

Project Engineer

Hydrologic & Hydraulic Modeling

FLOWER MOUND, TEXAS | FULL-TIME | EXEMPT | REPORTS TO THE PRINCIPAL

Waterway Engineering is a water resources firm delivering hydrologic and hydraulic modeling for sustainable development and resilient infrastructure. Our projects span urban development, dam safety, flood early warning systems, and emergency response. We build models that people make real decisions from — sometimes while the water is still rising.

EXPERIENCE	4–8 years in H&H modeling or water resources engineering
LICENSURE	Texas PE strongly preferred; EIT on a licensure track considered
CORE TOOLS	HEC-RAS (1D & 2D), HEC-HMS, ArcGIS Pro or QGIS
FOCUS	Model development, calibration, regulatory submittals, EAPs, rapid response
TRAVEL	Periodic site visits and county meetings across Texas
GROWTH PATH	Senior Engineer and full project management responsibility

THE ROLE

The Project Engineer is the senior technical lead on our hydrologic and hydraulic (H&H) modeling projects, owning the work from model setup through calibration, review, and delivery. You will build and defend 1D and 2D HEC-RAS and HEC-HMS models supporting land development, dam emergency action plans, floodplain map revisions, and rapid-response modeling during active flood events. You will be the day-to-day point of contact for clients and regulatory reviewers, manage scope, schedule, and budget, and mentor staff engineers on modeling technique and quality control. This is a technical analysis role rather than a traditional civil design position.

WHAT YOU WILL DO

- **Model.** Lead development, calibration, and QA/QC of 1D and 2D HEC-RAS models — rain-on-grid, unsteady flow, storm sewer, and open channel analyses.
- **Calibrate.** Build watershed models in HEC-HMS and calibrate them against observed rainfall, high water marks, and streamflow records.
- **Own the deliverable.** Define the approach, run the analysis, write the report, and defend the results to clients and reviewers.
- **Handle the reviewers.** Serve as primary technical contact for clients, agencies, and subconsultants; resolve comments from FEMA, TWDB, TCEQ, and local floodplain administrators.
- **Get it permitted.** Prepare and shepherd FEMA Letters of Map Revision (LOMR/CLOMR), no-adverse-impact certifications, and local development permits.
- **Plan for failure.** Develop dam and levee emergency action plans — breach modeling, inundation mapping, scour and mudflow analysis, and coordination with emergency managers.
- **Warn people.** Support flood early warning system projects — stream gage network evaluation, warning-time computation, and siren siting analysis.

- **Respond.** Lead rapid-response modeling during active flood events, delivering defensible results under compressed timelines.
- **Run the project.** Manage scope, schedule, and budget; forecast cost to complete, flag scope changes early, and contribute to proposals and fee development.
- **Build the bench.** Direct and review the work of staff engineers and technicians, providing mentorship and enforcing QA/QC standards.
- **Map it.** Use ArcGIS Pro and/or QGIS to process terrain, parcel, and hydrologic data and produce exhibit-quality mapping.

WHAT YOU BRING

- Bachelor's degree in Civil, Environmental, or Water Resources Engineering, or a related field.
- Four to eight years of professional experience in hydrologic and hydraulic modeling or water resources engineering.
- Texas PE license strongly preferred; licensure elsewhere with Texas reciprocity, or an EIT on a demonstrated path to licensure, will be considered.
- Demonstrated proficiency in HEC-RAS (1D and 2D) and HEC-HMS, with a portfolio of models you personally built and defended.
- Working proficiency in GIS (ArcGIS Pro or QGIS) for terrain processing, spatial analysis, and map production.
- Experience preparing technical reports and responding to regulatory review comments.
- Ability to manage multiple concurrent projects and hold schedule and budget commitments.
- Strong written and verbal communication, including presenting technical findings to non-technical audiences such as elected officials and emergency managers.
- Comfort working in a fast-paced environment, including rapid-response modeling during emergencies.
- Valid driver's license and willingness to travel to project sites as needed.

NICE TO HAVE

- FEMA LOMR/CLOMR submittals, or participation in a FEMA Risk MAP or Base Level Engineering effort.
- Dam safety experience, including EAP preparation and TCEQ dam safety coordination.
- Familiarity with flood early warning systems, stream gaging, or ALERT/ALERT2 telemetry networks.
- Python for data processing or model automation; SWMM, ICPR, or InfoWorks; AutoCAD or Civil 3D.
- Certified Floodplain Manager (CFM) certification.
- Experience mentoring or supervising junior engineers.

WHAT WE OFFER

- Competitive salary commensurate with experience, plus health insurance, 401(k) matching, and a professional development stipend.
- Direct mentorship from the firm's Principal and a defined path to Senior Engineer and project management.
- Support for PE licensure, CFM certification, continuing education, and industry conference participation.
- High-visibility technical work on projects with real consequences for public safety.
- A supportive, inclusive culture that values work-life balance, initiative, and quick advancement on the strength of your work.

HOW TO APPLY

Send your resume, along with a short description of two H&H models you personally developed, to resumes@waterwayeng.com. Tell us what the model was for, what made it hard, and how you knew it was right.

Waterway Engineering is an equal opportunity employer and encourages applications from candidates of all backgrounds.