



**REQUEST FOR PROPOSALS**  
Rio Grande River Levee System Recertification  
December 8, 2022

**Introduction**

The City of Alamosa is requesting proposals from qualified consultants (Firm, Certifying Engineer) to prepare a proposal to certify the Rio Grande River Levee System (RGRLS). The City seeks to achieve levee recertification for the existing levee system along the Rio Grande within and adjacent to the City of Alamosa (Project). The recertification process is managed through the Department of Homeland Security, Federal Emergency Management Agency (FEMA).

The selected consultant will ultimately produce executable construction documents so the city may proceed with the construction necessary to achieve recertification. The first deliverable will be a recertification milestone schedule to submit to FEMA.

A report was commissioned in early 2018 to perform various studies to move towards certification of the levee, and accreditation with FEMA per 44 CFR 65.10(b) requirements. This included performing a Phase I Levee Assessment Report, which was completed in 2019. The Phase I Levee Assessment Report analyzed the current state of the levee and documented any deficiencies and identified additional analyses to conduct prior to certification. The Phase I Levee Assessment Report recommended additional actions and analyses to take place as a result of these findings. The report provides a basic roadmap to certification, and is attached to this RFP.

The scope of work addresses the effort necessary to accomplish recertification for the levee as provided in the Certification Report. Additional details are provided in the attached Scope of Services.

1. Freeboard and hydraulic analysis.
2. Engineered designs to address:
  - a. Levee raising or channel improvements, and/or reconstruction of levee segments.
  - b. Deficient closure structures and stormwater backflow preventers.
  - c. Size and placement of additional riprap where required.
  - d. Grading and repair of erosion, riling, depressions, and animal burrowing along the levee.

- e. Removal of trees, larger vegetation, and encroachments, and/or geotechnical analyses to determine whether they can remain.
3. A complete drainage assessment and analysis of the storm sewer for the City of Alamosa including a survey of all existing storm sewer inlets, pipes, etc.
4. A preliminary draft of a new Operations and Maintenance Manual based on the approved engineered design for construction.

The City's Development Services Director will serve as the City's primary liaison to the successful firm. There will additionally be involvement from city staff from the Public Works Department and the Parks and Recreation Department, as well as members from Alamosa County's Land Use Department, who will represent the citizens of East Alamosa, an unincorporated area outside of the city limits that is also protected by the RGRS. RFPs will be reviewed by this team.

### **Overview**

The Rio Grande drainage basin at the Alamosa United States Geological Survey (USGS) Stream Gage 08223000 is approximately 1,660 square miles. The headwaters originate along the Continental Divide at elevations above 10,000 feet and the river flows east 96 miles through the San Juan Mountains until it reaches the San Luis Valley. It then flows another 48 miles through the San Luis Valley until reaching the western edge of the City of Alamosa at an elevation of approximately 7,500 feet.

The Rio Grande basin has historically experienced several flooding events with historical documentation dating as far back as 1869. Flooding in the basin is typically caused by snowmelt runoff in the spring and early summer months augmented by rainfall. To protect against these destructive floods, there have been numerous berms constructed along the Rio Grande near the City of Alamosa throughout the 1900s.

The RGRS is approximately 6.4 miles long and consists of six levee segments constructed in three phases along both banks of the Rio Grande between 1985 and 1998. Most of the RGRS is earthen embankment but there is a short floodwall section totaling approximately 0.3 miles in length. The RGRS also consists of 20 interior drainage structures, 2 sandbag closures, and approximately 1.0 miles of riprap lined channel.

Work on the RGRS dates back to the 1940's when berms were constructed along the river to try to contain flood flows. These berms were typically not compacted or engineered to withstand hydraulic forces. Beginning in the 1980's additional analysis and improvements began to improve the levee system and started to bring the RGRS up to certification level quality. The RGRS was constructed in three phases along both banks of the Rio Grande between 1985 and 1998. The first two phases were designed by Muller Engineering Company, Inc. (MEC) and were constructed between 1985 and 1988. The first phase (Phase I) consists of two levee segments on both banks of the Rio Grande between U.S. Highway 160 (Broadway Avenue) and the Denver and Rio Grande Western (D&RGW) Railroad. The second phase (Phase II) consists of one levee segment on the right bank of the Rio Grande between the north end of

Cole Park and U.S. Highway 160. The third phase (Phase III) was designed by the United States Army Corps of Engineers (USACE) and was constructed in 1998. Phase III consists of three levee segments; A, B, and C. Phase III A starts in open space west of Alamosa and ties into the upstream end of Phase II at the north end of Cole Park. Phase III B ties into the downstream end of the right bank levee of Phase I (Phase I RB) at the D&RGW Railroad and extends downstream to a historical berm surrounding the Alamosa Green Waste Disposal Area east of the city. Phase III C starts north of the city along North River Road and ties into the upstream end of the left bank of Phase I (Phase I LB) at U.S. 160.

Following these three phases of levee construction, a Levee Repair Project was commissioned by the City in September 2004. Following that repair project, additional certification steps have been initiated, starting with the authorization of Anderson Consulting Engineers to perform a Certification Needs Assessment (CNA) which could potentially lead to certification of the RGRLS in November of 2011. The report for that assessment was released in late 2012.

During a USACE Levee Safety Program inspection in 2008 the RGRLS was rated “Unacceptable” and as such the RGRLS is no longer eligible for federal rehabilitation assistance through the USACE Rehabilitation and Inspection Program (PL 84-99).

In 2018, Wood, Inc. (WOOD) was contracted to complete a Phase I Levee Assessment Report for certification of the levee and accreditation with FEMA per 44 CFR 65.10(b) requirements. The Phase I Levee Assessment Report analyzed the current state of the levee, documented deficiencies, and identified additional analyses to conduct prior to certification. The WOOD report was intended to provide baseline information and a roadmap for the City to seek out a certifying engineer and certify the RGRLS. Further, based on the freeboard/hydraulic analysis, the City intends to obtain a 2-foot freeboard exception from FEMA.

Deficiencies identified in the Phase 1 Levee Assessment Report include:

- Several sections of levee along the left and right banks of the RGRLS were freeboard deficient based on the preliminary freeboard analysis, which compared the effective hydraulic model water surface elevations against the levee as-built elevations for the RGRLS. The majority (68%) of the left bank did not meet the freeboard requirements and 29% of the right bank levee was also freeboard deficient based on the preliminary analysis.
- 16 of the 20 interior drainage structures on the RGRLS were found to be in poor condition or were unable to be located as part of the preliminary assessment, and several action items were documented to fix the deficiencies of the interior drainage structures so that they could adequately operate for certification purposes.
- Several animal burrows were noted along the levee as well as areas of localized erosion.
- Vegetation was found within the Vegetation-Free Zone for approximately 58% of the levee, including large trees and overhanging branches.
- Several non-vegetative encroachments were also documented within the Vegetation-Free-Zone, including fences, utility poles, decks, hot tubs, and other small structures.

- Previous geotechnical investigations did not meet the requirements for levee certification or were not able to be obtained for review.
- The Operations and Maintenance (O&M) manual for the RGRLS system was lacking in several categories required under 44 CFR 65.10.

The 2019 Phase I Levee Assessment Report recommended the following actions and additional analyses take place as a result of these findings:

- Conduct new hydrologic and hydraulic analyses for the Rio Grande, including incorporating the latest hydrologic analysis performed on the Rio Grande and developing a hydraulic model of the RGRLS using the latest modeling technology and updated survey of the levee crest elevation.
- Locate the remaining interior drainage structures to document their condition and any deficiencies.
- Address all interior drainage structure deficiencies and document the location of the sandbag closure materials.
- Repair areas of localized erosion and animal burrows on the levee and implement a periodic inspection routine to check for erosion in the O&M manual.
- Perform borehole testing at the identified animal burrows to address seepage and stability concerns.
- Remove vegetation and other encroachments within the Vegetation-Free Zone.
- Perform additional geotechnical borings and update the geotechnical analysis to meet FEMA certification requirements.
- Conduct an interior drainage analysis to determine interior ponding extents and elevations.

### **Project Area and Timeframe**

The physical scope of the Project will include both banks of the entire RGRLS, the floodway, and areas adjacent to the levee necessary for addressing deficiencies. Further area includes all of the City's storm water system, which encompasses approximately 1278 acres.

The project should commence, be completed, and presented within a 36-month time frame. While the City is willing to be flexible on the completion date depending on the scope of assessment and proposed cost, it will place preference on those proposals that can be completed quickly.

### **Scope of Services**

Attached is a general description of the tasks to be required of the consultant. In preparing a proposal, the consultant is free to modify, revise or otherwise amend the list of tasks to best satisfy the requirements of the assessment, so long as it satisfies the objective of achieving certification.

Based on the City's understanding of the task at hand, we foresee the following project benchmarks:

- Work with CWCB/FEMA on path forward for levee accreditation and coordinate with FEMA/USACE on possible levee improvements
- Design structural improvements
- Incorporate levee improvements into hydraulic modeling and verify all improvements meet certification requirements
- Finalize levee hydraulics and interior drainage modeling (pumps)
- Submit CLOMR to be evaluated by FEMA prior to consideration for accreditation
- Obtain all necessary local, state, and federal permits.
- Prepare bid documents for construction

Information generated throughout this process, like all information supplied to the City, must also be available in electronic format. The City of Alamosa shall retain ownership of all generated data.

### **End Products**

The final report shall be submitted in four formats:

1. 5 printed copies of the overall executive summary;
2. 5 printed, bound, color copies;
3. A digital copy of the entire document in PDF and Word format.
4. Data used for analysis in an organized Excel format.

### **Existing Documents**

The following documents can be found [here](#). These documents should be reviewed by the applicant.

- 2021 Alamosa Levee Certification Report completed by WOODS
  - Appendix A – Freeboard Analysis
  - Appendix B – Closure Structures Summary
  - Appendix C – Embankment Protection
  - Appendix D – Geotechnical Report
  - Appendix E – Interior Drainage
  - Appendix F – Operation and Maintenance Manual
  - Appendix G – Ice Jam Analysis and Riverine & Interior Drainage Analysis
  - Appendix H – Floodplain Mapping
  - Appendix I – As-built and Survey
  - Appendix J – Next Steps Report
- 2012 Storm Drain Master Plan
  - Report memo of findings
  - Specific basin SWMM model reports

- Raw SWMM5 files
- Preliminary design of a pedestrian bridge intended to be placed at approximately 710 Stadium Drive, Alamosa, CO, 81101

### **Client Responsibilities**

City staff shall provide all available existing documentation to the consultant and will be available on an as-needed basis. The city will furnish any requested GIS, CAD, or other documents, if available, by request. City staff will schedule, coordinate and make all necessary arrangements for meetings conducted by the consultant during the course of this project.

### **Submission Requirements**

In order to be considered, 3 copies of the proposal and an electronic copy must be received by the City of Alamosa on or before 3:00 pm, Monday, January 23, 2023. The electronic copy must be emailed to the City Attorney, Erich Schwiesow, at [eschwiesow@ci.alamosa.co.us](mailto:eschwiesow@ci.alamosa.co.us)

All questions and requests for explanation must be submitted in writing via email a minimum of three (3) days in advance of the due date to [rbaird@ci.alamosa.co.us](mailto:rbaird@ci.alamosa.co.us)

Firms responding to this solicitation should mail proposals in a sealed envelope clearly labeled:

**REQUEST FOR PROPOSALS  
Rio Grande River Levee System Recertification**

City of Alamosa  
Rachel Baird  
300 Hunt Avenue  
PO Box 419  
Alamosa, CO 81101

Each proposal should contain the following information:

1. Outline of proposed work based upon the scope of work attached to this request. The consultant is encouraged to incorporate their own ideas beyond those outlined in the RFP and attached scope of work based on their experience and understanding of this request.
2. A detailed proposed timeline for the completion of the project, including specific benchmarks.
3. A statement of qualifications, relevant experience and key personnel who will be responsible for the execution of this project, including qualifications of any sub-consultants named in the proposal. This may include addendum copies of past projects in cities of similar size.
4. A list of three professional references of similar scope with mailing address, email address, phone numbers, and date of service.

5. A cost breakdown of the project. The cost shall be all inclusive of the project and include travel, copies, etc.
6. The name, title, mailing address, email address, and telephone number of the individual authorized to negotiate and contractually bind the company during the period of the proposed evaluation.
7. A statement that the proposal is binding for no less than 75 days after the proposal due date.
8. List, by partner and staff level, hourly billing rates to be charged should the City expand the scope of the project or require additional services.

### **Copyright Releases**

Those firms responding to the RFP shall supply a limited copyright release in order for City Staff to make copies of any copyrighted materials submitted within the proposal. Open Records Law, Section 24-72-201, et seq., C.R.S. Any privileged or confidential information in the Firm's proposal shall be specifically identified as such by the Firm

### **Selection Process**

City and county staff will review the proposals. Several criteria will be closely evaluated, including, but not limited to the following: technical approach to the project, qualifications of consultants, logistical capabilities and previous performance with similar projects in comparable communities, pricing, and the proposed time frame. Interviews will be limited to a maximum of four (4) consultants.

Following the interview process, the City will attempt to negotiate an agreement with the preferred consultant. If no agreement can be reached with the preferred consultant, that consultant shall be dismissed and the City shall proceed with negotiations with the second-preferred consultant. This process may be repeated as necessary until an agreement can be negotiated that is satisfactory to both parties.

### **Compensation**

Following the selection of a firm and the successful negotiation of an agreement, a contract shall be negotiated between the City and the successful firm. Reimbursement shall be made according to an agreed upon schedule, specified within the contract for a maximum not-to-exceed amount.

### **Insurance Requirements**

The consultant shall be an independent contractor of the City. The independent contractor will be required to maintain its own workers compensation, liability and automobile insurance coverages, and provide proof of same to the City, all in the manner provided in the contract required to be signed.

### **City Reservation of Rights**

The City of Alamosa reserves the right, at its sole discretion, to use without limitation any and all information, concepts, and data submitted in response to this RFP, or derived from further investigation of such proposals. The City further reserves the right at any time and for any reason, to cancel this solicitation, to reject any and all proposals, to supplement, add to, delete from, or otherwise change this RFP as determined in the sole and absolute discretion of the City. The City may seek clarifications from a respondent regarding his or her proposal at any time and failure to respond promptly may be cause for rejection. The City also reserves the right to interview only those respondents it determines can provide the most advantageous services and to negotiate with one or more respondents on contract terms acceptable to the City of Alamosa.