



MILE HIGH FLOOD DISTRICT
Protecting people, property, and our environment.

12575 W BAYAUD AVE
LAKEWOOD CO 80228

303 455 6277
MHFD.ORG

REQUEST FOR QUALIFICATIONS

Flood Risk Program Production (Foundational Data)

July 10, 2026

The Urban Drainage and Flood Control District, d/b/a Mile High Flood District (MHFD) is seeking Statements of Qualifications (SOQ) from experienced professional consulting firms to perform existing conditions rain-on-mesh model build and flood risk scoring as well as strategic programmatic support to stand up the overall MHFD Flood Risk program. The SOQ is organized as follows:

1. Project Background
2. Scope of Services
3. Evaluation and Selection Process
4. Consultant Selection Schedule
5. Submission of Qualifications

PROJECT BACKGROUND

The MHFD Flood Risk Program is a districtwide initiative to move from a binary in or out of the floodplain towards graduated risk using consistent, defensible, and repeatable methodologies.

The goals of the program are:

- Provide districtwide flood hazard and risk information, including local storm flooding
- Effectively communicate risk to drive action
- Identify the most beneficial projects and right size investments through balancing risk and cost.
- Provide Local Governments (LGs) with data and tools to make risk-informed and cost-optimized decisions.
- Enact a portfolio-management approach that considers the full District or LG jurisdictions, rather than individual watersheds.

To achieve these goals, MHFD has developed a programmatic framework and documented it in the 2D Hydrology and Hydraulics Modeling Guidance (Michael Baker International, July 2026) and the MHFD Flood Risk Program Implementation Plan (Michael Baker International, July 2026).

These documents are provided for reference only and do not need to be read in detail.

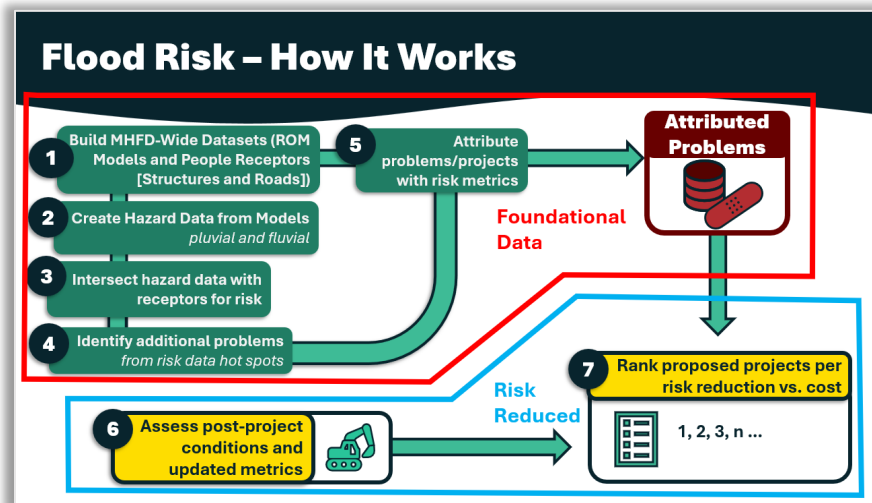
The Modeling Guidance is based on pilots in the Niver Creek and Goldsmith Gulch watersheds. The pilots tested a wide range of HEC-RAS 2D rain-on-mesh modeling sensitivities to determine where the appropriate level of detail mattered most. The storm drainpipe capabilities were also evaluated in HEC-RAS 6.7 and 7.0. After drafting the guidance, the approach was validated with Ralston Creek and the combination of Second and Third Creek. Lessons learned from these validation basins have been incorporated into the Modeling Guidance. Additionally, Denver's Infoworks ICM Modeling Guidance is attached to the RFQ. ICM rain-on-mesh models to the same level of detail shall be generated in lieu of HEC-RAS models in Denver, Southeast Metro Stormwater Authority, and Boulder at the request of these communities.

MHFD anticipates that modeling workflows, tools, guidance, and production approaches will continue to evolve throughout Program implementation. As methodologies mature and opportunities for standardization and automation are identified, production workflows may be refined to improve consistency, efficiency, and value to taxpayers. Consultants are expected to support continuous improvement of the Program and collaborate in the development and sharing of tools, processes, and best practices that improve overall program delivery.

Because multiple consultant teams will be working concurrently, MHFD views collaboration, transparency, and sharing of tools, workflows, lessons learned, and process improvements as critical to program success. Innovations that improve consistency, quality, efficiency, or scalability should be shared across the program to maximize value to taxpayers and local government partners.

The Program Implementation plan includes governance, costs, schedule, risk scoring approach, and model sequencing. The document lays out how we execute the overall program. We are anticipating production of Foundational Data to take 3 years to complete from start to finish. The total cost is anticipated to be approximately \$5,000,000 for the model build and risk scoring.

The steps in the figure on the right will be completed by watershed, in batches across multiple geographies, to develop district-wide existing conditions hazard and risk information by 2029 (Foundational Data Production). Additional steps will occur in future efforts separate from this RFQ at the request of local governments.



The process begins with foundational datasets (Step 1), which are used to build hydrologic and hydraulic (H&H) models (Step 2). These models produce pluvial and fluvial flood hazard maps. The hazard maps are then combined with people receptor datasets from Step 1 to develop flood risk information (Step 3). The existing hazard and risk results are used to identify flooding problem areas and hotspots (Step 4) and then flood risk is aggregated into problem areas to establish baseline risk values (Step 5).

Foundational Data Production will provide the following products and information for each modeled basin.

HAZARD (the physical flooding condition)	RISK (impact on receptors)	SUPPLEMENTAL (documentation, models, files)
<ul style="list-style-type: none"> • Event-based hazard rasters for maximum depth, velocity, and depth×velocity (flood force) • Event-based floodplains (polygons) for both pluvial and fluvial hazards • Composite annual exceedance probability (AEP) map representing the frequency of flooding 	<ul style="list-style-type: none"> • People-proxy receptor dataset of buildings (residential, commercial, government, etc.), roads, and trails, with attributes and impact factors • Flood Risk Scores by receptor, aggregated by tiles (polygon data and summary figures), and basin summary tables/figures • Threat AEP map indicating how dangerously it floods (highest of depth, velocity, or depth×velocity) and when 	<ul style="list-style-type: none"> • Calibrated (depending on data availability) or validated model with simulated plans for calibration events and design storms • Model metadata that spatially documents key attributes, source data, and assumptions • Memorandum documenting methodology, unique conditions, results, and notable assumptions

These products are intended to result in:

- Watershed-scale quantification of existing flood risk for improved transparency and Capital Improvement Plan (CIP) decisions.
- Identification of flood risk inside and outside of FEMA-mapped floodplains.
- Foundational data for consistent approach to compare risk-reduction benefits across projects in a future effort.

There has been robust stakeholder engagement throughout the development of the program. There will be coordination with our local government partners, MHFD, and consultants but no planned direct public outreach at this time.

MHFD anticipates that the Flood Risk Program will continue to evolve throughout implementation. Advancements in modeling software, automation, artificial intelligence, scripting, and other technologies may substantially change production methods, staffing needs, task assignments, schedules, and the overall scope of consultant services. MHFD reserves the right to modify program workflows, adjust task assignments, reduce or expand consultant work, procure additional services separately, or discontinue portions of the anticipated work as determined to be in the best interest of the District. Selection under this RFQ does not guarantee any minimum amount of work or compensation.

SCOPE OF SERVICES

The scope is anticipated to consist of the following three tasks.

Task 1: Program Management: Note that some tasks will be applicable to all consultants and some will be assigned based on qualifications.

- **Project Management:** Manage scope and cost, resource allocation, coordination with MHFD and broader consultant team, including sharing lessons learned, workflow improvements, automation opportunities, and guidance refinements. This will be applicable to all consultants.
 - 1-full day Program stand-up modeling and data management workshop.
 - 1 full-day collaboration workshop to share approach and lessons learned at the completion of modeling the first basin.
 - Weekly modeling and data management coordination meetings will be reduced to monthly as the familiarity with the process and consistency is gained. Consistent assumptions between consultants is critical.
 - Quarterly progress meetings with the local government partners to report our progress and key findings.
 - Additional regular cadence meetings may arise as the program advances.
- **Quality Assurance and Quality Control (QA/QC):** Perform review of models developed by other consultants to ensure quality and consistency. A draft model review checklist has been created and was provided along with the 2D Hydrology and Hydraulics Modeling Guidelines. Lessons learned from these reviews and model development will be collaboratively shared among the team. This will be applicable to all consultants.
- **Programmatic Documentation:** Assist in shaping existing and new Flood Risk documentation. For example, the Modeling Guidance and Program Implementation Plan may evolve as additional consultants are brought on board. Additional documentation will be developed to support communication and program goals.
- **Automated Tools:** There are numerous opportunities to automate management, QA/QC, modeling, and risk scoring. This will be assigned based on qualifications.
- **Cost and Schedule Controls:** Assist with development and implementation of cost and schedule controls.
- **Future of Planning:** MHFD is evaluating how Flood Risk products and modeling may be incorporated into future planning, mapping, and related District programs. Support may be requested to help evaluate those future applications.
- **Data Management:** Manage large datasets and cleaning/compiling of numerous data sources for standardization.
- **Programming Capabilities:** In addition to having these capabilities on staff, consultants will be expected to collaborate in the development, refinement, and sharing of automated tools, scripts, workflows, and quality-control processes. MHFD intends for successful innovations to be leveraged across the broader program to improve consistency, efficiency, and overall program delivery.
- **Communication Products:** Simplified products to succinctly communicate the nuances of the Flood Risk program and how to apply products.

- **Potential Additional Services:** MHFD may need additional support in planning and execution of program.

Task 2: Modeling (~80% of the total anticipated cost)

- Develop districtwide rain-on-mesh model coverage based on best, readily available data (FHAD models, CUHP/SWMM models, as-builts, Denver Regional Council of Governments Land Use and Topography, local government storm drain GIS data, etc.). The modeling platforms used will be:
 - HEC-RAS 7.0 or more recent (~80% of the District) . The overall HEC-RAS modeling approach is documented and provided in the 2D Hydrology and Hydraulics Modeling Guidelines. These guidelines are subject to change based on input and lessons learned.
 - Infoworks ICM [(~20% of the District)(latest version)] in Denver, SEMSWA, and Boulder. ICM model development will generally follow the Denver ICM Modeling Guidelines.
- Calibrate to a minimum of two events, a low and high event. If no calibration data is available, validation in lieu of calibration. Additional information can be found in the 2D Hydrology and Hydraulics Modeling Guidelines.
- Export hazard products (depth, velocity, and depth*velocity grids) for the 1- to 1,000-year storm events (13 recurrence intervals)
- Programming capabilities to automate repetitive modeling tasks and reduce manual production effort.
- Survey data may be collected and provided under a separate contract for critical hydraulic locations.

Task 3: Risk Scoring

- MHFD will provide at-risk receptor data sets. These are the buildings, transit, and trail assets risk will be calculated for.
- Intersect hazard products with the at-risk data sets.
- Calculate risk scores based on methodology, equations, and processes documented in Section 4.3 of the Program Implementation Plan.
- Programming capabilities to utilize existing automated risk scoring tools.

EVALUATION AND SELECTION PROCESS

Qualifications shall be evaluated based on collaboration, project team, experience, and programmatic support. Additional details and the weighting of these categories are provided below. MHFD will shortlist consultants to be invited to interviews. Ultimately, we expect 2-4 consultants will be selected for Flood Risk production.

Selection under this RFQ establishes a pool of qualified consultants and does not guarantee receipt of any minimum amount of work. Individual task orders may vary significantly in size, scope, complexity, and duration. MHFD reserves the right to determine the appropriate consultant, level of effort, delivery approach, and timing for each task order based on program needs, consultant qualifications and performance, available capacity, funding, and evolving program priorities. Preference will be given to consultants that can self-perform the work.

Category	Description	Weighting
Collaboration	The ability to collaborate effectively with MHFD and other consultant teams will be critical. Please highlight key collaboration efforts and identify what made them successful.	15%
Project Team	Please provide an organizational chart showing who will be managing and delivering the work based on staff availability and the project timeline. Preference will be given to teams that demonstrate a direct connection between project leadership and delivery staff, experience successfully delivering large-scale or programmatic modeling efforts involving multiple teams, standardized workflows, and consistent quality management, and the ability to improve efficiency through automation, scripting, and other process innovations. Any changes to key staff will require MHFD approval. Highlight internal workflows that promote consistency, quality, and scalability. To meet the aggressive study schedule, consultants must demonstrate sufficient capacity to deliver the work.	25%
Experience	Demonstration of robust rain-on-mesh modeling experience in HEC-RAS and Infoworks ICM. Include storm drain modeling experience.	45%
Programmatic Support	Demonstrate effective approaches for supporting and continuously improving program delivery. MHFD is particularly interested in strategies that improve consistency, scalability, efficiency, and long-term program sustainability, including collaborative development and sharing of tools, workflows, and process improvements.	15%

CONSULTANT SELECTION SCHEDULE

Activity	Date
Solicitation and documents available on MHFD website	Friday, July 10
Consultant written questions due	Friday, July 17
Final response to questions	Friday, July 24
SOQ submittals due	Friday, July 31
Interview Notification	Friday, August 7
Interviews	August 17-19
Consultant selection	Thursday, August 20

All questions to obtain clarification of the SOQ requirements shall be submitted in writing to rfq@mhfd.org. No inquiries will be accepted after the date specified in the Consultant Selection Schedule. MHFD’s response to inquiries will be published on the MHFD website after the “Final response to questions” deadline listed in the Schedule.

SUBMISSION OF QUALIFICATIONS

If your firm has specialized flood risk program qualifications and is interested in being considered for the MHFD Flood Risk Program Foundational Data production, please submit a Statement of Qualifications that includes:

- A cover letter
- Up to **three (3) 8 ½ x 11 pages** describing your firm's qualifications
- Resumes of staff proposed to work on the project
- An hourly rate table for the proposed staff

The cover letter, resumes, and the rate table do **not** count toward the 3-page limit.

We recognize that this is a short statement of qualifications. Please focus your response on your project team, relevant experience, programmatic support, and approach to collaboration.

Please submit your proposal electronically to rfq@mhfd.org by 5:00 PM MT Friday, July 31, 2026. Other delivery methods will not be accepted. A short list of a maximum of 6 consultants will be invited to interviews. The interviews will be conducted virtually. The format is anticipated to be the following:

- Introductions: 5 minutes
- Project Experience, Collaboration, and Programmatic Support (Formal Presentation): 10 minutes
- Open Discussion: 45 minutes