

Request for Proposals

2026 Hudson Flood Mitigation Study

Introduction

The Town of Hudson, Wyoming, is seeking proposals from qualified and experienced consulting engineering firms to continue a comprehensive flood mitigation study. Phase 1 of this study was completed in April 2026 by a qualified engineering consultant under contract with Headwaters Economics, producing a literature review, hydrologic model for Hudson Draw, and detailed hydraulic and hydrologic modeling recommendations for Phase 2.

This RFP is for Phase 2 of the study, which will build directly on the Phase 1 findings. Phase 2 scope includes completing the bathymetric and infrastructure survey, developing an updated two-dimensional (2D) HEC-RAS hydraulic model, analyzing and prioritizing flood mitigation alternatives, engaging the community, and grant administrative support

The intent is to identify and prioritize flood mitigation projects through rigorous engineering analysis. The prioritized projects will provide the greatest flood resiliency for the community, protect critical infrastructure, and improve equity by mitigating flood risk for Hudson's most vulnerable residents.

General Background

The Town of Hudson, located in rural westcentral Wyoming in Fremont County, has a population of approximately 400 residents. Hudson is situated near the confluence of the Middle Popo Agie and Little Popo Agie rivers, which have experienced frequent and increasingly severe flooding over the past decade. These rivers and their associated floodplains pose significant risks to residential properties, commercial businesses, and community infrastructure.

Approximately 20% of Hudson's housing stock falls within the Special Flood Hazard Area (SFHA). Based on county GIS data, approximately 7 properties are located within the floodway and 49 within the 100-year floodplain — including residential and commercial structures. In November 2024, the community annexed two additional commercial properties located within the floodplain.

This project is funded through the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP). As a recipient of HMGP funding, the Town of Hudson is committed to ensuring that all aspects of this project comply with FEMA's grant requirements including, but not limited to, federal procurement standards, reporting obligations, and compliance with applicable federal, state, and local laws. All proposals submitted in response to this RFP must acknowledge that the funding for this project is made possible through a grant from FEMA HMGP. The successful bidder will be required to adhere to all grant conditions and provide any necessary documentation to support compliance with FEMA regulations.

Project Study Area

The project study area encompasses the Town of Hudson and immediately adjacent Fremont County areas, including the floodplains and floodways of the Popo Agie River Basin with focus on the confluence area of the Middle Popo Agie River, Little Popo Agie River, and Hudson Draw. The study area model extent is shown in the Phase 1 Flood Mitigation Report (HDR, April 2026, Figure 6) copied below.

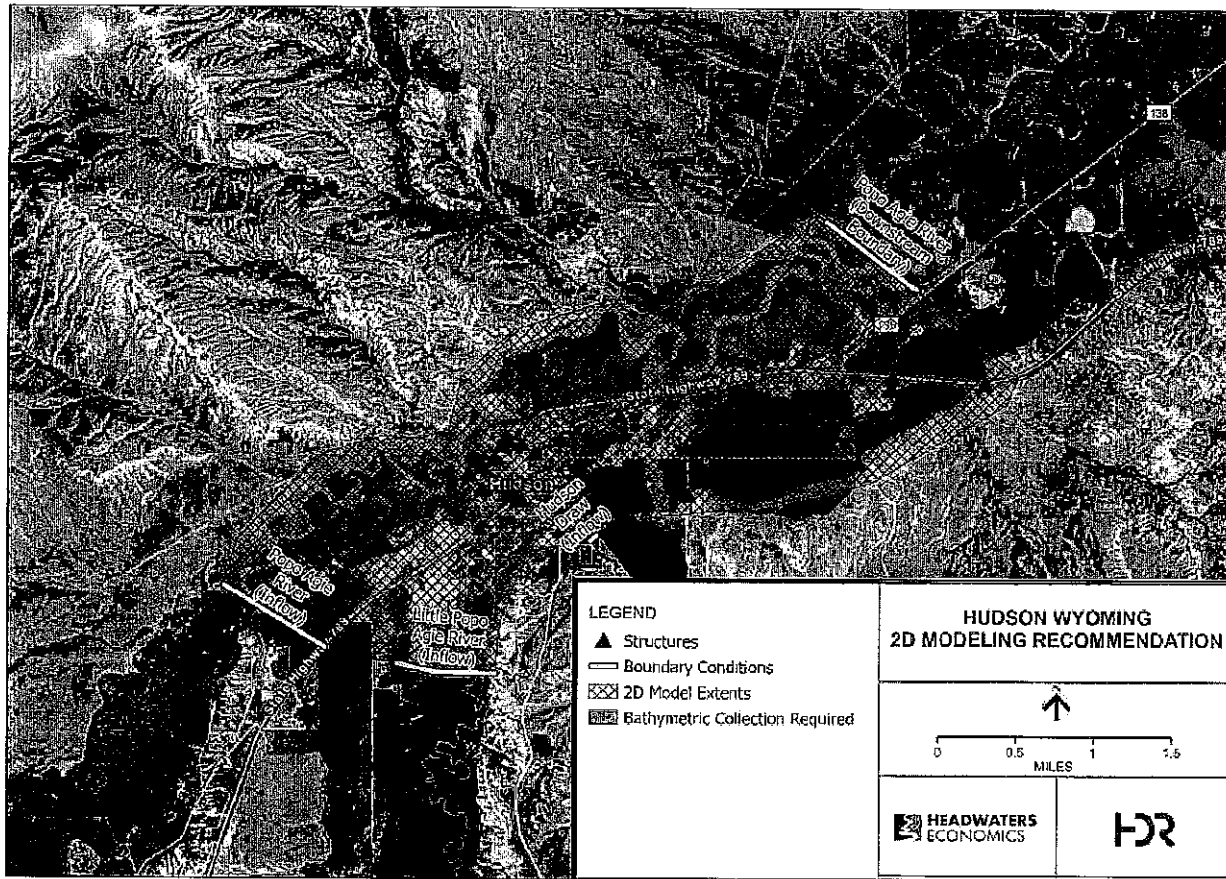


Figure 6. Recommended Two-Dimensional Model Layout and Required Structures.

Work Completed to Date

Phase 1 of this project was completed in April 2026 by a qualified engineering consultant under contract with Headwaters Economics. The Phase 1 report is available to qualified proposers upon request and shall be reviewed thoroughly by the selected consultant before initiating Phase 2 work. Key Phase 1 accomplishments are summarized below.

Literature Review

The Phase 1 consultant completed a comprehensive review of all relevant prior studies and data. The documents reviewed are listed in the table below. Proposers should familiarize themselves with this body of work.

Report / Document	Year
Town of Hudson – Flood Hazard Mitigation Plan	2001
Fremont County, WY Technical Support Data Notebook – Zone AE Analysis	2009
Flood Insurance Study – Fremont County, Wyoming	2014
Wyoming Technical Assistance – Fremont County – Town of Hudson (USACE)	2017
Section 205 Flood Risk Management Feasibility Study – Middle Popo Agie River, Lander WY	2021
Middle Popo Agie and Little Popo Agie Rivers Flood Mitigation Assessment – Silver Jackets Report	2021
Phase 1 Flood Mitigation Report (PHASE 1 CONSULTANT Engineering)	2026

Existing Flood Insurance Study (FIS) Assessment

The effective FIS for Fremont County (revised February 5, 2014; reprinted December 28, 2020) was reviewed. Hydraulic modeling within the Town of Hudson was originally completed in 1978 using the HEC-2 program, with peak flows estimated from regional analysis on stream gages. One-percent annual exceedance probability flows were: Little Popo Agie River = 4,739 cfs; Middle Popo Agie River = 4,797 cfs; Popo Agie River = 8,205 cfs.

The Phase 1 consultant obtained the HEC-2 model PDF files through FEMA's Map Service Center but concluded that converting the 1978 HEC-2 model to HEC-RAS is NOT recommended for the following reasons:

- PDF image quality is poor, introducing uncertainty when recreating model geometry and parameters.
- Aerial imagery from 1994 to present shows substantial channel migration and geomorphic change, making the 1978 geometry unrepresentative of current conditions.
- Infrastructure changes since 1978 are not reflected in the existing model.
- The complex hydraulics at the confluence of the Little Popo Agie River, Middle Popo Agie River, and Hudson Draw are more appropriately evaluated using a two-dimensional (2D) HEC-RAS model.

Phase 2 shall therefore develop a new 2D HEC-RAS model rather than attempting to update the legacy HEC-2 model.

Gage Data Assessment

Available gage data within the Popo Agie watershed was catalogued from USGS Data Explorer and the Wyoming State Engineers Office (SEO). The Phase 1 consultant determined that only two gages have periods of record suitable for statistical peak-flow analysis:

- Middle Popo Agie River below The Sinks, near Lander, WY (USGS #6231600 / SEO #0301PA01) — daily record from 4/1/1974 to present

- Little Popo Agie River near Lander, WY (USGS #6233000 / SEO #0301PA02) — daily record from 6/2/1946 to 7/1/2018; SEO record from 4/8/1981 to present

All other gages in the basin have insufficient records or are in locations unsuitable for drainage transfer to Hudson.

Hudson Draw Hydrologic Model

The Phase 1 consultant completed a HEC-HMS hydrologic model for the Hudson Draw drainage basin (approximately 4.5 square miles). Key elements of this completed work include:

- Basin delineation using 1-meter LiDAR data (USGS 2019 survey, quality level 2, 10 cm vertical accuracy). LiDAR data has been downloaded and is available to the selected consultant.
- Two sub-basins delineated: upper basin above the Wise Ditch flume (~4.3 sq mi, predominantly sagebrush) and lower basin below the flume (~0.2 sq mi, mixed sagebrush and urban development).
- SCS Curve Number method using NLCD land cover and SSURGO soils data; Muskingum-Cunge routing through town.
- NOAA Atlas 14 (Volume 12) rainfall data applied; 6-hour design storm duration modeled.
- Peak flows computed for 2-, 10-, 25-, 50-, and 100-year return periods. Key results: 100-year peak at Wise Ditch Flume = 74.5 cfs; 100-year peak at Little Popo Agie confluence = 81.4 cfs.
- Backflow from the Little Popo Agie River has been documented to overtop the Hudson Draw channel during coincident flood events.

Hydraulic Modeling Plan and Data Inventory

The Phase 1 consultant developed a detailed plan and data inventory for the Phase 2 two-dimensional hydraulic model:

- Model type: 2D HEC-RAS, required to capture complex hydraulics at the river confluence and throughout the drainage ditch network in town.
- Model extent: from upstream of the Little Popo Agie and Popo Agie River inflows, through the Town of Hudson, to a downstream boundary far enough to capture all outflows and avoid backwater sensitivity near the town.
- Terrain: 1-meter LiDAR (USGS 2019) downloaded and ready. Supplemental bathymetric survey required for over 30,000 linear feet of stream channel, with cross sections spaced approximately 1,000 feet apart.
- Twenty-eight (28) hydraulic structures identified via aerial photography requiring field survey:
 - Little Popo Agie River: 1 structure (State Highway 789 bridge)
 - Popo Agie River: 1 structure (private bridge)
 - Hudson Draw: 7 structures
 - Wise Ditch: 6 structures
 - Corral Ditch: 13 structures
- Inflow boundary conditions: Popo Agie River, Little Popo Agie River, and Hudson Draw inflow locations identified (see Phase 1 Figure 6).
- Model calibration event: June 8, 2017 flood — photographs of the event and overlap with hydrologic data sources have been identified for calibration use.

Previously Identified Flood Mitigation Alternatives

The following alternatives were identified through the Phase 1 literature review. All shall be evaluated using the updated H&H models developed in Phase 2:

- Government Drain (Hudson Draw): Installation of larger culverts on the downstream end, with flap gates on the most downstream end to prevent backflow from the Little Popo Agie River.
- Confluence / Highway 789 Bridge: Installation of Hesco barriers or sandbags from the bridge past the Popo Agie confluence (short-term/emergency measure).
- Structural elevation: Place structures 1 foot above base flood elevation through hazard mitigation funding.
- Channel improvements to Hudson Draw.
- Riverbank protection along Popo Agie and/or Little Popo Agie Rivers.
- Floodplain mapping update (FIRM revision).
- Structural and non-structural flood mitigation options as identified by the Silver Jackets (2021).
- Analysis of existing HESCO barrier performance and permanent alternatives.

Scope of Work

Phase 2 builds directly on the work completed in Phase 1. The selected consultant shall review the Phase 1 Flood Mitigation Report in its entirety before commencing work and shall coordinate closely with Town staff throughout. The scope is organized into the following tasks:

Task 1 – Site Visit, Survey, and Data Confirmation

While Phase 1 completed a thorough literature review and data inventory, Phase 2 begins with field data collection and confirmation of existing data. This task includes:

Site Visit and Stakeholder Meetings:

- Conduct one or more site visits to Hudson to assess current flood-prone areas, verify infrastructure conditions observed via aerial photography in Phase 1, and identify any changes since Phase 1 data collection.
- Conduct stakeholder meetings with Town staff, Fremont County emergency management, Wyoming Department of Transportation, Popo Agie Conservation District, and other relevant partners.

Bathymetric Survey:

- Perform bathymetric surveys for over 30,000 linear feet of stream channel within the 2D model extent, with cross sections spaced approximately 1,000 feet apart, as recommended in the Phase 1 report.
- Survey shall be conducted using methods appropriate for the channel characteristics and shall produce data suitable for integration into the 2D HEC-RAS model terrain.

Infrastructure Survey:

- Survey the 28 hydraulic structures identified in Phase 1 via aerial photography, including bridges, culverts, and channel control structures on the Little Popo Agie River, Popo Agie River, Hudson Draw, Wise Ditch, and Corral Ditch.
- Collect structure dimensions, inverts, and condition data sufficient for hydraulic modeling.

Data Confirmation:

- Review and confirm the Phase 1 data inventory. Identify any additional data needs not captured in Phase 1.
- Deliver all field data in GIS-compatible format with sub-meter GPS accuracy.

Task 2 – Updated Hydrology and Two-Dimensional Hydraulic Modeling

Building on the Phase 1 Hudson Draw HEC-HMS model and modeling plan, the Engineer shall complete updated hydrologic and hydraulic analysis for the full project area. This is the technical core of Phase 2.

Hydrologic Modeling:

- Update gage-frequency analyses for the Little Popo Agie River near Lander and the Middle Popo Agie River below The Sinks using Bulletin 17C. Apply drainage transfer methods to estimate flows at the Town of Hudson, cross-checked against applicable regional regression equations (USGS Peak-Flow Characteristics of Wyoming Streams, Region 1 "Rocky Mountains").
- Develop a watershed HEC-HMS model for the Middle Popo Agie and Little Popo Agie River basins upstream of Hudson, calibrated to the Little Popo Agie near Lander and Middle Popo Agie below The Sinks stream gages. Calibrate using the June 8, 2017 flood event.
- Integrate updated gage statistics and the calibrated HEC-HMS watershed model with the existing Hudson Draw HEC-HMS model (completed in Phase 1) to generate balanced hydrographs at the inflow boundary locations for the 2D hydraulic model.

Two-Dimensional Hydraulic Modeling:

- Develop a 2D HEC-RAS hydraulic model of the Popo Agie River, Little Popo Agie River, Hudson Draw, Wise Ditch, Corral Ditch, and associated drainage infrastructure through the Town of Hudson, consistent with the model extent defined in Phase 1 (Figure 6 of the Phase 1 report).
- Base terrain: 1-meter USGS LiDAR (2019), supplemented with bathymetric survey data collected in Task 1.
- Incorporate all 28 surveyed hydraulic structures.
- Calibrate the model using the June 8, 2017 flood event and any available high-water marks or photographic documentation.
- Run the calibrated model for 2-, 10-, 25-, 50-, and 100-year (and 500-year as appropriate) return periods.
- Generate updated flood inundation mapping for multiple recurrence intervals, identifying structures and infrastructure at risk.

Task 3 – Analyze and Prioritize Flood Mitigation Alternatives

Using the updated H&H models, the Engineer will evaluate the previously identified alternatives and any additional alternatives identified through updated modeling or community input, and will recommend priority projects for implementation.

- Assess Flood Mitigation Alternatives: Evaluate all alternatives identified in Phase 1 (listed in the "Work Completed to Date" section above) using the updated 2D HEC-RAS model. Additional alternatives may be identified through modeling results or community input. Alternatives may include structural improvements (channel modifications, levees, floodwalls), culvert upgrades and flap gate installations, HESCO barrier solutions, green infrastructure, property acquisition, or other feasible measures.

- Preliminary Design and Cost Estimating: Develop conceptual/preliminary designs and opinions of probable construction cost for each alternative evaluated.
- Benefit-Cost Analysis: Conduct a preliminary BCA using the FEMA BCA Toolkit for priority alternatives to support future grant applications.
- Prioritization Framework: Develop a prioritization framework ranking alternatives by cost-effectiveness, flood risk reduction, feasibility, and community impact.
- Community Engagement: Organize at least one community engagement session to present alternatives and gather input. Strategies may include in-person meetings, online platforms, or other methods appropriate to the community. Outreach materials shall be provided to the Town in reproducible formats.

Task 4 – Research Implementation Funding

The end goal of this study is a clear recommendation for flood mitigation project(s) that will protect the community. The Phase 1 report identified the following potential funding sources for Phase 2 to evaluate and pursue:

- FEMA HMGP (current program funding this study)
- FEMA BRIC (Building Resilient Infrastructure and Communities)
- USACE Section 205 – CAP (100% federal for initial study up to \$100,000; 65%/35% cost share for construction up to \$10M)
- USACE Section 22 – Planning and Assistance to States (50%/50% cost share)
- NRCS PL566 – Watershed Protection and Flood Prevention Program (note: watershed area ~491,520 acres per WY StreamStats may exceed program limits — eligibility to be confirmed)

Task 4 activities include:

- Research and confirm eligibility for identified funding sources based on Phase 2 engineering findings.
- Identify any additional funding opportunities not captured in Phase 1.

Task 5 – Grant Management and Reporting

The selected consultant shall assist the Town of Hudson in managing the FEMA HMGP grant throughout the project, including:

- Preparation of quarterly progress reports to the Wyoming Office of Homeland Security.
- Documentation supporting grant compliance and reimbursement requests.
- Grant closeout documentation at project completion.

Expected Outcome

Phase 2 will produce a comprehensive, prioritized flood mitigation plan for the Town of Hudson — including an updated 2D HEC-RAS hydraulic model, alternatives analysis, preliminary engineering, and recommendations for viable project implementation funding. Combined with the Phase 1 foundation, this work will give Hudson the

technical basis to pursue significant federal investment in flood risk reduction, protecting its residents, particularly its most socially vulnerable populations, and its critical infrastructure from the escalating impacts of flooding from the Middle Popo Agie, Little Popo Agie, and Hudson Draw.

Consultant Responsibilities and Deliverables

The selected consultant will work under the direction of the Town Council and will be responsible for consultation with the major stakeholder groups and public engagement. In addition, the consultant is responsible for the following items:

- a. General management of the project
- b. Management of the FEMA BRIC grant supporting this effort including but not limited to quarterly reports to the Wyoming Office of Homeland Security.
- c. Production of all materials for public presentations, which will be provided to the Town in reproducible formats.
- d. Drafting and preparation of the plan documents, graphics, and mapping for stakeholder groups and Town Council review.
- e. Data collection, analysis, and presentation.
- f. Organization and facilitation of public meetings.
- g. Public comment summary.
- h. Presentations at public community meetings and Town Council meetings.

Task-specific deliverables are detailed below.

Task 1 – Site Visit, Survey, and Data Confirmation

- a. Site visit report documenting observed conditions and stakeholder meeting notes.
- b. Bathymetric survey data for 30,000+ LF of stream channel in GIS-compatible format.
- c. Infrastructure survey data for all 28 hydraulic structures (dimensions, inverts, condition).
- d. Confirmed data inventory memorandum noting any gaps identified relative to Phase 1.

Task 2 – Updated H&H Modeling

- a. Updated gage-frequency analysis report for Little Popo Agie and Middle Popo Agie Rivers using Bulletin 17C.
- b. Calibrated watershed HEC-HMS model (electronic files).
- c. Calibrated 2D HEC-RAS model (electronic files).
- d. Model calibration and validation report, including comparison to the June 2017 event.
- e. Updated flood inundation mapping for multiple recurrence intervals.
- f. Technical memorandum summarizing model inputs, assumptions, results, and limitations.

Task 3 – Alternatives Analysis

- a. Flood mitigation alternatives analysis report with conceptual designs and cost estimates.
- b. Preliminary FEMA BCA for priority alternatives.
- c. Prioritization framework and recommended project(s).
- d. Community engagement summary report.
- e. Technical memorandum detailing final project selection(s) and rationale.

Task 4 – Implementation Funding

- a. Funding landscape memo confirming eligibility for identified programs.

Task 5 – Grant Management

- a. Quarterly progress reports (throughout project).
- b. Grant closeout documentation.

Respondents to the Request for Proposals (RFP) must be prepared to meet all requirements for work funded by FEMA HMGP grant program as well as meeting all environmental review standards required by federal and state agencies, in addition to the Federal Water Pollution Control Act, Protection of Wetlands, and the Endangered Species Act of 1973. Consultants who are Minority, Women, Disadvantaged, Small Businesses, and/or Small Businesses in rural areas are strongly encouraged to apply. The items listed in the scope of services are representative of the services and items that may be required but do not comprise an exclusive list of services and items that may be required.

Proposed Project Schedule

The project timeline will be approximately 16-18 months from the notice to proceed. At a minimum, monthly progress meetings with the Town shall be held and may be conducted through video conferencing and/or webinars, set up and organized by the consultant. The consultant is expected to schedule and attend public participation activities and present to the Town Council as detailed in the scope of work.

The Town anticipates the following general timeline for receiving and evaluating the proposals, selecting a consultant, and completion of the plan. This schedule is subject to change if it is in the Town's best interest to do so:

Advertise for Consultant Proposals	October 7 and 14, 2026 (Riverton Ranger)
Proposals Due	October 27, 2026 5:00 p.m.
Evaluation of Proposals	October 27, 2026 –November 10, 2026
Council Award	November 10, 2026
Notice of Award	November 12, 2026
Project Completion	16 – 18 months from Notice to Proceed

Qualifications

The chosen consultant must have extensive multidisciplinary experience in hydrology, hydraulics, two-dimensional hydraulic modeling (HEC-RAS 2D), flood mitigation engineering, GIS analysis, community engagement, and hazard mitigation planning — with demonstrated experience on projects of similar nature and scale. Required qualifications include:

- Demonstrated expertise in 2D HEC-RAS modeling, ideally with experience on projects involving complex river confluences or multiple interacting flood sources.
- Proficiency in HEC-HMS watershed hydrologic modeling and gage-frequency analysis (Bulletin 17C).
- Experience with FEMA flood hazard mapping, FIRM data, and the FEMA BCA Toolkit.
- Experience with FEMA HMGP or similar federal grant-funded engineering projects in rural communities.
- Ability to develop solutions compliant with NEPA, ESA, Section 106 (NHPA), and Clean Water Act.

- Experience with bathymetric and infrastructure surveying for hydraulic model development.
- Strong communication and public engagement skills with rural communities.

Proposal Content

Proposals should address the following items in numerical order and must not exceed 25 pages in length. Resumes may be included as an attachment and will not count toward the page limit. A cover page, cover letter, table of contents, and section dividers will not count toward page limits. Electronic submissions are encouraged to incorporate hyperlinks when referencing work samples.

1. **Qualifications** – Provide a detailed background on the firm, including its history, expertise, and experience. Include biographies or resumes of key team members assigned to the project.
2. **Relevant Experience** – Outline previous experience with projects of a similar nature.
3. **References** – Supply at least three references, including contact details, for comparable projects. References should specifically relate to the proposed project manager and key personnel. The Town reserves the right to contact any listed references.
4. **Review of Scope of Work and Schedule** – Evaluate the scope of work and provide insights into the consultant's understanding of the project, their role in fulfilling the outlined tasks, and any suggested additional services that may enhance project outcomes. Include a schedule aligned with key project milestones, incorporating any recommended changes. Demonstrate understanding of Phase 1 findings and Phase 2 scope. Identify how the consultant will build on completed work, highlight any technical challenges or recommended scope refinements, and provide a detailed project schedule aligned with key milestones.
5. **Project Approach and Community Engagement** – Describe the methodology and activities required to achieve the project's objectives. Include details on community engagement strategies, including the use of social media or web-based platforms for public input and approaches to conducting public meetings.
6. **Project Impact and Cost Breakdown** – Consultant should demonstrate an understanding of the benefits of the mitigation project and the associated costs to help leverage the project's value for finding future funding for construction. Consultant should demonstrate that their scope of work aligns with the community's priorities in growth and economic development. Present a detailed cost breakdown for professional services and related expenses, categorized by project components and hours allocated per task. Provide an itemized list of reimbursable expenses.

The Town of Hudson will not be responsible for any costs incurred by consultants in the preparation and submission of their proposals, including travel for pre-award interviews.

Proposers must submit:

- One (1) PDF proposal for items 1–5 via email to: sherry@hudsonwy.org (Mayor Sherry Oler)
- One (1) PDF cost proposal (item 6) via email to: kathy@hudsonwy.org (Clerk/Treasurer Kathy Shoopman)

Submissions must be received no later than 5:00 p.m. Mountain Time on the proposal due date published by the Town. Late submissions will not be considered.

Questions must be submitted via email to Mayor Sherry Oler at sherry@hudsonwy.org. The Town reserves the right to reject any or all proposals, waive technical or legal deficiencies, and accept the proposal deemed to be in the Town's best interest. The Phase 1 Flood Mitigation Report (HDR Engineering, April 2026) will be made available to qualified proposers upon request via email to Mayor Sherry Oler at sherry@hudsonwy.org.

Evaluation of Proposals and Selection Process

Following the submission deadline, the Town will promptly begin reviewing proposals. The Town reserves the right to request further details and to reject any or all submissions. As part of the review process, applicants may be invited to present their proposals to Town representatives.

Proposals will be assessed based on the following key factors:

1. The overall quality and responsiveness of the proposal, including its completeness, clarity, conciseness, and understanding of the project scope.
2. The qualifications of the consulting team are demonstrated through their knowledge, skills, and relevant experience.
3. Proven experience in developing master drainage plans and sewer system assessment and design or handling similar projects.
4. A track record of effective public engagement strategies across diverse community groups.
5. References from past clients for projects of comparable scope.
6. The proposed timeline for completion and budget considerations.

Consultants should note that services may be discontinued if the project is canceled for any reason.