

**Kerr County  
Request for Qualifications for Engineering Services  
for the  
Kerr County Flood Warning System**

**PART 1. INSTRUCTIONS**

Kerr County is seeking to enter into an engineering services contract with a state-registered engineering firm to prepare a preliminary engineering study for a proposed High Water Detection System in Kerr County to be reimbursed or funded with FEMA Mitigation Funds through the Texas Division of Emergency Management for disasters declared/announced between 2016 and 2017. Submittals for these services will be accepted until 2PM on September 6, 2016 at Kerr County Court House, Attn: County Clerk, 700 Main Street, Suite 122, Kerrville, TX 78028. Kerr County is an Affirmative Action/Equal Opportunity Employer. For questions please contact Charlie Hastings, County Engineer at 830-257-2993 or [chastings@co.kerr.tx.us](mailto:chastings@co.kerr.tx.us). The Scope of the Work is described in Parts 2 below.

All interested persons and firms must submit qualifications, in writing, by delivering the qualifications in person or by mail to:

Rebecca Bolin  
County Clerk  
700 Main Street, Suite 122  
Kerrville, Texas 78028

The qualifications must be clearly marked: “Response to Request for Qualifications for the Kerr County Flood Warning System” and must be received by the County Clerk not later than September 6, 2016 at 2:00 PM.

**PART 2. SCOPE OF SERVICES**

**Phase 1** – Anticipated award date September 7, 2016. Completion of Phase 1 engineering due September 30, 2016.

**Task 1. Data Collection and Local Agency Meetings**

Coordination meetings will be held with several agencies in Kerr County as part of the data collection task of the engineering study. Meetings will be held with the following agencies:

1. Kerr County Commissioners
2. Emergency Management Coordinators
3. Kerr County Sheriff
4. Kerr County Engineer
5. City of Kerrville
6. City of Ingram
7. TxDOT

## 8. Upper Guadalupe River Authority (UGRA)

The purpose of the meeting will be to discuss previously installed gauges, historical flooding at low water crossings, desired hardware components at crossings and preferred notification options including radio communication, sirens, and web-based communication. In addition, these meetings will discuss interagency coordination.

### Task 2. Identify and Prioritize Low Water Crossings

Based on the results of the agency coordination meetings, potential sites for High Water Detection System installations will be identified. This task will include site visits to each of the potential installation sites. The Project Team will analyze each identified low water crossing location in order to determine the proposed location for the master sensor, associated remote advance warning sign and beacon, and potential crossing gates within the public right of way.

Additionally, the site visits will observe site clearance, document any existing obstructions, photograph and determine proposed locations of system equipment, and perform a preliminary utility location evaluation to identify any potential conflicts. The Project Team will identify the nearest reasonable location along the existing roadway for a passenger vehicle to make a U-turn movement during a high-water event. The purpose of identifying this location is to assist in locating any advance warning signs and beacons lights.

### Task 3. Evaluate Software/Communication Options

The intent of the High Water Detection System is to identify hazardous conditions and to notify the community. This work task will evaluate tools for Kerr County to warn its residents in the event of a flooding event. The project team will provide recommendations as to the potential future development of the following:

- Flood Warning Sirens
- Reverse 911 call systems or CodeRed Emergency Notification System
- Notification of key emergency management personnel
- Web-Based Application: These web-based applications such as ATXFLOODS.com provide warning alerts to the public of flooded area along roadways or hazardous conditions

### Task 4. Prepare Phase 1 Summary Report – Completion of Phase 1 engineering due September 30, 2016

A Summary Report will be prepared which will document the results of the tasks described above. A tentative outline of the Summary Report is listed below:

1. Introduction
2. Coordination Meetings with Local Agencies
  - a. Emergency Management Coordinators

- b. Kerr County Sheriff
  - c. Kerr County Engineer
  - d. City of Kerrville
  - e. TxDOT
  - f. Upper Guadalupe River Authority (UGRA)
3. Identify and Prioritize Low Water Crossing Locations
  4. Provide Software/Communications Options
    - a. Flood Warning Systems
    - b. Sirens
    - c. Web-Based Application
  5. Summary

**Phase 2** – Anticipated begin date of October 1, 2016. Completion of Phase 2 engineering due December 31, 2016

#### Task 1. Evaluate High Water Detection System Components

The evaluation of the High Water Detection System components will include a review of current vendors and components required at the low water crossing locations. Components at each location could include rainfall gauges, pressure transducers, mechanical float cans, data logger/transmitters, and possibly Automated Barrier Gates or an Advance Warning Station that includes a traffic warning sign with mounted flashing lights to provide advance warning. The Project Team will review each proposed low water crossing and provide a recommendation for the High Water Detection System Components at each location.

#### Task 2. Final Prioritization of Low Water Crossings

Based on the results of the agency coordination meetings and identification of potential sites, a final prioritization of the sites will be developed. In order to prioritize the potential low water crossings, a Crossing Impact Index will be developed that takes into account population served such as camps or RV Parks, road category, traffic volumes, history of accidents and/or fatalities, distance to possible alternative routes, and frequency of flood occurrence. This criteria will be used to develop a Crossing Impact Index that will help County staff prioritize the low water crossings.

#### Task 3. Estimate Costs and Funding Options

Cost estimates will be prepared for the different hardware component options and software/communications options. The Project Team will provide an Opinion of Probable Construction Cost (OPCC) for each crossing site. This OPCC will be based on the results of Tasks 2, 3 and 4 described above. In addition, the cost estimates will provide an estimated maintenance cost for each option.

This task will also research and identify potential local, state and federal funding sources and opportunities. This task will include coordination with the grant administrator and will assist with possible grant requirements and application deadlines.

Task 4. Prepare Phase 2 Summary Report – due December 31, 2016

A Summary Report will be prepared which will document the results of the tasks described above. A tentative outline of the Summary Report is listed below:

1. Introduction
2. Final Prioritization of Low Water Crossing Locations
3. Evaluate Proposed Components
  - a. Rainfall Monitoring
  - b. High Water Detection System
  - c. Flood Warning Systems
4. Estimated Costs
  - a. Installation
  - b. Maintenance
5. Funding Options
6. Implementation Schedule/Phasing
7. Recommendations
8. Summary