

**AMENDMENT No. 4**  
to  
**Agreement for Professional Services**  
between  
**Monterey County Water Resources Agency and AECOM Technical Services, Inc.**

The undersigned parties hereby agree to amend that certain Agreement for Professional Services between the Monterey County Water Resources Agency (hereinafter "Agency") and AECOM Technical Services, Inc. (hereinafter "CONTRACTOR") executed and effective on July 1, 2015 (hereinafter "Agreement"), and amended on March 15, 2016, July 11, 2016, and approved for amendment by the Agency Board of Directors on July 24, 2017.

Section 1 of the Agreement is hereby amended to read as follows:

1. Employment of CONTRACTOR. Agency hereby engages CONTRACTOR and CONTRACTOR hereby agrees to perform the services set forth in Exhibits A, C, E and G in conformity with the terms of this Agreement.

- (a) The work to be performed is generally described as follows:

*Dam safety surveillance and performance evaluation of San Antonio Dam; and inundation study and mapping for Nacimiento and San Antonio Dams.*

- (b) The CONTRACTOR shall perform its services under this agreement in accordance with usual and customary care and with generally accepted practices in effect at the time the services are rendered. The CONTRACTOR and its agents and employees performing work hereunder are specially trained, experienced, competent, and appropriately licensed to perform the work and deliver the services required by this Agreement.
    - (c) CONTRACTOR, its agents and employees shall perform all work in a safe and skillful manner and in compliance with all applicable laws and regulations. All work performed under this Agreement that is required by law to be performed or supervised by licensed personnel shall be performed in accordance with such licensing requirements.
    - (d) CONTRACTOR shall furnish, at its own expense, all materials and equipment necessary to carry out the terms of this Agreement, except as otherwise provided herein. CONTRACTOR shall not use Agency premises, property (including equipment, instruments, or supplies) or personnel for any purpose other than in the performance of its obligations hereunder.
    - (e) Agency hereby engages CONTRACTOR and CONTRACTOR hereby agrees to perform the services set forth in Exhibits A and C. CONTRACTOR shall manage and pay for the work of all SUBCONTRACTORS as required to proceed forward with the work set forth in Exhibits A and C.

Section 3 of the Agreement is hereby amended to read as follows:

3. Payment to CONTRACTOR; maximum liability. Subject to the limitations set forth herein, Agency shall pay to CONTRACTOR the amounts provided in Exhibits B, D, F and H for work completed and/or in progress pursuant this Agreement, summarized below:

Original Agreement	\$ 49,450 for FY 2015-16
Amendment No. 1	----- No cost associated with Amendment No. 1
Amendment No. 2	\$ 50,164 for FY 2016-17
Amendment No. 3	\$ 50,150 for FY 2017-18
<u>Amendment No. 4</u>	<u>\$ 73,010 for FY 2017-18 – Fund 130</u>
Not to exceed Total:	\$222,774

The maximum amount payable to CONTRACTOR under this Agreement as amended by this Amendment No. 4 is \$222,774.

Section 31 of the Agreement is hereby amended to read as follows:

31. Exhibits. The following Exhibits are attached hereto and incorporated by reference:

- Exhibit A** - Scope of Work and Work Schedule (original Agreement)
- Exhibit B** - Payment Provisions (original Agreement)
- Exhibit C** - Scope of Work and Work Schedule & Payment Provisions (Amendment No. 2)
- Exhibit D** - Payment Provisions (Amendment No. 2)
- Exhibit E** - Scope of Work and Work Schedule (Amendment No. 3)
- Exhibit F** - Payment Provisions (Amendment No. 3)
- Exhibit G** - Scope of Work and Work Schedule (Amendment no. 4)
- Exhibit H** - Payment Provisions (Amendment No. 4)

All other provisions of the Agreement shall remain in full force and effect.

**IN WITNESS WHEREOF**, Agency and CONTRACTOR have caused this Amendment No. 4 to be executed as follows:

**MONTEREY COUNTY  
WATER RESOURCES AGENCY**

David E. Chardavoyne  
David E. Chardavoyne, General Manager

DATED: 29 September 2017

**AECOM TECHNICAL SERVICES, INC.**

By

[Signature]  
(signature)

ERIC E. ZACHOL VICE PRESIDENT  
(print name and title)\*

DATED: 9/18/17

By

[Signature]  
(signature)

NOEL KLONB, VICE PRESIDENT  
(print name and title)\*

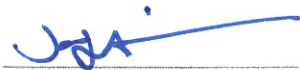
DATED: 9/19/17

\* INSTRUCTIONS: If CONTRACTOR is a corporation (including limited liability and nonprofit corporations), the full legal name of the corporation shall be set forth together with the signatures of two specified officers. If CONTRACTOR is a partnership, the name of the partnership shall be set forth together with the signature of a partner with authority to execute this Agreement on behalf of the partnership. If CONTRACTOR is contracting in an individual capacity, the individual shall set forth the name of his or her business, if any, and shall personally sign the Agreement.

AECOM Technical Services, Inc.  
Amendment No. 4

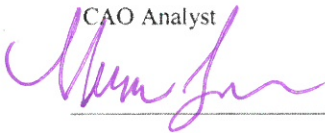
\* \* \* \* \*

Approved as to form:  
Deputy County Counsel



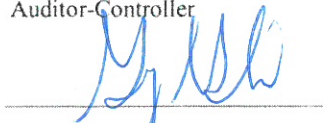
DATED: 9-25-17

CAO Analyst



DATED: 9-29-17

Approved as to fiscal provisions:  
Auditor-Controller



DATED: 9-26-17

**EXHIBIT G**  
**(Amendment No. 4)**  
**Scope of Work and Work Schedule**

**Performance of technical studies and development of dam inundation maps for San Antonio and Nacimiento dams**

State law that became effective July 1, 2017, requires owners of “extremely high” hazard dams to prepare an Emergency Action Plan and inundation maps for their dams and critical appurtenant structures. The purpose of this scope of work is to make the Monterey County Water Resources Agency (MCWRA) compliant with the section of this new state law requiring the development of inundation maps resulting from failures of its “extremely high” hazard dams and appurtenant structures.

**Scope of Work**

**TASK:**

1. Review existing federal and state regulations, MCWRA records, reports and maps for San Antonio and Nacimiento dams.
2. Consult with MCWRA staff on the appropriate cross sections and structural features that will be identified on the inundation maps to be developed. At a minimum, all road crossings, industrial structures, and habitable structures downstream of each dam will be identified on the inundation maps. If necessary complete field investigation to identify structures affected by a dam failure.
3. Perform technical studies of hypothetical flooding from San Antonio Dam using the appropriate dambreak analysis model(s) for earth-filled dams. Consult with MCWRA staff on appropriate parameters to be used in the analyses. Perform studies of “sunny day with the reservoir at the maximum possible water surface elevation” failure scenarios for both San Antonio Dam and its critical appurtenant structures. The critical appurtenant structure to be analyzed in this study is the dam’s ogee spillway; develop hydraulic characteristics of the impaired spillway as part of the study. The content of the technical studies shall be compliant with §2577.4 of Title 19 California Code of Regulations (CCR), Div. 2, Chapter 2, Subchapter 4 and the Federal Emergency Regulatory Commission (FERC) Engineering Guidelines.
4. Perform technical studies of hypothetical flooding from Nacimiento Dam using the appropriate dambreak analysis model(s) for earth-filled dams. Consult with MCWRA staff on appropriate parameters to be used in the analyses. Perform a study of “sunny day with the reservoir at the maximum possible water surface elevation” failure scenario for the Nacimiento Dam’s inflatable spillway gate system. The content of the technical study shall be compliant with §2577.4 of Title 19 CCR, Div. 2, Chapter 2, Subchapter 4 and the FERC Engineering Guidelines.
5. Develop the inundation maps that result from the studies conducted in Task 3 that are in compliance with Chapter Six of the FERC Engineering Guidelines and §2577.5 of Title 19

CCR, Div. 2, Chapter 2, Subchapter 4. Geographic Information System (GIS) technology is to be used to develop the inundation maps.

6. Develop the inundation maps that result from the study conducted in Task 4 that are in compliance with Chapter Six of the FERC Engineering Guidelines and §2577.5 of Title 19 CCR, Div. 2, Chapter 2, Subchapter 4. GIS technology is to be used to develop the inundation maps.
7. Prepare *three* copies of the draft technical studies and *three* draft sets of inundation maps for San Antonio Dam and submit to the MCWRA for review and comment. Inundations maps shall be prepared by a civil engineer registered to practice in California.
8. Prepare *three* copies of the draft technical studies and *three* draft sets of inundation maps for Nacimiento Dam and submit to the MCWRA for review and comment. Inundations maps shall be prepared by a civil engineer registered to practice in California.
9. Prepare *seven* sets of the final technical study report and maps for San Antonio Dam and provide to the MCWRA for submission to the California Department of Water Resources, Division of Safety of Dams (DSOD). Provide MCWRA with one electronic copy of the final report. Transfer electronic GIS files to the MCWRA and provide the appropriate electronic data files for future GIS map sharing with the appropriate emergency management agencies. The files supplied to MCWRA shall be in an ESRI ArcGIS compatible format, in a file geodatabase, use state plane coordinate, NAD 1983 coordinate horizontal datum, and NGVD29 vertical datum.
10. Prepare *seven* sets of the final technical study report and map(s) for Nacimiento Dam and provide to the MCWRA for submission to DSOD and FERC. Provide MCWRA with one electronic copy of the final report. Transfer electronic GIS files to the MCWRA and provide the appropriate electronic data files for future GIS map sharing with the appropriate emergency management agencies. The files supplied to MCWRA shall be in an ESRI ArcGIS compatible format, in a file geodatabase, use state plane coordinate, NAD 1983 coordinate horizontal datum, and NGVD29 vertical datum.
11. Respond to comments by DSOD and FERC related to the reports and revised maps, and produce revisions to the reports and/or maps if required. Allow for up to eighteen (18) months after submission of the technical studies and inundation maps for comments to be received from the aforementioned agencies.

#### **Work Schedule**

Start of Work: October 2, 2017

Draft Report/Maps: November 11, 2017

Final Report/Maps for submittal to DSOD/FERC: December 8, 2017

Response to comments from DSOD/FERC unknown until comments are received.

## **EXHIBIT H**

### **Amendment No. 4**

#### **Payment Provisions**

**Performance of technical studies and development of dam inundation maps for San Antonio and Nacimiento dams**

#### **PAYMENT**

For the Scope of Work defined in Exhibit G, Agency shall pay Contractor on a time and expense basis an amount not to exceed \$73,010. Payable costs shall be the sum of direct labor costs, and other direct costs. If Contractor time and expense costs necessary to complete the Scope of Work defined in Exhibit G are less than \$73, 010, the Agency enjoys the savings. If Contractor requires time and expense to complete the Scope of Work defined in Exhibit G are over and above \$73,010, the maximum amount payable to Contractor remains \$73,010. Budget detail is shown on page 2.

**Direct Labor Costs** are the hourly billing rate times the number of hours worked by the personnel. Hourly billing rates are included in the table on page 2 of this Exhibit H.

Other Direct Costs, Sub-Contractor Mark-up, Project Related Expenses, Invoices, and Notification of Expenditure are as described in Exhibit F.



# EXHIBIT H

## Engineering Cost Estimate Nacimientos and San Antonio Dams Technical Studies and Development of Dam Inundation Maps

Task No.	Task Description	Rate:	\$200.00	\$150.00	\$200.00	\$127.00	\$110.00	\$90.00	Subtotal Manhours	Expenses	Task Cost Estimate
1	Review regulations / reports for San Antonio and Nacimientos Dams		0	0	4	4	0	0	8	\$0	\$1,308
2	Consult with MCWRA staff on sections / features for mapping		0	0	24	24	0	0	48	\$200	\$8,048
3	Technical studies / modeling - San Antonio Dam		6	0	16	100	8	0	130	\$0	\$17,980
4	Technical studies / modeling - Nacimientos Dam		4	0	40	8	8	0	60	\$0	\$10,696
5	Develop inundation maps - San Antonio Dam		0	0	4	16	8	0	28	\$0	\$3,712
6	Develop inundation maps - Nacimientos Dam		0	0	16	8	4	0	28	\$0	\$4,656
7	Draft report / maps - San Antonio Dam		6	4	4	12	2	4	32	\$0	\$4,704
8	Draft report / maps - Nacimientos Dam		4	4	12	4	2	4	30	\$0	\$4,888
9	Final report / maps - San Antonio Dam		4	4	4	8	1	2	23	0	\$3,506
10	Final report / maps - Nacimientos Dam		4	4	8	2	1	2	21	\$0	\$3,544
11	Response to comments by DSOD / FERC		4	0	24	24	12	0	64	\$0	\$9,968
<b>Total:</b>			<b>32</b>	<b>16</b>	<b>156</b>	<b>210</b>	<b>46</b>	<b>12</b>	<b>472</b>	<b>\$200</b>	<b>\$73,010</b>
			<b>\$6,400</b>	<b>\$2,400</b>	<b>\$31,200</b>	<b>\$26,670</b>	<b>\$5,060</b>	<b>\$1,080</b>			<b>\$73,010</b>

### Assumptions:

MCWRA will provide relevant reports / maps / drawings for San Antonio and Nacimientos Dams  
 One day (12 hour) field visit under Task 2  
 Two inundation maps, sunny day failure of dam and failure of ogee spillway, for San Antonio Dam  
 One inundation map, sunny day failure of inflatable Obermeyer spillway gates, for Nacimientos Dam  
 Task 11 is an estimated level of effort (response to DSOD / FERC comments). Actual level of effort is unknown until review comments are received.