

# **AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY ACTION PLAN SERVICES**

This Agreement is made and entered into by and between the County of Lake on behalf of CSA 2 Spring Valley, hereinafter referred to as "County", and WEST Consultants, Inc., hereinafter referred to as "Consultant", collectively referred to as the "parties".

1. **SERVICES.** Subject to the terms and conditions set forth in this Agreement, Consultant shall provide to County the services described in the Scope of Services attached hereto and incorporated herein as Exhibit "B" at the time and place and in the manner specified therein. In the event of a conflict in or inconsistency between the terms of this Agreement and Exhibits A/B/C/D, the Agreement shall prevail.

2. **TERM.** This Agreement shall commence on \_\_\_\_\_ 2020, and shall terminate on December 31, 2020, unless earlier terminated as hereinafter provided. In the event County desires to temporarily continue services after the expiration of this Agreement, such continuation shall be deemed on a month-to-month basis, subject to the same terms, covenants, and conditions contained herein.

3. **COMPENSATION.** Consultant has been selected by County to provide the services described hereunder in Exhibit "B" (Scope of Services), attached hereto. Compensation to Consultant shall not exceed Thirty-three thousand five hundred and eighty one dollars (\$33,581.00).

The County shall compensate Consultant for services rendered, in accordance with the provisions set forth in Exhibit "C" (Fiscal Provisions), attached hereto, provided that Consultant is not in default under any provisions of this agreement. Compensation to Consultant is contingent upon appropriation of federal, state and county funds.

4. **TERMINATION.** This Agreement may be terminated by mutual consent of the parties or by County upon 30 days written notice to Consultant.

In the event of non-appropriation of funds for the services provided under this Agreement, County may terminate this Agreement, without termination charge or other liability.

Upon termination, Consultant shall be paid a prorated amount for the services provided up to the date of termination.

5. **MODIFICATION.** This Agreement may only be modified by a written amendment hereto, executed by both parties; however, matters concerning scope of services which do not affect the compensation may be modified by mutual written consent of Consultant and County executed by Jan Coppinger.

6. **NOTICES.** All notices between the parties shall be in writing addressed as follows:

County of Lake  
Special Districts  
230 N. Main St  
Lakeport, CA 95453  
Attn: Jan Coppinger, Administrator

WEST Consultants, Inc.  
101 Parkshore Drive  
Folsom, CA 95630

Attn: David C. Curtis, PhD.,  
Sr. Vice President

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

7. **EXHIBITS.** The Agreement Exhibits, as listed below, are incorporated herein by reference:

Exhibit A – Definitions  
Exhibit B – Scope of Services  
Exhibit C – Fiscal Provisions  
Exhibit D – Compliance Provisions

8. **TERMS AND CONDITIONS.** Consultant warrants that it will comply with all terms and conditions of this Agreement and Exhibits, and all other applicable federal, state and local laws, regulations and policies.

9. **INTEGRATION.** This Agreement, including attachments, constitutes the entire agreement between the parties regarding its subject matter and supersedes all prior Agreements, related proposals, oral and written, and all negotiations, conversations or discussions heretofore and between the parties.

Executed at \_\_\_\_\_, California on \_\_\_\_\_.

COUNTY OF LAKE

CONSULTANT



\_\_\_\_\_  
CHAIR, Board of Supervisors

\_\_\_\_\_  
David C. Curtis, PhD., Vice President  
WEST Consultants, Inc.  
11/26/19

ATTEST:  
CAROL J. HUCHINGSON  
Clerk to the Board of Supervisors

APPROVED AS TO FORM:  
ANITA L. GRANT  
County Counsel

By: \_\_\_\_\_

By:  \_\_\_\_\_

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**EXHIBIT “A” – DEFINITIONS**

CalOSHA: California Occupational Safety and Health Administration

CCR: California Code of Regulations

CFR: Code of Federal Regulations

DSOD: Division of Safety of Dams

EAP: Emergency Action Plans

FEMA: Federal Emergency Management Agency

GEO-RAS: is a geographic river analysis system developed using ArcGIS® Desktop and ArcGIS Spatial Analyst and 3D Analyst™ extensions. The geodatabase design supports analysis of spatial data for hydraulic modeling and floodplain mapping.

GIS: Geographic Information System

HEC-RAS: Hydraulic Engineering Center – River Analysis System is a computer program that models the hydraulics of water flow through natural rivers and other channels.

LIDAR: light detection and ranging

NLCD: National Land Cover Database

OES: Office of Emergency Services

USC: United States Code

2-D: Two Dimensional

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**EXHIBIT “B” – SCOPE OF SERVICES FOR CSA 2 DAM 396.000**

**1. CONSULTANT RESPONSIBILITIES.**

**1.1 Document and Data Review** – Consultant will coordinate closely with the County via emails, telephone calls, video conference or in-person to make sure the project is meeting the County’s needs and to clarify any physical dam data not included in plans (spillway elevation, rating curves, etc.). Consultant will review available relevant literature and will seek support from the County in acquiring the following data, if available, and information to support the dambreak analysis:

- Dam as-built drawings
- Dam design reports
- Stage-storage curves, if not in the as-built or design reports
- Recent hydrographic surveys
- LIDAR Data
- GEO-RAS files
- HEC-RAS Models
- Current EAP’s
- Other pertinent information

A site visit will be arranged at a mutually agreeable date and time to confirm dam conditions and flow area parameters. Field reconnaissance will be conducted to review the study areas, make close observations of the dam and reservoirs, road crossings, hydraulic roughness conditions of floodplain areas, obstructions to flow, and other pertinent features.

**1.2 Hydraulic Model Development** – Using version 5.0.6 or later of HEC RAS, Consultant will model the reservoirs, the dam embankment failures and two-dimensional (2-D) flow in the inundation areas, in accordance with DSOD 23 CCR guidance. Geometric data for the model will be developed from existing elevation data. Manning’s roughness values will be developed based on site observations, recommendations from prior studies and data from the National Land Cover Database (NLCD). Structure data and roughness values will be developed to assure that flow within all parts of the HEC-RAS model are hydraulically appropriate.

The hydraulic model will define the depth and velocity at locations downstream from the breach as a function of time; enabling the development of depth, velocity, and time of arrival maps for the flood wave. A combination of these variables will be used to map the flood hazard downstream from a dam break. The flood hazard definitions will be developed in cooperation with County staff in concert with 23 CCR guidance.

**1.3 Define Dam Breaks** – Consultant will evaluate and determine parameters in compliance with DSOD standards. A series of parameters for each location will be analyzed based on DSOD guidance in 23 CCR Section 335.6.

A sensitivity analysis will be performed on breach formation (i.e. width and duration), based on different dambreak parameters, to ensure that the breach forms in an appropriate manner and provides sufficiently conservative conditions.

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

Based on the criteria stated in Section 335.2, it does not appear that any of the structures meet the DSOD definition of having critical appurtenant structures based on the criteria of impounding 5,000 acre-feet. Consultant has based the cost estimate on this determination and we have not included any cost for failing any appurtenant structures.

**1.4 Run Dam Break Simulations** – 23 CCR guidance for inundation mapping directs that sunny day dam breach analyses assume a full reservoir condition. This implies a storage pool elevation equal to the spillway crest elevation when failure occurs with no additional inflow to the reservoir. Preliminary simulations of the sunny-day dam breaks will be performed to assure that the dam break parameters and break hydrographs area reasonable and that the inundation area is included within the 2-D flow grid.

If the break hydrographs are not reasonable, the break parameters will be modified. If the dambreak inundation meets the edge of the 2-D flow area in areas where an outflow boundary is not defined, the 2-D flow area will be expanded to cover the required area. This includes both the new grid areas just downstream from the dam embankments and the creek channel further downstream where higher flow may expand the inundation.

Once the parameters area refined and the 2-D model flow domain is established, final simulations of the breaches will be completed.

**1.5 Develop Inundation Maps** – Based on the detailed output from the HEC-RAS model, inundation maps, velocity maps and flood arrival time maps will be developed for each dam. Consultant will provide draft maps to the County with the draft report for review. The inundation maps will show areas where property is inundated by the dambreak. Inundation maps will be extended as far as necessary to meet the 1-foot depth boundary guidance. Maps will be stamped by the Project Manager.

The maps will be delivered as part of the 90% submittal. Final maps will be developed based on comments (one round of comments) from the County and public meetings. After submittal to DSOD, Consultant will address any comments received from DSOD on the maps.

**1.6 Technical Report** – Consultant will prepare draft technical study reports for each dam in accordance with 23 CCR §335.12, including descriptions of the modeling methodology, selection of dam break parameters and other relevant assumptions.

Consultant will provide draft report to the County as part of the 90% submittal.

Consultant will address comments (one round of comments) from the County and public meetings. Consultant will provide the County with electronic copies of all reports, models, mapping and GIS data developed as part of this project. The content and format for maps, technical studies, and digital databases will meet the requirements specified in the guidance. Consultant will address any comments received from DSOD on the reports.

**1.7 Emergency Action Plans (EAP)** – Based on new inundation mapping and any updated DSOD/OES/FEMA guidance, Consultant will provide EAP templates to the County. The

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

County will complete the EAP's for each dam with support, guidance and review from the Consultant. The County will coordinate with other local agencies, as required by CalOES during development of the EAP's.

Final EAP's will be developed by the County with support, guidance and review from the Consultant.

1.8 **Meetings** – Consultant will make itself available to attend up to 5 meetings. Meetings may include a kickoff meeting, meetings with the County, the Public and Consultant for each of the three dams, a 90% meeting and a meeting / presentation to the Board of Supervisors after the final documents are completed.

2. **REPORTING REQUIREMENTS.** Consultant shall submit monthly progress reports with their invoice in a format approved by County.

3. **RECORDS RETENTION.** Consultant shall prepare, maintain and/or make available to County upon request, all records and documentation pertaining to this Agreement, including financial, statistical, property, recipient and service records and supporting documentation for a period of five (5) years from the date of final payment of this Agreement. If at the end of the retention period, there is ongoing litigation or an outstanding audit involving the records, Consultant shall retain the records until resolution of litigation or audit. After the retention period has expired, Consultant assures that confidential records shall be shredded and disposed of appropriately.

4. **COUNTY RESPONSIBILITIES.**

4.1 County will provide Consultant with the following data, and information to support the dambreak analysis, if available:

- Dam as-built drawings
- Dam design reports
- Stage-storage curves, if not in the as-built or design reports
- Recent hydrographic surveys
- LIDAR Data
- GEO-RAS files
- HEC-RAS Models
- Current EAP's
- Other pertinent information

4.2 County will be responsible for preparing the EAP's with support, guidance and review from the Consultant.

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**EXHIBIT "C" – FISCAL PROVISIONS**

1. **CONSULTANT'S FINANCIAL RECORDS.** Consultant shall keep financial records for funds received hereunder, separate from any other funds administered by Consultant, and maintained in accordance with Generally Accepted Accounting Principles and Procedures and the Office of Management and Budget's Cost Principles.

2. **INVOICES.**

2.1 Consultant's invoices shall be submitted in arrears on a monthly basis, or such other time that is mutually agreed upon in writing, and shall be itemized and formatted to the satisfaction of the County.

2.2 County shall make payment within 20 business days of an undisputed invoice for the compensation stipulated herein for supplies delivered and accepted or services rendered and accepted, less potential deductions, if any, as herein provided. Payment on partial deliverables may be made whenever amounts due so warrant or when requested by the Consultant and approved by the Assistant Purchasing Agent.

3. **AUDIT REQUIREMENTS AND AUDIT EXCEPTIONS**

3.1 Consultant warrants that it shall comply with all audit requirements established by County and will provide a copy of Consultant's Annual Independent Audit Report, if applicable.

3.2 County may conduct periodic audits of Consultant's financial records, notifying Consultant no less than 48 hours prior to scheduled audit. Said notice shall include a detailed listing of the records required for review. Consultant shall allow County, or other appropriate entities designated by County, access to all financial records pertinent to this Agreement.

3.3 Consultant shall reimburse County for audit exceptions within 30 days of written demand or shall make other repayment arrangements subject to the approval of County.

4. **BUDGET.** The Consultant shall submit, in advance, a detailed budget, in the format provided by County for review and approval by the County. Consultant shall be compensated only for expenses included in the approved budget. Modification to the budget must be approved in advance by the County.

5. **EXPENDITURE OF FUNDS.**

5.1 Funds payable through this agreement shall not be used to purchase food or promotional merchandise or to attend conferences unless specifically approved in the budget.

5.2 County reserves the right to refuse payment to Consultant or disallow costs for any expenditure determined to be unreasonable, out of compliance, or inappropriate to the services provided hereunder.

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**EXHIBIT “D” – COMPLIANCE PROVISIONS**

1. **INFORMATION INTEGRITY AND SECURITY.** Consultant shall immediately notify County of any known or suspected breach of personal, sensitive and confidential information related to Consultant’s work under this Agreement.

2. **NON-DISCRIMINATION.** Consultant shall not unlawfully discriminate against any qualified worker or recipient of services because of race, religious creed, color, sex, sexual orientation, national origin, ancestry, physical disability, mental disability, medical condition, marital status or age.

3. **DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

3.1 The Consultant certifies to the best of its knowledge and belief, that it and its subconsultants:

A. Are not presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

B. Have not, within a three-year period preceding this Agreement, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction; violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

C. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity with commission of any of the offenses enumerated in the preceding paragraph; and

D. Have not, within a three-year period preceding this Agreement, had one or more public transactions terminated for cause or default.

3.2 Consultant shall report immediately to County, in writing, any incidents of alleged fraud and/or abuse by either Consultant or Consultant’s subconsultant. Consultant shall maintain any records, documents, or other evidence of fraud and abuse until otherwise notified by County.

4. **AGREEMENTS IN EXCESS OF \$100,000.** Consultant shall comply with all applicable orders or requirements issued under the following laws:

4.1 Clean Air Act, as amended (42 USC 1857).

4.2 Clean Water Act, as amended (33 USC 1368).

4.3 Federal Water Pollution Control Act, as amended (33 USC 1251, et seq.)

4.4 Environmental Protection Agency Regulations (40 CFR, Part 15 and Executive Order 11738).



**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**5. INDEMNIFICATION AND HOLD HARMLESS.**

Each party shall indemnify and hold the other harmless against all actions, claims, demands, and liabilities and against all losses, damage, cost, expenses, and attorney's fees, arising directly or indirectly out of an actual or alleged injury to a person or property in the same proportion that its own acts and/or omissions are attributed to said claim, demand, liability, loss, damage, cost, expenses, and/or attorney's fees. This provision shall not extend to any claim, demand, liability, loss, damage, cost, expenses, and/or attorney's fees covered by the insurance of either party.

Consultant's obligations under this Section shall survive the termination of the Agreement.

**6. STANDARD OF CARE.** Consultant represents that it is specially trained, licensed, experienced and competent to perform all the services, responsibilities and duties specified herein and that such services, responsibilities and duties shall be performed, whether by Consultant or designated subconsultants, in a manner according to generally accepted practices.

**7. INTEREST OF CONSULTANT.** Consultant assures that neither it nor its employees has any interest, and that it shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of services hereunder.

**8. DUE PERFORMANCE – DEFAULT.** Each party agrees to fully perform all aspects of this agreement. If a default to this agreement occurs then the party in default shall be given written notice of said default by the other party. If the party in default does not fully correct (cure) the default within ten (10) days of the date of that notice (i.e. the time to cure) then such party shall be in default. The time period for corrective action of the party in default may be extended in writing executed by both parties, which must include the reason(s) for the extension and the date the extension expires.

Notice given under this provision shall specify the alleged default and the applicable Agreement provision and shall demand that the party in default perform the provisions of this Agreement within the applicable time period. No such notice shall be deemed a termination of this Agreement, unless the party giving notice so elects in that notice, or so elects in a subsequent written notice after the time to cure has expired.

**9. INSURANCE.**

9.1 Consultant shall procure and maintain Workers' Compensation Insurance for all of its employees.

9.2 Consultant shall procure and maintain Comprehensive Public Liability Insurance, both bodily injury and property damage, in an amount of not less than one million dollars (\$1,000,000) combined single limit coverage per occurrence, including but not limited to endorsements for the following coverage: personal injury, premises-operations, products and completed operations, blanket contractual, and independent consultant's liability.

9.3 Consultant shall procure and maintain Comprehensive Automobile Liability Insurance, both bodily injury and property damage, on owned, hired, leased and non-owned vehicles used in

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

connection with Consultant's business in an amount of not less than one million dollars (\$1,000,000) combined single limit coverage per occurrence.

9.4 Consultant shall procure and maintain Professional Liability Insurance for the protection against claims arising out of the performance of services under this Agreement caused by errors, omissions or other acts for which Consultant is liable. Said insurance shall be written with limits of not less than one million dollars (\$1,000,000).

9.5 Consultant shall not commence work under this Agreement until it has obtained all the insurance required hereinabove and submitted to County certificates of insurance naming the County of Lake as additional insured. Consultant agrees to provide to County, at least 30 days prior to expiration date, a new certificate of insurance.

9.6 In case of any subcontract, Consultant shall require each subconsultant to provide all of the same coverage as detailed hereinabove. Subconsultants shall provide certificates of insurance naming the County of Lake as additional insured and shall submit new certificates of insurance at least 30 days prior to expiration date. Consultant shall not allow any subconsultant to commence work until the required insurances have been obtained.

9.7 For any claims related to the work performed under this Agreement, the Consultant's insurance coverage shall be primary insurance as to the County, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by County, its officers, officials, employees, agents or volunteers shall be in excess of the Consultant's insurance and shall not contribute with it.

9.8 The Commercial General Liability and Automobile Liability Insurance must each contain, or be endorsed to contain, the following provision:

The County, its officers, officials, employees, agents, and volunteers are to be covered as additional insureds and shall be added in the form of an endorsement to Consultant's insurance on Form CG 20 10 11 85. Consultant shall not commence work under this Agreement until Consultant has had delivered to County the Additional Insured Endorsements required herein.

Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under subdivision (b) of California Civil Code Section 2782.

9.9 Insurance coverage required of Consultant under this Agreement shall be placed with insurers with a current A.M. Best rating of no less than A: VII.

Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Consultant for liability in excess of such coverage, nor shall it preclude County from taking other action as is available to it under any other provision of this Agreement or applicable law. Failure of County to enforce in a timely manner any of the provisions of this section shall not act as a waiver to enforcement of any of these provisions at a later date.

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

9.10 Any failure of Consultant to maintain the insurance required by this section, or to comply with any of the requirements of this section, shall constitute a material breach of the entire Agreement.

**10. ATTORNEY'S FEES AND COSTS.** If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such part may be entitled.

**11. ASSIGNMENT.** Consultant shall not assign any interest in this Agreement and shall not transfer any interest in the same without the prior written consent of County except that claims for money due or to become due Consultant from County under this Agreement may be assigned by Consultant to a bank, trust company, or other financial institution without such approval. Written notice of any such transfer shall be furnished promptly to County. Any attempt at assignment of rights under this Agreement except for those specifically consented to by both parties or as stated above shall be void.

**12. PAYROLL TAXES AND DEDUCTIONS.** Consultant shall promptly forward payroll taxes, insurances, and contributions to designated governmental agencies.

**13. INDEPENDENT CONSULTANT.** It is specifically understood and agreed that, in the making and performance of this Agreement, Consultant is an independent Consultant and is not an employee, agent or servant of County. Consultant is not entitled to any employee benefits. County agrees that Consultant shall have the right to control the manner and means of accomplishing the result Agreed for herein.

Consultant is solely responsible for the payment of all federal, state and local taxes, charges, fees, or contributions required with respect to Consultant and Consultant's officers, employees, and agents who are engaged in the performance of this Agreement (including without limitation, unemployment insurance, social security and payroll tax withholding.)

**14. OWNERSHIP OF DOCUMENTS.** All non-proprietary reports, drawings, renderings, or other documents or materials prepared by Consultant hereunder are the property of County.

**15. SEVERABILITY.** If any provision of this Agreement is held to be unenforceable, the remainder of this Agreement shall be severable and not affected thereby.

**16. ADHERENCE TO APPLICABLE DISABILITY LAW.** Consultant shall be responsible for knowing and adhering to the requirements of Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, (42 U.S.C. Sections 12101, et seq.). California Government Code Sections 12920 et seq., and all related state and local laws.

**17. HIPAA COMPLIANCE.** Consultant will adhere to Titles 9 and 22 and all other applicable Federal and State statutes and regulations, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and will make his best efforts to preserve data integrity and the confidentiality of protected health information.

**AGREEMENT FOR DAM INUNDATION MAPPING & EMERGENCY  
ACTION PLAN SERVICES**

**18. SAFETY RESPONSIBILITIES.** Consultant will adhere to all applicable CalOSHA requirements in performing work pursuant to this Agreement. Consultant agrees that in the performance of work under this Agreement, Consultant will provide for the safety needs of its employees and will be responsible for maintaining the standards necessary to minimize health and safety hazards.

**19. JURISDICTION AND VENUE.** This Agreement shall be construed in accordance with the laws of the State of California and the parties hereto agree that venue of any action or proceeding regarding this Agreement or performance thereof shall be in Lake County, California. Consultant waives any right of removal it might have under California Code of Civil Procedure Section 394.

**20. RESIDENCY.** All independent Consultants providing services to County for compensation must file a State of California Form 590, certifying California residency or, in the case of a corporation, certifying that they have a permanent place of business in California.

**21. NO THIRD-PARTY BENEFICIARIES.** Nothing contained in this Agreement shall be construed to create, and the parties do not intend to create, any rights in or for the benefit of third parties.