NOTICE OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

ENGINEERING COMMITTEE
TELECONFERENCE MEETING

TELECONFERENCE PHONE NUMBER: (213) 279-1455
TELECONFERENCE ID: 513 539 69

December 10, 2020

8:30 a.m.

NOTICE IS HEREBY GIVEN that a Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee was called to be held by Teleconference on **December 10, 2020** at **8:30 a.m.** SOCWA staff will be present and conducting the call at the SOCWA Administrative Office located at 34156 Del Obispo Street, Dana Point, California. This meeting is being conducted via Teleconference pursuant to the California Governor Executive Order N-29-20.

MEMBERS OF THE PUBLIC ARE INVITED TO PARTICIPATE IN THIS TELECONFERENCE MEETING AND MAY JOIN THE MEETING VIA THE TELECONFERENCE PHONE NUMBER AND ENTER THE ID CODE. THIS IS A PHONE CALL MEETING AND NOT A WEB-CAST MEETING SO PLEASE REFER TO AGENDA MATERIALS AS POSTED WITH THE AGENDA THE WEB-SITE WWW.SOCWA.COM. ON YOUR REQUEST, EVERY EFFORT WILL BE MADE TO ACCOMMODATE PARTICIPATION. IF YOU REQUIRE ANY SPECIAL DISABILITY RELATED ACCOMMODATIONS, PLEASE CONTACT THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY SECRETARY'S OFFICE AT (949) 234-5452 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING TO REQUEST DISABILITY RELATED ACCOMMODATIONS. THIS AGENDA CAN BE OBTAINED IN ALTERNATE FORMAT UPON REQUEST TO THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY'S SECRETARY AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING.

AGENDA EXHIBITS AND OTHER WRITINGS THAT ARE DISCLOSABLE PUBLIC RECORDS DISTRIBUTED TO ALL, OR A MAJORITY OF, THE MEMBERS OF THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ENGINEERING COMMITTEE IN CONNECTION WITH A MATTER SUBJECT FOR DISCUSSION OR CONSIDERATION AT AN OPEN MEETING OF THE ENGINEERING COMMITTEE ARE AVAILABLE BY PHONE REQUEST MADE TO THE AUTHORITY ADMINISTRATIVE OFFICE AT 949-234-5452. THE AUTHORITY ADMINISTRATIVE OFFICES ARE LOCATED AT 34156 DEL OBISPO STREET, DANA POINT, CA ("AUTHORITY OFFICE"). IF SUCH WRITINGS ARE DISTRIBUTED TO MEMBERS OF THE ENGINEERING COMMITTEE LESS THAN SEVENTY-TWO (72) HOURS PRIOR TO THE MEETING, THEY WILL BE SENT TO PARTICIPANTS REQUESTING VIA EMAIL DELIVERY. IF SUCH WRITINGS ARE DISTRIBUTED IMMEDIATELY PRIOR TO, OR DURING, THE MEETING, THEY WILL BE AVAILABLE IMMEDIATELY ON VERBAL REQUEST TO BE DELIVERED VIA EMAIL TO REQUESTING PARTIES.

AGENDA

1. **Call Meeting to Order**

2. **Public Comments**

   THOSE WISHING TO ADDRESS THE ENGINEERING COMMITTEE ON ANY ITEM LISTED ON THE AGENDA WILL BE REQUESTED TO IDENTIFY AT THE OPENING OF THE MEETING AND PRIOR TO THE CLOSE OF THE MEETING. THE AUTHORITY REQUESTS THAT YOU STATE YOUR NAME

WHEN MAKING THE REQUEST IN ORDER THAT YOUR NAME MAY BE CALLED TO SPEAK ON THE ITEM OF INTEREST. THE CHAIR OF THE MEETING WILL RECOGNIZE SPEAKERS FOR COMMENT AND GENERAL MEETING DECORUM SHOULD BE OBSERVED IN ORDER THAT SPEAKERS ARE NOT TALKING OVER EACH OTHER DURING THE CALL.

3. Approval of Minutes

a. Engineering Committee Meeting of September 17, 2020
b. Engineering Committee Meeting of October 8, 2020

Recommended Action:

Staff recommends the Engineering Committee to approve Minutes as submitted.

4. Operations Report

Recommended Action:

Information Item

5. State Water Resources Control Board Investigative Order No. WQ-2020-0015 Fourth Quarter 2020 PFAS Results for SOCWA Member Agencies

Recommended Action:

Information Item

6. Capital Improvement Construction Projects Report

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to approve Change Orders 12 and 13 totaling $23,357.

7. San Juan Creek Ocean Outfall Junction Structure Rehabilitation Project Update [Project Committee 5]

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-5 Board to award the contract for Biological Monitoring During Construction to Dudek in the amount of $89,668.

8. Coastal Treatment Plant Sludge Force Main Replacement Project Construction Bids [Project Committee 15]

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to award the construction contract to JR Filanc in the amount of $3,107,346 with a contingency of $248,588 for the construction of the Coastal Treatment Plant Sludge Force Main Project.

9. Coastal Treatment Plant Sludge Force Main Replacement Project Engineering and Biological Services During Construction [Project Committee 15]

Recommended Action: Staff recommends that the Engineering Committee recommend the PC-15 Board to award the time and materials contract to Dudek in the amount of $387,750 for the engineering and biological services during construction for the Coastal Treatment Plant Sludge Force Main Project.

Information Item

10. Coastal Treatment Plant Sludge Force Main Replacement Project Cultural Monitoring Services During Construction [Project Committee 15]

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to award the time and materials contract to PSOMAS in the amount of $277,368 for the Archeological, Paleontological, and Native American monitoring services during construction for the Coastal Treatment Plant Force Main Project.

11. Knowledge Sharing – Regional Treatment Plant DAFT Polymer Comparison

Recommended Action:

Information Item

Adjournment

I hereby certify that the foregoing Notice was personally emailed or mailed to each member of the SOCWA Engineering Committee at least 72 hours prior to the scheduled time of the Regular Meeting referred to above.

I hereby certify that the foregoing Notice was posted at least 72 hours prior to the time of the above-referenced Engineering Committee meeting at the usual agenda posting location of the South Orange County Wastewater Authority and at www.socwa.com.

Dated this 4th day of December 2020.

B. Burnett

Betty Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

DRAFT

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Engineering Committee

September 17, 2020

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee Meeting was held on September 17, 2020, at 8:30 a.m. from their Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Engineering Committee were present via Teams Meeting:

MARC SERNA	South Coast Water District
ERIC BAUMAN	City of San Juan Capistrano
BOBBY YOUNG	El Toro Water District
MIKE DUNBAR	Emerald Bay Service District [exited @ 9:11 a.m.]
ROD WOODS	Moulton Niguel Water District
LORRIE LAUSTEN	Trabuco Canyon Water District
DAVE REBENSDORF	City of San Clemente
DAVID SHISSLER	City of Laguna Beach
DON BUNTS	Santa Margarita Water District [arrived @ 9:12 a.m.]

Absent:

KEVIN BURTON	Irvine Ranch Water District

Staff Present:

JASON MANNING	Director of Engineering
DAVID BARANOWSKI	Senior Engineer
RONI YOUNG	Associate Engineer
AMBER BAYLOR	Director of Environmental Compliance
JIM BURROR	Director of Operations [arrived @ 8:43 a.m.]
JEANETTE COTINOLA	Contracts/Procurement Administrator
DANIEL VASQUEZ	Chief Mechanic
DANITA HIRSH	Executive Assistant

Also Present:

MIKE METTS	Dudek
DENNIS ERDMAN	South Coast Water District
TARYN KJOSLING	South Coast Water District

1. Call Meeting to Order

Mr. Manning, Director of Engineering called the meeting to order at 8:31 a.m.

2. Public Comments

None

3. Approval of Minutes

a. Engineering Committee Meeting of July 9, 2020
b. PC-5 Engineering Committee Meeting of July 16, 2020; and
c. Engineering Committee Meeting of August 13, 2020

Staff pulled agenda item 3c to revise and bring back to the Engineering Committee in October for consideration of approval.

ACTION TAKEN
Motion was made by Mr. Serna and seconded by Mr. Dunbar to approve the July 9, 2020 Engineering Committee Meeting Minutes as submitted.

Motion Carried:	Aye 5, Nay 0, Abstained 3, Absent 2	
	David Shissler (CLB)	Abstained
	Dave Rebensdorf (CSC)	Abstained
	Eric Bauman (CSJC)	Aye
	Mike Dunbar (EBSD)	Aye
	Bobby Young (ETWD)	Aye
	Kevin Burton (IRWD)	Absent
	Rod Woods (MNWD)	Abstained
	Marc Serna (SCWD	Aye
	Don Bunts (SMWD)	Absent
	Lorrie Lausten (TCWD)	Aye

Motion was made by Mr. Woods and seconded by Mr. Serna to approve the July 16, 2020 PC-5 Engineering Committee Meeting Minutes as submitted.

Motion Carried:	Aye 3, Nay 0, Abstained 2, Absent 0	
	Dave Rebensdorf (CSC)	Abstained
	Eric Bauman (CSJC)	Abstained
	Rod Woods (MNWD)	Aye
	Mike Dunbar (EBSD)	Aye
	Don Bunts (SMWD)	Aye

4. Operations Status Report

Ms. Baylor reported that the San Diego Regional Water Quality Control Board approved the methodology used for buoyant discharges immortality stress factors for the use in the San Juan Creek Ocean Outfall in the Doheny Desal Project. She stated it was a great accomplishment based on the technical work of Michael Baker because it related to the San Juan Creek Ocean Outfall NPDES renewal process, and that it was one of the last steps before getting a draft Administrative permit to help with the review.

This was an information item; no action was taken.

5. Review of the Technical Assessment of the ROMS-BEC Model of Ocean Acidification in the Southern California Bright

Ms. Baylor reported on the technical work that went into reviewing the ROMS-BEC Model, stating the requirements of the NPDES permits for Plume tracking. She also reported the model is being used in the Southern California Bight, and noted two key technical issues the committee should be aware of for the use of this model: 1) is the input from the anthropogenics sources as related to river mouse, and 2) is the natural background associated with upwelling in natural submarine ridges that are normally associated with the ocean outfalls. An open discussion ensued.

Ms. Baylor stated that she appreciated the support from the Committee in continuing work efforts of furthering discussions with CASA and SCAP on the matter.

This was an information item; no action was taken.

6. Capital Improvement Construction Projects Report

Staff reviewed with the committee changes orders 9 and 10 relating to PC 15 Facility Improvements totaling $68,291, and change orders 9 through 14 relating to PC 17 Miscellaneous Improvements totaling $29, 257. An open discussion ensued.

The Engineering Committee conceded to recommending to the PC-15 Board of Directors to approve Change Orders 9, and 10 totaling $68,291; and that the PC-17 Board of Directors to approve Change Orders 8 through 14 totaling $29,257.

Project Committee 15

Motion Carried:	Aye 3, Nay 0, Abstained 1, Absent 0	
	David Shissler (CLB)	Aye
	Mike Dunbar (CSJC)	Aye
	Rod Woods (MNWD)	Abstained
	Marc Serna (SCWD)	Aye

Project Committee 17

Motion Carried:	Aye 5, Nay 0, Abstained 0, Absent 0	
	David Shissler (CLB)	Aye
	Bobby Young (ETWD)	Aye
	Mike Dunbar (EBSD)	Aye
	Rod Woods (MNWD)	Aye
	Marc Serna (SCWD)	Aye

7. DUDEK Program and Construction Management Services Update [PC 17]

Mr. Manning reported that the Board approved a contract to Dudek October 3, 2019, to assist with temporary Construction Management support on Capital Improvement Projects. He stated the Regional Plant project was anticipated to be completed by the end of November 2020, but due to certain delays change order 1 adds four additional months of construction management services changing the project to be completed February 2021. An open discussion ensued.

The PC-17 Engineering Committee conceded to recommending to the PC-17 Board to approve Change Order 1 for Dudek Program and Construction Services for $60,000 for a total contract amount of $317,205.

Motion Carried:	Aye 5, Nay 0, Abstained 0, Absent 0	
	David Shissler (CLB)	Aye
	Bobby Young (ETWD)	Aye
	Mike Dunbar (EBSD)	Aye
	Rod Woods (MNWD)	Aye
	Marc Serna (SCWD)	Aye

8. San Juan Creek Ocean Outfall Junction Structure Rehabilitation Update [PC 5]

Mr. Manning gave a presentation updating the Engineering Committee on the progress of the San Juan Creek Ocean Outfall Junction Structure Rehabilitation Project. An open discussion ensued.

This was an informational item; no action was taken.

9. JB Latham Plant 2 Grit Area Rehabilitation Project [PC 2]

Mr. Manning reported the Plant 2 Grit Area Rehabilitation Project is part of the Package B work, and when the operation staff was performing repairs they recognized other areas in the grit handling system also needing repairs. It was noted that changes that need to be made exceeded the General Manager's $50,000 authorized limit. He stated that Table 1 on page 46 of the agenda packet shows the cost allocation of the estimated $60,000 for member agency. Mr. Manning also stated that there is funding available in a related project as part of the Package B Design Project, and is asking for the Engineering Committee's support in recommending to the PC 2 Board approval to apply those funds to the Plant 2 Grit Area Rehabilitation Project. An open discussion ensued.

The Engineering Committee conceded to recommending to the PC-2 Board of Directors to approve the SS Mechanical JBL Plant 2 Grit Area Rehabilitation Project in the amount of $60,000.

Motion Carried:	Aye 5, Nay 0, Abstained 0, Absent 0	
	David Shissler (CLB)	Aye
	Rod Woods (MNWD)	Aye
	Don Bunts (SMWD)	Aye
	Marc Serna (SCWD)	Aye

10. Coastal Treatment Plant Personnel Building Rehabilitation Project Update [PC 15]

Mr. Manning and Mr. Baranowski gave a presentation and reported on the engineering work and design for repairing the Coastal Treatment Plant personnel building locker rooms and drainage. An open discussion ensued.

This was an information item; no action was taken.

11. Coastal Treatment Plant Sludge Force Main Design and Permitting Project Update [PC 15]

Mr. Manning reported the Coastal Development Permit was finally approved and received. He noted his appreciation of the support from Dudek with the permitting and biological review. Mr. Manning stated amongst the change orders that were previously approved by the Board, there was one change order in the amount of $34,000 that through Procurement auditing was discovered, and had not been presented to the Engineering Committee and the Board for consideration of approval. An open discussion ensued.

The Engineering Committee conceded to recommending to the PC-15 Board of Directors to approve Change Order Number 18 for the Dudek Coastal Treatment Plant Sludge Force Main Design and Permitting Project for $78,100 for a total revised contract amount of $788,888 to the Board of Directors.

Motion Carried:	Aye 3, Nay 0, Abstained 1, Absent 0	
	David Shissler (CLB)	Aye
	Mike Dunbar (EBSD)	Aye
	Rod Woods (MNWD)	Abstained
	Marc Serna (SCWD)	Aye

Adjournment

There being no further business, Mr. Manning adjourned the meeting at 9:40 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Regular Meeting of the South Orange County Wastewater Authority Engineering Committee of September 17, 2020, and approved by the Engineering Committee and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

_____

Betty Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

DRAFT

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Engineering Committee

October 8, 2020

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee Meeting was held on October 8, 2020, at 8:30 a.m. from their Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Engineering Committee were present via Teams Meeting:

MIKE MARQUIS	City of San Juan Capistrano
DAVE REBENSDORF	City of San Clemente
BOBBY YOUNG	El Toro Water District
MIKE DUNBAR	Emerald Bay Service District [exited @ 9:35 a.m.]
KEVIN BURTON	Irvine Ranch Water District
ROD WOODS	Moulton Niguel Water District
DON BUNTS	Santa Margarita Water District [arrived @ 8:34 a.m. & exited at 9:34 a.m.]
MARC SERNA	South Coast Water District [exited @ 9:30 a.m.]
LORRIE LAUSTEN	Trabuco Canyon Water District

Absent:

DAVID SHISSLER	City of Laguna Beach

Staff Present:

BETTY BURNETT	General Manager
JASON MANNING	Director of Engineering
DAVID BARANOWSKI	Senior Engineer
RONI YOUNG	Associate Engineer
AMBER BAYLOR	Director of Environmental Compliance
JIM BURROR	Director of Operations
JEANETTE COTINOLA	Contracts/Procurement Administrator
DANIEL VASQUEZ	Chief Mechanic
DANITA HIRSH	Executive Assistant

Also Present:

DAVE JONES	Hazen
BRYCE DANKER	Hazen
DR. PAUL PITT	Hazen
JOE ROHRBACHER	Hazen
HERSY ENRIQUEZ	Hazen
HANNAH JOHNSON	City of Laguna Beach
DENNIS ERDMAN	South Coast Water District
TARYN KJOSLING	South Coast Water District
MATT COLLINGS	Moulton Niguel Water District
CHRIS NEWTON	South Coast Water District
JESUS GARIBAY	Moulton Niguel Water District

1. Call Meeting to Order

Mr. Manning, Director of Engineering called the meeting to order at 8:30 a.m.

2. Public Comments

None

3. Approval of Minutes

- Engineering Committee Meeting of August 13, 2020

ACTION TAKEN
Motion was made by Mr. Dunbar and seconded by Ms. Lautsen to approve the August 13, 2020 Engineering Committee Meeting Minutes as submitted.

Motion Carried:	Aye 8, Nay 0, Abstained 1, Absent 1	
	David Shissler (CLB)	Absent
	Dave Rebensdorf (CSC)	Aye
	Eric Bauman (CSJC)	Aye
	Mike Dunbar (EBSD)	Aye
	Bobby Young (ETWD)	Aye
	Kevin Burton (IRWD)	Abstained
	Rod Woods (MNWD)	Aye
	Marc Serna (SCWD	Aye
	Don Bunts (SMWD)	Aye
	Lorrie Lausten (TCWD)	Aye

4. Operations Status Report

Mr. Burror reported on the biosolid efforts staff was working on. He noted that he would be in touch with the agencies who have expressed interest and have set up meetings with South Coast Water and Moulton Niguel to date. Mr. Burror also reported on the Cogen credit, and that he had scheduled meetings with El Toro and Moulton Niguel to discuss the details of the credit. An open discussion ensued.

This was an information item; no action was taken.

5. Capital Improvement Construction Projects Report

Mr. Manning reported there were no change orders to present at this time and gave a brief status update on the ongoing CIP Projects. An open discussion ensued.

This was an information item; no action was taken.

At the discretion of the Engineering Committee the following agenda item was taken out of order.

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9. Coastal Treatment Plant Reconfiguration Feasibility Study Update [Project Committee 15]

Mr. Manning reported that Mr. Bryce Danker of Hazen & Sawyer would be giving a presentation on the CTP Feasibility Study Update found on pages 38 through 74 of the agenda packet.

Mr. Bryce Danker of Hazen introduced Mr. Dave Jones, Vice President who introduced other members of the Hazen team as follows: Dr. Paul Pitt – Wastewater Process Group Nationally, Joe Rohrbacher – Principle Technologist Advisor, and Bryce Danker – Project Manager.

This was an information item; no action was taken.

6. San Juan Creek Ocean Outfall Junction Structure Rehabilitation Update [Project Committee 5]

Mr. Manning reported on the Phase II preliminary cost of construction from Filanc which was received after the agenda packet was distributed. He noted Black & Veatch conducted their review of costs and was having their design group to evaluate and provide reasonable estimates of their own in comparison with the cost that Filanc had provided. Mr. Manning stated the total cost for the Phase II construction came in at $916,164 as a lump sum not to exceed amount. He added any work that is identified in the project for the conditions are attached to that price and would not incur any change orders. Mr. Manning stated that the only conditions that could have an impact would be on the biological monitoring side. An open discussion ensued.

ACTION TAKEN
The Engineering Committee conceded to recommend the PC-5 Board to award the amendment to Filanc contract in the amount of $916,164 for the Phase II construction work for a total contract amount of $1,041,572.

Motion Carried:	Aye 3, Nay 0, Abstained 0, Absent 2	
	Dave Rebensdorf (CSC)	Aye
	Michael Marquis (CSJC)	Aye
	Rod Woods (MNWD)	Aye
	Marc Serna (SCWD	Aye
Exited @ 9:34 a.m.	Don Bunts (SMWD)	Absent
Exited @ 9:30 a.m.	Lorrie Lausten (TCWD)	Absent

7. Regional Treatment Plant Cogeneration System Update [Project Committee 17]

Mr. Manning gave an oral project update on the Regional Treatment CoGen system. He noted the Board approved Biospark and Pacific Hydrotec to move ahead with making modifications to the existing system to allow the use of carbon. An open discussion ensued.

This was an information item; no action was taken.

8. Aliso Creek Air Valve Replacement Update [Project Committee 21]

Mr. Manning reported on the design phase requirements for the Aliso Creek Air Valve Replacement Project. An open discussion ensued.

ACTION TAKEN
The Engineering Committee conceded to recommend the PC-21 Board to approve the Aliso Creek Effluent Transmission Main Design Project to Tetra Tech for $79,800.

Motion Carried:	Aye 3, Nay 0, Abstained 0, Absent 0	
	Bobby Young (ETWD)	Aye
	Kevin Burton (IRWD)	Aye
	Rod Woods (MNWD)	Aye

Adjournment

There being no further business, Mr. Manning adjourned the meeting at 10:16 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Regular Meeting of the South Orange County Wastewater Authority Engineering Committee of October 8, 2020, and approved by the Engineering Committee and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

_____
Betty Burnett, General Manager/Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item 6

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: Jason Manning, Director of Engineering

SUBJECT: Capital Improvement Construction Projects Report

Overview

Active Construction Project Updates:
Attached are the updated CIP reports. Please note that there are two new change orders for the CTP Facility Improvement Project.

As a reminder, change orders within the General Manager's purchasing authority (less than $50,000) and within the project contingency will be presented in this report and then to the Board of Directors. This is an accordance with the current purchasing policy, the change order procedure update provided to Engineering Committee in November 2019 and the contingencies approved by the Board in December 2019.

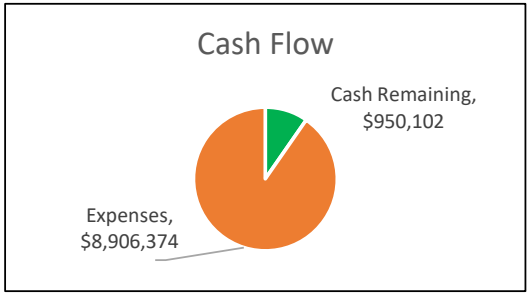
Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board of Directors to approve Change Orders 12 and 13 totaling $23,357

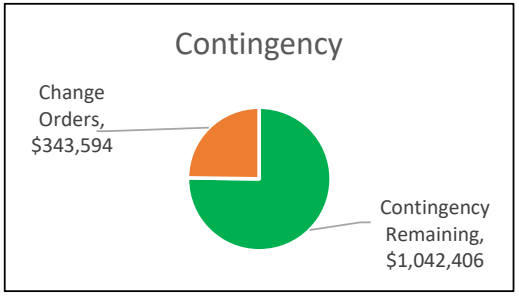
Project Financial Status

Project Committee	2
Project Name	Package B
Project Description	Plant 1 basin repairs, DAF rehabilitation, Energy Building seismic retrofit and minor rehabilitation, Digester 4 rehabilitation

Data Last Updated

December 1, 2020





Cash Flow

Collected	$9,856,476
Expenses	$8,906,374

Project Completion

Schedule	59%
Budget	40%

Contracts

Company	PO No.	Original	Change Orders	Total	Paid
Olsson	13497	$ 17,325,000	$ 343,594	$ 17,668,594	$6,519,755
Butier	13647	$ 1,055,325	$ -	$ 1,055,325	$666,333
Carollo	13616	$ 846,528	$ -	$ 846,528	$621,061
TetraTech	13605	$ 94,000	$ -	$ 94,000	$81,837
		$ 19,320,853	**$ 343,594**	**$ 19,664,447**	**$7,888,986**

Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3220-000	$ 616,800	$ 73,170	$ 543,630	13.5%
Common	3231-000	$ 96,800	$ -	$ 96,800	0.0%
Solids	3287-000	$ 672,400	$ 270,424	$ 401,976	67.3%
		$ 1,386,000	**$ 343,594**	**$ 1,042,406**	**33.0%**

Change Orders

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
1	Olsson	3287-000	Addition of Loop Piping to the Existing Hot Water Lines Adjacent to Digester 3	Approved by Board of Directors	12/12/2019		$ 4,725
2	Olsson	3287-000	Asbestos Gaskets in Boiler hazardous disposal	Approved by Board of Directors	6/4/2020		$ 6,343
3	Olsson	3287-000	Add Analog Infrastructure and Cabling	Approved by Board of Directors	6/4/2020		$ 37,970
4	Olsson	3287-000	Digester 4 Coating Additional Sealant	Approved by Board of Directors	6/4/2020		$ 24,002
5	Olsson	3220-000	Valve Handwheel Ergonomic extension	Approved by Board of Directors	8/6/2020		$ 16,370
6	Olsson	3287-000	Change to DeZurik Plug Valves to match existing	Approved by Board of Directors	8/6/2020		$ 41,994
7	Olsson	3287-000	Digester 4 Additional Concrete Repair	Approved by Board of Directors	8/6/2020		$ 7,413
8	Olsson	3287-000	Repair Existing Damaged Electrical Box	Approved by Board of Directors	8/6/2020		$ (1,829)
9	Olsson	3220-000	Change the Telescoping Valve Boxes and Piping from Carbon Steel to Stainless Steel	Approved by Board of Directors	8/6/2020		$ 18,678

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
10	Olsson	3287-000	Duct bank J Interferences	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 73,639
11	Olsson	3220-000	Blasting of Existing Influent Pipe Spools	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 20,869
12	Olsson	3220-000	Duct bank K Interferences	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 15,567
13	Olsson	3287-000	Digester 3/4 PLC Relocation	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 41,368
14	Olsson	3287-000	Digester 4 Additional Tank Repair	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 34,800
15	Olsson	3220-000	Duct bank O Interferences	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 1,687
PCO 002	Olsson	3287-000	Digester 4 Rail Coating. The coating is not needed and resulting in a credit but some rehabilitation work will be needed.	Potential Change	(blank)	-$1,000	
PCO 004	Olsson	3287-000	Digester 4 Control Narrative needed	Potential Change	(blank)	$5,000	

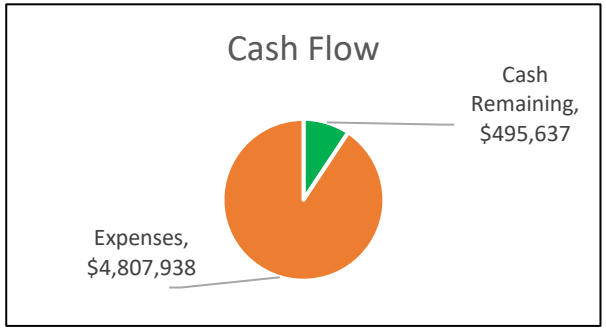
Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
PCO 005	Olsson	3287-000	TWAS Slab Modifications	Potential Change	(blank)	$50,000	
PCO 007	Olsson	3287-000	Relocation of MCC-F1	Potential Change	(blank)	$40,000	
PCO 008	Olsson	3287-000	Conduit Routing Conflict from MCC-F1	Potential Change	(blank)	$15,000	
PCO 009	Olsson	3287-000	PLC East Headworks Integration	Potential Change	(blank)	$5,000	
PCO 012	Olsson	3287-000	PCL-CG Integration	Potential Change	(blank)	$5,000	
PCO 014	Olsson	3287-000	Digester 4 Compressor Supply Line	Potential Change	(blank)	$18,146	
PCO 018	Olsson	3287-000	Duct bank L Interferences	Potential Change	(blank)	$5,000	
PCO 026	Olsson	3287-000	Gas Hatch Lids Mating Connection	Potential Change	(blank)	$7,771	
PCO 028	Olsson	3287-000	4" Gas Line Routing Modifications	Potential Change	(blank)	$18,147	
PCO 032	Olsson	3287-000	Gas Mixer Conduit Conflict	Potential Change	(blank)	$12,384	
Grand Total						$180,448	$ 343,594

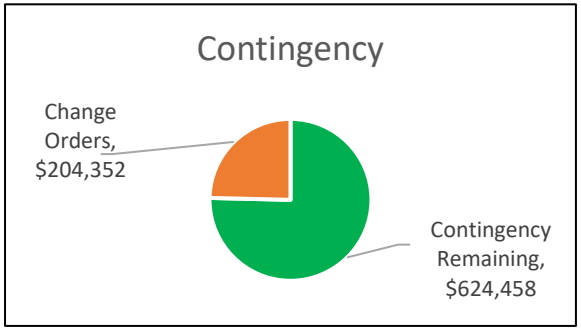
Project Financial Status

Project Committee	15
Project Name	Facility Improvements
Project Description	New ferric chloride system, new collection equipment in East Sedimentation basins, concrete repair, structural improvements, new switchgear and numerous electrical upgrades

Data Last Updated

December 1, 2020





Cash Flow

Collected	$5,303,575
Expenses	$4,807,938

Project Completion

Schedule	72%
Budget	43%

Contracts

Company	PO No.	Original	Change Orders	Total	Paid
PCL	13751	$ 9,209,000	$ 204,352	$ 9,413,352	$3,937,557
Butier	13647	$ 812,288	$ -	$ 812,288	$469,938
Hazen & Sawyer	13648	$ 490,484	$ -	$ 490,484	$204,834
		$ 10,511,772	**$ 204,352**	**$ 10,716,124**	**$4,612,328**

Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3539-000	$ 828,810	$ 204,352	$ 624,458	32.7%
		$ 828,810	**$ 204,352**	**$ 624,458**	**32.7%**

Change Orders

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
1	PCL	3539-000	Additional Potholing	Approved by Board of Directors	8/6/2020		$ 22,936
2	PCL	3539-000	Gas Line Replacement	Approved by Board of Directors	8/6/2020		$ 41,006
3	PCL	3539-000	Main Switchgear Building Underground Conflicts	Approved by Board of Directors	8/6/2020		$ 8,683
4	PCL	3539-000	Mud Valve Bolt Removal	Approved by Board of Directors	8/6/2020		$ 6,577
5	PCL	3539-000	Additional Anchor Bolt Removal	Approved by Board of Directors	8/6/2020		$ 15,271
6	PCL	3539-000	Slide Gate Concrete Repair	Approved by Board of Directors	8/6/2020		$ 3,396
7	PCL	3539-000	Sludge Collector Wear Strips	Approved by Board of Directors	8/6/2020		$ 5,304
8	PCL	3539-000	SCE Transformer Slab Box	Approved by Board of Directors	9/3/2020		$ 4,378
9	PCL	3539-000	Duct Bank 5 Buried Utility Conflicts	Approved by Board of Directors	10/1/2020		$ 32,224
10	PCL	3539-000	Telescoping Valve Modifications	Approved by Board of Directors	10/1/2020		$ 36,067
11	PCL	3539-000	Secondary Effluent Channel Improvements	Within contingency, reviewed by Engineering Committee	11/12/2020		$ 5,153

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
12	**PCL**	**3539-000**	**Portable Generator Tap Enclosures in Buildings 2 & 15**	**Within contingency, to be reviewed by Engineering Committee**	**12/10/2020**		**$ 18,356**
13	**PCL**	**3539-000**	**Conduit, wiring, and mounting of LL1 fixtures**	**Within contingency, to be reviewed by Engineering Committee**	**12/10/2020**		**$ 5,001**
PCO 006	PCL	3539-000	Additional Pothole Paving	Potential Change	(blank)	$5,000	
PCO 013	PCL	3539-000	Ferric Containment Foundation	Potential Change	(blank)	$15,000	
PCO 015	PCL	3539-000	RAS Channel Modification Descope	Potential Change	(blank)	-$2,000	
PCO 016	PCL	3539-000	Spray Water Piping Replacement	Potential Change	(blank)	$1,500	
PCO 019	PCL	3539-000	Switchgear Building Concrete Repair	Potential Change	(blank)	$30,000	
PCO 024	PCL	3539-000	Drainage Pump Station Descope	Potential Change	(blank)	-$400,000	
PCO 025	PCL	3539-000	Sludge Collector Mounting Plate Replacement	Potential Change	(blank)	$13,815	
PCO 026	PCL	3539-000	Additional Spall Repair - East Secondary Basins	Potential Change	(blank)	$10,000	
PCO 028	PCL	3539-000	Ops Building Gas Line Relocation	Potential Change	(blank)	$5,000	

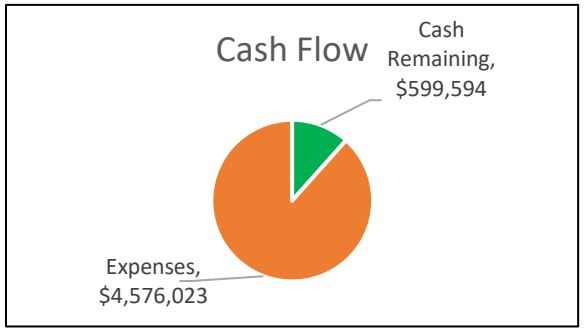
Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
PCO 029	PCL	3539-000	Building 15 Concrete Restoration	Potential Change	(blank)	$20,000	
PCO 030	PCL	3539-000	Basin Leaking Crack Repair	Potential Change	(blank)	$5,000	
PCO 031	PCL	3539-000	Roll Up Door Fascia	Potential Change	(blank)	$3,000	
PCO 035	PCL	3539-000	Grit Chamber Conflicts	Potential Change	(blank)	$20,000	
PCO 036	PCL	3539-000	MCC Feeder Credit	Potential Change	(blank)	-$5,000	
PCO 037	PCL	3539-000	Additional Spall Repair - Grit Channels	Potential Change	(blank)	$25,000	
PCO 038	PCL	3539-000	Aeration Channel Conflicts	Potential Change	(blank)	$8,000	
PCO 040	PCL	3539-000	Helical Skimmer Wiring	Potential Change	(blank)	$2,000	
PCO 042	PCL	3539-000	Mixed Liqour Channel Remobilzation	Potential Change	(blank)	$15,000	
PCO 043	PCL	3539-000	Building 10 Roof Repairs	Potential Change	(blank)	$10,000	
PCO 044	PCL	3539-000	Building 10 Wall Repair	Potential Change	(blank)	$2,000	
PCO 046	PCL	3539-000	1/2" Ferric Line Conflicts	Potential Change	(blank)	$5,000	
PCO 047	PCL	3539-000	West Telescoping Valve Improvements	Potential Change	(blank)	$25,000	
PCO 048	PCL	3539-000	West Secondary Effluent Channel Concrete Repair	Potential Change	(blank)	$20,000	
Grand Total						-$166,685	$204,352

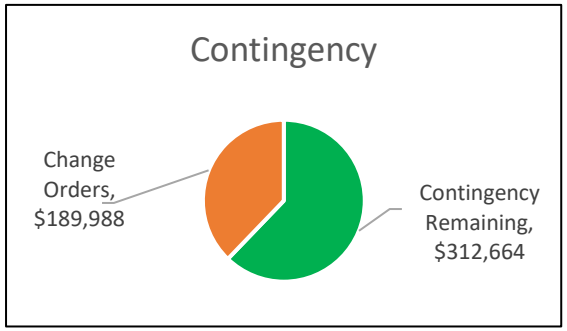
Project Financial Status

Project Committee	17
Project Name	Miscellaneous Improvements 2018
Project Description	Secondary electrical upgrades and Primary Gallery rehabilitation, installation of access walkway and Energy Building roof

Data Last Updated

December 1, 2020





Cash Flow

Collected	$5,175,617
Expenses	$4,576,023

Project Completion

Schedule	89%
Budget	88%

Contracts

Company	PO No.	Original	Change Orders	Total	Paid
Filanc	13678	$ 4,181,205	$ 129,328	$ 4,310,533	$3,806,206
Dudek	14164	$ 137,625	$ 60,660	$ 198,285	$139,607
Lee & Ro	14006	$ 123,310	$ -	$ 123,310	$112,695
		$ 4,442,140	**$ 189,988**	**$ 4,632,128**	**$4,058,508**

Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3701-000	$ 343,593	$ 162,220	$ 181,373	89.4%
Common	3769-000	$ 4,545	$ -	$ 4,545	0.0%
Solids	3751-000	$ 154,514	$ 27,768	$ 126,746	21.9%
		$ 502,652	**$ 189,988**	**$ 312,664**	**60.8%**

Change Orders

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
1	Filanc	3701-000	Additional Conduit Support around Admin Building	Approved by Board of Directors	8/6/2020		$32,929.28
2	Filanc	3701-000	Primary Deck Conduit Supports	Approved by Board of Directors	8/6/2020		$ 9,611.12
3	Filanc	3701-000	Electrical Manhole 2 collar concrete/pavement repair	Approved by Board of Directors	8/6/2020		$ 2,986.60
4	Filanc	3701-000	Primary Gallery Concrete Deck Repair	Approved by Board of Directors	8/6/2020		$ 6,363.00
5	Filanc	3701-000	VFD Cabinet change from 316 to 304 Stainless Steel	Approved by Board of Directors	8/6/2020		$ (2,100.00)
6	Filanc	3701-000	Duct bank Vault size change to accommodate existing utilities and sump	Approved by Board of Directors	8/6/2020		$ 37,690
7	Filanc	3751-000	Energy Building Roof Steel Beam Anchor Embedment	Approved by Board of Directors	8/6/2020		$10,280.90
8	Filanc	3701-000	Polymer VFD Improvements	Approved by Board of Directors	10/1/2020		$ 15,549
9	Filanc	3751-000	Repair/improve floor grating in equipment to meet safety standards	Approved by Board of Directors	10/1/2020		$ 1,843

Change Order No.	Vendor Name	Project ID	Description	Status	Status Date	Potential Change Amount	Final Amount
10	Filanc	3751-000	Additional roofing materials required to level surface	Approved by Board of Directors	10/1/2020		$ 4,465
11	Filanc	3701-000	Additional backfill material for MH-1	Approved by Board of Directors	10/1/2020		$ 2,939
12	Filanc	3701-000	Admin Bldg. roof drain rerouting	Approved by Board of Directors	10/1/2020		$ 966
13	Filanc	3751-000	Additional angle steel needed to support new roof	Approved by Board of Directors	10/1/2020		$ 1,069
14	Filanc	3701-000	Rebate work on Primary Gallery Deck to resolve potential safety issue	Approved by Board of Directors	10/1/2020		$ 4,736
Grand Total							**$ 129,328**

Agenda Item 7

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: Jason Manning, Director of Engineering

SUBJECT: San Juan Creek Ocean Outfall Junction Structure Rehabilitation Project

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Overview

On November 5, 2020, the Project Committee 5 Board of Directors awarded the San Juan Creek Ocean Outfall Junction Structure Rehabilitation Construction Project to Filanc. In addition to construction, there are several permits and regulatory requirements that must be met during the construction project. Dudek had been hired in 2019 to conduct the permitting services. To maintain project continuity with the regulatory agencies, SOCWA requested Dudek to provide a cost to conduct biological monitoring and other associated permitting services during construction.

Table 1 – Dudek Biological Monitoring Costs During Construction

Task	**Cost**
Pre-Construction Activities	$21,766
Construction monitoring and Reporting	$67,903
Project Management and Coordination	$ 8,100
Total	**$89,668**

Table 2 – Available Remaining Budgets

Project	Phase	Budget
3605-000 Junction Structure Reinforcement Permitting and Final Design	Phase I	$71,549
3650-000 Junction Structure Reinforcement Construction	Phase II	$984,643
Total		$1,056,192

Table 3 – Estimated costs for Construction (Phase II)

Task	Estimated Fee
Construction (Phase II)	$916,164
Engineering Services During Construction	$31,100
Construction Management	$19,000
Biological Monitoring/CDP Compliance	$89,668
Total	$1,055,932

NOTE: Cost for Construction Management is a placeholder estimate.

Currently, it is estimated that the project will not require approval of an additional funds and will have a budget surplus of approximately $260. This does not include any contingencies.

Table 4 – Cost Breakdown by Agency for Dudek Costs

Agency	Dudek Cost	
CSC	$	14,902.82
CSJC	$	9,935.21
MNWD	$	13,907.51
SCWD	$	11,181.60
SMWD	$	39,740.86
Total	**$**	**89,668.00**

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-5 Board to award the contract for Biological Monitoring During Construction to Dudek in the amount of $89,668.

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

October 30, 2020

Jason Manning
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, California 92629

Subject: Proposal to provide Environmental Compliance Services for the SOCWA San Juan Creek Ocean Outfall Junction Structure Rehabilitation Project

Dear Mr. Manning:

Dudek is pleased to submit this proposal to provide environmental compliance services for the South Orange County Wastewater Authority (SOCWA) San Juan Creek Ocean Outfall Junction Structure Rehabilitation Project (project).

The scope herein was developed following recent discussions with you, in addition to the conditions and requirements of the project's Coastal Development Permit, Clean Water Act Section 401 Water Quality Certification, and Mitigated Negative Declaration (MND). Dudek understands the project's Clean Water Act Section 404 Nationwide Permit is pending authorization. Dudek has included a general scope of work and cost estimate to implement the Clean Water Act Section 404 Nationwide Permit conditions under the assumption that there will be no unique permit conditions that are not already required by the permits authorized to date. Additionally, the U.S. Army Corps of Engineers (USACE) is currently engaged in a consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act to address potential impacts to the federally listed as threatened, and state listed as endangered, western snowy plover (*Charadrius alexandrinus*). We have made a general assumption that the result of that consultation will not result in additional, more onerous conditions. Should additional compliance services be needed to comply with the project's Section 404 Nationwide Permit conditions or Section 7 Consultation, an amendment may be required.

Schedule Assumptions

In addition to the assumptions listed under each task described below, the following schedule assumptions were also considered when developing the scope of work:

- Construction is expected to occur between November 15, 2020 and April 1, 2021.
    - Site preparation is anticipated to occur over a two-week period consisting of only daytime work during the hours of 7:00 am to 4:00 pm, construction is anticipated to occur over a six week period with work occurring one day per week during the night time hours of 11:00 pm to 7:00 am, and a one week period for site restoration consisting of only daytime work during the hours of 7:00 am to 4:00 pm.

Scope of Work

Task 1 Pre-Construction Activities and Reporting

Task 1.1 Additional Resource Agency Permitting Coordination and Support Services

Dudek is currently working with the USACE on processing a Nationwide Permit 33 to address temporary impacts to Doheny State Beach that will occur due to project implementation. At present, the permit has not yet been issued. Thus, the scope of work and cost estimate presented for this task is broad brushed in nature. Under this task, Dudek will provide coordination and support services to SOCWA and the construction team to implement the conditions outlined in the Nationwide Permit 33 authorization/decision document. We will also provide coordination and support services to the team to implement any conditions imposed on the project by the USFWS to avoid and minimize potential impacts to western snowy plover. Given the temporary nature of the project and the minimal impacts to Doheny State Beach, we do not expect there to be additional conditions and requirements imposed on the project that have not already been addressed by other permit documents previously issued for the project. However, please note this scope of work and cost estimate is subject to change pending issuance of the Nationwide Permit 33 decision document by the USACE and a Biological Opinion by the USFWS.

Estimated Cost for Task 1.1.....$5,900.00

Task 1.2 Western Snowy Plover Pre-Construction Surveys

In accordance with Mitigation Measure BIO-5, a qualified Dudek biologist will perform a minimum of three focused surveys, on separate days, to determine the presence of western snowy plovers in and within 500 feet of the proposed construction footprint during the wintering season for this species (September 1 through March 15). The designated biologist will notify the U.S. Fish and Wildlife Service at least 7 days prior to the initiation of surveys and within 24 hours of locating any wintering western snowy plovers.

The qualified biologist will walk transects along the beach searching for western snowy plovers with the use of binoculars to aid in visual identification. The surveys will be conducted during good weather and high visibility in the early morning to early afternoon hours and will avoid days with inclement weather conditions (i.e. rain, fog, wind). Survey areas will be scanned every 50 meters looking ahead to sight birds that may be encountered. Observed western snowy plovers and roost locations will be mapped (number and location) on a field map and/or handheld Global Positioning System (GPS) unit. A one-way pass of the survey area will be sufficient to determine the occupancy of western snowy plovers on the survey area.

The results of the surveys will be incorporated into the post-project monitoring report to be prepared under Task 2.1 of this proposal, which will be submitted to the Carlsbad Fish and Wildlife Office (CFWO) within 30 days following completion of the project.

Estimated Cost for Task 1.2.....$9,366.00

Task 1.3 Worker Environmental Awareness Training Program

In accordance with Mitigation Measure BIO-1, Dudek will prepare a worker environmental awareness training program (WEAP) to provide management, supervisory, construction, and inspection staff with the information needed to make environmentally responsible decisions in the field. All required topics as documented in Mitigation Measure BIO-1 will be covered in the WEAP including discussion of western snowy plover, its habitat, general compliance with environmental and permit regulations and mitigation measures, as well as information about other special-status species that have the potential to be in the area (grunion, monarch butterfly, etc.). The WEAP will also discuss the requirements of the project's 401 Permit including pollution prevention measures, spill response measures, and BMP implementation and maintenance measures.

Dudek will prepare the training materials for the project, including an electronic MS PowerPoint-based slide deck with voiceover suitable for independent use or group trainings conducted at the field office, and brief handouts in case training sessions are required in the field. The biological monitor will conduct one environmental training session for construction managers prior to the commencement of work at the site. After the initial environmental training sessions, Dudek assumes most additional training sessions for new workers will be administered by the contractor via the pre-recorded video, and incorporated into the contractor workers' orientation process, without the need for Dudek participation. However, Dudek monitors will be able to give in-person field-based training during the monitoring period if requested by construction management personnel with at least 24 hours' notice.

Estimated Cost for Task 1.3.....$6,500.00

Task 2 Construction Monitoring and Reporting

Task 2.1 Biological Construction Monitoring

General Biological Construction Monitoring

Dudek will provide a biological monitor who will be responsible for overseeing compliance with project-imposed protective measures mandated in the resource agency permits and the MND during construction. There are two types of biological monitors required for this project: 1) a biologist that has at least 40 hours of western snowy plover observation experience and documented experience of at least 20 hours of locating and monitoring nests of snowy plover, and 2) a general biological monitor with experience and expertise performing monitoring for like construction projects. The distinction is required due to the prospective 404 permit requirement that requires a biologist familiar with snowy plovers monitor pre-project flagging and heavy machinery use (Conservation Measure 9). Dudek's western snowy plover biological monitor will be on-site daily to monitor all mobilization and establishment of the work area and access into the junction structure as required by Mitigation Measure BIO-2 for a period of two weeks. After equipment mobilization and establishment of the work area is complete, Dudek's general biological monitor will be on-site once per week to monitor the physical rehabilitation of the junction structure for a period of six weeks. Dudek's western snowy plover biological monitor will be on-site daily for a period of one week for restoration activities. Dudek has assumed a total of 21 monitoring days, which includes 15 days for the western snowy plover biological monitor and six days for the general biological monitor.

The biological monitor will also be responsible for ensuring compliance with the conditions established in Mitigation Measure BIO-3 (General Construction Monitoring Practices), BIO-4 (Wildlife Entrapment Avoidance), and BIO-7 (Minimize Lighting Impacts), in addition to all best management practices (BMPs) and other protective measures mandated in the project's Coastal Development Permit (Special Condition No. 5), incomplete letter response dated May 15, 2020, and Clean Water Act Section 401 Permit. These include but are not limited to properly managing, storing, treating, and disposing of wastes in accordance with applicable federal, state, and local laws and regulations, ensuring construction and staging occurs within the delineated fenced work area, inspecting BMPs on a regular basis and ensuring only plastic-free sandbags are used/sandbags are filled with sand excavated from the work area, and ensuring steel landing mats and metal plates are used by equipment to access the site and the site is kept clean and covered trash receptacles are in place. In addition, project construction is scheduled to occur during the monarch butterfly roosting season (October 15 to March 31), therefore, the biological monitor will log any monarch butterfly observations and discuss with SOCWA and the contractor to implement avoidance measures if needed. Compliance with all monitoring requirements will be logged in daily monitoring reports. The biological monitor will also monitor compliance of Coastal Development Permit (Special Condition No. 3 and the Lateral Public Access Plan) while onsite including, but not limited to, ensuring public access corridor gates remain open whenever active construction is not occurring and ensuring signage is in good condition for the duration of construction. Dudek assumes the construction contractor will be responsible for installing fencing, gates, and signage, and all other project plan related actions such as removing the upper 5 feet of the junction structure and filling the junction structure with light weight cellular concrete.

Nesting plovers are not expected to occur in and within 500 feet of the project footprint; therefore, noise monitoring is not proposed at this time (Mitigation Measure BIO-6). However, if nesting plovers are detected in and within 500 feet of the project footprint Dudek will consult with the relevant resource agencies to determine an appropriate avoidance/minimization approach. If a noise monitoring program is required, it would be subject to an additional scope and fee.

Dudek also understands the contractor will be responsible for installing a 15-foot-high sound barrier along the north and east sides of the project site to reduce noise levels at a nearby hotel. As recommended in the project's Noise Assessment, the sound barrier should be inspected at regular intervals to ensure it is in good condition. As part of this task, during biological monitoring site visits, Dudek will ensure the sound barrier is adequate and report inadequacies to the construction team.

As required by project permit and MND requirements, all areas disturbed during construction will be restored to pre-construction contours and conditions by the contractor at a 1:1 ratio. During these activities, the Dudek biological monitor will be on-site to ensure contours and conditions are restored.

Dudek's biological compliance monitor will record all observations in a digital monitoring log using Dudek Forms, an electronic field reporting program. In addition, photographs will be included in the log to demonstrate compliance with project requirements, deficiencies that need to be addressed, and construction progression. Biological monitoring visits and observations will be documented in monthly compliance reports and provided to SOCWA. With SOCWA's authorization, the monthly compliance reports will be submitted to the California Coastal Commission and California State Parks. A spreadsheet or matrix of all required mitigation measures and permit conditions to

summarize compliance will be included in the monthly reports. This scope of work and cost estimate includes up to five monthly compliance reports.

Once construction is complete, Dudek will prepare a final monitoring report to denote the project's compliance with all required permit conditions and MND mitigation measures.

401 Permit Construction Reporting

The project's 401 Permit requires SOCWA submit GIS shape files of the project impact sites within 30 days of the start of project construction. During biological monitoring conducted discussed above Dudek will log the coordinates in GPS and provide the data to SOCWA to provide to the San Diego Water Board once the work limits are established and fenced.

The project's 401 Permit also requires that SOCWA submit annual project progress reports that discuss BMP implementation and compliance with 401 Permit requirements. Based on the progress report requirement, Dudek will prepare one annual progress report that covers the timeframe from construction start (expected November 15, 2020 through to the end of 2020). The report is required to be submitted by March 1, 2021. Dudek assumes no other progress reports will be required since construction will be complete on or before April 1, 2021 with the final project completion report prepared within 30 days of construction completion.

To comply with the project's 401 Permit, once construction is complete Dudek will prepare a Final Project Completion Report for SOCWA review and comment. Dudek will address comments and finalize the report and submit to the San Diego Water Board within 30 days of project completion. The report will include required items as set forth in the related 401 Permit condition and cover the entirety of project construction.

Key Assumptions

- The daily rate for a Dudek general biological monitor for an 8-hour day is $760/day.
- The daily rate for a Dudek western snowy plover biological monitor for an 8-hour day is $1,360/day.
- Dudek will make all reasonable efforts to use local biological monitors. In the event that local biological monitors are not available, per diem will be charged at the GSA rate of $234.00 for November and December 2020 and $248.00 for January through April 2021.
- The western snowy plover biological monitor will be on site daily during mobilization and establishment of the work area and establishment of access into the junction structure. Dudek assumes this work will take approximately 10 days to complete. All site preparation work is anticipated to occur during the day.
- Once mobilization and establishment of the work area and establishment of access into the junction structure are complete, the general biological monitor will be on site once per week during the physical rehabilitation of the junction structure. Dudek assumes this work will last through to the end of construction (6 weeks). Therefore, Dudek will conduct nighttime monitoring for up to six days. No weekend work is required.
- Dudek's western snowy plover biological monitor will be on-site daily for a period of one week (5 days) for restoration activities.

- Dudek will log monitoring observations and issues for resolution in daily monitoring reports. Dudek will prepare monthly reports that include daily monitoring reports. Dudek will prepare a final monitoring report upon the completion of the project to denote compliance with all permit and MND requirements.
- Mileage is calculated from the Dudek Encinitas office to the project site at the 2020 federal mileage rate.
- No more than 21 monitoring days will be required. Should the biological monitoring schedule need to be adjusted, additional staff time will need to be authorized through a contract amendment to provide additional monitoring and coordination.

Estimated Cost for Task 2.1.....$40,368.00

Task 2.2 Weekly Nesting Bird and Western Snowy Plover Surveys

Pursuant to Mitigation Measure BIO-9, Dudek will conduct weekly nesting bird surveys from February 15 through to the end of construction. Each week a Dudek qualified biologist will conduct a survey to determine the presence or absence of non-listed nesting migratory birds on or within 500 feet of the work area. If nesting birds and/or a nest are detected by the qualified biologist, the following buffers shall be established:

- If an active passerine nest is identified during the survey, a 50-foot buffer zone will be established around the nest to minimize potential impacts on nesting activities from construction noise.
- If an active raptor nest is identified during the survey, a 500-foot buffer zone will be established around the nest to minimize potential impacts to nesting activities from construction noise.

SOCWA, in consultation with a Dudek qualified biologist and/or Wildlife Agency (if listed bird or raptor nest is present), may identify reduced buffers for species depending on site-specific conditions (e.g., the width and type of screening vegetation between the nest and proposed activity), species sensitivity to noise, or the existing ambient level of activity (e.g., existing level of human activity within the buffer distance). In order to proceed with a reduced buffer, the qualified biologist will monitor bird behavior and construction noise levels during all significant construction activities (those with potential noise impacts) to ensure that nesting species and/or nests are not disturbed by construction-related noise.

As part of this task, a qualified Dudek biologist that meets the abovementioned western snowy plover requirements will also conduct weekly western snowy plover surveys during the snowy plover nesting season (March 1 to August 31). The weekly snowy plover nesting surveys will be combined with the weekly nesting bird surveys for efficiency.

Key Assumptions

- Six site visits will be required for the weekly nesting bird surveys and western snowy plover nesting surveys.
- Dudek will log survey results in daily forms.
- Should the number of required surveys need to be adjusted, additional staff time will need to be authorized through a contract amendment.

Estimated Cost for Task 2.2.....$9,116.00

Task 2.3 Grunion Monitoring

Per Special Condition No. 2 of the Coastal Development Permit, Dudek will monitor for grunion beginning March 1 through to the end of construction. As required, the area ranging in width from the highest high tide to the lowest low tide line, and in length from 150 feet upcoast to 150 feet downcoast of the junction structure will be monitored. Monitoring will occur throughout construction beginning 30 minutes prior to, and two hours following, the predicted start of each spawning event. Spawning events will be determined in consultation with recognized grunion experts such as those from the California Department of Fish and Wildlife or grunion.org.

If Dudek observes a grunion run of zero to 100 individuals per 300-foot segment (Walker Scale 0 or 1), no avoidance measures (i.e., buffers) are required. If Dudek observes a grunion run of 100 to 500 individuals per 300-foot segment (Walker Scale 2), the areas will be logged via GPS coordinates and marked on site with irrigation flags. Dudek will communicate with SOCWA and the contractor to ensure no construction occurs in the high concentration areas within the 300-foot segment. Construction may continue outside of the high concentration area if there is a 100-foot buffer on either side of the highly concentrated area. If Dudek observes a grunion run of 500 or more individuals per segment (Walker Scale 3, 4, or 5), GPS logging and flagging will also be required. However, under this scenario, construction will not be allowed within the entire 300-foot segment plus 100-foot buffers on either side of the segments. Construction can resume when eggs have hatched and the next run does not occur or when the next run falls within the first scenario (Walker Scale 0 or 1; i.e., zero to 100 individuals reported).

Key Assumptions

- The daily rate for a qualified Dudek fisheries biologist with grunion monitoring experience is $640/day ($80/hour for 8 hours, including travel time to and from the Dudek Pasadena office).
- Monitoring will occur at night.
- Mileage is calculated from the Dudek Pasadena office to the project site at the 2020 federal mileage rate.
- No more than 8 monitoring visits will be required (based on a review of the expected 2020 runs that occurred from the beginning of the season to April 1 on the California Department of Fish and Wildlife website). Should the biological monitoring schedule need to be adjusted, additional staff time will need to be authorized through a contract amendment to provide additional monitoring and coordination.

Estimated Cost for Task 2.3.....$8,749.00

Task 2.4 Cultural Construction Monitoring

Though no cultural mitigation is required, in the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. If the discovery is clearly not significant (e.g., and isolate) the archaeologist may simply record the find and allow work to continue. If the discovery proves potentially significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted. Should any discoveries

be made that require formal documentation, evaluation, and/or data recovery, we will work with you to develop an appropriate scope of work and cost based on the mitigation measures for the project.

Key Assumptions

- The field investigations for the project is estimated to require 1 archaeologist working 1 day (8 hours) working directly with construction crews to complete evaluation of one unanticipated discovery of an archaeological resource.

Estimated Cost for Task 2.4.....$1,570.00

Task 3 Project Management and Coordination

The Dudek project manager for the project will be available throughout the construction monitoring program period to provide oversight, quality control of deliverables, and schedule coordination, to ensure the construction monitoring and pre- and post-construction activity tasks go smoothly. This task also covers coordination to notify the San Diego Water Board at least 5 days prior to the start of construction to notify them of upcoming construction as required by the project's 401 Permit.

Estimated Cost for Task 3.....$8,100.00

Cost Summary

The services proposed and associated cost estimates are presented in Table 1. All labor hours will be billed monthly on a time-and-material basis, not-to-exceed the total amount in Table 1, and according to Dudek's 2020 standard schedule of charges per our Master Consulting Agreement. Should additional services be requested or required beyond the scope described herein, a contract amendment may be required.

Table 1. Proposal Task Cost Summary

Task Item	Cost
Task 1 – Pre-Construction Activities and Reporting	–
Task 1.1 – Additional Resource Agency Permitting Coordination and Support Services	$5,900.00
Task 1.2 – Pre-Construction Western Snowy Plover Surveys	$9,366.00
Task 1.3 – Worker Environmental Awareness Training Program	$6,500.00
Task 2 – Construction Monitoring and Reporting	–
Task 2.1 – Biological Construction Monitoring and Reporting	$40,368.00
Task 2.2 – Nesting Bird and Western Snowy Plover Surveys	$9,116.00
Task 2.3 – Grunion Monitoring	$8,749.00
Task 2.4 – Cultural Construction Monitoring	$1,570.00
Task 3 – Project Management and Coordination	$8,100.00
Total Cost Estimated	**$89,668.00**

The previously listed tasks will be billed on a time-and-material basis not to exceed **$89,668.00.**

Thank you for the opportunity to propose on this task order. If you have any questions regarding this proposal, please feel free to contact me at by phone at 760.889.9498 or by email at kcarwana@dudek.com.

Sincerely,

Keith Carwana

Keith Carwana
Environmental Compliance Manager

Agenda Item 8

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: Jason Manning, Director of Engineering

SUBJECT: Coastal Treatment Plant Sludge Force Main Replacement Project Construction Bids [Project Committee 15]

Overview

In mid-October 2020, Dudek completed the final design for the Coastal Treatment Plant Sludge Force Main Replacement Project. The final design was put out for bid on October 29, 2020 with bids received on December 3, 2020.

The project will replace approximately 17,050 feet of the existing dual 4-inch ductile iron sludge force main that transports sludge from the Coastal Treatment Plant to the Regional Treatment Plant through Aliso Canyon with one 6-inch HDPE pipeline. The ductile iron pipeline has experienced several failures over the years.

Bids

The following contractors were invited to bid on the Coastal Treatment Plant Sludge Force Main Replacement Project:

Downing Construction
JR Filanc
Gateway Pacific
JF Shea
Pascal & Ludwig
WA Rasic

Downing Construction, Filanc, and WA Rasic attended the mandatory pre-bid meeting on November 12, 2020 and bids were received from all three construction firms in attendance. The bid advertisement, Q&A, and submittals were all managed online using PlanetBids.

Table 1 below summarizes the bids and Exhibit A shows a detailed table of the bids. The apparent low bidder being Filanc with a total estimated cost of $3,107,347.

The Engineer's Estimate for the project is $3,705,200.

Table 1 – Bid Results

Construction Firm	Bid Result
JR Filanc	$3,107,347
WA Rasic	$3,634,195
Downing Construction	$3,964,650

Dudek has completed an initial review of the bids and has found that the low bid is fair and reasonable.

Cost Allocation

Table 2 – Cost allocation by member agency

Agency	Filanc Construction Bid
	3541-000
CLB	$1,178,008.78
EBSD	$ 92,756.60
MNWD	$ 909,014.65
SCWD	$ 927,565.97
Total	**$3,107,346.00**

Table 3 – Available budget

3534-000	3541-000	Total
$699,679	$4,045,345	$4,745,024

Project 3534-000 is already funded and approximately $1.4 million (33% of budget) has already been collected for 3541-000.

Table 4 – Expected Project Costs

Project Element	Cost	Contingency (8%)	Total
Construction	$3,107,346	$ 248,588	$3,355,934
EDSC	$ 150,800		$ 150,800
Biological Monitoring	$ 236,950		$ 236,950
Cultural Monitoring	$ 277,368		$ 277,368
Construction Management	$ 248,588		$ 248,588
Total	**$4,021,052**	**$ 248,588**	**$4,269,640**

The projected costs are within the current budget with an expected surplus of $475,384.

In addition to the above costs, a mitigation project is required to accompany this project to offset environmental impacts. The design and construction costs for this project are expected to be around $1M. A portion of the mitigation project will be covered by surplus budget from the above projects and any additional funds needed will be included in the 2021/2022 CIP Fiscal Year budget.

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to award the construction contract to JR Filanc in the amount of $3,107,346 with a contingency of $248,588 for the construction of the CTP Sludge Force Main Project.

SOCWA Export Sludge Force Main Replacement Bid Results

Bid Date - 12/2/2020; 2:00 p.m.

				Low Bid		2		3	
				J.R. Filanc Construction		W.A. Rasic Construction		Downing Construction	
BASE BID SCHEDULE				$	3,107,346.58	$	3,634,195.00	$	3,964,650.00
Bid Item N	**Bid Description**	**Qty**	**Unit**	**Unit Price**	**Amount**	**Unit Price**	**Amount**	**Unit Price**	**Amount**
1	Mobilization / Demobilization	-	LS	$ 92,000.00	$ 92,000.00	$ 100,000.00	$ 100,000.00	$ 118,000.00	$ 118,000.00
2	6-inch HDPE DIPS DR 9 pipe	9900	LF	$ 69.80	$ 691,020.00	$ 81.50	$ 806,850.00	$ 165.00	$ 1,633,500.00
3	6-inch HDPE DIPS DR 11 pipe	6500	LF	$ 65.08	$ 423,020.00	$ 101.00	$ 656,500.00	$ 150.00	$ 975,000.00
4	Jack and Bore	650	LF	$ 330.77	$ 215,000.50	$ 743.00	$ 482,950.00	$ 309.00	$ 200,850.00
5	2-inch Air Vacuum and Air Release Valves	2	EA	$ 4,500.00	$ 9,000.00	$ 11,500.00	$ 23,000.00	$ 12,500.00	$ 25,000.00
6	2-inch Blow-Off	2	EA	$ 4,500.00	$ 9,000.00	$ 7,000.00	$ 14,000.00	$ 7,200.00	$ 14,400.00
7	Access Road Replacement	-	LF	$ 18.70	$ 318,906.06	$ 23.00	$ 368,000.00	$ 25.00	$ 400,000.00
8	Pressure Testing of Phase 1 DIP	-	LS	$ 10,000.00	$ 10,000.00	$ 35,000.00	$ 35,000.00	$ 20,000.00	$ 20,000.00
9	Connection at Alicia Parkway	-	LS	$ 14,000.00	$ 14,000.00	$ 15,000.00	$ 15,000.00	$ 20,000.00	$ 20,000.00
10	Connection at SOCWA Regional Treatment Plant	-	LS	$ 20,000.00	$ 20,000.00	$ 30,000.00	$ 30,000.00	$ 20,000.00	$ 20,000.00
11	Connection at SOCWA Coastal Treatment Plant	-	LS	$ 36,000.00	$ 36,000.00	$ 28,000.00	$ 28,000.00	$ 20,000.00	$ 20,000.00
12	Compliance with Env Mitigation and Monitoring Measures	-	LS	$ 150,000.00	$ 150,000.00	$ 39,500.00	$ 39,500.00	$ 5,000.00	$ 5,000.00
13	Pressure Testing	-	LS	$ 13,000.00	$ 13,000.00	$ 23,000.00	$ 23,000.00	$ 10,000.00	$ 10,000.00
14	Over-Excavation directed by Owner	1000	LF	$ 15.00	$ 15,000.00	$ 22.00	$ 22,000.00	$ 15.00	$ 15,000.00
15	New Culverts and Drainage Crossings / ACWHEP	-	LS	$ 70,000.00	$ 70,000.00	$ 100,500.00	$ 100,500.00	$ 50,000.00	$ 50,000.00
16	SWPPP and Monitoring Program	-	LS	$ 32,000.00	$ 32,000.00	$ 182,500.00	$ 182,500.00	$ 80,000.00	$ 80,000.00
17	AC Pavement Removal and Restoration	-	LS	$ 14,000.00	$ 14,000.00	$ 10,000.00	$ 10,000.00	$ 15,000.00	$ 15,000.00
18	Permit Inspection Allowance	$ 25,000.00	ALL	$ 28,000.00	$ 28,000.00	$ 23,000.00	$ 23,000.00	$ 1,000.00	$ 1,000.00
19	Owner-Directed Pipe Depth Change 1.1 to 2.0 feet	-	LF	$ 5.34	$ 91,000.01	$ 185.00	$ 185.00	$ 16.00	$ 16.00
20	Owner-Directed Pipe Depth Change 2.1 to 3.0 feet	-	LF	$ 5.34	$ 91,000.01	$ 210.00	$ 210.00	$ 32.00	$ 32.00
21	Owner-Directed Demob / Remob	-	LS	$ 12,000.00	$ 12,000.00	$ 33,000.00	$ 33,000.00	$ 22,000.00	$ 22,000.00
22	Creek Bank Protection Measures	-	LS	$ 222,000.00	$ 222,000.00	$ 245,000.00	$ 245,000.00	$ 35,000.00	$ 35,000.00
23	Two 4-inch HDPE Fiber Optic Conduits / Pull Boxes	-	LS	$ 508,000.00	$ 508,000.00	$ 310,500.00	$ 310,500.00	$ 234,500.00	$ 234,500.00
24	Other Misc. Work not included Bid Nos. 1 - 23	-	LS	$ 15,000.00	$ 15,000.00	$ 65,500.00	$ 65,500.00	$ 30,000.00	$ 30,000.00
		TOTAL BASE BID (1-24)			**$ 3,098,946.58**		**$ 3,614,195.00**		**$ 3,944,298.00**
ADDITIVE BID SCHEDULE									
25	Flushing Station	-	LS	$ 8,400.00	$ 8,400.00	$ 20,000.00	$ 20,000.00	$ 20,352.00	$ 20,352.00
		TOTAL CONTRACT PRICE			**$ 3,107,346.58**		**$ 3,634,195.00**		**$ 3,964,650.00**

Agenda Item 9

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: Jason Manning, Director of Engineering

SUBJECT: Coastal Treatment Plant Sludge Force Main Replacement Project Engineering and Biological Services During Construction [Project Committee 15]

Overview

In mid-October 2020, Dudek completed the final design for the Coastal Treatment Plant Sludge Force Main Replacement Project. The final design was put out for bid on October 29, 2020 bids were received on December 3, 2020.

In addition to the engineering design work, Dudek has also provided the permitting support for the project. Therefore, SOCWA staff requested that Dudek provide costs for both the Engineering Services During Construction and Biological Monitoring Services. Their proposal is attached as Exhibit A and Table 1 shows a breakdown of the associated costs. The costs are based on time and materials and we have assumed four nesting sites that will require noise monitoring for budgeting purposes.

The project related permits are listed below:

1. "Final Environmental Impact Report for the Coastal Treatment Plant Export Sludge Force Main Replacement Project", dated March 2013, including Section 12.0, "Mitigation Monitoring and Reporting Program"
2. “Streambed Alteration Agreement”, Notification No. 1600-2015-0015-R5, dated September 5, 2016
3. “San Diego Regional Water Quality Control Board, Clean Water Act Section 401 Water Quality Certification No. R9-2015-0033 for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, dated January 7, 2016
4. San Diego Regional Water Quality Control Board, Amendment No. 1 to Clean Water Act Section 401 Water Quality Certification No. R9-2015-0033 for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, dated October 25, 2018
5. Department of the Army, Los Angeles District, U.S. Army Corps of Engineers, Provisional Nationwide Permit (NWP) Verification, dated October 10, 2018
6. United States Department of the Interior, U.S. Fish and Wildlife Service, Revised Informational Section 7 Consultation for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, Orange County, California (SPL-2015-00128-ERS), dated September 24, 2018
7. Orange County Parks, Construction & Encroachment Permit, (in progress)
8. California Coastal Commission, Amendment to Coastal Development Permit, dated September 9, 2020

Table 1 – Dudek Tasks during Construction

Tasks	Total Hours	Costs
Engineering Services During Construction	718	$ 150,800
Biological Monitoring and Reporting	1,385	$ 202,350
Noise Monitoring per Nest Site (4 x $8,650.00)	44	$ 34,600
Total	**2,147**	**$ 387,750**

Cost Allocation

Table 2 – Cost allocation by member agency

Agency	Dudek Tasks During Construction
	3534-000
CLB	$146,997.76
EBSD	$11,574.63
MNWD	$113,431.34
SCWD	$115,746.27
Total	**$387,750.00**

Table 3 – Available budget

3534-000	3541-000	Total
$699,679	$4,045,345	$4,745,024

Project 3534-000 is already funded and approximately $1.4 million (33% of budget) has already been collected for 3541-000.

Table 4 – Expected Project Costs

Project Element	Cost	Contingency (8%)	Total
Construction	$3,107,346	$ 248,588	$3,355,934
EDSC	$ 150,800		$ 150,800
Biological Monitoring	$ 236,950		$ 236,950
Cultural Monitoring	$ 277,368		$ 277,368
Construction Management	$ 248,588		$ 248,588
Total	**$4,021,052**	**$ 248,588**	**$4,269,640**

The projected costs are within the current budget with an expected surplus of $475,384.

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to award the time and materials contract to Dudek in the amount of $387,750 for the engineering and biological services during construction for the CTP Sludge Force Main Project.

DUDEK

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

October 22, 2020 6731

Jason Manning, PE
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Road
Dana Point, California 92629

Subject: Coastal Treatment Plant Export Sludge Force Main Replacement Project
Engineering & Monitoring Services during Construction Scope & Fee

Dear Mr. Manning:

As the South Orange County Wastewater Authority (SOCWA) is preparing to advertise the referenced project, Dudek is pleased to submit its proposal for requested construction services, including:

- Engineering Services during Construction (ESDC)
- Biological, Archeological and Tribal Monitoring Services

The proposed scopes for the requested services have been defined in Attachment A. The proposed services are provided on a line-item basis to allow SOCWA to adjust the proposed scope to meet its desired level of support. The proposed labor and fee to complete this work is provided in Attachment B.

We are pleased to continue supporting SOCWA with this important project. If you have any questions, or require any additional information, please do not hesitate to call me at 760.479.4111, or email me at mmetts@dudek.com.

Respectfully Submitted,
DUDEK

D. Michael Metts, P.E.
Principal, Engineering Services

Attachment A

Scope of Services

Engineering Services during Construction (ESDC)
Construction Monitoring Services

Engineering Services during Construction (ESDC)

Following construction award of the subject project, Dudek proposes to provide the following engineering services during construction for SOCWA.

ESDC-1: Project Management. This task includes managing our construction efforts, project status tracking, staff scheduling, budget management, client updates, and other general activities related to overall management activities.

ESDC-2: Pre-Construction Meeting. The Dudek Project Manager and Lead Project Engineer will attend one (1) pre-construction meeting, which is assumed to occur at the SOCWA office. The meeting is presumed to be conducted by the SOCWA-selected Construction Manager. The meeting is assumed to be a maximum of two hours, not including travel time.

ESDC-3: RFIs and Design Clarifications. Dudek will develop responses to Requests for Information (RFI's) and other design clarifications. RFI's from the Contractor will be formally submitted to the SOCWA-selected Construction Manager (CM). Questions requiring responses from the design team will be forwarded to the Dudek Project Manager for distribution and response. For the purposes of this proposal, a total of twenty-five (25) RFIs and other design clarifications are assumed.

ESDC-4: Shop Drawing and Submittal Reviews. Dudek will review submittals that are not otherwise addressed by the SOCWA-selected CM. Submittals will be forwarded to the Dudek Project Manager for distribution and review by the appropriate engineer. For the purposes of this proposal, a total of twenty-five (25) shop drawings and/or other submittals are assumed.

ESDC-5: Project Meetings. Dudek will attend a total of ten (10) meetings with SOCWA, the CM and Contractor, as requested. The Dudek project manager will attend these meetings with the appropriate team members based on the key issues being discussed. Meetings are assumed to be a maximum of two hours, not including travel time.

ESDC-6: Change Order Assistance. Dudek will assist SOCWA with preparation and review of Contractor Change Orders, as requested. It is assumed that the SOCWA-selected CM will prepare and review construction change orders, and Dudek will assist, as necessary and requested. As the extent and nature of potential change orders are undefinable, an allowance is assumed for this contract item. Services will be provided at SOCWA direction within the available allowance.

ESDC-7: Design Deviations. Dudek will assist SOCWA with evaluation of Contractor-proposed design deviations and substitutions, as requested to support the activities of the SOCWA-selected CM. Dudek will evaluate the proposed design changes relative to consistency with the original design intention and capability. As the extent and nature of any Contractor-proposed design deviations are undefinable, an allowance is assumed for this contract item. Services will be provided at SOCWA direction within the available allowance.

ESDC-8: Site Visits. Dudek will attend site visits at SOCWA request to observe specific conditions or situations for which design engineer input would facilitate developing an appropriate response or solution. We have assumed a total of ten (10) site visits, by one or more members of team.

ESDC-9: Record Drawings. Dudek will prepare record drawings. The original AutoCAD files will be modified to reflect as-constructed conditions per the SOCWA-selected CM and Contractor field-maintained redline markups.

Cost for Engineering Services during Bidding $150,800.00

Construction Monitoring Services

Following construction award of the subject project, Dudek proposes to provide the following biological, archeological and tribal monitoring services, as required by promulgates environmental permits, during the project construction period for SOCWA.

Task 3 Biological Monitoring and Reporting

The following includes environmental compliance services associated with the biological monitoring program for the subject project. Biological monitoring will be conducted in accordance with the Final Environmental Impact Report (FEIR; Dudek, March 2013) and the regulatory requirements as described in the various agency permitting documents associated with the project, including the following:

- Section 1602 Streambed Alteration Agreement Number 1600-2015-0015-R5 issued by the California Department of Fish and Wildlife Service (CDFW);
- Section 401 Water Quality Certification R9-2015-0033 issued by the Regional Water Quality Control Board (RWQCB);
- Revised Informal Section 7 Consultation Letter for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, Orange County, California (SPL-2015-00128-ERS) issued by the U.S. Fish and Wildlife Service (USFWS); and,
- Provisional Section 404 Nationwide Permit Verification SPL-2015-00128-ERS issued by the U.S. Army Corps of Engineers (USACE).

To provide the required environmental construction monitoring services, Dudek employs methodologies that have proven successful on many similar-sized projects. These methodologies and practices include the following:

- Provide a clear and meaningful environmental contractor education training session;
- Attend a pre-construction kickoff meeting to establish work schedules, identify communication protocols, and communicate team expectations;
- Schedule and perform biological monitoring inspections at least once per week to enforce the environmental requirements specified in the resource agency permits and FEIR;
- Promptly prepare monthly monitoring reports with embedded photos;
- Provide a small, committed team of qualified biologists throughout the course of construction to ensure seamless monitoring and communication;
- Be highly responsive and assist in rapid resolution to any unforeseen complexities; and,
- Provide clear, concise, and objective monitoring reports.

Schedule Assumptions. In addition to the assumptions identified below, the following schedule assumptions are also considered in developing this scope of work:

- Construction of the project will require up to 250 working days
- One construction crew will operate at a time (i.e., only one crew will require monitoring)
- Work will occur for 8 hours a day, 5 days a week.

Task 3.1 - Contractor Education Program. Within seven (7) days prior to the start of construction, Dudek will conduct a Contractor education program for construction personnel that will include the following: (1) a description of the Federally-listed species that are known to intersect the proposed project and their known habitats; (2) a discussion of the construction limits; (3) a discussion of the mitigation measures that will be implemented in conjunction with project construction; and (4) a discussion of the general provisions of the Endangered Species Act (ESA).

Dudek will conduct up to three (3) in-person, field-based environmental awareness trainings with construction personnel, SOCWA team members and any new construction personnel starting work on the project. The sessions are intended to coincide with three key construction phases that will occur as part of the project: (1) the overall start of construction; (2) the start of the breeding season for the Federally-listed endangered least Bell's vireo (Vireo bellii pusillus) and the Federally-listed threatened coastal California gnatcatcher (Polioptila californica californica) (i.e., February 15 to September 15); and (3) the start of construction to install the bank stabilization features in Aliso Creek. Each construction phase has a different set of monitoring requirements; given the length of construction, a 15-minute "tail-gate" training session is recommended for each construction phase to ensure the environmental protection measures and specific project work area requirements are discussed.

Task 3.2 - Resource Agency Construction Notifications. On behalf of SOCWA, Dudek will notify the resource agencies five (5) days prior to the commencement of construction. The notifications will be provided digitally in a PDF, "Optical Character Recognition" (OCR) capable format to each resource agency and SOCWA.

Task 3.3 - Biological Monitor Qualifications. At least seven (7) days prior to initiating construction activities, Dudek will submit to the USFWS, in writing, the name(s), any recovery permit numbers, and resumes of all proposed biological monitors for the proposed project. Dudek will coordinate with USFWS staff on the approval of the biological monitoring team, which is expected to take 2 to 3 working days.

Task 3.4 - Biological Construction Monitoring. Dudek will conduct weekly monitoring inspections of environmental fence installation, clearing and grubbing, and ground-disturbing work associated with the proposed project for the entire 250 working days of construction to ensure the project is being constructed in compliance with current resource agency permit conditions and requirements.

In addition to weekly inspections, full-time, daily monitoring will be required when trenching activities occur in areas within and immediately adjacent to mapped waters of the U.S., including, wetlands and riparian areas, and during installation of the rock slope protection and groins within Aliso Creek. It is noted, as a reminder, that the USFWS has required SOCWA to install the rock slope protection and groins between September 16 and March 14 to avoid the breeding and nesting season for the least Bell's vireo. During construction of these features, Dudek will be present daily, full-time to enforce the terms and conditions of the resource agency permits. We are assuming that it will take fifteen (15) working days (3 weeks) to complete this work.

Starting February 15, 2021, Dudek will conduct weekly "look ahead" nesting bird surveys focusing on the presence of active least Bell's vireo and coastal California gnatcatcher nests within 500 feet of construction activities for the upcoming week. These surveys will also count as the weekly site inspections to review construction progress, environmental fencing, and other required activities.

It is assumed that pipeline installation will consist of excavation and trenching, placement of the pipe bedding and pipe, and backfilling then compacting of the trench. Further, it is assumed that trenching will require operation of

one excavator and one tractor/loader/backhoe for 8 hours per day, 5 days per week (22 days per month) at a rate of 125 to 150 feet of pipeline installation per day. At that rate, it is assumed that up to 750 linear feet of new pipeline installation work will occur per week. Thus, up to 20 acres of habitat will be surveyed at the beginning of each week, within 500 feet from the centerline of the pipeline alignment, during the combined breeding season for least Bell's vireo and coastal California gnatcatcher (February 15 to September 15). For cost development purposes, we have assumed weekly nesting bird surveys for 30 weeks. The surveys must be conducted by Dudek staff holding a current Section 10(a)(1)(A) permit to survey for coastal California gnatcatcher and with at least 40 hours of field observation for least Bell's vireo and documented experience of at least 20 hours of locating and monitoring least Bell's vireo and coastal California gnatcatcher nests.

During general monitoring visits, the biological monitor will inspect the project work areas for compliance with relevant resource agency permit conditions identified for the project and observe work for identification and avoidance of potential environmental conflicts, specifically nesting birds protected by the state and federal Migratory Bird Treaty Act (MBTA). Any serious noncompliance concerns will be raised immediately with the Construction Management (CM) team and discussed with SOCWA environmental personnel via phone conversation. Dudek assumes inspection services will be the responsibility of the SOCWA CM team and their consultants, and that the Dudek environmental team will not be responsible for performing construction inspection of any contract work. The Dudek monitor will record any observations and report them to the CM team.

The Dudek cost estimate for biological monitoring is based on an anticipated start during the week of October 5, 2020 and will last 250 working days, or 50 weeks total. We have assumed full-time monitoring of trenching work within and adjacent to wetlands and riparian areas will be required and conducted for a maximum of 20 total working days throughout the entire 250-day monitoring period. Weekly monitoring will occur for 50 weeks, when full-time monitoring is not being conducted. Dudek assumes most weekly inspections will entail full eight-hour days, plus up to 2 hours of travel time, due to the remote nature of the work area and the linear nature of construction. If additional full-time monitoring or spot-check visits are required beyond the specified number of days, Dudek will notify SOCWA, review budget status, and discuss the potential need for a task order amendment. If ongoing work suggests shorter duration for Dudek monitoring visits or reducing the frequency of monitoring visits, Dudek will reduce our level of effort accordingly. If Dudek believes a reduction in frequency is warranted, Dudek will contact the SOCWA project manager for confirmation of agreement with our revised approach.

Task 3.5 - Monthly Reporting. Dudek will provide monthly summary reports of project activities throughout construction, documenting any observations made in the field and enclosing photographs of conditions and construction activities. The monthly progress report will be transmitted to SOCWA and the USFWS as required by the resource agency permits.

Within 60 days of construction completion, Dudek will submit a final report to SOCWA and the resource agencies that includes: a) as-built construction drawings with an overlay of habitat that was impacted and avoided; b) photographs of habitat areas that were to be avoided; and c) a summary documenting that impacts were not exceeded and that compliance with the resource agency permits was achieved.

Summary of Critical Assumptions:

- Construction is expected to last 250 working days, or roughly 50 weeks.
- The combined breeding season for least Bell's vireo and coastal California gnatcatcher is February 15 to September 15.

- Approximately 20 weeks of construction will occur outside of the combined breeding season for least Bell's vireo and coastal California gnatcatcher (October 5, 2020 to February 14, 2021).
- Approximately 30 weeks of construction will occur during the combined breeding season for least Bell's vireo and coastal California gnatcatcher (February 15, 2021 to September 15, 2021).
- Up to 20 working days of daily, full-time biological monitoring (8 hours/day plus 2 hours of travel) is proposed when work occurs within and/or adjacent to mapped wetlands, riparian areas, and streambeds.
- Up to 15 days (3 weeks) of daily, full-time monitoring (8 hours/day plus 2 hours of travel) is proposed for the rock slope protection and groin work.
- Construction of the rock slope protection and groins must occur between September 16 and March 14.
- One construction crew will operate at a time (i.e., only one crew will require monitoring)

Cost for Biological Monitoring Before February 15	*$47,800.00*
Cost for Biological Monitoring After February 15	*$138,550.00*
Cost for Daily Biological Monitoring of Bank Stabilization Work	*$16,000.00*

Task 4 Noise Monitoring per Nest Site (Optional)

We have characterized the noise monitoring task as optional because it is difficult to define a realistic budget at this stage without knowing how many nests may be present and what kind of noise attenuation is most effective to ensure noise levels do not exceed the 60 dB(A) hourly average noise limit mandated by the USFWS. Therefore, the cost provided as part of this optional task is a "broad-brush" conservative cost estimate defining the level of effort it would take to provide noise monitoring for one nest (either least Bell's vireo or coastal California gnatcatcher).

To ensure nesting least Bell's vireo and coastal California gnatcatchers within 500 feet of construction activities are not adversely affected by construction-related noise, noise measurements will be conducted by a qualified acoustician at one active nest (either least Bell's vireo or coastal California gnatcatcher) within 500 feet of construction activities during the breeding season. It is assumed that a qualified acoustician will be on site daily, full time (e.g., 8 hours per day for 5 days/nest) to provide noise monitoring services for one nest. The acoustician will work with the contractor to ensure that noise levels at each nest site do not exceed the 60 dB(A) hourly average noise limit mandated by the USFWS. Each noise measurement will be 60 minutes or more in duration (or as needed to ensure that the noise measurement is representative of typical construction activities).

If the initial implemented noise attenuation methods are found to be inadequate by the acoustician or field biologist during construction, the acoustician and/or biologist will work with the construction supervisor and crew to modify the noise attenuation barriers or to otherwise reduce the received noise level below the 60 dB(A) hourly average noise limit (or existing ambient noise if greater than 60 dB(A)).

Assumption(s):

- The cost provided is for one nest (either least Bell's vireo or coastal California gnatcatcher) within 500 feet of construction activities.

- The nest will be monitored full-time and daily as long as construction activities occur within 500 feet of construction.
- Each monitoring visit requires 2 hours of travel time, up to 8 hours to conduct noise measurements, and 1 hour to complete and submit an observation report
- Noise levels following the initial assessment and implementation of noise attenuation measures will be found in compliance during subsequent monitoring. If noise levels are not in compliance, additional staff time will need to be authorized through an amendment in order to provide additional monitoring and coordination

In addition to the assumptions listed under each task above, the following key assumptions were also considered when developing the above scope of work:

- No weekend or night work will be required.
- Work will follow a north to south sequence beginning at Alicia Parkway and terminating at SOCWA's Coastal Treatment Plant.
- This cost estimate represents a time and materials with a not-to-exceed budget; any funds not used will not be charged.
- Noise monitoring of active least Bell's vireo and coastal California gnatcatcher nests is not provided at this time. The cost provided herein is intended to serve as a guide to how much noise monitoring may cost per nest.
- The hours provided are a projection based off of a typical 250 working day construction period. Should there be delays prompting additional monitoring needs they will be communicated to the client as soon as possible and a change order will be arranged.
- Mileage is calculated from the Dudek Encinitas office to the project site at the 2020 federal mileage rate.
- This scope of work does not include any design work or monitoring associated with the revegetation/mitigation effort. Any design work or monitoring needs associated with the project's proposed revegetation effort shall be included under a separate scope of work.

Cost for Noise Monitoring per Nest Site (OPTIONAL) *$8,650.00*

~~Task 5 – Archaeological, Paleontological, and Native American Monitoring~~

~~The following scope of work includes environmental compliance services associated with the archaeological, paleontological, and Native American monitoring program. The archaeological, paleontological, and Native American monitoring will be conducted in accordance with the FEIR (Dudek, March 2013), as well as the Construction Monitoring Treatment Plan (Treatment Plan; Dudek, October 2017), and regulatory requirements as described in the various agency permitting documents associated with the project.~~

~~Schedule Assumptions. In addition to the assumptions listed under each task below, the following schedule assumptions are also considered for development of this scope of work:~~

- ~~Construction of the project will require up to 250 working days~~
- ~~One construction crew will operate at a time (i.e., only one crew will require monitoring)~~

- Work will occur for 8 hours a day, 5 days a week.

Task 5.1 – Development of Worker Environmental Training Program & Attendance at the Pre-Construction Workshop.

In accordance with MM-CUL-1 of the Treatment Plan, a qualified Dudek archaeologist/paleontologist, as well as a member from a local Native American tribe will conduct a pre-construction workshop, to ensure each party involved in construction of the Project understand the cultural resources monitoring program, as well as their roles and responsibilities when implementing the program. It is assumed that construction personnel will attend the workshop, and the following topics will be included via a PowerPoint presentation with voiceover included, developed by Dudek:

- Types of archaeological/paleontological material that could be uncovered during construction
- Examples of common archaeological/paleontological artifacts and other material that could be encountered
- A description of why monitoring is required
- Monitoring procedures and communication protocols
- Reporting responsibilities for the construction team
- An understanding of why it's unauthorized for the construction team to collect any artifacts on their own

Assumptions

- Up to one (1) round of review will be required by SOCWA
- Dudek will be present at the initial pre-construction workshop to answer questions. However, after the initial workshop, subsequent project personnel shall be trained via the PowerPoint and voiceover, without the need for a Dudek staff member to provide the training (i.e., the Contractor will be able to play the presentation on a video device without a Dudek representative on site to give the training)
- Dudek will not be responsible for documenting the attendees at the pre-construction workshop, or subsequent training efforts.

Task 5.2 – Archaeological, Paleontological, and Native American Monitoring.

Dudek cultural resources offers highly trained, professional cross-trained archaeological and paleontological monitors who are overseen by Dudek senior archaeologists and paleontologists. Having one monitor conduct the archaeological and paleontological monitoring for the project provides a significant cost savings. Dudek cross-trained monitors, along with a Native American monitor, will be onsite for ground-disturbing or ground-altering activities, as required by MM-CUL-1 and MM-PAL-1 of the FEIR. If isolated archaeological or paleontological resources are observed during monitoring, the find will be secured and the construction crew redirected away from the area while the find is evaluated in the field. Once the find is collected and it is determined to be an isolated find (i.e., not part of a larger site), the construction crew will be allowed to resume work. If items cannot be securely stored on the project site, they may be stored in off-site facilities located in Orange County.

The monitors will immediately contact the Dudek Senior Archeologist or Paleontologist and notify SOCWA, as appropriate. Consultation and coordination with the Native American monitor and the Native American tribe. Should the discovery be determined to be a significant tribal resource or artifact, the protocols and procedures agreed upon in the Treatment Plan will be implemented. If the discovery is determined not to be significant to the tribe, but still considered otherwise archeologically significant, formal protocols/procedures for proceeding with analysis and as-needed protection and treatment of discovered resources will be followed in accordance with the relevant prepared cultural/paleontological pre-construction plans and agreements.

Assumptions(s):

- Dudek assumes ground-disturbing activities requiring archaeological and/or paleontological monitoring to last no more than 250 monitoring days, 8-hours per day, with one dual archaeological/paleontological monitor per day, and one Native American monitor per day
- No weekend or night work will be required
- Mileage is calculated from the Dudek San Capistrano office to the project site at the 2020 federal mileage rate.

Task 5.3 – Inadvertent Discoveries. If an archaeological or paleontological site (as opposed to a single isolated artifact or resource) is observed, then a no-construction buffer area will be setup around the site and a data recovery program will be initiated. A data recovery program consists of field time by a team of cultural monitors to collect the contents of the site, along with lab work to evaluate the discovery, and reporting time to document the discovery. The cost for a single data recovery program is included in the assumptions section below, and it is assumed that no more than one (3) sites requiring data recovery will be observed during construction.

Assumptions(s):

- Up to three (3) significant archaeological or paleontological resources will be discovered during monitoring that will require data recovery (one data recovery program is assumed to includes one 8-hour day of field work for three individuals, along with 8 hours of lab work, and 8 hours of documentation).

Task 5.4 – Post-Construction Reporting. At the completion of ground disturbing activities, Dudek will prepare a combined paleontological and archaeological post-construction monitoring report summarizing the results of each phase of the archaeological and paleontological monitoring program. The monitoring report and/or evaluation report, if appropriate, will describe the results, analysis and conclusions of the archaeological monitoring program (e.g., data recovery plan) and will be submitted by the Qualified Archaeologist/Paleontologist, along with the Native American monitor's notes and comments, to SOCWA for approval.

Task 5.5 – Project Management and Coordination. The Archaeological, Paleontological, and Native American Monitoring Project Manager (PM) will be available throughout the construction monitoring program period to provide oversight, quality control of deliverables, and schedule coordination, to ensure the construction monitoring and pre-construction activity tasks so smoothly.

Cost for Archaeological, Paleontological and Native American Services.....$381,950.00

Attachment B

Labor & Fee Proposal

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
EXPORT SLUDGE FORCE MAIN REPLACEMENT PROJECT
ENGINEERING SERVICES DURING CONSTRUCTION
LABOR & FEE PROPOSAL
DUDEK
October 2020

TASK DESCRIPTION	Staff Assignment : / Direct Labor Rate :	DUDEK ENGINEERING LABOR PM/QA $270	SE $220	PE $190	CADD $160	ADMIN $115	CCC/QA $180	CCC $120	TOTAL HRS	FEE
Engineering Services during Construction *[250 working day construction period]*										
Task ESDC-1: Project Management		60				24			84	$ 18,960
Task ESDC-2: Pre-Construction Meeting		4	4	4					12	$ 2,720
Task ESDC-3: RFIs and Design Clarifications (assume 25)		16	32	60	24				132	$ 26,600
Task ESDC-4: Shop Drawings and Submittal Reviews (assume 25)		16	48	90	8				162	$ 33,260
Task ESDC-5: Project Meetings (assume 10)		20	40	20		16			96	$ 19,840
Task ESDC-6: Change Order Assistance		8	16						24	$ 5,680
Task ESDC-7: Design Deviations		4	16	24	8				52	$ 10,440
Task ESDC-8: Site Visits (assume 10)		20	40	20					80	$ 18,000
Task ESDC-9: Record Drawings		4	8	24	40				76	$ 13,800
TOTAL OTHER DIRECT COSTS (printing, reproduction, delivery, local travel, etc)									N/A	$ 1,500
Total Engineering Services during Construction Effort		**152**	**204**	**242**	**80**	**40**	**0**	**0**	**718**	**$ 150,800**

Project: Export Sludge Force Main Replacement Project - Biological Monitoring prior to Feb 15
Client: South Orange County Wastewater Authority
Date Prepared: Jun-20

Employee	Tricia L Wotipka	Mark McGinnis	Mark W Lathram	Janice Wondolleck	Nevada G Trager	Jesse A Ridenour	Olivia L Koziel	Labor Hours	Labor @ Billing Rates	DIRECT COSTS	Total
Billing Category	Senior Specialist III	Senior Specialist III	Specialist IV	Analyst V	Compliance Monitor	Compliance Monitor	Analyst I				
% Used on job	8%	3%	8%	14%	27%	27%	13%				
Phase	220.00	220.00	170.00	120.00	95.00	95.00	80.00				
Task 3 Biological Monitoring Prior to February 15	30	10	30	55	105	105	50	385	44,450	3,350	47,800.00
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Total Hours	**30**	**10**	**30**	**55**	**105**	**105**	**50**	**385**	**44,450**		47,800.00
Total Billing	**6,600**	**2,200**	**5,100**	**6,600**	**9,975**	**9,975**	**4,000**		**44,450**	3,350	**$ 47,800.00**

Project: Export Sludge Force Main Replacement Project - Biological Monitoring (Feb 15 to Sept 15) and Optional Noise Monitoring
Client: South Orange County Wastewater Authority
Date Prepared: 6/18/2020

Employee	Tricia L Wotipka	Mark McGinnis	Kamarul J Muri	Tsutomu K Molioo	Mark W Lathram	Erin J McKinney	Erin Bergman	Paul M Lemons	Connor A Burke	Brock Ortega	Nevada G Trager	Labor Hours	Labor @ Billing Rates	DIRECT COSTS	Total
Billing Category	Senior Specialist III	Senior Specialist III	Senior Specialist II	Specialist V	Specialist IV	Specialist IV	Specialist IV	Specialist IV	Analyst V	Project Director/Environmental	Compliance Monitor				
% Used on job	7%	2%	3%	22%		11%	11%	22%	6%	2%	13%				
Phase	220.00	220.00	200.00	180.00	170.00	170.00	170.00	170.00	120.00	245.00	95.00				
Task 3 - Biological Monitoring from February 15 to September 15	60	15	30	195		100	100	195		10	110	815	137,650	900	**138,550.00**
Task 4 - Nest Monitoring (OPTIONAL)	5								50	5		60	8,325	325	**8,650.00**
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Total Hours	**65**	**15**	**30**	**195**	**-**	**100**	**100**	**195**	**50**	**15**	**110**	**875**	**145,975**		147,200.00
Total Billing	**14,300**	**3,300**	**6,000**	**35,100**	**-**	**17,000**	**17,000**	**33,150**	**6,000**	**3,675**	**10,450**		**145,975**	1,225	**$ 147,200.00**

Project: Export Sludge Force Main Replacement Project - Biological Monitoring during Rock Groin Install
Client: South Orange County Wastewater Authority
Date Prepared: Jun-20

Employee	Tricia L Wotipka	Mark McGinnis	Janice Wondolleck	Dilip K Mahto	Labor Hours	Labor @ Billing Rates	DIRECT COSTS	Total
Billing Category	Senior Specialist III	Senior Specialist III	Analyst V	Compliance Monitor				
% Used on job	8%	4%	40%	48%				
Phase	220.00	220.00	120.00	95.00				
Task 2 - Biological Monitoring Bank Stabilization Installation	10	5	50	60	125	15,000	1,000	16,000.00
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Total Hours	**10**	**5**	**50**	**60**	**125**	**15,000**		16,000.00
Total Billing	**2,200**	**1,100**	**6,000**	**5,700**		**15,000**	1,000	**$ 16,000.00**

Project: Export Sludge Force Main Replacement Project - Archeological, Paleontological and Native American Monitoring
Client: South Orange County Wastewater Authority
Date Prepared: Jun-20

Employee	Mark W Lathram	Michael J Williams	Brad E Comeau	NA Monitor	David A Alexander	Deborah E Maher	Curtis S Battle	Labor Hours	Labor @ Billing Rates	DIRECT COSTS	Total
Billing Category	Specialist IV	Specialist II	Specialist IV	Technician III	Technician III	Analyst IV	GIS Specialist III				
% Used on job	1%	3%	3%	46%	47%	1%	0%				
Phase	170.00	145.00	170.00	80.00	80.00	110.00	150.00				
Task 5.1 - Pre-con Workshop		16	4	4				44	6,620		6,620.00
Task5.2 - Monitoring		40	40	2,000	2,000			4,080	332,600	3,450	336,050.00
Task 5.3 - Inadvertent Discoveries		24	24		72		4	124	13,920		13,920.00
Task 5.4 - Post-Construction Reporting		24	24				2	50	7,860		7,860.00
Task 5.5 - Project Management and Coordination	40	20	20			40		120	17,500		17,500.00
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Total Hours	40	124	112	2,004	2,072	40	6	4,398	375,200		378,650.00
Total Billing	6,800	17,980	19,040	160,320	165,760	4,400	900		375,200	3,450	$ 381,950.00

Agenda Item 10

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: Jason Manning, Director of Engineering

SUBJECT: Coastal Treatment Plant Sludge Force Main Replacement Project Cultural Monitoring Services During Construction [Project Committee 15]

Overview

The final design was put out for bid for the Sludge Force Main Replacement Project on October 29, 2020 and bids were received on December 3, 2020. The project has multiple permits and requirements through multiple agencies:

1. "Final Environmental Impact Report for the Coastal Treatment Plant Export Sludge Force Main Replacement Project", dated March 2013, including Section 12.0, "Mitigation Monitoring and Reporting Program"
2. “Streambed Alteration Agreement”, Notification No. 1600-2015-0015-R5, dated September 5, 2016
3. “San Diego Regional Water Quality Control Board, Clean Water Act Section 401 Water Quality Certification No. R9-2015-0033 for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, dated January 7, 2016
4. San Diego Regional Water Quality Control Board, Amendment No. 1 to Clean Water Act Section 401 Water Quality Certification No. R9-2015-0033 for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, dated October 25, 2018
5. Department of the Army, Los Angeles District, U.S. Army Corps of Engineers, Provisional Nationwide Permit (NWP) Verification, dated October 10, 2018
6. United States Department of the Interior, U.S. Fish and Wildlife Service, Revised Informational Section 7 Consultation for the Coastal Treatment Plant Export Sludge Force Main Replacement Project, Orange County, California (SPL-2015-00128-ERS), dated September 24, 2018
7. Orange County Parks, Construction & Encroachment Permit, (in progress)
8. California Coastal Commission, Amendment to Coastal Development Permit, dated September 9, 2020

The Final EIR requires that archaeological and Native American monitoring be performed during certain ground disturbances:

> MM-CUL 2: All Ground disturbances within the defined CA-ORA-582 site boundary, and a 100-foot buffer around the boundary, shall be monitored by a qualified archaeologist and a local Native American representative.

///

And that paleontological monitoring be performed during all ground-disturbing activities:

> MM PAL-1: SOCWA Shall retain an Orange County-certified paleontologist to monitor all ground-disturbing activities associated with construction of the proposed project.

As outlined in the Construction Monitoring Treatment Plan for the project, Special condition 22 of the Coastal Commission's Coastal Development Permit requires:

> **"…all grading and/or ground disturbance along the entire length of the pipeline alignment shall be monitored by an archaeologist who meets California OHP standards and a Native American observer** who has documented ancestral ties to the area and is appointed consistent with the standards of the NAHC.

And:

> "Consistent with the Coastal Commission's Special Condition No. 22, Section A, Subsection 5, **sufficient qualified archaeologists and Native American observers shall be available to assure that all project grading/ground disturbances are monitored at all times.**"

Proposals

SOCWA requested proposals from the following firms and asked them to assume 200 working days (approximately 300 calendar days) and three inadvertent discoveries:

AECOM
Dudek
PaleoWest
PSOMAS

All four firms provided proposals (attached to this staff report) and are summarized below in Table 1.

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Table 1 – Summary of Proposals

Firm	**AECOM**	**Dudek**	**PaleoWest**	**PSOMAS**
Project Manager	Jennifer Redmond	Mark W Lathram	Jessica DeBusk	Charles Cisneros
Subconsultants	Paleo Solutions, Inc.	NDNA Monitoring	Gabrielino/Tongva Tribal Consultants	John Minch and Associates Juaneño Band of Mission Indians, Acjachemen Nation
Paleo/Arch Hours and Cost	920 hours arch $72,880 // 1800 hours* Paleo/Native American $225,000	1,680 hours $143,374	1,688 hours $128,716	1,672 $123,495
Native American Hours/Cost		1,604 hours $115,054	1,600 hours* $128,000	1,600 hours $120,000
Three Inadvertent Discoveries Cost	$15,018	$13,920	$12,854	$14,076
Total Labor Hours	2,898*	3,598	3,556	3,627
Total Cost	$345,188	$304,008	$304,654	$277,368

* Not all details provided, estimated from information in proposal

Cost Allocation

Table 2 – Cost allocation by member agency using the PSOMAS proposal

Agency	**Cultural Monitoring**
	3534-000
CLB	$105,151.45
EBSD	$ 8,279.64
MNWD	$ 81,140.49
SCWD	$ 82,796.42
Total	$277,368.00

Table 3 – Available budget

3534-000	3541-000	Total
$699,679	$4,045,345	$4,745,024

Project 3534-000 is already funded and approximately $1.4 million (33% of budget) has already been collected for 3541-000.

Table 4 – Expected Project Costs

Project Element	Cost	Contingency (8%)	Total
Construction	$3,107,346	$ 248,588	$3,355,934
EDSC	$ 150,800		$ 150,800
Biological Monitoring	$ 236,950		$ 236,950
Cultural Monitoring	$ 277,368		$ 277,368
Construction Management	$ 248,588		$ 248,588
Total	**$4,021,052**	**$ 248,588**	**$4,269,640**

The projected costs are within the current budget with an expected surplus of $475,384.

Recommended Action: Staff recommends that the Engineering Committee recommend to the PC-15 Board to award the time and materials contract to PSOMAS in the amount of $277,368 for the Archeological, Paleontological, and Native American monitoring services during construction for the CTP Sludge Force Main Project.

AECOM
401 West A Street
Suite 120
San Diego, CA 92101
aecom.com

December 3, 2020

Jason Manning, P.E.
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Road
Dana Point, CA 92629

Subject: Proposal for Archaeological, Paleontological, and Native American Monitoring Services for the Export Sludge Force Main Replacement Project, Laguna Niguel, Orange County, California

Dear Mr. Manning,

AECOM Technical Services, Inc. (AECOM) is pleased to submit this technical proposal to provide archaeological, paleontological, and Native American monitoring services for South Orange County Wastewater Authority's (SOCWA's) Export Sludge Force Main Replacement Project (project). We are excited about the opportunity to assist you in this effort. As described below, our team brings extensive experience in archaeological and paleontological monitoring of pipeline construction and other major linear utility undertakings throughout Southern California. Drawing on this experience, our team works closely and safely with construction personnel to efficiently identify, evaluate, and develop treatments for any affected cultural and paleontological resources. Additionally, our team's long-standing relationships with the area's Native American Tribes are a strong asset in resolving sensitive tribal issues that may be encountered. Our team has experience with similar projects in Southern California, including the Aliso Canyon Turbine Replacement Project and the Basewide Water Infrastructure Initiative at Marine Corps Base Camp Pendleton.

Our Team

AECOM will bring to this project a highly qualified in-house staff of experienced archaeologists and project managers drawn from our Los Angeles and San Diego offices. This team will be led by Jennifer Redmond, Project Manager and Registered Professional Archaeologist, with 14 years of experience. She is supported by an experienced team of cultural resources monitors, paleontological monitors, and Native American monitors provided by both AECOM and our technical subconsultant Paleo Solutions, Inc. (Paleo Solutions). Paleo Solutions is also a Woman-Owned Business Enterprise (WBE), Small Business Enterprise (SBE), and Disadvantaged Business Enterprise (DBE). Geraldine Aron, owner and Senior Paleontologist, will support Jennifer to assemble the monitoring team with the appropriate experience, especially engaging the appropriate Native American Tribal entities from the local area. Resumes for our monitoring team can be provided prior to the onset of construction. Together, this team brings considerable experience working together on a diverse array of construction monitoring and reporting projects for utility clients throughout southern California, including Southern California Gas (SoCalGas), San Diego Gas & Electric, Los Angeles Department of Water and Power, San Diego County Water Authority, and Southern California Edison.

Our Approach

AECOM has built a strong reputation with our clients for technical excellence and delivering successful projects that exceed expectations. AECOM has a proven track record of bringing creative solutions to a variety of

challenging projects especially liner construction compliance projects such as this. We will continue this culture of identifying potential problems early and offering solutions to SOCWA as challenges arise. Here are a few reasons why AECOM is the team of choice for this important project:

"It's been a pleasure working with your [AECOM] team. We wouldn't be where we are without them. They've done a tremendous job of keeping things moving and compliant. We look forward to successfully finishing out the project with them."

~ Seth Rosenberg, SoCal Gas, Aliso Canyon Turbine Replacement Project

- ***Efficiency Focused*** – Efficiency is created by flexibility, responsiveness, and adaptability to quickly provide solutions to problems and minimize risk through immediate applications of lessons learned, focusing on efficiency and continuous improvement to enhance technical execution and streamline internal processes. The result is cost and schedule efficiencies and improved project outcomes. One thing we've learned on numerous construction compliance projects is that a consistent monitoring team is very important. We will offer a consistent monitoring team for the duration of the project to support efficiency and minimize potential issues.
- ***Engagement and Quality Driven*** – Our entire team, from Project Manager to field monitors, including our subcontractor, is focused on quality. Our programmatic approach to quality requires engagement from all members of the project team, ensuring consistency and technical excellence across the contract. We have standardized daily protocols and field forms that can quickly be adapted to this project that ensure accurate and consistent information will be collected each day of monitoring.
- ***Safety Minded*** – Our Safety for Life Management System incorporates safety into everything we do. We pride ourselves on our extensive safety training and have developed internal and external safety recognition programs for our employees. Our robust safety observation program encourages awareness and responsibility through observation recording at all levels within our organization, from field level employees and contractors to senior management. We are also an active partner with our clients during the COVID-19 pandemic response, ensuring our staff working on essential projects are taking the necessary precautions to meet internal safety requirements in addition to the CDC, state, and local guidance.

Experience

AECOM has been providing cultural resources services for decades, and our highly qualified staff are prepared to meet the challenges of every project. We have guided projects from the planning phase through mitigation implementation, including preparing technical studies with records searches and other archival research; archaeological, built environment, and paleontological surveys; and significance evaluations of a variety of archaeological and built environment resources. Whether preparing technical studies in support of California Environmental Quality Act (CEQA) compliance, assessing sites before construction, crafting appropriate mitigation measures, implementing mitigation measures, or treating unanticipated finds during construction, AECOM has the technical expertise and tenacity to get the job done.

AECOM has worked together with Paleo Solutions for over a decade, working seamlessly both on the project and in the field. Paleo Solutions brings experience with several Orange County and Los Angeles County water and sanitation-related agencies to our team, including holding the prime cultural and paleontological resources contract with the Los Angeles County Sanitation Districts for the past five years. Beginning in February 2017, Paleo Solutions worked on all three phases of the Tunnel Stabilization and Sewer Pipeline Replacement project for the South Coast Water District's project in Laguna Beach. Paleo Solutions has prepared a Paleontological Monitoring Plan (PMP), Workers Environmental Awareness Programs (WEAP), conducted paleontological monitoring, drafted quarterly technical memoranda, and authored final paleontological monitoring reports at the end of each phase. Paleo Solutions has also worked on several Irvine Ranch Water District projects, including the

Biosolids Energy and Recovery Facilities project at the Michelson Water Recycling Plant, and the Peters Canyon Channel Water Capture and Reuse Pipeline.

A few additional, recent projects are described below for your reference:

***SoCalGas Aliso Canyon Turbine Replacement Project*:** AECOM and Paleo Solutions provided environmental compliance services during construction of this project to increase capacity at SoCalGas's Aliso Canyon Natural Gas Storage Facility. As part of overall compliance program, AECOM and Paleo Solutions prepared the Archaeological Monitoring and Treatment Plan (AMTP) and the Paleontological Monitoring and Treatment Plan (PMTP) for California Public Utilities Commission (CPUC) approval. The PMTP was completed in compliance with the CEQA, California State Public Resources Code (PRC) (Chapter 1.7, Section 5097.5 and 30244), CPUC regulations, and was consistent with accepted professional standards established by the Society of Vertebrate Paleontology (SVP) (2010). Prior to the initiation of construction, Paleo Solutions' CPUC-approved paleontologists provided paleontological sensitivity training to all construction personnel conducting rough grading. Staff ensured compliance with the conditions identified in the AMTP and the PMTP Plan and completed daily monitoring reports during construction. Paleo Solutions performed excavations within the Monterey Formation which produced two significant fossil leaf specimens.

***SoCalGas Pipeline Safety Enhancement Plan (PSEP) On-Call Environmental Projects, Southern California*:** AECOM and Paleo Solutions are currently working together on SoCalGas's PSEP program as part of an Environmental Services Master Services Agreement. Paleo Solutions has provided cultural and paleontological services on PSEP projects throughout Southern California, including monitoring for pipeline segments. Monitors ensured that projects remained in compliance with all CEQA regulations. Staff attended pre-construction meetings and provided cultural and paleontological resources training when needed for all crew members. Paleo Solutions provided monitors to observe trenching activities to install gas pipelines, which included inspecting all displaced soils from cultural and paleontological resources and completed daily field notes and photographic logs. For the segments requiring a Native American monitor, Paleo Solutions coordinated with Tribal representatives to provide appropriate monitors based on project location.

***Los Angeles County Metropolitan Transportation Authority Compliance Monitoring, Los Angeles County*:** AECOM and Paleo Solutions provided cultural and paleontological resources monitoring in Los Angeles County for various projects. The team conducted records searches, surveys, and resource eligibility assessments ahead of construction, and prepared Historic American Building Surveys and Historic American Engineering Records for significant historical resources. AECOM and Paleo Solutions prepared and conducted site-specific resource awareness trainings and prepared monitoring and treatment plans.

Basewide Water Infrastructure Initiative, MCB Camp Pendleton: Between 2013 and 2018, AECOM conducted cultural resources monitoring in support of Military Construction projects P-1044 and -1045, which were constituent undertakings of the Basewide Water Infrastructure Initiative on Marine Corps Base Camp Pendleton, northern San Diego County. Together, these undertakings involved the construction of approximately 35 miles of wastewater pipelines installed via open trench excavations and horizontal directional drilling. During the monitoring, AECOM archaeologists identified 29 cultural sites, including 10 known sites and 19 new discoveries. In compliance with the Programmatic Agreement (PA), AECOM evaluated these sites for eligibility for the National Register of Historic Places (NRHP) and assessed the potential for adverse effects. Two sites were determined eligible for the NRHP, and data recovery investigations were conducted per the PA.

In summary, AECOM has assembled this proposal to assist SOCWA with the environmental compliance measures for the Export Sludge Force Main Replacement Project. As outlined above, our thorough experience with similar projects will ensure your project will be completed efficiently and in compliance with the identified cultural and paleontological mitigation measures.

AECOM proposes to complete the scope of services (Attachment A) for $345,188. A detailed cost estimate is included in Attachment B.

AECOM looks forward to the opportunity to work with SOCWA on this important project. Please let us know if you have any questions or comments. We are eager to learn more about next steps and happy to set up an interview if you would like to meet our team.

Thank you for reaching out to us about this opportunity.

Sincerely,

Jennifer Redmond
Archaeologist and Project Manager
(510) 499-0751
Jennifer.Redmond@aecom.com

Cecilia Meyer Lovell
Associate Vice President
(619) 925-9381
Cecilia.MeyerLovell@aecom.com

Attachments

A: Scope of Work

B: Fee Proposal

Attachment A-
Scope of Services

December 3, 2020

As outlined in the scope of work provided by SOCWA, the proposed archaeological, paleontological, and Native American monitoring will be conducted in accordance with the Final Environmental Impact Report (FEIR; Dudek, March 2013), Construction Monitoring Treatment Plan (Treatment Plan; Dudek, October 2017), and regulatory guidelines. Construction is anticipated to begin in mid-January 2021.

Task 1 – Development of Worker Environmental Training Program & Attendance at the Pre-Construction Workshop

In accordance with MM-CUL-1 of the Treatment Plan, a qualified archaeologist, paleontologist, and a member from a local Native American Tribe will conduct a pre-construction workshop. The workshop will ensure each party involved in construction of the project understand the cultural resources monitoring program, as well as their roles and responsibilities when implementing the program. It is assumed that construction personnel will attend the workshop, and the following topics will be included:

- Types of archaeological/paleontological material that could be uncovered during construction
- Examples of common archaeological/paleontological artifacts and other material that could be encountered
- A description of why monitoring is required
- Monitoring procedures and communication protocols
- Reporting responsibilities for the construction team
- An understanding of why it is unauthorized for the construction team to collect any artifacts on their own

AECOM and Paleo Solutions will provide an in-person or remote online pre-construction workshop with a question and answer session to construction personnel. Handouts with a brief overview of the topics covered in the workshop will be provided to attendees. The presentation will be recorded and made available to construction personnel unable to attend the workshop.

Task 2 – Archaeological, Paleontological, and Native American Monitoring

AECOM and Paleo Solutions will provide archaeological, paleontological, and Native American monitoring for the duration of the project. Monitors will be onsite for ground-disturbing or ground-altering activities, as required in the FEIR and will follow the protocol identified in the Construction Monitoring Treatment Plan.

AECOM and Paleo Solutions will provide one (1) Native American monitor, one (1) archaeological monitor, and one (1) paleontological monitor, as needed based on mitigation measures, type of work, and location. These monitors will be qualified, experienced, and specialized in their field of study and will only be on site when working in an area identified in the Construction Monitoring Treatment Plan as sensitive for those specific resources. The use of archaeological and paleontological specialists during the monitoring will ensure that discoveries can be assessed and appropriate treatments determined quickly, thereby minimizing delays in the construction schedule. The AECOM/Paleo Solutions field team will be overseen by a Registered Professional Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology and an Orange County-certified paleontologist.

Task 3 – Inadvertent Discoveries

AECOM and Paleo Solutions will follow the inadvertent discovery protocol identified in the Construction Monitoring Treatment Plan. It is anticipated that an archaeological, paleontological, and/or Native American monitor will be on site at the time of discovery. The relevant monitor(s) will identify the resource and determine the next steps that are required following the treatment plan following notification of SOCWA and the AECOM/Paleo Solutions oversight team. If the resource is a potentially significant Native

American resource, then additional consultation with the Tribe will be required. If an archaeological or paleontological site (as opposed to an isolate) is observed during monitoring, then a no-construction buffer area will be set up around the discovery and a data recovery program will be initiated if the discovery cannot be avoided by the project.

As identified in the scope of work provided by SOCWA, the data recovery program would consist of fieldwork by a team of cultural monitors to collect the contents of the site, lab work to evaluate the discovery, and reporting to document the discovery. It is assumed that no more than three (3) sites requiring data recovery will be observed during construction. One data recovery program is assumed to includes one 8-hour day of field work for three (3) individuals, along with 8 hours of lab work, and 8 hours of documentation.

Task 4 - Post-Construction Reporting

At the completion of ground disturbing activities, AECOM and Paleo Solutions will prepare a paleontological and archaeological post-construction monitoring report summarizing the results of each phase of the archaeological and paleontological monitoring program. The monitoring report and/or evaluation report, if appropriate, will describe the results, analysis and conclusions of the archaeological monitoring program (e.g., data recovery plan) and will be submitted by the qualified Archaeologist/Paleontologist, along with the Native American monitor's notes and comments, to SOCWA for approval.

Task 5 – Project Management and Coordination

The Archaeological, Paleontological, and Native American Monitoring Project Manager (PM) will be available throughout the construction monitoring program period to provide oversight, quality control of deliverables, and schedule coordination to ensure the construction monitoring and pre-construction activity tasks go smoothly.

Attachment B
Fee Proposal

December 3, 2020

AECOM and Paleo Solutions will provide staff to complete the tasks as described above. The following table summarizes our cost proposal. Work will be billed monthly by task, on a time and materials basis. To offer a competitive price, there will be no markup on subcontractors or reimbursable expenses. Table 1 below shows a detailed breakdown of hours and labor categories by task, including our billing rates.

TABLE 1: DETAILED SUMMARY OF ESTIMATED FEE

		Task 1 - WEAP and Pre-Con		Task 2 - Arch, Paleo, Native American Monitoring		Task 3- Inadvertent Discoveries		Task 4 - Post-Construction Reporting		Task 5 - Project Management and Coordination		Total	
LABOR	RATE	Hours	Fee	Hours	Fee	Hours	Fee	Hours	Fee	Hours	Fee	Hours	Fee
Archaeologist IV	134.00	10	$ 1,340.00	20	$ 2,680.00	8	$ 1,072.00	16	$ 2,144.00	60	$ 8,040.00	114	$ 15,276.00
Archaeologist I	78.00	-	$ -	450	$ 35,100.00	16	$ 1,248.00	-	$ -	-	$ -	466	$ 36,348.00
Archaeologist I	78.00	6	$ 468.00	450	$ 35,100.00	16	$ 1,248.00	24	$ 1,872.00	-	$ -	496	$ 38,688.00
Archaeologist I	78.00	2	$ 156.00	-	$ -	-	$ -	-	$ -	-	$ -	2	$ 156.00
Archaeologist V	191.00	-	$ -	-	$ -	-	$ -	4	$ 764.00	-	$ -	4	$ 764.00
Project Controls II	114.00	-	$ -	-	$ -	-	$ -	-	$ -	10	$ 1,140.00	10	$ 1,140.00
Graphic Artist II	103.00	-	$ -	-	$ -	-	$ -	2	$ 206.00	-	$ -	2	$ 206.00
Technical editor	114.00	-	$ -	-	$ -	-	$ -	4	$ 456.00	-	$ -	4	$ 456.00
Total Labor Hours/Fee		18	$ 1,964.00	920	$ 72,880.00	40	$ 3,568.00	50	$ 5,442.00	70	$ 9,180.00	1,098	$ 93,034.00
Sub-Consultants													
Paleo Solutions			$ 1,944.00		$ 225,000.00		$ 11,250.00		$ 6,260.00		-		$ 244,454.00
Total Subconsultant			$ 1,944.00	-	$ 225,000.00	-	$ 11,250.00	-	$ 6,260.00	-	-	-	$ 244,454.00
Reimbursable Expenses													
Field Vehicle Rental ($75 per day)			-		$ 7,500.00		$ 150.00		-		-		$ 7,650.00
Miscellaneous							$ 50.00						$ 50.00
Total			-	-	$ 7,500.00	-	$ 200.00	-	-	-	-	-	$ 7,700.00
Total Contract Amount			$ 3,908.00		$ 305,380.00		$ 15,018.00		$ 11,702.00		$ 9,180.00		$ 345,188.00

Assumptions

- AECOM and Paleo Solutions' monitoring team will be available at the initial pre-construction workshop to answer questions. Subsequent project personnel shall be trained using the AECOM/Paleo Solutions-prepared PowerPoint presentation without the need for a staff member to provide the training.
- Construction of the project will require up to 200 working days; an archaeological monitor would be present up to 100 days, a paleontological monitor up to 100 days, and the Native American monitor up to 200 days.
- One construction crew will operate at a time (i.e., only one crew will require monitoring).
- Work will occur for 8 hours a day, 5 days a week
- Construction work is expected to begin by January 15, 2021.
- No weekend or night work will be required.
- No hazardous materials are present on site that require special training or protective equipment
- SOCWA or their construction contractor is responsible for trench safety, including installation of shoring in compliance with applicable health and safety regulations as necessary to allow for safe inspection of trenches by AECOM and Paleo Solutions monitors.
- Up to three (3) significant archaeological or paleontological resources will be discovered during monitoring that will require data recovery (one data recovery program is assumed to includes one 8-hour day of field work for three individuals, along with 8 hours of lab work, and 8 hours of documentation)
- If additional significant archaeological or paleontological resources are encountered that would warrant implementation of additional data recovery mitigation measures, this work would be outside of the current scope. An amendment would be submitted to SOCWA to incorporate the additional scope and budget.
- No recordation or evaluation of existing sewer or water conveyance infrastructure is required
- Based on the professional judgment of the monitor(s), no mitigation would be required for material discovered during the excavation process that are not considered potentially significant, including isolates
- No above-ground historical built environment resources are anticipated to be impacted by the project and, thus, no mitigation of these types of cultural resources is include.
- Up to one (1) round of review/comment on deliverables will be required by SOCWA.

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

November 17, 2020

Jason Manning
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Subject: Revised Cost Proposal to Provide Archaeological, Paleontological, and Native American Monitoring Compliance Services for Construction of the Coastal Treatment Plant Export Sludge Forcemain Replacement Project

Dear Mr. Manning:

Dudek is pleased to submit this revised proposal to provide archaeological, paleontological, and Native American monitoring compliance services for the Coastal Treatment Plant Export Sludge Forcemain Replacement Project (project). We took the opportunity to re-evaluate the scope and fee in our original cost proposal, dated October 22, 2020, to identify key areas where the fee could be reduced. This revised proposal incorporates the following key modifications. One, we reduced the number of monitoring days from 250 days to 200 days based on more updated project information. We also did a thorough check of the documents and we believe that full-time monitoring is required but we did note the monitoring effort can be reduced if the archaeologist determines that archaeological resources at the excavation depths are unlikely, which is outlined in the cultural monitoring treatment plan. Two, we identified the Native American monitoring as an "Optional" task so that the South Orange County Wastewater Authority (SOCWA) can easily review the costs between Dudek and NDNA Monitoring & Consulting LLC, the sub-consultant we identified to provide the Native American monitoring, in more detail. We were also able to sharpen our pencils and reduce the hourly fee for a Native American monitor from $80/hour to $70/hour. Please note that given the cultural sensitivity of the project area and to ensure compliance with existing permits and documentation for the project, Native American monitoring is required. We have simply separated out the costs herein so you can more clearly review the costs of these two monitoring services.

The following scope of work and cost estimate includes environmental compliance services associated with the archaeological, paleontological, and Native American monitoring program for the project. These services will be conducted in accordance with the Final Environmental Impact Report (FEIR) (Dudek, March 2013), as well as the Construction Monitoring Treatment Plan (Treatment Plan; Dudek, October 2017), and regulatory requirements as described in the various agency permitting documents associated with the project.

Schedule Assumptions

In addition to the assumptions listed under each task described below, the following schedule assumptions were also considered when developing this scope of work:

- Construction of the project will require up to 200 construction days
- One construction crew will operate at a time (i.e., only one crew will require monitoring)
- Work will occur for 8 hours a day, 5 days a week.

Scope of Work

Task 1 – Archaeological and Paleontological Compliance Monitoring Services

Task 1A – Development of a Worker Environmental Training Program and Attendance at the Pre-Construction Workshop

In accordance with Mitigation Measure (MM)-CUL-1 of the Treatment Plan, a qualified Dudek archaeologist/paleontologist will conduct a pre-construction workshop to ensure all parties involved in construction of the Project understand the cultural resources monitoring program, as well as their roles and responsibilities when implementing the program. It is assumed that all construction personnel will attend the workshop, and the following topics would be included via a PowerPoint presentation with voiceover included, developed by Dudek:

- Types of archaeological/paleontological material that could be uncovered during construction of the Project
- Examples of common archaeological/paleontological artifacts and other material that could be encountered
- A description of why monitoring is required
- Monitoring procedures and communication protocols
- Reporting responsibilities for the construction team
- An understanding of why it's unauthorized for the construction team to collect any artifacts on their own.

Assumptions

- Up to one round of review will be required by SOCWA
- Dudek assumes we will be present at the initial pre-construction workshop to answer questions; however, after the initial workshop, it is assumed that all subsequent project personnel will be trained via the PowerPoint and voiceover, without the need for a Dudek staff member to provide the training (i.e., the contractor will be able to play the presentation on a video device without a Dudek representative on site to give the training)
- Dudek will not be responsible for documenting the attendees at the pre-construction workshop, or subsequent training efforts.

Estimated Cost for Task 1A..... $6,300.00

Task 1B – Archaeological and Paleontological Monitoring

Dudek's cultural resources team offers highly trained, professional cross-trained archaeological and paleontological monitors who are overseen by Dudek's senior archaeologist and paleontologists. Having one monitor conduct the archaeological and paleontological monitoring for the project provides a significant cost savings. Dudek's cross-trained monitors will be onsite for all ground-disturbing or ground-altering activities, as required by MM-CUL-2 and MM-PAL-1 of the FEIR, and Special Condition No. 22 of the Coastal Development Permit. Native American monitoring by a local Native American representative is also required; Dudek has provided an optional scope and

cost to contract with a local Native American monitor to provide monitoring (see Task 4E). If isolated archaeological or paleontological resources are observed during monitoring, the find will be secured and the construction crew redirected away from the area while the find is evaluated in the field. Once the find is collected and it is determined to be an isolated find (i.e., not part of a larger site), the construction crew will be allowed to resume work. If items cannot be securely stored on the project site, they may be stored in off-site facilities located in Orange County.

The monitors will immediately contact the Dudek Senior Archaeologist or Paleontologist and notify SOCWA, as appropriate. If the discovery is determined to be considered otherwise archeologically significant, formal protocols/procedures for proceeding with analysis and as-needed protection and treatment of discovered resources will be followed in accordance with the relevant prepared cultural/paleontological pre-construction plans and agreements. The monitor, in consultation with the Native American monitor, can determine when earth disturbances have reached a depth where there is no longer a potential to encounter archaeological materials and monitoring is no longer necessary. This determination shall be based on an examination of the soil profile/stratigraphy and may reduce the number of monitoring days needed.

Assumptions(s):

- Dudek assumes ground-disturbing activities requiring archaeological and/or paleontological monitoring to last no more than 200 monitoring days, 8-hours per day, with one dual archaeological/paleontological monitor per day
- No weekend or night work will be required
- Mileage is calculated from the Dudek San Capistrano office to the project site at the 2020 federal mileage rate.

Total Estimated Cost for Task 1B ..... $ 143,374.00

Task 1C – Inadvertent Discoveries

If an archaeological or paleontological site (as opposed to a single isolated artifact or resource) is observed, then a no-construction buffer area will be setup around the site and a data recovery program will be initiated. A data recovery program consists of field time by a team of cultural monitors to collect the contents of the site, along with lab work to evaluate the discovery, and reporting time to document the discovery. The cost for a single data recovery program is included in the assumptions section below, and it is assumed that no more than one (3) sites requiring data recovery will be observed during construction of the project.

Assumptions(s):

- Up to three (3) significant archaeological or paleontological resources will be discovered during monitoring that will require data recovery (one data recovery program includes one 8-hour day of field work for three individuals, along with 8 hours of lab work, and 8 hours of documentation, and costs $4,640.00).

Total Estimated Cost for Task 1C $13,920.00

Task 1D - Post-Construction Reporting

At the close of ground disturbing activities, Dudek will prepare a combined paleontological and archaeological post-construction monitoring report summarizing the results of all phases of the archaeological and paleontological monitoring program as described above. The monitoring report and/or evaluation report, if appropriate, will describe the results, analysis and conclusions of the archaeological monitoring program (e.g., data recovery plan) and will be submitted by the Qualified Archaeologist/Paleontologist to SOCWA for approval.

Total Estimated Cost for Task 1D $7,860.00

Task 1E – Native American Monitoring (Optional)

Dudek will contract with a Native American monitoring subconsultant to provide a Native American monitor for all ground-disturbing or ground-altering activities, as required by MM-CUL-2 of the FEIR, and Special Condition No. 22 of the Coastal Development Permit. The Native American monitor will work with the Dudek archaeological/paleontological monitor. If a discovery is made and be determined to be a significant tribal resource or artifact, the protocols and procedures agreed upon in the Treatment Plan will be implemented, and coordination with the Native American tribe. If the discovery is determined not to be significant to the tribe, but still considered otherwise archeologically significant, formal protocols/procedures for proceeding with analysis and as-needed protection and treatment of discovered resources will be followed in accordance with the relevant prepared cultural/paleontological pre-construction plans and agreements, as discussed above in Task 4B. This task also includes time for the Native American monitor to attend the pre-construction workshop (Task 4A).

Note: while MM-CUL-2 requires a Native American monitor to be present during excavation activities, Dudek is presenting this task as an "Optional" task in the event that SOCWA elects to contract directly with a Native American tribe.

Assumptions(s):

- Dudek assumes ground-disturbing activities requiring Native American monitoring to last no more than 200 monitoring days, 8-hours per day, with one Native American monitor per day
- No weekend or night work will be required
- Mileage is calculated from the Dudek San Capistrano office to the project site at the 2020 federal mileage rate.

Total Estimated Cost for Task 1E (OPTIONAL) $115,054.00

Total Estimated Cost for Task 1 (excluding Optional Task 1E) $171,454.00

Task 2 – Project Management and Coordination

Dudek shall provide project management for each item/sub-item under this cost proposal, including meeting attendance, coordination, monthly progress report preparation, schedule control, quality assurance and quality control, project administration and subcontractor oversight. The Dudek project manager (PM) for the project will

be available throughout the construction monitoring program period to provide oversight, quality control of deliverables, and schedule coordination, to ensure the construction monitoring and pre-construction activity tasks go smoothly.

Total Estimated Cost for Task 2.....$17,500.00

Cost Summary

As shown above, and summarized in the table below, a total estimated cost of **$188,954** will be required to complete the outlined scope of work included in Tasks 1 and 2 (excluding Optional Task 1E – Native American Monitoring). An additional **$115,054** would be required to execute Optional Task 1E. For all tasks included in this scope of work (i.e., Tasks 1 and 2 including Optional Task 1E), a total of **$304,008** would be required. This represents a $77,942 reduction in fee from Dudek's original cost proposal dated October 22, 2020.

Task Description	Estimated Cost
Task 1 Archaeological and Paleontological Compliance Monitoring Services	
Task 1A – Worker Environmental Training Program	$6,300
Task 1B – Archaeological and Paleontological Monitoring	$143,374
Task 1C – Inadvertent Discoveries	$13,920
Task 1D – Post-Construction Reporting	$7,860
Subtotal Task 1 (excluding Optional Task 1E)	$171,454
Task 2 – Project Management and Coordination	$17,500
OPTIONAL TASKS	
Optional Task 1E – Native American Monitoring	$115,054
TOTAL (excluding Optional Task 1E)	**$188,954**
TOTAL (including Optional Task 1E)	**$304,008**

We are pleased to continue supporting SOCWA with this important project. If you have any questions, or require any additional information, please do not hesitate to contact Tricia Wotipka at twotipka@dudek.com or 760.420.2042 or Mark Lathram at mlathram@dudek.com or 760.274.3981.

Sincerely,

Tricia Wotipka
Project Manager/Senior Biologist

Mark Lathram
Environmental Compliance Manager

Employee	Mark W Lathram	Michael J Williams	Brad E Comeau	NA Monitor	Dennis M Pascua	David A Alexander	Christian K Hunter	Mark C Storm	Connor A Burke	Shana D Carey	Todd W Anderson	Deborah E Maher	Curtis S Battle	Labor Hours	Labor @ Billing Rates	Sub-Consultant COST	Sub-Consultant BILLING	Reimburseables COST	Reimburseables BILLING	DIRECT COSTS	Total
Billing Category	Specialist IV	Specialist II	Specialist IV		Senior Specialist IV	Technician III	Hydrogeologist IV/Engineer IV	Senior Specialist III	Analyst V	Analyst V	Senior Designer	Analyst IV	GIS Specialist III								
% Used on job	1%	3%	3%	45%		46%						1%	0%								
Phase	**170.00**	**145.00**	**170.00**	**70.00**	**230.00**	**80.00**	**145.00**	**220.00**	**120.00**	**120.00**	**165.00**	**110.00**	**150.00**								
Task 1A - Pre-con Workshop		16	4								20			40	6,300		-		-		6,300
Task 1B - Arch and Paleo Monitoring		40	40			1,600								1,680	140,600		-		-	2,774	143,374
Task 1C - Inadvertent Discoveries		24	24			72							4	124	13,920		-		-		13,920
Task 1D - Post-Construction Reporting		24	24										2	50	7,860		-		-		7,860
Task 2 - Project Management and Coordination	40	20	20									40		120	17,500		-		-		17,500
Task 1F - Native American Monitoring (Optional)				1,604										1,604	112,280		-		-	2,774	115,054
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Total Hours	**40**	**124**	**112**	**1,604**	**-**	**1,672**	**-**	**-**	**-**	**-**	**-**	**40**	**6**	**3,598**	**295,160**						300,707.60
Total Billing	**6,800**	**17,980**	**19,040**	**112,280**	**-**	**133,760**	**-**	**-**	**-**	**-**	**-**	**4,400**	**900**		**295,160**	-	-	-	-	5,548	**$ 304,007.60**

PALEOWEST

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info@paleowest.com

ORANGE COUNTY, CALIFORNIA
27001 La Paz Road, St 230
Mission Viejo, CA 92691

December 4, 2020

Mr. Jason Manning, P.E.
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629
Transmitted via email to jmanning@socwa.com

RE: Archaeological, Paleontological, and Native American Monitoring in Support of the Sludge Force Main Replacement Project, Orange County, California

Dear Mr. Manning,

PaleoWest, LLC (PaleoWest) is pleased to submit herewith a proposal to provide professional services in support of the development of the South Orange County Wastewater Authority (SOCWA) Sludge Force Main Replacement Project (Project) in Orange County, California. This proposal includes a brief overview of our firm including proposed personnel, a project understanding, a scope of services to be provided that includes assumptions, project examples, and a detailed cost estimate to complete the work.

FIRM OVERVIEW

Founded in 2006, PaleoWest has carried out projects from coast to coast and internationally. Our cultural resource services cover all aspects of the discipline including historic and prehistoric archaeology, paleontology, architectural history, maritime archaeology, public outreach, and GIS services. We accomplish this using a thorough knowledge of the regulations, a professional approach to assessment and mitigation, and a full-time staff of highly qualified professionals who strive to do quality work to meet both our clients' needs and agency requirements.

With 13 offices, PaleoWest is known as one of the premier archaeological firms in United States. PaleoWest's team uses state-of-the-art technology to handle our clients' cultural compliance needs quickly and effectively. We have worked on projects ranging from desktop prediction analysis to multi-phase projects requiring survey, testing, data recovery, monitoring, and mitigation efforts. PaleoWest has developed crucial positive relationships with various Native American tribes and entities as well as state and federal agencies. PaleoWest is currently expanding our Public Outreach programs to include robust museum-quality interpretive exhibits as a way for the developer to save on curation fees while at the same time provide a much-needed service to the public in the form of connection to the area through an understanding of the past.

Our clientele includes a range of state and federal agencies, tribes, and private-sector clients. Our tribal work has included aiding the establishment of THPO offices and several large infrastructure (water management) projects. PaleoWest is dedicated to solution-driven

consulting on behalf of clients who need their projects guided through regulatory challenges posed by prehistoric, historic, architectural, ethnographic, and paleontological resources.

PROPOSED PERSONNEL

PaleoWest's key staff in our Los Angeles and Orange County offices have more than 35 years of experience in archaeological and paleontological solutions and have over 20 years working specifically on water agency-sponsored projects. Leading the team as Project Manager and Orange County Certified Paleontologist will be Jessica DeBusk, B.S., M.B.A. Ms. DeBusk is PaleoWest's Los Angeles-Orange County Office Principal. She brings more than 17 years of experience in cultural and paleontological resource management in southern California and has extensive experience in infrastructure projects in and around Orange County. She has successfully served as Project Manager for Metropolitan Water District of Southern California's Prestressed Concrete Cylinder Pipe Rehabilitation Program and Orange County Distribution System Infrastructure Protection Program Environmental Impact Report (EIR). More recently, she served as Project Manager for archaeological monitoring in support of the City of Los Angeles's La Cienega Interceptor Sewer Rehabilitation Project and Principal for archaeological and paleontological monitoring in support of the La Puente Valley County Water District's Recycled Water Project in the City of Industry, California. Ms. Vanessa Mirro, M.A., R.P.A., will serve as our Orange County Certified Archaeologist. Ms. Mirro is a leader in the industry both in California and nationwide. She carries more than 20 years of experience in cultural resources management (CRM) in California, the eastern United States, and Canada. Ms. DeBusk and Ms. Mirro will be supported by a team of highly qualified cultural and paleontological resources Principal Investigators, archaeological and paleontological technicians, geographic information system (GIS) staff, technical editors, and document production specialists.

To augment the PaleoWest team, Gabrielino/Tongva Tribal Consultants (GTTC) will be retained to assist with Native American monitoring. Our staff has worked with GTTC successfully on numerous projects for more than a decade.

PROJECT UNDERSTANDING

PaleoWest understands that the Project entails replacement of approximately 16,600 feet of two existing parallel 4-inch pipelines between SOCWA's Coastal Treatment Plant (CTP) and Alicia Parkway. The Project would replace the existing force mains with a single 6-inch force main made of high-density polyethylene (HDPE). The pipeline is proposed to be constructed on the east side of Aliso Creek, parallel to Moulton Niguel Water District's sewer line within the existing dirt utility access road right-of-way.

We further understand construction of the Project would occur over approximately 7.5 months and would potentially include a 3-week period during which sludge would be transported from the CTP to the Regional Treatment Plant (RTP) using an 18-wheeler tanker truck. Pipeline installation would occur within a 30-foot easement within which 3 feet would be excavated for the pipeline trench.

PaleoWest's scope of work herein includes environmental compliance services associated with the cultural and paleontological resource mitigation measures (MMs) set forth in the Project's approved Final EIR (FEIR) (Dudek, 2013) and the Construction Monitoring Treatment Plan (Dudek, 2017).

SCOPE OF WORK

TASK 1 – DEVELOPMENT OF WORKER ENVIRONMENTAL TRAINING PROGRAM & ATTENDANCE AT THE PRE-CONSTRUCTION WORKSHOP

In accordance with MM-CUL-1, PaleoWest's Certified Archaeologist, Certified Paleontologist, and a Native American monitor from GTTC will attend a pre-construction workshop. The workshop will ensure each party involved in construction of the Project understand the cultural and paleontological resources monitoring program, as well as their roles and responsibilities when implementing the program. PaleoWest assumes that all construction personnel will attend the workshop, and the following topics will be included using training materials which will either include brochures and/or a Power Point presentation:

- Types of archaeological/paleontological material that could be uncovered during construction;
- Examples of common archaeological artifacts/fossils and other material that could be encountered;
- A description of why monitoring is required and a discussion of applicable laws and penalties for removal or disturbance of cultural or fossil materials found on site;
- Monitoring procedures and communication protocols;
- Reporting responsibilities for the construction team; and
- Contact information for the on-site monitor(s), Certified Archaeologist, and Certified Paleontologist.

Assumptions

- Up to one (1) round of review/comment will be required by SOCWA; and
- PaleoWest's monitoring team will be present at the initial pre-construction workshop to answer questions. However, after the initial workshop, subsequent project personnel shall be trained using appropriate training materials, without the need for PaleoWest's staff member to provide the training (e.g., PaleoWest will play the presentation on a video device or provide brochures without a representative onsite to give the training).

TASK 2 – ARCHAEOLOGICAL, PALEONTOLOGICAL, AND NATIVE AMERICAN MONITORING

Archaeological Monitoring

PaleoWest will provide an experienced archaeological monitor to be on-site to observe ground-disturbing activity, including grading, trenching, and excavation, in soils with a reasonable potential for encountering cultural resources based on the protocols outlined in the Construction Monitoring Treatment Plan (Dudek, 2017). Specifically, all ground disturbing activities within the defined CA-ORA-582 site boundary, and a 100-foot buffer around the boundary, will require monitoring by a qualified archaeologist and local Native American representative (see subtask below). The monitor will carefully inspect spoils and vertical cuts (as safety conditions permit) for archaeological remains.

If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Orange County Coroner has made the necessary

findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Los Angeles County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Paleontological Monitoring

PaleoWest will provide an experienced paleontological monitor or archaeological monitor cross trained in paleontology to be on-site during all project-related ground- disturbing activities within previously undisturbed, intact sediments determined to have a high paleontological sensitivity. Prior to monitoring, PaleoWest will prepare a Paleontological Mitigation and Discovery Plan (PMDP). The PMDP will outline paleontological tasks to be completed during project development such as worker's training, construction monitoring, daily reporting, fossil and data collection, laboratory procedures, museum curation, and final reporting. It will also include a map identifying the locations where monitoring is required and present the names and qualifications of PaleoWest's proposed paleontology staff. All tasks described in the PMDP will adhere strictly to current Society of Vertebrate Paleontology (SVP) guidelines and will meet all agency requirements. During construction, the monitor will inspect excavated or graded areas and trench sidewalls for evidence of paleontological resources. Monitoring procedures may also include on-site sample screening of sedimentary matrix for the presence of microfossils, at the discretion of the Certified Paleontologist.

Native American Monitoring

PaleoWest will retain a Native American monitor as required by MM-CUL-1 of the FEIR to monitor all ground disturbances within the defined CA-ORA-585 site boundary, and a 100-foot boundary. PaleoWest has retained the services of GTTC to perform the monitoring. The Native American monitor will complete a daily monitoring form listing the day's activities for submittal to PaleoWest on a weekly basis.

All field work will be conducted in accordance with Project safety requirements.

Assumptions:

- PaleoWest has on staff monitors cross trained in both archaeology and paleontology and assumes only one monitor will need to be onsite monitoring for both archaeological resources and paleontological resources at any given time;
- PaleoWest's Certified Paleontologist and Certified Archaeologist will oversee all fieldwork;
- This scope and cost estimate assumes up to three cultural/paleontological resources will be encountered during the course the monitoring (See Task 3). Costs for evaluation, consultation, and treatment of more than three resources are not included herein;
- Ground-disturbing activities requiring archaeological, paleontological, and Native American monitoring to last no more than 200 working days, 8-hours per day. As noted above and in the Project FEIR, only ground disturbing activities within the defined CA-ORA-582 site boundary, and a 100-foot buffer around the boundary will require

archaeological and Native American monitor. For the purposes of this cost estimate, we assume all 200 working days will require a Native American monitor;

- GTTC will provide a Native American monitor at an hourly rate of $80 plus $75 per day for project management. Any time exceeding 8 hours in a day or 40 hours in a week will be billed on a time and materials basis at 1.5 times the standard rate consistent with overtime compensation; and
- No weekend or night work will be required.

TASK 3 – INADVERTENT DISCOVERIES

If an archaeological site (as opposed to a single isolated artifact or resource) or scientifically significant paleontological site (as defined by the SVP) is encountered during monitoring, the monitor shall have the authority to temporarily halt or redirect grading/trenching/excavation while the material is documented and assessed. A no-construction buffer area will be setup around the site and a data recovery program will be initiated. A data recovery program consists of field time by a team of cultural or paleontological monitors to collect the contents of the site, along with lab work to evaluate the discovery, and reporting time to document the discoveries.

Assumptions:

- Up to three (3) significant archaeological or paleontological resources will be discovered during monitoring that will require data recovery (one data recovery program is assumed to includes one 8-hour day of field work for three individuals, along with 8 hours of lab work, and 8 hours of documentation); and
- Up to three (3) boxes of material, one from each significant find, will need to be curated at an approved repository. This assumes the maximum curation fee per box will be $1,200.

TASK 4 - POST-CONSTRUCTION REPORTING

Cultural Resource/Paleontological Resource Monitoring Report

Following the conclusion of monitoring activities, PaleoWest will prepare a combined Cultural Resource/Paleontological Resource Monitoring Report that will include a description of the Project and the results of each phase of the archaeological and paleontological monitoring program. The monitoring report and/or evaluation report, if appropriate, will describe the results, analysis and conclusions of the archaeological monitoring program (e.g., data recovery plan). The report will also describe the lithology of the depositional units exposed during excavations, and present the results of the paleontological monitoring. If appropriate, it will include a summary of the field and laboratory methods, an overview of the Project area geology and paleontology, a list of taxa recovered, an analysis of fossils recovered and their scientific significance, and recommendations. PaleoWest will submit a draft report with the Native American monitor's notes and comments, to SOCWA for comment. Following receipt of comments, a final copy will be prepared and submitted to SOCWA. The final copy will also be submitted to the South Central Coastal Information Center, as required.

Assumptions:

- Up to one round of SOCWA comments will be addressed and comments will not be extensive; and

- All deliverables (draft and final) will be in electronic (PDF or Word) format. No hard copies will be necessary.

TASK 5 – PROJECT MANAGEMENT AND COORDINATION

PaleoWest's Project Manager, Certified Paleontologist, and Certified Archaeologist will be available for the duration of the Project to answer questions and provide clarifications to ensure expediency towards fulfilling Project requirements. Project management will include regular telephone and e-mail communications with SOCWA. PaleoWest will also provide consistent quality control of Project costs, schedule, and staffing under this task to ensure the pre-construction activity and construction monitoring tasks go smoothly.

COST ESTIMATE

PaleoWest will conduct the above scope of work for a fee not to exceed (NTE) **$304,654** as shown in the enclosed Cost Estimate Table. Please note, PaleoWest charges a minimum of four (4) hours per monitor for any day a monitor is on site for less than 4 hours or in the event that work is cancelled without 24 hours' notice. Also note that the cost assumes a total of 400 8-hour work days (200 cross-trained monitor, 200 Native American monitor) will be required to complete the work and no more than one crew will operate at a time (i.e., only one crew will require monitoring). Should the program involve less monitoring than estimated above based on site conditions, only those monitoring hours and related direct expenses would be billed. For all other tasks, PaleoWest may re-allocate costs among tasks and/or direct costs as circumstances warrant so long as the adjustments maintain the total price within its authorized amount.

Thank you for your consideration of PaleoWest for this project. We look forward to the opportunity to work with you. Please do not hesitate to contact me at (760) 271-6943 or jdebusk@paleowest.com if you have questions or require additional information.

Sincerely,

PALEOWEST

Jessica DeBusk, MBA | Office Principal

Enclosed: Cost Estimate, Project Examples

COST ESTIMATE

TASK	STAFF	RATE	HOURS	ODC'S	TOTAL
WORKER TRAINING AND PRE-CONSTRUCTION MEETING	Senior Principal	$ 180.00			$ -
	Principal	$ 160.00			$ -
	Certified Archaeologist	$ 130.00	4		$ 520.00
	Project Manager/Certified Paleontologist	$ 135.00	6		$ 810.00
	Supervisory Archaeologist	$ 90.00	6		$ 540.00
	Supervisory Paleontologist	$ 90.00	6		$ 540.00
	Crew Chief	$ 75.00			$ -
	Field Tech	$ 70.00			$ -
	Senior GIS Specialist	$ 125.00			$ -
	GIS Specialist	$ 80.00			$ -
	Production	$ 90.00	1		$ 90.00
	Administrative Staff	$ 75.00	1		$ 75.00
				GTTC (Native American Monitor)	$ 480.00
				Mileage	$ 35.00
				Printing Fee	$ 100.00
				Admin fee (2%)	$ 14.15
				Task Subtotal	$ 3,204
ARCH, PALEO, NA MONITORING	Senior Principal	$ 180.00			$ -
	Principal	$ 160.00			$ -
	Certified Archaeologist	$ 130.00	20		$ 2,600.00
	Project Manager/Certified Paleontologist	$ 135.00	20		$ 2,700.00
	Supervisory Paleontologist	$ 90.00	34		$ 3,060.00
	Crew Chief	$ 75.00			$ -
	Cross-trained Archaeo-Paleo Monitor	$ 70.00	1600		$ 112,000.00
	Field Tech	$ 70.00			$ -
	Senior GIS Specialist	$ 125.00	4		$ 500.00
	GIS Specialist	$ 80.00	8		$ 640.00
	Production	$ 90.00	2		$ 180.00
	Administrative Staff	$ 75.00			$ -

TASK	STAFF	RATE	HOURS	ODC'S	TOTAL
				GTTC (Native American Monitor)	$ 128,000.00
				Mileage	$ 4,000.00
				Printing Fee	
				Admin fee (2%)	$ 3,036.00
				Task Subtotal	$ 256,716
INADVERTANT DISCOVERIES	Senior Principal	$ 180.00			$ -
	Principal	$ 160.00			$ -
	Certified Archaeologist	$ 130.00	24		$ 3,120.00
	Project Manager/Certified Paleontologist	$ 135.00			$ -
	Supervisory Archaeologist	$ 90.00	24		$ 2,160.00
	Crew Chief	$ 75.00			$ -
	Field Tech	$ 70.00	24		$ 1,680.00
	Lab Supervisor	$ 90.00	24		$ 2,160.00
	GIS Specialist	$ 80.00			$ -
	Production	$ 90.00			$ -
	Administrative Staff	$ 75.00			$ -
				Curation	$ 3,600.00
				Mileage	$ 50.00
				Printing Fee	
				Admin fee (2%)	$ 83.95
				Task Subtotal	$ 12,854
POST CONSTRUCTION REPORTING	Senior Principal	$ 180.00			$ -
	Principal	$ 160.00	2		$ 320.00
	Certified Archaeologist	$ 130.00	4		$ 520.00
	Project Manager/Certified Paleontologist	$ 135.00	6		$ 810.00
	Supervisory Archaeologist/Paleontologist	$ 90.00	24		$ 2,160.00
	Crew Chief	$ 75.00			$ -
	Field Tech	$ 70.00			$ -
	Senior GIS Specialist	$ 125.00	1		$ 125.00
	GIS Specialist	$ 80.00	2		$ 160.00
	Production	$ 90.00	1		$ 90.00
	Administrative Staff	$ 75.00			$ -
				Mileage	

TASK	STAFF	RATE	HOURS	ODC'S	TOTAL
				Printing Fee	
				Admin fee (2%)	$ -
				Task Subtotal	$ 4,185
PROJECT MANAGEMENT AND COORDINATION	Senior Principal	$ 180.00			$ -
	Principal	$ 160.00			$ -
	Certified Archaeologist	$ 130.00			$ -
	Project Manager/Certified Paleontologist	$ 135.00	50		$ 6,750.00
	Assistant Project Manager	$ 120.00	50		$ 6,000.00
	Crew Chief	$ 75.00			$ -
	Field Tech	$ 70.00			$ -
	Senior GIS Specialist	$ 125.00			$ -
	GIS Specialist	$ 80.00			$ -
	Production	$ 90.00			$ -
	Administrative Staff	$ 75.00	8		$ 600.00
				GTTC (Native American Manager)	$ 15,000.00
				Mileage	
				Printing Fee	
				Admin fee (2%)	$ 345.00
				Task Subtotal	$ 28,695

TOTAL	$ 304,654

PROJECT EXAMPLES

PALEN SOLAR ARCHAEOLOGICAL AND PALEONTOLOGICAL MONITORING PROJECT

Desert Center, CA

Since 2018, PaleoWest has conducted archaeological and paleontological permitting and compliance support for EDF Renewables at the Palen Solar Project. The Palen Solar Project is a 500 MW photovoltaic energy-generating facility located on approximately 3,500 acres of public land managed by the Bureau of Land Management Palm Springs South Coast Field Office east of Desert Center, California.

CLIENT CONTACT
Dana Moore, Associate Program Manager
T: 858-521-3407
E: Dana.moore@edf-re.com

TOTAL PROJECT COST
$2,786,103 NTE

PROJECT DATES
January 2018 - ongoing

Permitting requirements included conducting paleontological and archaeological survey; consulted on appropriate mitigation measures for impacts to the Desert Training Center and nearby prehistoric resources; drafting of the archaeological monitoring and discovery plan, project-specific work plan, NAGPRA Plan of Action, Tribal Participation Plan, and paleontological monitoring and mitigation plan.

PaleoWest has also completed compliance monitoring for archaeological and paleontological resources, coordinated Native American monitoring among seven consulting Native American Tribes, and completed cultural resources mitigation for effects to prehistoric and historic-era cultural resources.

The project has utilized the PaleoWay digital recording system to streamline daily recording or monitoring activities and facilitated expedited weekly and monthly reporting to the BLM and Native American stakeholders

DESERT HARVEST SOLAR PROJECT ARCHAEOLOGICAL AND PALEONTOLOGICAL COMPLIANCE AND MONITORING SERVICES

Desert Center, CA

Since 2018, PaleoWest has conducted archaeological and paleontological permitting and compliance support for EDF Renewables at the Desert Harvest Solar Project. The project is located on approximately 1,200 acres of public land managed by the Bureau of Land Management Palm Springs South Coast Field Office north of Desert Center, California and generates 150 MW of energy through photovoltaic panels.

CLIENT CONTACT
Dana Moore, Associate Program Manager
T: 858-521-3407
E: Dana.moore@edf-r2e.com

TOTAL PROJECT COST
$1,089,280 NTE

PROJECT DATES
July 2018 - ongoing

Permitting requirements included conducting geoarchaeological and paleontological sensitivity investigations in conjunction with geotechnical studies; revision and update of the project memorandum of agreement between EDF Renewables, the BLM, and the California SHPO; and drafting of the archaeological monitoring and discovery plan, project-specific work plan, NAGPRA Plan of Action, Tribal Participation Plan, and paleontological monitoring and mitigation plan.

PaleoWest has also completed compliance monitoring for archaeological and paleontological resources, coordinated Native American monitoring among six consulting Native American Tribes, and overseen completion of cultural resources mitigation measures for effects to prehistoric and historic-era cultural resources.

The project has utilized the PaleoWay digital recording system to streamline daily recording or monitoring activities and facilitated expedited weekly and monthly reporting to the BLM and Native American stakeholders.

STANTON ENERGY FACILITY CENTER

Stanton, CA

PaleoWest Archaeology is conducting the Paleontological and Cultural Resources Monitoring Program for the Stanton Energy Reliability Center (SERC).

SERC will be a nominal 98-megawatt (MW) natural gas-fired EGT plant consisting of two General Electric (GE) LM6000 PC natural gas-fired combustion turbine generators (CTGs) and related facilities, with integrated batteries for hybrid operation and clutch gear for synchronous condenser operation. EGT refers to the LM6000 PC Hybrid EGT jointly developed by General Electric International, Inc. and Wellhead Power Solutions (Wellhead). The EGT combines a combustion gas turbine with an integrated battery storage component operated by a proprietary software system. Project elements include the generation equipment, battery array, and connections to natural gas, municipal water supply, and the electrical grid.

CLIENT CONTACT
Jacobs
Karen Parker
T: 916-286-0298
E: Karen.parker@jacobs.com

TOTAL PROJECT COST
$1,489,867 FFP

PROJECT DATES
November 2018 – ongoing

Two 10 MW/5 MWh lithium-ion battery energy storage system will be installed at the SERC site. The system can be operated in conjunction with the thermal power plant using the proprietary EGT Hybrid technology, jointly developed by Wellhead and GE. The storage system will consist of three main components: batteries, inverters, and Balance of Plant (BOP) (e.g., step-up transformers and site controller). Each set of batteries will be installed in a purpose-built battery enclosure to meet fire protection requirements and provide secondary containment. SERC, LLC expects the energy storage system to enable the EGT to be used for greenhouse gas (GHG)-free operating reserve, regulation up and regulation down, frequency regulation, and voltage regulation.

As a reliability plant, the SERC is expected to operate during periods of increased need on the grid such as times of high electrical load, during periods when intermittent renewable source generation fluctuates, when baseload plants are not operating or being brought online, or during emergency conditions and local reliability needs.

CULTURAL AND PALEONTOLOGICAL RESOURCES MONITORING ACTIVITIES FOR THE FRESNO PHASE II REGIONAL TRANSMISSION MAIN PROJECT

Fresno, California

PaleoWest was contracted by the City of Fresno to provide environmental compliance services in support of the Phase 2 Regional Transmission Mains Capital Improvement Project. In compliance with the California Environmental Quality Act (CEQA), this project included a review of existing City monitoring plans for cultural resources and paleontological resources, consolidation of existing plans to create a single mitigation monitoring plan, preparation of a Cultural Resources Discovery Plan, cultural resources and paleontological compliance monitoring with monthly updates, and production of a final monitoring report describing and evaluating finds.

CLIENT CONTACT
City of Fresno
Gino Rapagna
2101 G Street, Building A
Fresno, CA 93706

TOTAL PROJECT COST
$624,940.00 FFP

PROJECT DATES
2017 - 2018

Projects included the 12.8-mile Kings River Pipeline as well as the Regional Transmissions Main project with four separate segments comprising a total of 13.1 miles. Monitoring efforts associated with these projects resulted in recording six isolated finds and sixteen archaeological sites. Of these, only one archaeological site, S-CP-06, was determined potentially eligible to the California Register of Historical Resources for its association with Japanese households in the early 20th century. As the site was to be impacted, mitigation was required. However, since the site was located 8 feet below the ground surface within soils that were unsuitable for trench stabilization measures, archaeologists coordinated with regulators to find a mitigation solution that would allow the project to continue as well as allow archaeologists to safely gather available data from the site. This solution recovered artifacts through mechanical trenching and screening spoil. Archaeologists documented artifacts retrieved during mechanical excavation, sorting them into diagnostic and non-diagnostic categories. Diagnostic artifacts and a sample of non-diagnostic artifacts were collected for cleaning and analysis; upon completion of the analysis and reporting, the artifacts were donated to the appropriate facility in Fresno.

PSOMAS

Balancing the Natural and Built Environment

December 2, 2020

Jason Manning, P.E.
Director of Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, California 92629

VIA EMAIL
jmanning@socwa.com

Subject: Scope of Work for Archaeological, Paleontological, and Native American Monitoring for the Export Sludge Force Main Replacement Project in the City of Laguna Niguel, Orange County, California

Dear Mr. Manning:

Psomas appreciates the opportunity to provide services for Archaeological, Paleontological, and Native American Monitoring for the Export Sludge Force Main Replacement Project (Project) site located in the City of Laguna Niguel, Orange County, California.

Attached is the requested Scope of Work (Attachment A), Senior Archaeologist and Senior Paleontologist Resumes (Attachment B), Project Examples (Attachment C), and Cost Proposal (Attachment D). The total estimated fees for our proposed Scope of Services is **$217,368.00** ($212,068.00 in labor and $5,300.00 in reimbursable expenses).

Psomas, with its subconsultants John Minch and Associates (JMA) and Juaneño Band of Mission Indians, Acjachemen Nation (Acjachemen Nation), will be responsible for ensuring the following:

- Implementation of all requirements of the Mitigation Monitoring and Reporting Program (MMRP) and any applicable laws, in regard to the archaeological, paleontological, and tribal cultural resources;
- Provide qualified monitors as described in the MMRP;
- Develop and implement plans and programs as required during preconstruction, construction and post-construction and prepare all necessary reports;
- Provide training for construction and field personnel to efficiently conduct the monitoring activities and identify potential resources may be encountered during the construction;
- Schedule and coordinate the monitoring work with the Native American Tribal Representative;
- Schedule and coordinate services according to the construction contractor's schedule and activities for the Project.

As a full-service environmental firm, Psomas proposes to provide cultural services to assist in the implementation of the MMRP. Psomas has thoroughly reviewed the applicable mitigation measure (MM-CUL-1) and has assembled a team of technical experts to meet the Developer's needs.

5 Hutton Centre Drive
Suite 300
Santa Ana, CA 92707

Tel 714.751.7373
Fax 714.545.8883
www.Psomas.com

Our Project Team for this contract consists of:

Registered Professional **Archaeologist** (RPA) and **Native American** specialists with over 20 years of cultural resources management experience managing field projects in support of compliance with CEQA, including archaeological surveys, construction monitoring, data recovery, preparing monitoring and treatment plans, laboratory analysis, and consultation with Tribal Representatives from Orange County. Psomas qualified staff meet the Society for California Archaeology (SCA) and Office of Historic Preservation (OHP) guidelines for professional archaeology. The Senior Archaeologist assigned to the Project is a certified Orange County Archaeologist.

Skilled **Paleontologists** with extensive field, laboratory, and museum experience providing our team with the expertise necessary to identify and recover any fossils encountered during construction in a timely and efficient manner. Our team of paleontologists meet the Society of Vertebrate Paleontology (SVP) guidelines for professional paleontologists and will conduct all their investigations and monitoring pursuant to SVP standards and practice. The Senior Paleontologist assigned to the Project is a certified Orange County Paleontologist.

Psomas will be responsible for ongoing coordination with the Developer and other team members prior to and throughout the project's construction. We are available to begin work upon receipt of written authorization to proceed. The attached Scope of Work assumes the Monitoring Task will be completed within 200 working days per the Developer's scheduled days from authorization to proceed. Please contact Charles Cisneros at 626.204.6520 or charles.cisneros@psomas.com with any questions.

Sincerely,
PSOMAS

Jim Hunter, ENV SP
Vice President

Charles Cisneros, RPA
Senior Archaeologist

Attachments: A – Scope of Work and Professional Fees
B – Senior Staff Resumes
C – Project Examples
D – Cost Proposal

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ATTACHMENT A

SCOPE OF WORK, FEES AND SCHEDULE
CULTURAL RESOURCES SUPPORT SERVICES

December 2, 2020

PROJECT UNDERSTANDING

The Project will include the design of a new 6-inch-diameter high density polyethylene (HDPE) pipe extending from the Coastal Treatment Plant (CTP) to Alicia Parkway along the east side of Aliso Creek in the Aliso and Wood Canyons Wilderness Park area. The new pipeline will replace two existing deteriorating 4-inch sludge ductile iron pipelines constructed in 1982 within the utility easement of South Orange County Wastewater Authority (SOCWA) and Moulton Niguel Water District (MNWD). The existing pipelines parallel an 18-inch-diameter, vitrified clay sewer emergency overflow pipeline, and a 36- to 39-inch-diameter reinforced concrete emergency transmission pipeline along an unpaved access road that borders the meandering Aliso Creek.

As a result of these construction activities the Project required an Environmental Impact Report (EIR) to be prepared for the Project to identify potential significant impacts on the environment. According to the findings of the *Final Environmental Impact Report for the Coastal Treatment Plant Export Sludge Force Main Replacement Project* EIR, SOCWA will require the Developer to implement the MMRP (MM-CUL-1) which requires cultural (archaeological and tribal cultural resources), and paleontological monitoring.

SCOPE OF WORK

TASK 1 WORKER ENVIRONMENTAL TRAINING PROGRAM

As noted above, SOCWA is aware of the potential for cultural and paleontological finds within the Project boundaries based on archival research and in consultation with local tribal representatives. To address this, Psomas will prepare and present a training program in cultural and paleontological resources awareness (**MM-CUL-1**) for the Project. The training program, which will be developed to fulfill, in part, SOCWA's responsibilities under the California Environmental Quality Act (CEQA), requires the participation of all field personnel and construction workers to increase their awareness and knowledge of the types of cultural and paleontological resources that may be discovered over the course of the Project. It is specifically designed to aid personnel in identifying cultural and paleontological resources inadvertently discovered during construction.

Psomas regularly conducts worker resource awareness training as standard practice and has been implementing a Cultural Resources Awareness Training before the start of any field project for over 20 years. Psomas has developed in-person training and handouts for its clients. The content of the training will be specific to the project and presented at the project pre-construction meeting where construction personnel and management staff are presented with the Construction Monitoring Treatment Plan (**MM-CUL-1**) prepared by Dudek in 2017. The training will also provide a descriptive and visual orientation to the types of cultural and paleontological resources that may be encountered during construction at the Project site, as well as the significance of such material. During the in-person training session, the Project Archaeologist, Tribal Representative from the Acjachemen Nation, and the Project Paleontologist will present reproductions of intact artifacts, fossils, and actual fragments from past sites to participants with specific goals in mind: 1) to acquaint them with the range of cultural and paleontological resources they may encounter, 2) to highlight the potential value of these resources to the local Native

American community, and 3) to better understand the past cultural and paleontological history of Laguna Niguel.

Site managers and appropriate employees are provided with a Psomas handbook that includes photos or illustrations of fossil/artifact sample specimens, the protocols that must be followed when such material is encountered during construction activities, and any applicable laws and regulations that may apply to the resources that may be encountered. The training session together with the handbook will also emphasize the potential for field personnel and construction workers to discover burial goods and human remains during ground disturbance. The training session will be considerate of issues that are sensitive to the Native American community and will not include images of human remains or cultural resources identified as grave goods. Any new construction personnel that are added to the project will receive the same training by a Psomas cross trained archaeological/paleontological monitor.

Deliverables:

- Training Handout (one (1) electronic and one (1) hardbound copy)
- One in-person 30-minute training session at the Pre-construction meeting

TASK 2 CULTURAL RESOURCES MONITORING

Archaeological, Paleontological, and Native American construction monitoring is on-the-ground, close-up observation by qualified archaeological, paleontological, and Native American specialists and involves examining the soil for any type of archaeological and paleontological remains that might be exposed during ground-disturbing activities. Psomas will provide one (1) qualified cross trained archaeological/paleontological and paleontological and Native American monitor, per SCA and SVP guidelines, to direct and monitor ground disturbing activities within undisturbed native sediments pursuant to **MM-CUL-1** and **MM-PAL-1**. Monitoring activities will be conducted under the supervision of an Orange County Certified Archaeologist and Orange County Certified Paleontologist who will adjust or modify monitoring activities accordingly and based on ground disturbance activities. On-site, the monitors will coordinate directly with construction personnel and will have the authority to temporarily halt or re-direct work if cultural resources and/or fossils are observed. The on-site monitor(s) will immediately notify the Psomas Senior Team and Developer or Developer's representative of the observation. The on-site monitor(s) will identify and mark a 50-foot "no work" radius around any finds made during construction until the exposed resources (archaeological and paleontological) are evaluated and recovered (refer to Task 3).

Monitors will fully document construction activities daily and prepare logs that include details of construction activities, soil observations, and any discoveries or relevant observations. Psomas uses paperless data collection technology including handheld Global Positioning System (GPS) devices and tablets. All daily logs, photographs, and locational data will be archived and provided to SOCWA upon request. This scope of work assumes one cross trained archaeological/paleontological monitor working 8-hour days for a total of 200 days, and one Native American monitor working 8-hour days for a total of 100 days. One qualified cross trained archaeological/paleontological monitor will reduce costs while keeping the project in compliance with the MMRP. Based on our experience with construction monitoring activities, the Native American monitor is typically only required when ground disturbing activities occur within undisturbed soils considered potentially sensitive for archaeological and tribal cultural resources. Deeper soils considered sensitive for paleontological resources only require one (1) cross trained archaeological/paleontological monitor. Therefore, we have assumed the presence of a Native American Monitor for only a portion of the construction schedule. Further, the assigned cross trained archaeological/paleontological monitor will be responsible to notify the Native American Monitor (whether on- or off-site) of any potential resources. As a contingency, an additional 100 days of Native American monitoring time has been included in the Project budget and will only be authorized if the Native American Monitor deems additional monitoring is required.

Deliverables:

- Monitoring conducted by one cross trained archaeological/paleontological monitor for 8 hours per day for 200 total workdays.
- Monitoring conducted by one Native American monitor for 8 hours per day for 100 total workdays.
- Contingency monitoring conducted by one Native American monitor for up to 100 additional workdays (subject to separate written or email authorization).

TASK 3 INADVERTENT DISCOVERY

In the event of a significant prehistoric and/or tribal cultural resource discovery, the Project Senior Archaeologist, in consultation with the Native American representative from Acjachemen Nation, will initiate a Data Recovery Plan (**MM-CUL-1**) for review by SOCWA. Recovered cultural resources will be transferred to a public, non-profit curation facility, university, or museum with research interest in the cultural resources. A repository agreement between Psomas an accredited curation facility (e.g. Cooper Center, Natural History Museum of Los Angeles County) will be reached before the Project begins. However, if the cultural resources are determined to be important to the Acjachemen Nation by the Native American monitor, the resources will first be offered to the tribe for permanent curation, repatriation, or reburial, as directed by the Acjachemen Nation. If neither the tribe or a curation facility will accept the cultural resources, then Psomas will retain the resources and coordinate future donation to a local school or historical society for educational purposes on behalf of the Developer.

If identified human remains are encountered during construction, the Psomas monitor will stop activities in the immediate area of the discovery and immediately notify the Psomas Senior Archaeologist and Developer or Developer's representative of the observation. The Psomas monitor and Senior Archaeologist will ensure that the human remains be treated with respect and in accordance with the procedures defined by the California Health and Safety Code Section 7050.5 and Public Resource Code (PRC) Section 5097.98. The Psomas monitor will notify the Orange County Coroner and the Coroner will contact the Native American Heritage Commission (NAHC) to identify the Most Likely Descendent (MLD).

Psomas will determine the significance of any fossils encountered and direct the recovery and curation as appropriate. Psomas has extensive experience in fossil identification and employs the most current and applicable professional techniques of fossil preparation and curation methods. Recovered fossils will be transferred to a regional natural history museum to be held in the public trust in accordance with SVP guidelines; a repository agreement with an accredited museum (e.g. Cooper Center, Natural History Museum of Los Angeles County) will be reached before the project begins.

This scope assumes up to three (3) significant archaeological and/or paleontological discoveries over the course of the Project. The cost for one (1) significant finding is estimated at $4,692.00.

Deliverables:

- Coordination with the appropriate entity on an as-needed-basis, based on resource discovery

TASK 4 POST-CONSTRUCTION REPORT

Following the end of project-related excavation and ground-disturbing activities, Psomas will prepare a post-construction report. This report will include a narrative of the project's findings, maps, and attached daily monitoring reports. The report will be prepared according to Archaeological Resource Management Reports (ARMR) Guidelines, California State Historic Preservation (SHPO) Guidelines, SCA, and SVP

Guidelines, and will describe the methods used, results of the fieldwork and, if applicable, National Register of Historic Places (NRHP) eligibility recommendations and California Register of Historic Resources (CRHR) eligibility recommendations.

Deliverable:

- Post-Construction Report (Draft and Final versions via email)

TASK 5 PROJECT MANAGEMENT

The Psomas Team will regularly coordinate with the Developer and the Developer's team to ensure compliance with the scope of work, schedule, and budget. This will include regular communication, including provision of a master schedule to be updated weekly and which will include names, roles/titles, and contact information for all assigned Psomas staff, as well as the anticipated schedule and assignments of on-site monitors for the week. Psomas' Senior Archaeologist will also ensure that all deliverables and documentation are of the highest quality. All deliverables and documentation will be subject to quality control review. Upon completion of the first internal draft of a report, it is reviewed by a Senior Manager for consistency and technical accuracy. Once the document has been revised to the satisfaction of the Senior Manager, it will be sent to our in-house technical editor for review of grammar, proper nomenclature, references, and methodological consistency. Only then will the document be submitted to the SOCWA for review.

FEE ESTIMATE

Professional Labor	**$212,068.00**
Other Direct Costs (Mileage)	**$5,300.00**
Total Costs	***$217,368.00***
Contingency Budget for Native American Monitor	***$60,000.00***

ASSUMPTIONS

- The above scope has been estimated based on Psomas' current knowledge of the proposed project and the project site. Agency or Applicant requests for additional out of scope work efforts not explicitly described above will require a change order.
- One cross trained archaeological/paleontological monitor will be on site for 8 hours per day for 200 total workdays.
- One Native American monitor will be onsite 8 hours per day for 100 total workdays with a contingency plan in place if additional monitoring is required by a Native American monitor.
- Use of the contingency budget ($60,000.00) will be subject to written or email authorization by SOCWA.
- Changes to the project description, project design, grading, or other changes may change the scope of scope of services described above that could result in additional costs.
- Applicant will provide Psomas with confirmation on the project footprint at the time of authorization or notice to proceed (NTP). It is assumed that this information will not change once Psomas has initiated the above tasks.
- The project will have up to three (3) significant findings.
- Psomas will respond to two (2) sets of written consensus comments that incorporate comments from SOCWA on the draft report, described above in Task 4, and will provide a final product based on those comments.

ATTACHMENT B

SENIOR STAFF RESUMES

Charles Cisneros, MS, RPA – Psomas

Project Manager/Senior Archaeologist

Charles Cisneros is a registered professional archaeologist with 16 years of experience in archaeological assessment and field experience in California and Nevada. He has directed numerous field projects in support of compliance with CEQA, NEPA, and Sections 106 and 110 of the National Historic Preservation Act (NHPA). Charles has managed a wide range of projects involving archaeological survey, testing, data recovery, monitoring, and laboratory analysis. He is skilled at research and data management, as well as maintaining and organizing digital and print publications. His training and background meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology and he is a California Energy Commission approved archaeologist for desert archaeology.

EDUCATION

2008/MS/European Archaeology/University of Edinburgh, United Kingdom

2004/BA/Anthropology/ California State University, Los Angeles

CERTIFICATIONS

Registered Professional Archaeologist/Register of Professional Archaeologists

Orange County Certified Archaeologist/Orange County

Riverside County Certified Archaeologist/Riverside County

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Western States Folklore Society

TRAINING

Association of Environmental Professionals, CEQA Basics Workshop

Caltrans Introduction to Cultural Resources

CSULA San Nicolas Island Archaeological Field School

Riverside County Cultural Sensitivity Training (Certificate 338)

EXPERIENCE

With Psomas for 3 years/ with other firms for 13 years

Experience

Beacon Photovoltaic Project Pre-Construction Surveys and Construction Monitoring – Kern County, CA: Senior Archaeologist for this project, which is a 2,300-acre solar development being constructed by two developers under the direction of the Los Angeles Department of Water and Power (LADWP). The project involved preparing treatment plans; monitoring perimeter fence construction; and protecting and/or treating cultural resources discovered during survey and monitoring activities. A Phase III data recovery excavation of significant sites will be completed.

Glendale-Hyperion Complex of Bridges Improvement Project – Los Angeles, CA: Senior Archaeologist for the Project Report (PR) and Plans, Specifications, and Estimate (PS&E) for rehabilitation of this complex of six bridges. Improvements include widening the Glendale Boulevard bridges; realigning the I-5 northbound off- and on-ramps and Los Angeles River bike path; adding a median barrier on the Hyperion Avenue Viaduct, designing retaining walls, traffic signals, drainage system improvements, and infiltration basins; and improving pedestrian facilities including the Red Car pedestrian bridge and the Sunnynook pedestrian loop trail. The project involved coordination with various stakeholders and the use of various agency standards such as Caltrans, City of Los Angeles, FHWA, and AASHTO.

Annandale Canyon Open Space Trail Access Improvements Project – Pasadena, CA: Senior Archaeologist for the preparation of an IS/MND for the Annandale Canyon Open Space Trail Access Improvements Project. The project will provide an open space area with accessibility to the public. The City-owned site consists of approximately 23 acres of undeveloped land in Annandale Canyon at the western edge of the City. The project is composed of several improvements to the site, which include a new trailhead at the end of Wierfield Drive, a trail, and an observation point on a hilltop of the San Rafael Hills.

Lincoln Bridge Multi-Modal Improvements (LA TOS 27) – Los Angeles, CA: Senior Archaeologist for the widening of Lincoln Boulevard from Fiji Way to Jefferson Boulevard to provide capacity for future light rail transit, with three vehicle lanes in each direction, Class II bicycle lanes, and sidewalks on both sides of the bridge. The project includes replacement of the Lincoln Boulevard Bridge over Ballona Creek, and replacement of the Culver Boulevard overpass while minimizing impacts to the creek and wetlands.

Charles Cisneros, MS, RPA (Continued)

I-405 Program Management Cultural Services – Orange County, CA: Senior Archaeologist for cultural services in support of the Parsons Program Management team's 30% design plans for this 16-mile project. The project will add a general purpose lane and two express lanes in each direction, improve all exits and entrances to the freeway, and upgrade over 19 bridges. As part of the PMC team, Psomas conducted supplemental record searches at the South-Central Coastal Information Center and field studies and several Historic Property Survey Reports by Caltrans to analyze the design changes for potential impacts to cultural resources with the revised Area of Potential Effects and routinely conducted outreach to local Native American tribes as part of the Section 106 consultation between the tribes and Caltrans. All Supplemental Historic Property Survey Reports were approved by Caltrans.

Pacoima Reservoir Restoration Project EIR – Los Angeles, CA: Senior Archaeologist for preparation of an EIR for removal of approximately 3 million cubic yards of sediment from the reservoir to preserve the reliability of the operations and safety of the dam. Implementation of the proposed PRSR Project includes construction/rehabilitation and operation of an access road upstream of the Reservoir; dewatering the Reservoir; excavating and removing the sediment; assembling, operating, and partially disassembling the conveyor belt; staging and transporting the sediment to Lopez Spreading Grounds; and finally trucking the sediment for placement at Sunshine Canyon Landfill or Sun Valley Pits.

3.7 MG Zone 1 Reservoir Project Mitigated Negative Declaration – Irvine, CA: Senior Archaeologist for preparation of an MND for construction of an additional reservoir to allow for storage reliability and operational flexibility in the Zone 1 domestic water system. The project site is located in the City of Irvine within Planning Area 9A (Woodbury), which is an area that is currently experiencing a high volume of new residential construction. The project site was included in the City's Northern Sphere Environmental Impact Report; however, development of a second reservoir was not specifically addressed.

McCanna Hills Addendum to an EIR – Riverside County, CA: Senior Archaeologist for preparation of an addendum to EIR 319 previously prepared for the McCanna Ranch Specific Plan near Lake Perris in western Riverside County. TTM33978 consists of Planning Areas 1 and 2A of the specific plan. The addendum incorporated a number of updated technical studies and current data about the nearby Mid-County Parkway. Major issues included traffic impacts expressed by the City of Perris to the west.

Perris Circle Industrial Building 3 Project, IS/MND – Perris, CA: Senior Archaeologist to support the IS/MND for this project, that tiesr from the Perris Valley Commerce Center Specific Plan EIR. The proposed project involves construction and operation of a 210,900 SF industrial warehouse with associated office uses and outdoor employee recreational spaces on an approximately 9.9-acre site. Responsible for preparation of the Phase I Cultural Resources Inventory and Paleontological Resource Inventory. Charles conducted Native American outreach activities to supplement the coordination conducted by the City.

Cultural Resource Study, Reliable Self Storage Facility 5-Acre Expansion – Victorville, CA: Project Manager for a cultural resources study in support of the expansion of the Reliable Self Storage Facility and development of several single self-storage units on the five-acre project site. The cultural resource study consisted of a records search at the South-Central Coastal Information Center, field study of five-acres, and the preparation of a cultural resources technical report.

RICHARD B. GUTTENBERG, M.A., RPA, VICE PRESIDENT

Experience summary
Richard has been a valuable member of JMA's staff since 1997. He has worked on a wide variety of JMA projects throughout California as an archaeological, paleontological, and biological monitor, field/lab director, and project/program manager. He has served JMA as a paleontological monitor, in both northern and southern California, and provided direction as project manager on numerous paleontological investigations. He has extensive field and laboratory experience in paleontological survey, fossil salvage, identification, and curation. Richard has demonstrated his ability to recognize fossils in biostratigraphic context and has applied his academic training as an archaeologist to identify vertebrate and invertebrate fossilized faunal remains in both the field and laboratory. With multi-disciplined training and a background in geology, and over 20 years of field experience in paleontological investigations, he clearly meets the Society of Vertebrate Paleontology requirements for both a Project Paleontologist and a Paleontological Resource Monitor. Richard has co-authored numerous paleontological survey reports, Paleontological Resource Mitigation Plans, and Final Monitoring Reports. Additionally, he has met the requirements and is on the list of approved Principal Paleontologists in both Orange and Riverside Counties, CA. Richard currently holds the position of Vice President of Cultural Resources for JMA.

Years of Experience
Richard has 20 years of professional field and laboratory experience in archaeological and paleontological resources mitigation, monitoring, and management.

Education
M.A., Anthropology/Archaeology, Certificate in Geographic Information Systems (GIS), California State University, Los Angeles, 2014

B.A., Anthropology, California State University, Long Beach, 1997

Publications
2013 Geographic Information Systems as a Tool for Analyzing Intrasite Spatial Variability on San Nicolas Island. In California's Channel Islands: The Archaeology of Human-Environment Interactions, edited by C.S Jazwa and J.E. Perry, pp.97-112. University of Utah Press, Salt Lake City.

2013 Portable Religious Stone Features From a Ceremonial Complex on San Nicolas Island, California. Knierim, R.G., R.L. Vellanoweth, W.E. Kendig, B.G. Bartelle, R.B. Guttenberg. Jo*urnal of California and Great Basin Anthropology* 33(1):39-52.

2017 A Cache Within a Cache: Description of an Abalone "Treasure-Box" from the CA-SNI-14 Redwood Box Cache, San Nicolas Island, Alta California. A.F. Ainis, R.B. Guttenberg, R.L. Vellanoweth, J.M. Erlandson, W.E Kendig, J. Colston, L. Thomas. *California Archaeology* 9(1):79-105.

Orange County Office
26623 Sierra Vista
Mission Viejo, CA 92692
Phone: 949-367-1000

Special Training
40 Hour OSHA HAZWOPER, 2008 - present

Seminars
AEP CEQA Basics workshop, 2005
AEP Advanced CEQA workshop, 2006
Identification and Evaluation of Mid-20th-Century Buildings, NPI, 2010

Experience
1997-Present - Vice President-Cultural and Natural Resources, JMA - Project experience includes cultural and paleontological resource management and biological services in as many as 14 counties throughout California, including Riverside County. Current duties include the planning, management and implementation of environmental consulting services and regulatory documentation for a variety of private and municipal projects with multiple Stakeholders. Other responsibilities include the hiring, training, and scheduling of field staff, management of field and laboratory materials and equipment, curation, preparation, and analysis of archaeological and paleontological collections, performing assessments of archaeological and paleontological resources, archaeological record searches, design and implementation of archaeological and paleontological monitoring programs, archaeological site recordation and reporting, report writing and editing, and GIS mapping and analysis.

Affiliations
Register of Professional Archaeologists
Society for California Archaeology
Society for American Archaeology
Pacific Coast Archaeological Society

Selected Projects

Riverside County Waste Management Department, Badlands Landfill C4P3 Liner Construction & Soil Stockpiling, Moreno Valley, CA
Richard served as Project Manager for the paleontological mitigation program for the Badlands Landfill C4P3 Liner Construction Project. As Project Manager, Richard was responsible for scheduling and daily coordination with the field paleontologist and County Waste Management staff. Other duties included participating in sediment collection and screening, GIS mapping of collection locations, and co-authoring both the project Paleontological Resources Impact Mitigation Plan (PRIMP) and the Final Report.

Republic Services, Sunshine Canyon Landfill, Sylmar, CA
Richard has served as Project Manager (PM) and Lead Paleontological Monitor (LPM) at Sunshine Canyon since 2005. Project manager duties include assessment, coordination and implementation of biological, archaeological, and paleontological investigations for the City Landfill extension. Project Manager responsibilities include daily coordination with paleontological field monitors, fossil salvage and identification, coordination with the Natural History Museum of Los Angeles

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County (NHM) for fossil preparation and curation, scheduling, client and agency coordination, and annual reporting.

Toll Brothers, Vista Del Verde Residential Development and Black Gold Golf Course, Yorba Linda, CA
Served as Field Director and coordinated the pre-construction archaeological and paleontological survey, archaeological and paleontological mitigation and monitoring services, collection of fossil resources uncovered during excavation (salvage), preparation, curation, identification of recovered fossils, and compilation of data. This project required the moving of 15 million yards of material for the development of the golf course and a 2500+ home residential development in Villages 1 and 2, and over 12 million additional cubic-yards in Villages 3 and 4.

Newhall Ranch, Mission Village, Santa Clarita, CA
Richard serves as Project Manager for archaeological and paleontological resources for the Newhall Ranch Mission Village project, as well as the Mayo and Potrero Advance Mitigation Grading projects, per the Newhall Ranch General Plan. Manages and coordinates field monitors, and provides client and agency coordination, as well as coordination with Native American Stakeholders.

NRG - El Segundo Power Plant Reconstruction Project, El Segundo, CA
Richard was the designated Project Manager (PM) and also served as a Field Monitor (CRM/PRM) on this project. JMA is currently serving NRG Energy, Inc. as cultural and paleontological resource specialists for the El Segundo Power Plant Project. NRG is meeting the Conditions of Compliance for the El Segundo Redevelopment Project (ESPR) as required by the California Energy Commission (CEC). This project has involved extensive CEQA documentation, archaeological and paleontological resource assessments and surveys, research design, the preparation of Cultural and Paleontological Resource Monitoring and Mitigation Plans (CRMMP and PRMMP), and the preparation and implementation of a Worker Environmental Awareness Program (WEAP). Richard has managed and assisted with the design and implementation of both a Cultural and Paleontological Resources Monitoring and Mitigation Plan (CRMMP/PRMMP) and assisted with regulatory documentation in compliance with the CEC. Richard is currently managing and directing archaeological and paleontological resource monitoring for the redevelopment of the El Segundo Power Plant.

Trump National Golf Club, Golf Course and Residential Development, Palos Verdes, CA
Richard served as Field Director and lead paleontological monitor for over two years of archaeological and paleontological mitigation and monitoring services for the 360-acre Ocean Trails Resort, Golf Course, and Park Development. Duties included daily mitigation monitoring, fossil salvage and identification, and compilation of field data for the Final Report. The paleontological mitigation phase of the project yielded numerous significant marine fossil specimens that have been accessioned to the (NHM).

ATTACHMENT C

PROJECT EXAMPLES

RELATED EXPERIENCE

The following pages include descriptions of relevant projects that have been completed within the last five years. Client contacts are included for all projects and we encourage you to contact any of these individuals for information regarding their satisfaction with Psomas' performance.

Frank R. Bowerman Landfill Phase VIIIB-1 Landfill Buttress and Liner Project Paleontological Monitoring – Psomas

Irvine, CA/OC Waste & Recycling

RELEVANCE TO THIS CONTRACT

- Paleontological Monitoring
- Fossil Recovery
- Fossil Curation
- Report Preparation

Frank R. Bowerman Landfill

Psomas staff removing a fossil deposit from a landfill site

PROJECT DATES

January 2016 to May 2018

REFERENCE

OC Waste & Recycling
Frank R. Bowerman Landfill
11002 Bee Canyon Access Road
Irvine, CA 92602

Weena Dalby
Site Environmental Engineering Specialist
(714) 573-6012
weena.dalby@ocwr.ocgov.com

KEY PERSONNEL

Charles Cisneros
Project Manager

Kassie Sugimoto
Archaeologist

David Sosa
Archaeologist

Psomas provided paleontological monitoring support during construction of the Frank R. Bowerman Landfill Phase VIIIB-1 and VIIIB-2 Groundwater Protection System, Buttress and Composite Liner Project. The Master Development Plan of 2004 for the landfill guides all development activities within the landfill. Therefore, to comply with the Plan, Psomas was contracted to monitor for paleontological resources as part of the buttress and liner installation being implemented for the landfill by Orange County Waste and Recycling.

The services provided by Psomas included mitigation monitoring during grading and excavation; screen-washing sediment for microfossils; preparing jacketed discoveries in the field and for lab analysis, curation of fossil materials, reporting; and public outreach for educational purposes. During monitoring, Psomas paleontologists recovered several large whale specimens from the Vaqueros, Topanga, and Puente Formations, and a rare plant fossil locality from the Sespe Formation. The fossils recovered during mitigation monitoring have been the subject of three paleontological conference presentations and a multimedia news conference, presented in conjunction with OC Waste and Recycling and the John D. Cooper Archaeological and Paleontological Center.

Beacon Photovoltaic Project Pre-Construction Surveys and Construction Monitoring – Psomas

Kern County, CA/ Solar/SunEdison | Hecate | Capital Dynamics

RELEVANCE TO THIS CONTRACT

- Biological, Archaeological, and Tribal Monitoring
- Pre-Construction Surveys for Special Status Wildlife
- Camera Surveys
- Phase III Cultural Assessment
- Coordination with Multiple Clients and Agencies

A prehistoric hearth feature (roasting pit) discovered during excavation

PROJECT DATES

September 2014 to June 2017

REFERENCE

Arevon (an affiliate of Capital Dynamics)
8800 North Gainey Center Drive
Suite 250
Scottsdale, AZ 85258

Sharon Greenberg
Director, Projects
(408) 623-1807
sgreenberg@arevonenergy.com

KEY PERSONNEL

Ann Johnston
Team Leader

Charles Cisneros
Senior Archaeologist

Kassie Sugimoto
Archaeologist

Psomas provided biological and cultural resource services for this project, which is a 2,300-acre solar development being constructed by two developers under the direction of the Los Angeles Department of Water and Power (LADWP). Psomas managed a team comprised of three firms to provide biological and cultural pre-construction surveys and monitoring throughout construction of the perimeter fencing and the solar facility to ensure compliance with environmental documentation and California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement and Incidental Take Permit.

The Project began with construction of the perimeter fence to exclude desert tortoise. The Biological Team conducted a pre-construction burrow survey across the entire Project site. During construction of the perimeter fence, there were six construction crews working in separate areas along the fence; each crew required a biological monitor, archaeological monitor, and a tribal monitor. During monitoring, cultural resources discovered during construction of the fence were protected or treated. Following completion of the perimeter fence construction, the Biological Team conducted a desert tortoise clearance survey (including excavation of every burrow) of the entire 2,300 acre area within the perimeter fence. Psomas prepared a desert tortoise clearance survey report and a summary of biological and cultural monitoring for submittal to LADWP. Additionally, Psomas managed the invoicing to split the charges from the three biological/cultural firms proportionately between the two solar developers that were building different portions of the facility (SunEdison and Hecate).

Endangered desert tortoise found on a construction site

Once the perimeter fencing was completed, the solar developers sold the project to other entities. Psomas continued to lead the work for the Sites 2 and 5 (sold by SunEdison to Capital Dynamics). As the Developer Team changed both staff and entities over the project, Psomas provided continuity by providing information on project history and survey/ monitoring requirements based on interpretation of project permits. Psomas worked closely with the Development Team on a strategy to minimize

Beacon Photovoltaic Project Pre-Construction Surveys and Construction Monitoring (Continued)

project delays. The Cultural Team conducted a Phase III data recovery excavation of significant sites as required by environmental documentation. In preparation for construction of the facilities, the Biological Team conducted multiple rounds of pre-construction burrow surveys; camera monitoring of active burrows, pre-construction nesting bird surveys; and weekly fence checks. Multiple rounds of pre-construction surveys and burrow closing efforts were conducted, involving extension coordination with LADWP. The Biological Team worked tirelessly to quickly provide the extensive documentation required to carry out these efforts so as not to delay construction. Once construction of the solar facilities began, the Biological and Cultural Teams continued to work closely with the Development Team on how to address issues that arose to ensure compliance with the project permits. For example, there was an active kit fox den in the central portion of Site 2 that had to be protected during construction until the desert kit foxes moved burrows. Additionally, there was a potentially jurisdictional resource (i.e., a fissure) that needed to be protected during construction until the resource's jurisdiction was resolved. Any cultural resources discovered during construction of the facilities were protected or treated. Throughout construction, the Biological and Cultural Team provided multiple biological/cultural monitors; daily monitoring forms; and quarterly monitoring compliance reports.

Beacon Photovoltaic project solar panels

Mt. San Antonio College Construction Monitoring – Psomas

Walnut, CA/Mt. San Antonio College

RELEVANCE TO THIS CONTRACT

- Archaeological and Paleontological Monitoring
- Nesting Bird Survey
- Assessment of Trees for Removal

Wheel Tractor-Scraper removing soil on site

PROJECT DATES

April 2020 to Present

REFERENCE

Mt. San Antonio College
1100 North Grand Avenue
Walnut, CA 91789

John Gaston
Project Manager, Facilities and Planning Management
(909) 497-4683
jgaston1@mtsac.edu

KEY PERSONNEL

Jennifer Marks
Project Manager

Charles Cisneros
Senior Archaeologist

Kassie Sugimoto
Archaeologist

David Sosa
Archaeologist

Casey Cleaveland
Paleontologist

Psomas is providing as-needed environmental consulting services for various campus projects related to the Mt. San Antonio College (Mt. SAC) 2018 Educational and Facilities Master Plan (EFMP). Services provided include participation in strategy meetings, review of project plans to determine required monitoring efforts, and implementing and monitoring mitigation measures related to cultural resources construction monitoring, biological focused and pre-construction surveys, tree surveys, and preparation of a construction noise management plan. Representative task orders date have included:

- **Student Center:** Psomas is currently conducting biological and cultural resources monitoring for the construction of a Student Center building on the Mt. SAC campus. A qualified Psomas Biologist conducted a nesting bird survey and, upon identifying a pair of ground-nesting birds within the active construction portion of the project site, established and communicated avoidance protocol with the client and the construction contractor. Psomas is also actively conducting archaeological, paleontological, and tribal cultural resources monitoring throughout the grading and earth disturbance phases of construction.
- **Lot S Parking Structure:** Psomas conducted biological and cultural resources monitoring for the construction of a parking structure at Lot S on the Mt. SAC campus. A qualified Psomas Biologist conducted a nesting bird survey and, upon identifying an active nest, established and communicated avoidance protocol with the client and the construction contractor. Psomas also conducted archaeological, paleontological, and tribal cultural resources monitoring throughout the grading and earth disturbance phases of construction.
- **Aquatics Center and Physical Education Complex:** Psomas is currently under contract to conduct biological and cultural resources monitoring for the construction of the Aquatics Center and Physical Education Complex on the Mt. SAC campus. Psomas is currently coordinating with Mt. SAC staff to identify appropriate monitoring needs for the project based on physical location, site conditions, and proposed construction activities. Anticipated monitoring includes a pre-construction burrowing owl survey and archaeological, paleontological, and tribal cultural resources monitoring.

Psomas staff in the field

ATTACHMENT D

COST PROPOSAL

Task Number and Description	Project Director	Cross Trained Monitor	Senior Archaeo	Archaeo	GIS	Editor	Word Processor/ Admin	Native American Monitor	JMA Senior Paleo	JMA Cross Trained Monitor	Total Labor
	$215	$65	$142	$112	$135	$95	$110	$75	$95	$65	
Task 1: In Person WEAP Training			16				0	4	4		$2,952.00
Task 2a: Archaeological Monitoring		1200								400	$104,000.00
Task 2b: Native American Monitoring								800			$60,000.00
Task 3: Significant Findings		72	24	24	3	3	3		24		$14,076.00
Task 4: Post Construction Report			40	40	5	4	3				$11,545.00
Task 5: Project Management	8		75						75		$19,495.00
PROFESSIONAL FEES SUBTOTAL											**$212,068.00**
EXPENSES SUBTOTAL											**$5,300.00**
TOTAL											***$217,368.00***
Hours by Staff	8	1272	155	64	8	7	6	804	103	400	
Task 2b: Contigency Plan for Native American Monitoring								800			$60,000.00
TOTAL (With Contingency)											***$277,368.00***

Assumptions
Cost assumes one (1) cross trained archaeologcal/paleontological monitor working 8-hour days for a total of 200 days
Cost assumes one (1) Native American monitor working 8-hour days for a total of 100 days
Cost assumes three (3) signficant findings over the course of the project.
Cost inlcudes Native American Contigency Plan for additional monitoring if required/approved by SOCWA

Agenda Item 11

Engineering Committee Meeting

Meeting Date: December 10, 2020

TO: Engineering Committee

FROM: David Baranowski, Senior Engineer

SUBJECT: Knowledge Sharing: Regional Treatment Plant DAFT Polymer Comparison

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Overview

Engineering staff performed a data analysis to compare two different polymer types used in the DAFT system at the Regional Treatment Plant. The presentation shares preliminary findings and conclusions from the analysis.

Recommended Action: Information Item.

Knowledge Sharing

Comparison of Polymer Types for RTP DAFT

December 10, 2020

EC Agenda Item 11

SOCWA
South Orange County Wastewater Authority

Background

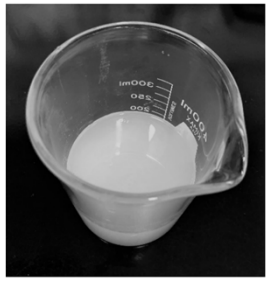
- RTP DAFT system under construction as part of 2017 Misc. Improvement Project.
- Installed temporary DAFT polymer feed system during construction.
- Temp. system uses different polymer.
- Opportunity to compare polymers.

Polymers

Mannich

- Use = DAFTs
- Cost = Lower
- Active content: 4% - 8%
- Solution, high molecular weight, very viscous.

Emulsion



- Use = Centrifuges
- Cost = Higher
- Active content: 20% - 55%
- Hydrolyzed, high molecular weight, very viscous.

Sources:
(1) https://www.wef.org/globalassets/assets-wef/3---resources/topics/a-n/biosolids/technical-resources/007-polymer.flocculants-101---final.pdf
(2) https://ugsichemicalfeed.com/articles/Operator-Fact-Sheet-Polymer-For-Thickening-and-Dewatering.pdf

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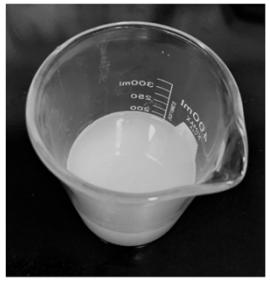

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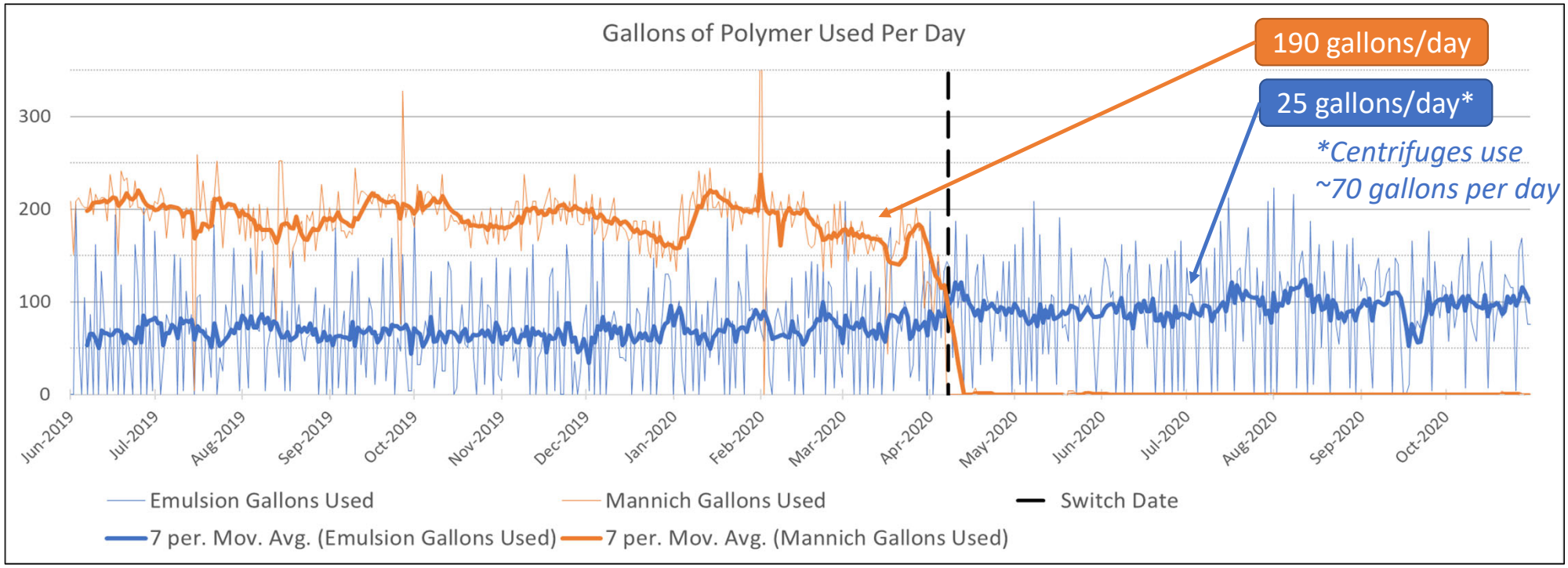
Change in Polymer Use



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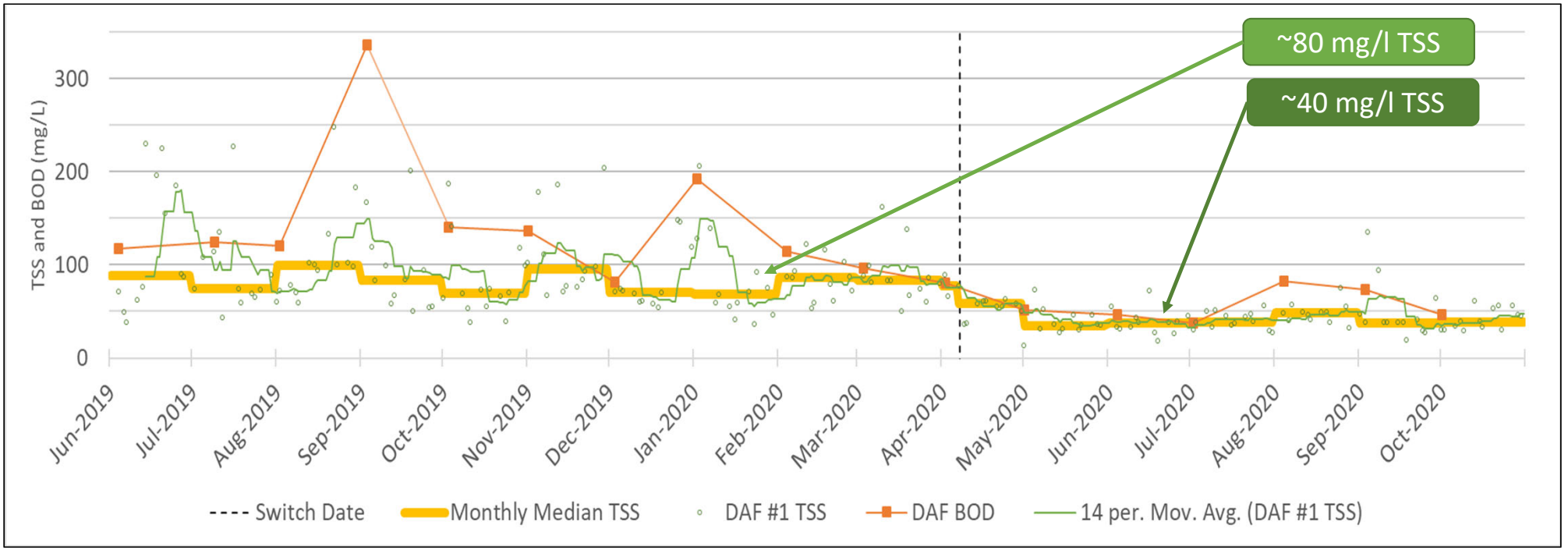
Cost Impact

	Mannich	Emulsion
Cost per pound of polymer	$0.126	$1.15
Polymer Weight (pounds per gallon)	8.5	8.5
Polymer Cost per Gallon	$1.07	$9.78
Estimated Daily Use for DAFTs	190 gallons	25 gallons
Daily Polymer Cost for DAFTs	$203	$245

- Additional polymer costs of $42/day = $15,000/year

DAFT Effluent Water Quality



South Orange County Wastewater Authority

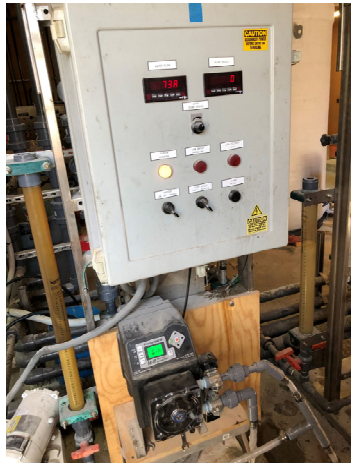
Equipment Differences

Mannich System (New)

- 2 FRP mixing tanks
- 2 tank mixers and control valves
- 2 bulk polymer pump (to mixing tanks)
- 2 progressive cavity polymer feed pumps (to DAFTs)
- Crossover piping
- Electrical/control cabinet and VFDs

Emulsion System (Temp.)

- 1 Dynablend unit (mixing tube, peristaltic pump, control panel)



**Full system would include 2 units and crossover piping*

Equipment Costs and Life Cycle Analysis

	Mannich	Emulsion
System Cost	$600,000 (New)	$25,000 (Temp)
Useful Life	15 years	10 years
Operating Costs*	TBD *(Energy, pump parts, control equipment, mixing water)*	TBD *(Energy, mixing water, pump hose)*
Annualized Equipment Cost	$40,000	$2,500
Annual Additional Polymer Cost	$0	$15,000

**Operating cost data not available. These are what we think would contribute to the operating cots.*

Main Takeaways

- Mannich is cheaper but uses more.
- Emulsion is more expensive, uses less, and improves DAFT performance.
- Emulsion feed system includes less equipment.
  Possibility for equipment cost savings to offset polymer cost increase.
- Ongoing effort
  - Still collecting temporary system data.
  - Will compare the performance of new polymer system to temporary and old systems.