

**SANTIAGO AQUEDUCT COMMISSION**  
**QUARTERLY MEETING**  
September 16, 2021

*Due to COVID-19, this meeting will be conducted as a teleconference pursuant to the provisions of the Governor's Executive Orders N-25-20 and N-29-20, which suspend certain requirements of the Ralph M. Brown Act. Members of the public may not attend this meeting in person.*

Participation by members of the Santiago Aqueduct Commission will be from remote locations. Public access and participation will only be available telephonically/electronically.

To virtually attend the meeting and to be able to view any presentations or additional materials provided at the meeting, please join online via Webex using the link and information below:

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=m202cc22363c4bbf53b24370f8f1e2cec>

Meeting Number (Access Code): 187 126 6772

Meeting Password: k2dY2Q4Bg3Z

After joining the meeting, in order to ensure all persons can participate and observe the meeting, please select the "Call in" option and use a telephone to access the audio for the meeting by using the call-in information and attendee identification number provided. If you do not have access to a computer, dial (510) 338-9438 (followed by the # sign). To join the meeting, enter the Meeting Number (Access Code) above.

*As courtesy to the other participants, please mute your phone when you are not speaking.*

**PLEASE NOTE:** Participants joining the meeting will be placed into the Webex lobby when the Commission enters closed session. Participants who remain in the "lobby" will automatically be returned to the open session of the Board once the closed session has concluded. Participants who join the meeting while the Commission is in closed session will receive a notice that the meeting has been locked. They will be able to join the meeting once the closed session is over.

**CALL TO ORDER:** 8:30 a.m.

**ROLL CALL**

**ATTENDANCE:** Commissioners:

TCWD – Don Chadd \_\_\_\_\_

ETWD – Kay Havens \_\_\_\_\_

MNWD – Sherry Wanninger \_\_\_\_\_

SMWD – Donald Bunts \_\_\_\_\_

MWDOC – Charles Busslinger \_\_\_\_\_

IRWD – John Withers \_\_\_\_\_

Staff:

Paul Cook \_\_\_\_\_

Kevin Burton \_\_\_\_\_

Eileen Lin \_\_\_\_\_

Cheryl Clary \_\_\_\_\_

Malcolm Cortez \_\_\_\_\_

Diane Squyres \_\_\_\_\_

Legal Counsel:

Allison Burns, SYC&R \_\_\_\_\_

**PUBLIC COMMENT NOTICE**

If you wish to address the Board of Directors on any item, please submit a request to speak via the “chat” feature available when joining the meeting virtually. Remarks are limited to three minutes per speaker on each subject. You may also submit a public comment in advance of the meeting by emailing comments@irwd.com before 3:00 p.m. on Wednesday, September 15, 2021.

**ALL VOTES SHALL BE TAKEN BY A ROLL CALL VOTE.**

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**COMMUNICATIONS**

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1. Pledge of Allegiance
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the Commission subsequent to the agenda being posted.

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**ACTION ITEMS**

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4. MINUTES OF REGULAR COMMISSION MEETING, MARCH 18, 2121

Recommendation: That the minutes of the March 18, 2021, meeting of the Santiago Aqueduct Commission be approved as presented.

5. 2020-21 FINANCIAL REPORT

- a. Ratify Disbursement Resolution No. 705 dated April 2021.
- b. Ratify Disbursement Resolution No. 706 dated April 2021.
- c. Ratify Disbursement Resolution No. 707 dated June 2021.
- d. Receive and file Financial Statement June 30, 2021.

6. ASSOCIATION OF CALIFORNIA WATER AGENCIES ELECTIONS

Recommendation: That the Santiago Aqueduct Commission authorize the General Manager to cast the ballot on behalf the Commission in the upcoming Association of California Water Agencies (ACWA) Region 10 Board and ACWA Board Officers' / General Meeting elections.

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**ACTION ITEMS - Continued**

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7. BAKER PIPELINE EXPOSURE THROUGH SANTIAGO CREEK  
CONSTRUCTION AWARD AND CONSULTANT SELECTIONS –  
MCGEHEE / MORI / BURTON

Recommendation: That the Santiago Aqueduct Commission authorize the General Manager to execute a Professional Services Agreement with West Yost in the amount of \$59,950 for engineering services during construction, authorize the General Manager to execute a Professional Services Agreement with NMG Geotechnical in the amount of \$14,828 for geotechnical services during construction, authorize the General Manager to execute a Professional Services Agreement with DMc Engineering in the amount of \$9,420 for surveying services during construction, authorize the General Manager to execute a Professional Services Agreement with Harmsworth & Associates in the amount of \$34,519 for environmental permitting services during construction, and authorize the General Manager to execute a construction contract with T.E. Roberts, Inc. in the amount of \$687,818 for the 54-inch Baker Pipeline Realignment in Reach 1U through Santiago Creek, Project 11615.

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**REPORTS**

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8. GENERAL MANAGER'S REPORT – COOK

9. ENGINEER'S REPORT – BURTON

10. MWDOC'S REPORT

11. ATTORNEY'S REPORT

12. COMMISSIONER'S COMMUNICATIONS

Commissioners may discuss meetings, communications, correspondence, or other items of general interest relating to matters within the Commission's jurisdiction. There will be no voting or formal action taken.

13. ADJOURN

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Santiago Aqueduct Commission in connection with a matter subject to discussion or consideration at an open meeting of the Commission will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to comments@irwd.com. Requests made by mail must be received at least two days before the meeting. Requests will be processed swiftly, granted whenever possible and any doubts will be resolved in favor of accessibility.

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# MINUTES OF THE QUARTERLY REGULAR MEETING OF THE SANTIAGO AQUEDUCT COMMISSION

**March 18, 2021**

The quarterly meeting of the Santiago Aqueduct Commission (“SAC”) was duly noticed and was held at 8:00 a.m. on March 18, 2021 by WebEx virtual attendance. Acting Chairman CHADD called the meeting to order at 8:32 a.m. ALLISON BURNS recorded the Minutes of the meeting.

## **COMMISSIONERS PRESENT**

JOHN WITHERS, Irvine Ranch Water District (“IRWD”); DON CHADD, Trabuco Canyon Water District (“TCWD”); DON BUNTS, Santa Margarita Water District (“SMWD”); SHERRY WANNINGER, Moulton Niguel Water District (“MNWD”); JEFFERY THOMAS, Municipal Water District of Orange County (“MWDOC”); and KAY HAVENS, El Toro Water District (“ETWD”).

Also present were: PAUL COOK, General Manager, IRWD; CHERYL CLARY, Treasurer, IRWD; KEVIN BURTON, Engineer, IRWD; DENNIS CAFFERTY, ETWD; SAUNDRA JACOBS, SMWD; ALTERNATE COMMISSIONER KAREN MCLAUGHLIN, IRWD; ALLISON BURNS, General Counsel/Secretary; DIANE SQUYRES, Administrative Secretary, IRWD; JESSICA CRAIG, IRWD; MALCOLM CORTEZ, Assistant Engineer, IRWD; EILEEN LIN, Assistant Treasurer, IRWD; JAVIER TOBAR, IRWD; CHARLES BUSSLINGER, MWDOC; MATT COLLINGS, MNWD; JEFF SMYTH, East Orange County Water District; and ALEX MURPHY, IRWD.

## **COMMUNICATIONS**

1. **Pledge of Allegiance** – the Commission dispensed with the Pledge of Allegiance.
2. **Public Comments** - No public comments.
3. **Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the Commission subsequent to the agenda being posted** - No items added.

## **ACTION ITEMS- Receive and file**

4. **ELECTION OF OFFICERS – COOK**

**Recommendation:** That an election be conducted of the Chairman and Vice Chairman of the Santiago Aqueduct Commission.

Chair – CHADD

Vice Chair – WITHERS

BUNTS moved the item as presented, second by THOMAS and unanimously approved.

5. **MINUTES OF REGULAR COMMISSION MEETING, DECEMBER 17, 2020**

**Recommendation:** That the minutes of the December 17, 2020 meeting of the Santiago Aqueduct Commission of be approved as presented.

BUNTS – noted a revision to Item 10: permits are from Fish and Wildlife not Fish and Game.

BUNTS – Moved the item as amended, second by THOMAS and unanimously approved.

HAVENS, MCLAUGHLIN and WANNINGER voted despite not being present at the prior meeting but having read the Minutes.

6. 2020-21 FINANCIAL REPORT

- a. Ratify Disbursement Resolution No. 703 dated January 2021.
- b. Ratify Disbursement Resolution No. 704 dated February 2021.
- c. Receive and file Financial Statement dated February 28, 2021.

CLARY- Attached January and February disbursements and financial statements for February.

THOMAS moved the item as presented, second by WANNINGER and unanimously approved.

7. BAKER PIPELINE EXPOSURE THROUGH SANTIAGO CREEK PROJECT UPDATE – MORI / BURTON

**Recommendation:** Receive and file.

COOK – This item was introduced last meeting; staff will provide greater detail today.

BURTON –SAC is lowering 350 feet of Reach 1 pipeline in Santiago Creek within Irvine Regional Park. SAC awarded the design last year. Since then, design and CEQA have been completed; plans have been submitted to OC parks and OC Public Works for encroachment; Regional Board, Fish and Wildlife and Corps of Engineers applications have been submitted. Staff expects formal feedback in the next several weeks. Staff will then incorporate comments and be ready to move on with construction. Construction is expected to commence July 2021 and be completed October 2021.

The big issue SAC is facing with this project is delay in manufacturing of the pipe. The delay could be 2 to 6 months to get the pipe. The current schedule depends on a 2 month timeline for getting the pipe. Staff is working with County re whether it will allow continuing construction into October (during technical ‘rainy season’).

With the design completed, the budget has been revised from \$842,000 to \$987,000.

An internal inspection of Reach 1 during construction is planned. Staff has obtained quotes for inspection, and those costs are included in the budget. Staff expects to encounter groundwater during construction and have added costs for dewatering the trench excavation.

The new \$987,000 budget includes added permit costs and G&A costs on IRWD labor and 10% contingency for construction costs.

Last year \$145,000 was spent – Covered from SAC cash reserves. No billing to the agencies.

Next year, costs will come from member Agency cash contributions. These amounts are included in next year’s operating budget.

CHADD – If October is rainy and cannot do the work this year, do we anticipate the pipe would survive a very rainy season?

BURTON – We got through this year with no problems. If next year is like this year, we will be fine. His gut feeling is the pipeline likely can get through another year (6-inch exposure in one area) but one inopportune boulder could be a problem.

BUNTS – If delayed in getting pipe, what’s the cost to hold the pipe and construct next year? On pipe ordering, if it is of urgency, can we pre-purchase and provide to the Contractor.

BURTON – We would like to avoid doing this because it adds complexity; but it could be an option.

BUNTS – Environmental compliance – Seems to bank on fact that it's less than a mile. Expressed concern the project won't fall into the exemption.

BURTON – Lots of debate has been had on that issue. NOE has been filed. The clock is running or has run out. Permitting Agencies are driving this issue. The pipe going in same alignment, so there is no impact.

BUNTS – Noted that staff may be unpleasantly surprised regarding environmental challenges.

BURTON – Staff have engaged with all Agencies and no indication has been made so far there will be any issues.

HAVENS – Will the pipe be armored if we don't get pipe in time?

BURTON – If we miss this Summer, it's an option. But, it is harder to get a permit because it will be diverting water and placing an obstruction in the creek. Also, armoring doesn't prevent undermining.

CHADD – Thank you to BURTON.

MCLAUGHLIN – Why 10 feet deep? Are we going to have to do this again in 20 years?

BURTON – This pipe was put in in 1960; it had 7 feet of cover and 19-foot wide creek. Now 200 feet wide; therefore, 10 feet is appropriate and will get us a long life out of the pipe.

Received and filed.

8. PROPOSED FISCAL YEARS 2021-2022 AND 2022-2023 OPERATIONS, MAINTENANCE AND CAPITAL PROJECT BUDGET – CRAIG/TOBAR/LIN/CLARY

**Recommendation:** That the Commission review and approve the proposed Fiscal Years (FY) 2021-22 and 2022-23 Operations, Maintenance and Capital Project budget as presented.

CLARY – 2 year operations, maintenance and capital budgets for FY 2021-2022 and 2022-2023 are presented on Exhibits “A-1” and “A-2”.

Some significant changes since last budget:

1. SAC will not be using cash reserves to pay for future maintenance fees as in the previous 2 year budget.

2. Capital Project– Each member's shares are on Exhibit A-3”. The Commission will be using approximately \$145,000 of cash reserves to pay for FY ended 2020-2021 expected expenditures, and will have a cash call for the remaining \$842,000 estimate as needed.

JESSICA CRAIG – Exhibits “A-1” and “A-2”. The total FY 2021-22 budget is \$942,955 including an estimated \$841,505 for capital. The total FY 2022-23 budget is \$100,400 and includes no budgeted capital.

The proposed budgets for FY 2021-22 and FY 2022-23 reflect an increase of \$695,692 and a decrease of \$841,505, respectively, primarily due to the capital project budgeted in FY 2021-22.

Exhibit “A.3” surcharge allocation – Reflects a decrease from \$1.12 to \$0.97 per acre feet (AF) in FY 2021-22 and then \$0.99 per AF in 2022-23. Adjustments generally relate to contract labor cost changes. Capital budget for agencies has already discussed.

CLARY – SAC had built up significant cash reserves in prior years. Those reserves were used to pay maintenance fees in the last two years and \$145,000 of capital this year. For significant capital projects going forward, SAC will require individual agencies to put aside sufficient reserves to pay for them; SAC will not hold cash reserves. There will be cash calls for significant projects.

CHADD – For members’ purposes, is it possible to project what members should put aside to build into their own budgets?

CLARY – The pipeline project is likely a once in 20- to 30-year event. Staff does not anticipate another significant project like this one. SAC had previously built up a cash reserve that was too large.

BURTON – Future major capital projects – pipe appears to be in good condition but is 50 years old. Eventually, the pipeline will need to be lined or replaced in its entirety. Such a project will be \$50-60 million. That is the large expense on the horizon. That’s why we’ll be doing the inspection of the pipeline. The inspection will tell us whether we’ll need to do a relining in the next 10 years or so. There could be another major hit in 5 years. This project will help us understand Reach 1. Reach 1 is the oldest and will be a good indicator of the status of the rest of the pipe.

The Irvine Company may end up realigning a large portion of the Reach 1 pipeline and replacing it for SAC in the next few years when they construct the Santiago Hills development.

Members should expect relining for much of the pipeline.

COOK – Staff will be sharing this information with all member staffs. Short of an emergency break, staff will give advance warning of major expenditures.

BURTON – We did have some contractors’ breaks in the past that allowed inspections showing the pipe looks good.

WITHERS – Joined the meeting (9:01 a.m.).

THOMAS moved the item as presented, second by HAVENS and unanimously approved.

#### 9. APPOINTMENT OF ACWA-JPIA ALTERNATE DIRECTOR – COOK

**Recommendation:** That the Commission appoint an Alternate Director to represent the Santiago Aqueduct Commission on the Board of Directors of the ACWA-JPIA.

COOK – SAC is member of ACWA-JPIA. CHADD is primary; SAC needs an Alternate. HAVENS expressed willingness to serve.

CHAD moved appointment of HAVENS as the ACWA-JPIA alternate, second by BUNTS and unanimously approved.

### REPORTS

#### 10. GENERAL MANAGER’S REPORT-COOK.

No report other than to send THOMAS a new hat.

#### 11. ENGINEER’S REPORT-BURTON.

UPDATE – Silverado fire burned several facilities. Cathodic rectifiers 27 and 31– Compliments to whomever signed up for insurance, \$1,000 deductible. SAC facilities suffered \$60-70,000 in damages. Staff has contracted for testing and getting service restored. It appears all costs and expenses covered except for deductible. Staff is expecting it will take several months to get repaired.

#### 12. MWDOC’S REPORT.

THOMAS turned over to BUSSLINGER – One update, Allen McCullough pipeline set for 37 day shutdown from April 4 to May 10.



COOK – Staff took down the Baker Water Treatment Plant for maintenance in advance of this shutdown and is ready to operate at full capacity during the shutdown.

13. ATTORNEY’S REPORT.

14. COMMISSIONERS’ COMMUNICATIONS

WITHERS – Thanks for support, look forward to serving commission. Look forward to working with everyone.

CHADD – Expressed his desire to close by complimenting IRWD. He has been working with SAC since 1994-95 era; it wasn’t a smooth operation back then. Over the years, it has been well managed under IRWD. Continuing management by IRWD gives him extraordinary confidence. Compliments to all on behalf of TCWD.

15. ADJOURNMENT.

CHADD adjourned the meeting at 9:11 a.m.

Respectfully submitted,

Allison E. Burns, Secretary

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SANTIAGO AQUEDUCT COMMISSION  
DISBURSEMENT RESOLUTION NO. 705

April 2021

RESOLVED by Santiago Aqueduct Commission that items shown below be approved for payment and charges to the Contracting Agencies and to holders of capacity rights in the Santiago Aqueduct Commission in accordance with the policy with respect to standby charges, water surcharges and operation and maintenance costs adopted by this Commission on April 10, 1963: That the Contracting Public Agencies and other holders of capacity rights in said Santiago Aqueduct be called upon to pay this Commission for their respective shares of such items, and payments, such items and the distribution thereof are as follows:

OPERATIONS AND MAINTENANCE		
1	AT&T Charges for Jan - Mar	525.42
2	Southern California Edison Charges for Feb - Apr	481.44
3	Stradling Yocca Carlson & Rauth Legal Fees	560.00
4	Kill-N-Buggs	4,620.00
5	ACWA Annual Dues	1,871.04
6	Irvine Ranch Water District Baker Pipeline Operation (Jan - Mar 2021) Baker Pipeline Maintenance (Jan - Mar 2021)	3,995.27 7,055.73
7	TOTAL DISBURSEMENT RESOLUTION NO. 705	<u>\$ 19,108.90</u>

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SANTIAGO AQUEDUCT COMMISSION  
DISBURSEMENT RESOLUTION NO. 706

April 2021

RESOLVED by Santiago Aqueduct Commission that items shown below be approved for payment and charges to the Contracting Agencies and to holders of capacity rights in the Santiago Aqueduct Commission in accordance with the policy with respect to standby charges, water surcharges and operation and maintenance costs adopted by this Commission on April 10, 1963: That the Contracting Public Agencies and other holders of capacity rights in said Santiago Aqueduct be called upon to pay this Commission for their respective shares of such items, and payments, such items and the distribution thereof are as follows:

BAKER PIPELINE RELOCATION PROJECT 11615

1	DMC Engineering	17,969.41
2	Rodney Harmsworth Assoc. Inc	19,078.50
3	NMG Geotechnical, Inc	19,764.00
4	West Yost	23,974.28
5	Irvine Ranch Water District Labor Charges	33,747.95
6	TOTAL DISBURSEMENT RESOLUTION NO. 706	<u>\$ 114,534.14</u>

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SANTIAGO AQUEDUCT COMMISSION  
DISBURSEMENT RESOLUTION NO. 707

June 2021

RESOLVED by Santiago Aqueduct Commission that items shown below be approved for payment and charges to the Contracting Agencies and to holders of capacity rights in the Santiago Aqueduct Commission in accordance with the policy with respect to standby charges, water surcharges and operation and maintenance costs adopted by this Commission on April 10, 1963: That the Contracting Public Agencies and other holders of capacity rights in said Santiago Aqueduct be called upon to pay this Commission for their respective shares of such items, and payments, such items and the distribution thereof are as follows:

OPERATIONS, MAINTENANCE AND BAKER PIPELINE RELOCATION PROJECT 11615

1	AT&T	
	Charges for Apr - June	525.42
2	Southern California Edison	
	Charges for May - June	490.75
3	Stradling Yocca Carlson & Rauth	1,204.00
4	Irvine Ranch Water District	
	Baker Pipeline Operation ( Apr - May 2021)	2,542.76
	Baker Pipeline Maintenance ( Apr - May 2021)	3,567.98
5	Harmsworth Associates	1,710.00
6	West Yost	7,277.30
7	Irvine Ranch Water District	
	Labor Charges	10,127.90
8	TOTAL DISBURSEMENT RESOLUTION NO. 707	<u>\$ 27,446.11</u>

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Santiago Aqueduct Commission  
Statement of Net Position  
June 30, 2021


	Unaudited <u>6/30/2021</u>
<b>ASSETS</b>	
Current assets:	
Cash and investments (1)	\$ 306,567
Receivables:	
Accounts receivable	9,233
Interest receivable	<u>93</u>
Total receivables	<u>9,326</u>
Total current assets	<u>315,893</u>
Noncurrent assets:	
Capital assets, net of depreciation	<u>189,465</u>
Total noncurrent assets, net	<u>189,465</u>
<b>TOTAL ASSETS</b>	<u>505,358</u>
<b>LIABILITIES</b>	
Current liabilities:	
Account payable	<u>80,001</u>
<b>TOTAL LIABILITIES</b>	<u>80,001</u>
<b>NET POSITION</b>	
Investment in capital assets	189,465
Unrestricted	<u>235,892</u>
<b>TOTAL NET POSITION</b>	<u><u>\$ 425,357</u></u>

(1) On March 21, 2019 the Commission adopted a resolution authorizing the use of existing cash to pay member fees for FY 2020-2021.

Santiago Aqueduct Commission  
Statement of Revenues, Expenses and Changes in Net Position  
For the Fiscal Year Ended June 30, 2021

	Unaudited 6/30/2021
<b>OPERATING REVENUES</b>	
Water surcharge	\$ 35,068
Member charges (1)	-
Other Income	75,916
Total operating revenues	<u>110,984</u>
<b>OPERATING EXPENSES</b>	
Contract labor	29,010
Equipment usage	370
Utilities	2,447
Landscape	9,540
Cathodic protection monitoring, maintenance and upgrade	60,456
Telemetry alarm	2,095
General and administrative:	
Audit	5,000
Insurance	6,397
Legal	3,851
Administration management	22,200
Other	1,204
Depreciation	3,004
Total operating expenses	<u>145,574</u>
Operating income (loss)	<u>(34,590)</u>
<b>NONOPERATING REVENUES (EXPENSES)</b>	
Interest income	1,529
Increase (decrease) in fair value of investments	<u>(1,369)</u>
Total nonoperating revenues	<u>160</u>
Increase (decrease) in net position	(34,430)
<b>NET POSITION AT BEGINNING OF YEAR</b>	<u>459,787</u>
<b>NET POSITION AT END OF YEAR</b>	<u><u>\$ 425,357</u></u>

(1) On March 21, 2019 the Commission adopted a resolution authorizing the use of existing cash to pay member fees for FY 2020-2021. Therefore, member charges for the period ended June 30, 2021 is \$0.

September 16, 2021  
Prepared and J. McGehee / R. Mori  
submitted by: K. Burton  
Approved by: Paul A. Cook 

## SANTIAGO AQUEDUCT COMMISSION

### BAKER PIPELINE EXPOSURE THROUGH SANTIAGO CREEK CONSTRUCTION AWARD AND CONSULTANT SELECTIONS

#### SUMMARY:

A section of the Baker Pipeline is exposed through Santiago Creek in Irvine Regional Park. The design to relocate the pipe is complete, and staff solicited construction bids and construction support proposals. Staff recommends the Santiago Aqueduct Commission:

- Authorize the General Manager to execute a Professional Services Agreement with West Yost Associates in the amount of \$59,950 for engineering services during construction;
- Authorize the General Manager to execute a Professional Services Agreement with NMG Geotechnical in the amount of \$14,828 for geotechnical services during construction;
- Authorize the General Manager to execute a Professional Services Agreement with DMC Engineering in the amount of \$9,420 for surveying services during construction;
- Authorize the General Manager to execute a Professional Services Agreement with Harmsworth & Associates in the amount of \$34,519 for environmental permitting services during construction; and
- Authorize the General Manager to execute a construction contract with T.E. Roberts. Inc. in the amount of \$687,818 for the 54-inch Baker Pipeline Realignment in Reach 1U through Santiago Creek, Project 11615.

#### BACKGROUND:

The Baker Pipeline was constructed in 1961 and initially was designed with approximately six feet of cover across Santiago Creek, as shown on Exhibit “A”. Since that time, the creek has widened by approximately 50 feet and scoured more than seven feet in depth, which has resulted in the exposure of approximately 35 linear feet of the upper portion of the pipeline. To address the existing pipeline exposure and to minimize the potential for future exposure of additional portions of the pipeline, staff proceeded with the design of lowering the depth of the Baker Pipeline by 10 feet along its current alignment for approximately 300 feet across the width of Santiago Creek.

#### Construction Award:

In October 2020, the Santiago Aqueduct Commission contracted with West Yost Associates to provide engineering design services for the project. West Yost Associates has since completed the design, and staff approved the construction plans in February 2021. Staff advertised the project for construction bids to a select list of 19 pipeline contractors. The bid opening was held on August 24, 2021, with bids received from L&S Construction, Paulus Engineering, and T.E. Roberts. T.E. Roberts is the apparent low bidder, with a bid amount of \$687,818. The

engineer's estimate, prepared by West Yost Associates, is \$507,000. The bid amount is higher than the engineer's estimate due to overall market conditions and due to recent increases in materials and labor costs associated with COVID-19. T.E. Roberts' bid information is provided as Exhibit "B", and a summary of the bids received is provided in the table below.

<b>Bidder</b>	<b>Bid Amount</b>
T.E. Roberts, Inc.	\$687,818
L&S Construction, Inc.	\$731,350
Paulus Engineering, Inc.	\$799,340
<i>Engineer's Estimate</i>	<i>\$507,000</i>

Staff reviewed T.E. Roberts' bid and has determined that it is responsive. Staff recommends that the Santiago Aqueduct Commission authorize the General Manager to execute a construction contract with T.E. Roberts, Inc. in the amount of \$687,818.

Consultant Selection – Engineering Design Services during Construction:

West Yost Associates performed all elements of the final design for the project. Staff requested West Yost Associates to submit a proposal for engineering support services during construction. The proposal, provided as Exhibit "C", includes scope for submittal reviews, responses to contractor requests for information, site visits, record drawings, construction coordination, and engineering support commensurate with the requirements of the project. The scope also includes pipe condition assessment and testing provided by V&A Consulting Engineers as a subconsultant to West Yost Associates. Staff reviewed West Yost Associates' scope of work and fee and recommends the Commission authorize the General Manager to execute a Professional Services Agreement with West Yost Associates in the amount of \$59,950 for engineering support services during construction.

Consultant Selection – Geotechnical Services during Construction:

NMG Geotechnical performed the geotechnical evaluation during the design phase for the project and has extensive experience in the nearby area. Staff requested NMG Geotechnical to submit a proposal for engineering support services during construction. The proposal, provided as Exhibit "D", includes scope for compaction testing, backfill observation, review of trenching and dewatering, and general geotechnical support commensurate with the requirements of the project. Staff reviewed NMG Geotechnical's scope of work and fee and recommends the Commission authorize the General Manager to execute a Professional Services Agreement with NMG Geotechnical in the amount of \$14,828 for geotechnical support services during construction.

Consultant Selection – Surveying Services during Construction:

DMc Engineering performed surveying services and prepared the base map during the design phase for the project. Staff requested DMc Engineering to submit a proposal for surveying support services during construction. The proposal, provided as Exhibit “E”, includes scope for staking the pipeline, limits of the easement, and office support commensurate with the requirements of the project. Staff reviewed DMc Engineering’s scope of work and fee and recommends the Commission authorize the General Manager to execute a Professional Services Agreement with DMc Engineering in the amount of \$9,420 for surveying support services during construction.

Consultant Selection – Environmental Permitting Services during Construction:

Harmsworth Associates performed the environmental permitting support during the design phase for the project including coordination with the Regional Water Quality Control Board, California Department of Fish and Wildlife (CDFW), and Army Corps of Engineers. Staff requested Harmsworth Associates to submit a proposal for environmental permitting support services during construction. The proposal, provided as Exhibit “F”, includes scope for preparation of a revegetation plan per CDFW requirements, coordination with permitting agencies during construction, performance of field biological surveys for sensitive species before and during construction, and general environmental permitting support commensurate with the requirements of the project. Staff reviewed Harmsworth Associates’ scope of work and fee and recommends the Commission authorize the General Manager to execute a Professional Services Agreement with Harmsworth Associates in the amount of \$34,519 for environmental permitting support services during construction.

Permitting:

The streambed alternation agreement with CDFW has been executed and the Clean Water Section 401 Water Quality Certification and Order (401 Certification) for the project from the Santa Ana Regional Water Quality Control Board has been received. The Army Corps of Engineers 404 permit is required to be provided no more than 35 days after receiving the 401 Certification and is expected to be received no later than the first week of October. Staff does not anticipate that any additional constraints will be imposed on the project by the 404 permit. In addition, the encroachment permit with the County of Orange has been coordinated and finalized and is ready for execution by the contractor prior to construction mobilization.

Schedule:

The project is being completed in accordance with the following schedule milestones.

Construction Award (anticipated)	September 2021
Construction Notice to Proceed	October 2021
Contractor Mobilization	February 2022
Construction Complete	March 2022

**FISCAL IMPACTS:**

At the Santiago Aqueduct Commission meeting on March 18, 2021, staff estimated the total capital cost of the project to be \$987,319. With the design complete and the construction amount and the engineering support services during construction contract amounts defined, staff updated the total estimated capital cost of the project to be \$1,215,883, as shown in Exhibit “G”.

Project costs in the amount of \$147,797 have been expended through June 30, 2021. Those project costs were paid using the existing Commission cash reserves of \$327,000, which leaves \$179,203 remaining in the cash reserves. Each agency will be responsible for its share of the remaining estimated capital cost of \$1,068,086 as summarized in the following table.

<b>Agency</b>	<b>Reach 1U Cost Share (%)</b>	<b>Total Estimated Capital Cost (\$)</b>	<b>Remaining Balance To Be Paid (\$)</b>
EOCWD	9.53%	\$115,874	\$101,789
ETWD	5.05%	\$61,402	\$53,938
IRWD	50.79%	\$617,548	\$542,481
MNWD	13.13%	\$159,645	\$140,240
SMWD	13.35%	\$162,320	\$142,589
TCWD	8.15%	\$99,094	\$87,049
<b>TOTAL</b>	<b>100.00%</b>	<b>\$1,215,883</b>	<b>\$1,068,086</b>

To ensure funds are available to pay construction costs, 50% of the remaining balance to be paid by each agency will be invoiced in November 2021, and then the remaining 50% will be invoiced in February 2022. After construction is complete and the Professional Services Agreements are closed out, staff will perform a final review of the total project costs to reconcile differences between actual and budgeted costs.

**ENVIRONMENTAL COMPLIANCE:**

This project is exempt from the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulation, Title 14, Chapter 3, Section 15282 in that the installation of new pipeline or maintenance, repair restoration, removal, or demolition of an existing pipeline as set forth in Section 21080.21 of the Public Resources Code, as long as the project does not exceed one mile in length. This project is also exempt per Section 15301(b) which provides exclusion for minor alteration of public facilities. A Notice of Exemption for the project was filed with the County of Orange in November 2020.

**RECOMMENDATION:**

That the Santiago Aqueduct Commission authorize the General Manager to execute a Professional Services Agreement with West Yost in the amount of \$59,950 for engineering services during construction, authorize the General Manager to execute a Professional Services

Agreement with NMG Geotechnical in the amount of \$14,828 for geotechnical services during construction, authorize the General Manager to execute a Professional Services Agreement with DMc Engineering in the amount of \$9,420 for surveying services during construction, authorize the General Manager to execute a Professional Services Agreement with Harmsworth & Associates in the amount of \$34,519 for environmental permitting services during construction, and authorize the General Manager to execute a construction contract with T.E. Roberts, Inc. in the amount of \$687,818 for the 54-inch Baker Pipeline Realignment in Reach 1U through Santiago Creek, Project 11615.

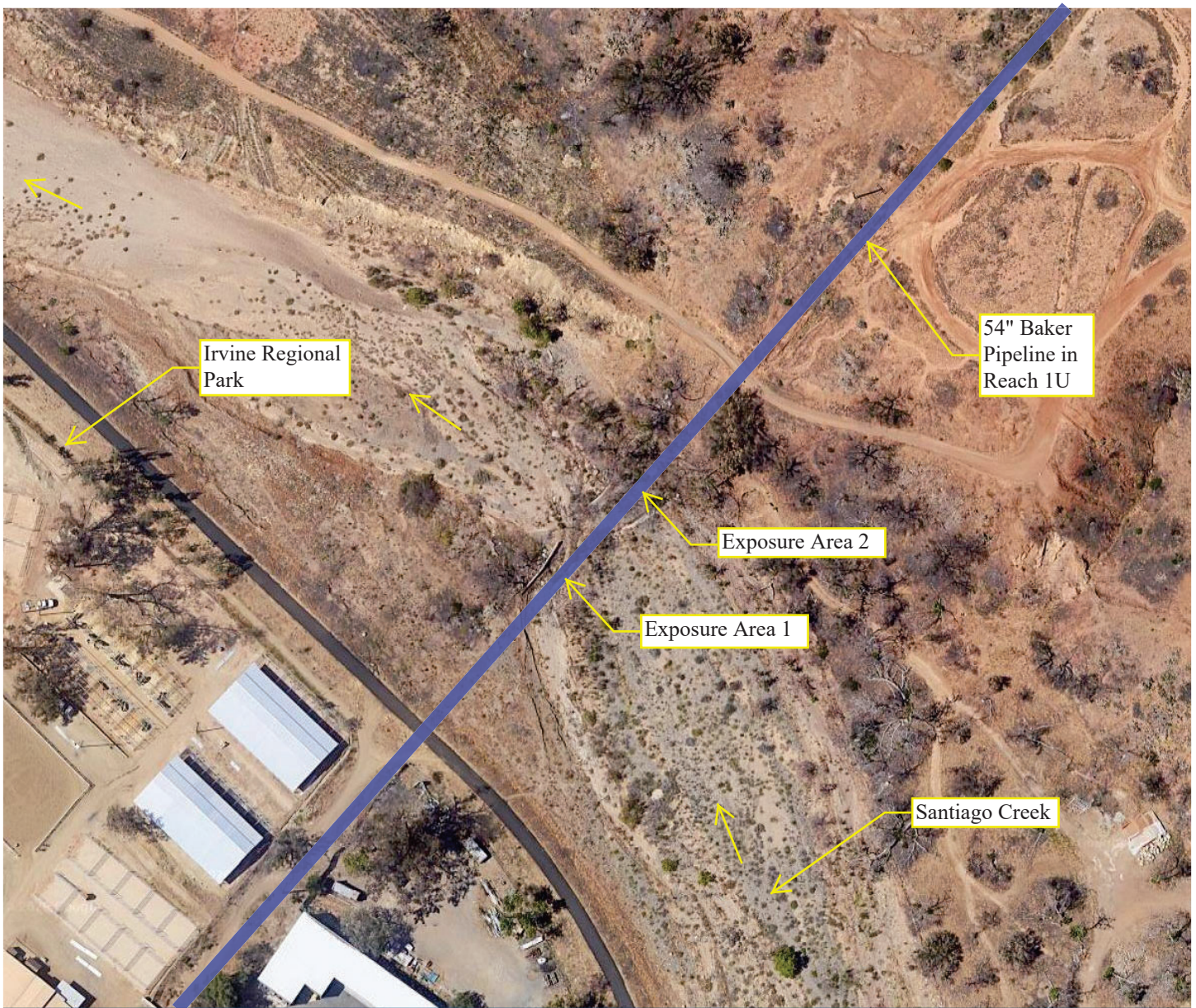
LIST OF EXHIBITS:

- Exhibit “A” – Location Map
- Exhibit “B” – T.E. Roberts Construction Bid
- Exhibit “C” – West Yost Scope of Work and Fee Proposal
- Exhibit “D” – NMG Geotechnical Scope of Work and Fee Proposal
- Exhibit “E” – DMc Engineering Scope of Work and Fee Proposal
- Exhibit “F” – Harmsworth Associates Scope of Work and Fee Proposal
- Exhibit “G” – Project Budget Summary

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Exhibit "A"  
Location Map



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## EXHIBIT "B"

## Bid Results

## Bidder Details

**Vendor Name** T. E. Roberts, Inc.  
**Address** 306 W. Katella Avenue, Unit B  
 Orange, California 92867  
 United States  
**Respondee** Brian Wagner  
**Respondee Title** Estimator  
**Phone** 714-669-0072  
**Email** estimating@teroberts.com  
**Vendor Type** CADIR  
**License #** 603008  
**CADIR** 1000000280

## Bid Detail

**Bid Format** Electronic  
**Submitted** 08/24/2021 12:32 PM (PDT)  
**Delivery Method**  
**Bid Responsive**  
**Bid Status** Submitted  
**Confirmation #** 264491

## Respondee Comment

## Buyer Comment

## Attachments

## File Title

TER Bid IRWD 54 Inch Baker Pipeline Realignment.pdf

## File Name

TER Bid IRWD 54 Inch Baker Pipeline Realignment.pdf

## File Type

Bid Form

## Subcontractors

Showing 1 Subcontractor

Name & Address	Desc	License Num	CADIR	Amount	Type
<b>Rain for Rent</b> 1301 Spring Street Long Beach, California 90806	Dewatering	904992	1000007030	\$10,000.00	



## Line Items

Discount Terms   No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
BASE BID ITEMS							<b>\$687,818.00</b>		
1			Mobilization, Demobilization, and Cleanup (not to exceed 4% of Total Amount of Bid)	LS	1	\$20,297.00	\$20,297.00	Yes	
2			Payment and Performance Bonds, and Insurance	LS	1	\$7,520.00	\$7,520.00	Yes	
3			Develop Construction Water	LS	1	\$5,074.00	\$5,074.00	Yes	
4			Trench Safety Measures	LS	1	\$17,027.00	\$17,027.00	Yes	
5			Dewatering	LS	1	\$34,787.00	\$34,787.00	Yes	
6			Remove and Dispose of Existing Steel Pipeline	LF	298	\$117.00	\$34,866.00	Yes	
7			Furnish and Install 54" CML&C Steel Pipeline	LF	298	\$1,685.00	\$502,130.00	Yes	
8			Connect to Existing 54" Steel Pipeline	EA	2	\$11,539.00	\$23,078.00	Yes	
9			Connect to Existing 12" Steel Pipeline	EA	1	\$11,539.00	\$11,539.00	Yes	
10			Cleaning and Hydrostatic Testing	LS	1	\$23,079.00	\$23,079.00	Yes	
11			Erosion Control Measures	LS	1	\$7,696.00	\$7,696.00	Yes	
12			Final Record Drawings	LS	1	\$725.00	\$725.00	Yes	
ADDITIVE AND DEDUCTIVE BID ITEM							<b>\$0.00</b>		
13			ADDITION (+) OR DEDUCTION (-)	LS	1	\$0.00	\$0.00	Yes	

## Line Item Subtotals

Section Title	Line Total
BASE BID ITEMS	\$687,818.00
ADDITIVE AND DEDUCTIVE BID ITEM	\$0.00
<b>Grand Total</b>	<b>\$687,818.00</b>

## EXHIBIT "C"



23692 Birtcher Drive  
Lake Forest CA 92630

949.420.3030 phone  
530.756.5991 fax  
westyost.com

August 3, 2021

SENT VIA: EMAIL

Joe McGehee, P.E.  
Senior Engineer, Capital Projects  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, CA 92618

**SUBJECT: Proposal for Engineering Services during Construction for the 54-inch Baker Pipeline Realignment in Reach 1U through Santiago Creek**

Dear Joe:

West Yost's contracted scope for the 54-inch Baker Pipeline Realignment in Reach 1U through Santiago Creek (Project) currently includes final design and Orange County Public Works permitting services. The final design has been completed, and the Project has its scheduled bid opening on August 24, 2021.

At the request of the Santiago Aqueduct Commission (SAC), West Yost is pleased to expand our contracted scope of work to include engineering support during construction. The purpose of this letter is to provide SAC with a proposed Scope of Services and Budget to provide limited engineering support services during for the construction phase of the Project.

### **SCOPE OF SERVICES**

The following describes each of the tasks included in this proposal to perform engineering services during construction of the Project.

#### **Task 1. Engineering Support during Construction**

##### ***Task 1A. Project Management***

West Yost will provide project management services during the construction phase including monthly invoicing, quality control/ quality assurance and coordination with SAC staff.

In addition, we will attend two virtual meetings with SAC and the selected contractor, if appropriate.

##### ***Task 1B. Contractor Submittal Reviews (20)***

Based on the work required in the Contract Documents, the SAC and West Yost engineering team estimates that the contractor will be submitting approximately twenty (20) shop drawing submittals. West

Yost will review and prepare responses for these twenty shop drawing submittals and up to ten (10) resubmittals. We will incorporate any SAC comments into the final .pdf responses.

#### ***Task 1C. Respond to Contractor's Requests for Information (RFIs)***

Based on similar project experience of the engineering team, we have estimated that the contractor will submit five (5) Requests for Information (RFIs). West Yost will review and prepare responses to five contractor RFIs. We will provide draft responses to SAC for review and incorporate any comments into the final pdf responses for SAC to forward to the contractor.

#### ***Task 1D. Revise Construction Plans***

To provide timely information to the contractor, West Yost proposes to provide 8 labor hours to perform delta revision(s) to the approved construction plans. The delta revision(s) will be prepared in the existing AutoCAD drawings and submitted as pdf(s) to SAC for review and approval.

#### ***Task 1E. Site Visits (2)***

As requested by SAC, West Yost will perform two (2) site visits to review field conditions and assist with the resolution of any field issues that arise during construction of the pipeline.

#### ***Task 1F. Prepare Record Drawings***

During the construction of the proposed improvements, the contractor and the SAC inspector will record any deviations from the construction plans that were not significant enough to require a delta revision. At the end of the construction, the contractor and SAC inspector will provide West Yost with a clean set of redlined construction plans to prepare the Record Drawings. We will update the construction plans to reflect the as-built conditions as represented by the contractor and SAC field personnel.

West Yost will provide a draft pdf file of the Record Drawings. After receiving any clarifications from the field personnel, we will prepare the final pdf Record Drawings and submit them to SAC.

#### ***Task 1G. Construction Coordination***

West Yost will provide 20 labor hours to address field questions and requests for clarifications.

### **Task 2. Condition Assessment**

West Yost's subconsultant, V&A Consulting Engineers, Inc. (V&A), will perform a condition assessment of the existing 54-inch steel pipe during the construction. The proposed scope of work is detailed in the attached condition assessment proposal letter. As our subconsultant, West Yost will provide communications, coordination and provide a quality assurance review of V&A's work products.

### **PROJECT BUDGET**

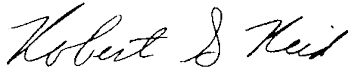
West Yost's proposed level of effort and budget for each of the tasks described above is shown in the attached budget table. West Yost will perform this Scope of Services described above on a time-and-materials basis, with a not-to-exceed budget of \$59,950. Any additional services not included in this Scope of Services will be performed only after receiving written authorization and a corresponding budget augmentation.

Mr. Joe McGehee  
August 3, 2021  
Page 3

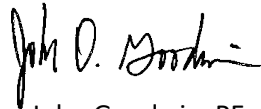
Thank you for providing West Yost the opportunity to be of continued service to SAC to the completion of our Project. We look forward to continuing to closely work with you on this important project. Please call if you have any questions or require additional information.

Sincerely,

WEST YOST



Robert S. Reid, PE  
Project Manager  
949.324.2091 cell  
[rreid@westyost.com](mailto:rreid@westyost.com)



John Goodwin, PE  
Principal-in-Charge  
530.792.3294  
[jgoodwin@westyost.com](mailto:jgoodwin@westyost.com)

cc: Anne Girtz

Attachments: Proposed Budget  
V&A Consulting Engineers proposal for condition assessment

West Yost Associates	PE/PS/PG II \$279 Reid	SE/SS/SG I \$236 Girtz	AE/AS/AG I \$202 Greenwood	ESG I \$162 McLintock	TS I \$162 Paredes	P/VP \$307 Goodwin	Labor		V&A	Costs			
							Hours	Fee		Sub. w/ markup 0%	Other Direct	Total Costs	
PROJECT: 54" Baker Pipeline Realignment in Reach 1U													
Task 1		Engineering Support during Construction											
1.1 Project Management		8	4			4	2	18	\$ 4,438			\$ 36	\$ 4,474
1.2 Contractor Submittal Reviews (20)		8	32			2		42	\$ 10,108				\$ 10,108
1.3 Respond to RFIs (5)		8	14			1		23	\$ 5,698				\$ 5,698
1.4 Revise Construction Plans		1	1	6				8	\$ 1,727				\$ 1,727
1.5 Site Visits (2)		8	4					12	\$ 3,176			\$ 100	\$ 3,276
1.6 Prepare Record Drawings		1	3	4	8			16	\$ 3,091			\$ 50	\$ 3,141
1.7 Construction Coordination		8	10				2	20	\$ 5,206				\$ 5,206
Subtotal, Task 1 (hours)		42	68	10	8	7	4	139					
Subtotal, Task 1 (\$)		\$ 11,718	\$ 16,048	\$ 2,020	\$ 1,296	\$ 1,134	\$ 1,228		\$ 33,444			\$ 186	\$ 33,630
Task 2		Condition Assessment											
2.1 Condition Assessment		2	6			3	1	12	\$ 2,767	\$ 23,553	\$ 23,553		\$ 26,320
Subtotal, Task 2 (hours)		2	6	0	0	3	1	12					
Subtotal, Task 2 (\$)		\$ 558	\$ 1,416			\$ 486	\$ 307		\$ 2,767	\$ 23,553	\$ 23,553		\$ 26,320
TOTAL (hours)		44	74	10	8	10	5	151					
TOTAL (\$)		\$ 12,276	\$ 17,464	\$ 2,020	\$ 1,296	\$ 1,620	\$ 1,535		\$ 36,211	\$ 23,553	\$ 23,553	\$ 186	\$ 59,950



# 2021 Billing Rate Schedule

(Effective January 1, 2021 through December 31, 2021)\*



POSITIONS	LABOR CHARGES (DOLLARS PER HOUR)
<b>ENGINEERING</b>	
Principal/Vice President	\$307
Engineering/Scientist/Geologist Manager I / II	\$291 / \$304
Principal Engineer/Scientist/Geologist I / II	\$263 / \$279
Senior Engineer/Scientist/Geologist I / II	\$236 / \$247
Associate Engineer/Scientist/Geologist I / II	\$202 / \$216
Engineer/Scientist/Geologist I / II	\$162 / \$188
Engineering Aide	\$95
Administrative I / II / III / IV	\$83 / \$105 / \$126 / \$139
<b>ENGINEERING TECHNOLOGY</b>	
Engineering Tech Manager I / II	\$302 / \$304
Principal Tech Specialist I / II	\$277 / \$287
Senior Tech Specialist I / II	\$254 / \$266
Senior GIS Analyst	\$230
GIS Analyst	\$217
Technical Specialist I / II / III / IV	\$162 / \$185 / \$208 / \$232
Technical Analyst I / II	\$116 / \$139
Technical Analyst Intern	\$94
Cross-Connection Control Specialist I / II / III / IV	\$121 / \$131 / \$147 / \$164
CAD Manager	\$183
CAD Designer I / II	\$142 / \$160
<b>CONSTRUCTION MANAGEMENT</b>	
Senior Construction Manager	\$294
Construction Manager I / II / III / IV	\$179 / \$192 / \$204 / \$258
Resident Inspector (Prevailing Wage Groups 4 / 3 / 2 / 1)	\$157 / \$174 / \$194 / \$202
Apprentice Inspector	\$142
CM Administrative I / II	\$76 / \$102
Field Services	\$202

- Hourly rates include Technology and Communication charges such as general and CAD computer, software, telephone, routine in-house copies/prints, postage, miscellaneous supplies, and other incidental project expenses.
- Outside Services such as vendor reproductions, prints, shipping, and major West Yost reproduction efforts, as well as Engineering Supplies, etc. will be billed at actual cost plus 15%.
- Mileage will be billed at the current Federal Rate and Travel will be billed at cost.
- Subconsultants will be billed at actual cost plus 10%.
- Expert witness, research, technical review, analysis, preparation and meetings billed at 150% of standard hourly rates. Expert witness testimony and depositions billed at 200% of standard hourly rates.
- A Finance Charge of 1.5% per month (an Annual Rate of 18%) on the unpaid balance will be added to invoice amounts if not paid within 45 days from the date of the invoice.

## 2021 Billing Rate Schedule

(Effective January 1, 2021 through December 31, 2021)\*



### Equipment Charges

EQUIPMENT	BILLING RATES
Gas Detector	\$80 / day
Hydrant Pressure Gauge	\$10 / day
Hydrant Pressure Recorder, Standard	\$40 / day
Hydrant Pressure Recorder, Impulse (Transient)	\$55 / day
Trimble GPS – Geo 7x	\$220 / day
Vehicle	\$10 / day
Water Flow Probe Meter	\$20 / day
Water Quality Multimeter	\$185 / day
Well Sounder	\$30 / day

V&A Project No. 20-0392

March 8, 2021

Anne Girtz, P.E.  
Associate Engineer  
West Yost Associates  
6 Venture, Suite 290  
Irvine, CA 92618

**Subject:** Irvine Ranch Water District – Baker Pipeline Condition Assessment Proposal

Dear Ms. Girtz,

Thank you for requesting a proposal for the condition assessment of the Baker Pipeline for the Irvine Ranch Water District (IRWD). The Baker Pipeline is constructed of 54-inch diameter cement mortar lined and coated (CMLC) welded steel pipe. West Yost Associates is designing for the replacement of a 350-foot segment of the pipeline located in Orange, California. IRWD would like to use this opportunity to assess the condition of accessible portions of the pipeline during construction, while the pipeline is out-of-service and drained in the summer of 2021. V&A Consulting Engineers (V&A) is prepared to provide condition assessment services to West Yost and IRWD.

Assessment methods will include visual assessment of accessible portions of the existing 350-foot to be removed by the contractor and closed-circuit television video (CCTV) assessment of up to 2,000 feet downstream of the segment. V&A assumes that the contractor will excavate the pipeline and provide access at both ends of the segment to be replaced. V&A assumes that the CCTV assessment will take one 8-hour day to complete. The following additional assumptions were made to develop V&A's scope of work:

- Access on both ends will be prepared by the contractor. V&A anticipates that the contractor will excavate the pipeline and cutout whole 3-foot sections of the pipe or 3-foot x 3-foot openings at the top of the pipe at both ends.
- Samples of the cement mortar coating and lining will be obtained during V&A's assessment if possible. V&A will attempt to take full thickness mortar samples from the edges of the pipe that are cut to provide access. If this is unsuccessful, V&A will coordinate with IRWD to obtain samples of the mortar lining and coating from the pipe segment(s) after removal by the contractor.
- The pipeline will be dewatered to the extent possible by IRWD or the contractor.

Per your request, the following is our proposal and detailed scope of work for the subject services.

## Scope of Work

### Task | Description

- 1) **Project Management:** The objective of this task is to track and execute the project in accordance with the schedule, budget, and quality expectations that are established. This task includes the following project management work activities:
  - a. Monitor project progress, including work completed, work remaining, budget expended, schedule, estimated cost of work remaining, and estimated cost at completion; manage activities within the total project budget.

- b. Monitor project activities for potential changes and anticipate changes whenever possible; with approval, modify project tasks, task budgets, and approach to keep the overall project within budget and on schedule.
  - c. Manage the quality of all work activities and project deliverables.
  - d. Submit required prevailing wage documents and DAS forms as required by the State of California Department of Industrial Relations for all work performed in the field.
- 2) **Document Review and Safety Plan:** V&A will review pertinent information including as-built drawings, design drawings and specifications, and any relevant data available.
- 3) **Condition Assessment of Pipeline:** V&A will provide one engineer to perform an assessment of the pipe from above the 3-foot openings in the pipe and to oversee the CCTV assessment. Confined space entry will not be performed. V&A will coordinate and conduct the assessment using the following methods:
  - a. Visually assess the condition of the pipe. Use digital photographs to document the conditions and capture corrosion observations of the concrete and metal surfaces and the condition of the cement mortar. It is noted that the qualitative condition assessment observations are subjective and based upon the evaluator's expertise.
  - b. Rating conditions using the VANDA® Concrete and Metal Condition Indices through the assessment scoring criteria scale of 1 to 5, as applicable.
  - c. Concrete surface assessment: sounding to listen for discontinuities, penetration measurements with a chipping hammer (find depth to sound material), and surface pH measurements (levels of corrosion attack prevalent).
  - d. Ultrasonic testing (UT) of any exposed steel that may be present including the area in which the cement mortar coating is removed. Pit depth measurements will be performed in areas where significant metal corrosion pitting is observed.
  - e. Surface penetrating radar (SPR), which will be used to estimate the coating and lining thickness and to identify the presence of any wire-mesh reinforcement.
  - f. Cement mortar sample testing: Obtain four mortar samples from the replaced pipe segment for laboratory testing. One sample will be taken from the mortar coating and one sample will be taken from the mortar lining. Laboratory tests will include the following:
    - 1) Carbonation testing (phenolphthalein staining) on 2 samples
    - 2) Increment pH testing on 2 samples (2 half-inch increments per sample)
    - 3) Compressive strength on prism sections on 2 samples (5 tests per sample due to variation in prisms)
    - 4) Tensile strength for repair bonding values on 2 samples
    - 5) Petrographic examination on 1 sample
  - g. Retain the services of a CCTV contractor to perform up to 2,000 feet of video inspection of the segment of the pipeline downstream of the replacement section. CCTV will continue to the extent possible but may be significantly hindered beyond 1,000 feet due to friction from the cable and wheel slippage.
- 4) **Condition Assessment Technical Memorandum:** Following condition assessment activities, V&A will prepare a draft technical memorandum to be submitted for one round of comments from West Yost and the IRWD. Submittals will be in electronic format. The technical memorandum will include the following:
  - 1) Summary of the condition assessment approach and methodology.

- 2) Site information, such as location maps with address, pipe material and diameter, and digital photographs.
- 3) Documented findings and testing results with graphical and illustrative figures as needed to present the information.
- 4) Condition ratings and recommendations for short- and long-term repair or rehabilitation of the pipeline, as required.

## Fee Agreement

V&A proposes to complete this work on a time and materials basis at a not-to-exceed amount of **\$23,553**. Terms are Net 60 days. This fee is valid for 90 days from the date of this proposal. The scope of work was developed as a result of our discussion with you and represents our mutual understanding.

City or other jurisdictional permits (encroachment, traffic control plans, etc.) will be prepared and paid for by others. Costs incurred by V&A for permits will be in addition to the stated costs above. V&A will coordinate with the IRWD as required for appropriate fieldwork.

Estimated costs for the above project scope are itemized in the attached Resource Allocation Estimate. These costs represent our best estimate at this time and may change subject to future developments during the project. It is possible that some of the estimated manpower requirements for specific task items may increase while others may not require the entire anticipated effort. This provides us a greater degree of confidence in the overall project estimate, rather than in any given particular task.

If unforeseen circumstances should arise which indicate that more time is required, V&A will provide a written estimate of additional required time and cost. V&A will not proceed with work beyond the not to exceed figure without a written authorization from your office. Charges to this project will be made for actual time spent on the project and will be charged as per the attached Resource Allocation Estimate. We request that you carefully review this proposal to assure a full understanding of the scope of the work.

We are prepared to begin work on your project upon receiving written approval, a notice to proceed (NTP), or a purchase order from your office.

On behalf of our staff and myself, I would like to thank you for the opportunity to be of service to you, West Yost, and the Irvine Ranch Water District. We look forward to working with you.

Sincerely,  
V&A Consulting Engineers, Inc.



Noy Phannavong, PE  
Condition Assessment Practice Lead

Accepted: \_\_\_\_\_  
West Yost Associates

Date: \_\_\_\_\_

## Resource Allocation Estimate

PROPOSAL NO: 20-0362

CLIENT: West Yost

OWNER: Irvine Ranch Irrigation District

JOB TITLE: Baker Pipeline Condition Assessment

Date

Mar-08-2021

Task	Description	Principal-in-Charge	Senior Project Manager	Project Manager	Project Engineer	Engineering Assistant	Project Administrator	Total Labor Hours	Sub-Total Labor Costs
1	Project Management		1	6			8	15	\$2,405
2	Document Review and Safety Plan	1	1	2	2			6	\$1,432
3	Condition Assessment of Pipeline				14	2		16	\$3,054
4	Condition Assessment Technical Memorandum	1	2	8	24	5		40	\$8,173
	Subtotal	2	4	16	40	7	8	77	
	Hourly	\$297	\$259	\$239	\$199	\$134	\$89		
	<b>Total Direct Labor</b>	<b>\$594</b>	<b>\$1,036</b>	<b>\$3,824</b>	<b>\$7,960</b>	<b>\$938</b>	<b>\$712</b>		<b>\$15,064</b>
<b>Other Direct Costs</b>		Unit Cost		Units	# Units	Cost			
	Per Diem		\$54	per day	1		\$54		
	Ultrasonic Testing Gauge		\$85	per day	1		\$85		
	Surface Penetrating Radar		\$275	per day	1		\$275		
	Truck		\$85	per day	1		\$85		
	Subcontractor - CCTV		\$1	cost + 10%	3200		\$3,520		
	Depth of Carbonation/pH measurements Testing		\$110	per sample	2		\$220		
	pH Measurements at Depth		\$100	per sample	2		\$200		
	Concrete Compression		\$750	per sample	2		\$1,500		
	Concrete Tensile Test		\$275	per sample	2		\$550		
	Petrographic Examination		\$2,000	per sample	1		\$2,000		
	<b>Subtotal Other Direct Costs</b>								<b>\$8,489</b>
	<b>GRAND TOTAL ESTIMATED COST</b>								<b>\$23,553</b>

## EXHIBIT "D"



August 9, 2021

Project No. 20081-02  
IRWD Code No. 7672

To: Irvine Ranch Water District  
Engineering Department  
15600 Sand Canyon Avenue  
Irvine, California 92618

Attention: Mr. Joe McGehee

Subject: Proposal for Geotechnical Observation and Testing during Construction of Baker Pipeline Realignment, Santiago Creek, County of Orange, California

Reference: NMG Geotechnical, Inc., 2020, Geotechnical Exploration for Relocation of Existing 54-inch Baker Water Pipeline, Santiago Creek, Irvine Regional Park, County of Orange, California, Project No. 20081-01, dated November 5, 2020.

### INTRODUCTION

At your request, NMG Geotechnical, Inc. (NMG) is pleased to present this proposal for geotechnical services during construction of realignment of the 54-inch-diameter Baker Pipeline within Santiago Creek, owned by the Santiago Aqueduct Commission (SAC). Our proposal and cost estimate are based on the following:

- Review of the project plans and specifications received on July 20, 2021;
- Our geotechnical exploration specific to the subject realignment (NMG, 2020);
- Our knowledge of the subsurface and groundwater conditions;
- The preliminary construction schedule provided by you; and
- Our experience on numerous construction projects with IRWD since 1995.

The construction plan reviewed for the preparation of this proposal is the 5-sheet plan set prepared by West Yost, titled "Construction Plans for 54-Inch Baker Pipeline in Reach 1U Through Santiago Creek, Project No. 11615, Code 7672, Santiago Aqueduct Commission," dated July 2021.

We understand that special inspections or materials testing are not required.

## **PROPOSED CONSTRUCTION**

The subject project includes realignment (deepening) of the existing 54-inch-diameter Baker Pipeline, which is constructed of steel pipe with concrete encasement. The new pipeline will consist of 300 linear feet of 54-inch-diameter welded steel pipe, placed at a depth of 15 to 20 feet below the current grades. The pipe zone will be encased in cement-slurry.

## **PROJECT APPROACH**

From our experience working with your inspectors at MWRP, our technician would coordinate all site visits and testing on an on-call, as-needed basis. Our practice is to have the IRWD inspector in direct contact with NMG's assigned technician and inspector for project needs. This avoids the layer of a separate dispatcher. At times, NMG may also schedule site visits directly with the general contractor. Field reports would be written for each day's services and will be provided to IRWD on a daily or weekly basis, as requested.

## **PROPOSAL ASSUMPTIONS**

Assumptions for geotechnical observation and testing services during the subject improvements include the following:

- The project will be governed by prevailing wage guidelines.
- Project will start in January 2021 (during the rainy season).
- The total project duration will be approximately 4 weeks, but only a portion will involve geotechnical observation and testing services.
- The geotechnical design services will include review of dewatering and shoring plans prepared by the contractor; engineering and geologic consulting (as needed during construction); and project management.
- Observation and testing during pipeline realignment will consist of subgrade evaluation; pipe zone slurry; trench backfill above the pipe zone; minor clean-up grading; laboratory testing; and final report preparation.
- We anticipate the pipeline will be constructed and backfilled in three sections in order to allow for diversion of Santiago Creek surface waters.



## ESTIMATED COSTS

A summary of our cost estimate for each task and the anticipated hours is provided below. We propose to perform the scope of geotechnical observation and testing and special inspection services described herein on a time-and-materials basis in accordance with our 2021 Professional Fee Schedule (attached).

• Project Initiation, Project Plan Review (Field Technician), Pre-job Meeting	\$ 880
• Review of Dewatering and Shoring Plans	\$ 1,900
• Pipeline Subgrade – 12 hours	\$ 1,488
• Pipe Zone Slurry – 8 hours	\$ 992
• Trench Backfill – 36 hours	\$ 4,464
• Minor Surface Grading – 6 hours	\$ 744
• Laboratory Testing (One Maximum Density with Oversize)	\$ 250
• Geotechnical Support/Project Management/Prevailing Wage Accounting	\$ 1,710
• Report Preparation	<u>\$ 2,400</u>

**TOTAL COST ESTIMATE: \$ 14,828**

NMG does not have "minimums" for field visits; we only charge for the time of each site visit. There are no additional charges for equipment, vehicle use or overtime. Actual charges will depend on factors such as the contractor's schedule, sequence of work, efficiency, and the encountered soil conditions (e.g., overly wet or overly dry soils may require extra handling of backfill and slow the rate of compaction). We would notify you as soon as it appears that the above estimate may be insufficient and the reasons for the need for additional budget.

If you have any questions regarding this proposal, please contact our office. We appreciate the opportunity to offer our services.

Respectfully submitted,

NMG GEOTECHNICAL, INC.



Lynne Yost, CEG 2317  
Principal Geologist

GF/LY/grd

Attachment: 2021 Professional Fee Schedule

Distribution: (1) Addressee (E-Mail)

## 2021 PROFESSIONAL FEE SCHEDULE

### HOURLY RATES BY STAFF CATEGORY

Principal and Associate Engineer/Geologist .....	\$190
Project Engineer/Geologist .....	\$152
Senior Staff Engineer/Geologist .....	\$120
Supervisory Technician .....	\$120
Staff Engineer/Geologist .....	\$108
Senior Project Technician .....	\$108
Project Technician .....	\$100
Staff Technician .....	\$ 90
Special Inspector .....	\$ 90
CAD Drafter/Technical Illustrator .....	\$100
Word Processor .....	\$ 82
Technical Assistant .....	\$ 68
Prevailing Wage (Soil Technician/Special Inspection Services) .....	\$124

### LABORATORY TESTING

Moisture Content – ASTM D2166 .....	\$ 19	Hydroconsolidation/Collapse – ASTM D5333 .....	\$130
Moisture Content & Density .....	\$ 28	Undisturbed Direct Shear – ASTM D3080 .....	\$200
Atterberg Limits – ASTM D4318 .....	\$160	Undisturbed Direct Shear – Slow – ASTM D3080 .....	\$290
Particle-Size Sieve Analysis – ASTM D422 .....	\$104	Remolded Direct Shear – ASTM D3080 .....	\$250
Finer than No. 200 Sieve – ASTM D1140 .....	\$ 72	Remolded Direct Shear – Slow – ASTM D3080 .....	\$380
Hydrometer Analysis – ASTM D422 .....	\$124	Residual Direct Shear – ASTM D3080 .....	\$580
Maximum Dry Density – ASTM D1557 .....	\$220	R-Value – CT301/ASTM D2844 .....	\$250
Maximum Dry Density with Oversize		Asphalt Maximum Density – CT308 .....	\$250
Particle – ASTM D1557 .....	\$250	Concrete, Mortar or Grout Compression	
Caltrans 216 Maximum Density .....	\$200	(per cylinder/cube/prism) .....	\$ 28
Sand Equivalent – ASTM D2419 .....	\$ 93	CMU Grouted Prisms	
Soluble Sulfate Content .....	\$ 65	- Compression Test ≤8" x 8" x 16" .....	\$ 195
Expansion Index – ASTM D4829 .....	\$166	- Compression Test >8" x 8" x 16" .....	\$ 270
Consolidation – ASTM D2435 .....	\$205	Gunite/Shotcrete Panel Coring & Testing .....	\$109
- For time-rate, add \$38/increment			
- For remolded, add \$54/specimen			
- For reload, add \$105/cycle			

### NOTES

1. No additional charges for field vehicle usage or nuclear gauge.
2. Heavy equipment (i.e. drill rig, backhoe, CPT) charges will be invoiced at cost.
3. Delivery and outside reproduction charges will be invoiced at cost.
4. Outside laboratory test charges will be invoiced at cost.



**DMc Engineering**

Civil • Surveying • Planning • Construction

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August 10, 2021

**P5553**

Mr. Joe McGehee  
Irvine Ranch Water District  
15600 Sand Canyon Ave  
Irvine, CA 92618

**SUBJECT: BAKER WATERLINE REALIGNMENT – CONSTRUCTION STAKING SERVICES**

Dear Joe,

In accordance with your email dated July 20, 2021, DMc Engineering is pleased to provide this proposal to provide Construction Support Services in the form of Construction Staking Services for the Baker Waterline Realignment Project.

We appreciate the opportunity to work with you and Irvine Ranch Water District once again on this project. Upon acceptance, it is our understanding that we will receive authorization in the form of a purchase order. In the interim, should you have any questions, please do not hesitate to call us.

Sincerely,

Derek J. McGregor, PE, PLS, QSP, QSD  
Principal

DJM: dm



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**SCOPE OF WORK**

**BAKER WATERLINE REALIGNMENT - CONSTRUCTION STAKING SERVICES**

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Client (**Irvine Ranch Water District**) and Consultant (**DMc Engineering**) for mutual consideration herein set forth, agree as follows:

Consultant agrees to perform the following services:

**CONSTRUCTION STAKING SERVICES**

1. DMc Engineering will provide pipeline construction stakes and grade sheets as follows: The stakes will be based upon the pipeline installation drawings. One stake will be set at 50-foot intervals and at all angle points and grade breaks. One additional reference stake and/or witness lath will be provided for each pipeline appurtenance. Stakes will be set at the surface of the ground along a mutually acceptable offset to the centerline of the pipeline. The offset will be constant both as to side and distance from centerline. In addition, stakes will be set for a proposed easement. Station, offset, and cut/fill to flow line will appear on these stakes. The elevation of each point and the cut/fill to the pipe invert will be given on grade sheets. The above work effort includes office calculations to support the above staking. It also includes re-establishment of DMc Engineering's original survey control.



P5553  
**FEE SCHEDULE**

**BAKER WATERLINE REALIGNMENT – CONSTRUCTION STAKING SERVICES**

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Client agrees to compensate consultant for the services as noted below:

Consultant shall perform the services outlined in the Scope of Work in accordance with the Fee Schedule below. The reimbursable line item below includes the cost for reproductions, computer plotting, copying, and messenger services. The consultant shall invoice the client monthly. Upon client authorization, additional services not identified herein will be billed on a fixed fee or time and material basis in accordance with the enclosed Hourly Rate Schedule.

<b>CONSTRUCTION STAKING SERVICES</b>	<b>PM (\$180)</b>	<b>PE/PS (\$160)</b>	<b>FS (\$220)</b>	<b>FEE</b>
1. Waterline Stakes	1	8	24	\$6,740
2. Easement Stakes	1	4	8	\$2,580
<i>Reimbursables</i>				\$100
<b>TOTAL PROFESSIONAL FEE</b>				<b><u>\$9,420</u></b>



P5553

**CONDITIONS AND/OR EXCLUSIONS**  
**BAKER WATERLINE REALIGNMENT - CONSTRUCTION STAKING SERVICES**

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**This proposal is based on the following conditions and/or receipt of the following items:**

1. Receipt of a purchase order
2. Receipt of AutoCad Files of the waterline and easement

**Additional services that are excluded\* from this proposal but could be completed for an additional fee, are:**

1. Tasks not included in the enclosed Scope of Work
2. Restakes
3. Multiple Move-ins
4. Pothole Stakes
5. As-Built Stakes
6. Trench Bottom Stakes
7. Preparation of Corner Records

**\*Exclusions are not limited to the above items**



**DMc Engineering**  
Civil ▪ Surveying ▪ Planning ▪ Construction

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HOURLY RATE SCHEDULE  
Effective January 1, 2021 thru December 31, 2021

OFFICE PERSONNEL

Principal ( <i>PR</i> )	\$ 220.00
Project Manager ( <i>PM</i> )	\$ 180.00
Construction Manager ( <i>CM</i> )	\$ 180.00
Project Engineer ( <i>PE</i> )	\$ 160.00
Project Surveyor ( <i>PS</i> )	\$ 160.00
Senior Engineer ( <i>SE</i> )	\$ 140.00
Associate Engineer ( <i>AE</i> )	\$ 120.00
Administration	\$ 100.00

FIELD SURVEY

Field Survey ( <i>FS</i> )	\$ 220.00
GPS Survey	\$ 250.00

NOTE: Reproductions, computer plotting, copying, messenger services and other direct expenses will be charged at cost plus 10%. No additional charges for mileage, supplies or telephone expenses will be included.

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EXHIBIT "F"

# HARMSWORTH ASSOCIATES

## Environmental Consultants

July 9, 2021

Jo Ann Corey  
Engineering Technician III  
Water Resources & Environmental Compliance  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, CA 92618

**Re: Baker Pipeline Relocation Permits Variance 2 – Pre-construction tasks and construction monitoring.**

Dear Ms. Corey,

Harmsworth Associates is pleased to provide you with this proposal and cost estimate to complete the required pre-construction tasks and to provide construction monitoring for the Baker Pipeline Relocation project, as required by CDFW. We will conduct the following tasks;

**Task 1: Preparation and submittal of Revegetation Plan**

HWA will prepare a Revegetation Plan documenting how the areas temporarily impacted by the project will be restored to native habitats. This will include complying with all, CDFW and NCC conditions relating to the restoration work. HWA will submit the Revegetation Plan to the CDFW and NCC agencies for their review and approval. This task includes CDFW Conditions 2.39 and 3.1.

**Task 2: Pre-construction conditions and notifications**

HWA will conduct a number of pre-construction tasks and CDFW notifications, as per the CDFW agreement. This includes notification of project start, project and bat biologist and submittal of California Natural Diversity Database forms. This task includes preparation and conducting an Educational Program prior to start of work. This task includes the required pre-construction surveys and associated reporting for nesting birds, sensitive species, herpetofauna, bats and least Bell's vireo. If bats or any other sensitive species are found on-site then IRWD must consult with CDFW to determine appropriate additional measures to protect these species, including preparation of a bat exclusion plan. Time for this consultation and preparation of species avoidance plans are included in this Task. This task includes CDFW Conditions 1.5, 1.7, 1.9, 2.1, 2.5, 2.6, 2.7, 2.8, 2.9, 2.20 and 2.22.

**Task 3: Construction monitoring**

HWA will conduct regular site visits during construction to ensure compliance with all agency permit conditions. Tasks covered include, but are not limited to, checking boundary markers/fencing, tree and tree root avoidance, trench inspection, dewatering

activities, scour monitoring and report. Construction is estimated to take 6-8 weeks and two half-day site visits per week are assumed for the bio-monitor. Additional visits will likely be required for specific tasks, such as dewatering and scour monitoring and are included in the cost. HWA will be on-call for any additional site visits required. This task includes CDFW Conditions 2.1, 2.4, 2.10, 2.11, 2.14, 2.15, 2.16 and 2.18.

We can undertake this work on a T/M basis at a not-to-exceed cost of \$34,519. Any additional tasks or additional work will be conducted at the attached rates.

Thank you for the opportunity to propose on this project. If you need additional information please contact me at (714) 287-4986.

Yours sincerely,  
Harmsworth Associates

A handwritten signature in black ink, appearing to read "Paul Galvin", written in a cursive style.

Paul Galvin, M.S.  
Vice President

**Task 1: Preparation and submittal of Restoration Plan**

Personnel	Job Classification	Hours	Rate	Cost
Harmsworth, R	Principal	3	\$140.00	\$420.00
Galvin, P	Vice Principal	32	\$130.00	\$4,160.00
Expenses				\$100.00
<b>Subtotal</b>				<b>\$4,680.00</b>

**Task 2: Pre-construction conditions**

Personnel	Job Classification	Hours	Rate	Cost
Harmsworth, R	Principal	2	\$140.00	\$280.00
Galvin, P	Vice Principal	55	\$130.00	\$7,150.00
Figarotta, B	Project Biologist	20	\$80.00	\$1,600.00
Bat Biologist				\$9,859.00
Expenses				\$250.00
<b>Subtotal</b>				<b>\$19,139.00</b>

**Task 3: Construction monitoring**

Personnel	Job Classification	Hours	Rate	Cost
Galvin, P	Vice Principal	30	\$130.00	\$3,900.00
Figarotta, B	Project Biologist	80	\$80.00	\$6,400.00
Expenses				\$400.00
<b>Subtotal</b>				<b>\$10,700.00</b>

**TOTAL ALL TASKS****\$34,519.00**

**CONSULTING FEE SCHEDULE  
JULY 1, 2020 TO JUNE 30, 2022**

<b>Labor Category</b>	<b>Hourly Rates</b>
Principal	\$ 140.00
Vice-principal	\$ 130.00
Sr. Biologist	\$ 100.00
Project Biologist	\$ 80.00
Assistant Biologist	\$ 60.00

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## EXHIBIT "G"

SAC Capital Budget for Baker Pipeline Relocation Project			
	(March 2021 Update)		(Actual)
FY 2020-2021 <sup>1</sup>			
DMc Engineering	\$	17,969	\$ 17,969
West Yost	\$	46,990	\$ 46,990
NMG Geotechnical	\$	19,764	\$ 19,764
Harmsworth & Associates	\$	50,000	\$ 50,000
IRWD staff time	\$	11,090	\$ 13,074
Total FY 2020-2021	\$	145,813	\$ 147,797
FY 2021-2022			
IRWD staff time (design)	\$	10,000	\$ 10,000
IRWD staff time G&A (150%) <sup>2</sup>	\$	31,635	\$ 31,635
West Yost Variance	\$	6,262	\$ 6,262
Bidding	\$	5,000	\$ -
Construction	\$	507,000	\$ 687,818
Construction Support			
West Yost (including V&A Pipe Inspection)	\$	53,553	\$ 59,950
NMG Geotechnical	\$	20,000	\$ 14,828
Surveying	\$	5,000	\$ 9,420
H&A Permitting	\$	10,000	\$ 34,519
Engineering (IRWD)	\$	15,000	\$ 15,000
Inspection (IRWD)	\$	15,000	\$ 15,000
Mitigation/restoration	\$	50,000	\$ 50,000
Contingency (10%)	\$	68,055	\$ 88,654
IRWD staff time G&A (150%)	\$	45,000	\$ 45,000
Total FY 2021-2022	\$	841,505	\$ 1,068,086
Total Project Cost	\$	987,319	\$ 1,215,883

<sup>1</sup> Capital project budget approved by the Board on 9/17/2020<sup>2</sup> G&A includes 150% of \$11,090 of IRWD staff time expended under previously approved FY 2020-2021 budget