

CONSULTANT SERVICES AGREEMENT

Agreement No. \_\_\_\_\_

**Related to Inundation Maps and Emergency Action Plan for Kimball Reservoir**

THIS AGREEMENT is entered into as of the 15th day of May, 2018, by and between the CITY OF CALISTOGA, herein called the "City," and MBK Engineers, herein called the "Consultant."

Recitals

WHEREAS, City desires to obtain professional services in connection with the preparation of new Inundation Maps and Updated Emergency Action Plan for Kimball Reservoir Dam pursuant to Sections 6160 and 6161 of the Water Code as amended by Senate Bill 92 which became effective June 27, 2017; and

WHEREAS, Consultant hereby warrants to the City that Consultant is skilled and able to provide such services described in Section 3 of this Agreement; and

WHEREAS, City desires to retain Consultant pursuant to this Agreement to provide the services described in Section 3 of this Agreement.

Agreement

NOW, THEREFORE, in consideration of their mutual covenants, the parties hereto agree as follows:

1. Incorporation of Recitals. The recitals set forth above, and all defined terms set forth in such recitals and in the introductory paragraph preceding the recitals, are hereby incorporated into this Agreement as if set forth herein in full.

2. Project Coordination.

A. City. The City Manager or his/her designee, shall represent City for all purposes under this Agreement. The City Manager or designee is hereby designated as the Project Manager. The Project Manager shall supervise the progress and execution of this Agreement.

B. Consultant. The Consultant shall assign Ben Tustison, P.E. to have overall responsibility for the progress and execution of this Agreement for Consultant.

3. Scope and Performance of Services.

A. Scope of Services. Subject to such policy direction and approvals as the City through its staff may determine from time to time, Consultant shall perform the services set out in the "Scope of Work" attached hereto as Exhibit A and incorporated herein by reference.

B. Time of Performance. The services of Consultant are to commence no sooner than March 21, 2018 and be completed not later than January 1, 2019. Consultant shall perform its services in accordance with the schedule attached hereto as Exhibit A, and incorporated herein by reference. Any changes to these dates in either this Section 3 or Exhibit A must be approved in writing by the Project Manager.

C. Standard of Quality. City relies upon the professional ability of Consultant as a material inducement to entering into this Agreement. All work performed by Consultant under this Agreement shall be in accordance with all applicable legal requirements and shall meet the standard of quality ordinarily to be expected of competent professionals in Consultant's field of expertise.

4. Compensation and Method of Payment.

A. Compensation. The compensation to be paid to Consultant, including both payment for professional services and reimbursable expenses, shall be at the rate and schedules attached hereto as Exhibit A, and incorporated herein by reference. However, in no event shall the amount City pays Consultant exceed Seventy-Nine Thousand Five-Hundred Dollars (\$79,500). Payment by City under this Agreement shall not be deemed a waiver of unsatisfactory work, even if such defects were known to the City at the time of payment.

B. Timing of Payment.

Consultant shall submit itemized monthly statements for work performed. City shall make payment, in full, within thirty (30) days after approval of the invoice by the Project Manager.

C. Changes in Compensation. Consultant will not undertake any work that will incur costs in excess of the amount set forth in Paragraph 4(A) without prior written amendment to this Agreement.

D. Taxes. Consultant shall pay all taxes, assessments and premiums under the federal Social Security Act, any applicable unemployment insurance contributions, Workers Compensation insurance premiums, sales taxes, use taxes, personal property taxes, or other taxes or assessments now or hereafter in effect and payable by reason of or in connection with the services to be performed by Consultant.

E. No Overtime or Premium Pay. Consultant shall receive no premium or enhanced pay for work normally understood as overtime, i.e., hours that exceed forty (40) hours per work week, or work performed during non-standard business hours, such as in the evenings or on weekends. Consultant shall not receive a premium or enhanced pay for work performed on a recognized holiday. Consultant shall not receive paid time off for days not worked, whether it be in the form of sick leave, administrative leave, or for any other form of absence.

F. Litigation Support. Consultant agrees to testify at City's request if litigation is brought against City in connection with Consultant's work product. Unless the action is brought by Consultant or is based upon Consultant's negligence, City will compensate

Consultant for the preparation and the testimony at Consultant's standard hourly rates, if requested by City and not part of the litigation brought by City against Consultant.

5. Amendment to Scope of Work. City shall have the right to amend the Scope of Work within the Agreement by written notification to the Consultant. In such event, the compensation and time of performance shall be subject to renegotiation upon written demand of either party to the Agreement. Consultant shall not commence any work exceeding the Scope of Work without prior written authorization from the City. Failure of the Consultant to secure City's written authorization for extra or changed work shall constitute a waiver of any and all right to adjustment in the contract price or time due, whether by way of compensation, restitution, quantum meruit, etc. for work done without the appropriate City authorization.

6. Term. This Agreement shall commence upon its execution and shall continue in full force and effect until completed, amended pursuant to Section 21, or otherwise terminated as provided herein.

7. Inspection. Consultant shall furnish City with every reasonable opportunity for City to ascertain that the services of Consultant are being performed in accordance with the requirements and intentions of this Agreement. All work done and all materials furnished, if any, shall be subject to the Project Manager's inspection and approval. The inspection of such work shall not relieve Consultant of any of its obligations to fulfill the Agreement as prescribed.

8. Ownership of Documents. Title to all plans, specifications, maps, estimates, reports, manuscripts, drawings, descriptions and other final work products compiled by the Consultant under the Agreement shall be vested in City, none of which shall be used in any manner whatsoever, by any person, firm, corporation, or agency without the expressed written consent of the City. Basic survey notes and sketches, charts, computations, and other data prepared or obtained under the Agreement shall be made available, upon request, to City without restriction or limitations on their use. Consultant may retain copies of the above-described information but agrees not to disclose or discuss any information gathered, discussed or generated in any way through this Agreement without the written permission of City during the term of this Agreement, unless required by law.

9. Employment of Other Consultants, Specialists or Experts. Consultant will not employ or otherwise incur an obligation to pay other consultants, specialists, or experts for services in connection with this Agreement without the prior written approval of the City.

10. Conflict of Interest.

A. Consultant covenants and represents that neither it, nor any officer or principal of its firm, has, or shall acquire any investment, income, business entity, interest in real property, or other interest, directly or indirectly, which would conflict in any manner with the interests of City, hinder Consultant's performance of services under this Agreement, or be affected in any manner or degree by performance of Consultant's services hereunder. Consultant further covenants that in the performance of the Agreement, no person having any such interest shall be employed by it as an officer, employee, agent, or subcontractor without the express written consent of the City. Consultant agrees to at all times avoid conflicts of interest, or the

appearance of any conflicts of interest, with the interests of the City in the performance of the Agreement.

B. Consultant is not a designated employee within the meaning of the Political Reform Act because Consultant:

(1) will conduct research and arrive at conclusions with respect to its rendition of information, advice, recommendation, or counsel independent of the control and direction of the City or of any City official, other than normal contract monitoring; and

(2) possesses no authority with respect to any City decision beyond the rendition of information, advice, recommendation, or counsel. (2 Cal. Code Regs. § 18700(a)(2).)

11. Liability of Members and Employees of City. No member of the City and no other officer, employee or agent of the City shall be personally liable to Consultant or otherwise in the event of any default or breach of the City, or for any amount which may become due to Consultant or any successor in interest, or for any obligations directly or indirectly incurred under the terms of this Agreement.

12. Indemnity. Consultant hereby agrees to defend, indemnify and hold harmless the City, its officers, agents, employees, volunteers, and servants from and against any and all claims, demands, damages, costs, liabilities, or obligations for bodily injury, death and property damage only to the extent that such claims are caused by the negligence, recklessness or willful misconduct of the Consultant, its officers, employees, agents and subcontractors on account of or arising from Consultant's performance of services. For liability arising out of the performance of professional services, the Consultant shall indemnify, hold harmless, and defend the City, its officers, agents, employees, volunteers, and servants from and against any and all claims, demands, damages, costs, liabilities, or obligations to the extent such claims are caused by the negligent, reckless, or intentional acts or omissions of the Consultant, its officers, employees, agents and subcontractors in the performance of professional services under this Agreement. Notwithstanding any contrary provision herein, it is hereby agreed that the Consultant's obligation to defend or to pay the defense costs of the City arising out of the performance of professional services shall only apply if and when, and to the extent that the parties agree on, or a court or other forum of competent jurisdiction has determined, the percentage of Consultant's fault for the liability alleged, in which case Consultant shall be obligated to pay the amount equal to the percentage of its fault that has been actually determined.

13. Consultant Not an Agent of City. Consultant, its officers, employees and agents shall not have any power to bind or commit the City to any decision.

14. Independent Contractor. It is expressly agreed that Consultant, in the performance of the work and services agreed to be performed by Consultant, shall act as and be an independent contractor and not an agent or employee of City; and as an independent contractor, Consultant shall obtain no rights to retirement benefits or other benefits which accrue to City's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

15. Compliance with Laws.

A. General. Consultant shall use the standard of care in its profession to comply with all applicable federal, state, and local laws, codes, ordinances, and regulations. Consultant represents and warrants to City that it has and shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement any licenses, permits, insurance and approvals which are legally required for Consultant to practice its profession. Consultant shall maintain a City business license. The City is not responsible or liable for Consultant's failure to comply with any or all of the requirements contained in this paragraph.

B. Workers' Compensation. Consultant certifies that it is aware of the provisions of the California Labor Code which require every employee to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Consultant certifies that it will comply with such provisions before commencing performance of the Agreement and at all times in the performance of the Agreement.

C. Prevailing Wage. Consultant and Consultant's subconsultants (if any) shall, to the extent required by the California Labor Code, pay not less than the latest prevailing wage rates to workers and professionals as determined by the Director of Industrial Relations of the State of California pursuant to California Labor Code, Part 7, Chapter 1, Article 2. Copies of the applicable wage determination are on file at the City's Public Works Department office.

D. Injury and Illness Prevention Program. Consultant certifies that it is aware of and has complied with the provisions of California Labor Code § 6401.7, which requires every employer to adopt a written injury and illness prevention program.

E. City Not Responsible. City is not responsible or liable for Consultant's failure to comply with any and all of its requirements under this section and Agreement.

F. Waiver of Subrogation. Consultant and Consultant's insurance company agree to waive all rights of subrogation against City, its elected or appointed officials, officers, agents, employees, and volunteers for losses paid under Consultant's workers' compensation insurance policy which arise from the work performed by Consultant for the City.

16. Confidential Information. All data, documents, discussions or other information developed or received by or for Consultant in performance of this Agreement are confidential and not to be disclosed to any person except as authorized by the City, or as required by law.

17. Assignment; Subcontractors; Employees.

A. Assignment. Consultant shall not assign, delegate, transfer, or convey its duties, responsibilities, or interests in this Agreement or any right, title, obligation, or interest in or to the same or any part thereof without the City's prior written consent. Any assignment without such approval shall be void and, at the City's option, shall immediately cause this Agreement to terminate.

B. Subcontractors; Employees. Consultant shall be responsible for employing or engaging all persons necessary to perform the services of Consultant hereunder. No subcontractor of Consultant shall be recognized by the City as such; rather, all subcontractors are deemed to be employees of the Consultant, and Consultant agrees to be responsible for their performance. Consultant shall give its personal attention to the fulfillment of the provisions of this Agreement by all of its employees and subcontractors, if any, and shall keep the work under its control. If any employee or subcontractor of Consultant fails or refuses to carry out the provisions of this Agreement or appears to be incompetent or to act in a disorderly or improper manner, it shall be discharged immediately from the work under this Agreement on demand of the Project Manager.

18. Insurance.

A. Minimum Scope of Insurance.

(1) Consultant agrees to have and maintain, for the duration of this Agreement, a General Liability insurance policy insuring it and its firm to an amount not less than \$2,000,000 (Two Million Dollars) combined single limit per occurrence and in the aggregate for bodily injury, personal injury, and property damage.

(2) Consultant agrees to have and maintain, for the duration of this Agreement, an Automobile Liability insurance policy insuring it and its staff to an amount not less than \$1,000,000 (One Million Dollars) combined single limit per accident for bodily injury and property damage.

(3) Consultant shall maintain professional errors and omissions liability insurance for protection against claims alleging negligent acts, errors, or omissions which may arise from Consultant's operations under this Agreement, whether such operations be by Consultant or by its employees, subcontractors, or subconsultants. The amount of this insurance shall not be less than \$1,000,000 (One Million Dollars) on a claims-made annual aggregate basis.

(4) A Workers' Compensation and Employers' Liability policy written in accordance with the laws of the State of California and providing coverage for any and all employees of Consultant:

(a) This policy shall provide coverage for Workers' Compensation (Coverage A).

(b) This policy shall also provide required coverage for Employers' Liability (Coverage B).

(5) All of the following endorsements are required to be made a part of each of the required policies, except for the Professional Liability and Workers' Compensation and Employers' Liability policies, as stipulated below:

(a) "The City of Calistoga, its officials, officers, agents, employees, and volunteers are hereby added as additional insureds, but only as respects work done by, for, or on behalf of the named insured."

(b) "This policy shall be considered primary insurance as respects any other valid and collectible insurance the City may possess, including any self-insured retention the City may have, and any other insurance the City does possess shall be considered excess insurance only and shall not contribute with it."

(c) "This insurance shall act for each insured and additional insured as though a separate policy had been written for each. This, however, will not act to increase the limit of liability of the insuring company."

(6) Consultant shall provide to City all certificates of insurance with original endorsements effecting coverage required by this paragraph. Certificates of such insurance shall be filed with City on or before commencement of performance of this Agreement. City reserves the right to require complete, certified copies of all required insurance policies at any time.

(7) Any failure to comply with reporting provisions of the policies shall not affect coverage provided to City, its officials, officers, agents, employees, and volunteers.

(8) Consultant's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

B. All Coverages. Each insurance policy required shall provide that coverage shall not be canceled, except after 30-days' prior written notice by certified mail, return receipt requested, has been given to City. Current certification of such insurance shall be kept on file with the City Manager at all times during the term of this Agreement.

C. Acceptability of Insurers. Insurance is to be placed with insurers with a Best's rating of no less than A:VII.

D. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the City. At the City's option, Consultant shall demonstrate financial capability for payment of such deductibles or self-insured retentions.

E. Verification of Coverage. Consultant shall furnish the City with original Certificate(s) of Insurance verifying Consultant's receipt of the insurance coverage required herein.

19. Termination of Agreement; Default.

A. This Agreement and all obligations hereunder may be terminated at any time, with or without cause, by the City upon 5-days' written notice to Consultant.

B. If Consultant fails to perform any of its obligations under this Agreement within the time and in the manner herein provided or otherwise violate any of the terms of this Agreement, in addition to all other remedies provided by law, City may terminate this Agreement immediately upon written notice. In such event, Consultant shall be entitled to receive as full payment for all services satisfactorily rendered and expenses incurred hereunder, an amount which bears the same ratio to the total fees specified in the Agreement as the services satisfactorily rendered hereunder by Consultant bear to the total services otherwise required to be performed for such total fee; provided, however, that the City shall deduct from such amount the amount of damages, if any, sustained by City by virtue of the breach of the Agreement by consultant.

C. In the event this Agreement is terminated by City without cause, Consultant shall be entitled to any compensation owing to it hereunder up to the time of such termination, it being understood that any payments are full compensation for services rendered prior to the time of payment.

D. Upon termination of this Agreement with or without cause, Consultant shall turn over to the City Manager immediately any and all copies of studies, sketches, drawings, computations, and other data, whether or not completed, prepared by Consultant or its subcontractors, if any, or given to Consultant or its subcontractors, if any, in connection with this Agreement. Such materials shall become the permanent property of the City. Consultant, however, shall not be liable for the City's use of incomplete materials nor for the City's use of complete documents if used for other than the project contemplated by this Agreement.

20. Suspension. The City shall have the authority to suspend this Agreement and the services contemplated herein, wholly or in part, for such period as it deems necessary due to unfavorable conditions or to the failure on the part of the Consultant to perform any provision of this Agreement. Consultant will be paid for satisfactory Services performed through the date of temporary suspension.

21. Merger; Amendment. This Agreement constitutes the complete and exclusive statement of the agreement between the City and Consultant and shall supersede all prior negotiations, representations, or agreements, either written or oral. This document may be amended only by written instrument, signed by both the City and Consultant. All provisions of this Agreement are expressly made conditions.

22. Interpretation. This Agreement shall be interpreted as though it was a product of a joint drafting effort and no provisions shall be interpreted against a party on the ground that said party was solely or primarily responsible for drafting the language to be interpreted.

23. Litigation Costs. If either party becomes involved in litigation arising out of this Agreement or the performance thereof, the court in such litigation shall award reasonable costs and expenses, including attorneys' fees, to the prevailing party. In awarding attorneys' fees, the court will not be bound by any court fee schedule, but shall, if it is in the interest of justice to do so, award the full amount of costs, expenses, and attorneys' fees paid or incurred in good faith.

24. Time of the Essence. Time is of the essence of this Agreement.



25. Written Notification. Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent by prepaid, first class mail. Any such notice, demand, etc. shall be addressed to the other party at the address set forth below. Either party may change its address by notifying the other party of the change of address. Notice shall be deemed communicated within 72 hours from the time of mailing if mailed as provided in this section.

If to City:                                      City Clerk  
  City of Calistoga  
  1232 Washington Street.  
  Calistoga, CA 94515

If to Consultant:                             Ben Tustison, P.E.  
  MBK Engineers  
  455 University Avenue, Suite 100  
  Sacramento, CA 95825

26. Consultant's Books and Records.

A. Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements charged to the City and all documents and records which demonstrate performance under this Agreement for a minimum period of three (3) years, or for any longer period required by law, from the date of termination or completion of this Agreement.

B. Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the City Attorney, City Auditor, City Manager, or a designated representative of any of these officers. Copies of such documents shall be provided to the City for inspection when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.

C. The City may, by written request by any of the above-named officers, require that custody of the records be given to the City and that the records and documents be maintained in the City Manager's office.

27. Agreement Binding. The terms, covenants, and conditions of this Agreement shall apply to, and shall bind, the heirs, successors, executors, administrators, assigns, and subcontractors of both parties.

28. Equal Employment Opportunity. Consultant is an equal opportunity employer and agrees to comply with all applicable state and federal regulations governing equal employment opportunity. Consultant will not discriminate against any employee or applicant for employment because of race, age, sex, creed, color, sexual orientation, marital status or national

origin. Consultant will take affirmative action to ensure that applicants are treated during such employment without regard to race, age, sex, creed, color, sexual orientation, marital status, or national origin. Such action shall include, but shall not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; lay-offs or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Consultant further agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

29. City Not Obligated to Third Parties. The City shall not be obligated or liable for payment hereunder to any party other than the Consultant.

30. Waiver. No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

31. Severability. If any one or more of the provisions contained herein shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such provision or provisions shall be deemed severable from the remaining provisions hereof, and such invalidity, illegality, or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had not been contained herein.

32. Exhibits. The following exhibits are attached to this Agreement and incorporated herein by this reference:

A. Exhibit A: Scope of Work, Schedule of Performance, Compensation

33. Execution. This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

34. News Releases/Interviews. All Consultant and subconsultant news releases, media interviews, testimony at hearings and public comment shall be prohibited unless expressly authorized by the City.

35. Applicable Law; Venue. This Agreement shall be construed and interpreted according to California law. In the event that suit shall be brought by either party hereunder, the parties agree that trial of such action shall be held exclusively in a state court in the County of Napa, California.

36. Authority. Each individual executing this Agreement on behalf of one of the parties represents that he or she is duly authorized to sign and deliver the Agreement on behalf of such party and that this Agreement is binding on such party in accordance with its terms.

IN WITNESS WHEREOF, the City and Consultant have executed this Agreement as of the date first above written.

CITY OF CALISTOGA

CONSULTANT

By: \_\_\_\_\_  
Dylan Feik, City Manager

By: \_\_\_\_\_  
Ben Tustison, P.E. for MBK Engineers

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

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

ATTEST:  
Kathy Flamson

By: \_\_\_\_\_  
City Clerk

**EXHIBIT A**

**Scope of Work, Schedule of Performance, Compensation**



Water Resources ♦ Flood Control ♦ Water Rights

GILBERT COSIO, JR., P.E.  
MARC VAN CAMP, P.E.  
WALTER BOUREZ, III, P.E.  
RIC REINHARDT, P.E.  
GARY KIENLEN, P.E.  
DON TRIEU, P.E.  
DARREN CORDOVA, P.E.  
NATHAN HERSHEY, P.E., P.L.S.  
LEE G. BERGFELD, P.E.  
BEN TUSTISON, P.E.

ANGUS NORMAN MURRAY  
1913-1985

CONSULTANTS:  
JOSEPH I. BURNS, P.E.  
DONALD E. KIENLEN, P.E.

March 8, 2018

Derek Rayner, P.E.  
City of Calistoga  
414 Washington Street  
Calistoga, CA 94515

**Subject: Scope of Work for Kimball Dam  
Inundation Maps and Emergency Action Plan**

Dear Mr. Rayner:

The following Scope of Work (SOW) supports a contract for MBK Engineers (MBK) to provide services to the City of Calistoga (City) for provision of an Emergency Action Plan (EAP) for a potential dam failure of Kimball Dam. This SOW includes the development of the hydraulic model, technical analysis, and the mapping required by the Division of Safety of Dams (DSOD) as part of that process. The inundation maps will become part of the EAP, and the EAP will be submitted to the California Governor's Office of Emergency Services (CalOES) for review. The process we are proposing to assist the City with is required for Kimball Dam by the State of California and is depicted in Attachment 1.

The task list in Attachment 2 outlines the actions associated with developing the inundation maps and EAP:

- Task 1a - Compile Data
- Task 1b - Hydraulic Model Development and Analysis
- Task 1c - Inundation Mapping Documentation
- Task 1d - Coordination with the DSOD
- Task 2a - EAP Development
- Task 2b - EAP Outreach and Training (optional)

The State is requiring the Kimball Dam EAP to be submitted no later than January 1, 2019, and we will work to meet that schedule. Since review and subsequent acceptance of the inundation maps by DSOD is required prior submitting the EAP to CalOES, we will work to complete the inundation mapping in advance of the January 1, 2019 deadline, such that DSOD has a reasonable amount of review time. There is a possibility that DSOD will take longer than expected to review, which could potentially cause difficulty in submitting the EAP by the deadline. When this has occurred with other clients, DSOD has acknowledged this delay and communicated with CalOES so that the EAP deadline can be relaxed, or CalOES has allowed a draft EAP to be submitted without the final maps prior to the January 1 deadline. We will communicate with these agencies to make sure we understand and can meet their expectations regarding the submittal deadline.

MBK efforts are charged on an actual time-and-expense basis, in accordance with our current fee schedule, included as Attachment 3. We estimate the tasks identified can be completed at a cost not to exceed \$79,500, including the optional EAP coordination task define in this SOW. In reading the State regulations, we do not believe the City would be required to perform the outreach described in the optional EAP coordination task. However, this task is performed for many dams throughout the region, and we believe this task adds value to the work outlined herein and would provide a public safety benefit to the people of Calistoga.

We appreciate the opportunity to provide this SOW and assist the City of Calistoga in this essential dam safety endeavor.

Please do not hesitate to contact me if you have any questions.

Sincerely,  
MBK ENGINEERS



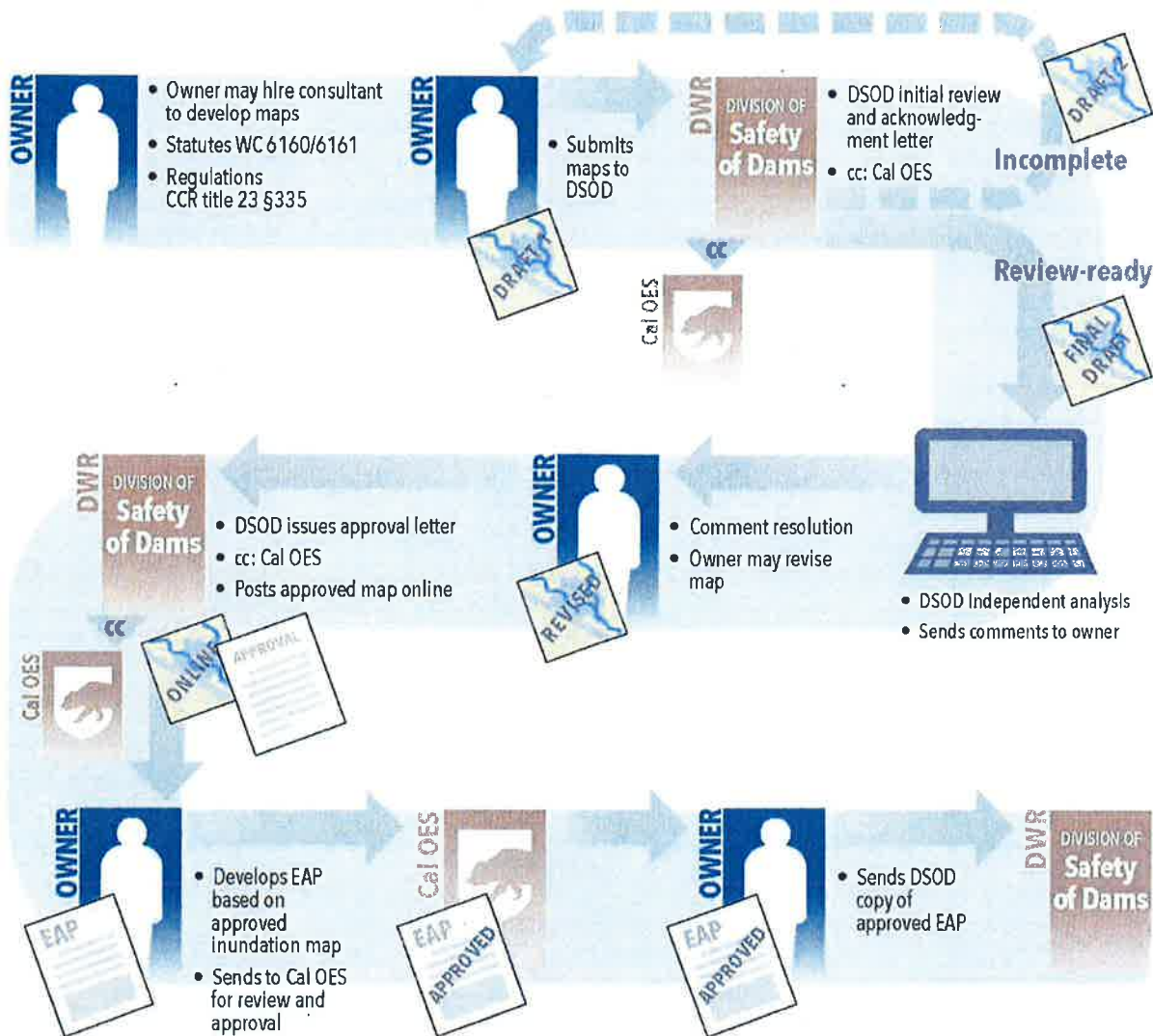
Ben Tustison, P.E.

NL/bt  
8888.12/KIMBALL DAM 2018-03-08

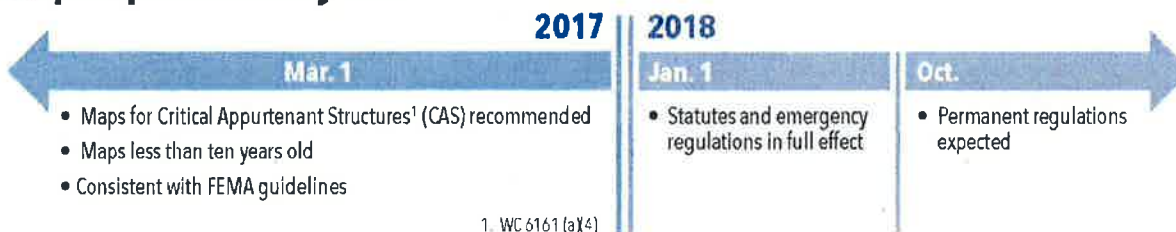
Attachments

## Inundation Map Review Process

Owners of dams, other than low hazard dams, are subject to the new statutes and regulations requiring inundation maps for dams and their critical appurtenant structures. DSOD reviews and approves inundation maps, and Cal-OES reviews and approves EAPs that are based on approved inundation maps. Owners must update inundation maps at a minimum of every 10 years, anytime there is a change to the dam, and anytime there is a change in downstream development.



## Map Requirements by Date



## **Scope of Work**

### **Inundation Maps and Emergency Action Plan for Kimball Dam**

#### **Task 1: Inundation Maps**

##### **Task 1a: Compile Data**

The data necessary to develop the dam breach models and related inundation maps will be compiled during this task. The major data necessary are (1) topography of the area, (2) as-built plans for the Kimball Dam, and (3) storage-area-volume relationships for the reservoir. It is anticipated that LiDAR data from Napa County is available and will be used for development of the hydraulic model and inundation mapping. This task assumes field surveys will not be necessary.

##### **Task 1b: Hydraulic Model Development and Analysis**

A hydraulic model of Kimball Dam/Reservoir and the anticipated flow path downstream will be developed using the United States Army Corps of Engineers (USACE) computer program HEC-RAS. Topography from Task 1a will be the basis of the hydraulic model. A 2-dimensional hydraulic model will be developed which has the ability to spatially calculate water surface elevation, depths, velocity, flow rates, and flood wave arrival times.

The inundation maps and hydraulic analysis will be prepared for Kimball Dam in accordance with the newly adopted sections of the California Code of Regulations, Title 23, Division 2, Chapter 1, Article 6 (Code). A meeting with the State of California Department of Water Resources (DWR) will determine if any special circumstances or breach parameters are recommended for this dam. If DWR does not provide guidance for dam break parameters, then guidance provided in FEMA's *Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures* (FEMA P-946, 2013), will be used.

Absent guidance by DWR, a Sunny Day Failure analysis scenario will be assumed. The breach parameters will be configured in HEC-RAS and a sensitivity analysis performed on some parameters to determine if they alter the resulting breach hydrograph.

Once the breach hydrograph is determined, it will be routed downstream in the hydraulic model. The downstream extent of the model will be sufficient to where flood depths are on the order of 1 foot or less. A field visit will be required to review the dam, reservoir, and downstream terrain. This visit will determine if any hydraulic constraints exist that may not be reflected in the topography, so the hydraulic model and inundation maps can be adjusted accordingly.

##### **Task 1c: Inundation Mapping and Documentation**

The resulting inundation from the HEC-RAS model will be mapped per the DSOD mapping standards. The HEC-RAS results will be used in the Arc Map computer program, overlaid with existing aerial photos to depict the inundation and provide downstream cross-sections containing: distance from dam, flood-wave arrival time, flood-wave maximum elevation, and peak flow. A technical memorandum will be produced that documents the background, analysis, assumptions, and methodology used to produce the inundation maps. The memorandum will satisfy the newly adopted Code's requirement that documentation be submitted with inundation maps.



### Task 1d: Coordination with DSOD

This task includes coordinating with the appropriate DSOD representative throughout the review process to obtain approved inundation maps. Based on previous experience, it is anticipated that DSOD will provide comments on the inundation maps after their initial review.

## Task 2: Emergency Action Plan

### Task 2a: EAP Development

This task includes development of the EAP for Kimball Dam based on the CalOES template and coordination with City staff and local emergency responders to develop a planholders list. This task assumes the City will provide one round of comments on the Administrative Draft. A Draft EAP will then be prepared for CalOES after the dam inundation mapping has been accepted by DSOD. Comments from CalOES on the Draft EAP will be incorporated into the Final EAP submitted to CalOES. This task does not include the costs associated with printing and distribution of the EAP.

### Task 2b: EAP Outreach and Training

As the first EAP for Kimball Dam, it would be beneficial to familiarize dam operators, City staff and emergency responders on the EAP and the City's role in its implementation and communication of protocols. This task includes the facilitation of internal training on the EAP and facilitating an outreach meeting with emergency responders and plan holders

Table 1. Task List for Kimball Dam

<b>Task 1a – Compile Data</b>	<b>\$10,000</b>
Acquire topography, as-built plans, and storage-area-volume data	
Acquire Napa County LiDAR data	
Coordinate with DWR	
<b>Task 1b – Hydraulic Model Development and Analysis</b>	<b>\$31,500</b>
Perform field visit	
Configure of dam break and breach parameters in HEC-RAS	
Route hydrographs	
Perform sensitivity Analysis	
<b>Task 1c – Inundation Mapping Documentation</b>	<b>\$20,000</b>
Perform simulation result mapping	
Overlay aerial imagery on inundation map	
Develop memorandum	
<b>Task 1d – DSOD Coordination</b>	<b>\$4,000</b>
<b>Task 2a – Kimball Dam EAP Development</b>	<b>\$10,000</b>
Administrative draft for City of Calistoga review	
Develop and Submit Final EAP to CalOES	
Final EAP for distribution to planholders	
<b>Task 2b – EAP Outreach and Training</b> <i>OPTIONAL</i>	<b>\$4,000</b>
Facilitate internal training	
Facilitate outreach with responders/planholders	
<b>TOTAL - Required Tasks</b>	<b>\$75,500</b>
<b>TOTAL - Optional Tasks</b>	<b>\$4,000</b>
<b>TOTAL - All tasks</b>	<b>\$79,500</b>

---

**SCHEDULE OF FEES**


---

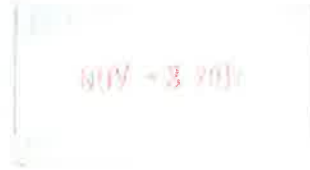
## 1. Standard Fees:

	<u>Per Hour</u>
Principal	\$200–260
Supervising Engineer	170–230
Senior Project Manager	180–230
Project Manager	160–200
Senior Engineer	140–210
Engineer/Hydrologist	120–180
GIS Professional	120–180
Water Resources Associate	100–160
Assistant Engineer	100–150
Prevailing Rate Surveyor, Chief of Party	163
Prevailing Rate Surveyor, Rodman/Chainman	148
GIS Specialist	80–140
Technician/Drafter	80–140
Junior Engineer	75–110
Engineering Aide	50–80
Technical Editor	50–125
3-Man Survey Crew	270
2-Man Survey Crew	235

2. Time spent in appearances at courts or quasi-judicial State or Federal boards and commissions is billed at \$450 per hour for principals and supervising engineers, \$400 per hour for registered engineer staff, and \$250 per hour for other staff.
3. Automobile mileage is billed at the Federal reimbursement rate. Local mileage (less than 20 miles) will not be billed.
4. All other direct non-salary expense, including transportation and subsistence, long-distance telephone charges, commercial printing, reproduction costs, and similar out-of-pocket expenses are billed at actual cost plus a service charge of 10%. Use of GPS equipment is billed at \$50 per hour. Use of MBK owned boat will be billed at \$100/day. Use of MBK owned drones will be billed at \$125/day. Professional services provided by others billed through MBK at cost plus a service charge of 5%–15%.
5. Billings will be made monthly and payment will be due within 45 days. Accounts not paid within 90 days of presentation will bear interest at the rate of 1½% per month or fraction thereof from the billing date unless other arrangements are made in advance.
6. If accounts are not paid within 90 days of presentation, the firm may retain an attorney to obtain payment. In the event that it does so and payment of all or part of the account is thereafter obtained, reasonable attorney's fees and other costs incurred to obtain such payment shall also be paid, or if payment is obtained by Judgment, shall be awarded as part of the Judgment.

**DEPARTMENT OF WATER RESOURCES**

1416 NINTH STREET, P.O. BOX 942836  
SACRAMENTO, CA 94236-0001  
(916) 653-5791



*cc: Mike  
David  
Ben  
Jimmy*

November 2, 2017

**NOTICE TO OWNERS OF STATE JURISDICTIONAL DAMS**

Subject: Emergency Regulations for Dam Inundation Maps

Senate Bill 92 added Sections 6160 and 6161 to the Water Code that became effective on June 27, 2017, requiring owners of State regulated dams, except those classified as low hazard, to prepare emergency action plans (EAPs) containing inundation maps for emergency preparedness. On October 19, 2017, emergency regulations were adopted to provide standards for preparing and submitting inundation maps to this Division for our review and approval. These regulations are available at [http://www.water.ca.gov/damsafety/statutes\\_regulations/index.cfm](http://www.water.ca.gov/damsafety/statutes_regulations/index.cfm).

Owners must submit EAPs to the Governor's Office of Emergency Services (Cal OES) for approval by deadlines that are based on the dam's downstream hazard classification. Owners received letters in July identifying their dam's hazard classification and the statutory deadlines for submitting EAPs as shown below:

- Extremely high hazard dams: January 1, 2018
- High hazard dams: January 1, 2019
- Significant hazard dams: January 1, 2021

It is important to note that inundation maps must first be submitted to this Division for review and approval, and only approved inundation maps should be contained within EAPs that are submitted to Cal OES for their approval. For more information on the Cal OES EAP program, please visit <http://www.caloes.ca.gov>.

Upon approval of the EAP by Cal OES, owners are responsible for ensuring that the approved EAP is disseminated to appropriate public safety and emergency management agencies, which includes our Division. Thank you for your cooperation.

If you have any questions or need additional information, please contact Kristen Martin at (916) 227-2170 or [MapRegs@water.ca.gov](mailto:MapRegs@water.ca.gov).