structural Engineer. Design upgrade to existing facilities to provide improved capacity to existing water filtration and treatment facilities. Structures required or modified included RO Building, MicroFiltration Facility, Ultraviolet Facility, Lime Treatment and Saturator Equipment, RO Flush Tank Channel Improvements, 15 MG Equalization Flow Steel Storage Tanks and Pump Station. The two steel tank dimensions are 216 feet diameter by 32 feet tall and supported on reinforced concrete mat with deep concrete piles. Upgrade capacity of 30 MGD provides a total plant capacity of 100 MGD.

Michelson WRP Biosolids & Energy Recovery Upgrade Project | Irvine Ranch Water District | Irvine, CA | 2010-15

Structural Engineer. Provide structural analyses, preparation of construction documents and construction phase services for new structures to upgrade existing Michelson Water Recycling Plant to implement solids handling and energy recovery processes. The project was designed to meet goals that were measured by cost-effectiveness, environmental stewardship, sustainability, and the use of latest technologies as objectives. New structures included Solids Handling Building, Acid Phase & Methane Egg-Shaped Digesters, Digester Control Building, Sludge Control and Handling Buildings, Pump Stations, Fuel Cell Structure, Gas Storage, Odor Control, Chemical & Polymer Storage Facilities and FOG Receiving Station.

Northwest Bakersfield WTP| Cal Water | Bakersfield, CA | 2014-15

Structural Engineer. Provide structural design and construction documents using design-build approach for upgrade structures at existing WTP. The improvements are to increase production to peak flow of 10.4 mgd. Project structures included new pretreatment basin, flash mixer and PACL Feed and Storage Facility. The pretreatment basin was designed and constructed to be located within a portion of existing storm water detention basin.

OFFICE LOCATION

Irvine, CA

EDUCATION

BS, Civil Engineering, Montana State University, 1983

PROFESSIONAL REGISTRATION

PE – 1988, CA, 43603
PE – 1997, OR, 19461
PE – 2003, NV, 16253
PE – 2003, NM, 16295
PE – 2004, CO, 38709
PE – 1998, MT, 8046
Structural
SE – 1992, CA, 3693
SE – 1997, WA, 35549
SE – 1997, HI, 9382
SE – 1997, AZ, 31942
SE – 2003, UT, 2203

PROFESSIONAL ASSOCIATIONS

Member SE of Structural Engineers Association of Southern California

Anchorage to Concrete Comm

Seismology Comm
Masonry

Comm./Chair, Code Committee

YEAR CAREER STARTED

1984

YEAR STARTED WITH B&V

2005

Seismic Analysis of Existing 5.6 MG Steel Water Storage Reservoir| Mayfair Tank| Portland Water Bureau| Portland, OR | 2013-14

Structural Engineer. Perform seismic analysis of existing Water Storage Steel Tank in compliance with provisions from AWWA D100 Welded Steel Tanks for Water Storage code. The design earthquake ground motion used for this work was derived from ASCE 7 and is based on a maximum considered earthquake ground motion, defined as the motion caused by an event with a 2 percent probability of exceedance within a 50-year period. A technical memorandum was prepared that summarizes the analyses, findings, and recommendations. Structural deficiencies identified from the study were presented in technical memorandum with conceptual hand sketches of potential upgrade or strengthening methods that could be used to provide reinforcement. Estimated construction costs for the proposed improvements were provided.

J-111 Central Generation and Emissions Control Preliminary Design| Orange County Sanitation District| Fountain Valley, CA | 2013-15

Structural Engineer. Project objective was to improve emissions control for the existing central power generation facilities at the Orange County Sanitation District's two wastewater treatment plants. Provide structural support systems for the new emissions controls that consist of gas cleaning and catalytic systems in tandem to remove organics and NOx. Two engine generators at Plant No. 1 and five engine generators at Plant No. 2 were retrofitted with new equipment and structural supports. Responsible for the structural design and preparation of construction documents necessary for installation of upgrades and all required building modifications and reinforcement.

Las Vegas Valley Water District |Fayle Reservoir Structural Rehabilitation, Las Vegas, NV (2015)

Structural Engineer. Provide structural condition assessment, analyses and repair recommendations for the rehabilitation of existing 40 MG potable water reservoir. The partially buried, reservoir consisted of concrete floors and walls with steel framed roof and interior columns. Repair recommendations included spot repairs for steel columns, replacement of interior bracing rods, removal and replacement of anchor bolts at column base plates. Design new steel framed walkways and access hatches installed at roof. Existing aluminum corrugated roof deck was repaired and sealed with spray-on insulation foam.

10 MG Filter Water Reservoir, Dr. Joe Waidhofer Water Treatment Plant | Stockton East Water District| City of Stockton, CA | 2012-13

Structural Engineer. Provide design calculations and drawings for 10MG partially-buried, reinforced concrete reservoir at existing WTP. Work included modifications to existing inlet and bypass piping and Reservoir Inlet Structure to accommodate the new reservoir.

1MG Country Club Reservoir | City of Redlands | Redlands, CA | 2009

Structural Engineer. Provide structural design, analysis and drawings for the structural rehabilitation for existing 1MG reinforced concrete, partially-buried, potable water reservoir. The circular reservoir is located in a residential neighborhood, originally constructed in 1924, with an aluminum dome cover and concrete tension ring added circa 1980. Project objectives consisted of restoring the structural integrity and reliability of reservoir by provide the largest possible storage volume at an economical cost. Design solution included an interior steel liner and exterior reinforced concrete wall to strengthen the structure.

City of Escondido | Vista Verde Reservoir and Pump Station Upgrade Project| Escondido, CA | 2013-14

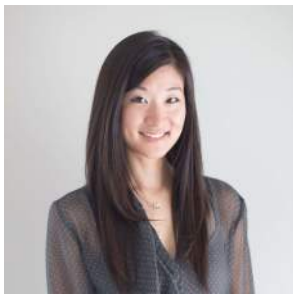
Structural Engineer. Design upgrade to provide replacement reservoir, due to a deteriorating roof, with two new 1 million-gallon pre-stressed concrete tanks to be located at a new site. In addition, design improvements to the existing distribution system (pumping and piping) to account for higher water demands. Provide design for temporary 125,000-gallon steel tank to ensure continuous system operation in case the existing tank should fail during design and construction of new tanks.

4MG Stormwater Reservoir, Penmar Water Quality Improvement Project | Department of Public Works | Los Angeles, CA| 2010

Structural Engineer. Provide design calculations and drawings for buried, pre-stressed/wire-wrapped, concrete 4MG reservoir. Reservoir roof designed to support light traffic and ballpark above.

Holly Murakami, P.E.

Electrical Engineer



Ms. Murakami is an electrical engineer with 14 years of experience in the design of electrical power and instrumentation systems for water/wastewater facilities including water pump stations, drinking water wells, reservoirs, wastewater treatment plants, desalination plants, odor control facilities, lift stations, and pipelines.

PROJECT EXPERIENCE

Orange County Water District; Groundwater Replenishment System Final Expansion; Fountain Valley, CA

Lead Electrical Engineer. Responsible for leading the electrical design for the final expansion of the Advanced Water Treatment Facility (AWTF) and Secondary Effluent (SE) Facilities. This project increases the capacity of the AWTF by 30 mgd to a total of 130 mgd. Processes include Microfiltration (MF), Reverse Osmosis (RO), and UV Disinfection. Electrical design includes a new MF electrical room, outdoor RO electrical enclosure, new and retrofitted 12 kV and 480 V distribution equipment upgrades and additions including 12 kV distribution and isolation transformers, 4.16 kV and 480 V variable frequency drives and motors, active harmonic filters, coordination with Orange County Sanitation District (OCSD) distribution system to feed new SE Facility electrical room, lighting, grounding, and load, short circuit, and harmonic analyses.

Eastern Municipal Water District; Perris II Desalination Facility; Perris, California

Lead Electrical Engineer. Responsible for leading the Electrical design of Perris II Desalter Facility which will utilize reverse osmosis technology to desalinate groundwater from a network of brackish groundwater wells to supplement the potable water system with an additional 3.6 mgd of supply capacity. The design includes facility framework and provisions for future facility expansion to provide a total capacity of 5.4 mgd. The project includes the design and construction of a new Forebay, Transfer Pump Station, RO Treatment Facility, Decarbonation System, Chemical Storage and Feed Systems, Chlorine Contact Tank, Finished Water Pump Station and three process buildings each with dedicated SCE utility service feeds, distribution equipment, and electrical rooms. Electrical design also includes duct bank routing for power, signal, and fiber coordinated with new and future site improvements, upgrade of existing bring pump station, site lighting, and load, short circuit, and harmonic analyses.

Metropolitan Water District; Drought Response Project No.1 – Greg Avenue Pump Station Modifications; Los Angeles, CA

Lead Electrical Engineer. Responsible for preparation of electrical plans and specifications for construction of a new control building and replacement of existing large motors and ancillary equipment. Electrical design includes coordination with Los Angeles Department of Water and Power (LADWP) to upgrade on-site 34 kV – 2400 V substation to a 4.16 kV secondary, replace existing motor generator and synchronous motor with (2) 3000 HP induction motors, new medium voltage electrical room with switchgear, reduced-voltage soft starters with power factor correction capacitors, and switchgear remote control panel, new low voltage electrical room with motor control center, uninterruptible power supply and batteries, panelboards, and RTU, and cable tray system in vault below. Design also includes extensive coordination with civil plans and profiles for detailed duct bank design within the constraints of the existing and new buildings and piping in the existing facility.

OFFICE LOCATION
Irvine, CA

EDUCATION
BS, Electrical Engineering, Santa Clara University, 2005

PROFESSIONAL REGISTRATION
PE – 2011, CA, #E19861

YEAR CAREER STARTED
2005

YEAR STARTED WITH B&V
2013

Orange County Sanitation District; Thickening, Dewatering and Odor Control at Plant 1 Construction; Fountain Valley, CA

Electrical Engineer. Responsible for providing construction support services including Submittal Reviews, RFI's, and change orders for the installation of new primary sludge thickening facilities using Centrifuges.

Orange County Water District; Groundwater Replenishment (GWR) System Initial Expansion Construction; Fountain Valley, CA

Electrical Engineer. Responsible for providing construction support services including Submittal Reviews, RFI's, and change orders for the initial expansion of the GWR System to increase the capacity of the Advanced Water Purification Facility (AWPF) by 30 mgd to a total of 100 mgd. Processes include microfiltration, RO, and UV disinfection.

Irvine Ranch Water District; Well 107 Replacement Well Equipping; Irvine, CA

Electrical Engineer. Responsible for preparation of electrical plans, specifications, and construction cost estimate for the equipping of the new well and retrofitting with existing electrical equipment and utility service.

Orange County Flood Control District | Santa Ana River Interceptor Relocation Project, Yorba Linda Spur; Santa Ana, CA | 2010-2011; Santa Ana River Interceptor Relocation Project, Yorba Linda Spur; Santa Ana, CA

Electrical Engineer. Responsible for preparation of electrical plans and specifications for installation of new odor control system. Design includes new electrical service and radio communication to existing SCADA system.

Irvine Ranch Water District; Michelson Water Reclamation Plant, Phase II Improvements; Irvine, CA

Electrical Engineer. Responsible for preparation of electrical plans, specifications, cost estimate, and construction support for the expansion of Michelson Water Reclamation Plant from a nominal existing flow of 12 mgd to a peak flow of 33 mgd. The expansion of the plant facilities includes new headworks, expanded primaries, new primary effluent pump station, new aeration blower, membrane bio-reactor (MBR), high rate clarifier (HRC), ultra violet (UV) disinfection, expanded effluent pump station and various chemicals. The electrical design involves retrofitting the primary distribution system to incorporate a new feed from Southern California Edison, the addition of new 5kV unit substations and the expansion of existing unit substations, power and communication distribution system throughout the site utilizing new and existing equipment, site and area lighting, and instrumentation and controls for the various processes while meeting the NFPA requirements for hazardous (classified) locations.

City of Santa Ana, CA; San Lorenzo Sewage Lift Station; Santa Ana, CA

Electrical Engineer. Responsible for preparation of electrical plans, specifications, and cost estimate to construct a new sewer lift station on San Lorenzo Avenue within the City of Santa Ana. The improvements include a wet well, dry well, three variable frequency drive pumps, emergency generator, ventilation system for hazardous (classified) area, and new SCADA connection.

Moulton Niguel Water District; IRWD Interconnection to South Orange County Water Transmission System Zone 1-3 Booster Pump Station; Irvine, CA

Electrical Engineer. Responsible for preparation of electrical plans, specifications, and cost estimate to improve South Orange County's reliability to meet daily operational demands and fire storage for short term outages, a Zone 1-3 Pump Station will be built at the Irvine Ranch Water District (IRWD) Zone 1 Central Reservoir. Design includes upgrade in existing electrical utility service, lighting, power distribution, and instrumentation and controls for new pump station.

West Basin Municipal Water District; CRWRF Recycled Water Backup Power Feed Engineering Study; Carson, CA

Electrical Engineer. Responsible for evaluating back-up power supply alternatives for the District's Carson Regional Water Recycling Facility (CRWRF). The study involved the development of alternatives for CRWRF's back-up power source, including possible secondary feed from Southern California Edison, and preliminary design of options for power from stand-by generators based on evaluation of full and critical load scenarios, comparison of generator manufacturers, generator fuel types, and upfront and operation and maintenance costs.

Sylvia S. Ho, BS

CAD Manager

Ms. Ho has 31 years of experience in computer system support and CAD management. Her responsibilities include scheduling and coordination of the CAD work between engineers and CAD operators. She is also responsible for set up, maintenance, and troubleshooting the computer hardware, network and software for the Los Angeles office of Black & Veatch. She is familiar with AutoCAD, Revit, MicroStation, SoftDesk, MS Project, MS Office, Actrix, Primavera Expedition, and Corel Draw Software Packages/Tools.

PROJECT EXPERIENCE

Metropolitan Water Districts of Southern California; Second Lower Feeder PCCP Rehabilitation Projects; Carson, California; 2016-Present

CAD Manager – Black & Veatch. The final design of the Second Lower Feeder PCCP Rehabilitation Project includes rehabilitation and improvements for the Second Lower Feeder pipeline using collapsed steel pipe and upgrade / replacement of major facilities and pipeline appurtenances including, sectionalizing valves, metering facilities, air release / vacuum relief valves, blowoffs, interconnections, service connections, and associated work. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the District standards. Total of 163 drawings for Reach 1; 114 drawings for Reach 4; 177 drawings for Reach 2; 350 drawings for Reach 3.

Orange County Sanitation District; P2-98 A-Side Primary Clarifiers Replacement at Plant 2; Fountain Valley, California; 2017 - Present

CAD QC Reviewer. The Primary Treatment System at Plant No. 2 consists of fourteen circular clarifiers that are supported by influent piping, influent distribution structures, effluent piping and sludge pumping units. The clarifiers are covered with geodesic domes that contain the foul air from the clarifiers for conveyance and treatment at two foul air scrubbing complexes. The primary treatment facilities were built between 1960 and 1985. The units are subject to varying deterioration due to corrosion and are in need of rehabilitation or replacement based on physical condition, level of performance and age. The goal of this project is to rehabilitate or replace facilities, in kind, in the primary treatment system at Plant 2 without a change in the overall plant rated treatment capacity. Quality Control of the CAD work to meet the Client standards.

Metropolitan Water Districts of Southern California; Greg Ave Pump Station Modification, Sun Valley, California, United States; 2014-2018

CAD Manager - Black & Veatch. Final Design of Build Out No. 1 consists of one (1) new 50 cfs pump and motor and upgrade of the electrical system to a 4,160 volt (V) system. Additional ancillary items are also recommended to be installed such as a bridge crane and support structure, new electrical building, new substation, new suction isolation vault, and miscellaneous site improvements. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the District standards. Total of 218 drawings.

OFFICE LOCATION

Los Angeles, CA

EDUCATION

B.S., Mathematics, Computer Science, California State University, Northridge, CA 1989

PROFESSIONAL REGISTRATION

Certification, BS in Mathematics, Computer Science, California, 1989

EXPERTISE

Experience with various Computer Operating Systems, Project Scheduling, CAD, and Graphic Programs

LANGUAGE CAPABILITIES

Chinese (Mandarin)
English

YEAR CAREER STARTED

1990

YEAR STARTED WITH B&V

1991

City of Los Angeles, Bureau of Engineering, Department of Public Works City of Los Angeles, California Bureau of Engineering, Department of Public Works; Echo Park Lake Rehabilitation Project; Los Angeles, California; 2009-2010

CAD Manager. Sylvia serves as Black & Veatch's CAD Manager for the design of water quality improvements for 13-acre urban park. The rehabilitation is viewed as a great opportunity to implement multipurpose solutions recreational enhancements within the community while achieving the City's objectives to enhance water supply, water quality, and downstream flood control. Primary goals of the project are: to improve water quality in the lake; enhance the Los Angeles River Watershed; and assist the City in meeting current and future requirements for Total Maximum Daily Load (TMDL) allocations set by the Regional Water Quality Control Board. Responsible for the preparation of drawings for various disciplines of: Civil, Mechanical, Structural, Electrical, Plan & Profiles, and P&ID. Total of 320 drawings

East Bay Municipal Utility District; Richmond Advanced Recycled Expansion (RARE) Water Project Preliminary Design; East Bay, California; 2007-2008

System Support Manager/CAD Manager. The RARE treatment facility will treat secondary effluent with microfiltration followed by reverse osmosis to provide Chevron with high-purity recycled water to replace its current potable water supply used for its boilers. The preliminary design included the evaluation of various MF/UF suppliers and developing a procurement strategy to pre-purchase the MF/UF equipment prior to detailed design.

Orange County Sanitation District; P1-102, Secondary Activated Sludge Facility at Plant No. 1; Fountain Valley, California; 2004-2007

System Support Manager/CAD Manager. Preliminary and final design and construction phase services for a new 60 mgd activated sludge wastewater treatment facility incorporating nitrification and denitrification on the current site of Plant No. 1. Preliminary design included detailed evaluations of plant-wide hydraulics, including two existing secondary treatment facilities (one 75 mgd activated sludge facility and one 35 mgd trickling filter facility); various influent flow and capacity scenarios; existing WAS thickening evaluation; effluent turbidity probability analyses under various operating conditions; and implementation and constructability evaluations. Final design began in January 2005 and includes design of the physical facilities to include six 10 mgd aeration basins and six circular clarifiers, blower building, and associated site work. Construction cost opinion is $220 million. A Consent Decree requires operation by the year 2012. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the District standards. Total of 1000 drawings.

Los Angeles Department of Water and Power; Stone Canyon Pumping and Filtration Plant; Los Angeles, California; 2001-2006

System Support Manager/CAD Manager. For preliminary and detailed design of new 6.4-mgd membrane filtration facility to treat water from finished water reservoir to comply with Surface Water Treatment Rule. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the Client standards. Total 520 drawings.

Camarillo Sanitary District; Water Reclamation Plant Upgrade; Camarillo, California; 2005

CAD Coordinator. Design for the water reclamation plant upgrade, which included a new 6.75-mgd headworks facility, new primary clarifiers, new activated sludge aeration basins, secondary clarifiers, and chlorine disinfection facilities, including emergency chlorine scrubbing system. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the Client standards. Total 100 drawing.

Orange County Sanitation District; Effluent Pump Station Annex; Fountain Valley, California; 2002-2003

System Support Manager/CAD Manager. Evaluated various alternatives for a new 240-mgd effluent pump station and related improvements and designed the pump station and supporting facilities. Construction cost estimate of $35 million. Coordinate the CAD work between engineers, CAD operators and Sub-Consultants. Oversee Quality Control of the CAD work to meet the Client standards. Total 380 drawing.

EL TORO WATER DISTRICT

PROPOSAL
TO PROVIDE
ENGINEERING DESIGN
SERVICES FOR

Joint Transmission Main Pump Station Project

DECEMBER 2021

TETRA TECH

TETRA TECH

December 20, 2021

Hannah T. Ford, PE
Engineering Manager
El Toro Water District
24251 Los Alisos Blvd
Lake Forest, CA 92630

Reference: Proposal to Provide Engineering Design Services for the Joint Transmission Main Pump Station Project

Dear Ms. Ford:

Tetra Tech is pleased to submit our proposal to provide engineering design services for the Joint Transmission Main Pump Station Project. We value the relationship that has been built with the El Toro Water District (ETWD/District) during our past projects and look forward to continuing and expanding this association in the future. Our Project Team is the right team to provide these services for the following reasons:

- **Extensive Pump Station Design Experience:** During the last 15 years, members of our project team have been involved in the design of more than 37 water/recycled water pump stations and wells. This experience has allowed our team to become intimately familiar with all aspects of the design of pump station facilities.
- **Experience with a Breadth of Pump Station Options:** Our project team has designed pump stations that included all of the options being considered by the District, i.e., within buildings; enclosed by masonry walls with electrical equipment under a canopy; within vaults; and even packaged pump station facilities.
- **Extensive District Experience:** Our project team has previously designed the *Oso Lift Station Improvement Project* so we are familiar with the District's procedures, design standards, preferred materials, operation preferences, electrical and control standards which will allow us to deliver a complete design in the most cost-effective manner and within the quickest feasible schedule.
- **Local In-House Structural, Electrical and Control Capabilities:** Tetra Tech has our own in-house local professional structural, electrical and control engineers with prior experience with ETWD facilities.
- **Dedication to the District:** Our approach to this project will include a "teaming and partnering" relationship. Our relationship with the District shows our commitment to providing the District with the same high-quality service that you expect and deserve. We will strive to exceed your expectations through hard work, attention to detail, close communication, and schedule and budget management.

Thank you for the opportunity to submit our proposal. Should you require additional information or have any questions, please feel free to contact me at 949/809-5156 or via email at tom.epperson@tetratech.com.

Sincerely,

Tom Epperson, PE
Vice President

TLE/de

M:\Marketing\Proposals\FY 2022\ETWD JTM Pump Station

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WHY TETRA TECH IS THE RIGHT CHOICE FOR THIS PROJECT

Tetra Tech is a leader in water/wastewater/recycled water facility design and consistently ranks among the top engineering firms annually according to the Engineering News-Record, a highly regarded news magazine. **In 2021 Tetra Tech was ranked 4th among the top 500 design firms nationwide and was ranked No. 1 in the water service industry for the 18th year in a row!**

Tetra Tech is the "right" team to provide the design engineering services for the Joint Transmission Main Pump Station Project for the following reasons:

- **Extensive Pump Station Design Experience:** During the last 15 years, members of our project team have been involved in the design of more than 37 water/recycled water pump stations and wells. This experience has allowed our team to become intimately familiar with all aspects of the design of pump station facilities.
- **Experience with a Breadth of Pump Station Options:** Our project team has designed pump stations that included all of the options being considered by the El Toro Water District (ETWD/District), i.e., within buildings; enclosed by masonry walls with electrical equipment under a canopy; within vaults; and even packaged pump station facilities.
- **Extensive District Experience:** Our project team has previously designed the Oso Lift Station Improvement Project so we are familiar with the District's procedures, design standards, preferred materials, operation preferences, electrical and control standards which will allow us to deliver a complete design in the most cost-effective manner and within the quickest feasible schedule.
- **Local In-House Structural, Electrical and Control Capabilities:** Tetra Tech has our own in-house local professional structural, electrical and control engineers with prior experience with ETWD facilities.
- **Dedication to the District:** Our approach to this project will include a "teaming and partnering" relationship. Our relationship with the District shows our commitment to providing the District with the same high-quality service that you expect and deserve. We will strive to exceed your expectations through hard work, attention to detail, close communication, and schedule and budget management.

Our extensive experience with pump stations and wells will ensure that the District will receive a high level of service delivered by qualified, knowledgeable engineering professionals. This is a challenging project, and it should be managed by a well tenured team of professionals who have a history of successfully completing similar projects within schedule and under budget. We have that team with **Tom Epperson, PE, Project Manager,** and **Matt Vera, PE, Lead Engineer**. Tom and Matt have worked together on six (6) pump station/well projects during the last two and half years.

Our goal is to provide the necessary expertise and resources to deliver the project on time, within budget, and in compliance with the design and construction standards set forth by the District. Tetra Tech has a large talent pool to draw from and can provide the necessary resources to rapidly deploy and meet aggressive project schedules. In addition, Tetra Tech is especially proud of its high level of repeat customers, which we attribute to our dedication and commitment to quality engineering and client satisfaction. Thus, we invite you to contact our references regarding our past record of performance, client relations, and project satisfaction.

We feel our previous work on the Oso Lift Station and the Recycled Water Expansion Project Distribution System are examples of our quality product which has resulted in a low overall cost for the District. We want to utilize the experience gained from working on the previous projects, and to continue providing the District with exceptional services to assure that another project is successfully completed to the satisfaction of the District.

PROJECT BACKGROUND AND OBJECTIVE

The District currently receives its water supply through two main sources: the Allen McColloch Pipeline (AMP) and the Baker Water Treatment Plant (WTP). The raw water treated at the Baker WTP is supplied by the Baker Pipeline. Located in close proximity, the Baker Pipeline and AMP supply ETWD through connections on the northeast side of the District's distribution system.

Fed from the Diemer Water Treatment Plant and East Orange County Feeder No. 2, the Joint Transmission Main (JTM) traverses ETWD's service area from west to south. Because the hydraulic grade line (HGL) in the JTM is not always high enough to be able to fill the District's R-1/R-2 Reservoirs, ETWD cannot consistently use its 2 cfs capacity from this pipeline. It should be noted that the District's R-1/R-2 Reservoirs have a high-water level of about 490 feet. The HGL in the JTM varies from 450 to 490 feet.

Constructing a pump station that would lift the HGL in the JTM to ETWD's 570-foot HGL Zone would allow ETWD to access the JTM as an alternative source of supply on a daily basis. Pursuing this project offers the following benefits to the District:

- Enhances reliability through an alternative pipeline that brings water into ETWD's system on the west side of the I-5 Freeway;
- Mitigated impacts of a common failure of the AMP and Baker Pipeline;
- Improved water quality by introducing a fresher supply on the west side of the service area; and
- Potential to access alternative water supplies generated by neighboring agencies and introduced into the JTM.

These benefits would prove especially useful when ETWD lacks its typical water supply reliability (i.e., the R-6 reservoir is out of service). The next planned outage of the R-6 reservoir is October 2022 to replace the floating cover. Expediting construction of the JTM Pump Station would benefit the R-6 reservoir floating cover replacement project and other future rehabilitation projects of ETWD's critical water supply infrastructure.

In order to develop a preliminary estimate of project costs, ETWD hired Tetra Tech to develop a conceptual site layout of the JTM Pump Station. It should be noted that the same team that prepared this preliminary estimate will be working on this project as well. The JTM Pump Station will be located at the existing R-1/R-2 reservoir site. The pump station could be either above ground with walls to retain the surrounding, highly-graded area or below ground in a vault with necessary components above grade. Only one pump may be required for this pump station. Depending on the extent of variations in the JTM HGL, variable frequency drives may be required to provide a more efficient operation. ETWD only has one other pump station with vertical turbine pumps, while the remainder have centrifugal. At times the HGL in the JTM may be high enough for ETWD to fill the R-1/R-2 Reservoirs without any additional pumping. The JTM Pump Station design should incorporate features that capitalize on this condition to minimize power costs. Once constructed, ETWD would operate the JTM Pump Station at a flow rate up to 2 cfs, reducing usage from the AMP.

Although the R-1/R-2 reservoir site has an existing emergency generator and transformer, these electrical components are not adequately sized to serve the JTM Pump Station. Powering the JTM Pump Station will require a new transformer and connection to SCE. The JTM Pump Station should also be able to accommodate power from a portable emergency generator. The JTM Pump Station will require a new control panel to house a new PLC and associated control components. The JTM Pump Station PLC will be integrated into the existing ETWD SCADA system via ethernet.

The main project objective is to expediently develop a cost-effective JTM Pump Station design so that its construction and eventual startup take place prior to (or, at least, during) the R-6 outage which is scheduled from October 2022 to May 2023.

PROJECT APPROACH

Tetra Tech fully understands the importance of your project. We are offering an outstanding team, which combines the experience, depth, and understanding needed for the successful delivery of this project. Our core principles establish how we plan to work together with the District to successfully complete this project:

- **Service:** Tetra Tech puts its clients first. We listen to and better understand our clients' needs and deliver smart, cost-effective solutions that meet those needs. Our philosophy is to "Do it Right."
- **Value:** Tetra Tech takes on our clients' problems as if they were our own. We develop and implement real-world solutions that are cost-effective, efficient, and practical.
- **Excellence:** Tetra Tech brings superior technical capability, disciplined project management, and excellence in safety and quality to our work.
- **Opportunity:** Our people are our number one asset. Our workforce is diverse and includes leaders in our fields. Our entrepreneurial nature and commitment to success provides challenges and opportunities.

We value the relationship that has been established with the District and look forward to continuing and further developing this association in the future. Our strength lies in our proven track record that has led to the successful completion of the Oso Lift Station Improvement Project and the Recycled Water Expansion Project Distribution System for the District as well as projects for other nearby agencies. The following is a summary of some of the distinct advantages that the Tetra Tech team brings to the District.

PUMP STATION DESIGN EXPERIENCE

During the last 15 years, members of our project team have been involved in the design of more than 37 water/recycled water pump stations and wells. A more detailed description of some of these pump station projects are included within the Project Experience Section of this proposal. Our Project Manager, Design Lead Engineer, and Design Engineer worked together on the following recent projects:

- Timber Ridge Booster Pump Station Replacement for Yorba Linda Water District
- Well 32 and Washington Well for City of Santa Ana
- Bolsa Chica Water Well for City of Seal Beach
- Santiago Pump Station Modification for Orange County Water District
- Reservoir Management System Upgrades for Moulton Niguel Water District

As summarized below, our project team has designed pump stations that have included the options being considered by the District. This experience allows our team to be familiar with *all* aspects of the proposed pump station design for this project.

Enclosed by walls with electrical equipment under canopy	• Shady Canyon Booster Pump Station and Well Nos. 76, 77, 110 and 115 for Irvine Ranch Water District • Oso Pump Station Rehabilitation for Moulton Niguel Water District
Within a vault	• Mid-Basin Injection Wells for Orange County Water District • Plant 13 Booster Pump Station Rehabilitation for City of Lakewood • Zone 7 DW and Zone H RW Booster Pump Station for Irvine Ranch Water District • Well Nos. 107 and ET-2 for Irvine Ranch Water District
Size of pump stations (range of sizes vary)	• large (200 cfs, 7,000 HP Burris Pump Station for Orange County Water District) • medium (50 cfs, 2,000 HP South County 1-3 Booster Pump Station for Moulton Niguel Water District) • small (3,000 gpm, 300 HP Timber Ridge Booster Pump Station for Yorba Linda Water District) • one pump facilities (Potable Water Make-up Pump for Crown Valley and Wood Canyon Reservoirs for Moulton Niguel Water District)

Vertical turbine pumps	• Zone 7 to 8 and Shady Canyon Zone B Booster Pump Station for Irvine Ranch Water District • Timber Ridge Booster Pump Station for Yorba Linda Water District • New Santiago and Reservoir No. 4 Booster Pump Station for City of Orange
Horizontal split case pumps	• Elizabeth Booster Pump Station for City of South Gate • Pacific Island Drive No. 2 and 3 for Moulton Niguel Water District • Sheep Hills, Rancho Santa Marguerita Booster Pump Station Upgrades for Moulton Niguel Water District
Packaged pump stations	• RW Conversion Booster Pump Station for La Puente Valley County Water District • Front 9 and Back 9 RW Booster Pump Station for South Hills Country Club • Newport Beach and Big Canyon Country Club RW Booster Pump Station within building for City of Newport Beach

ETWD DESIGN EXPERIENCE

Members of our project team have previously completed over ten (10) different design or study projects for the District. The following is a brief list of some of the completed projects:

- JTM Pump Station Conceptual Design
- Recycled Water Expansion West of I-5
- Oso Lift Station Improvement Project including Construction Support
- Phase II RW Expansion – Retrofit Plans
- Phase II RW Expansion – Pipeline Design including Construction Support
- West, North and East RW System Expansion – Pipeline Design including Construction Support
- Pipeline from Baker Pump Station to OC-76
- Potential RW Expansions – Studies

Our project team is very familiar with the District's procedures, design standards, preferred materials, operation preferences, electrical and control standards which will allow us to deliver a complete design package in the most cost-effective manner and within the quickest feasible schedule.

Hydraulic Background

The HGL in the JTM varies from 450 to 490 feet. There is an existing JTM meter facility that controls the flow and adjusts the HGL to allow for the delivery of the water at the flow rate set by the meter. Therefore, the available HGL will always be less than the HGL in the JTM. The R-1/R-2 Reservoirs have a total range of water level from 460 elevation (floor) to 490 elevation (high water level). It should be noted that there is also piping loses to get the water to fill the existing reservoirs (loss through the valve controlling the filling of the reservoir). Currently, the R-1/R-2 Reservoirs are filled either by reducing the 570 Zone water at the existing pressure reducing facility or by the JTM connection. Due to the HGL of the JTM and the fluctuating reservoir level, it is difficult for ETWD to consistently fill the reservoirs using the JTM connection.

To clarify the hydraulic issues, we have made the following assumptions: the combination of losses at the JTM meter facility and the loss to get the water into the reservoir is about 10 feet; and the range of the operating level of the reservoir is the top half (elevation 475 to 490). Based on these assumptions, the District would only be able to fill the reservoirs if the HGL of the JTM is at 490 and the reservoir levels are between 475 to 480. Therefore, the District is very limited to when the JTM is able to be used consistently to fill the reservoirs.

ETWD has two options for the taking the 2 cfs from the JTM: fill the R-1/R-2 Reservoirs (only feasible when the reservoir level is lower than the available HGL from the JTM meter facility including the head loss through the valve filling the reservoir); or pump to the District's 570 pressure zone. Economically, ETWD would want to use the JTM takeout to fill the reservoirs instead of wasting energy and reducing the 570 pressure water to

fill the reservoirs. The ability of using the JTM to fill the reservoir will depend on the variations in the HGL of the JTM as well as the District's reservoir operation (daily variation of the reservoir levels and fire and emergency storage volume retention needs). To determine the ability to bypass the proposed pump station and fill the reservoirs, Tetra Tech will need to evaluate the fluctuations in the HGL of the JTM (assume this depends on the amount of water being taken by the downstream agencies) and the District's daily fluctuations in the reservoir levels to maintain water quality while still providing the required fire and emergency storage.

Key Issues

We believe Tetra Tech has an unparalleled grasp of the key issues due to our extensive experience in pump station design. Our approach to resolving project issues is summarized in the table below:

SUMMARY OF KEY ISSUES	
Issues	**Tetra Tech Approach**
Pump Station Operation	• Evaluate the fluctuation of HGL in the JTM (daily during average and peak flows) and the daily fluctuations in the reservoir levels. • Calculate the minimum head loss through JTM Meter Facility and head loss for 2 cfs to be conveyed from meter facility to inlet of the existing reservoirs. • Provide a summary of the ability to fill the reservoirs from the JTM per typical day during average day demand, winter demand, and summer demand.
Pump Size and Number	• With only one pump, during pump outage/mechanical issues, ETWD will only be able to take the water from the JTM when it is hydraulically feasible. • Tetra Tech will provide the additional cost to provide a secondary pump for the District to determine if it is worth the additional cost. • Pump will be sized for 900 gpm and be driven by a 50 hp (for vertical pump) to 60 hp (for horizontal or end suction pump) motor.
Pump Type	• Tetra Tech will meet with District's maintenance staff to be sure to understand their preference and maintenance track record with each pump type. • Tetra Tech will provide a summary of the advantages and disadvantages of the vertical turbine, horizontal split case and end suction pumps. • Tetra Tech will provide energy cost comparison based on pump efficiency for each pump type. Typically, the vertical pumps have a higher efficiency. • If VFD needed, the vertical turbine pump may be the recommended option (steeper pump curve for better control and less pump seeking).
Location of Pump Station	• Tetra Tech will provide typical mechanical layout for each type of pump and for one pump or two pump options. • Recommend pump station be located above ground with retaining walls and canopy to protect the electrical equipment from impacts of sun exposure. • Locating pump station within a vault only if no space for the above ground facility (traffic too restricted or the retaining wall is too high and expensive). • **Figure 1** in the Appendix shows the potential location at the entrance to the site. This alternative may impact the accessibility around the westerly tank. • **Figure 2** in the Appendix shows the potential location to the east of the existing pump station building and north of the easterly reservoir. Location relative to the tank and side slope would be similar to the existing chemical building. • Tetra Tech will provide a summary of the advantages and disadvantages including costs, traffic impacts, maintenance and cellular accessibility.

SUMMARY OF KEY ISSUES	
Issues	**Tetra Tech Approach**
Pump Station Control	• Depending on HGL variations, provide recommendation for VFD. For this proposal, Tetra Tech has assumed a VFD will be included in the design. • Assume pump station will be operated to maintain a selected flow rate. Tetra Tech has assumed a flow meter in the design. • If VFD required, then a vertical turbine pump may be the best option. Vertical turbine pumps have a steeper pump curve while a horizontal or end suction pumps have a much flatter curve and the VFD will be continually searching. • In order to bypass flows, the flow rate from the JTM meter facility and the reservoir levels will need to be provided to the PLC. • Helpful if the pressure in the JTM also be provided (assumed not available).
Bypass	• Based on the JTM HGL and reservoir level variations, Tetra Tech will evaluate the potential method of control to allow for bypass the JTM flows. • In concept, the flow may be able to be bypassed by the following controls.

SCHEDULE: DESIGN AND CONSTRUCTION

The main objective of this project is to expediently develop a cost-effective JTM Pump Station design so that its construction and eventual startup take place prior to (or, at least, during) the R-6 outage which is planned to occur between October 2022 and May 2023. Typically, the design of a pump station of this size takes about six (6) months. Since the work is within the District's property and no outside agency approval is required, the design could be shortened to four (4) months as long as the period for District's review is reasonable. We have assumed as well that the bidding process will take a minimum of three months: month to bid; two months for award and signed contract. Typically, the construction of a new pump station takes between 10 to 12 months due to the delivery of the long lead equipment (see list below). Based on the RFP, the District is planning to award the design on January 24, 2022. The R-6 outage is planned to start in October 2022 or nine months after the award of the design and would last about six months. Assuming the accelerated typical design (four months), three months for bidding and award and the quickest construction schedule of 10 months, the construction would be completed 17 months or by June 2023 or after the completion of the planned R-6 outage. Therefore, the District will need to expedite the typical design, bid, build process; and based on our recent projects (mostly due to the impacts of COVID), the following are the lead times for key equipment:

- Pumps/Motors: range varies with manufacturer – Gould is 24 weeks; Simflo is 10 weeks
- Pump Control or Check Valve: varies from 4 to 12 weeks depending on manufacturer
- Steel Piping: 6 to 8 weeks
- Switchboard and PLC panel: 16 weeks
- VFDs or Soft Starters: 18 weeks
- Generator: 24 weeks

Tetra Tech envisions several options to expedite the project schedule that could be considered by the District: pre-purchase key equipment; packaged pump station facility; and rent pump station.

Pre-Purchase Key Equipment: Assumptions for accelerated schedule for the pump/motor and VFD or soft starter: pre-purchase package completed at the end of two months; one month for obtaining quotes; two months for shop drawing preparation and approval; 3 to 4 months for pump/motor and 4 to 5 months for VFD or soft starter to deliver to site; and one month to install and test. Pump/motor could be in service (if everything else is completed) by the end of November 2022 at the earliest. VFD or soft starter could be in service (if everything else is completed) by the end of December 2022 at the earliest.

If the plans are completed in four months, two months for Notice to Proceed (at least some shop drawings could be prepared), and two months for shop drawing preparation and approval, all equipment not pre-purchased would begin their lead time at the end of September 2022. Assuming a minimum of two months to install and test, any equipment with more than four weeks delivery time would need to be pre-purchased in order to be ready by the end of December 2022. For this proposal, we have assumed that all of the lead items would need to be pre-purchased.

Packaged Pump Station: One way to expedite the schedule is to pre-purchase a packaged pump station. This will make the packaged pump station responsible to obtain all of the equipment/materials required by the packaged pump station. Tetra Tech has contacted several packaged pump station manufacturers and have been quoted a minimum of 5 months from Notice to Proceed to deliver the packaged pump station to the site. Assuming: package pump station pre-purchase is approved and ready for quotes by the end of three months (2 months is too optimistic); one month for obtaining quotes and one month for signed Notice to Proceed; the packaged pump station could be delivered to the site by the end of November 2022. Assuming a minimum of one month to install and construct, the pump station could be operational by the end of December 2022. It is possible that it could be ready by the end of November 2022 depending on the pump manufacturer selected and their delivery schedule. Tetra Tech did receive a preliminary quote of about $300,000 for a two vertical pump skid with a typical delivery schedule of 24 to 30 weeks from order acceptance. The quote included 6 year warranty on VFD and all components in electrical panel and 2 year warranty on remaining pump station components. The issue with packaged pump stations, the manufacturer has specific valve and electrical manufacturers that they use.

Rent Pump Station: Tetra Tech has been involved with other agencies who had accelerated schedule demands and instead rented a pump trailer that could be used while construction is ongoing. Based on a preliminary rental quote, the cost to rent a pump trailer that can handle the above flow and pressure requirements is about $900/week or $3,000/month plus the cost of fuel.

Additional Items to Consider: Recommend the specifications require the Contractor to be prepared to run the pump station using a portable generator if SCE is not able to upgrade its service in time or if some of the electrical equipment delivery is being delayed.

PROJECT MANAGEMENT

Over the years, Tetra Tech has established well defined, rigorous procedures for project management. These techniques have been developed and refined and have contributed to our success and reputation. The keys to our project management system are communications, project planning, monitoring, and quality assurance. The Tetra Tech team's goal is to keep District staff "in the loop" from day one of the project. Communication tools include formal progress reports afforded through our project management system and an informal give-and-take approach starting with Tom Epperson, PE, our Project Manager, and extending to every member of the Tetra Tech team. At the project's outset, the chain of command and appropriate communication methods will be agreed upon and can be as formal or as informal as the District desires. We will use the entire communication spectrum. We will conduct formal meetings with agenda and typewritten notes, and we will use informal meetings with notes to file. We also will have documentation of telephone communications, with notes to file or letters of understanding as appropriate follow-up. Another important communication link will be our e-mail system.

We are proposing to use e-mail to keep the District aware of the status of the project. Every two weeks, Tetra Tech will prepare a brief (one or two paragraphs or bullet items) e-mail summarizing the following: activities completed in the previous two weeks; the activities planned for the upcoming weeks; any critical decisions that need to be made; and schedule of upcoming events/meetings. In addition, each month we will prepare a project status memorandum containing the following: summary of project schedule; description of key issues/concerns which have surfaced along with proposed options and solutions; and a project status summary report showing current schedule and budget.

SCOPE OF WORK

Members of our Project Team have performed an in-depth review of the scope of work contained in the Request for Proposal (RFP). In addition, we have visited the site and have a good understanding due to our conceptual work that we have already performed. Because of the page limitation, we acknowledge the scope of work contained in the RFP and have only added the below tasks that we have comment on, wanted to add to or expand on.

Task 1 – Project Management and Meetings

Task 1a: Project Management

Tetra Tech will submit a brief bi-weekly e-mail summarizing the work progress, planned activities and any critical decisions that need to be made.

Task 1b: Meetings

Tetra Tech would like to include in the interactive project kick-off workshop discussions of the key pump station design decisions included in Section III of the RFP as well as the hydraulic background, key issues, and schedule (design and construction) included in our Approach section of this proposal. We believe all of these items are necessary to be discussed early on in the work in order to be able to meet the accelerated schedule and the preparation of the pre-purchase packages for the key equipment. In addition, Tetra Tech would like to receive the JTM hydraulic data and the reservoir level operation immediately at the Notice of Award, if possible. If we can get this information, then we can include the discussion of the hydraulic evaluation.

We have assumed an additional meeting to discuss the pre-purchase packages that are recommended to be prepared to accelerate the construction of the project.

Task 2 – Utility Research and Document Review

Tetra Tech requests ETWD's as built information for the existing Pump Station and Chemical Building on-site. We were not able to find them during our previous work or with the information provided in the RFP.

Task 3 – Comprehensive Geotechnical Report

Tetra Tech has obtained a proposal from Leighton Consulting, Inc. to drill one boring at the site to a depth of 30 feet below existing grade. The information obtained from the boring will be important if the location of the proposed pump station will require retaining walls greater than 8 feet in height or the pump station is decided to be located within a building. The cost for the Geotechnical Report has been included in our proposed fee.

However, it is Tetra Tech's recommendation, if the retaining walls are less than 8 feet in height, the cost to perform the geotechnical report is not necessary. Tetra Tech can be more conservative in the design of the retaining wall and the additional cost for construction of the retaining wall will be sufficiently less than the cost to prepare the geotechnical investigation and the District will not be at any risk with the conservative values.

Task 4 – Final Design

Tetra Tech will have Metz Surveying, Inc. perform the on-site Topographic Survey. Tetra Tech plans to have one day of potholing performed at the site by C-Below or TE Roberts. As a minimum, the parallel pipelines will be potholed. Tetra Tech is not planning to have a surge analysis performed as the flow rate is small so the suction piping will have minimum velocity with minimum operating pressure and the 570 pressure zone already has a pump station with much higher capacity. The following are the assumptions that our scope of work is based on:

- Pump station located above ground with walls to retain the surrounding slopes with a canopy to protect the electrical equipment.

- Retaining walls will be less than 8 feet in height.
- Either Alternative 1 or 2 location of the pump station.
- Provide typical mechanical layouts for both one and two pump scenarios for three pump options (vertical, horizontal and end suction pumps).
- Flow meter and VFD will be included in the design.
- Bypass control will be included as stated in the Key Issue portion of our proposal.
- New on-site pipelines shall be plan and profile with appropriate detail sheets.
- Coordinate with SCE for new transformer and new service for the complete site.
- Design to accommodate power from a portable emergency generator.
- New PLC control panel and associated control components. Integrate into ETWD's existing SCADA system via ethernet.
- ETWD will self-perform programming and SCADA integration required.

We envision the construction drawings will consist of the following sheets:

1. Title Sheet (signatures, location map); (2) Second Sheet (sheet index, vicinity map, abbrev., symbols);
2. Third Sheet (General Notes, Pre-Purchased Equipment Summary, agency list);
3. Horizontal Control Plan, Bench Mark, Basis of Bearing;
4. Hydraulic Profile, Design Criteria, Flow Diagram; (6) Pipe Material, Equipment and Valve Schedules;
5. Overall Site and Access Plan; (8) Site and Grading Plan; (9) Yard Piping Plan; (10) Piping Profiles
6. Pipe Connections and Details; (12) Retaining Wall Details and Profile; (13) Trench Details
7. Pipe Details; (15) Site Details; (16) Mechanical Plan and Sections; (17) Pump and Appurtenance Details;
8. Mechanical Details; (19) Paving Restoration Plan (20) General Structural Notes/Inspections;
9. Pad Foundation Plan; (22) Canopy Roof Framing Plan; (23) Canopy Sections; (24) Canopy Details;
10. Miscellaneous Structural Details; (26) Electrical Symbols and Abbreviations; (27) Electrical Site Plan;
11. Power Plan; (29) Instrumentation and Control Plan; (30) Lighting and Grounding Plan;
12. Single Line Diagram; (32) Conduit and Panel Schedules; (33) Pump Control Schematic Diagram
13. VFD Enclosure with AC Unit; (35) Electrical Details; (36) Instrumentation Symbols and Abbreviations;
14. P&ID; (38) Control Panel Details

Task 4d: Key Equipment Pre-purchase Packages

Tetra Tech has assumed the following pre-purchase packages will be required to expedite the schedule:

- Pump and Motor
- Pump Control Valve or Check Valve
- Steel Piping
- Switchboard
- PLC Panel
- VFD or Soft Starters
- Electrical Panels

Tetra Tech will prepare each of these pre-purchase packages separately to allow the District to solicit cost competitive proposals and purchase the equipment in advance of construction. Tetra Tech has previously successfully transferred the pre-purchase equipment to the contractor with provisions to minimize risk during construction. This includes projects for Mesa Water District, Moulton Niguel Water District, and City of Santa Ana.

Task 6 – Bid Period Support Services

For this proposal, Tetra Tech has included budget for the preparation of up to two (2) addenda including revisions to the design plans and specifications and assistance with addressing bidder questions during bidding.

SCHEDULE

Tetra Tech understands the main project objective is to expediently develop a cost-effective JTM Pump Station design so that its construction and eventual startup takes place prior to (or, at least, during) the R-6 outage. Within the Approach Section of our proposal, we have summarized several options of expediting the schedule. At this time, we have assumed the District will select the pre-purchase equipment option for accelerating the completion of the construction of the project. Tetra Tech's project team is able to begin work immediately upon Award-of-Contract and will be able to maintain the required level of effort to meet the schedule proposed below.

Milestone	Anticipated Completion Dates
Notice-to-Award	January 24, 2022
Kick-off Workshop	January 27, 2022
Pre-purchase Meeting – Agree on packages	February 16, 2022
30% Progress Meeting	March 2, 2022
Submit Pump/Motor Pre-purchase Package	March 9, 2022
Potholing	March 16, 2022
Submit VFD or Soft Start Pre-purchase	March 23, 2022
Submit 60% Design	March 30, 2022
Receive District Comments	April 6, 2022
Pump/Motor Quote Acceptance	April 11, 2022
Submit Steel Piping Pre-purchase	April 20, 2022
VFD or Soft Start Quote Acceptance	April 25, 2022
Submit 90% Design	May 4, 2022
Receive District Comments	May 13, 2022
Submit Final Plans and Specifications	May 25, 2022
Bidding Period	Month of June
Approval of Pump/Motor Shop Drawings	June 17, 2022
Approval VFD/Soft Starters Shop Drawings	July 1, 2022
Approval of Steel Pipe Shop Drawings	July 15, 2022
Contractor's Notice-to-Proceed	July 25, 2022
Delivery of Steel Pipe	Mid-September
Delivery of Pump/Motor	End of October
Delivery of VFD or Soft Starter	End of November
Construction of Pump Station	End of December
Testing and Startup	January 2023
Pump Station placed into service	End of January 2023
Site Restoration	End of February 2023

The above assumed schedule is very dependent on the delivery of the long lead equipment items. Currently, the majority of Tetra Tech's construction projects are being delayed due to delivery of equipment due to COVID. We recommend expediting the pre-purchase packages as much as possible to allow for these delivery delays.

PROJECT EXPERIENCE

During the last 15 years, members of the project team have been involved in the design and/or construction of more than 37 water/recycled water pump stations and wells.

SUMMARY OF PUMP STATION AND WELL PROJECTS				
Type of Project	**Last 5 Years (2017 to 2021)**	**Previous 5 Years (2012 to 2016)**	**10 to 15 Years Ago (2007 to 2011)**	**Total During Last 15 Years**
Pump Stations	6	3	7	**16**
Wells	14	6	1	**21**
Total	**20**	**9**	**8**	**37**

This experience has allowed our staff to become intimately familiar with all aspects of the design and construction of pump station facilities. Therefore, our Project Team is high on the learning curve and can apply their expertise to addressing and resolving your project issues in a cost-effective and timely manner. The following is a summary of our some of our Project Team's Specific Pump Station Experience:

PROJECT TEAM PUMP STATION EXPERIENCE				
Client	**Project**	**Capacity (GPM)**	**Design Complete**	**Responsible Team**
ORANGE COUNTY WATER DISTRICT Fountain Valley, CA	Santiago Pump Station Modifications Mid-Basin Injection Wells (4 wells) Burris Bump Station	5,400 3,000 EA 90,000	2019/2020 2016 2015	Tom Epperson Laurence Esguerra Cory Heggtveit Mazen Kassar Eric Yuen
IRVINE RANCH WATER DISTRICT Irvine, CA	Zone 7 to 8 Booster Pump Station Peters Canyon	2,000 1,200	2021 2016	Tom Epperson Laurence Esguerra Cory Heggtveit Matt Vera Mazen Kassar Eric Yuen
CITY OF ORANGE Orange, CA	Well 29 and Well 28 Well 27 New Santiago Booster Pump Station Reservoir No. 4 Booster Pump Station	3,000 ea. 3,000 4,500 6,000	2021 2016 2010 2007	Tom Epperson Laurence Esguerra Matt Vera Mazen Kassar Eric Yuen
YORBA LINDA WATER DISTRICT Yorba Linda, CA	Timber Ridge Booster Pump Station Replacement	2,800	2021	Tom Epperson Matt Vera Jamie McElyea Mazen Kassar Eric Yuen
CITY OF SOUTH GATE South Gate, CA	Elizabeth Booster Pump Station Well 29	5,700 2,500	2016 2016	Tom Epperson Laurence Esguerra Mazen Kassar Eric Yuen

PROJECT TEAM PRE-PACKAGED PUMP STATION EXPERIENCE			
Client	**Project**	**Design Complete**	**Responsible Team**
LA PUENTE VALLEY COUNTY WATER DISTRICT La Puente, CA	Recycled Water Packaged Booster Pump Station with Enclosure	2020	Tom Epperson Laurence Esguerra Cory Heggtveit Mazen Kassar Eric Yuen
SOUTH HILLS COUNTRY CLUB West Covina, CA	Front 9 and Back 9 Booster Pump Station	2012	Tom Epperson Laurence Esguerra Cory Heggtveit Mazen Kassar Eric Yuen
CITY OF NEWPORT BEACH Newport Beach, CA	Newport Beach Country Club Recycled Water Packaged Booster Pump Station within Building	2008	Tom Epperson Laurence Esguerra Mazen Kassar Eric Yuen
CITY OF NEWPORT BEACH Newport Beach, CA	Big Canyon Country Club Recycled Water Packaged Booster Pump Station within Building	2008	Tom Epperson Laurence Esguerra Mazen Kassar Eric Yuen

PROJECT REFERENCES

We believe that the District is one of our best references based on the work that we have previously performed on the Osos Lift Station and the Recycled Water Expansion Distribution System Projects. We seek to continue to provide the high-quality of service the District deserves on this project as well.

Client satisfaction is a major objective for Tetra Tech. This commitment to our clients has earned us the privilege of providing continuous service to several of the below listed references. We believe that our clients will attest to our technical experience and responsive staff. We encourage you to contact our references to verify our past performance firsthand. We have provided contact names and phone numbers for these references below.

- **Moulton Niguel Water District**
  27500 La Paz Road
  Laguna Niguel, CA 92677
  Matt Collings, PE
  949/425-3552
  On-Call Services; 6 Pump Stations; 10 Pipelines; 5 Meter Projects

- **City of Santa Ana**
  220 S. Daisy Avenue, Bldg. MD-85
  Santa Ana, CA 92703
  Rudy Rosas, PE
  714/647-3379
  On-Call Services; 4 Pump Stations; 5 Wells; 5 Meter Projects; 10 Pipelines;

- **Mesa Water District**
  1965 Placentia Avenue
  Costa Mesa, CA 92627
  Phil Lauri, PE
  949/631-1291
  On-Call Services; 2 Wells; 2 Pipelines; Valve Replacement;

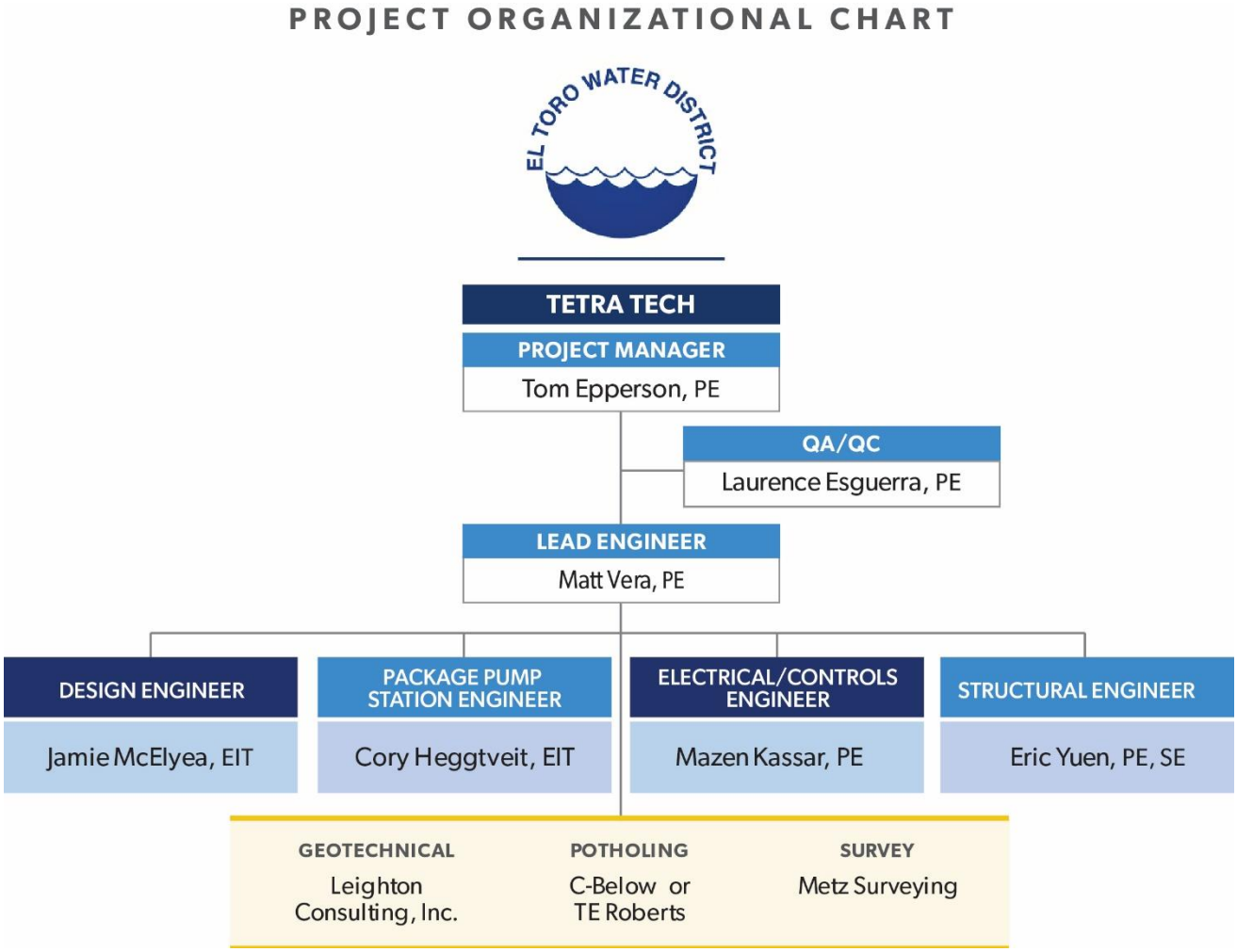
- **Irvine Ranch Water District**
  15660 Sand Canyon Avenue
  Irvine, CA 92618
  Richard Mori, PE
  949/453-5571
  6 Pump Stations; 12 Well Equipping; 8 Pipelines; 4 Membrane Treatment

- **Orange County Water District**
  18700 Ward Street
  Fountain Valley, CA 92708
  Mike Markus, PE
  714/378-3305
  2 Pump Stations; Well Injection; 4 Well PFAS Treatment; 6 Pipelines

- **City of Orange**
  189 S. Water Street
  Orange, CA 92866
  Sonny Tran, PE
  714/288-2475
  2 Pump Stations; 3 Well Equipping

PROJECT TEAM

Tetra Tech has the depth of resources for staffing this project with experienced and qualified personnel. The below Project Team Chart defines the project role of each key team member and delineates the communication and reporting relationships among the key project staff. Brief resumes are included within the Appendix.



Our proposed staff has an excellent track record of successfully working together on projects over the past several years. Our Project Manager, Tom Epperson, PE, and Lead Engineer, Matt Vera, PE, have worked together on six (6) pump station/well projects during the last two and half years. On the following page we have included a summary of the Project Team's Experience as well as the team's experience on the reference projects.

TETRA TECH SUMMARY OF STAFF EXPERIENCE								
Staff	Position and Location	Education	Years Exp.	California Registration	Availability/ Commitment	No. of Wells/Pump Stations	Projects	Project Duty
Tom Epperson	Project Manager Irvine Office	B.S. Environmental Engineering	41	RCE No. 36399	5%	24/46	• Yorba Linda WD Timber Ridge BPS • IRWD Zone 8 to 9 BPS • OCWD Burris Pump Station • City of Santa Ana Well 32	PM
Laurence Esguerra	QA/QC Irvine Office	B.S. Civil Engineering	18	RCE No. 73803	20%	12/12	• OCWD Burris Pump Station • City of Orange Santiago BPS • City of South Gate Elizabeth BPS • Mesa WD Chandler and Croddy Wells	PE
Matt Vera	Lead Engineer Irvine Office	B.S. Civil Engineering	11	RCE No. 86663	50%	6/4	• Yorba Linda WD Timber Ridge BPS • City of Santa Ana Well 32 • City of Orange Santiago BPS • City of Seal Beach Bolsa Chica Well	PE
Jamie McElyea	Design Engineer Irvine Office	B.S. Civil Engineering	5	EIT No. 012527	50%	4/4	• Yorba Linda WD Timber Ridge BPS • City of Santa Ana Well 32 • IRWD Zone 8 to 9 BPS • City of Seal Beach Bolsa Chica Well	DE
Cory Heggtveit	Package Pump Station Irvine Office	B.S. Civil Engineering	20	EIT No. 121854	10%	6/8	• OCWD Burris Pump Station • Yorba Linda WD Timber Ridge BPS • City of Santa Ana Well 32 • IRWD Zone 8 to 9 BPS	DE
Mazen Kassar	Electrical/ Controls Engineer Irvine Office	B.S. Electrical Engineering	29	EE No. 15809	20%	12/16	• Yorba Linda WD Timber Ridge BPS • IRWD Zone 8 to 9 BPS • OCWD Burris Pump Station • City of Santa Ana Well 32	EE
Eric Yuen	Structural Engineer San Dimas Office	B.S. Civil Engineering	14	RCE No. 75983 SE No. 6177	20%	12/10	• Yorba Linda WD Timber Ridge BPS • IRWD Zone 8 to 9 BPS • OCWD Burris Pump Station • City of Santa Ana Well 32	SE

Legend: PM – Project Manager; PE – Project Engineer; DE – Design Engineer; EE – Electrical Engineer; SE – Structural Engineer

MANHOURS

The estimated manhours for the individual tasks and subtasks are depicted within the spreadsheet below. Tetra Tech's proposed fee and schedule of hourly rates will be provided in a separate file as requested within the RFP.

Project Phases / Tasks	Total Labor Hrs	Project Manager (Tom Epperson)	Quality Control (Laurence Esguerra)	Lead Engineer (Matt Vera)	Package PS Support (Cory Heggtveit)	Design Engineer (Jamie McElyea)	CADD (Ashley Pham)	WP (Deana Escamilla)	Project Manager (Mazen Kassar)	Project Engineer (Doug Seaman)	Design Engineer (James Roberts)	Project Manager (Eric Yuen)	Project Engineer (Jose Quiroz)	Design Engineer (Eric Hutchins)
	1,103	30	24	100	20	180	160	23	70	132	156	30	118	60
JTM Pump Station Project	**1,103**	**30**	**24**	**100**	**20**	**180**	**160**	**23**	**70**	**132**	**156**	**30**	**118**	**60**
Task 1: Project Management and Meetings	**22**	**8**	-	**12**	-	-	-	**2**	-	-	-	-	-	-
Project Management (6 mths)	10	4		6										
Meetings (4)	12	4		6				2						
Task 2: Utility Research and Document Review	**14**	-	-	**2**	-	**4**	**6**	**2**	-	-	-	-	-	-
Document Review	6			2		2	2							
Utility Research	8					2	4	2						
Task 3: Comprehensive Geotechnical Report	**8**	-	-	**2**	-	-	-	**2**	-	-	-	**2**	**2**	-
Geotechnical Report	8			2				2				2	2	
Task 4: Final Design	**960**	**16**	-	**76**	**20**	**172**	**148**	**16**	**44**	**124**	**156**	**20**	**108**	**60**
Topographic Survey	4			1		2		1						
Potholing	4			1		2		1						
SCE Coordination	12								4	8				
Hydraulic Calculations	14			2	4	8								
General (6 Shts) and Civil Sheets (10 Shts)	248	2		26		100	120							
Mechanical Sheets (3 Shts)	62	2		6		30	24							
Structural Sheets (6 Shts)	176											16	100	60
Electrical Sheets (10 Shts)	220								20	80	120			
Instrumentation Sheets (3 Shts)	60								4	20	36			
Specifications	42	4		16				8	4	4		2	4	
Cost Estimates	22	2		6		8						2	4	
Processing (60%, 90%, Final)	14			2		6	4	2						
Prepurchase Packages	82	6		16	16	16		4	12	12				
Task 5: QA/QC	**54**	-	**24**	-	-	-	-	-	**24**	-	-	**6**	-	-
QA/QC	54		24						24			6		
Task 6: Bid Period Support Services	**45**	**6**	-	**8**	-	**4**	**6**	**1**	**2**	**8**	-	**2**	**8**	-
Addendum	27	6		8				1	2	4		2	4	
Sketches	18					4	6			4			4	
Totals	**1,103**	**30**	**24**	**100**	**20**	**180**	**160**	**23**	**70**	**132**	**156**	**30**	**118**	**60**

INSURANCE

As requested in the RFP, Tetra Tech will provide ETWD the requested insurance coverage for this project.

CONTRACT CONCERNS

Tetra Tech has reviewed the sample ETWD standard contract and we are confident we can sign the contract, however would appreciate consideration for the following changes:

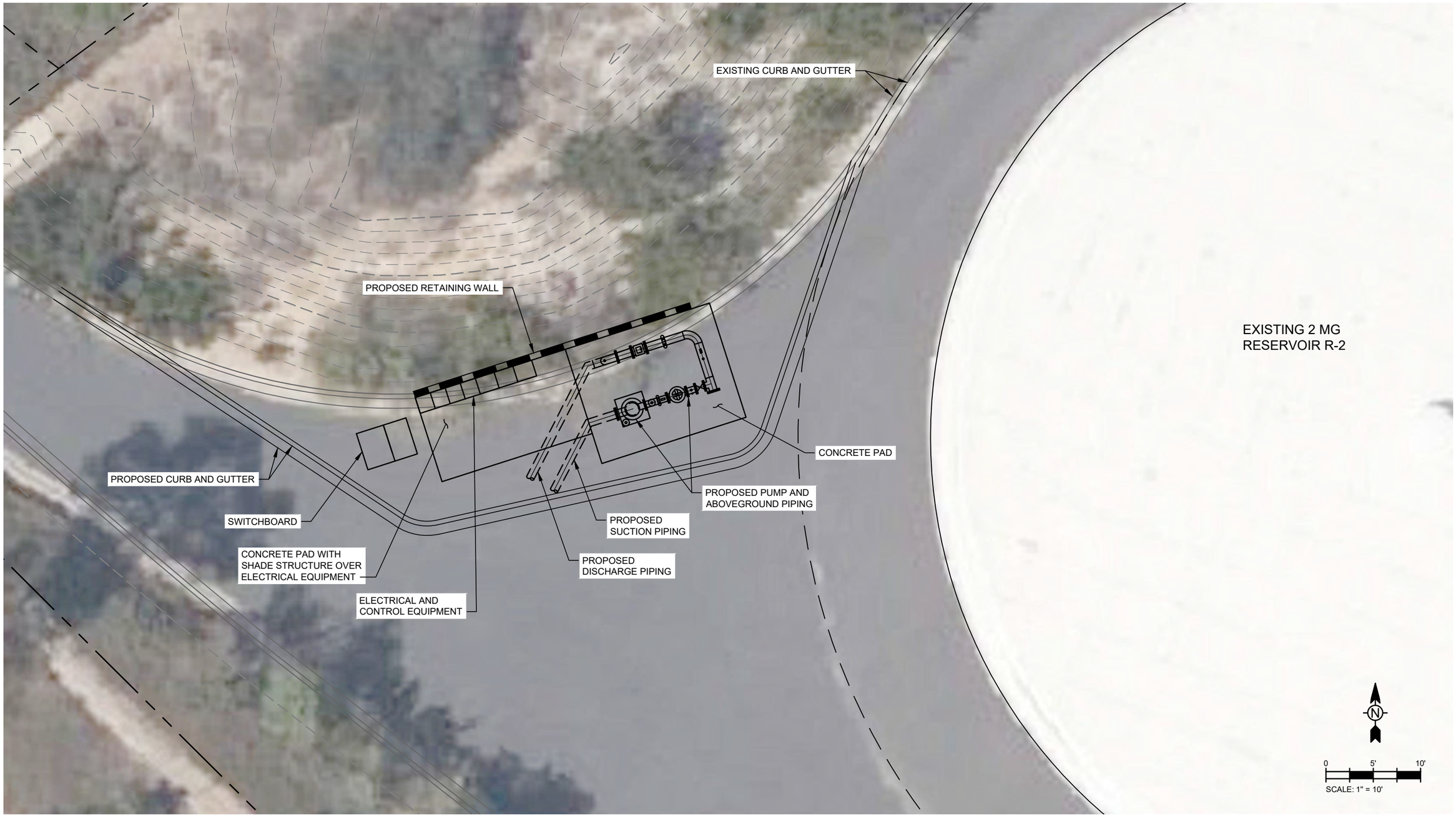
Section 5.3 ***Indemnity:***

ENGINEER shall indemnify and hold harmless DISTRICT from and against ~~any and all~~ claims, liabilities, damages, and actions ~~of any nature whatsoever that may arise from~~ ***to the extent caused by*** ENGINEER's negligent acts or willful misconduct pursuant to this Agreement and from and against all costs, attorneys' fees, expenses and liabilities incurred in the defense of any claim or any action or proceeding brought thereon. ~~ENGINEER, upon notice from DISTRICT, shall defend the same at ENGINEER's expense by counsel satisfactory to DISTRICT.~~

EL TORO WATER DISTRICT

Appendix A – Figures

TETRA TECH



TETRA TECH
www.tetratech.com
17885 Von Karman Ave. Ste. 500
Irvine, CA 92614
Ph: (949) 809-5000 Fax: (949) 809-5010

EL TORO WATER DISTRICT

JTM CONCEPTUAL PUMP STATION

SITE PLAN
OPTION 1

PROJ:

DATE: DECEMBER 2021

DESN:

FIGURE
1

Bar Measures 1 inch

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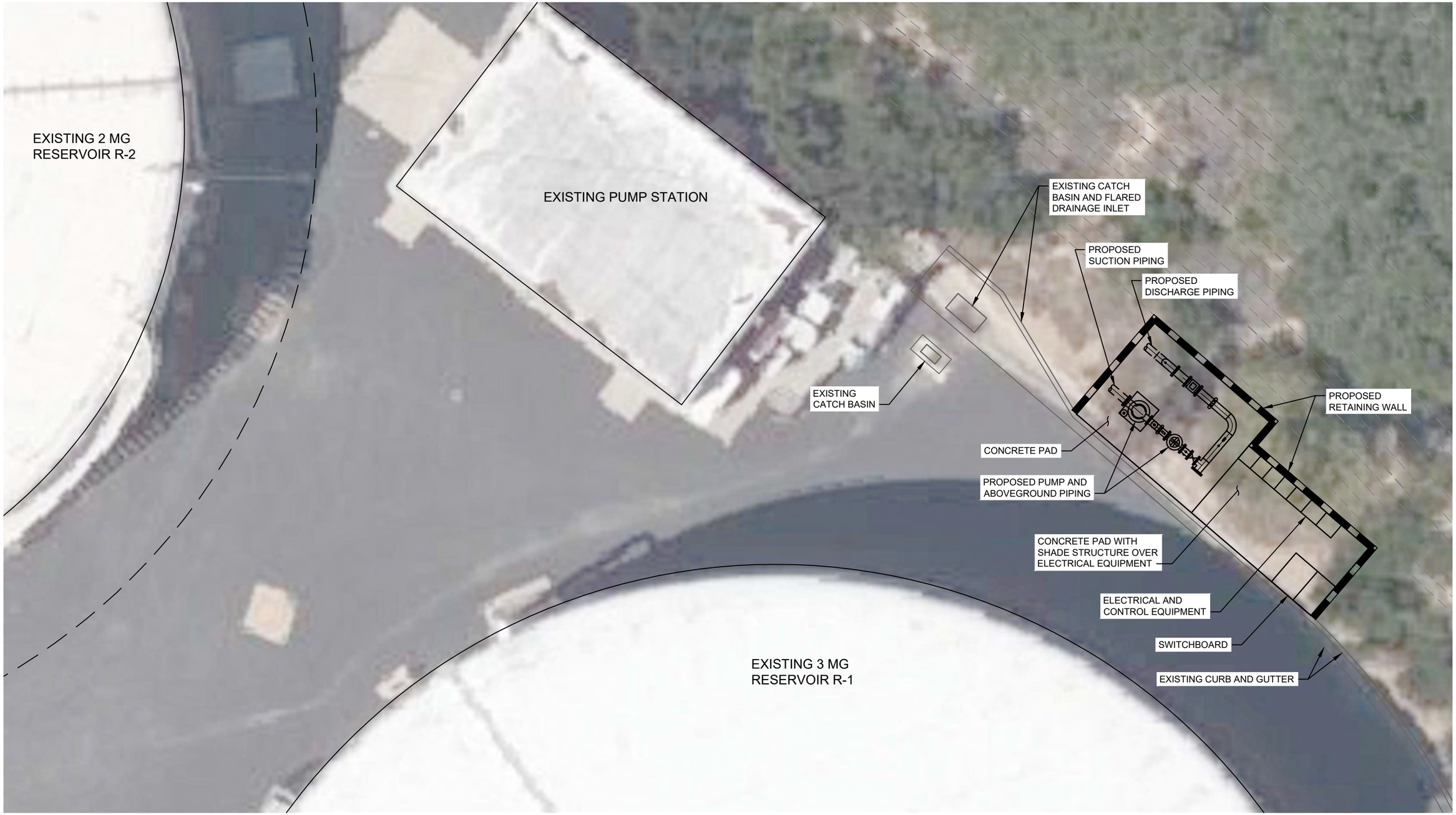

0 5' 10'

SCALE: 1" = 10'

TETRA TECH
www.tetratech.com
17885 Von Karman Ave. Ste. 500
Irvine, CA 92614
Ph: (949) 809-5000 Fax: (949) 809-5010

EL TORO WATER DISTRICT

JTM CONCEPTUAL PUMP STATION

SITE PLAN
OPTION 2

PROJ:

DATE: DECEMBER 2021

DESN:

FIGURE
2

Bar Measures 1 inch

EL TORO WATER DISTRICT

Appendix B – Resumes

TETRA TECH

Tom Epperson, PE
Project Manager

Mr. Epperson has more than 41 years of professional experience in water, wastewater, and reclaimed water engineering. Tom has been responsible for the preparation of water, wastewater, and reclaimed water master plans; project design reports for various water, wastewater, and reclaimed water facilities; and the planning and design of water, wastewater, and reclaimed water pipelines, along with pump stations and reservoirs. Mr. Epperson's experience includes completing the design, bidding, and construction management of over 200 miles of water/reclaimed water/sewer mains, 36 water/reclaimed water pump stations, 18 wellhead facilities, 12 sewer lift stations, and 25 water and reclaimed water storage reservoirs throughout Southern California.

Education:
BS, Environmental Engineering, University of California, Irvine, 1978

Registrations/Certifications:
Professional Civil Engineer, California, No. 36399, 1983

Professional Affiliations:
- American Society of Civil Engineers
- American Water Works Association
- Orange County Water Association
- Water Environment Federation
- WateReuse Association

Total Years of Experience:
41

Years with Tetra Tech:
29

EXPERIENCE

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Project Director. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

Fleming Zone 8 Tank and Zone 8 to 9 Booster Pump Station Demolition and Replacement, *Irvine Ranch Water District, Irvine, CA.* Project Director. Engineering design services for demolition and replacement of an existing above ground 0.15 MG Zone 8 steel tank and Zone 8 to 9 pump station consisting of two 600 gpm vertical turbine pumps each equipped with a 60 horsepower motor. The Fleming pump station site also contains an existing administrative building with a conference room and restroom, two storage buildings, and an AT&T cellular antenna facility. Services also include storage building replacement; reservoir management system building with sodium hypochlorite and aqueous ammonia storage and feed systems and an "in-tank" chemical injection and mixing system; a 2,000 gallon diesel fuel storage tank and dispensing system; and site electrical service, controls, and telemetry improvements.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Project Director. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included civil, structural, and electrical improvements to the park adjacent to the well site; a separate on-site generation sodium hypochlorite building; 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir; pressure control vault and chemical injection vault for both Well 32 and the City's existing Well 24; and modification at the reservoir to connect to the on-site piping.

Burris Pump Station, *Orange County Water District, Anaheim, CA.* Project Manager for the design of the new Burris Pump Station which consists of four 1,750 horsepower vertical turbine pumps delivering a maximum flow rate of 200 cfs to the Santiago Basins from Burris Basin. Work consisted of reviewing the existing Burris Pump Station Evaluation Report, assisting OCWD with selecting a replacement option, performing final design of the selected option and providing bid and construction phase services. The project also included unique designs: 190,000 cubic yards of earthwork to be completed prior to pump station construction, the construction of a 55-foot diameter by 55-foot high circular wet well which was computer and physically modeled during design for flow characteristics, and the construction of a 180,000 gallon surge suppression system.

Laurence Esguerra, PE
QA/QC

Mr. Esguerra has provided design engineering in various water and wastewater projects including domestic and reclaimed water pipelines, water main replacements, gravity sewer mains, pump stations, lift stations, reinforced concrete reservoirs, steel reservoirs, flow control facilities, and pressure reducing valve vaults. Laurence's responsibilities have included preparation of construction plans and specifications, design calculations and project memorandums.

Education:
BS, Civil Engineering, University of California, Irvine, 2004

Registrations/Certifications:
Professional Civil Engineer, California, No. 73803, 2009

Professional Affiliations:
- American Society of Civil Engineers
- Orange County Water Association

Total Years of Experience:
18

Years with Tetra Tech:
18

EXPERIENCE

Elizabeth Reservoir, Booster Pump Station, and New Well No. 29, *City of South Gate, CA* Project Engineer. Provided engineering planning, design and construction-phase services for the construction of a 1.8 MG steel reservoir and booster pump station located at 3414 Ardmore Avenue and a new potable water well with the anticipated production of 2,500 gpm, new CMU block well building and sodium hypochlorite building, 12.5% sodium hypochlorite disinfection facility in the City of South Gate. Project also included the construction of three horizontal split case pumps, a vertical turbine, 4,700 linear feet of 8-inch and 12-inch pipe, bore and jack under the railroad, and site improvements.

Burris Pump Station, *Orange County Water District, Anaheim, CA*. Project Engineer for the design of the new Burris Pump Station which consisted of four 1,750 horsepower vertical turbine pumps delivering a maximum flow rate of 200 cfs to the Santiago Basins from Burris Basin. The project also included unique designs: 190,000 cubic yards of earthwork to be completed prior to pump station construction, and the construction of a 55-foot diameter by 55-foot high circular wet well which was computer and physically modeled during design for flow characteristics.

New Santiago Booster Pump Station, ***City of Orange, CA.*** Project Engineer for the preparation of plans and specifications for a potable water pump station. Project included the installation of three vertical turbine pumps, two surge tanks, drop facility and a standby diesel generator.

Chandler Well, South Croddy Well and Pipeline, *Mesa Water District, Costa Mesa, CA.* Project Engineer for the drilling and equipping of Well Nos. 12 and 14, two new potable water wells (approximately 1,050 feet deep), to provide additional local water reliability to the customers of Mesa Water District. The project involves the demolition of existing buildings at Well Nos. 12 and 14 properties within the City of Santa Ana. Both wells are located outside of Mesa Water's service area and will require the construction of approximately 4,400 feet of pipeline to connect the proposed wells to Mesa Water's existing system. Each well site includes the construction of a vertical turbine pump estimated to produce approximately 3,000 gpm, new CMU block well building, new chemical storage facility, sodium hypochlorite and aqua ammonia disinfection facility, and site and landscaping improvements.

Recycled Water Distribution System Expansion, Phase 2, *El Toro Water District, Laguna Woods, CA.* Project Engineer. Design of over 30,000 feet of recycled water pipelines for the El Toro Water District's - Recycled Water Distribution System Expansion Project, Phase 2. The project consisted of constructing 4-inch and 6-inch pipe to existing irrigation meters. The major customer being served recycled water is the Laguna Woods Village Home Owners Association (formerly Leisure World).

Dominguez Booster Pump Station, ***West Basin Municipal Water District, Carson, CA.*** Design Engineer for the preparation of plans and specifications for a recycled water pump station. Project included the installation of two vertical turbine pumps, one jockey pump, two surge tanks and disinfection system.

Matt Vera, PE
Lead Engineer

Mr. Vera has provided design engineering in various water and wastewater projects including domestic and reclaimed water pipelines, gravity sewer mains, sewer main rehabilitations, pump stations, lift stations, wells, flow control facilities, and pressure reducing valve vaults. Matt's responsibilities have included preparation of construction plans, specifications, design calculations, and assistance to supervisors in preparing project reports, studies, and memorandums.

Education:
BS, Civil Engineering, University of California, Irvine, 2013

Registrations/Certifications:
Professional Civil Engineer, California, No. 86663, 2016

Professional Affiliations:
Orange County Water Association

Total Years of Experience:
8

Years with Tetra Tech:
3

EXPERIENCE

New Santiago Booster Pump Station, ***City of Orange, CA.*** Project Engineer. Preparation of plans and specifications for a potable water pump station. Project included the installation of three vertical turbine pumps, two surge tanks, drop facility and a standby diesel generator.

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Project Engineer. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Project Engineer. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included civil, structural, and electrical improvements to the park adjacent to the well site; a separate on-site generation sodium hypochlorite building; 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir; pressure control vault and chemical injection vault for both Well 32 and the City's existing Well 24; and modification at the reservoir to connect to the on-site piping.

Rosecrans Booster Pump Station, *City of Buena Park, CA.* Design Engineer for a booster pump station servicing the City's 20 MG reservoir. The station included pumping facilities, electrical and instrumentation equipment, surge tank, back-up generator and diesel fuel tank in addition to site improvements such as site paving, perimeter CMU walls, bio-retention pond, and relocation of SCE facilities.

New Well 12C Development, *Liberty Utilities, Compton, CA.* Design Engineer for the development of the well site containing a new 2,500-gpm, 400-hp vertical turbine well facility, including a pump room with electrical and instrumentation equipment, water disinfection equipment room with on-site sodium hypochlorite generation, and a water treatment equipment room with fluoridation and ammonia systems.

Santiago Pump Station Modification, *Orange County Water District, Orange, CA.* Project Engineer for the modifications for OCWD's Santiago Pump Station to improve the floating pump station's functionality. Modifications to the existing discharge piping were designed to increase the operating range of their floating pump station to handle flows previously pumped by the submerged station in the Santiago Basin which is no longer operational. This project included the addition of a discharge bypass line with modulating ball valve, retrofitting of existing valves to allow for electrically motor operated actuation and various site and electrical improvements. GPS equipment was also added to the floating pump station to allow for automation of the new bypass at high water levels within the basin.

Jamie McElyea, EIT
Design Engineer

Ms. McElyea has more than five years of experience in civil engineering design, drafting with AutoCAD Civil 3D, and technical documentation. Jamie provides engineering support for a variety of civil engineering projects, such as grading, drainage, water, and sanitary sewer design and modeling. In addition to engineering design, she has had experience working in the field as a survey technician and has experience with topographic and field surveys and staking for construction.

Education:
BS, Civil Engineering, Arizona State University, 2016

Registrations/Certifications:
Engineer-in-Training, Arizona, No. 012527

Total Years of Experience:
5

Years with Tetra Tech:
5

EXPERIENCE

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Design Engineer. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

New Santiago Booster Pump Station, ***City of Orange, CA.*** Design Engineer. Preparation of plans and specifications for a potable water pump station. Project included the installation of three vertical turbine pumps, two surge tanks, drop facility and a standby diesel generator.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Design Engineer. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included a separate on-site generation sodium hypochlorite building, 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir and modification at the reservoir to connect to the on-site piping.

Fleming Zone 8 Tank and Zone 8 to 9 Booster Pump Station Demolition and Replacement, ***Irvine Ranch Water District, Irvine, CA.*** Design Engineer. Engineering design services for demolition and replacement of an existing above ground 0.15 MG Zone 8 steel tank and Zone 8 to 9 pump station consisting of two 600 gpm vertical turbine pumps each equipped with a 60 horsepower motor. The Fleming pump station site also contains an existing administrative building with a conference room and restroom, two storage buildings, and an AT&T cellular antenna facility. Services also include storage building replacement; reservoir management system building with sodium hypochlorite and aqueous ammonia storage and feed systems and an “in-tank” chemical injection and mixing system; a 2,000 gallon diesel fuel storage tank and dispensing system; and site electrical service, controls, and telemetry improvements.

Santiago Pump Station Modification, *Orange County Water District, Orange, CA.* Design Engineer. Tetra Tech was selected to design modifications for OCWD’s Santiago Pump Station to improve the floating pump station’s functionality. Modifications to the existing discharge piping are being designed to increase the operating range of their floating pump station to handle flows previously pumped by the submerged station in the Santiago Basin which is no longer operational. This project included a discharge bypass line with modulating ball valve, retrofitting of existing valves to allow for electrically motor-operated actuation and various site and electrical improvements. GPS equipment was also added to the floating pump station to allow for automation of the new bypass at high water levels within the basin.

Cory Heggtveit, EIT

Package Pump Station Engineer

Mr. Heggtveit has provided design engineering in various water and wastewater projects including domestic and reclaimed water pipelines, water main replacements, gravity sewer mains, pump stations, lift stations, reinforced concrete reservoirs, flow control facilities, recycled water customer conversions, and pressure reducing valve vaults. Cory's responsibilities have included preparation of construction plans, specifications, and design calculations; and assisted supervisors in preparing project memorandums.

Education:
BS, Civil Engineering,
California State University,
Long Beach, 2009

Registrations/Certifications:
Engineer-in-Training,
California, No. 121854, 2005

Total Years of Experience:
20

Years with Tetra Tech:
20

EXPERIENCE

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Design Engineer. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

New Santiago Booster Pump Station, ***City of Orange, CA.*** Design Engineer. Preparation of plans and specifications for a potable water pump station. Project included the installation of three vertical turbine pumps, two surge tanks, drop facility and a standby diesel generator.

Burris Pump Station, *Orange County Water District, Anaheim, CA.* Design Engineer for the design of the new Burris Pump Station which consists of four 1,750 horsepower vertical turbine pumps delivering a maximum flow rate of 200 cfs to the Santiago Basins from Burris Basin. Work consisted of reviewing the existing Burris Pump Station Evaluation Report, assisting OCWD with selecting a replacement option, performing final design of the selected option and providing bid and construction phase services. The project also included unique designs: 190,000 cubic yards of earthwork to be completed prior to pump station construction, the construction of a 55-foot diameter by 55-foot high circular wet well which was computer and physically modeled during design for flow characteristics, and the construction of a 180,000 gallon surge suppression system.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Design Engineer. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included a separate on-site generation sodium hypochlorite building, 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir and modification at the reservoir to connect to the on-site piping.

Fleming Zone 8 Tank and Zone 8 to 9 Booster Pump Station Demolition and Replacement, ***Irvine Ranch Water District, Irvine, CA.*** Design Engineer. Engineering design services for demolition and replacement of an existing above ground 0.15 MG Zone 8 steel tank and Zone 8 to 9 pump station consisting of two 600 gpm vertical turbine pumps each equipped with a 60 horsepower motor. The Fleming pump station site also contains an existing administrative building with a conference room and restroom, two storage buildings, and an AT&T cellular antenna facility. Services also include storage building replacement; reservoir management system building with sodium hypochlorite and aqueous ammonia storage and feed systems and an "in-tank" chemical injection and mixing system; a 2,000 gallon diesel fuel storage tank and dispensing system; and site electrical service, controls, and telemetry improvements.

Mazen Kassar, PE

Electrical/Controls Engineer

Mr. Kassar has more than 29 years of experience in electrical engineering and industry standard that includes electrical engineering staff management, project management, construction management and supervision, water and wastewater treatment, petro-chemical design, and environmental soil and groundwater treatment. Mazen's background includes designing medium and low voltage power distribution, designing instrumentation, control systems and SCADA systems for a wide-variety of projects, and the installation of electrical systems for remediation projects, including soil vapor extraction systems and groundwater pump-and-treat systems. Other experience includes, working with utility companies to provide new electrical service to new projects, working with local Building and Safety Departments to obtain Plan Check and construction permits, field trouble shooting of electrical and mechanical systems, system commissioning and startup.

Education:

BS, Electrical Engineering, California State University, Long Beach, 1990

Registrations/Certifications:

Professional Electrical Engineer, California, No. 15809, 1998

General Construction, Class B California, No. 777845, 2008

Contractor - C-10 Electrical, California Class C – Specialty, No. 777845, 2000

Professional Affiliations:

Institute of Electrical and Electronics Engineers

Total Years of Experience:

29

Years with Tetra Tech:

12

EXPERIENCE

Burris Pump Station, *Orange County Water District, Anaheim, CA.*
Electrical Engineer for the design of the new Burris Pump Station which consists of four 1,750 horsepower vertical turbine pumps delivering a maximum flow rate of 200 cfs to the Santiago Basins from Burris Basin. Work consists of reviewing the existing Burris Pump Station Evaluation Report, assisting OCWD with selecting a replacement option, performing final design of the selected option and providing bid and construction phase services. The project also includes unique designs: 190,000 cubic yards of earthwork to be completed prior to pump station construction, the construction of a 55-foot diameter by 55-foot-high circular wet well which was computer and physically modeled during design for flow characteristics, and the construction of an 180,000-gallon surge suppression system.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Electrical Engineer. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included civil, structural, and electrical improvements to the park adjacent to the well site; a separate on-site generation sodium hypochlorite building; 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir; pressure control vault and chemical injection vault for both Well 32 and the City's existing Well 24; and modification at the reservoir to connect to the on-site piping.

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Electrical Engineer. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

Plant 13 Booster Pump Station Rehabilitation, *City of Lakewood, CA*. Managed the electrical design for Plant 13 booster pump station upgrade. The design consisted of replacing the plant's old MCC with new outdoor NEMA 3R MCC, installing new conduits and wires to the new pumps, and reinstalling the existing control and telemetry system. This replacement upgrade required interfacing with Southern California Edison and relocating the existing ATS.

Eric Yuen, PE, SE

Structural Engineer

Mr. Yuen has more than 14 years of experience in the design, analysis, and detailing of structural engineering. Eric is knowledgeable in reinforced concrete, masonry, structural steel and wood frame design, and construction for a variety of building and infrastructure projects including reservoirs and water/wastewater treatment facilities, pump stations, lift stations as well as seismic retrofit of existing structures.

Education:
BS, Civil Engineering, California State Polytechnic University, Pomona, 2007

Registrations/Certifications:
Professional Civil Engineer, California, No. 75983, 2009

Professional Structural Engineer, California, No. 6177, 2014

Professional Affiliations:
American Institute of Steel Construction

Total Years of Experience:
14

Years with Tetra Tech:
14

EXPERIENCE

Timber Ridge Booster Pump Station Replacement, *Yorba Linda Water District, Placentia, CA.* Structural Engineer. Project includes engineering planning, design and construction-phase services for the replacement of an existing 35-year old booster pump station. The District contracted Tetra Tech to design and construct a new CMU block pump station building; replace the existing gas engine pump and enclosure with a new electric driven pump/motor with the same or greater rated capacity; install an emergency natural gas engine driven generator set; install two bladder tanks for surge protection for the 1000 Zone and 1300 Zone; replace existing direct buried mag meters on the 1300 Zone and 1160 Zone discharge piping with above ground meters; and replace and upgrade the existing electrical equipment.

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Burris Pump Station, *Orange County Water District, Anaheim, CA.* Structural Design Engineer for the replacement of an existing pumping facility at the Burris Pump Station location. Mr. Yuen was involved in the comprehensive design of the 0.8 MG buried circular wet well. The new facility will allow OCWD to transfer up to 200 cubic feet per second from the Santa Ana River, which will be utilized for groundwater recharge to the Santiago Basins. Mr. Yuen also reviewed shop drawings and responded to RFIs during the ongoing construction phase of this project.

Well No. 32 Rehabilitation, *City of Santa Ana, CA.* Structural Design Engineer. The project involved the preparation of a PDR and plans/specifications for the rehabilitation of the well facility. The underground well would be scraped, cleaned and modified to be within an above ground CMU block control building (housing mechanical and electrical rooms). The design also included civil, structural, and electrical improvements to the park adjacent to the well site; a separate on-site generation sodium hypochlorite building; 3,500 feet of 12-inch discharge pipe to John Garthe Reservoir; pressure control vault and chemical injection vault for both Well 32 and the City's existing Well 24; and modification at the reservoir to connect to the on-site piping.

Milliken Pump Station, *Chino Basin Desalter Authority, Ontario, CA.* Structural Design Engineer for the design of a building for a booster pump station with separate pump and electrical rooms. The building has concrete block walls and a steel framed roof structure. Consideration was given to the appearance of the building so that it will complement the existing well building and 29 MG prestressed concrete tanks which share the site with the Milliken Pump Station.

EL TORO WATER DISTRICT

TETRA TECH

PROPOSAL

FINAL DESIGN SERVICES FOR THE JOINT TRANSMISSION MAIN PUMP STATION

EL TORO WATER DISTRICT
HANNAH FORD, P.E., ENGINEERING MANAGER
DECEMBER 20, 2021

27372 Calle Arroyo / San Juan Capistrano, CA 92675 / 949.450.2525

DUDEK

Transmittal Cover Letter

December 20, 2021

Hannah Ford, P.E.
Engineering Manager
El Toro Water District
24251 Los Alisos Boulevard
Lake Forest, California 92630

Subject: **Final Design Services for the Joint Transmission Main Pump Station**

Dear Ms. Ford,

Dudek appreciates the opportunity to present our proposal for the above referenced project and continue our established working relationship with El Toro Water District (ETWD). In accordance with the RFP instructions, Section 1 of our proposal identifies our understanding of the project goals and objectives, as well as our team's method and approach to achieving these objectives. Through the project Request for Proposals (RFP) and discussions with ETWD staff during the pre-proposal meeting on site, we have developed a thorough understanding of ETWD's primary goals and objectives for the project.

Section 2 provides a Gantt proposed project schedule, with Section 3 illustrating a detailed project level of effort. Section 4 demonstrates our team's recent record of undertaking and executing similar pump station projects for public agencies. Based on our project understanding, Sections 5 and 6 present our proposed team of professionals and their availability; a team experienced with the technical aspects of the project and the operational policies and procedures of the ETWD. We have assembled a strong team that will deliver a successful project for the District, and we believe the ETWD's overall project value will be maximized by selecting the Dudek team.

Section 7 contains our response to the Acceptance of Standard Contract. Dudek states that we will provide ETWD the requested insurance as outlined in the sample contract. Dudek states that the firm has received no Addenda to this RFP.

We understand the District has contracted with Dudek's Environmental Group to prepare an IS/MND for this project. Having both project teams in house may result in efficiencies for the project.

We look forward to continuing our working relationship with the El Toro Water District and to providing the services described herein. If you have any questions or wish to discuss our proposal, please contact Project Manager Brandon Lacap at 760.479.4106 or blacap@dudek.com.

Sincerely,

Michael Metts, PE
Principal in Charge

Brandon Lacap, PE
Project Manager

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FIGURES

APPENDIX

1 Project Approach and Detailed Scope of Work

Understanding

It is our understanding that El Toro Water District (ETWD) is requesting proposals for final design engineering services of the new Joint Transmission Main (JTM) Pump Station (PS) located in Laguna Woods, CA. The current water supply for ETWD relies on two main sources: the Allen McColloch Pipeline (AMP) and Baker Water Treatment Plant, with additional supply from the Joint Transmission Main (JTM) traversing through the District. Due to hydraulic grade constraints, the JTM cannot consistently meet the pressure requirements of ETWD's Gravity Zone. Therefore, the 2.2 cfs capacity from the JTM pipeline cannot be consistently utilized by the District.

The primary objective of this project is to provide the complete design, final bid documents, and bid period support services for a new, cost-effective JTM PS (located at the existing R-1/R-2 Reservoir site) that would lift the HGL of the JTM pipeline to meet ETWD requirements and allow for an alternative, reliable water supply source on a daily basis. Provision of the JTM PS will provide improved water quality to ETWD by introducing a fresher supply of water on the west side of the District's service area. In addition to these benefits, Dudek understands that completing the design and construction of the JTM PS will be valuable to ETWD during the next planned outage of the R-6 Reservoir (October 2022). As such, Dudek understands the importance of providing an efficient project schedule, based on clear, continuous communication between Dudek's design team and ETWD staff throughout the entirety of the project.

Project Goals and Objectives

Dudek's team has performed a cursory review of the R-1/R-2 Reservoir site, the JTM PS Conceptual Design Memo prepared by Tetra Tech in October 2021, as well as the hydraulics of the existing JTM and Gravity Zone. Through the project RFP and discussions with ETWD staff during the pre-proposal meeting on site, we have developed the following understanding of ETWD's primary goals and objectives for the project:

- **Expedited Design and Construction Schedule:** Develop and design final bid documents for the construction of the JTM PS through an expedited schedule to allow for an alternative reliable water source to ETWD's Gravity Zone during the R-6 Reservoir cover replacement, planned to begin October 2022.
- **JTM Pump Station Design:** Design facilities and improvements to the existing R-1/R-2 Reservoir site to add a new cost-effective JTM Pump Station to provide up to 2 cfs of water supply to ETWD's Gravity Zone from the JTM. Provide mechanical, structural, electrical, instrumentation/controls, site civil improvements, as well as coordination with Southern California Edison (SCE), to ultimately provide a pump station design with operational/control strategy that meets the requirements of ETWD.
- **JTM Pump Station Operational Layout**: Design a new pump station building layout at the R-1/R-2 Reservoir site, with coordination with ETWD engineering and operations staff, that provides easy maintenance/emergency access, minimal impact to daily R-1/R-2 Reservoir site operations, and minimal impact to the neighboring commercial, and public properties.

Project Approach

Dudek approaches each design project with a complete understanding of the project's Critical Success Factors. These factors guide the overall project approach, making certain that the client's goals and objectives are

achieved, and that other collateral goals and requirements are equally maintained. In the following discussions, Dudek will highlight the project's Critical Success Factors and our approach to the design of the JTM PS.

Hydraulic Analysis and Control Strategy. A key factor during the preliminary design phase, Dudek will perform a hydraulic analysis utilizing JTM pressure information to optimize the pump sizing, pump operation/control strategy, and hydraulic efficiency. Dudek's typical hydraulic analysis for these types of pump stations involves review of historical pressure records from the previous three (3) years (at minimum, if available), to ensure an in-depth understanding of the nuances of the existing system. In this case, this historical pressure information would provide a clear picture of trends in pressure fluctuations that need to be accommodated for in the design. This hydraulic analysis will be key to developing a control strategy that meets the operational goals of the JTM PS. In addition, Dudek will provide a transient (surge) analysis of the system based on the new JTM PS design to determine if any surge mitigation equipment will be recommended, such as a hydropneumatic/bladder tank or surge anticipation valves. Dudek's Project Manager, Brandon Lacap, has extensive experience in hydraulic analysis and designing surge mitigation equipment for various pump stations, and will work closely with Dudek's transient analysis specialist subconsultant (ZZ Technologies) to provide the most optimal surge protection design for the new station as required.

Mechanical Equipment Selection. Dudek's approach includes an alternatives analysis during the preliminary design phase (30% design) to provide ETWD with a comparison of at least two different styles of pumping units. Dudek proposes to evaluate, at minimum, vertical single-stage split case style pumps versus a packaged vertical multi-stage pump station configuration. Following discussions on site with EVMWD operations staff, Dudek recognizes that the existing pumping units (Pentair Aurora vertical single-stage split case) at ETWD's PS-1 have worked well and have pleased the operations staff in functionality, performance, and accessibility (**Figure 1**). Although this is understood, Dudek finds it beneficial to explore and compare possible avenues of saving space, saving cost, reducing noise, increasing efficiency, and providing easier maintenance by considering a skid-mounted packaged vertical multi-stage pumping system such as the Grundfos BoosterPAQ (**Figure 2**). This alternatives analysis will also include a comparison of equipment lead times to consider any schedule saving benefits as well; the Grundfos BoosterPAQ is a complete system inclusive of pumps, motors, variable speed controls, and panels, which provides for easy procurement. Dudek has recently completed several similar pump station designs, located in areas with similar space constraints and functional requirements. Many of Dudek's clients have been pleased with the space-saving and the higher efficiency benefits of the Grundfos BoosterPAQ system, as well as the all-in-one pump and controls package being provided by a single manufacturer. Dudek will evaluate the advantages and disadvantages of each pump style to present to ETWD.

Figure 1. ETWD PS-1 Vertical Single-Stage Split Case Pumps, Bridge Crane, and Double Leaf Access Doors

Figure 2. Skid-Mounted Packaged Booster Pump Station (1,100 gpm) at Morrow Hills Pump Station

Optimization of Site Layout. Following the pre-proposal site visit, Dudek performed a preliminary site layout alternatives analysis to determine possible locations of the new JTM PS. Dudek has determined that the location presented in the *JTM PS Conceptual Design Memo* (set within the existing hillside) is the most practical and functional location on site for the JTM PS that limits impact on existing maintenance/emergency vehicle access, impact to existing equipment, and impact to existing buried and above grade facilities. The pump station is anticipated to consist of an above grade CMU shear wall building partially retaining a slope directly west of the R-2 Reservoir, with included concrete pads for mechanical/electrical equipment located on the exterior of the building, including a reinforced concrete pad for a temporary portable generator. Concrete pad location for the temporary generator can be located partially set back past the existing curb line (additional grading required) to ensure a portable temporary generator on site will not impede vehicle access from the main access driveway or around the west side of Reservoir R-2. Depending on the pump style selection, the building footprint may be reduced if a packaged skid-mounted pump station is designed. Similar to Dudek's design of the Morro Hills No. 1 and No 2. Reservoirs Pump Station (packaged skid-mounted station), the building can include a double leaf access gate for pump removal with a truck mounted crane or a gantry crane (See **Figure 3**). The double leaf gate allows for simple/passive ventilation of the building interior. Alternatively, if the vertical single-stage split case pumps are selected, the building can include a double door design integrated with a fixed bridge crane system similar to ETWD's PS-1 (**Figure 1**). Pump suction, discharge, and bypass piping orientation will be evaluated as well, to reduce footprint but maintain operator access to valves between piping assemblies. As such, Dudek's approach for building layout and features will evaluate several pump station features to optimize layout in regard to maintenance and emergency access. These building design and layout features will be discussed and coordinated with ETWD staff during preliminary design.

Figure 3. Morrow Hills Pump Station CMU Building and Double Leaf Gate Access Opening (Site Pavement Not Yet Constructed)

Schedule Efficiency. Dudek's approach to the project schedule focuses on constant communication and involvement with both ETWD engineering and operations staff throughout the preliminary and final design phases of the project. Inclusion of existing pump station operations staff at the kick-off meeting as well as the 30% design review meeting is critical to ensure operational preferences are included and addressed early in the design stage. Additionally, inclusion of ETWD electrical staff at the 60% review meeting is critical to ensure the electrical and controls preferences are coordinated early in the final design stage. Dudek coordinates with pump manufacturers early in the preliminary design phase to understand equipment procurement costs and lead times, which will assist in pump selection and expediting the project schedule. Another key critical path item includes coordination with SCE for application of a new meter and additional power service on site. Dudek and our electrical subconsultant's (Rizza Engineering) approach focuses on beginning communication and coordination with SCE immediately following the 30% design review meeting to minimize possible schedule delays that may result from SCE's design review and approval process. Dudek and Rizza are very familiar with the SCE application process from recent similar pump station design projects. Dudek and Rizza will prepare all required documentation and SCE application information on behalf of ETWD to submit for review and approval at the 90% design phase.

Scope of Work

Project organization will generally be consistent with the scope of work tasks described in your RFP and outlined in the project schedule and fee. The following states our agreement with each of the Tasks outlined in the RFP with our additional enhancements, clarifications, additions, and/or limits of work. All submittals are provided in strict accordance with the RFP.

Task 1 Project Management and Meetings

Dudek agrees with, and will provide, a concise monthly status report with each monthly invoice that meets the requirements of Task 1a.

Our scope of work has included the four (4) meetings, meeting coordination, meeting protocols, and documentation as required by Task 1b of the RFP. Dudek recognizes the importance of the accelerated schedule of this project, and proposes to include a weekly update conference call between Dudek's project manager and ETWD's project manager from project kick-off through the 90% design. This weekly update provides continuous communication between Dudek and ETWD to ensure critical project development tasks are kept on schedule such as obtaining record data/documents, performing site survey, geotechnical investigation, utility investigation, potholing, and SCE coordination.

Task 2 Utility Research and Document Review

Dudek will conduct the utility research and document review as required and described by Task 2 of the RFP.

Task 3 Comprehensive Geotechnical Report

Dudek will provide a comprehensive geotechnical report as described in Task 3 of the RFP. Dudek's geotechnical investigation includes a site reconnaissance visit to mark the test pit locations at the project site, notification of USA DigAlert at least 48 hours prior to the field exploration, subsurface exploration, lab testing of obtained soil samples, and engineering analysis and Geotech report preparation.

Task 4 Final Design

Dudek will provide 60%, 90%, and Final-level (bid documents) Design Submittals, including drawings, specifications, construction cost estimates, hydraulic calculations, and supporting documents as required and as described in Task 4 of the RFP (Task 4a through Task 4d). During the preliminary design and into the final design phase, Dudek will coordinate topographic survey of the site, Geotechnical site investigation, and potholing of any existing underground utilities that new piping will be connecting to or crossing. Dudek will identify expected long lead items prior to the 60% design submittal and coordinate with equipment manufacturers to obtain specific lead times on anticipated prepurchase packages.

Task 5 Consultant Quality Control Reviews

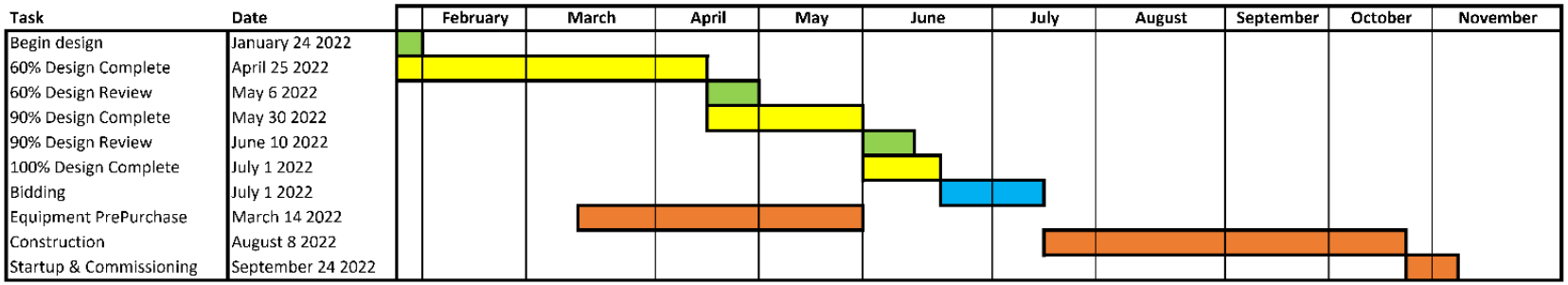
Dudek will provide a program of quality assurance and quality control procedures throughout the project as described in Task 5 of the RFP. Our project management includes a thorough QA/QC program, which require all deliverables (including design calcs) to receive a timely quality control review by a qualified technical reviewer. Dudek utilizes Russ Bergholz, PE, PMP, to provide QC reviews and regular feedback. Dudek sees our subconsultants as an extension of our staff and extend our QA/QC requirements to the deliverables of all project team members.

Task 6 Bid Period Support Services

Dudek will provide bid period support services as described in the RFP.

2 Project Schedule

Figure 4. Project Schedule



3 Detailed Level of Effort

Table 1. Level of Effort

	Dudek Labor Hours and Rates													
Project Team Role:	PIC	QA/QC	Project Manager	Project Engineer	CAD Designer	Admin		Geotechnical Engineer	Surveying	Potholing	Surge Analysis	Structural Engineer	Electrical Engineer	
Team Member:	M. Metts	R. Bergholz	B. Lacap	I. Crano	N. Hunter	M. Kinney	TOTAL DUDEK HOURS	Converse Consultants Hours	Guida Hours	USI Hours	ZZ Technologies Hours	Kelsey Structural Hours	Rizza Hours	TOTAL HOURS
Project Management and Meetings														
Project Management	6		9			6	21					11	21	53
Meetings (4 meetings)	8		8	8			24					4		28
	14	**0**	**17**	**8**	**0**	**6**	**45**	**0**	**0**	**0**	**0**	**15**	**21**	**81**
Utility Research and Document Review														
Utility Research and Data Collection/Review			2	6			8					2		10
	0	**0**	**2**	**6**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**2**	**0**	**10**
Comprehensive Geotechnical Report														
Geotechnical Investigation and Report			1	2	2		5	82				2		89
	0	**0**	**1**	**2**	**2**	**0**	**5**	**82**	**0**	**0**	**0**	**2**	**0**	**89**
Final Design														
60% Design Submittal (Plans, Tech. Specs and Cost Estimate)	4		20	54	96		174		44	17	30	122	95	482
90% Design Submittal (Plans, Tech. Specs and Cost Estimate)	2		12	40	70		124					66	59	251
Final Design (Plans, Tech. Specs and Cost Estimate)	2		6	16	32		56					23	15	94
Key Equipment Prepurchase Packages	2		2	4			8							8
	10	**0**	**40**	**114**	**198**	**0**	**362**	**0**	**44**	**17**	**30**	**213**	**59**	**835**
Consultant Quality Control Reviews														
Quality Assurance/Quality Control	4	12					16					11		27
	4	**12**	**0**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**11**	**0**	**27**
Bid Period Support Services														
Bid Period Support Services	2		8	8	4		22					6	7	35
	2	**0**	**8**	**8**	**4**	**0**	**22**	**0**	**0**	**0**	**0**	**6**	**7**	**35**
Total Non-Optional Hours and Fee	30	12	68	138	204	6	458	82	44	17	30	249	197	1077
Percent of Hours:	*7%*	*3%*	*15%*	*30%*	*45%*	*1%*	*100%*							

4 Similar Projects and References

Dudek specializes in the analysis, design, construction, operation and management of water infrastructure, including pump stations. The expertise our team offers is a combination of the collective individual experiences gained over years at large national firms, along with the Dudek tradition of designing, constructing, and ultimately operating infrastructure for over 41 years in California. Having spent many years assisting agencies with implementation of similar projects, Dudek has an in depth understanding of the solutions to the specific challenges faced by the District. The following pages present similar pump station projects completed by our team. Our reference projects offer the following similarities to the District's project including:

- Pump station alternatives analysis
- Hydraulic analysis
- Existing site redevelopment
- Transmission main improvements
- Complex construction phasing

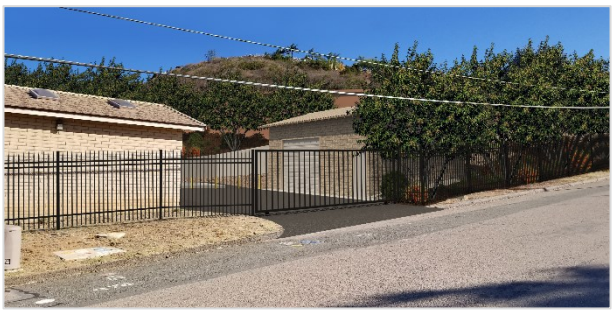
The team is proud of the relationships that our project managers and engineers build with our clients. We are confident that our demonstration of project team experience below will provide you with adequate information about our technical capabilities.

The following projects highlight the Dudek team's recent experience related to condition assessment, preliminary design, and final design for similar water pump station facilities and their respective structures. Evaluations for these facilities included structural analyses and calculations, seismic analysis and calculations, and transient analysis, among others. In each case, Dudek advocated for and partnered with our clients to permit, plan, and implement solutions that met project-specific goals. We encourage the District to contact the references provided with each project abstract, as we are confident that our clients will speak highly of our technical abilities, professionalism, creativity, and focus on their success.

E Reservoir Replacement and Pump Station

Client: Vista Irrigation District
Reference: Greg Keppler, 760.597.3136
Project Type: New booster pump station
Construction Value: $9.65M

Dudek provided hydraulic analysis, preliminary and final design, and CEQA services for the new E Reservoir and booster pump station. The new 2.92-MG cast-in-place concrete reservoir will replace the existing 1.5-MG concrete lined hopper bottom reservoir. The pump station will supply up to 3,000 gpm at 230 ft. TDH to higher-pressure zones under emergency conditions. Alternative development assessment was performed for both the reservoir and pump station during the pre-design phase. Reservoir



Project Highlights:

- *Preliminary and final design of water pump station*
- *In depth alternative analysis of vertical turbine can type vs. in-line vertical multi-stage pumps*
- *Hydraulic modeling to size pump station and piping and transient analysis*
- *3D renderings for public review*

options included multiple configurations of pre-stressed concrete and cast-in-place concrete structures to maximize storage at the site. Pump station alternatives included vertical turbine pumps in cans with buried suctions and discharge headers and skid-mounted in line multi-stage vertical pumps (e.g. Grundfos CR/CRD pumps) with above ground headers.

The above-ground skid mounted pump station was selected for the following reasons:

- Less excavation in rocky ground conditions;
- Smaller building footprint;
- Wider operating range; and
- Easier removal of pump for maintenance.

The pump station design consists of 5 duty and 1 standby 50-hp pumps situated within a 35' x 25' CMU building and operated with VFD's. The project also involves valve vaults, surface drainage improvements, including a detention basin, landscaping, new fencing, and a new 480V, 3-phase electrical service. 3D renderings prepared by Dudek assisted in the design and IS/MND preparation of the new facilities and site improvements.

Morro Hills Reservoirs No. 1 and No. 2 Repairs and Pump Station

Client: City of Oceanside
Reference: Howard Arnold, 760.435.3520
Project Type: Reservoir repair and booster station replacement
Construction Value: $5.5M

Project Highlights:

- *Packaged pump station housed in CMU building*
- *Operator-friendly design*
- *Sequencing and high-lining plan to maintain service during construction*

Dudek prepared final design documents and provided engineering services during construction for the repairs of the Morro Hills No. 1 and No. 2 potable water tanks. Morro Hills No. 1 is a 5-MG prestressed concrete tank requiring extensive structural and seismic improvements. Morro Hills No. 2 is a 5-MG welded steel tank requiring recoating, various spot repairs. A water mixer was also added to Morro Hills No. 2 to address short circuiting due to the proximity of the inlet and outlet pipes. Dudek performed an analysis of different mixer technologies, including developing life cycle costs. The PAX Water Mixer was selected due to its ability to be dropped into the existing tank without the need for an air or water supply, as well as its lower energy usage and life cycle cost for this application. The project also included piping and valve improvements for both reservoirs and a replacement of an on-site booster station. The new 1,100-gpm pump station utilized skid-mounted in-line vertical multi-stage pumps with VFDs housed in a CMU block building. Total chlorine and turbidity meters for both tanks were also located in the pump station. Sample effluent was pumped into the pump station discharge main. In addition, Dudek worked closely with City engineering and operations staff to develop construction sequencing and constraints to maintain water service during switchover to the new electric service and pump station and restrict reservoir outages to periods of low demand.

D3 Booster Pump Station

Client: Joshua Basin Water District
Reference: Mark Ban, 760.366,8438
Project Type: New skid mounted booster pump station
Construction Value: $145,360

Dudek designed a new D3 pump station incorporating a Grunfos skid mounted pumping unit, along with associated electrical, SCADA, and appurtenances. The Grunfos pumping units incorporates three 200 gpm vertical stacked plate pumps, with an integrated pressure relief valve for surge control. The pumping units are variable speed to provide for control of surges during startup and shutdown. The station integrates with the District's SCADA system, allowing remote monitoring and control of key station functions.

Encinitas Ranch Recycled Water Pump Station and Pipeline

Client: San Elijo Joint Powers Authority
Reference: Mike Konicke, 760.753.6203
Project Type: New booster station and pipeline
Construction Value: $1.57M

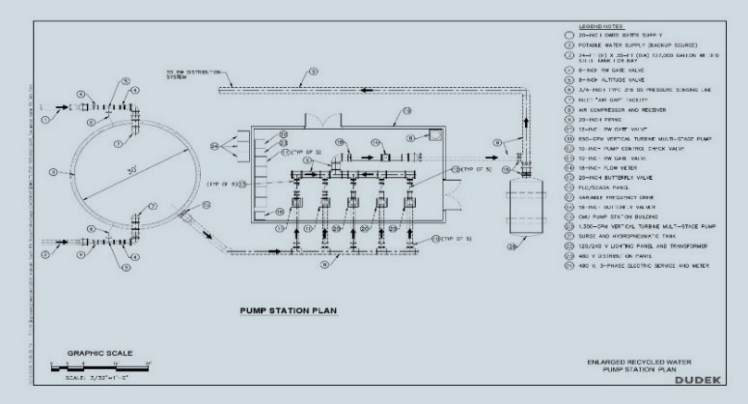
This Encinitas Ranch project included connection to the existing non-potable water system, design and installation of a 200-gallon-per-minute booster station, and installation of pipelines throughout the community to convert the existing potable water irrigation system to non-potable water. Project challenges included extensive utility conflicts within the community that required mitigation while maintaining required separation requirements for non-potable waterlines.

Anaheim South Recycled Water Pump Station

Client: City of Anaheim
Reference: Bill Moorhead, 949.370.3040
Project Type: New booster pump station and transmission main
Construction Value: $5.14M

To diversify its water supply portfolio and reduce its reliance on imported water, The City of Anaheim is implementing a local recycled water system.

Dudek provided preliminary and final designs for a recycled water distribution pipeline network and pump station. The Anaheim South RW System will be operated as a "hydraulically closed zone" because it has no reservoir on the discharge side of the pump station. Accordingly, Dudek prepared a pump station design and operational concept to support the unique



Project Highlights:

- *Unique project pumping into a "hydraulically closed zone" that used both vertical turbine pumps and a packaged pump station*
- *Utilized hydraulic modeling to design a pump station and pipe network based on varying current and future demand scenarios that provided the City with much needed flexibility*
- *Successfully addressed challenging drainage issues on a site with a small footprint*
- *New booster pump station and transmission main*

operational challenges, while maintaining flexibility and d support for the expansion of the recycled water system in the future.

The pump station was required to be capable of delivering flows between 5 – 4,000-gpm as customers were transitioned from the potable water system to the recycled water system and as the demand increased in the future. To accomplish this objective, both vertical turbine pumps and a packaged pump station were utilized. The final design included three (3) 100-HP pumps each capable of providing up to 1,300-gpm, two (2) 50-HP pumps each capable of providing up to 650-gpm, and a packaged pump station (including a small hydro-pneumatic tank) capable of providing flows between 5 – 300-gpm to accommodate fluctuations in system demand flow rates and pressures.

5 Project Personnel

Dudek will serve as prime consultant, providing civil engineering design as well as overall management and coordination with District staff. Mr. Brandon Lacap, with over 11 years' experience, will serve as the Project Manager, overseeing the execution of the project. He will be the District's daily point of contact (POC). Mr. Michael Metts will serve as the Principal in Charge. Mr. Metts is a Dudek Principal and Chief Engineer with over 36 years of experience in the planning, design, and construction of water infrastructure. Mike has been working with the District for 15 years. Mr. Russ Bergholz, PE, PMP, leads Dudek's Water Infrastructure Group and has over 24 years' experience. He will review project deliverables and ensure all resources are being used to complete the project on time and budget.

Our management team is supported by a collaborative group of experienced engineers and design professionals. Our core team members are industry leaders in water infrastructure development, implementation, and construction. Dudek has partnered several specialty subconsultants to provide assistance with electrical/controls engineering (Rizza Engineering), structural engineering (Kelsey Structural), geotechnical engineering (Converse Consultants), surveying (Guida Surveying), potholing (Underground Solutions Inc.), and transient analysis(ZZ Technologies, Inc.). The subconsultant team members, their education and licensing, and pertinent work experience are contained in **Table 2**.

Figure 5 illustrates our team's organizational structure and team communication for the project. Full resumes for all staff are available in **Appendix A**.

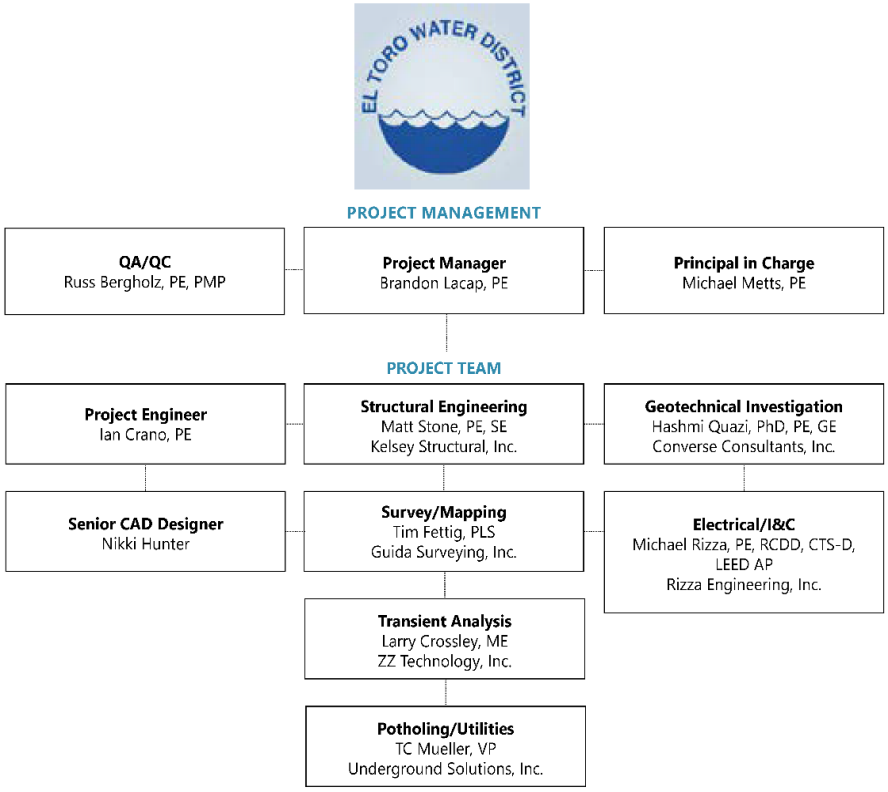


Figure 5. Project Organization Chart

Table 2. Team Personnel Qualifications

Key Staff Name, Role and Function	Education and Credentials	Work Experience
Mike Metts, PE: **Principal in Charge** As Principal in Charge, Mike will be responsible for oversight of project execution, allocation of project team resources, and client satisfaction.	BS, Civil Engineering CA PE No. 42586	▪ E Reservoir Pump Station, Vista Irrigation District ▪ Morro Hills Reservoir Pump Stations 1 and 2, City of Oceanside ▪ Anaheim South Recycled Water Project, City of Anaheim ▪ D3 Pump Station Replacement, Joshua Basin WD ▪ Encinitas Ranch RW Pump Station, San Elijo JPA ▪ Recycled Water Pump Stations, Ramona MWD
Brandon Lacap, PE **Project Manager** As Project Manager, Brandon will coordinate design team activities, provide project status reports and be responsible for invoicing. He has 10 years' experience in engineering design and managing water infrastructure and capital improvements projects.	BS, Civil Engineering CA PE No. 87211	▪ E Reservoir Pump Station, Vista Irrigation District ▪ Morro Hills Reservoir Pump Stations 1 and 2, City of Oceanside ▪ P159 Camp Wilson Infrastructure Upgrades, Naval Facilities Engineering Command, San Diego ▪ P-991 Coastal Campus Utilities (Phase 2), Naval Facilities Engineering Command, San Diego ▪ Flinn Springs PS-3 and Arnold Way PS-4 Surge Tanks Replacement, Padre Dam Municipal Water District, Santee
Russ Bergholz, PE, PMP **QA/QC** Russ will coordinate review of both internal and subconsultant designs and specifications. Our subconsultants are held to the same high standards as a Dudek staff.	BS, Civil Engineering CA PE No. 59395 PMP No. 1472209	▪ Anaheim South Recycled Water Project, City of Anaheim ▪ Morro Hills Reservoir Pump Stations 1 and 2, City of Oceanside ▪ E Reservoir Pump Station, Vista Irrigation District ▪ Newport Boulevard Water Main Relocation, Irvine Ranch Water District
Ian Crano, PE **Project Engineer** As Project Engineer, Ian will be responsible for working with the project manager to collect and assess data, coordination of field investigations, perform modeling, and preparing the scope of work documents.	BS, Civil Engineering CA PE No. 90073	▪ E Reservoir Pump Station, Vista Irrigation District ▪ Morro Hills Reservoir Pump Stations 1 and 2, City of Oceanside ▪ Encinitas Ranch Recycled Water Pump Station and Pipeline, San Elijo Joint Powers Authority ▪ Slater Pump Station Valve Replacements, Orange County Sanitation District, Fountain Valley
Nikki Hunter **Senior CAD Designer** A senior design and CADD specialist with 26 years' experience, Nikki has served as principle designer/drafter on many pumping facilities, pipelines, and water infrastructure in Southern CA.	BA, Fine Arts	▪ Morro Hills No. 1 and 2 Reservoir Repairs and Booster Pump Station, City of Oceanside ▪ Design/Build Rancho Peñasquitos Pump Station, City of San Diego Water Department ▪ Coast Hwy Pump Station and Forcemain Rehabilitation, City of Encinitas

Table 3. Specialty Subconsultant Qualifications

Subconsultant Name and Qualifications
Structural Engineering | Matt Stone, PE, SE | Kelsey Structural, Inc. (KS) Kelsey Structural provides efficient subconsultant structural design services that exceed their client's expectations. Kelsey's objective is to ensure the success of clientele by providing innovative structural engineering expertise to meet project goals and deadlines. Kelsey specializes in the structural design and rehabilitation of water, recycled water, and wastewater infrastructure projects.
Electrical, Instrumentation and Controls | Michael Rizza, PE, RCDD, CTS-D, LEED AP | Rizza Engineering, Inc. (RE) Rizza Engineering's team has provided proven engineering and design solutions for a multitude of various project types over the years. The company is managed by a proven structure of working partners that were former long-time employees operating in similar capacities at various engineering firms over the years. The firm's knowledge of electricity and controls systems enable positive, practical yet creative solutions for diverse clients.
Transient Analysis | Larry Crossley, ME | ZZ Technologies, Inc. (ZZT) ZZ Technologies will provide transient analysis of the new pump station to confirm the need for surge protection, as well as identification of other transient challenges to be addressed in the station design.
Potholing and Utilities | TC Mueller, VP | Underground Solutions Inc. (USI) USI was established to provides utility locating services to meet the needs of local (Southern California) developers, civil/consulting engineering firms, general contractors, drilling and underpinning contractors, power & communications contractors as well as utility districts.
Geotechnical Engineering | Hashmi Quazi, PhD, PE, PG | Converse Consultants Inc. (CCI) CCI will conduct geotechnical investigations associated with the construction site and provide a geotechnical report for submissions to the ETWD and for use in the project design.
Survey and Mapping |Tim Fettig, PLS | Guida Surveying, Inc. (GSI) Guida utilizes a blend of traditional methodologies with new and innovative technologies for the creation and delivery of the best and most accurate work products possible to our clients. They will provide required site survey services for the plant upgrade project.

6 Staff Availability

The Dudek team specifically chosen for this contract has the availability and capacity to provide consistent and timely services on upcoming District projects. We have a wide range of team members, all located in Southern California, with different specialties to accommodate the specific demands of any impending project.

The Dudek team presented in this proposal is fully committed and available for this contract. With current workloads ranging from 50% to 80%, our selected team will promptly proceed with any new District task order. Team members can commit substantial effort (up to 100%) to the task when it is necessary for the success of a project.

Dudek personnel will be committed to the proposed project, and no substitution of team members will be made without prior approval from the District.

7 Acceptance of Standard Contract

Dudek requests no exceptions to the Standard Contract but does respectfully request a clarification noted below.

Dudek requests clarification regarding section 1.8 of Consulting Contract # 32-093 JTM Pump Station Project:

1.8 District's General Conditions Control. It is the intention of the parties that DISTRICT's General Conditions for construction contracts will be used as the General Conditions for the Project and that all Project documents will be generally consistent with these General Conditions as well as with all amendments thereof and supplements thereto.

If the terms cited in section 1.8 were not part of the Request for Proposal package, Dudek respectfully requests to review said terms.

8 Cost Proposal

Per the ETWD Request for Proposal, Dudek has provided our proposed fees and schedule of hourly rates in a separate file marked, “Proposed Fee – ETWD JTM Pump Station Proposal”.

Appendix A

Resumes

Michael Metts, PE

PRINCIPAL IN CHARGE

Education

University of Kentucky
BS, Civil Engineering, 1983

Certifications

Professional Civil Engineer (PE), CA No. 42586

Professional Affiliations

American Public Works Association (APWA)

American Society of Civil Engineers

American Water Works Association

California Water Environment Association

National Society of Professional Engineers

Water Environment Federation

Michael Metts is a principal engineer and manager of Dudek's engineering services with 36 years' experience in civil engineering and is a registered engineer in the State of California. Mr. Metts' engineering experience encompasses water, wastewater and recycled water engineering design, permitting, water resources planning, facility design, and construction management and assistance. He has provided project management and principal in charge services throughout the southwestern United States. Mr. Metts' project experience encompasses the evaluation and expansion of existing facilities as well as the design of new facilities, allowing him to anticipate project challenges, to the benefit of his clients. He is committed to maintaining clear and open communication with the client, while maintaining control of the project budget and schedule, as well as proactively delivering cost-effective and innovative project solutions.

Project Experience

Pump Stations

El Toro Water District, North Line Sewage Pump Station Rehabilitation, El Toro, California. Served as project manager for replacement of existing pump station within very limited area, using existing structures to provide extended emergency overflow storage. Completely new station design and construction, adjacent to existing golf course.

E Reservoir Replacement and Pump Station, Vista Irrigation District, City of Vista, San Diego County, California. Served as principal engineer for the preliminary and final design of the E reservoir pump station and replacement of the existing E reservoir. The District desired a redundant pumping facility to convey water from the 752 Zone to the 984/976/900 zones. As part of the E reservoir replacement project, a new pump station was designed on the E Reservoir site which conveys water from the 752 Zone to the 984/976/900 zones. Multiple analyses and scenarios were modeled which concluded with the recommendation for a 3,000-gpm pump station comprised of 5 duty and 1 standby 50-hp pumps situated within a 35' x 25' CMU building and operated with VFD's. The project also involves a new 3.1-MG cast-in-place concrete reservoir, valve vault, piping, landscaping, new fencing, and a new 480V, 3-phase electrical service.

Anaheim South Recycled Water Project, City of Anaheim, Anaheim, California. Served as project manager for the preliminary and final design of recycled water pump station that had a pumping rangre of 50 - 4,000-gpm. The pump station was designed to include three (3) 100-hp Pumps, two (2) 50-hp Pumps, a 127,000 gallon forbay and packaged 300-gpm pump station to accomodate fluccuations in system demand pressures.

E1-D2 Booster Pump Station, Joshua Tree, California. Project manager designing a new dual-zone booster station to convey water from the C 1 reservoir to the E1 and D2 pressure zones, respectively. The new station incorporates skid-mounted, package pumping units from Flowtronix, for each pressure zone. The E1 station components include three 50 hp multistage centrifugal pumps. The D2 station components include four 50 hp multistage centrifugal pumps. Each package pumping station was provided with a future connection for one additional pump, a pressure-relief bypass valve, and an ultrasonic flowmeter. Station controls were custom designed for integration into the District's operational scheme and integrated into the District Supervisory Control and Data Acquisition (SCADA) system. An 800-amp manual transfer switch connects the District potable generator to operate the station during loss of commercial power supply. Dudek completed the environmental documentation to facilitate station construction. Dudek provided design, bidding assistance, and construction services for the project.

Encinitas Ranch Recycled Water Pump Station and Pipeline, San Elijo Joint Powers Authority, City of Encinitas, California. Principal engineer for the installation of approximately 6,000 linear feet of 6-inch and 8-inch PVC non-potable waterline throughout the private neighborhood of Encinitas Ranch. Project included connection to the existing non-potable water system, design and installation of a 200-gallon-per-minute booster station, and installation of pipelines throughout the community to convert the existing potable water irrigation system to non-potable water. Project challenges included extensive utility conflicts within the community that had to be mitigated while maintaining required separation requirements for non-potable waterlines.

D3-1 Booster Pump Station Replacement Design, Joshua Basin Water District, Joshua Tree, California. Project manager for the design replacement of a failing booster station that pumps water from a low-lying water zone to a storage reservoir in a higher water zone. Developed a design that allowed for complete construction of the new booster station while maintaining constant operation of the existing station. Conducted inspection services and project management throughout construction.

San Diego Pump Station 21, San Diego, California. Served as principal in charge for designing modifications to a pump station in the La Jolla area of the City of San Diego. This pump station is located on the beach, therefore requiring a very tight construction area.

Rancho Verde Pump Station Design – Centex Homes, Leucadia, California. project manager for the design of a pump station ultimately serving approximately 250 homes. The pump station includes two 5 hp submersible pumps and appurtenances, approximately 600 linear feet of force main, and a BIOXIDE® odor control system. The pump station became a permanent facility under the control of the Leucadia Wastewater District.

Elsinore Valley Municipal Water District (EVMWD) Lift Station Relocation Project, Lake Elsinore, California. project manager for design of a pump station relocation serving a localized community within the EVMWD service area. The pump station includes two submersible pumps with a separate electrical and standby power building and approximately 2,000 linear feet of 8-inch force main.

IBWC Pump Station Project, Southern California. Project engineer for hydraulic evaluation and design of dry weather runoff diversion of 7 mgd from Goat Canyon and 14 mgd from Smugglers Gulch at the US/Mexico border, 7 mgd and 21 mgd pump stations, 7,000 feet of AWWA C905 24- and 30-inch-diameter gravity/pressure piping, surge control, standby power, and odor control.

Brandon Lacap, PE

PROJECT MANAGER

Education

San Diego State University BS, Civil Engineering, 2009

Certifications

Professional Civil Engineer (PE), CA No. 87211

Professional Affiliations

WaterReuse Association

Brandon Lacap is a professional civil engineer with 11 years' experience in engineering design and managing water/wastewater infrastructure and capital improvements projects. Mr. Lacap is well versed in developing and establishing positive working relationships with clients. He has experience managing concurrent design projects, managing design budgets, designing and preparing plans and specifications for public and federal agencies, technical writing of preliminary design reports, and hydraulic modeling/surge analysis of water distribution systems. Mr. Lacap specializes in water pump station, sewer lift station, and mechanical piping design.

Project Experience

E Reservoir Replacement and Pump Station, Vista Irrigation District, City of Vista, San Diego County, California. Served as lead engineer for the preliminary and final design of the E reservoir pump station and replacement of the existing E reservoir. The District desired a redundant pumping facility to convey water from the 752 Zone to the 984/976/900 zones. As part of the E reservoir replacement project, a new pump station was designed on the E Reservoir site which conveys water from the 752 Zone to the 984/976/900 zones. Multiple analyses and scenarios were modeled which concluded with the recommendation for a 3,000-gpm pump station comprised of 5 duty and 1 standby 50-hp pumps situated within a 35' x 25' CMU building and operated with VFD's. The project also involves a new 3.1-MG cast-in-place concrete reservoir, valve vault, piping, landscaping, new fencing, and a new 480V, 3-phase electrical service.

P159 Camp Wilson Infrastructure Upgrades, Naval Facilities Engineering Command, San Diego, California. Served as project engineer for design of a 750-gpm water booster pump station (20-horsepower horizontal frame mounted, centrifugal end suction pumps), approximately 3,000 feet of 8-inch-diameter PVC (C-900) force main, and 1-million-gallon pre-stressed concrete water storage tank.

P-991 Coastal Campus Utilities (Phase 2), Naval Facilities Engineering Command, San Diego, California. Served as project engineer for the design of a 450-gpm packaged recycled water booster pump station, skid mounted, in-line vertical multistage pumps; design of a 10,000-gallon bolted glass-fused to steel recycled water air-gap tank; and the design of two (2) sanitary lift station facilities, PS-1 (375-gpm, 7.5-horsepower duplex chopper lift station) and PS-2 (450-gpm, 15-horsepower duplex chopper lift station, including on site carbon adsorber packaged odor control system.

69th and Mohawk Pump Station Surge Analysis, City of San Diego, California. Served as project engineer to perform surge modeling and transient analysis, and to prepare the technical surge report for the 18-million-gallon-per-day pump station, Mid-City Pipeline, and Redwood Village Pressure Zone.

South Bay Water Reclamation Plant Demineralization Improvements (Design-Build), City of San Diego, California. Served as project engineer for design of new Electro-Dialysis Reversal (EDR) Facility, including preparation of the preliminary design technical report, 1,700-gallons per minute (gpm) EDR feed pump station (vertical turbine can pumps), chemical storage and chemical feed area (NaOCl, HCl, NaOH, and Brine), 500-gpm clean-in-place facility, 350-gpm process waste drain duplex pump station (5-horsepower, non-clog submersible pumps), and management of construction support services.

Wilson Middle School Increment 2 Stormwater Pump Stations, San Diego Unified School District, San Diego, California. Served as project engineer for design of three (3) stormwater pump station facilities, PS-1 (660-gpm, 7.5-horsepower duplex non-clog submersible pump station), PS-2 (2,200-gpm, 20-horsepower non-clog submersible pump station), and PS-3 (1,050-gpm, 10-horsepower non-clog submersible pump station).

Monterey Peninsula Water Supply Desalination Project, California American Water, Monterey, California. Served as project engineer for surge analysis, surge tank design, and preliminary mechanical piping design of the Monterey Peninsula Water Supply Project's seawater intake and feed water conveyance system. This preliminary design and hydraulic model consisted of five (5) coastal well sites with seven (7) 1,000-foot long slant wells, with a source water header pipeline ranging from 24-inch to 42-inch diameter high density polyethylene. Design included discharge piping assembly for each slant well, well site layout, check and bypass valves, and alignment of the source water header through the CEMEX retired mining site. The preliminary design and hydraulic model consisted of a total pumping capacity of 13,800 gpm.

Lift Station Assessment and Prioritization, Elsinore Valley Municipal Water District, Lake Elsinore, California. Project Manager for the comprehensive condition assessment of five (5) of the District's aging sewer lift stations (20 to 49 years old) and associated force mains. A record data review, hydraulic analysis, and field inspection were required for each lift station to determine deficiencies and develop recommendations for a prioritized list of capital improvement projects to rehabilitate/replace the evaluated stations. Dudek developed and used a condition and criticality/risk-based scoring analysis to prioritize short-term and long-term improvement projects for each station. The short-term improvement projects were developed to address the highest safety risks, operational risks (that can lead to sewer spill), and code violations in the next 12 to 24 months.

Benson Avenue Temporary and Permanent Sewer Pump Stations and Force Main, City of Chino, California. Served as senior engineer. Dudek was hired to design a two-phase pump station and force main project that diverts sewer flows to a nearby Inland Empire Utilities Agency interceptor sewer manhole. The two-phase approach required design of an 80-gpm temporary submersible sewer lift station with two, 3-horsepower pumping units as well as the design of an additional 80-gpm permanent pump station and overflow structure within the public right-of-way for long-term operation. The coordinated effort between the City of Chino, Southern California Edison, IEUA, and California Department of Transportation (Caltrans) successfully allowed the Caltrans work to proceed on schedule while providing the City of Chino time to construct the permanent solution.

Flinn Springs PS-3 and Arnold Way PS-4 Surge Tanks Replacement, Padre Dam Municipal Water District, Santee, California. Served as project engineer, performing surge modeling and transient analysis for the 11,000-gpm PS-3 and 8,500-gpm PS-4 facilities. The project included preparation of a technical surge report; design of a 9,600-gallon, 8-foot-diameter hydro-pneumatic tank (150 psi ASME rated); design of a 3,000-gallon, 8-foot-diameter hydro-pneumatic tank (250 psi ASME rated); redesign of pump station bypass piping and relocation of pressure relief valve; and management of construction support services.

Russ Bergholz, PE, PMP

QUALITY ASSURANCE / QUALITY CONTROL

Russ Bergholz is a principal engineer with 25 years' experience. Mr. Bergholz manages Dudek's Water Infrastructure Group and is responsible for the management and engineering of water-/recycled water–related system master plans and design projects. His experience includes the development of numerous water, recycled water, and sewer master plans; pipeline design projects (including trenchless technology); and infrastructure rehabilitation projects for many Southern California cities and special districts. Mr. Bergholz has a documented track record of keeping projects within scope and budget while maintaining quality control and addressing the critical success factors of his clients' projects.

Education

University of California, Davis
BS, Civil Engineering, 1995

Licenses and Certifications

Professional Civil Engineer
CA No. 59395

Project Management Institute PMP
No. 1472209

Professional Affiliations

American Public Works Association

California Water Environment Association

Water Environment Federation

Project Experience

Upper and Lower System Recycled Water System Expansion, City of Oceanside, California. Served as project manager. The City of Oceanside wanted to construct a new recycled water system. Starting from preliminary GIS data from the master plan, Dudek developed the complete water distribution system model using Innovyze InfoWater to validate and improve the hydraulics of the system. The upper system design included 15 miles of water distribution pipelines and two water storage tanks (both approximately 2.5 million gallons) with booster pump stations feeding upper closed hydropneumatic pressure zones. Construction began in 2020 for the upper system, with the lower system projected to begin construction in 2022.

Anaheim South Recycled Water Project, City of Anaheim, California. Served as pipeline engineer. The City of Anaheim was seeking to supplement potable water demands in and around the Disneyland Resort with recycled water. Dudek was hired to prepare a hydraulic model using Innovyze InfoWater software during the preliminary design phase, allowing for the identification of necessary infrastructure (turnout, 7 miles of pipeline, and booster pump station) to support the distribution of up to 3,500 gallons per minute of recycled water to the region. Following the modeling process, Dudek prepared the complete design plans and bid documents for the construction of the $25 million infrastructure project. Once construction is complete, the project will provide a supplement to the Southern California water supply and convert the substantial Disneyland irrigation demand to a sustainable water supply.

Newport Beach Pump Station Pressurization, Orange County Sanitation District (OCSD), Fountain Valley, California. Served as project manager. Following the Dudek-prepared pressurization and odor control study for the seven sewer lift stations in the Newport Beach region, OCSD was in need of a design for the recommended improvements. Dudek was hired to complete the final design of the pressure relief project, which consisted of the addition of a wet well ventilation pipeline and passive odor scrubber at each sewer lift station, with chemical injection also added at one pump. The project included evaluation of numerous locations for the odor scrubbers

and plumbing within the existing and congested pump station sites. The resulting improvements will eliminate operator risk and mitigate for the potential release of high H2S air into the atmosphere.

Benson Temporary and Permanent Sewer Pump Stations and Force Main, City of Chino, California. Served as project manager. With a Caltrans bridge project across Interstate 10, the existing gravity sewer pipeline in the bridge needed to be relocated. Dudek was hired to design a two-phase pump station and force main project that diverts sewer flows to a nearby IEUA interceptor sewer manhole. The two-phase approach required design of a temporary sewer lift station to allow Caltrans to demolish the bridge and a permanent pump station within the public right-of-way for long-term operation. The coordinated effort between the City of Chino, Southern California Edison, IEUA, and Caltrans successfully allowed the Caltrans work to proceed on schedule while providing the City of Chino time to construct the permanent solution.

Slater Pump Station, OCSD, Fountain Valley, California. Served as project manager. The Slater Pump Station wet well, which was design with an internal baffle wall and slide gate, was not functioning, inhibiting the ability maintain the station. Dudek was hired to identify an approach and design to phase the replacement of the baffle valve and install two additional isolation valves on the discharge side of the pumps. The final design successfully allowed for the construction of the valves with minimal bypassing of the station, while working fully within the pump station property boundary. The resulting new valves allow OCSD operations staff to operate the station as intended, providing flexibility for selecting either force main and allowing proper inspection and maintenance.

Coast Pump Station and Force Main Rehabilitation, City of Encinitas, California. Served as trenchless engineer. The project included the structural rehabilitation of the existing wet well submersible pump station, new valve vault, and installation of a 2-barrel 100% redundant 800-foot 4-inch force main under a lagoon and railroad tracks by HDD. The use of trenchless methods substantially reduced environmental issues, shortening the project design/permitting period and construction costs.

La Golondrina Pump Station Pipeline Final Design, City of Carlsbad, California. Served as project manager. The project included the design of two new wastewater pipelines using trenchless HDD methods. Installation of this new 8-inch, fusible PVC pipelines allowed the City of Carlsbad to eliminate the La Golondrina Sewer Lift Station and the La Costa Meadows 3 Sewer Lift Station. The new pipeline alignment crossed environmentally sensitive habitat and no harm was done to the land during construction. Total length of pipeline designed was approximately 3,000 linear feet of 8- to 10-inch HDPE and PVC pipe.

Batiquitos Pump Station Design and Installation, Leucadia Wastewater District, City of Carlsbad, California. Served as project manager. The project included the rehabilitation of the Batiquitos Pump Station by adding a fourth 650-gallon-per-minute pump, headworks modifications, upgraded surge tank, structural improvements, landscaping and fencing, and improvements to blowoffs and air vacuum valves along the force main between the pump station and the Encinitas Wastewater Treatment Plant.

Newport Boulevard Water Main Relocation, Irvine Ranch Water District (IRWD), City of Irvine, California. Performed quality control. Project included the relocation of a 10-inch water main through a backyard alley to the main roadway on both sides of the project site. Work was challenged by the required lateral and meter relocations for approximately 300 customers along the alignment. Conducted quality control review of staged submittals of the project deliverables.

Water Distribution System, Black Canyon Development Trust, Ramona, California. Served as lead design engineer for this project, located in Ramona. The project included design of a 300,000-gallon steel water storage reservoir, a custom designed pump station, and over 3,600 linear feet of distribution pipeline for a 44-home subdivision.

Ian Crano, PE

PROJECT ENGINEER

Ian Crano is a project engineer with experience in hydraulic design of water and wastewater facilities. He provides design services for water, wastewater, and recycled water projects, with emphasis on pump station design and hydraulic modeling. Mr. Crano has a wide range of experience utilizing various systems including AutoCAD, ArcGIS, HEC-HMS, HEC-RAS, Innovyze InfoWater and Sewer, Innovyze H2O Map Sewer and Water, Microsoft Office Suite, Engineered Software Pump Flo, and Pipelogix.

Education

San Diego State University
MS, Civil Engineering (Water Resources), 2016
BS, Civil Engineering (Water Resources), 2012

Certifications

Professional Civil Engineer CA PE No. 90073

Professional Affiliations

ASCE San Diego YMF, Membership Chair

Project Experience

Encinitas Ranch Recycled Water Pump Station and Pipeline, San Elijo Joint Powers Authority, City of Encinitas, California. Project engineer for the installation of approximately 6,000 linear feet of 6-inch and 8-inch PVC non-potable waterline throughout the private neighborhood of Encinitas Ranch. Project included connection to the existing non-potable water system, design and installation of a 200-gallon-per-minute booster station, and installation of pipelines throughout the community to convert the existing potable water irrigation system to non-potable water. Project challenges included extensive utility conflicts within the community that had to be mitigated while maintaining required separation requirements for non-potable waterlines.

Aufendkamp Connection Transmission Main, Santa Margarita Water District, Rancho Santa Margarita, California. Project engineer to relocate approximately 2,400 LF of the 42-inch CML&C WSP. Dudek was tasked with identify the approach and design for realigning the pipeline. The relocations were coordinated with Caltrans designs and completed before the Caltrans work begins. Dudek performed extensive coordination with Caltrans, its design consultants, and other property and utility owners affected by the project to develop the approved designs, including design of approximately 105 LF of new concrete encased 42-inch CML&C pipe within the Aliso Creek channel at a maximum depth of 20 feet, 2,100 LF of new 42-inch CML&C pipe by open trench construction, and 250 LF of 60-inch steel casing installed by auger boring beneath Los Alisos Blvd. The design also addressed creek diversion, groundwater dewatering, channel restoration, bike trail detour, encroachment permits, and CDFW Streambed Alteration Agreement and USACOE Section 404 Permit compliance. Dudek also provided construction support and inspection services, encroachment and wetlands permitting assistance, and easement acquisition assistance. As a result of the coordination effort, the District was able allocate portions of the relocation work to Caltrans, reducing District construction contracting needs and completing the relocations on schedule.

Morro Hills Reservoir and Pump Stations 1 and 2, City of Oceanside, California. Role: Project Manager. The City of Oceanside had recently completed the planning of expanding their recycled water distribution from 100AFY to over 4,500 AFY and in need of taking the planning effect through final design and construction within a 5 year horizon. Dudek was hired to complete the final alternative analysis of both pipeline alignments and facility sizing and location, followed by final design plans. The expansion included five (5) reservoirs, seven (7) pump stations and 35 miles of new pipeline. Mr. Bergholz was project manager in charge of the modeling, analysis, and design

package presentation. As part of the project development, Mr. Bergholz and his team were able to develop a substantially superior operationally efficient distribution system using storage reservoirs for sustaining pressure and take advantage of utilization of City own property for most facilities, saving cost and schedule.

Naval Base Coronado Coastal Campus, Naval Facilities Engineering Command, Coronado, California. Served as project engineer to provide the Navy with preliminary through final design of a new sewer system, including two duplex lift stations (450 gallons per minute (gpm) and 375 gpm), for the new Coronado Campus. Work included developing generation rates, evaluating alignment alternatives, modeling wastewater flows in Innovyze H2OMapSewer, and design and construction support for gravity sewer main, pressurized sewer main, and the two associated lift stations.

Slater Pump Station Valve Replacements, Orange County Sanitation District, Fountain Valley, California. Lead engineer for the design repairs to the 16" and 20" plug valves in the District's Slater Pump Station that were failing and in need of replacement. The District had no means to remove the valves from the dry well due to tight spacing of the pumps, piping, and location of the surrounding access platforms, columns and other obstructions. Dudek is preparing plans and specifications for the construction of forcemain bypass riser connections and valve and slide gate replacement.

Rancho Jamul Sub-Area Master Plan, Otay Water District (OWD), Jamul, California. Served as project engineer for planning level design of water main and appurtenances for a new subdivision. The proposed layout provides interconnection of two existing pressure zones and the creation of a third, meeting the client's needs while also providing additional redundancy in OWD's system. Modeling was performed in Innovyze H2OMap Water. An associated technical memo helped determine responsibility for the construction of a 0.5 million gallon water storage tank, necessary to provide adequate fire flow capacity to the study area, which included existing OWD customers and the clients proposed project.

As Needed Non-Design Engineering DR DC Hydro Modeling, Eastern Municipal Water District, Perris, California. Project engineer providing as-needed hydraulic model and design condition review services for EMWD for new development within the District service area. Operating as an extension of staff, tasks include fire flow analyses and review of design condition submittals for new development projects impacting District water, sewer and recycled water facilities.

Water Master Plan Update, Temescal Valley Water District, Corona, California. Project engineer for this project to update the District's water master plan, which was last updated in 2004. Dudek is responsible for updating the existing demands and demand projections for 2025 and system build-out, creating the water model, confirming peaking factors and fire flow requirements, then modeling existing, future (2025) and ultimate build-out scenarios. The District is in the process of planning for future water supplies. A big intention of this master plan was to confirm whether the District had sufficient supply from their source given the known and potential development anticipated for the area. Supply was confirmed, providing the District with confidence moving forward in their planning process. The master plan also confirmed proposed facilities sizes and provides the District with direction for developers anticipating development in the area.

Sewer Model Update, City of Imperial Beach, California. Served as project engineer for the City of Imperial Beach sewer model update. Provided the City with analysis and recommendations in regards to sewer main and sewer lift station capacity based on the results of a dynamic Innovyze InfoSewer model. The model was utilized for the development and analysis of impacts from 24 proposed projects within the city (2.8 million gallons per day (mgd) average flow/0.35 mgd additional flow).

Nikki Hunter

SENIOR DESIGNER/CADD SPECIALIST

Education

California State University, Long Beach
BA, Fine Arts

Nikki Hunter is a senior design and CADD specialist with 26 years' experience. Ms. Hunter has served as principle designer/drafter on many pipelines, pumping facilities, sewers and wastewater treatment facilities in Southern California. She has experience scheduling CAD department workload, as well as designing and drafting water, wastewater, and water reclamation and reuse facilities utilizing Microstation V7 and V8, InRoads, AutoCAD 2014 and Civil 3D.

Project Experience

Morro Hills No. 1 and 2 Reservoir Repairs and Booster Pump Station, City of Oceanside, California. Ms. Hunter provided detailed design and drafting services for the repairs to an existing 5-MG pre-stressed concrete reservoir and a 5-MG welded steel reservoir on a common site. Improvements to the reservoirs included replacing piping, buried and exposed valves, and appurtenances, adding inlet and outlet flow meters, and recoating. In addition, the pre-stressed concrete Morro Hills No. 1 reservoir required repairs of concrete spalling and cracks, rewrapping of and anchorage to address seismic deficiencies, and a new underdrain system. To accommodate the seismic retrofit, removal and replacement of the inlet/outlet vault and Morro Hills booster pump station was required. The new BPS consists of three 60-hp multi-stage vertical pumps with a design capacity of 1.5 MGD at 320-foot TDH. The pump station includes an emergency generator and water quality instrumentation and was designed to the City's specifications for architecture and O&M access to the pumps and appurtenant electrical and control equipment. The project also included various site grading, drainage, and fencing improvements.

Design/Build Rancho Peñasquitos Pump Station, City of San Diego Water Department, California. Ms. Hunter was a member of the design team responsible for a new 32-mgd domestic water pump station (expandable to ultimate 50-mgd). Design features for the $10.7 million project include a 3,300-square foot architecturally treated pump building on the one-acre site, with dedicated pump, MCC, and generator rooms; installation of six 250-hp vertical turbine pumps; Del Mar Heights PRS (located in a belowground concrete vault); pump station surge relief, flow measuring, and emergency back feed system; and, yard piping associated with pumping, pressure reducing, and emergency backflow elements.

Coast Pump Station and Forcemain Rehabilitation, City of Encinitas, Encinitas, California. Ms. Hunter was responsible for design and drafting of the rehabilitation of the existing wetwell submersible pump station, new valve vault, and installation of a 2-barrel 100% redundant 800 ft 4" forcemain under a lagoon and railroad tracks by horizontal directional drilling.

Lakeshore Regional Pump Station Design, Elsinore Valley Municipal Water District, California. Ms. Hunter was responsible for the detailed design and preparations of design plans of a 22.5-mgd regional wastewater pump station that included the following: variable speed vertical column pumps, self-cleaning wetwell, activated carbon odor control system, odor control chemical feed system, seal water system, recycled water washdown system, emergency generator, central power delivery system, motor control center, pigging station, and 5,000-foot long, 24-inch diameter parallel force mains.

Agua Hedionda Lift Station and Force Main, City of Carlsbad, California. Ms. Hunter was part of a team on this life station that had design features including a new 33-mgd sewage lift station, 3,800 feet of 36-inch diameter force main and approximately two miles of 54-inch diameter gravity sewer, including a bridge crossing at the Agua Hedionda Lagoon. The alignment of the pipelines is within existing railroad right-of-way areas and major roadway arterials congested with established utilities and residential/commercial traffic, necessitating extensive traffic control and close coordination with public and private utilities.

Otay River Pump Station, Conveyance, and Fiber Optic Systems, City of San Diego, California. Ms. Hunter was responsible for the as-built design using Microstation, for the 12-mgd retrofit of existing Otay River Pump Station. The pump station was a dry well/wet well and was modified into two wet wells, with the modified wet well pumping a maximum of 12 mgd.

North Batiquitos Lift Station Modifications, City of Carlsbad, California. Ms. Hunter was responsible for design and modification to the 3-mgd lift station using AutoCAD. The design included sluice gate, and electrical conduit replacement, equipment removal improvements, and odor control upgrades.

Washington Avenue Lift Station Design, Elsinore Valley Municipal Water District, Lake Elsinore, California. Ms. Hunter was responsible for the detailed design of a new 2.1 mgd capacity lift station including approximately 4000 linear feet of 10- inch force main and approximately 1300 linear feet of 15-inch gravity sewer.

Pump Station Odor Control Upgrades, City of San Diego, California. Ms. Hunterprovided design and drafting for upgrades to existing Pump Station 2 to restore system performance to original design standards. Major upgrades include: replacement of supply and exhaust fans; replacement of chemical mist distribution system including chemical pumps, water and air piping, carbon replacement, residual chlorine, and H2S and pH monitoring to control the mist scrubbing system.

Influent Pump Addition, City of San Diego Metropolitan Wastewater Department, California. Ms. Hunter was in charge of designing upgrades at the North City Water Reclamation Plant, including installation of a new influent pump into an existing influent pump station and the replacement of a flow meter on the plants reclaimed water discharge pipe.

Large Pump Station Screening Facility Upgrades, City of San Diego Metropolitan Wastewater Department, California. Ms. Hunter was in charge of preliminary designs using Microstation for upgrades to screening facilities at the City's five large pump stations.

Buena Vista Lift Station Force Main, City of Carlsbad, California. Participated in the design for the replacement and repair of the existing 24-inch diameter Buena Vista Lift Station (BVLS) force main, and construction a new 24-inch diameter parallel force main to provide a redundant, dependable pipeline for this essential City asset. Key project features on this job were to avoid any encroachment into the fragile marine estuary of the Buena Vista Lagoon, and deal with an accelerated permitting and construction schedule.

San Sevaine Basin Improvements, Inland Empire Utilities Agency, Rancho Cucamonga, California. Ms. Hunter prepared design plans for the construction of approximately 5,000 feet of 30-inch pipe and provide a means of pumping stored water from Basin 5 to Basins 1, 2, and 3. Project features included: 30-inch pipeline, 7 CFS pump station, recharge basin design, monitoring well design, and lyimeter design.

Hashmi Quazi, PhD, PE, GE

Principal-in-Charge / Project Director

Dr. Quazi has over 34 years of experience providing geotechnical engineering services and has earned a reputation for providing quality work in an honest and ethical manner, on time and within budget. Dr. Quazi provides quality control, budget oversight, and technical assistance on various types of projects including pump stations, pipelines, water treatment plants and other related projects.

EDUCATION

- Ph.D., Civil Engineering, University of Arizona, 1987
- M.S., Civil Engineering, Arizona State University, 1982
- B.S., Bangladesh Engineering University, 1978

REGISTRATIONS/CERTIFICATIONS

- California, Civil Engineer, #46651
- California, Geotechnical Engineer, #2517

Relevant Experience

Romoland Pump Station, *Romoland, CA*. Principal in Charge. Provided technical oversight and budget allocation for the geotechnical investigation. The project consisted of a new pump station and related pipelines will be constructed to replace the existing Romoland Pump Station. The new pump station will likely be a 40-foot by 20-foot masonry block wall building constructed with slab-on-grade and founded on a shallow footing. There will be approximately 1,000 linear feet of associated piping along the street with a depth to invert of approximately 5 feet bgs.

RP-1 Pump Station, *Ontario, CA*. Principal in Charge. Provided technical and budget oversight, resource allocation and contract management for the geotechnical investigation. The approximately 70-acre IEUA Regional Plant 1 is located in Ontario, California. The upgrades involved the design and construction recommendations for replacement of existing 2,500 gallon bladder surge tank with a 7,500 gallon water-air surge tank, construct 6 to 12-inch pressure surge relief valve, construction slab-on-grade to house pump equipment and associated connecting pipelines.

Murrieta Road Pump Station, *Perris, CA.* Principal in Charge. Provided technical oversight and budget control for the geotechnical investigation. The project consisted of the design and construction of a new pump station building with associated piping. The pump station will be an approximately 80'x40' lightly loaded concrete masonry unit (CMU) wall building with slab on grade. It will be founded on shallow square footings.

Sand Canyon Pump Station Rehabilitation, *Irvine, CA.* Principal in Charge. Provided technical oversight and budget control for the geotechnical investigation. The proposed improvements will consist of small at-grade housekeeping slabs, a small vault constructed at a maximum of eight (8) feet below grade, and 4 to 24-inch diameter pipelines constructed at a maximum of five (5) feet below grade. The improvements will be connected to the existing below-grade pipelines.

RP-4 Out Fall Pipeline, Pump Station and Water Reservoir, *Chino Basin Municipal Water District, CA*. Principal in Charge. Provided technical and budget oversight, resource allocation and contract management for the geotechnical investigation. The project consisted of 44,000 linear feet of 42-inch diameter pipeline, a pump station, a 2.6 million gallon below grade water reservoir and a chlorination facility.

2.5 MG Tank & Pump Station, *Hesperia, CA.* Principal in Charge. Provided technical oversight and budget allocation for the geotechnical investigation. The project consisted of the design and construction of a 2.5MG water tank, pump station, and associated pipelines A. The proposed water tank diameter was 115 feet with a height of 30 feet and was constructed at-grade with a 4-foot-wide by 2.5-foot-deep ring wall foundation. A second future water tank is proposed with a footprint of 25 feet by 50 feet. The building was a one-story masonry block wall structure founded on shallow footings with a slab-on-grade.

Zahangir Alam, PhD, PE

Senior Staff Engineer / Project Manager

Dr. Alam has over 6 years of experience involving investigation and engineering analysis. His field experience includes soil investigation and sampling. In his experience, Dr. Alam has prepared various detailed reports based on field data and observations, laboratory testing and geotechnical engineering principles for pump stations, pipelines, water treatment plants and other related projects.

EDUCATION

- Ph.D., Geotechnical Engineering, University of Texas at Arlington, 2016
- B.S., Bangladesh University of Engineering and Technology, 2009

CERTIFICATIONS

- PE No. 141024, Texas Board of Professional Engineers

Relevant Experience

Romoland Pump Station, *Romoland, CA*. Senior Staff Engineer. Managed fieldwork and paperwork and prepared the geotechnical investigation. The project consisted of a new pump station and related pipelines will be constructed to replace the existing Romoland Pump Station. The new pump station will likely be a 40-foot by 20-foot masonry block wall building constructed with slab-on-grade and founded on a shallow footing. There will be approximately 1,000 linear feet of associated piping along the street with a depth to invert of approximately 5 feet bgs.

RP-1 Pump Station, *Ontario, CA*. Senior Staff Engineer. Managed fieldwork and paperwork and prepared the geotechnical investigation. The approximately 70-acre IEUA Regional Plant 1 is located in Ontario, California. The upgrades involved the design and construction recommendations for replacement of existing 2,500 gallon bladder surge tank with a 7,500 gallon water-air surge tank, construct 6 to 12-inch pressure surge relief valve, construction slab-on-grade to house pump equipment and associated connecting pipelines.

Murrieta Road Pump Station, *Perris, CA.* Senior Staff Engineer. Managed fieldwork and paperwork and prepared the geotechnical investigation. The project consisted of the design and construction of a new pump station building with associated piping. The pump station will be an approximately 80'x40' lightly loaded concrete masonry unit (CMU) wall building with slab on grade. It will be founded on shallow square footings.

Perris & Ironwood Booster Pump Station & Pipeline, *Moreno Valley, CA*. Senior Staff Engineer. Managed fieldwork and paperwork and prepared the geotechnical investigation. The project consisted of the design and construction of a new booster pump station and 3,215 l.f. of 30-inch dia. CML&C steel pipe to be located at 24926 Elder Avenue in the City of Moreno Valley, California. The proposed BPS building footprint was 40 feet x 110 feet. Four vertical pump cans with a depth of 13 feet are planned, with a fifth pump can to be installed at a later date. The building constructed to house the pump station equipment will also include electrical and generator rooms.

Hemlock & Redlands Booster Pump Station & Pipeline, *Redlands, CA.* Senior Staff Engineer. Managed fieldwork and paperwork and prepared the geotechnical investigation. The project included the installation of 3,000 gpm capacity vertical pump cans, a 30 foot x 20 foot control and equipment building, and a 1,400 l.f. of pipeline exiting the new booster pump station (BPS) site and running north along Redlands Boulevard in Moreno Valley, California. The pipeline was 24 inches in diameter with an invert depth of approximately 6 to 8 feet bgs. Open cut and cover technique was used to install the pipeline.

TIM FETTIG, PLS

PRINCIPAL, VICE PRESIDENT OF SOUTHERN CALIFORNIA OPERATIONS

YEARS OF EXPERIENCE: 34+ **YEARS WITH GUIDA:** 26+

EDUCATION: Santa Ana College and Santiago Canyon College, Surveying/Mapping; Operating Engineers Surveying Apprentice Program, 1988 – 1993

PROFESSIONAL REGISTRATION/CERTIFICATIONS: Professional Land Surveyor #7542/CA/1999; IOUE Local 12, Certified Party Chief

PROFESSIONAL ORGANIZATIONS: California Land Surveyors Association (CLSA), Orange County Chapter

UNIQUE QUALIFICATIONS

- Managed Guida's Longest-Running On-Call Contract
- With Guida Since Firm's Inception
- Managed Design Surveys for Numerous Large-Scale Projects
- Experience with Rail and Transportation Projects
- Strong Resume with Utility Projects
- Excellent Understanding of Staff's Expertise and Skills
- Well-Rounded Design/Construction Surveyor
- Numerous Client Accolades for Responsiveness

SUMMARY

Tim brings over 34 years of surveying expertise as a project manager and as a licensed party chief. He has managed a multitude of projects throughout Southern California, overseeing staff members, workload, and scheduling. He engages in both field and office support, when required, and is knowledgeable about the latest equipment, technology, and product development.

Highly skilled in all aspects of both design and construction surveying, Tim is a well-rounded professional. He has overseen control survey networks aerial photogrammetry, and topographic design surveys; right of way and boundary surveys and mapping, ALTA surveys, preliminary title reports, title research, plotting existing encumbrances, records of research, dedications and vacations, preparation of legal descriptions and plats, Record of Surveys, parcel maps, tract maps, lot-line adjustments, other land surveyor seal/stamp documents and map checking QA/QC. He has also provided construction survey support and construction staking, including perpetuation, pre- and post-construction corner records/records of survey, constructability review, construction staking, as-built surveys, and earthwork calculations.

PROJECT EXPERIENCE

WATER/WASTEWATER

COSTA MESA SANITARY DISTRICT, ON-CALL SURVEYING AND MAPPING SERVICES, SURVEYING SERVICES | ORANGE COUNTY, CA: For more than 17 years, Guida has provided detailed topographic surveys for the design of new or replacement wastewater treatment systems. This level of detail is important due to all the existing utilities in the City of Costa Mesa and the need for undisrupted service. Research was very important and required skilled personnel to look for potential problems in the field, so that the engineer could design the new facility without conflicts and delays. Guida takes pride in providing high-quality survey data that works with complex developments and project constraints. Tim served as chief of parties on this contract.

EAST ORANGE COUNTY WATER DISTRICT (EOCWD), BENT TREE ROAD SEWER ACCESS EASEMENT, SURVEYING SERVICES | ORANGE COUNTY, CA: Tim currently serves as survey project principal for the surveying and right of way services for an existing sanitary sewer along Bent Tree Road and Shady Canyon Road for the District where no easement rights exist. Guida's work includes providing legal descriptions and plats for the new proposed easements and performing a limited field survey to measure the location of the sewer manholes as well several property corner monuments so we can relate the sewer line to property lines.

ORANGE COUNTY SANITATION DISTRICT (OCSD), HEADQUARTERS COMPLEX | FOUNTAIN VALLEY, CA: Tim currently serves as project manager on the Orange County Sanitation District's (OCSD) Headquarters Complex project. Guida is providing as-needed quality assurance (QA) survey services for the OCSD Headquarters Complex project, which may include, but are not limited to, verification of project controls, contractor layout, as-built surveys, and quantities. ($99,200) (9/10/2021 – 05/31/2024)

GOLDEN STATE WATER COMPANY (GSWD), ON-CALL LAND SURVEYING SERVICES, SURVEYING SERVICES | SOUTHERN CALIFORNIA, CA: Tim served as project manager and licensed party chief on this on-call capital projects contract. Tasks, located throughout Southern California, include providing cross-sections, topographic mapping, boundary surveys, easement preparation, control surveys, construction staking, and GPS field and office processing. Guida was able to fully adhere to the schedule and budget for this project. (2011-2012)

IRVINE RANCH WATER DISTRICT (IRWD), ON-CALL LAND SURVEYING SERVICES | IRVINE, CA: Tim currently serves as project manager for this on-call contract. For more than 20 years, Guida has provided right of way engineering, land surveying and mapping services to IRWD on various improvement projects. Services have included both design and construction survey support for infrastructure pipelines, sewer and water pipelines, reservoirs, and other facility improvements. Design services include GPS and other control surveys, topographic surveys and mapping, boundary surveys, cadastral and title research for right of way engineering support, preparation of legal descriptions and plats, and monumentation preservation. Construction services include constructability reviews, construction computations, construction staking for pipelines, appurtenances and new improvements, as-built surveys, earthwork quantities, monumentation, and the preparation of corner records.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (MWD), ON-CALL LAND SURVEYING SERVICES, SURVEYING SERVICES | SOUTHERN CALIFORNIA, CA: Tim served as project manager and licensed party chief for this on-call services contract which included aerial mapping in MicroStation, monumenting, providing topographic surveys, preparation of records of surveys, boundary surveys, easement preparation, and identifying MWD easements throughout Southern California. Guida surveyed roughly 50 easements, ranging from a couple hundred feet in length, to over a mile. The purpose of this exercise was to monument the existing MWD easements (many dating back to the 1920s), and to identify encroachments into the easements by adjacent landowners. Extensive mapping, records research, and boundary surveys were required to plot correctly and accurately property lines, easements, right of ways, and encroachments. (2005-2012)

DEPARTMENT OF WATER RESOURCES (DWR), ON-CALL LAND SURVEYING SERVICES | STATEWIDE, CALIFORNIA: Tim serves as quality control manager for Design Surveys for Guida's 5-year on-call Land Surveying services contract with DWR. He is responsible for overseeing design services and provides quality control plans and oversight for both field and office design surveys. Guida and our subconsultants are providing control, topographic, boundary, right of way, construction, and specialty mapping services on water projects statewide. A recent task order includes a topographic survey along an access road in Butte County requiring control surveys and detailed topographic surveys, mapping and digital terrain modeling all delivered in MicroStation and InRoads platforms. (12/2020 – 12/2025) ($4M)

ROWLAND WATER DISTRICT, WATERLINE PROJECT, SURVEYING SERVICES | SOUTHERN CALIFORNIA, CA: Tim serves as chief of parties for this project where Guida provided aerial topography, design surveys, right-of-way delineation, roadway centerline retracement, and utility locating for approximately 40,000 LF of pipeline construction. Guida was able to fully adhere to the schedule and budget for this project.

SANTA FE IRRIGATION DISTRICT, MECHANICAL DEWATERING IMPROVEMENTS AND SAN DIEGUITO DAM IMPROVEMENTS, SURVEYING SERVICES | SAN DIEGO, CA: Tim currently serves as principal surveyor for Guida's construction staking services for the expansion of the Solids Mechanical Dewatering System and improvements to the San Dieguito Reservoir dam. Guida's team is providing construction staking services for various elements and structures at the project site including rough grading, yard pipping, storm drains, final grades, and offset stakes for the gravity thickener, centrifuge corners, sludge holding tanks, and sludge splitter box. (05/20-Ongoing)

SOUTH COAST WATER DISTRICT (SCWD), PALISADES RESERVOIR BOUNDARY SURVEY, SURVEYING SERVICES | ORANGE COUNTY, CA: Tim currently serves as project manager for the SCWD for the construction of a 130-foot-long section of new fence along the easterly boundary of the Palisades Reservoir site. Guida has been asked to perform the boundary survey to confirm the location of the property line prior to installation. (05/20-Ongoing)

SOUTH COAST WATER DISTRICT (SCWD), TUNNEL PHASE 3 – BAY DRIVE MONITORING, SURVEYING SERVICES | ORANGE COUNTY, CA: Guida has been tasked by the South Coast Water District to provide surveying services for the Tunnel Phase 3 – Bay Drive Monitoring. Guida is responsible for establishing control that will be maintained throughout the duration of this project outside the apparent area of influence. Guida will monitor approximately 40 points within the limits shown on exhibit above. All points will be monitored horizontally and vertically within 0.01' foot and will always be done with the same equipment using the same established procedure to ensure the highest quality of accuracy. After establishing and verifying monitoring baselines and control points, Guida will perform two independent as-built surveys of all the monitoring points to establish the baseline readings for our active spreadsheet, prior to commencing with scheduled monitoring readings. Tim serves as project principal for Guida's work. (06/20-Ongoing)

SOUTH COAST WATER DISTRICT (SCWD), TUNNEL STABILIZATION AND PIPELINE REPLACEMENT (TSPR), SURVEYING SERVICES | ORANGE COUNTY, CA: Guida has been tasked with providing legal descriptions and plats for the SCWD's Tunnel Stabilization and Pipeline Replacement (TSPR) project in order to create minor expansions of the tunnel beyond the existing easement limits in multiple locations. SCWD would like to acquire additional right of way for these minor expansions and will need legal descriptions and plats for proposed new easements that will be attached as exhibits to agreement/grant documents. Tim serves as project principal for this project. (06/20-Ongoing) ($82K)

WESTERN MUNICIPAL WATER DISTRICT (WMWD), WATER REPLACEMENT AT GILLEY, DEKAY, AND ADAMS STREET AT MARCH AIR FORCE BASE, SURVEYING SERVICES | RIVERSIDE, CA: Tim serves as project manager for Guida's on-call contract with WMWD. For this task order under that contract, Guida was responsible for establishing control based upon the California Coordinate System and Local County/City Benchmarks, setting six aerial targets, and flying new 1" = 40' aerial topography. Topography consisted of 1' contours, tree canopies, spot elevations, and topographic features. Guida also provided an AutoCAD Civil 3D DTM surface, a color Orthographic photo, and collected visible data utilities and incorporated our findings into the base mapping. Valve cans, meters, manholes, and other utility features were also collected. (04/18)

WESTERN MUNICIPAL WATER DISTRICT (WMWD), VICTORIA RECHARGE BASIN SITE, SURVEYING SERVICES | RIVERSIDE, CA: Tim serves as project manager for Guida's on-call contract with WMWD. For this task order under that contract, Guida performed the following services: establish field control, set targets, perform aerial topographic survey, and prepare a topographic basemap. Guida also established horizontal and vertical field control based upon the California Coordinate System and Local City/County Benchmarks necessary to complete the field survey, including setting ten aerial targets for seven models, and performing a 1" = 40' scale aerial topographic survey. Guida also plotted the record right-of-way, roadway centerline, and right-of-way adjacent property lines. Work additionally included researching County/City archives to obtain existing tract maps, parcel maps, and other available documents.

MISCELLANEOUS

DISNEYLAND PARK IMPROVEMENTS, SURVEYING SERVICES | ANAHEIM, CA: Tim served as project surveyor responsible for directing field crews for the construction of park improvements during off hours.

NEWPORT COAST PLANNING AREAS, SURVEYING SERVICES | NEWPORT BEACH, CA: Tim served as chief of parties for the boundary, design, construction, and monumentation of a master builder lot within the Newport Coast Development

ZZ TECHNOLOGY
727 CENTER LANE
SANTA PAULA, CA 93060
(805) 933-1429

Company Information

Company:	ZZ Technology 727 Center Lane Santa Paula, CA 93060
Phone/Fax:	805-933-1429
E-mail:	lcrossley1@roadrunner.com
Website:	**zztechnology.com**
Established:	January 1998
Owner:	Larry Crossley (Sole Proprietor)

Personal Qualifications

Engineer:	Larry Crossley Santa Paula, CA 93060
Education:	Graduated in 1974 from the University of California at Santa Barbara with B.S. degree in Mechanical Engineering
Licenses:	Professional Engineer in the State of California since 1978 Mechanical Engineering Certificate No. M 18600
Experience:	Founder and sole proprietor of ZZ Technology since 1998, specializing in hydraulic transient modeling, surge control equipment design, fabrication and field testing in municipal and industrial pipeline applications. Customer base includes such firms as AECOM, Bartlett & West, CH2M-Hill, Dudek, PSOMAS, Stantec, Water Works Engineers and Wood Rogers, Inc. Employed by Fluid Kinetics Corporation from 1978 to 1998 as lead engineer for surge arrestor product line. Duties included evaluation of pipeline systems for hydraulic transients, preparation of equipment proposals for water and wastewater projects, equipment design, startup and field-testing to evaluate performance.

TECHNOLOGY
727 CENTER LANE
SANTA PAULA, CA 93060
(805) 933-1429

Recent Projects

Project: Santa Margarita Water District
Rienda Lift Station
Rancho Santa Margarita, CA

Customer: PSOMAS
Santa Ana, CA
Nancy Baker (714) 481-8059

Duties: Hydraulic transient analysis was performed to determine surge levels in three phases of this lift station. Surge control options included an air chamber at the pump station or upgrades to existing pipeline air valves. Services completed December 2020

Project: Yuima Municipal Water District
Forebay Pump Station
Pauma Valley, CA

Customer: Dexter Wilson Engineering
Carlsbad, CA
Stephen Nielsen (760) 438-4422

Duties: Hydraulic transient analysis was performed to determine surge levels following sudden pump shutdown. Both existing and future transmission main designs were modeled with recommendations for anti-surge air valves along the pipelines or a large air chamber at the pump station. Services completed June 2019

Project: City of Roseville
Recycled Water System
Roseville, CA

Customer: Water Works Engineers
Sacramento, CA
Mike Fisher (916) 521-9200

Duties: Hydraulic transient analysis was performed to explore surge control options for a new booster station and existing piping network. Recommendations included an air chamber in the station design and adjustment of PRV settings. Services completed August 2018

Thomas C. Mueller, V.P. Field Operations

VP Field Operations |

Thomas (T.C.) Mueller has over twenty-eight (28) years of hands-on general engineering contracting experience in the counties of San Diego, Orange, LA, Riverside and San Bernardino area with emphasis on safety and production. Familiarity with various types of utility installation, soil conditions, excavation equipment, traffic control and safe practices. Experience installing utilities is invaluable in determining locations and depths of existing utilities when potholing and locating.

Education

1985– 1989 Orange Glen High School – Escondido, CA

Licenses/Certifications

10-Hr OSHA, Competent Person/Confined Space, HAZCOM-MSDS, Jobsite Safety Inspection, Staking University Certificate of Locating Competency (Electro-magnetic instruments) Louisiana Tech University Certificate of Utility Investigation

Years of Experience

28 years

Firm

RELEVANT EXPERIENCE

Customer	Project Name	Description
Eastern Municipal Water Dist.	McCall Blvd Pipeline	Utility Potholing via Air/Vacuum
Eastern Municipal Water Dist.	Las Brisas Transmission Pipeline	Utility Potholing via Air/Vacuum
Gannett Flemming/Eastern Municipal Water	Murrieta Rd Transmission Pipeline Improv.	Utility Potholing via Air/Vacuum
Kennedy Jenks – City of Carlsbad	Carlsbad Ph 3 Rec. Water Pipeline	Utility Potholing via Air/Vacuum
Kennedy Jenks/Rancho Calif MWD	Temecula Pkway Recycled Water Pipeline D181	Utility Potholing via Air/Vacuum
Kennedy Jenks/Mojave Water Agency	Adelanto R3 Extension Proj.	Utility Potholing via Air/Vacuum
Krieger Stewart/ Rancho Calif MWD	RCWD Center DR. PWP	Utility Potholing via Air/Vacuum

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