



Request for Proposal

Project Title: Utica Project Inundation Mapping Updates

Issued By: Utica Water and Power Authority

Date Issued: 8/14/2025

Proposal Due Date: September 16, 2025

PROJECT SUMMARY

The Utica Water and Power Authority (UWPA) invites qualified firms to submit proposals to perform inundation mapping updates and technical studies review in compliance with California Water Code Sections 6160 and 6161 and Federal Energy Regulatory Commission (FERC) Engineering Guidelines Chapter 6 – Emergency Action Plans. These services are required for four hypothetical Fair Weather dam failure scenarios associated with Hunter Dam, Murphys Forebay Dams (South and West), and Murphys Afterbay Dam and only updated mapping for the hypothetical failure of the Spillway Radial Gate of Murphys Afterbay Dam. The spillway gate failure scenario was performed in 2021 using HEC-RAS and meets the current modeling guidelines, and can be used to update the inundation maps. A dam failure scenario with updated inundation maps for Ross Dam is requested as an additional option within the project scope.

Under state law effective July 1, 2017, owners of high-hazard dams are required to prepare and update at least every 10 years inundation maps to comply with Emergency Action Plan (EAP) regulations. FERC’s EAP, including inundation map regulations, preceded state regulations. UWPA owns four dams included in this RFP with a hazard classification of “high” by the Division of Safety of Dams (DSOD) and FERC. Ross dam is classified as “significant” by DSOD. This project will address the regulatory requirements for inundation mapping of sunny-day dam failure scenarios by both DSOD and FERC.

SCOPE OF WORK

The selected firm will be responsible for the following:

1. Project Management:

- Conduct a kick-off meeting with UWPA to review project scope and schedule.
- Provide bi-weekly updates and regular progress meetings.
- Coordinate with DSOD and FERC to ensure regulatory compliance and approvals.

2. Data Gathering:

- Obtain aerial imagery such as from Google Earth to be used as background for inundation maps.
- Utilize the most current data sources for developments, habitable structures, roads, and the highest resolution topography available, such as the Calaveras County GIS maps.

3. Technical Analysis:

- Review the existing dam breach analyses supporting the 2016 inundation maps.
- Review existing Murphys Afterbay Spillway Radial Gate Failure analysis
- Extract key cross section metrics such as stationing downstream of the dam, normal and peak water surface elevations, flow velocities, time of arrival, and time to peak data.
- Note failure of Murphys Forebay West Dam could result in sequential failure of Murphys Afterbay Dam
- Interpolate flood inundation limit data between cross sections used in the dam break and spillway gate failure flood analyses so as to provide continuous and representative inundation boundaries from each dam to the terminus of the flood study.

4. Inundation Mapping:

- Review existing inundation maps for compliance with current DSOD and FERC mapping regulations and guidelines, review flood studies, identify map revisions and improvements necessary for compliance.

- Develop new breach parameters and modeling for the dams following the FEMA P-946 guideline.
- Examine potential flood effects along each flood path and identify high risk areas, review new developments, add new habitable structures, and key high-risk sites (parks, road crossings, etc.), add new features to existing data layers.
- Create new GIS-based inundation maps to include flood boundaries, hazard depth zones, and arrival time contours.
- Ensure compliance with DSOD Emergency Regulations and FERC Engineering Guidelines for EAPs as applicable for Inundation Mapping.
- Provide updated maps in both 22-inch x 34-inch color format and resized versions for report inclusion.
- Prepare new Inundation Maps per CCR Title 23, Division 2, Chapter 1, Article 6, Section 335.10 as follows:
 1. An inundation map shall be prepared for each failure scenario as described in section 335.6 (Fair Weather Dam Break Scenarios and Murphys Afterbay Spillway Radial Gate failure). Inundation maps must contain the following model outputs as rasters, contours, points, or cross-sections at appropriate time and space intervals displayed over current aerial imagery:
 - Inundation boundary,
 - Flood wave arrival time,
 - Maximum depth, and
 - Maximum velocity.
 2. If using a raster for items in section 335.10(a), the opacity shall be adjusted to display the underlying aerial imagery.
 3. The inundation boundary shall be displayed as a one-foot maximum depth, except where the flood wave would be confined to a channel or canyon, and where the flood wave no longer poses a threat to life or critical facilities.
 4. General information. Each inundation map sheet shall contain the following information:
 - The name of the dam, the department's dam number, the national dam ID number, and the county in which the dam is located.
 - The meteorological loading condition. Identify whether a sunny-day or storm-induced loading condition is depicted. If a storm-induced loading condition is depicted, note the return period of the storm or the term "Probable Maximum Flood," as applicable.

5. Sediment. If the failure scenario depicts the effects of sediment release, note “Includes reservoir sediment release.”
6. Label identifying the dam.
7. Symbols and a corresponding legend that identifies all critical facilities in the inundation area and within the mapped extent.
8. Labels identifying the downstream channels and flood control features within the inundation area, such as dams, levees, canals, rivers, streams, bypasses, weirs, pumps, and control structures.
9. Boundary delineations identifying the city, county, or other governmental agency jurisdictional boundaries affected by the inundation area.
10. An arrow indicating north.
11. An appropriate scale bar and the stated map scale.
12. Vertical elevation datum specified as NAVD88.
13. If applicable, an index showing the relationship of the map sheet to the other map sheets.
14. The preparation date of the map.
15. The simulation date of the model.
16. The signature, seal, and license number of the California-licensed professional civil engineer responsible for preparing the map.
17. A statement that includes:
 18. The information shown is approximate and should be used as a guideline for emergency preparation and response.
 19. Security-sensitive infrastructure may not be shown on this map.
 20. For flood waves that are confined within a channel but not shown within the inundation boundary as allowed by section 335.10(c), a statement indicating high flows may continue beyond the inundation boundary.
 21. Labels identifying low-lying areas where the flood recession is expected to be slow and affect lives or critical facilities.
- Map Layout. All inundation maps shall be prepared at a scale and quality that enables a person familiar with the area to clearly comprehend an aerial view of the extent of flooding. A map scale such as that described in Section 11.3.3 of FEMA P-946 may be applied.

5. Technical Documentation:

- Incorporate UWPA's feedback and prepare final draft inundation maps for DSOD and FERC submission.
- Address DSOD and FERC comments and revise documentation as required.

PROJECT DELIVERABLES

1. Five (optional six) GIS-compatible inundation maps in digital format signed and stamped by registered CA Civil Engineer shared via a secure sharefile site with ryanh@uticawater.com, jskessler26@gmail.com, and gm@uticawater.com
2. Four (optional five) dam inundation technical studies for each dam that summarize the hydraulic analyses performed during the new breach modeling.
3. Coordinated meetings for in-house discussions and reviews with Utica employees
4. Drafts of all the maps and reports will be ready for review by January 1, 2026.
5. Final submission to Utica by January 31st, 2026

PROPOSAL REQUIREMENTS

Proposals must include the following:

- 1. Company Background and Experience:**
 - Provide an overview of your organization, relevant experience, and similar projects completed.
- 2. Approach and Methodology:**
 - Describe your approach to completing the scope of work, including methodologies for report preparation and software being utilized.
- 3. Project Team:**
 - Resumes and relevant experience of key personnel and organizational chart and roles of team members.
- 4. Schedule:**
 - Provide a detailed timeline for completing the scope of work and submitting the draft and final report.
- 5. Cost Proposal:**
 - Submit a detailed cost breakdown for completing the scope of work.

EVALUATION CRITERIA

Proposals will be evaluated based on the following criteria:

1. Demonstrated experience and qualifications of the project team.
2. Understanding of the project scope and methodology.
3. Proposed timeline and ability to meet the January 2026 deadline.
4. Cost competitiveness and quality of references

PAYMENT TERMS & CONDITIONS

Once an agreement is signed between contractor and Utica, an agreed-upon start date will be determined. Contractor will invoice Utica 20 percent of the total cost at the start of the project after the kickoff meeting, 60 percent when the draft report and maps are submitted, and 20 percent at the final submission. Utica will provide payment to contractor within 30 days of receiving the invoice, providing the project has been completed to Utica's satisfaction.

SUBMISSION DETAILS

- **Submission Format:** All proposals must be submitted in digital format (PDF).
- **Submission Options:** Include optional dam break report and inundation mapping for Ross Dam.
- **Submission Deadline:** September 11, 2025
- **Submission Address:** 1168 Booster Way, PO Box 358, Angels Camp CA 95222
- **Questions/Inquiries:** Direct all inquiries to:

Ryan Heryford
Utica Operations, Conveyance, and Compliance
Email: ryanh@uticawater.com
Call / text: 209-768-9882

(OR)

Dave Andres
Interim General Manager
Email: gm@uticawater.com
Call / text: 209-736-9419

Disclaimer: UWPA reserves the right to reject any or all proposals, waive minor irregularities, and request clarifications as needed. This RFP does not commit UWPA to award a contract or pay any costs incurred in preparing a proposal.