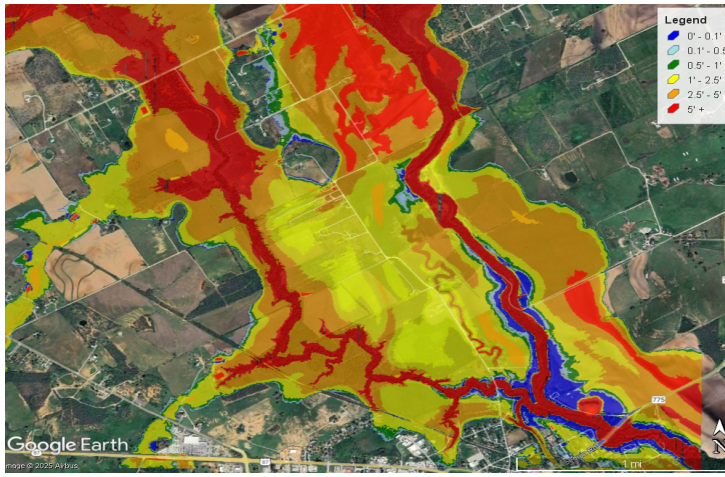
REQUEST FOR PROPOSAL

CONTRACT NO. 4400032201: IDIQ CONTRACT FOR NATIONAL FLOOD INSURANCE PROGRAM (NFIP) AND THE COOPERATING TECHNICAL PARTNERSHIP (CTP) PROGRAM STATEWIDE



CONTRACT NO. 4400032201 | MAY 2025

Michael Baker INTERNATIONAL | *We Make a Difference*

SUBMITTED TO
DOTDCONSULTANTADS80@LA.GOV

DOTD FORM: 24-102

(Revised December 12, 2024)

PROPOSAL TO PROVIDE CONSULTANT SERVICES

Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

Industry Leading **CTP CONSULTANT** ▶ *By partnering with the Michael Baker team, DOTD gains a trusted partner with:*

PROVEN EXPERTISE IN FLOOD RISK SOLUTIONS

Michael Baker brings deep experience in NFIP compliance and CTP Partnerships, delivering accurate flood hazard mapping and risks assessments tailored to Louisiana's unique coastal and riverine challenges. This expertise ensures the state meet's FEMA's standards while empowering communities with reliable data.

BAYOU-BUILT PARTNERSHIPS

By leveraging local knowledge and longstanding relationships with Louisiana stakeholders, Michael Baker's approach aligns with the CTP Program's goal of community-driven flood mapping. Our partnerships with regional agencies and universities will enhance data accuracy and community outreach, ensuring statewide impact and trust.

SCALABLE, INNOVATIVE DELIVERY

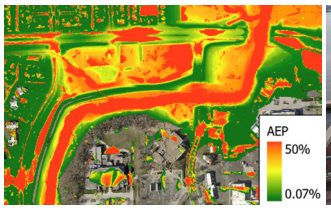
Our approach combines cutting-edge technology, like advanced GIS modeling, with a flexible framework to meet DOTD's evolving flood management needs. This ensures timely, cost-effective solutions that strengthen resilience and support the state's long-term mitigation goals under NFIP and CTP.

1. Contract Name as shown in the advertisement	IDIQ Contract for National Flood Insurance Program (NFIP) and the Cooperating Technical Partnership (CTP) Program Statewide
2. Contract Number(s) as shown in the advertisement	4400032201
3. State Project Number(s), if shown in the advertisement	N/A
*4. Prime consultant name **(name must match exactly as registered with the Louisiana Secretary of State (SOS) where such registration is required by law; including punctuation; include screenshot from SOS at the end of Section 20)***	Michael Baker International, Inc.
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	EF.0000062 V.F. 0000010
6. Prime consultant mailing address	2600 Citiplace Drive, Suite 450 Baton Rouge, LA 70808
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	2600 Citiplace Drive, Suite 450 Baton Rouge, LA 70808
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Eric Erikson, PE, CFM | Project Manager | Department Manager-Water Resources 225-218-2849 (office) | 225-266-5335 (mobile) eric.erikson@mbakerintl.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Daniel Thornhill, PE | Associate Vice President & Office Executive 225-218-2846 (office) | 205-908-8026 (mobile) daniel.thornhill@mbakerintl.com

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response. ***Pursuant to Act No. 581 of the 2024 Louisiana Legislature Regular Session, proposer further certifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association based solely on the entity's or association's status as a firearm entity or firearm trade association. In addition, proposer certifies it will not discriminate against a firearm entity or firearm trade association during the term of the contract based solely on the entity's or association's status as a firearm entity or firearm trade association.***	*Signature above shall be the same person listed in Section 9:* *5/15/2025* *Date:*
11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.	*Firm(s):* / *Firm(s)' %:* Civil Design & Construction, Inc. 4.00% GoTech, Inc. 5.10% **Total DBE Participation: 9.10%** ***The Michael Baker Team exceeds the 7% DBE Goal.***

49+ YEARS OF PARTNERING
WITH THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

DOTD will benefit from Michael Baker International's decades - long success with FEMA and CTP projects, and relationships formed performing various other engineering services for DOTD.



1940
Michael Baker was established and began performing the types of services outlined in the RFQ.

1972-2002
FEMA Map Coordination Contractor

2003 - 2008
FEMA National Service Provider for MAPMOD

2009-2014
FEMA PTS Contractor (Managing Partner for Michael Baker International / AECOM LLC)

2015- Present
Community Engagement and Risk Communication (CERC) Services

2021 - Present
FEMA PTS Contractor (Managing Partner for Advancing Resilience in Communities JV) **working with 35+ CTP communities across 22 states nationwide**

Prime Consultant Name: **Michael Baker International, Inc.**

12. Discipline Table:

Past Performance Evaluation Discipline(s)	*% of Overall Contract*	*Michael Baker International, Inc. (Michael Baker)*	*Neel - Schaffer*	*Olsson, Inc.*	*GOTECH, Inc.*	*Civil Design & Construction*	*Each Discipline must total to 100%*
Survey	5%	-	-	-	20%	80%	**100%**
Other (Water Resource)	82%	66%	16%	13%	5%	-	**100%**
Other (Public Outreach)	13%	47%	53%	-	-	-	**100%**
*Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.*							
Percent of Contract	**100%**	**60%**	**20%**	**11%**	**5%**	**4%**	

Note: "Other (Water Resource)" includes all CCAP SSSE, BLE, Discovery, H&H Analysis, Coastal Analysis, Flood Mapping, LAMP, FIRM / FIS, POST Preliminary Processing, FEMA RISK MAP Products, LOMA / LOMR, Mitigation Planning & Analysis, Flood Ordinance Review, FEMA Support, CAV & CAC tasks.

Note: "Other (Public Outreach)" includes all Community Outreach & Training, NFIP Outreach and Training, and Website.

meet your **TEAM**

Experience collaborating together on past DOTD projects and CTP programs to deliver success.

MICHAEL BAKER
Prime Consultant

- ✓ **115+ successful projects for DOTD since 1997**
- ✓ **50+ years supporting FEMA's flood hazard mapping program**
- ✓ **Assisted FEMA with the creation of the CTP program**
- ✓ **Supported 35 CTPs across the nation**
- ✓ **Produced over 50,500 FIRM panels nationwide**

NEEL-SCHAFFER
NFIP Support / CAP-SSSE

- ✓ Completed 1,000+ projects for DOTD
- ✓ 11 Certified Floodplain Managers
- ✓ 30 H&H Employees
- ✓ Riverine and coastal flood hazard modeling experience in Louisiana
- ✓ Deputy PM Kara Moree brings knowledge of cutting-edge CAP-SSSE solutions statewide

OLSSON
Base Level Engineering

- ✓ Founded in 1956 and has more than 1,600 professionals
- ✓ Recently teamed with Michael Baker on City of Lincoln, NE Floodplain Mitigation Master Plan and Indian Creek Watershed Floodplain Mapping in Johnson County, KS
- ✓ Expertise with BLE modeling and mapping
- ✓ Performing similar CTP services in AR

GOTECH
Survey

- ✓ Civil engineering and land surveying firm established in Baton Rouge, LA in 1981
- ✓ 44 Years of experience, 4 decades with DOTD
- ✓ Expertise in hydraulic structure survey and FEMA's Data Capture Standards
- ✓ Has 3 Certified Floodplain Managers dedicated to this program

CIVIL DESIGN & CONST.
Survey

- ✓ Founded in 2005
- ✓ Completed over 65 survey projects for DOTD
- ✓ Completed over 20 FEMA related survey projects
- ✓ Surveyed over 220 structures for Louisiana Watershed Initiative Tasks
- ✓ Numerous bridge and stream surveys for DOTD, EBR, City of Nola, WBR, East Fel Parish, and other municipalities

13. Firm Size:

Firm name	*DOTD Job Classification*	***Number of personnel committed to this contract***	*Total number of personnel available in this DOTD Job Classification (if needed)*
Michael Baker INTERNATIONAL **Michael Baker International, Inc.**	Administrative	**1**	**5**
	Biologist/Wetlands	**0**	**3**
	CADD Technician	**0**	**2**
	Engineer	**8**	**20**
	Engineer Intern	**1**	**3**
	Engineer- Other	**5**	**8**
	Environmental Pro	**0**	**3**
	GIS Analyst	**1**	**5**
	Planner	**2**	**5**
	Principal	**1**	**5**
	Senior Technician	**2**	**8**
	Supervisor- Eng	**2**	**6**
	Supervisor- Other	**2**	**7**
	Technician	**1**	**5**
Neel-Schaffer, Inc.	Engineer	**3**	**16**
	Environmental Pro	**3**	**5**
	Planner	**1**	**1**
Olsson, Inc.	Engineer	**1**	**33**
	Engineer Intern	**1**	**4**
GOTECH, Inc.	Principal	**1**	**1**
	Engineer	**1**	**7**
	Surveyor	**2**	**2**
	Party Chief	**1**	**2**
	Instrument Man	**2**	**2**
Civil Design & Construction, Inc.	Surveyor	**1**	**2**
	Party Chief	**3**	**4**
	Instrument Man	**2**	**2**
	Rodman	**2**	**2**
	CADD - Operator	**1**	**1**
	Senior Technician	**3**	**5**
	Supervisor - Other	**1**	**1**

14. Organizational Chart:

PRINCIPAL-IN-CHARGE & CONTRACT MANAGER
Daniel Thornhill, PE [1,2]

DOTD PROJECT MANAGER

PROJECT MANAGER
L.R. "Eric" Erikson, PE, CFM [3]

TECHNICAL ADVISOR AND QA/QC
Mohamed Bagha, PE, PMP, CFM, ENV SP

DEPUTY PROJECT MANAGER
Kara Moree, CFM (NS)

LEGEND
- Personnel fulfilling an MPR role.

PROJECT TEAM
Michael Baker International | Neel-Schaffer (NS) | Olsson (O) | GOTECH (G) | Civil Design & Construction (CDC)

BASE LEVEL ENGINEERING (PHASE ZERO)

Nanda Meduri, PE, PMP, CFM
Kevin Doyle, PE
Manoj KC, PhD, PE, CFM
Justin West, PE, CFM
Kushal Regmi, PE

DATA COLLECTION (PHASE ONE)

Field Survey / LiDAR
Chris Ballard, PLS (CDC)
Madison Mills, PLS (CDC)

Discovery
Lee Beshoner, PE (O) [4a]
Brynn Tucker (O)

RISK IDENTIFY & ASSESS (PHASE TWO)

H&H Analysis / Flood Mapping
Andrew Park-Friend [4b]
Sarah McEwen, PE (NS)
Achutam Baral, PE, CFM
Mujahid Chandoo, PE

Coastal H&H Analysis
Nicole Metzger

LAMP
Muhammad Akhtar, PhD, PE, CFM [4c]
Drew Walsh, PE, PMP, CFM (G)

REGULATORY PRODUCTS (PHASE THREE)

FIRMs / FIS
Aron Langley, GISP [4d]
Kevin Doyle, PE

Post Preliminary Processing
Kevin Narvaez
Daniel Saliba, PE (NS)

FEMA RISK MAP Products
Larina Ascunce [4e]

Map Rev./ LOMRs / CLOMRs
Joe Kuechenmeister

LOMAs / LOMRs
Bruce Dyson, PE, PLS, CFM (G)

FLOOD PLAIN MANAGEMENT

Mitigation Planning and Analysis
Morgan White
Maggie Waldron (NS)

Community Outreach / Training
Catrina Covino, CFM [4hk]
Jennifer Sloan Ziegler, PhD, PE, ENV SP, CEPC (NS)

Flood Ordinance Review
Ryan Carroll [4i]
Kara Moree, CFM (NS)

DOTD CTP Business Plan
Mohamed Bagha, PE, PMP, CFM, ENV SP

NFIP SUPPORT

CAP - SSSE Framework
Kara Moree, CFM (NS)

FEMA Support
Jason Isherwood [4fg]
Taryn Murray
Pat Bonck (NS)

NFIP Training
Monica Patel, CERP (NS)

CAV / CAC
Catrina Covino, CFM [4hk]
Christine Caggiano, AICP

Website Development
Daniel Horner, CFM [4j]

In addition to directly supporting FEMA, **Michael Baker has partnered with 17 states and 35 communities in 22 states nationwide to successfully provide CTP services** including Phase 0 (BLE), Phase 1 (Discovery) and Phase 2 (Detailed Studies), DFIRM mapping.

CAPACITY TO DELIVER

DOTD will have a single point-of-contact in **Project Manager Eric Erikson**. Eric is supported by CAP-SSSE subject matter expert **Kara Moree, CFM**, and teams of CTP, FEMA support professionals, and experts in data collection, H&H floodplain modeling, and public involvement. Eric and Kara will monitor these teams and can ***draw on additional resources and specialty experts*** from all firms to ensure the project is appropriately staffed ***to maintain schedule and cost goals, and to deliver the best possible solutions to DOTD.***

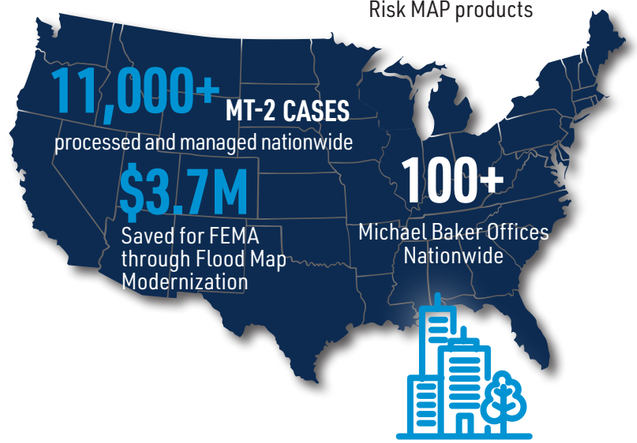
2025 ENR RANKINGS
THE TOP **500** DESIGN FIRMS

- **27** Top 500 Design Firms
- **18** Top 100 Pure Designers
- **5** Bridges*
- **6** Dams & Reservoirs*
- **15** Water Supply

* 2024 ranking; 2025 not yet reported.

28+ YEARS
Delivering services as a trusted partner to DOTD

50+ YEARS
of work with FEMA providing floodplain modeling, mapping and Risk MAP products



Prime Consultant Name: **Michael Baker International, Inc.**

15. Minimum Personnel Requirements:

MPR No. Do not insert wording from ad	*Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)*	*Firm employed by*	*Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)*	*State of license*	*License/certification expiration date*
1	**Daniel Thornhill, PE**	Michael Baker International, Inc.	PE No. 32367 - Civil	Louisiana	09/30/2026
2	**Daniel Thornhill, PE**	Michael Baker International, Inc.	PE No. 32367 - Civil	Louisiana	09/30/2026
3	**L.R. "Eric" Erikson, PE, CFM**	Michael Baker International, Inc.	PE No. 31061- Civil CFM US-23-12645	Louisiana	03/31/2026 12/31/2025
4. a	**Lee Beshoner, PE**	Olsson, Inc.	PE No. 0035184 - Civil	Louisiana	03/31/2026
4. b	**Andrew Park-Friend, PE, CFM**	Michael Baker International, Inc.	PE No. 0043862 - Civil	Colorado	10/31/2025
4. c	**Muhammad Akhtar, PHD, PE**	Michael Baker International, Inc.	PE No. 28115-Civil CFM US-15-08424	Delaware	06/30/2026
4. d	**Aron Langley, GISP**	Michael Baker International, Inc.	Certified GIS Professional No. 91572	N/A	06/25/2026
4. e	**Larina Ascunce**	Michael Baker International, Inc.	N/A	N/A	N/A
4. f,g	**Jason Isherwood, GISP**	Michael Baker International, Inc.	FEMA Hazus Practitioner Certified GIS Professional	Colorado	N/A 04/05/2026
4. h,k	**Catrina Covino, CFM**	Michael Baker International, Inc.	CFM US-06-01871	Ohio	07/31/2026
4. i	**Ryan Carroll**	Michael Baker International, Inc.	N/A	N/A	N/A
4. j	**Daniel Horner, CFM**	Michael Baker International, Inc.	CFM US-08-03585 EsRI in ArcGIS 9.2	Maryland N/A	07/31/2026 N/A

SECTION 16

STAFF EXPERIENCE

SECTION 16

RESUMES COVERING KEY STAFF AND MINIMUM PERSONNEL REQUIREMENTS (MPRS)

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Daniel Thornhill, PE**	*Years of relevant experience with this employer*	5
Title	Office Executive / Associate Vice President	*Years of relevant experience with other employer(s)*	23
Degree(s) / Years / Specialization	BS / 1997 /Civil Engineering, Louisiana State University and A & M College		
Active registration number / state / expiration date	Professional Engineer No. 32367 / Louisiana / 09/30/2026		
Year registered 2006 *Discipline*	Civil Engineering		
Contract role(s) / brief description of responsibilities	**MPR 1 & 2;** Principal-in-Charge & Contract Manager		

Daniel has more than 25 years of consulting experience in a variety of engineering projects including roadway design, corridor/traffic operation concept analysis, bridge design, hydraulics design, subsurface drainage design, and sidewalk beautification projects. He has served as Project Manager/Senior Engineer in the Greater Baton Rouge area since 2006, serving as the responsible-in-charge for Roadway/Transportation Design and Corridor Studies for EBR DOTD, DOTD, Lafayette Consolidated Government and St. Tammany Parish Department of Public Works. Daniel accepted the role as Office Executive for Michael Baker's Baton Rouge office in January of 2021, and manages our local team of experts.

- ✓ Meets MPR 1 & 2: LA PE (Civil) & Principal of Michael Baker
- ✓ Familiarity with DOTD staff, procedures, and projects will streamline communication and enhance technical oversight
- ✓ Served as Project Manager, Principal-In-Charge, or Senior Engineer on 75+ projects across Louisiana

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/20 - 07/21	**Louisiana Watershed Initiative H&H Modeling Contract Region 6- Task Order 1.** *DOTD.* **Principal-in-Charge.** Currently serving as Principal-In-Charge of the project coordinating with the project manager to make sure the team meets the client's needs, deadlines and submittals. For the first task-order of the contract, Michael Baker collected existing watershed datasets, models, and studies for 4 HUC- 8 watersheds in southeast Louisiana, developed and proposed a detailed modeling design approach with schedules and cost estimates, and prepare a data gap analysis and collection report. Michael Baker developed the methodology for modeling flood risks in the transition zone (where both coastal and riverine flood risk exist.) Michael Baker also developed a HUC-8 modeling design approach for H&H studies in the 4 HUC-8 watersheds based on historical information and prepared a data management plan for organizing and reporting the data it collected.
09/21 - 03/24	**Louisiana Watershed Initiative H&H Modeling Contract Region 6- Task Orders 2 & 3.** *DOTD.* **Senior Engineer.** Served as office manager, responsible for coordination management between Michael Baker and LA DOTD on the local level. Michael Baker performed HUC-8 hydrologic and hydraulic modeling for the Eastern Louisiana Coastal (ELC), East Central Louisiana Coastal (ECLC), Western Central Louisiana Coastal (WCLC), and Lower Grand (LG) watersheds . For these tasks, MBI supplemented the data collection and data gap analysis completed in Task Order 1, provided quality control and assurance, continued stakeholder engagement efforts including holding any necessary public meetings, continue reviewing historic storm events to adjust data collection and analysis, and perform topographic, bathymetric, and channel surveys. The Western Central Louisiana Coastal, Eastern Louisiana Coastal and East-Central Louisiana Coastal watersheds include transition and coastal zones. Michael Baker developed a tiered modeling design plan for H&H studies for these zones and developed internal and external boundary conditions. The tiered modeling structure recommended detailed studies in areas of higher need (greater losses, unconfined flooding and areas prone to development.) Michael Baker developed rain-on-grid analyses using HEC-RAS 6.0 and calibrated the models using large and recent storm events. Deliverables included a technical report, a quick-training guide to support future modeling, and an update to the data management plan.

02/22 - 02/24	**Louisiana Watershed Initiative H&H Modeling Contract Region 4- Task Orders 2 & 3.** *DOTD.* **Project Manager.** Michael Baker performed HUC-8 hydrologic and hydraulic modeling for the Lower Sabine watershed. For these tasks, MBI supplemented the work plan report and data in Task Order 2, provided modeling methodology, data gap analysis report, data management plan guide, hydrometeorology report and QA/QC plan and continued co-ordination efforts with prime consultant. Lower Sabine watershed, approximately 1700 sq. mi., is located in the western Louisiana and encompasses portions of Sabine, Vernon, Beauregard, and Calcasieu Parishes. The watershed is greatly influence by Toledo Bend Reservoir, which is located upstream. The study involves hydrologic and hydraulic model tailored to achieve accuracy and efficiency in capturing complex watershed dynamics. Michael Baker developed a tiered modeling design plan for H&H studies for the watershed and established internal and external boundary conditions. The tiered modeling structure recommended detailed studies in areas of higher need (greater losses, unconfined flooding and areas prone to development). Michael Baker developed rain-on-grid analyses using HEC-RAS 6.3.1 and calibrated the models using large and recent storm events. Deliverables included a technical report, a quick-training guide to support future modeling, and an update to the data management plan.
05/22 - On Going	**Parish Comprehensive Drainage Plan, St. Tammany Parish, Louisiana.** *St. Tammany Parish.* **Project Manager.** Served as project manager for the initial phase of the St. Tammany Comprehensive Drainage Master Plan. Responsibilities included overseeing the collection of necessary data and the coordination of the public outreach meetings between the Michael Baker team and St. Tammany Parish. Michael Baker conducted a comprehensive drainage plan for the Saint Tammany Parish located on the north shore of Lake Pontchartrain, Louisiana. The plan evaluated the existing state of drainage in the parish including flood risk, water quality and development guidelines, recommended capital projects, and potential policy changes that would lead to reduced flood damage and increased safety. The Michael Baker team provided data gathering efforts, ranked list of problem areas and provided four (4) in-person public and stakeholder outreach throughout Phase I of this project.
04/10 - 01/13	**Environmental Assessment (Stage 1) and Feasibility Study (Stage 0) - LA 182 from I-10 to West Pont des Mouton Road.** Lafayette Consolidated Government. **Project Manager & Engineer of Record.** Responsible for the development of Stage 0 plan sketches, project implementation cost, and public meeting exhibits. Mr. Thornhill also served as the Project Manager/Lead Design Engineer and Engineer of Record for the Stage 1 report. He was responsible for development of Line & Grade, which included all the horizontal alignments and use of aerial photography from the Stage 0 report along with use of LiDAR to develop the vertical alignments to determine anticipated limits of constructions based on several alternate typical sections in order for a decision on the preferred alternative to carry forward into design of construction plans. Implementation costs were developed based on the different alternatives to include opinion of probable construction cost, utility relocations, acquisition of right-of-way, engineering (design & survey), and CE&I. The project widened LA-182 from a 2-lane roadway to a 4-lane boulevard that included the complete streets initiative with a combination sidewalk/bike path on one side of the roadway. The project required coordination with CLECO Electric as they were already in the design phase of a new transmission line running parallel to LA-182 from existing electrical transmission crossing of LA-182 to end of project limits. Stage 0 included roadway widening improvements with several roundabouts at strategic intersection along with J-turns to provide better traffic operations. Stage 0 sketches were created with use of as-built drawings and aerial photography. Based on recommended improvements, implementation cost were developed for opinion of probable construction cost, relocation of utilities, acquisition of right-of-way, engineering (design & survey), and CE&I. LA-182 is a state highway, therefore DOTD had to approve and accept the Stage 0. Once Stage 0 was accepted, LCG approved supplemental for Stage 1 Environmental Assessment Study.
03/13 - 04/14, 08/14 - 01/16	**US 190 (Collins Blvd) Traffic Operations Study, Covington, (Stage 0) and Line & Grade Study for New Orleans Regional Planning Commission (Stage 1).** *DOTD.* **Project Manager/Lead Design Engineer.** Mr. Thornhill was responsible for Roadway Geometrics during Stage 0 for the US 190 (Collins Blvd) project, which widened the road from a 2-lane to a 4-lane boulevard, incorporating sidewalks and bike paths. The DOTD requested a traffic operations analysis for this major commuter route. The analysis recommended roundabouts, J-turns, and dual bridge crossings over the Bogue Falya for optimal traffic flow. Stage 0 involved creating Plan View Sketches using As-Built drawings and aerial photography, which were included in the Stage 0 report along with project costs. The DOTD accepted the study. During Stage 0 coordination, it was found that the New Orleans Regional Planning Commission was already conducting a Stage 1 Environmental Assessment for the same corridor. Mr. Thornhill and his previous employer joined the Stage 1 team as subconsultants to perform the Line & Grade study for Environmental Clearance. He managed the development of Plan & Profile sketches, project costs, and public meeting exhibits. LiDAR data, horizontal alignments, and aerial photography from Stage 0 were used to update sketches and estimate construction costs, including utility relocation, right-of-way acquisition, and engineering costs. The project was divided into phases for design and construction as funding became available, with a priority matrix to determine the order of construction for optimal traffic operation.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Lloyd R. "Eric" Erikson, PE, CFM**	*Years of relevant experience with this employer*	2
Title	Department Manager- Water	*Years of relevant experience with other employer(s)*	24
Degree(s) / Years / Specialization	BS / 1999 / Civil Engineering, Louisiana Tech University MS / 2003 / Engineering and Technology Management, Louisiana Tech University		
Active registration number / state / expiration date	Professional Engineer No. 31061 / Louisiana / exp. 03/2026; Certified Floodplain Manager / 07/2025 Professional Engineer No. 19275 / Mississippi / exp. 12/2025; Professional Engineer No. 52502 / Alabama / exp. 12/2025, Professional Engineer No. 151318 / exp. 12/2025		
Year registered	2004	*Discipline*	PE (Civil)
Contract role(s) / brief description of responsibilities	**MPR 3;** Project Manager		

Mr. Erikson has a distinguished career as the Project Manager for numerous projects sponsored by DOTD. His extensive experience includes collaboration with various members of the DOTD Public Works section, where he has developed strong working relationships and a deep understanding of their operational procedures. Additionally, Mr. Erikson has worked closely with the DOTD Hydraulics section, successfully completing several complex water resource and hydraulic projects. His expertise spans many years, during which he has become highly proficient in DOTD hydraulic guidelines, specifications, pay items, regulations, and software. This comprehensive knowledge enables him to navigate the intricacies of hydraulic engineering projects with ease and precision. His expertise spans project management and technical responsibility for diverse projects, including civil/site, residential and commercial developments, drainage, water/wastewater, roadway, airport, and marine port projects. Eric has a deep understanding of floodplain management, risk assessment, and mitigation, essential for the National Flood Insurance Program (NFIP). His commitment to reducing flood risks and enhancing community resilience aligns perfectly with the goals of this CTP program.

- ✓ Meets MPR 3: LA PE (Civil) & over 10 years experience in hydraulics
- ✓ Served as Project Manager on several DOTD projects
- ✓ Recently served as Deputy Project Manager for the LWI state-wide modeling contract, also providing stakeholder outreach and training
- ✓ Experienced in utilizing FIRM maps Flood insurance Studies and formulating LOMA and LOMR applications
- ✓ Specialized project experience addressing flood risk in communities across the State of LA

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/23 - On Going	**Louisiana Watershed Initiative (LWI) Region 6, Louisiana.** *DOTD.* **Deputy Project Manager.** Responsible for providing contract administration and assisting the project manager in general project management duties such as resource allocation, scheduling, coordination of team members, and financial analysis. Michael Baker supplemented data collection and analysis, continued stakeholder engagement services, and performed topographic, bathymetric, and channel surveys. Specifically, Mr. Erikson completed project management duties such as being a point of contact for the DOTD Project Manager, directed resource management to complete all task orders, provided QA/QC on all deliverables, and provide stakeholder engagement in the form of presentations to various stakeholders. This task includes 4 HUC8 Watershed models.
01/23 - 12/24	**Louisiana Watershed Initiative (LWI) Region 1, Louisiana.** *DOTD.* **Deputy Project Manager.** Responsible for the contract administration and assisting the project manager in general project management duties such as resource allocation, scheduling, team coordination, and financial analysis. This task includes 3 HUC8 Watershed models. Mr. Erikson assisted in the QA/QC of deliverables, directed resource management to complete all required tasks.
01/23 - 12/24	**Louisiana Watershed Initiative (LWI) Region 4, Louisiana.** *DOTD.* **Deputy Project Manager.** Responsible for contract administration and assisting the project manager with general project management duties such as resource allocation, scheduling, team coordination, and financial analysis. This task includes 1 HUC8 Watershed model.
11/22 - 12/24	**Parish Comprehensive Drainage Plan, St. Tammany Parish, Louisiana.** *St. Tammany Parish.* **Deputy Project Manager**. Responsible for contract administration and assisting with general project management duties, such as resource allocation, team coordination, scheduling, and financial analysis. Attending public outreach meetings and assisted the public in understanding the project objective and goals. Provided review and QC of the Phase 1 final report, community outreach at two public meetings, and scoping of future phases.

11/22 - 12/24	**IIJA Bridge Replacement Program Region 7, Louisiana.** *DOTD.* **Task Manager.** Responsible for directing the completion of 12 Bridge Replacement Structure Hydraulic Studies in accordance with DOTD regulations. Studies included 2D HEC-RAS models, replacement alternative analysis, scour analysis, and "No-Rise" Certificates where required. Mr. Erikson provided overall production oversight , task management and QA/QC of the final reports.
11/22 - 12/24	**LWI/SPP Group 1 Bundick Lake Flood Surcharge Management, Beauregard Parish, Louisiana.** *DOTD.* **Project Manager.** Responsible for the overall execution of the project, contract administration, and general project management duties, which include resource allocation, team coordination, sub-consultant coordination, scheduling, and financial analysis. Specifically, Mr. Erikson completed the PFM, and SQRA assessments, and provided QA/QC for all modeling. The project will determine improvements to Bundick Lake outlet works in order to reduce flooding within the watershed.
08/19 - 12/21	**LWI/SPP Group 1 Anacoco Creek Watershed upper and Lower, Vernon Parish, Louisiana.** *DOTD.* **Project Manager.** Responsible for the overall execution of the project, contract administration, and general project management duties, which include resource allocation, team coordination, sub-consultant coordination, scheduling, and financial analysis. Specifically, Mr. Erikson completed the PFM, and SQRA assessments, and provided QA/QC for all modeling. The project will determine improvements to both Vernon Lake and Anacoco Lake outlet works in order to reduce flooding within the watershed.
07/17 - 09/17	**LWI/SPP Group 1 Three Mile Lake, St. Landry Parish, Louisiana.** *DOTD.* **Project Manager.** Responsible for the overall execution of the project, contract administration, and general project management duties, which include resource allocation, team coordination, sub-consultant coordination, scheduling, and financial analysis. Specifically, Mr. Erikson completed the on-site inspection, improvement alternatives strategy, and provided QA/QC for all modeling. The project will determine improvements to infrastructure around Three Mile Lake in order to reduce backwater flooding from the Atchafalaya Floodway.
10/22 - On Going	**Little Bogue Falaya Regional Detention Pond, St. Tammany Parish, Louisiana.** *St. Tammany Parish.* **Project Manager.** Responsible for the overall execution of the project, contract administration, and general project management duties, which include resource allocation, team coordination, sub-consultant coordination, scheduling, and financial analysis. Specifically, Mr. Erikson completed the overall strategy for modeling of several pond locations and sizes, QA/QC 2D HEC-RAS models, QA/QC Preliminary Engineering Report, Provide oversight and final review of cost estimates, and reviewed damage calculations for BCA calculations.
01/23 - On Going	**Jones Creek Regional Detention Pond, Baton Rouge, Louisiana.** *City Parish of East Baton Rouge DPW.* **H&H Task Manager.** Responsible for the overall execution of the H&H portion of the project, contract administration, and general task management duties, which include H&H resource allocation, H&H team coordination, scheduling, and financial analysis. Specifically, Mr. Erikson completed the overall strategy for modeling of the detention pond configurations, QA/QC 2D HEC-RAS models, QA/QC Preliminary Engineering Report, and provided QA/QC review of preliminary construction plans.
03/12 - 12/22	**Design and Engineering Services for Various Development Projects. Lead Designer - Project Manager.** Mr. Erikson provided engineering services on a variety of residential, multi-family, commercial and industrial development projects where the design of said developments were required to meet local flood ordinances. Thus, Mr. Erikson has experience reviewing, adhering to and offering proposed modifications and or updates to a variety of flood ordinances ranging from the most complex in flood prone areas to simple yet effective in rural areas of lesser flood risk. Ranging from stormwater retention, free board implementation, or floodplain fill mitigation, Mr. Erikson has experience in a variety of flood ordinance solutions. This exposure to many different flood ordinances combined with the practical design experience gives Mr. Erikson the tools to review and improve any flood ordinances from any governmental entity in a way that lowers flood risk for the entire watershed.
03/04 - 12/22	**Sugar Mill Plantation, Mixed use Development.** *All-Star Developers*. **Lead Designer.** Mr. Erikson was the lead designer for all drainage infrastructure within the approx. 1000 acre development located in West Baton Rouge Parish. As part of this project, Mr. Erikson performed hydraulic calculations for 5 large box culvert stream crossings, pond routing calculations for over 19 separate detention ponds, over 15 miles of subsurface drainage design (inlets and storm sewer) for curb and gutter roadways and 6 wastewater pump stations. The project also include the improvement of a large parish owned open channel that bisected the property.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Kara Moree, CFM**	*Years of relevant experience with this employer*	<1
Title	Regional Environmental Coordinator	*Years of relevant experience with other employer(s)*	20
Degree(s) / Years / Specialization	BS / 2005 / Bachelor of Science, Resource Biology & Biodiversity		
Active registration number / state / expiration date	Certified Flood Plain Manager - US-06-02202; Certified Construction Inspector		
Year registered N/A	*Discipline*	Environmental	
Contract role(s) / brief description of responsibilities	Deputy PM, NFIP Support and CAP-SSSE Expertise		

Kara is a Certified Floodplain Manager (CFM) with two decades of experience in environmental, planning, and project management. She has extensive expertise in NEPA compliance, environmental documentation, permitting, storm water, construction and facility compliance, roadway, and drainage projects. Kara has worked on transportation projects, handling environmental inventory, feasibility studies, NEPA documentation, community and stakeholder engagement, wetland delineations, and natural resources permitting. She is experienced with NEPA compliance across multiple federal agencies, including FEMA, HUD, FHWA, USACE, and FERC, and has provided technical assistance to various federal, state, and local agencies regarding environmental laws and regulations. Kara has conducted extensive public outreach activities and prepared numerous Construction and Operational Storm Water Pollution Prevention Plans (SWPPP), Spill Prevention Control and Countermeasure (SPCC) Plans, and multi-media permitting for construction projects and operating sites throughout southern Louisiana.

- ✓ Certified Floodplain Manager (CFM)
- ✓ CAP-SSSE Expertise
- ✓ Former Floodplain Administrator for Ascension Parish
- ✓ CAP Committee Chairman of the Louisiana Floodplain Management Association (LFMA)
- ✓ Current Secretary of LFMA

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/06 – 02/08	**Environmental and Historic Preservation Group.** *FEMA.* **Floodplain Management Lead.** Responsible for management of floodplain specialists and assisting with technical questions regarding the National Flood Insurance Program, Flood Insurance Rate Maps (FIRM), Flood Insurance Study (FIS), as well as educating the community and stakeholders.
03/11 – 05/12	**Ascension Parish. Floodplain Coordinator.** Responsible for the daily implementation of Ascension Parish activities related to the NFIP and general floodplain management principles, including updating related maps, plans, and community policies. Responsibilities also included public outreach and explaining the requirements of the Ascension Parish Flood Damage Prevention Ordinance to the public, elected and/or appointed community officials/decision makers, engineers, land surveyors, real estate agents, and planners. She assisted applicants in the floodplain development permitting process and reviewed and approved all development permits to comply with Parish ordinances as well as NFIP. While also serving as the Parish Community Rating System (CRS) Coordinator, she was responsible for maintaining records and documents which ensured the community's compliance and eligibility to participate in the NFIP and CRS, such as FIRM inventory, Parish permitting records, and elevation certificates; meeting with FEMA and State NFIP representatives for Community Assistance Visits (CAV) and CRS compliance visits. Ms. Moree also prepared and assisted with community Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Repetitive Flood Claims grant programs, and Pre-Disaster Grant Program applications.
04/12 – Ongoing	**Louisiana Floodplain Management Association. Executive Board Member.** Has been serving as a member of the Executive Board of the LFMA in various positions (Chairman, Treasurer, Secretary) since 2012 and is currently serving as the Vice Chairman as well as the Community Assistance Program (CAP) Committee Chairman. She has been active and instrumental in this association which strives to encourage plans, projects, and legislation for flood damage reduction in Louisiana; support comprehensive floodplain management; provide and promote training and assistance to local governments; and advocate coordination among all levels of government and existing programs. As the CAP Committee Chairman, she attends bi-annual meetings at FEMA Region VI with the State NFIP office staff to discuss and coordinate the newest regulations and guidelines.

12/17 – 08/18	**Floodplain Management Study.** *Ascension Parish.* **Project Manager.** Served as the project manager as a subconsultant to HNTB for a floodplain management study which included reviewing existing Parish ordinances, including the Flood Damage Prevention Ordinance, Drainage Ordinance, Development, Planning, and Fill Requirements, and making recommendations for improvements to the Parish permitting process.
08/17 – 08/18	**Drainage Master Plan.** *City of Central, LA.* **Project Manager.** Environmental Project Manager for a drainage master plan for the City of Central in East Baton Rouge Parish, LA. Her duties included public outreach, Community Rating System reviews and write-ups on the National Flood Insurance Program, permitting recommendations for projects, as well as ordinance reviews and recommendations for improvements.
08/24 – 04/25	**I-10 Calcasieu River Bridge P3 Project. Lake Charles, LA.** *DOTD.* **Environmental Compliance Manager (ECM).** ECM for the Design Build Contractor (Louisiana Bridge Builders). Tasks include the management and guidance of the environmental permitting and compliance commitments for the project in accordance with NEPA standards. Acts as a liaison between the design team, environmental permitting team, and all agencies involved in the permitting process. Providing guidance to LBB and assisting in decision-making are key to the job duties as well as preparing all associated Environmental Plans such as a Comprehensive Environmental Protection Plan and a Hazardous Materials Management Plan.
08/20 – 04/25	**Mississippi River Bridge South GBR, LA 1 to LA 30 Connector.** *Baton Rouge, LA. DOTD.* **Project Manager and NEPA Specialist.** Enhanced Planning Study and Environmental Assessment for a proposed new bridge crossing of the Mississippi River for the purposes of providing transportation system redundancy and additional capacity across the Mississippi River and alleviating traffic congestion in the Capital Region. The five-parish Baton Rouge Metropolitan Area includes Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge Parishes. The new "south" Mississippi River Bridge and approaches will be a conventional highway/expressway facility connecting to LA 1 with a connection to Interstate 10 on the west side of the Mississippi River and to LA 30 (and widening of LA 30) on the east side of the Mississippi River. It is planned that the new crossing will be funded in part through the collection of tolls. This project required an elevated level of public involvement, including quarterly updates to the Capital Area Road and Bridge District (CARB-D), a commission comprised of Parish Presidents from Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge parishes, the Secretary of LA DOTD, and a commission chairman appointed by the Governor.
08/18 – 08/20	**LA 3040 Stage 0 Feasibility Study. Houma, LA.** *DOTD.* **Project Manager.** Responsible for coordination with the client, scoping, invoicing, and subconsultant coordination related to a Stage 0 Feasibility Study to identify safety and/or operational issues along 2.5 miles of Martin Luther King Boulevard (LA 3040) and evaluate reasonable alternatives to address any deficiencies discovered. Also responsible for compliance with NEPA guidelines and for creating the collision diagram and all public involvement activities for the project, which included stakeholder coordination with the local regional planning commission, DOTD District, and State Police.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Mohamed Bagha, PE, PMP, CFM, ENV SP**	*Years of relevant experience with this employer*	20
Title	Regional Practice Lead- Water	*Years of relevant experience with other employer(s)*	6
Degree(s) / Years / Specialization	Masters Certificate / 2011 / Project Management, University of Pittsburgh ME / 2003 / Civil Engineering / The State of University of New York at Buffalo BE / 1998 / Civil Engineering / National Institute of Technology, Nagpur, India		
Active registration number / state / expiration date	Professional Engineer No. 102919 / Texas / exp. 03/2026; Certified Floodplain Manager / Texas / 12/2025		
Year registered	2009	*Discipline*	Civil Engineering
Contract role(s) / brief description of responsibilities	**Technical Advisor and QA/QC**		

Mr. Bagha is a professional engineer and a project manager with extensive experience in water resources engineering. His skills include advanced 1-D, 2-D, and unsteady model development for hydrology and hydraulics, stormwater management, and watershed planning. He has led and participated in discovery, scoping and flood risk review meetings with numerous communities across multiple FEMA regions over the course of his 26 year career. Mr. Bagha has been part of FEMA flood insurance mapping initiatives at national and regional levels, has expertise with hazard mitigation applications, and is proficient in the use of GIS applications in the water resources domain.

- ✓ 26 year career providing flood risk modeling and mapping for flood planning and mitigation efforst across the nation
- ✓ Subject Matter Expert in 1D, 2D and unsteady HEC-RAS modeling applied towards designing sustainable solutions for flood risk mitigation
- ✓ Participated in many flood studies for FEMA and CTPs

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/20 - 06/25	**Louisiana Watershed Initiative Modeling Contract - Region 6, Louisiana.** *DOTD.* **Project Manager. Deputy Project Manager and Modeling Manager.** Provided input on tiered modeling approaches and reviewed modeling design plans for multiple HUC-8 watersheds. Michael Baker provided engineering and modeling services to the Louisiana Department of Transportation & Development (DOTD) for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the contract, Michael Baker is providing hydrologic and hydraulic modeling, data collection and analysis, stakeholder engagement, and surveying.
09/04 - 10/07	**Rapides Parish Flood Insurance Study Project, Louisiana.** *FEMA.* **Water Resources Engineer.** Performed DFIRM hydrologic, hydraulic and GIS analyses to produce DFIRM ready GIS deliverables in Rapides Parish, Louisiana. Attended discovery meetings with community representatives, developed scoping maps,documents and reports to prioritize mapping, developed hydrology and hydraulic models for Approximate (Zone A) floodplains, limited detail areas, and fully detailed studies. Michael Baker, as the National Services Provider (NSP) for the Federal Emergency Management Agency (FEMA) provided services in Region VI as part of the implementation of the Flood Map Modernization Program (FMMP), known as MAPMOD. Tasks included in this contract were independent QA/QC, flood insurance study, technical assistance/monitoring, CTP evaluation/MAS assistance, outreach support, on-site liaison, post preliminary processing, preliminary DFIRM/FIS distribution, and appeals/protests resolution.
04/24 - On Going	**St. Tammany Parish Comprehensive Drainage Plan.** *St. Tammany Parish Government.* **Technical Lead.** Michael Baker conducted a comprehensive drainage plan for the Saint Tammany Parish located on the north shore of Lake Pontchartrain, Louisiana. The plan evaluated the existing state of drainage in the parish including flood risk, water quality and development guidelines, recommended capital projects, and potential policy changes that would lead to reduced flood damaged and increased safety. The Michael Baker team provided data gathering efforts, ranked list of problem areas and provided four (4) in-person public and stakeholder outreach throughout Phase I of this project

02/08 - 12/11	**Region VI Flood Hazard Mapping, Arkansas, Texas, and Louisiana.** *FEMA.* **Project Manager.** Responsibilities included quality, schedule, budget and scope management as part of the overall project management for a nineteen-county DFIRM update project. Responsible for coordination with other Joint Venture Partners (CDM and Jacobs Engineering) to provide quality assurance and manage deadlines, scope and budgets for DFIRM studies being produced by Michael Baker. Responsible for reporting, outreach and coordination with the Regional Management Center and FEMA Region VI. Michael Baker conducted discovery meetings and developed scoping documents for each county, base map development, topographic data processing, coastal hazard analysis, redelineation of Zone AE floodplains, digital conversion of Zone A, creation of Shaded Zone X, production of the preliminary FEMA Digital Flood Insurance Rate Maps and Flood Insurance Study Reports, reporting, post-preliminary processing, and outreach and coordination for 19 selected FEMA Region VI communities in Arkansas, Texas, and Louisiana. In addition, Michael Baker prepared Floodway data tables and Summary of Discharges tables, and flood profiles for all detailed study streams, and performed QR5 and QR7 checks on the quality of floodplain mapping in compliance with FEMA Data capture standards to ensure high quality deliverables were submitted for upload to the MIP.
12/19 -03/24	**San Antonio River Authority Cooperating Technical Partner ID/IQ**. *San Antonio River Authority.* **Project Manager.** As Project manager and technical lead, Mohamed oversaw delivery and quality review of terrain development, hydrologic and hydraulic models, floodplain mapping and flood risk products in the Lower Cibolo, Lower San Antonio and Upper San Antonio Watersheds. For these watersheds, Mohamed led the development of updated hydraulic modeling in two HUC-10 watersheds, using XP-SWMM 1D-2D models, HEC-RAS 1D unsteady and 1D-2D coupled models, and 1D steady HEC-RAS models. Michael Baker provided RiskMAP Phase 2 services for the following tasks: Develop Terrain Data, Develop Hydraulic Data, Perform Floodplain Mapping, and Develop Flood Risk Products tasks for the Upper San Antonio River and Lower Cibolo Watersheds. For the Lower San Antonio River Watershed, Michael Baker performed terrain development, including hydro-corrected DEMs, developed flood frequency analysis with MOVE.3 extension of records, and performed independent QA/QC of HEC-HMS models for 6 tributary watersheds to the Lower San Antonio River.
1-/04 - 09/14	**Regional Task Orders for the Flood Map Modernization Program, Nationwide.** *FEMA.* **Water Resources Engineer.** Provided internal QA/QC review of DFIRM panels, Flood Insurance Study, and DFIRM database deliverables for studies in Region X. Michael Baker is performing various tasks leading to the development of digital flood insurance rate maps (DFIRM) and supporting the Map Modernization program in all 10 FEMA Regions. Support tasks include maintenance and management of the web-based Mapping Information Portal (MIP), outreach, cooperating technical partner coordination, coastal guideline and specification updates, technical assistance, project monitoring, support and attendance at conferences, training, post-preliminary support, physical map revisions, floodplain boundary standard documentation, levee research and database support, and other general technical support.
04/21- 12/22	**MAAPnext – FEMA 2D modeling and mapping for 3 watersheds (Brays Bayou, Goose Creek and Jackson Bayou watersheds).***Harris County Flood Control District.* **Project Manager.** The District is a CTP for FEMA, and Michael Baker was contracted to develop hydrology, hydraulics and flood mapping for 3 watersheds in Harris County. Innovative approaches included the use of 1D-2D coupled HEC_RAS models to account for flow uncertainty in flat coastal regions. Michael Baker provided professional engineering services for a FEMA and HCFCD funded flood risk analysis and mapping project to produce new and updated flood hazard data for Brays Bayou, Goose Creek, and Jackson Bayou watersheds in Harris County. This project consisted of building detailed HEC-HMS and 1D-2D unsteady HEC-RAS models for 108 stream miles across the three watersheds to aid the understanding and regulation of flood risk. Tasks include project management, floodplain mapping studies, field surveys, H&H data development, flood hazard data development, and floodplain mapping and flood risk products development. Michael Baker completedall work in compliance with HCFCD and FEMA guidance, best practices, and standards.
08/05 - 07/16	**South Carolina Floodplain Mapping Program CTP , Statewide, South Carolina.** *State of South Carolina.* **Water Resources Engineer.** Performed DFIRM hydrologic, hydraulic and floodplain mapping (GIS based) technical reviews. Michael Baker has been assisting the state since 2005 with its floodplain mapping program, consistent with the Federal Emergency Management Agency's Map Modernization Program. Michael Baker modernized flood maps by new detailed study, redelineation, and approximate limited detail, and conversion to digital flood insurance rate maps (FIRM) in geographic information system (GIS) format with associated databases.
05/21 - On Going	**Barton Creek Watershed Flood Modeling and Mapping - CTP Contract.** *City of Austin, Texas* **Technical Lead.** As a member of a Joint Venture team tasked with developing Atlas 14 flood risk models and maps for Barton Creek watershed, Mohamed led the work to create hydrologic models, hydraulic models and floodplain boundaries for multiple streams. Michael Baker also performed independent QA/QC review of draft submittals prepared by Joint venture partners and subconsultants..

16. Staff Experience:

Firm employed by	Olsson, Inc.		
Name	**Lee Beshoner, PE**	*Years of relevant experience with this employer*	23
Title	Group Leader | Water Resources	*Years of relevant experience with other employer(s)*	0
Degree(s) / Years / Specialization	BS / 2002 / Civil Engineering		
Active registration number / state / expiration date	PE No. 0035184/ Louisiana / exp. 03/2026		
Year registered 2007 *Discipline*	PE (Civil)		
Contract role(s) / brief description of responsibilities	**MPR #4a;** Discovery		

Lee has more than 20 years of experience in hydrologic and hydraulic (H&H) analysis, including the analysis of complex open channel environments and support for multiple state and federal flood mapping programs, such as the Federal Emergency Management Agency's (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) and Map Modernization programs. He is well-versed in FEMA Guidance and Standards and in producing GIS deliverables to meet regulatory requirements. Additionally, Lee has served as the flood risk project manager for the State of Arkansas's Coordinating Technical Partner (CTP) program for more than 10 years. In this role, he has been instrumental in implementing FEMA's Risk MAP program. Under this contract, Olsson has completed or is in the process of completing large-scale Base Level Engineering (BLE) modeling (1D and 2D) and mapping for 39 HUC-8 watersheds, covering a total of 61,000 miles of streams.

- ✓ Meets the requirement for MPR 4a; Has over 5 years of experience in conducting discovery tasks in accordance with FEMA regulations
- ✓ Extensive experience leading BLE studies for 39 total watershed projects and thousands of miles of streams
- ✓ Managed BLE and Discovery tasks under Arkansas's FEMA CTP and RiskMAP programs
- ✓ Proficient in submitting information through FEMA's Mapping Information Portal (MIP)

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
07/11 – present	**State of Arkansas FEMA CTP Program, Statewide Arkansas.** *Arkansas Natural Resources Commission / Arkansas Department of Agriculture Natural Resources Division (ADANRD).* **Project Manager.** Since 2011, ADANRD has partnered with Olsson to manage the CTP program within Arkansas. Lee has been the project manager, overseeing the rollout of Risk MAP initiatives, including risk identification, development of mapping risk data and BLE, assessment, communication, and mitigation of present and future risks, covering 85% of the state. Lee and his team assisted Arkansas CTP in preparing and annually updating the State of Arkansas Multi-Year Business Plan; maintaining and updating the Coordinated Needs Management Strategy (CNMS) database; facilitating annual state partners meetings; **completing Discovery and BLE projects;** developing multiple floodplain management training courses; conducting community outreach and education; and creating statewide tracking tools and community ranking strategies.
09/01 – 12/10	**FEMA Region 6 IDIQ Contract,** *Statewide, Arkansas, Oklahoma, Louisiana, Texas. FEMA.* **Project Engineer.** Lee performed engineering analysis, including hydrologic and hydraulic (H&H) modeling; procured survey data and processed terrain data; and developed floodplain maps consistent with FEMA Map Modernization Guidelines and Specifications. He also coordinated with project stakeholders throughout the project.
12/21 – present	**Lower St. Francis Watershed Discovery Project*, Arkansas and Missouri.** *ADANRD.* **Principal-in-Charge and Program Manager.** Lee oversaw the Discovery project for the Lower St. Francis watershed, which spans 3,582 square miles across 10 counties in Arkansas and five counties in Missouri. Discovery tasks included coordination with partners and stakeholders, collection of data and local information, reviewing mitigation plans to develop a comprehensive understanding of the watershed's flood risks and needs, and updating the CNMS database. Additionally, as part of the Discovery project, he led the Olsson team in facilitating post-project stakeholder meetings and providing basic BLE education to local communities. ***Additional Discovery projects:** Bayou Bartholomew, Bayou Meto, Beaver Reservoir, Big, Buffalo, Cache, Cadron, Dardanelle Reservoir, Eleven Point, Fourche La Fave, Frog-Mulberry, Illinois, Lake Conway-Point Remove, L'Anguille, Little Missouri, Little Red, Lower Arkansas, Lower Black, Lower Little Arkansas-Oklahoma, Lower Ouachita-Smackover, Lower Saline, Lower St. Francis, Lower White, Lower White-Bayou Des Arc, McKinney-Posten Bayous, Middle White, Ouachita Headwaters, Spring, Strawberry, Upper Ouachita, Upper Saline, and Upper White-Village Watersheds

09/23 – present	**Lower White BLE Study, Arkansas*.** *ADANRD.* **Principal-in-Charge and Program Manager.** Lee oversaw and provided guidance, quality assurance, and quality control (QA/QC) for a comprehensive 2D BLE H&H study of the Lower White watershed, which spans approximately 1,370 square miles across seven Arkansas counties and includes multiple levees. He reviewed H&H modeling and mapping deliverables for approximately 1,200 miles of streams, oversaw a Level 2 Hazus Flood Risk Assessment, and coordinated multiple task submittals to FEMA's Mapping Information Platform (MIP). ***Additional BLE studies:** Bayou Bartholomew, Bayou Meto, Beaver Reservoir, Big, Buffalo, Bull Shoals Lake, Cache, Cadron, Current, Dardanelle Reservoir, Elk, Fourche La Fave, Frog-Mulberry, Illinois, Lake Conway-Point Remove, L'Anguille, Little Missouri, Little Red (x 2), Lower Arkansas, Lower Black (x 3), Lower Little Arkansas-Oklahoma, Lower Ouachita-Smackover, Lower Saline, Lower St. Francis, Lower White, Lower White-Bayou Des Arc, McKinney-Posten Bayous, Middle White (x 2), Ouachita Headwaters, Petit Jean, Strawberry, Upper Black, Upper Ouachita, Upper Saline, and Upper White-Village (x 2) Watershed
2021 – 2023	**Running Water Draw and Palo Duro Watersheds 2D BLE Studies, Texas.** *Texas Water Development Board.* **Principal-in-Charge and Project Manager.** Lee managed BLE H&H studies for the Running Water Draw and Palo Duro watersheds in Texas. He and his team completed BLE hydraulic modeling for all study streams using advanced 2D modeling techniques. Their submittals included floodplain mapping, water surface elevation grids, flood depth grids, and modeling for multiple storm events.
2018 – 2022	**State of Missouri CTP 2D Hydraulic Modeling Support, Missouri.** *Missouri State Emergency Management Agency (SEMA).* **Principal-in-Charge and Project Manager.** This project involved using advanced 2D modeling techniques to analyze flood risks and develop detailed floodplain maps. These maps help communities better understand their flood hazards and make informed decisions about flood mitigation and preparedness.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Andrew Park-Friend, PE, CFM**	*Years of relevant experience with this employer*	19
Title	Civil Associate	*Years of relevant experience with other employer(s)*	1
Degree(s) / Years / Specialization	BS / 2004 / Civil and environmental Engineering, Bucknell University		
Active registration number / state / expiration date	PE No. 0043862 / Colorado / 10/31/2025		
Year registered 2009 *Discipline*	Civil		
Contract role(s) / brief description of responsibilities	**MPR 4b; Hydology and Hydraulic Engineering Analysis**		

Andrew Park-Friend is a water resource engineer and project manager with specialized experience in hydrologic and hydraulic (H&H) studies, future flood conditions, and flood hazard mapping assessments. Andrew has significant experience with FEMA Risk Mapping, Assessment and Planning (Risk MAP) projects, having led data development, regulatory, and flood risk products for the past 18 years as a Production and Technical Services (PTS) contractor to FEMA and as a Cooperating Technical Partner (CTP). Andrew has been ARC's Production Manager for the past three years and Region 1 FY22 Task Order Manager. Andrew's experience includes managing the Nebraska CTP contract, serving as the program manager for large-scale projects in Montana, defining policy papers (mapping of closed basin lakes) and new processes (partition plan for two-dimensional [2D] modeling), and overseeing the work of engineers and Geographic Information System (GIS) staff for numerous projects in several states. Andrew excels at identifying critical paths and root causes, applying production processes at scale, developing production processes that emphasize high-quality deliverables, and communicating complex issues.

- ✓ Meets MPR 4b; has over 5 years experience in H&H Engineering and Analysis
- ✓ Presenter on 2D Modeling Accuracy vs. Utility, ASFPM (2020)

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
09/22 - On Going	**Zone 1 PTS Production Regional Task Orders, Multiple Locations.** *FEMA.* **Production Manager.** Leads map production and delivery for ARC's regional production task orders in Regions 1, 2, 3 and 5. Oversees and provides guidance for all types of Risk MAP projects, particularly Discovery, Data Development and Preliminary and Post-Preliminary Map Production. Responsible for coordinating all of ARC's regional production work and seeing that ARC creates consistent, high-quality deliverables for all projects across Zone 1.
09/22 - On Going	**Zone 1 PTS Production, Region 1, Multiple Locations.** *FEMA.* **Task Order Manager.** Leads the regional production task order for Region 1. Oversees all projects in the Task Order, including Levee Analysis and Mapping Procedures projects, 2D Base Level Engineering projects, a coastal erosion analysis project, and numerous projects involving floodplain mapping, Preliminary Flood Insurance Rate Map Production, and Regional Service Center Enhancements. Supervises and advises Project Managers to help mitigate project risks and issues, and coordinates directly with Region 1 to advance Task Order and project goals.
07/06 - 08 /13	**Regional Task Order 0002, Flood Hazard Identification and Mapping, Region 8, Multiple Locations.** *FEMA.* **Senior Engineer.** Responsible for H&H analysis for floodplain mapping analyses. Performed watershed assessments and modeling. Participated in public involvement and community outreach. Performed updated flood hazard analyses, including the procuring a surveying subcontractor, using automated GIS routines, performing H&H analysis and computer modeling, and coordinating with local governments and other stakeholders. Assessed comments and appeals for completed projects. Integrated the available GIS information with newly created flood hazard data to create countywide flood hazard data, and published updated FEMA flood hazard maps. Also initiated a statutory appeal period and coordinated with local governments and residents to explain the appeal process and integrate comments submitted during the appeal period into the final countywide flood hazard maps.
01/22 - On Going	**Johnson County, Floodplain Mapping, Indian Creek Watershed, KS.** *Johnson, County, KS.* **Project Manager.** Manages cost, schedule and resources under a CTP contract with Johnson County, generating countywide floodplain data for the Indian Creek Watershed. Develops innovative approaches to apply 2D rain-on-grid methodologies to an enhanced-level study for an entire watershed (94 square miles). Applies a study of climate modeling to assess future conditions flood hazards. Conducts extensive coordination and public outreach for the project, which will impact properties in this largely developed area.

11/17 - 06/18	**Jefferson and Madison River Watershed Hydrologic Analysis, Multiple Counties, Montana**. *Montana Department of Natural Resources and Conservation.* **Civil Associate.** Michael Baker performed engineering services in collaboration with the U.S. Geologic Survey for the Jefferson and Madison River Watersheds. The project aimed to update peak-flow values in the 9,600-square-mile Jefferson River Watershed and 3,620-square-mile Madison River Watershed. For the project, Michael Baker performed base map acquisition, hydrologic analysis, FEMA mapping information platform upload, project scoping, cost estimating, and flood risk services.
01/15 -01/16	**Bozeman Creek Floodplain Study, Bozeman, Montana (DNRC Cooperating Technical Partner).** *Montana Department of Natural Resources and Conservation.* **Civil Associate.** Responsible for hydraulic modeling and floodplain mapping for Bozeman Creek and its tributaries. Modeling included incorporation of hundreds of hydraulic structures. Numerous flow splits in developed urban areas required innovative modeling solutions. As a part of a mapping activity statement (MAS) contract, Michael Baker completed detailed hydraulic and floodplain mapping analyses of Bozeman Creek, its tributaries, and multiple flow splits in the City of Bozeman and Gallatin County. The purpose was to document the hydraulic and floodplain mapping analyses and provide results for incorporation into the Gallatin County, Montana, and Incorporated Areas Digital Flood Insurance Rate Map (DFIRM) and Flood Insurance Study (FIS).
02/14 - 11/15	**Flood Recovery Planning and Implementation, Boulder County, Colorado.** *Boulder County, Colorado.* **Civil Associate.** Responsible for reviewing floodplain development permits on behalf of Boulder County. Specialized in reviews of permits that required complex hydraulic analysis. Michael Baker provided onsite support, planning, and flood recovery services in response to the September 2013 floods, supporting the county's Floodplain Permitting and Comprehensive Creek Planning programs. Through onsite floodplain permitting work, Michael Baker reviewed and provided assessments of proposed flood recovery projects throughout the county and participated in discussions on policy implementation and development for the on-the-ground conditions created in the aftermath of the floods. Michael Baker also supported the Comprehensive Creek Planning initiative, including facilitating kickoff meetings attended by more than 650 residents; evaluating more than 3,000 reported damage points; and performing field assessments on over 90 miles of creeks, resulting in the identification of more than 200 high hazard sites throughout the county. To facilitate expedited recovery efforts to prepare for spring runoff, Michael Baker developed implementation plans for each creek within the county, identifying on a reach-by-reach basis the projects that will be implemented to reduce the risk of flooding or damage to homes and infrastructure due to spring runoff and summer rainfall seasons. 2/3/2014 - 11/5/2015
09/18 -12/19	**Nebraska Floodplain Mapping, Boone and Custer Counties, Nebraska.** *Nebraska Department of Natural Resources (NeDNR).* **Project Manager.** Conducting an ongoing project for floodplain mapping as part of the CTP project for NeDNR for Boone and Custer County in Nebraska. Floodplain maps will be developed for over 2,800 miles of channel in the two counties. Responsible for overseeing all elements of the project, including hydrologic analysis, hydraulic analysis, and floodplain mapping. Michael Baker is providing engineering services under our CTP contract with the state of Nebraska, generating countywide floodplain data for Boone and Custer Counties. Base-Level Engineering (BLE) data is being developed for approximately 3,000 miles across both counties, using a combination of 1D methodology developed by the client (2,770 miles) and 2D rain-on-grid methodology (220 miles). The 2D BLE modeling includes the sand hills area of Custer County within the boundary of the Ogallala Reservoir, features and topography that are consistent with northwest Texas. This area has extremely high infiltration rates and a dense stream network between the sand hills, making it a very complex area for study. Michael Baker also worked to develop a custom hydrologic approach to produce better results.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Muhammad Akhtar, PhD, PE, CFM**	*Years of relevant experience with this employer*	3
Title	Technical Manager- FEMA	*Years of relevant experience with other employer(s)*	16
Degree(s) / Years / Specialization	MS / 2004 / Technology Management, University of New South Wales BS / 2000 / Civil Engineering, University of Engineering and Technology, Pakistan		
Active registration number / state / expiration date	Professional Engineer No. 28115 / Delaware / exp. 06/2026		
Year registered 2018	*Discipline*	Civil Engineering	
Contract role(s) / brief description of responsibilities	**MPR 4c;** Levee Analysis and Mapping Procedures (LAMP)		

Mr. Akhtar has 19 years of experience in floodplain modeling and environmental projects, including deep expertise in FEMA's Levee Analysis and Mapping Procedures. His knowledge ensures compliance with federal regulations while supporting effective flood risk assessment and mitigation strategies. In addition to his levee expertise, Mr. Akhtar excels in stakeholder engagement, fostering collaboration between clients, contractors, and communities on stormwater infrastructure initiatives. His proficiency in hydrological and hydraulic modeling enhances floodplain mapping accuracy, contributing to informed decision-making. He is also well-versed in the FEMA Risk Map Program and National Flood Insurance Program (NFIP), further solidifying his leadership in flood resilience and management.

✓ Meets MPR 4c: Over 5 years experience in Levee Analysis and Mapping Procedures (LAMP)

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
09/22 - On Going	**Fiscal Year 2022 FEMA Region 1 Regional Production Task Order, FEMA Region 1.** *FEMA.* **Project Manager.** Responsibilities include providing project management of a ***LAMP project*** for the city of Woonsocket in Federal Emergency Management Agency Region 1. Responsible for conducting stakeholder meetings and managing the hydrologic and hydraulic study and quality control. Michael Baker is providing architectural and engineering services through a production and technical services contract that supports FEMA's Risk Mapping, Assessment and Planning (Risk MAP) program within Zone 1 as part of the Advancing Resilience in Communities Joint Venture (ARC JV). Zone 1 encompasses FEMA Regions 1, 2, 3 and 5. Michael Baker is providing portfolio management oversight for all projects in the task order, maintaining compliance with reporting requirements, quality standards required for mapping products and deliverables, overall task order management, and execution.
09/22 - On Going	**Fiscal Year 2022 FEMA Region 2 Regional Production Task Order, FEMA Region 2.** *FEMA.* **Project Manager.** Responsibilities included ***providing project management of a LAMP*** project for Village of Greene, Chenango County, New York, in Federal Emergency Management Agency Region 2. Responsible for conducting stakeholder meetings and preparing a levee data summary report for certification of the levee.
2017-2020	**Levee Analysis and Mapping Procedure (LAMP) Study, Somerset County, New Jersey.** *FEMA Region 2.* Prepared the Hydrological and Hydraulic analyses, LAMP Plans and presented at meetings for two communities with levees in Somerset County, NJ.
09/24 - On Going	**FEMA PTS BKR R5 FY24.** *FEMA.* **Subject Matter Expert for Levee Analysis and Mapping Procedure (LAMP) projects.** Michael Baker leads Advancing Resilience in Communities, a joint venture that provides architecture and engineering services through a production and technical services contract to support FEMA's Risk Assessment, and Planning program within Zone 1. The Fiscal Year 2024 regional production task order for FEMA Region 5 includes discovery support, 2D base level engineering analyses, assisting in state-federal workgroups, data development, post-preliminary processing, regional service center services, and task order management.

01/15 - 12/15	**Regional Service Center Support; Region 3.** *FEMA.* **Subject Matter Expert for Levee Analysis and Mapping Procedure (LAMP) projects.** Muhammad supported FEMA Region 3 in the preparation of Draft LAMP Plans for these ongoing studies by leveraging the Hydrologic and hydraulic data for Natural Valley and other reach analysis by the study teams. Chester Levee, Delaware Co., PA Dow Chemical Levee System, Bucks Co., PA Everett Levee System, Bedford Co., PA Moorefield Levee, Hardy Co., WV Town of Bayard, Grant Co. , WV Cherry Tree Levee Systems , PA
09/21 - On Going	**FEMA Community Engagement and Risk Communication Contract, FEMA Region 5: Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio.** *FEMA.* **Subject Matter Expert.** Responsible for serving in a subject matter expert role and providing guidance related to CERC roles on MT-2 Task Order. Provided support on the Federal Emergency Management Agency calls and documents related to MT-2 standards and guidance. Michael Baker is the managing partner of the joint venture Resilience Action Partners, which holds the Community Engagement and Risk Communications contract for FEMA's Risk Management Directorate in support of the Risk Mapping, Mapping, Assessment, and Planning program. Michael Baker's services include hazard mitigation planning, community outreach, preparation and dissemination of outreach materials, program management, and development and delivery of training for stakeholders. Resilience Action Partners supports FEMA Region 5, which executes flood mapping and mitigation projects. The team also helped FEMA create the Region 5 Mitigation Assistance Resource Guides for each Region 5 state and for tribal nations.
09/22 - 04/24	**Fiscal Year 2023 FEMA Standard Operations Option Year 1, FEMA Zone 1 (Regions 1, 2, 3, and 5)**. *FEMA.* **Technical Manager.** Responsible for providing levee support for ARC Zone 1 and levee related ad hoc inquiries by the Federal Emergency Management Agency (FEMA) headquarters, levee certification reviews, and NLD refinement assistance to FEMA and the United States Army Corps of Engineers. Provided subject matter expertise for ***levee guidance and standard updates.*** Michael Baker provides architecture and engineering services through a production and technical services (PTS) contract. Advancing Resilience in Communities (ARC) Joint Venture (JV) supports FEMA's Risk Mapping, Assessment and Planning (Risk MAP) program within Zone 1. Technical and engineering services cover mission support, coastal, levee, quality assurance, due process, and adoption, needs management, other technical support, innovations, non-regulatory products, building science, data management, community engagement and risk communication, mitigation planning, risk assessment, dam safety, policy analysis, program planning, and program support services. Additionally, ARC provides technical and engineering services related to disaster support activities that vary based on the disaster.
08/17 - 09/27	**The Lakes, Princess Anne Plaza, and Windsor Woods Drainage Improvements and Flood Mitigation Program, Virginia Beach, Virginia.** *City of Virginia Beach, Virginia.* **Subject Matter Expert.** Responsible for preparing the Conditional Letter of Map Revision (CLOMR) and coordinating with the client and subconsultants who are performing the hydrologic and hydraulic analysis for the drainage improvements. Prepared an operations and maintenance manual to support the city with the CLOMR submission. Michael Baker is providing overall program management, stormwater master planning and analysis, engineering design, and construction support services for the city of Virginia Beach on the multi-phase combined drainage improvements program "The Lakes, Princess Anne Plaza, and Windsor Woods." Improvements are estimated at over $350 million. This area of the city experienced significant flooding in October 2016 as a result of Hurricane Matthew due to its low-lying elevations and tidal influence. The purpose of the program is to evaluate the existing drainage system, review existing studies, and develop recommended improvements to alleviate widespread area flooding due to moderate rain events and tidal impacts.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Aron Langley, GISP**	*Years of relevant experience with this employer*	20
Title	GIS Water Project Manager	*Years of relevant experience with other employer(s)*	2
Degree(s) / Years / Specialization	MA / 2004 / Geography / Geographic Information Systems, University of Montana BS / 1999 / Geography, University of Montana		
Active registration number / state / expiration date	Certified GIS Professional No. 91572 / N/A/ exp. 06/2026		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR #4d**; Flood Insurance Rate Maps (FIRMS) and Flood Insurance Study		

Aron Langley is a GIS Project Manager with 20 years of experience working on FEMA National Flood Insurance Program-related data development, regulatory, and non-regulatory Risk Mapping, Assessment and Planning (Risk MAP) projects. Aron has significant experience with Preliminary Production FEMA Flood Insurance Studies (FIS) and has served as a Geospatial Information Technology (GIT) Lead on dozens of Digital Flood Insurance Rate Map (DFIRM) studies within multiple FEMA regions, including for Production and Technical Services (PTS) and Cooperating Technical Partner projects throughout the country. These include those in Zone 1, Colorado, Montana, Alabama and North Dakota. Aron's GIS Lead experiences have encompassed both riverine and coastal projects. Throughout his career in GIT, Aron has become an expert in geospatial analytics with expertise in LiDAR processing, terrain modeling, 2D and 3D terrain development, raster analysis, ModelBuilder tool development, impact analysis, riverine and coastal flood mapping, future scenario modeling, the development of online mapping applications, story maps, project websites, structure-based hazard risk assessments, socio-vulnerability analysis, and quality assurance/quality control processes.

✓ Meets MPR 4d; Has over 5 years experience providng Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
10/21 - On Going	**Regions 2, 3 and 5; Zone 1 PTS Standard Operations, Multiple Locations.** *FEMA.* **Project Manager and SME.** Manages several Zone 1 projects in various phases of the project life cycle, including multiple Region 1 projects. Acts as SME in multiple regions, supporting task managers and project managers with data development, regulatory products, complete outreach and coordination, and post-preliminary production.
01/19 - On Going	**Logan County City of Napoleon Flood Risk Project and the Upper James (Dickey, Stutsman, and LaMoure Counties) Project, Multiple Locations.** *North Dakota State Water Commission.* **Project Manager.** Provides data development, regulatory products, complete outreach and coordination, and post-preliminary production for multiple North Dakota counties. This includes product development for Pierce, Logan, Golden Valley, Dickey, Stutsman and LaMoure counties.
09/19 - On Going	**Reaches Phase I, II, III and IV, Statewide, CO.** *Mile High Flood District (MHFD).* **Project Manager.** Conducted extensive research into the entirety of the MHFD's effective FEMA mapping to identify and map all effective model reaches throughout the district. The work was completed in four phases. The first was to develop a spatial database schema for data and effective model info storage and pilot the project in a single county; next was to perform the work on the remaining six counties; then to perform ongoing support and maintenance of the effective mapping changes that will occur over time (i.e., Physical Map Revisions and Letters of Map Revision); and finally to identify and map hydrology model information for all reaches.
08/09 - 01/19	**Regions 8, 9 and 10, Risk MAP Standard Operations and Regional Production, , Multiple Locations.** *FEMA.* **GIS Technical Specialist.** Responsible for creation of FIRMs and FIS reports for FEMA Risk MAP from data development. Pertinent work included coastal engineering, GIS mapping, data development and DFIRM production services for the Region 9 Open Pacific Coast Study for multiple counties along the coast of California, countywide riverine data development, and DFIRM production for dozens of counties throughout Regions 8, 9 and 10. Included data development and DFIRM production per all FEMA Guidelines and Standards in place at the time

01/19 - 02/24	**Alabama Risk MAP Program Engineering Services, Alabama.** *Alabama Department of Economic & Community Affair.* **GIT Specialist.** Provided technical GIS mapping and DFIRM project support for ongoing floodplain mapping project. Michael Baker provided professional engineering services to develop Digital Flood Insurance Rate Maps (DFIRMs) and Flood Insurance Study (FIS) reports in Alabama. Tasks included evaluating existing effective maps and supporting data; identifying and resolving data inadequacies; developing base maps and terrain data; performing hydrologic and hydraulic modeling; delineating floodplain boundaries and the regulatory floodway using updated topographic data; developing flood risk products; preparing and distributing preliminary DFIRM and FIS reports; finalizing the DFIRM in accordance with FEMA guidelines and specifications; conducting community engagement; developing outreach materials; and providing quality control.
02/15 - 01/16	**Bozeman Creek Floodplain Study, Bozeman, Montana.** *Montana Department of Natural Resources and Conservation.* **GIT Specialist.** Provided GIS technical expertise for the remapping of Bazeman Creek. Included topo development, CSFL inventory, impacted structures inventory, and other mapping tasks. As a part of a mapping activity statement (MAS) contract, Michael Baker completed detailed hydraulic and floodplain mapping analyses of Bozeman Creek, its tributaries, and multiple flow splits in the City of Bozeman and Gallatin County. The purpose was to document the hydraulic and floodplain mapping analyses and provide results for incorporation into the Gallatin County, Montana, and Incorporated Areas Digital Flood Insurance Rate Map (DFIRM) and Flood Insurance Study (FIS).
02/15 - 05/18	**Channel Migration Zone Criteria Development, Pitkin County, Colorado.** *FEMA.* **GIT Specialist.** Responsible for GIS support/lead on DFIRM Projects. Michael Baker developed locally based criteria for delineating channel migration zones in Colorado. Michael Baker's services included field investigations, floodplain mapping, flood insurance studies, digital flood insurance rate map production, and guidance preparation.
08/13 - 02/17	**Coastal Storm-Surge Modeling and Analysis, Chatham County, Georgia to Cape Canaveral, Florida.** *FEMA.* **GIT Specialist.** Responsible for GIS management and technical support for new coastal floodplain GIS modeling and mapping working with new coastal engineering models and developing the new effective mapping. Includes new coastal floodplain mapping of multiple shoreline velocity and run-up situations, inland embayments, and stillwater zones. Also includes the development of new spec floodplain mapping and DFIRM data with tie-ins to countywide effective mapping. Works through Base Map Acquisition, Floodplain Mapping, and DFIRM Database Development. Michael Baker performed storm-surge modeling for the entire coast of Georgia and northeastern Florida in support of the Risk Mapping, Assessment, and Planning (Risk MAP) program. Michael Baker's services included tropical storm frequency analysis and model development, steering committee participation, development of digital flood insurance rate maps, and preparation of multiple white papers.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Larina Ascunce**	*Years of relevant experience with this employer*	19
Title	GIT Specialist	*Years of relevant experience with other employer(s)*	1
Degree(s) / Years / Specialization	BA / 2005 / Environmental and Water Resources, University of Colorado at Boulder		
Active registration number / state / expiration date	N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR 4e;** FEMA Risk Map Products		

Mrs. Ascunce has worked on a variety of GIS projects during her time with Michael Baker. Primarily, she has been a GIS Lead responsible for geodatabase and Digital Flood Insurance Rate Map (DFIRM) production using the latest flood data for communities and countywide studies. She has learned and utilized the necessary technical programs and tools for performing the tasks involved with this production process. In addition to the technical GIS work, she attends meetings, participates in discussions, assists with developing project goals and objectives, recommends solutions, and performs related work items as necessary. Designing and producing high-end maps, developing databases that meet a standard, performing spatial queries and geo-processing tasks, along with GIS analyses is a part of her day-to-day routine. She also trains Michael Baker employees and mapping partners in these practices.

✓ Meets MPR 4e; 5 years of experience delivering FEMA Risk Map Products

Experience dates (mm/yy-mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/15 - 04/25	**Community Engagement and Risk Communications (CERC), Nationwide, United States.** *FEMA.* **GIT Specialist.** Services include hazard mitigation planning, community outreach, preparation and dissemination of outreach materials, and development and delivery of training for stakeholders. Michael Baker served as the managing partner of Resilience Action Partners, the Federal Emergency Management Agency (FEMA) national Community Engagement and Risk Communication team for the Risk Mapping, Assessment, and Planning (Risk MAP) program. Resilience Action Partners combined technical and communications expertise to change how FEMA engages with its customers, drive action, and build a strong foundation for a mitigation movement. Our team partnered with FEMA to build an engagement and planning program that has driven behavior changes and catalyzed communities to take ownership in risk awareness and reduction. Michael Baker's services included hazard mitigation planning, community outreach, preparation and dissemination of outreach materials, and development and delivery of training for stakeholders
11/14 - 02/25	**Weir Gulch Flood Hazard Area Delineation and Master Drainageway Plan, Denver, Colorado.** *Mile High Flood District (Urban Drainage & Flood Control District).* **GIT Specialist.** Responsible for creating work maps presented to project managers and the community. Michael Baker prepared a Major Drainageway Plan (MDP) and Flood Hazard Area Delineation (FHAD) for the Weir Gulch watershed to provide guidance to for future planning and construction projects. The primary goal was to develop conceptual plans to reduce flooding in the Weir Gulch watershed by maximizing and restoring open channel conveyance. The final deliverable was a drainageway master plan that outlines a program for increasing open-channel conveyance and reducing flood risk throughout this highly urbanized area of Denver.
10/20 - 09/25	**MT DNRC Powell-Teton.** *Montana Department of Natural Resources and Conservation.* **GIT Specialist.** Responsible for digitizing the effective floodplains and water line features for Powell and Teton counties. Also responsible for completing the base map tasks for these studies. This involves finding and using new base map data or updating the effective base map data to the FEMA specifications and standards. In addition, responsible for producing the Hydrologic FEMA spec spatial files, creating figures for the report, and submitting the deliverables via FEMA's Mapping Information Platform (MIP) for Teton County.

10/10 - 03/18	**Risk MAP Coastal Flood Hazard Survey, California.** *FEMA.* **GIT Associate.** Responsible for providing technical and administrative services to develop Digital Flood Insurance Rate Maps (DFIRMs) in the FEMA Digital Countywide and Community-based format for FEMA. This Flood Map Project includes multiple counties and communities. Michael Baker supported the Federal Emergency Management Agency (FEMA) in conducting a coastal flood hazard study for the coastline of California. Results from this Open Pacific Coast Study will produce flood and wave data for the National Flood Insurance Program Flood Insurance Study report and regulatory Flood Insurance Rate Map panels.
05/12 - 04/17	**Risk Map Cooperating Technical Partner (CTP) Support, Loudoun County, Virginia.** *Loudoun County, Virginia.* **GIT Associate**. Responsible for helping to integrate available GIS information with newly created flood hazard data to create countywide flood hazard data and publish updated flood hazard maps. Acting as GIS lead for this FEMA project and have been coordinating with and managing other GIS Associates to get the project completed. Michael Baker is providing production support the county's Federal Emergency Management Agency (FEMA) Cooperating Technical Partner (CTP) risk mapping, assessment, and planning (Risk MAP) project. The county is a participating community in the National Flood Insurance Program (NFIP) and, therefore, federally-backed insurance is available to homeowners, renters, and business owners as a protection against flood losses. As flood hazard conditions change over time due to natural and man-made changes, the county needed an update to its flood insurance rate maps (FIRM). Michael Baker will provide project management; perform outreach activities, including meeting facilitation and preparation of materials; perform field studies; develop topographic data; and acquire a base map. Michael Baker will develop hydrologic data and perform hydraulic analyses for all restudied streams in the county. Michael Baker will then perform floodplain mapping, develop the digital FIRM (DFIRM) database; produce and distribute preliminary map products; provide post-preliminary map production; develop non-regulatory products; and prepare the flood risk report, map, and database.
09/11 - 11/15	**Risk MAP Regional Technical Support, Arkansas, Louisiana, Oklahoma, New Mexico, and, Texas.** *U.S. Federal Emergency Management Agency (FEMA), Region VI.* **GIT Associate**. Responsible for providing technical and administrative services to develop Digital Flood Insurance Rate Maps (DFIRMs) in the FEMA Digital Countywide and Community-based format for FEMA. This Flood Map Project includes multiple counties and communities. Michael Baker is providing production and technical services support to the agency's headquarters and Regions IV, VI, VIII, and IX under the Risk Mapping, Assessment, and Planning Program. Michael Baker's services include technical support for Texas and Louisiana coastal studies, appeal resolution for a preliminary map revision, preliminary digital flood insurance rate map and flood insurance study printing and distribution for 16 Texas coastal studies, and post-preliminary processing for 47 flood insurance studies.
09/07 -09/14	**Region VI Task Order Year 4, Various Counties and Parishes in, Arkansas, Louisiana, New Mexico, Texas.** *U.S. Federal Emergency Management Agency (FEMA), Region VI.* **GIT Associate.** Responsible for helping to integrate available GIS information with newly created flood hazard data to create countywide flood hazard data and publish updated flood hazard maps for Region VI counties. Michael Baker, as National Services Provider to FEMA, provided supplemental services in Region VI as part of the implementation of the Flood Map Modernization Program (FMMP). This scope was awarded based on the "bonafide need" of FY04, FY05, FY06 and FY07 flood studies presently being performed. The task order schedule was dependent upon timely delivery of these flood study products. Michael Baker provided a flood insurance study for Kendall County, Texas; pre-scoping reports; technical assistance/monitoring, program management support for levee systems, and coastal storm surge analyses for 17 Texas counties; post preliminary processing; preliminary Draft Flood Insurance Rate Maps / Flood Insurance Studies (DFIRM/FIS) distribution; and appeals/protests resolution.
09/18 - 08/24	**Nebraska Floodplain Mapping, Boone and Custer Counties, Nebraska.** *Nebraska Department of Natural Resources (NeDNR).* **GIT Specialist.** Responsible for developing the base maps for Boone County and Custer County, NE. Also responsible for developing the spatial deliverables and metadata for the hydrology task. Michael Baker is providing engineering services under our CTP contract with the state of Nebraska, generating countywide floodplain data for Boone and Custer Counties. Base-Level Engineering (BLE) data is being developed for approximately 3,000 miles across both counties, using a combination of 1D methodology developed by the client (2,770 miles) and 2D rain-on-grid methodology (220 miles). The 2D BLE modeling includes the sand hills area of Custer County within the boundary of the Ogallala Reservoir, features and topography that are consistent with northwest Texas. This area has extremely high infiltration rates and a dense stream network between the sand hills, making it a very complex area for study. Michael Baker also worked to develop a custom hydrologic approach to produce better results.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Jason Isherwood, GISP**	*Years of relevant experience with this employer*	14
Title	Project Manager	*Years of relevant experience with other employer(s)*	18
Degree(s) / Years / Specialization	MS / 2013 / Geography, GIS and Remote Sensing, University of Denver BS / 2007 / Forest Management and Spatial Information Management Systems, Colorado State University		
Active registration number / state / expiration date	FEMA Hazus Practitioner / Colorado / N/A Certified GIS Professional / Colorado / exp. 04/2026		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR 4f, g;** Using FEMA's Mapping Information Platform and Citrix Server, Updating CNMS, Community Outreach		

A proven leader with 16 years of professional GIS experience, Jason will leverage his knowledge of technology to conceptualize, develop, and implement GIS solutions to solve real-world problems for DOTD. Jason is a public safety GIS market maker and regional subject matter expert for GIS solutions. In this role, he uses technology to conceptualize, develop, and implement public safety GIS solutions to solve real-world problems for our clients. As a proven leader, he is responsible for providing technical, supervisory, and project management leadership as well as acting as an expert GIS resource for our clients. Additional roles he has held include oversight of GIS digital production, creation of enterprise ArcSDE GIS tools and workflows, public and internal trainings, coordination with Federal and State agencies, and communication with various local and state governments and organizations.

- ✓ Meets MPR 4f, g; Over 5 years experience of Using FEMAs Mapping platforms and updating CNMS, and performing outreach and public invovlement
- ✓ Jason has spent the last 4 years, before rejoining Michael Baker, as an ESRI Solutions Engineer and Manager in their Global Water Practice. Jason has worked with clients across the country to leverage location intelligence and empowering them to make data-driven decisions.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/15 - 04/25	**Community Engagement and Risk Communications (CERC), Nationwide, United States.** *FEMA.* **GIT Manager.** Responsible for serving as the national GIS and data analytics architect for Michael Baker's ongoing support of FEMA for the Community Risk Communications and Outreach contract. Michael Baker served as the managing partner of Resilience Action Partners, the Federal Emergency Management Agency (FEMA) national Community Engagement and Risk Communication team for the Risk Mapping, Assessment, and Planning (Risk MAP) program. Resilience Action Partners combined technical and communications expertise to change how FEMA engages with its customers, drive action, and build a strong foundation for a mitigation movement. Our team partnered with FEMA to build an engagement and planning program that has driven behavior changes and catalyzed communities to take ownership in risk awareness and reduction. Michael Baker's services included hazard mitigation planning, community outreach, preparation and dissemination of outreach materials, and development and delivery of training for stakeholders. **Coordinated the utilization and updating of FEMA's CNMS system for flood study validity and data gap determination.**
09/21 - On Going	**FEMA Professional and Technical Services (PTS), Puerto Rico and New Hampshire.** *FEMA.* **Senior Advisor.** Supporting technology, innovation, and program management activities across the portfolio. Michael Baker provided professional and technical services for the 2023 Annual Report. The Technical Mapping Advisory Council (TMAC) was asked to look at possibilities for redefining the special flood hazard area (SFHA), how fill placed in the SFHA should be handled for flood plain management and mandatory insurance purchase purposes, recommendations on use of 2D modeling and methods for sharing complex visual and data information with the public. ARC's support of TMAC activities for this report included identifying and scheduling 35 focus groups of three to six members each to present the TMAC's initial thinking on these issues and gather insights and input from focus group participants to help shape the TMAC's ultimate recommendations. Audiences for focus groups included state floodplain managers, local and community officials, state officials, lenders, and developers. Each focus group was recorded and transcribed as well as summarized in live notes taken by the ARC team. Reports of findings from the focus groups were incorporated into the final 2023 Report to Congress.

09/13 - 12/19	**Coastal Hydrodynamics Study, Florida**. *FEMA.* **GIT Specialist.** Assisted with LiDAR and terrain processing to support coastal engineering processes. Michael Baker and the BakerAECOM, LLC supported FEMA Region IV on several activities through this fiscal year 13 task order as part of the Risk MAP project. Tasks included discovery activities for Palm Beach, Broward, Miami-Dade, and Monroe counties in Florida; community engagement, outreach, and mitigation technical support for Palm Beach, Broward, Miami-Dade, and Monroe counties in Florida; engineering and production (i.e., storm surge analysis, coastal hazard analysis, work maps) for Palm Beach, Broward, Miami-Dade, and Monroe counties in Florida; development and distribution of non-regulatory products for Palm Beach, Broward, Miami-Dade, and Monroe counties in Florida; and project monitoring for a subconsultant's work in Sarasota, DeSoto, Charlotte, Lee, Glades, Hendry, and Collier counties along the west coast of Florida. **Used DFIRM Tools for metadata validation and panel finishing-available on FEMA's Citrix Platform.**
12/10 - 12/19	**Open Pacific Coast Study, Statewide, California.** *FEMA.* **GIT Manager.** Responsible for GIS mapping, GIS services/development, analysis and data collection as well as program and project/study management. GIS study lead for DFIRM work including overseeing all aspects of the DFIRM workflow. Michael Baker conducted a coastal flood hazard study along the coastline of California to produce flood and wave data for the National Flood Insurance Program flood insurance study report and regulatory flood insurance rate map panels. Michael Baker's services included hydrodynamic modeling, topographic mapping, community outreach, and flood inundation mapping. **Used DFIRM Tools on FEMA's Citrix Platform** for panel finishing and metadata validation.
10/10 - 03/18	**Risk MAP Coastal Flood Hazard Survey, California.** *FEMA.* **GIT Analyst.** Responsible for Base map/topographic data development, GIS mapping, and GIS services/development, analysis, and data collection. Michael Baker supported the Federal Emergency Management Agency (FEMA) in conducting a coastal flood hazard study for the coastline of California. Results from this Open Pacific Coast Study will produce flood and wave data for the National Flood Insurance Program Flood Insurance Study report and regulatory Flood Insurance Rate Map panels.
12/13 - 12/17	**Flood Recovery Planning and Implementation, Boulder County, Colorado.** *Boulder County, Colorado.* **GIT Analyst.** Responsible for creating scoping maps for meetings. Michael Baker provided onsite support, planning, and flood recovery services in response to the September 2013 floods, supporting the county's Floodplain Permitting and Comprehensive Creek Planning programs. Through onsite floodplain permitting work, Michael Baker reviewed and provided assessments of proposed flood recovery projects throughout the county and participated in discussions on policy implementation and development for the on-the-ground conditions created in the aftermath of the floods. Michael Baker also supported the Comprehensive Creek Planning initiative, including facilitating kickoff meetings attended by more than 650 residents; evaluating more than 3,000 reported damage points; and performing field assessments on over 90 miles of creeks, resulting in the identification of more than 200 high hazard sites throughout the county. To facilitate expedited recovery efforts to prepare for spring runoff, Michael Baker developed implementation plans for each creek within the county, identifying on a reach-by-reach basis the projects that will be implemented to reduce the risk of flooding or damage to homes and infrastructure due to spring runoff and summer rainfall seasons.
08/11 - 01/18	**Boulder Creek Flood Map Update, Boulder, Colorado.** *FEMA.* **GIT Manager.** Responsible for GIS mapping, analysis, data collection, and program and project/study management. GIS study lead for DFIRM work, including overseeing all aspects of the Digital Flood Insurance Rate Map (DFIRM) workflow. Michael Baker provided floodplain mapping services for seven miles of Boulder Creek through the city and an additional seven miles of split flow reaches through downtown streets and agricultural ditches. Michael Baker's services included technical review, production of base map data, geographic information system data processing, flood insurance study updates, digital flood insurance rate map updates, due process efforts, stakeholder coordination, and public outreach support. **Used DFIRM Tools available through on FEMA's Citrix Platform for DFIRM panel finishing and metadata validation.**

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Ryan Carroll**	*Years of relevant experience with this employer*	21
Title	Project Manager	*Years of relevant experience with other employer(s)*	4
Degree(s) / Years / Specialization	BS / 2000 / Environmental Science, Slippery Rock University		
Active registration number / state / expiration date	N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR# 4i;** Reviewing Flood Ordinances Related to Land Use		

Mr. Carroll is a Project Manager with 25 years of NFIP-related experience. Ryan has supported watershed-based flood hazard mapping projects across the nation as the Levee Lead, and has a strong background in coastal analyses and the treatment of coastal structures such as seawalls, revetments, and bulkheads in flood hazard mapping projects. Ryan has helped communities prioritize flood studies in the Discovery process, and has served as the Outreach Lead for BLE studies. He has led Risk MAP meetings during the Flood Risk Review and Post Preliminary Processing phases and has trained communities in hazards mitigation planning workshops on the selection of plan actions for implementation. Ryan also has extensive experience working with communities on local floodplain management, including ordinance review, and updates, development review, and permitting, hazard mitigation planning, and Community Rating System compliance.

- ✓ Meets MPR #4i; has over 5 years of experience reviewing flood ordinances related to land use
- ✓ Association of State Floodplain Managers (ASFPM)

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
09/21- On Going	**Longmont Ordinance Update.** *City of Longmont.* **Project Manager.** Managing this ongoing project with the City of Longmont to review and update their flood damage prevention ordinance as a part of their continued participation in the National Flood Insurance Program. In this project we aim to coordinate closely with the City's multiple department interests to develop a coherent, concise, and progressive code governing development in the city's flood hazard areas. The updates will include incorporation of higher development standards that further protect the city's residents, businesses, and visitors from flooding, and continue to discounts on flood insurance policies throughout the city as a function of the city's participation in the NFIP's Community Rating System program.
11/22 - 04/24	**Region 2, Zone 1 PTS Production, Puerto Rico Island-Wide Discovery/Scoping of Priorities, PR.** *FEMA.* **Discovery Subject Matter Expert/Support Staff.** FEMA Region 2 kicked off a project in Puerto Rico to assess mapping needs and establish new study needs and priorities for the entirety of the island. Served as a resource in the research and presentation of community data to assist with study prioritization based on factors such as new development, levees, letters of map change, NFIP claims and storm damages, and other factors. Analyzed and compiled community comments and feedback on flooding problems, mitigation opportunities and new study needs to produce a prioritized set of study reaches to include in an island-wide Risk MAP project scope.
03/20 - On Going	**Milk River Watershed Project - Blaine, Hill, Phillips, and Valley Counties, MT.** *Montana Department of Natural Resources.* **Levee Lead.** This project covers nearly 24,000 square miles and includes 2D base level and enhanced modeling and flood hazard mapping for all communities and counties within the watershed. Worked with the client and communities to build Local Levee Partnership Teams, review levee documentation and provide recommendations and technical support for levee improvements, 65.10 certification documentation, and general FEMA standards, and guidance. Participated in regular community progress meetings and produced Levee Analysis and Mapping Procedure plans and other related documents.
08/20 - 09/23	**Prowers County Flood Risk Project, Prowers County, CO.** *Colorado Conservation Board.* **Levee Lead**. The Prowers County Flood Risk Project includes enhanced modeling and flood hazard mapping for three communities in the Arkansas River corridor where levees were constructed to reduce flood risk to the towns. Works closely with each rural community to tailor levee support and outreach to meet their needs and capabilities. Also performs levee inspections for each community and documented levee condition, and created levee checklists so communities can work toward meeting 65.10 certification requirements. Oversaw the production of Interior Drainage Reports and Emergency Preparedness Plans for each of the three levees and led coordination with the U.S. Army Corps of Engineers-Albuquerque District on their levee safety program inspections, risk assessments, and accreditation recommendations.

12/13 - 12/17	**Flood Recovery Planning and Implementation, Boulder County, Colorado.** *Boulder County, Colorado.* **Technical Manager.** Provided technical support related to County land use, development, and NFIP requirements for development, emergency stabilization, and temporary access in and near in the floodplain. Consulted County on proper hazard mitigation techniques for flood, landslide, and erosion-damaged homes that wish to rebuild during the recovery period. Perform site visits and damage assessments to assist the County with development of damage estimates. **Consulted with the county on updates to their land use code** for the purposes of administering disaster management and performing disaster response and recovery efforts. Michael Baker provided onsite support, planning, and flood recovery services in response to the September 2013 floods, supporting the county's Floodplain Permitting and Comprehensive Creek Planning programs. Through onsite floodplain permitting work, Michael Baker reviewed and provided assessments of proposed flood recovery projects throughout the county and participated in discussions on policy implementation and development for the on-the-ground conditions created in the aftermath of the floods. Michael Baker also supported the Comprehensive Creek Planning initiative, including facilitating kickoff meetings attended by more than 650 residents; evaluating more than 3,000 reported damage points; and performing field assessments on over 90 miles of creeks, resulting in the identification of more than 200 high hazard sites throughout the county. To facilitate expedited recovery efforts to prepare for spring runoff, Michael Baker developed implementation plans for each creek within the county, identifying on a reach-by-reach basis the projects that will be implemented to reduce the risk of flooding or damage to homes and infrastructure due to spring runoff and summer rainfall seasons.
04/15 -04/16	**Floodplain Development Permit Reviews, Lyons, Colorado.** *JLB Engineering Consultants.* **Project Manager.** Coordinated with county departments during review of development proposals, reviewed and issued Floodplain Development Permits, wrote Land Use Code updates and provided support through the Code Amendment process with County Planning Commission and the Board of Commissioners. Also, performed public outreach, reviewed new flood hazard studies and mapping impacting the county, provided technical expertise and on-site support to county land use, parks and open space, public health, and transportation departments. As a subconsultant, Michael Baker provided engineering and planning support services through review of floodplain development permits. Permit applications were reviewed for compliance with the town's Municipal Code as well as State of Colorado Rules and Regulations for Floodplains and FEMA/NFIP regulations contained in 44 CFR. Review results were summarized in report form and recommendations were made to the client and the town for approval or denial of the permit application or for additional coordination with the applicant.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Daniel Horner, CFM**	*Years of relevant experience with this employer*	8
Title	Director of Innovations - EMR	*Years of relevant experience with other employer(s)*	8
Degree(s) / Years / Specialization	BA/ 2006 / Environmental Geography, Millersville University		
Active registration number / state / expiration date	CFM No. US-08-03585 / Maryland / exp. 07/31/2026		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR# 4j;** Website Development		

Mr. Horner works as a director for Michael Baker's emergency management and response and has 17 years of federal project and program management experience. He has served as an IT development manager, quality manager, program manager, capture lead and capture manager, proposal manager, and in operations management.

✓ Meeting MPR 4j; has over 5 years of experience in website development

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
08/09 - 09/14	**Task Order Year 4, Various Counties and Parishes in, Arkansas, Louisiana, New Mexico, Texas. U.S.** *Federal Emergency Management Agency (FEMA), Region VI.* **Technician.** Responsible for the inventory of entire counties and digitization of all archived flood maps and models. Facilitated software upgrade enabling high-quality, in-house scanning of archived data stored in microfilm format. **Designed and implemented a format for storing digitized archival data onto a drive for streamlined data retrieval and future MIP connectivity.** Trained new multi-stream EDR technicians. Michael Baker, as National Services Provider to FEMA, provided supplemental services in Region VI as part of the implementation of the Flood Map Modernization Program (FMMP). This scope was awarded based on the "bonafide need" of FY04, FY05, FY06 and FY07 flood studies presently being performed. The task order schedule was dependent upon timely delivery of these flood study products. Michael Baker provided a flood insurance study for Kendall County, Texas; pre-scoping reports; technical assistance/monitoring, program management support for levee systems, and coastal storm surge analyses for 17 Texas counties; post preliminary processing; preliminary Draft Flood Insurance Rate Maps / Flood Insurance Studies (DFIRM/FIS) distribution; and appeals/protests resolution.
06/23 - On Going	**FEMA Professional and Technical Services (PTS), Puerto Rico and New Hampshire.** *FEMA.* **Data Manager.** Responsible for acting as the data management lead providing development and maintenance of the data management plan. **Supported the design and development of the Amazon Web Services (AWS) ARCloud solution** and operate as the system owner and administrator. Developed and implemented Microsoft Sharepoint guidance and managed a reorganization of the repository and migrated large datasets to the more cost-effective and highly usable AWS solution. Also operated as our AI/ML technical lead and developed a system to capture and report on AI/ML usage on the project and collaborate with other FEMA providers to develop AI/ML guidance for use on PTS and across the Risk MAP program. Michael Baker provided professional and technical services for the 2023 Annual Report. The Technical Mapping Advisory Council (TMAC) was asked to look at possibilities for redefining the special flood hazard area (SFHA), how fill placed in the SFHA should be handled for flood plain management and mandatory insurance purchase purposes, recommendations on use of 2D modeling and methods for sharing complex visual and data information with the public. ARC's support of TMAC activities for this report included identifying and scheduling 35 focus groups of three to six members each to present the TMAC's initial thinking on these issues and gather insights and input from focus group participants to help shape the TMAC's ultimate recommendations. Audiences for focus groups included state floodplain managers, local and community officials, state officials, lenders, and developers. Each focus group was recorded and transcribed as well as summarized in live notes taken by the ARC team. Reports of findings from the focus groups were incorporated into the final 2023 Report to Congress.

10/07 - 12/10	**Flood Map Modernization (Map Mod) - Year 5, Nationwide.** *FEMA.* **Technical Lead.** Responsible for the inventory of entire counties and digitization of all archived flood maps and models. Facilitated software upgrade enabling high-quality, in-house scanning of archived data stored in microfilm format. Traveled to off-site scanning company to establish new scanning procedure generating 100% output and consistent archiving of scanned data. Trained new multi-stream EDR technicians. Worked alongside MIP developers to formulate a Search and Retrieve environment for public users to full automate the External Data Request process in the future. Conducted tests of various functions through the continued development of the MIP. Starting in December of 2008, C2D2 coordinator, responsible for assigning QR7 studies reviews to C2D2 staff, organizing staff training, and monitoring the quality of reviews returned to the Mapping Partners. Mr. Horner is the main Point of Contact for the National Service Provider to all the Mapping Partners for QR7 reviews as well as to the Map Service Center for submitting the final study materials and processing materials with errors. Mr. Horner is also the main P.O.C to have all Notice to Users letters processed by the Mapping Partners and delivered to the MSC. Michael Baker provided engineering services and technical support for the Flood Insurance Rate Map Modernization Program. The major purposes of this program were to establish and maintain a premier data collection and delivery system; achieve effective program management; build and maintain mutually beneficial partnerships; and expand and better inform the user community.
06/23 - 03/24	**Fiscal Year 2023 FEMA Standard Operations Option Year 1, FEMA Zone 1 (Regions 1, 2, 3, and 5).***FEMA.* **Subject Matter Expert.** Responsible for providing expertise and leadership to data management and cloud architecture development teams. Drafted file sharing and file storing protocols and training for all ARC staff, and established PII and data management and sharing rules for delivery to federal client and all internal leadership. Michael Baker provides architecture and engineering services through a production and technical services (PTS) contract. Advancing Resilience in Communities (ARC) Joint Venture (JV) supports FEMA's Risk Mapping, Assessment and Planning (Risk MAP) program within Zone 1. Technical and engineering services cover mission support, coastal, levee, quality assurance, due process, and adoption, needs management, other technical support, innovations, non-regulatory products, building science, data management, community engagement and risk communication, mitigation planning, risk assessment, dam safety, policy analysis, program planning, and program support services. Additionally, ARC provides technical and engineering services related to disaster support activities that vary based on the disaster.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Catrina Covino, CFM**	*Years of relevant experience with this employer*	1
Title	Technical Specialist- FEMA	*Years of relevant experience with other employer(s)*	16
Degree(s) / Years / Specialization	M.U.P.D.D. / 2001 / Urban Planning, Design, and Development, Cleveland State University B.A. / 1997 / History, College of Wooster		
Active registration number / state / expiration date	Certified Floodplain Manager No. US-06-01871 / Ohio / exp. 07/31/2026		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	**MPR#4h & k;** Community Assistant Visit (CAV) and Community Assistant Contact (CAC)		

As a city and county planner, Ms. Covino has issued permits, completed floodplain reviews, served as a staff member to the Board of Zoning Appeals, issued zoning violations, and represented the county in court. She has experience at FEMA as a hazard mitigation planner and in floodplain management and insurance. At FEMA, she reviewed state, local, and tribal plans, enrolled communities in the NFIP, conducted CAVs and CACs, handled violations with communities, and assisted the public and state and local communities in person, over email, and on the phone. She conducted trainings and presented at floodplain conferences. She also performed disaster work, including plan assistance and review, community meetings, map checking, and substantial damage assistance. She is familiar with mapping and LOMCs. At the bank, Ms. Covino served as a lead flood analyst, dealing with insurance policies and mandatory purchase. She assisted applicants through the flood portion of the loan process. At OST/AECOM/Amentum, she was a Program Manager/Regional Support Liaison. She assisted the Region 5 Regional Flood Insurance Liaison with webinars, conference presentations, outreach, direct policyholder assistance with underwriting, and general calls and email questions from communities, policyholders, and the public. She worked with insurance agents, realtors, and other professionals dealing with flood-related matters.

✓ Meets requirements for MPR 4h & 4k; has over 5 years of experience providing community outreach and public education services for NFIP and CTP projects, and providing CAV and CAC services

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
07/24 - On Going	**FEMA Community Engagement and Risk Communication Contract, FEMA Region 5: Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio.** *FEMA.* **Community Planner.** Responsible for scheduling, client coordination and communication, writing, editing, reviewing comments, and researching topics for a variety of projects. Michael Baker is the managing partner of the joint venture Resilience Action Partners, which holds the Community Engagement and Risk Communications contract for FEMA's Risk Management Directorate in support of the Risk Mapping, Mapping, Assessment, and Planning program. Michael Baker's services include hazard mitigation planning, **community outreach**, preparation and dissemination of **outreach materials**, program management, and **development and delivery of training for stakeholders**. Resilience Action Partners supports FEMA Region 5, which executes flood mapping and mitigation projects. The team also helped FEMA create the Region 5 Mitigation Assistance Resource Guides for each Region 5 state and for tribal nations.
07/24 - On Going	**FEMA Professional and Technical Services (PTS), Puerto Rico and New Hampshire.** *FEMA.* **Technical Specialist.** Responsible for reviewing data, draft policies, and other information as needed to provide input related to mapping as it intersects with other areas of mitigation such as **community outreach**, floodplain management, and flood insurance. Michael Baker provided professional and technical services for the 2023 Annual Report. The Technical Mapping Advisory Council (TMAC) was asked to look at possibilities for redefining the special flood hazard area (SFHA), how fill placed in the SFHA should be handled for flood plain management and mandatory insurance purchase purposes, recommendations on use of 2D modeling and methods for sharing complex visual and data information with the public. ARC's support of TMAC activities for this report included identifying and scheduling 35 focus groups of three to six members each to present the TMAC's initial thinking on these issues and **gather insights and input from focus group participants** to help shape the TMAC's ultimate recommendations. Audiences for focus groups included state floodplain managers, local and community officials, state officials, lenders, and developers. Each focus group was recorded and transcribed as well as summarized in live notes taken by the ARC team. Reports of findings from the focus groups were incorporated into the final 2023 Report to Congress.

05/18- 06/24	**Amentum/OST, Program Manager/Regional Support Liaison.** Federal contractor for the National Flood Insurance Program (previously Bureau and Statistical Agent). **Assist policy holders, agents, regional staff, realtors and other professionals with complicated underwriting questions** and other issues within the program. Cooperate with regional team members across the county. Provide great customer service to the regional office and the public. Represent the region for insurance purposes at public meetings. **Conduct outreach** to neighborhood groups, professional organizations and present at state flood conferences. Complete agent outreach post-disaster. Outreach to State Insurance commissioners, surveyor associations and local officials. **Respond to Ask the Expert questions, external affairs and Congressional requests as needed. Contribute to outreach strategy and planning, implement outreach for map meetings, spring flood campaign and post-disaster.** Assist with region-wide webinars. ***Develop relationships with professional organizations to further NFIP insurance mission.*** Use pivot system to search policy information and reports. Knowledgeable in Risk Rating 2.0, serve as co-presenter and moderator for Risk Rating outreach. Use PART/ pivot, SharePoint and Salesforce for daily job duties.
05/09 - 11/14	**DHS-FEMA. Natural Hazards Program Specialist.** ***Serve as National Flood Insurance Program contact for the state of Michigan*** with nearly 1000 participating communities. **Promote community participation in the NFIP**. Work with State coordinator and district staff for effective program management. Develop communication channels, techniques and strategies for collecting feedback and disseminating information to the community. Evaluate community ordinances and enforce floodplain management regulations. **Oversee CAP-SSSE grant** for MI, enroll communities in the NFIP, work with state and local communities on adoption of flood maps, resolving violations and promoting proper floodplain management. Coordinate with HQ, Mitigation Planning and Risk Analysis staff through SharePoint for RiskMAP. Reviewed and suggested edits to content. Shared resources with staff as needed. Gather, review and analyze data from States, Regional Watch Center, news reports and other internal sources on community compliance post-event. Prepare data post-event such as insurance, violations, active cases in the affected communities. Emergency Management role in the Regional Response Coordination Center, Future Planning Lead. Respond to disasters and other emergencies as needed. **Attend and present at state floodplain conferences, workshops, open houses, public meetings and various training.** Work with local floodplain managers to better understand 44 CFR requirements. **Provide training and technical support to NFIP communities** and states for implementation of floodplain management programs and regulations. **Communicate program and policy changes to the public to achieve compliance with new regulations.** Work with other branches to resolve mapping issues, build and maintain collaborative working relationships with state and local government officials, and work with HQ to resolve program issues. Review and comment on guidance, documents, policies, etc. Plan, organize and conduct community assistance visits to monitor program participants and provide technical guidance. Resolve complex problems and situations and effectively deal with a variety of levels of management. Experience includes reviewing community records, resolving insurance issues, documenting non-compliance and providing guidance on necessary corrective actions, congressional inquiries, responding to agents and lenders, and working with HQ on public policy issues.

SECTION 16

RESUMES FOR SUPPORT PERSONNEL

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Kevin Doyle, PE**	*Years of relevant experience with this employer*	21
Title	Project Manager	*Years of relevant experience with other employer(s)*	7
Degree(s) / Years / Specialization	BS / 1996 / Agricultural Engineering, University of Wisconsin at Madison		
Active registration number / state / expiration date	Professional Engineer No. 36771 / Colorado / exp. 10/2025		
Year registered 2002 *Discipline*	Civil		
Contract role(s) / brief description of responsibilities	Support for Flood Insurance Rate Maps (FIRMS) and Flood Insurance Study		

Mr. Doyle is a professional engineer experienced in hydrology, hydraulics, and sedimentology. His project experience includes hydrologic studies, hydraulic studies, flood routing, flood control, floodplain studies, watershed master planning, bridge and culvert hydraulic design, scour analysis, sediment transport and shear stress analysis, design of countermeasures, and multi-stage channel restoration. He has significant FEMA experience including starting the Revisions (MT-2) group for the Michael Baker Lakewood office and managing all LOMRs and CLOMRs produced in FEMA Region VIII and X during a four-year period, serving as the technical and hydrologic/hydraulic modeling lead for FEMA Region VIII. Mr. Doyle also has an extensive background serving as the water resources lead on various transportation, utility and stream restoration projects, analyzing the impacts of the projects, communicating the impacts to local, regional, state, and federal agencies, and coordinating the permitting requirements.

- ✓ 100+ FEMA Flood Insurance Studies over the last several years
- ✓ We helped FEMA achieve and maintain a community adoption rate for new FIRMs of more than 96% (4,492 communities nationwide).
- ✓ Awarded the State of Montana's Engineering and Floodplain Mapping award for Excellence

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/14-12/25	**Boulder County Floodplain Mapping & Permitting On-Call.** *Boulder County, Colorado.* **Project Manager.** Michael Baker's Lakewood office has had an ongoing Floodplain Mapping and Permitting Support on-call contract with Boulder County since 2014. Over that time, we have provided high quality deliverables within established schedules, some as short as two days, on over 120 task orders that Boulder County's Floodplain Program has asked us to perform. Michael Baker performed Technical review of 230 miles of flood risk studies performed by the Colorado Hazard Mitigation Program (CHAMP), support at over 20 community outreach meetings with 100's of attendees presenting the results of the CHAMP study, support for early adoption of the CHAMP study results including participating and presenting at multiple Planning Commission and County Commissioner hearings, assisting the County in navigating the FEMA Flood Insurance Study process, review of the Fluvial Hazard Zone (FHZ) study performed by the State of Colorado (CWCB) for Boulder County, development of depth grids for the newly studied streams in the County, preliminary development data to support a flood notification system for the County, site specific analysis of flood risk and project impacts, and other support.
07/18-09/21	**CTP Flood Risk Mapping Activities.** *Colorado Water Conservation Board.* **Senior Engineer.** Michael Baker has been actively supporting CWCB in advancing their 5-year plan and implementing Risk Mapping, Assessment, and Planning (RiskMAP) projects since 2020. Within three contract years (FY19, FY20, and FY21), we've contracted $4,455,288 across 21 individual projects, of which 12 projects are in progress or completed, valued at $2,028,890. Our involvement entails full support across technical and outreach aspects of the various phases. For each project, Michael Baker provides technical expertise in hydrologic and hydraulic approaches, while also facilitating reporting, identifying hazard mitigation actions, assisting community officials in regulation, and supporting community outreach to the public. Thus far, Michael Baker has performed 2D modeling through various terrain and features including flat agricultural fields, undulating aeolian deposits, playas, arroyos, leveed areas, mountainous channels, ravines, steep slopes, and incised channels lined by cliffs. Each brings their own challenges and considerations, which has helped refined our modeling and mapping approaches

05/10-05/19	**CTP Floodplain Mapping Activities, Statewide, Montana.** *Montana Department of Natural Resources and Conservation.* **Project Manager.** Michael Baker has been a partner with MT DNRC since 2010 providing a wide variety of services over this time, including: Terrain processing, Base map Acquisition, Hydrologic Analysis, Hydraulic Analysis, Floodplain Mapping, DFIRM Production, Preliminary Production, Post-Preliminary Processing, Outreach, LOMR Preparation/Submittal, XDS Study Review, MIP Upload Support, Technical Training, Project Scoping, Cost Estimating, and Support to Other Contractors. Following are a sample of some of the task orders completed under this contract: Richland County Flood Study, Bozeman Creek & Tributaries Floodplain Study, Stillwater & Sweet Grass Countywide DFIRMs, Beaverhead River and Selway Slough Floodplain Study. The project was completed using HEC-SSP, HEC-HMS, and HEC-RAS software.
09/05 - 09/10	**FEMA REGION X RTO 0010, FEMA Region X (AK, ID, OR, WA).** *FEMA.* **Task Manager.** Michael Baker was responsible for providing technical and administrative services for the review and development of Digital Flood Insurance Rate Maps (DFIRM) and Flood Insurance Study Reports for the purposes of local floodplain management, regulation enforcement, and flood insurance determinations for communities in FEMA Region X. Services involve close coordination with local engineering firms for the review of hydrologic and hydraulic engineering data, and the use of this data to produce quality flood maps to be distributed to counties and communities throughout the Pacific Northwest and Alaska, as well as travel to these areas for the presentation of draft and final flood map products.
04/08 - 09/13	**FEMA Region VIII RTO 0019, FEMA Region VIII (CO, MT, ND, SD, UT, WY), Wyoming.** *FEMA.* **Task Manager.** Michael Baker, the National Service Provider (NSP) for the Federal Emergency Management Agency, (FEMA) provided the technical and administrative services for final production of Digital Flood Insurance Rate Maps (DFIRMs) and Flood Insurance Study (FIS) reports in the FEMA Digital Countywide Format. This work effort is for three counties in Wyoming: Big Horn County, Converse County, and Lincoln County.
10/04 - 09/14	**Regional Task Orders for the Flood Map Modernization Program, Nationwide.** *FEMA.* **Task Manager.** Michael Baker is performing various tasks leading to the development of digital flood insurance rate maps (DFIRM) and supporting the Map Modernization program in all 10 FEMA Regions. Support tasks include maintenance and management of the web-based Mapping Information Portal (MIP), outreach, cooperating technical partner coordination, coastal guideline and specification updates, technical assistance, project monitoring, support and attendance at conferences, training, post-preliminary support, physical map revisions, floodplain boundary standard documentation, levee research and database support, and other general technical support.
10/10 - 10/15	**Countywide Digital Flood Insurance Rate Map Conversion and Floodplain Remapping, Stillwater County, Montana.** *Montana Department of Natural Resources and Conservation.* **Senior Engineer.** Provided support during the data development and post preliminary processing phases of the DFIRM study. Michael Baker provided professional services as needed to complete a Digital Flood Insurance Rate Map (DFIRM) conversion. Michael Baker incorporated existing data studies (including a U.S. Army Corps of Engineers study for the entire reach of the Yellowstone River), converted paper floodplain mapping into a GIS-based digital format, incorporated any Letters of Map Change (LOMC), and re-delineated floodplain boundaries using better topographic data. Michael Baker performed field surveys, reviewed topographic data, and acquired base maps; reviewed hydrologic and hydraulic data for existing data studies; developed floodplain mapping; produced the DFIRM database; developed and distributed preliminary map products; and provided post-processing services, including facilitation of community meetings, as required.
07/10 - 12/16	**Delaney Creek Flood Map Revision, Hillsborough County, Florida. FEMA. Task Manager.** Michael Baker provided floodplain mapping services to assist the county in updating the digital flood insurance rate map for Delaney Creek. Michael Baker's services included base mapping, topographic data review, floodplain mapping, database development, distribution of preliminary map products, and post-preliminary processing, including community outreach.
08/11 - 01/18	**Boulder Creek Flood Map Update, Boulder, Colorado.** *FEMA.* **Task Manager.** Michael Baker provided floodplain mapping services for seven miles of Boulder Creek through the city and an additional seven miles of split flow reaches through downtown streets and agricultural ditches. Michael Baker's services included technical review, production of base map data, geographic information system data processing, flood insurance study updates, digital flood insurance rate map updates, due process efforts, stakeholder coordination, and public outreach support.
10/10 - 12/19	**Open Pacific Coast Study, Statewide, California.** *FEMA.* **Senior Engineer.** Provided engineering technical support to various studies and communities in Region IX. Investigated issues with Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS), developed options to resolve the issues, and implemented the solutions. Michael Baker conducted a coastal flood hazard study along the coastline of California to produce flood and wave data for the National Flood Insurance Program flood insurance study report and regulatory flood insurance rate map panels. Michael Baker's services included hydrodynamic modeling, topographic mapping, community outreach, and flood inundation mapping.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Christine Caggiano, AICP**	*Years of relevant experience with this employer*	15
Title	Technical Manager - Planning	*Years of relevant experience with other employer(s)*	2
Degree(s) / Years / Specialization	MCP / 2009 / City Planning, Community and Economic Development, George Washington University BA / 2006 / Geography and International Development, George Washington University		
Active registration number / state / expiration date	Professional Planner / New Jersey / exp. 05/2026 American Institute of Certified Planners / Pennsylvania / exp. 06/2025		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	Support for Community Assistant Visit (CAV) and Community Assistant Contact (CAC)		

Ms. Caggiano is Technical Manager specializing in community and hazard mitigation planning and community engagement. She has led hundreds of communities through the hazard mitigation planning process, and has worked with state and local emergency managers throughout the nation to build disaster-resistant communities through mitigation action. She currently serves as a strategist and Task Order Manager for Resilience Action Partners, FEMA's Community Engagement and Risk Communication provider. In these roles, Christine oversees all work on the contract that equips and motivates state, local, tribal, and territorial partners to understand and act to reduce their natural hazard risk. Ms. Caggiano brings over a decade of experience providing whole-community solutions that drive risk reduction through contextual, community-informed mitigation. Her ability to deliver easily accessible risk information empowers resilient decisions among stakeholders while fostering and strengthening connections and building trust between FEMA and communities. She is the Task Order Manager for community engagement services to FEMA's Building Resilient Infrastructure and Communities Direct Technical Assistance Program. This program builds community and tribal capabilities for risk reduction through long-term, targeted non-financial technical assistance.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/18 - 09/23	**Community Engagement and Risk Communication (CERC).** *FEMA.* **Project Manager. Senior Mitigation Strategist and Capacity Team Lead.** Responsible for providing strategy and tactical insight into hazard mitigation, mitigation action, and capability building. As the Motivating Pillar Lead, acted as one of the project managers on the CERC contract. Work includes overall scope, resourcing, and financial management for work aligned to the Motivating Pillar. Oversees training, capability-building, and strategic projects that advance the ability of state, local, tribal, and territorial governments to understand and act on their natural hazard risk. Ms. Caggiano also formerly acted as the National Mitigation Planning Program lead for Resilience Action Partners, working with FEMA Mitigation Planners both at Headquarters and in the regions to provide assistance in building state and local capacity to perform mitigation activities. In this role, she was the lead author of the State Mitigation Planning Key Topics Bulletins and the senior contract advisor to FEMA's 2022 State and Local Mitigation Planning Policy Guides and the 2017 Tribal Mitigation Plan Review Guide. Specific tasks include managing the hazard mitigation planning and action work of ten Mitigation Leads; developing and delivering training on mitigation planning and action; leading the development of guidance and tools related to planning, action, and resilience; and infusing mitigation and resilience principles throughout all community engagement activities.
03/23 - 04/24	**Hazard Mitigation Assistance Strategic Communications Outreach Support, Nationwide.** *FEMA.* **Facilitator.** Responsible for design and facilitation of an offsite strategy session for the Hazard Mitigation Assistance Outreach and Communications team. Michael Baker, as managing partner of the Resilience Action Partners joint venture, provided strategic communication and outreach support to the Hazard Mitigation Assistance division within FEMA's Mitigation Directorate. Under this task order, the team provided general communication, strategic communications counsel, strategy development support, position papers and inputs, collaboration and coordination, reporting, strategic outreach, executive communications, workshops, media outreach, and webinars.

04/23 - 06/24	**Building Resilient Infrastructure and Communities Direct Technical Assistance Initiative, Nationwide.** *FEMA.* **Project Manager.** Responsible for task order management, including all financial, personnel, and scope oversight. Coordinated joint venture staff across 4 firms to develop and stand up a community engagement function for FEMA's Building Resilient Infrastructure and Communities Program Direct Technical Assistance initiative. Oversaw earned value, resourcing, client relations, and quality management.Michael Baker, as managing partner of the Resilience Action Partners joint venture, supports FEMA's Building Resilient Infrastructure and Communities Direct Technical Assistance initiative under the Community Engagement and Risk Communication contract. Under this task order, Michael Baker's services include project management and oversight, security and compliance, communication design and delivery, risk visualization, partnership identification and management, training and capability building, and data analysis and insights.
01/21 - 04/25	**Community Engagement and Risk Communication for Risk MAP Program, Virginia.** *FEMA.* **Program Manager. Senior Mitigation Strategist and Capacity Team Lead.** Responsible for providing strategy and tactical insight into hazard mitigation planning, risk assessment, and mitigation action as well as working with FEMA Mitigation Planners both at Headquarters and in the regions to provide assistance in building state and local capacity to perform mitigation activities. Lead author of the Tribal Mitigation Planning Handbook. Action Measure lead. Specific tasks include managing the hazard mitigation planning and action work of ten Mitigation Champions; developing and delivering trainings on mitigation planning and action; leading the development of guidance and tools related to planning, action, and resilience; and infusing mitigation and resilience principles throughout all community engagement activities. Michael Baker acted as a member of the National Community Engagement and Risk Communication team for the Risk Mapping, Assessment, and Planning (Risk MAP) program. Michael Baker's services included hazard mitigation planning, community outreach, preparation and dissemination of outreach materials, and development and delivery of training for stakeholders.
07/12 - 12/19	**Stormwater Management Plan, Allegheny County, Pennsylvania.** *Allegheny County Department of Economic Development.* **Associate Planner.** Designed and maintained project website (www. AlleghenyCountySWMP.com) using GoogleApps platform. Developed participatory mapping functions to enhance community engagement in stormwater issues. Managed electronic data collection from municipalities. Michael Baker developed a stormwater management plan for the county in compliance with Pennsylvania Act 167. Michael Baker's services included data collection and analysis, field investigations, detailed hydraulic modeling, development of a project website, and public and stakeholder involvement.
07/11 - 09/16	**Flood Insurance Rate Map Update, Lycoming County, Pennsylvania.** *Lycoming County.* **Associate Planner.** Responsible for the public outreach design of the Discovery Phase of Lycoming County's Risk MAP project. Developed meeting materials, led focus groups, and compiled post-meeting comments and concerns about flooding countywide. Michael Baker is performing floodplain risk mapping, assessment, and planning to update the county's digital flood insurance rate maps (FIRM). Michael Baker's services include project management, topographic data collection and mapping, hydrologic and hydraulic analyses, floodplain delineation and mapping, geographic information system (GIS) database development, stakeholder coordination, and community outreach.
09/10 - 11/15	**Joint Base General Master Plan, Joint Base McGuire-Dix-Lakehurst, New Jersey.** *U.S. Air Force, McGuire AFB.* **Associate Planner.** Developed two communications components intended to assist in the implementation of the general master plan of Joint Base McGuire-Dix-Lakehurst. The first of the communications components looked externally at how the Joint Base could be a good neighbor and a strong partner in the Ocean and Burlington County community and examined outreach methods, involvement opportunities, and strategic partnerships for the installation. The second component she devised created an internal system and protocol on how to best address comments and questions from the community as well as how to efficiently document and filter concerns to the proper office on the Joint Base. Michael Baker prepared a joint-base general plan, nine area development plans, component plans, a real property plan validation for more than 500,000 square feet of space, a warehouse space utilization plan, an assessment of utility system capacities, a physical survey of aboveground utilities to assess accuracy of mapping data, aerial LiDAR, the integration of geographic information system (GIS) datasets into one geodatabase, and developed a web-based planning system for the installation. Michael Baker's services included project management, mapping, field investigations, land-use analysis, utility analysis, airfield infrastructure analysis, development of geographic information system (GIS) databases and mapping, and the development of a master plan and capital improvement program.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Justin West, PE, CFM**	*Years of relevant experience with this employer*	2
Title	Civil Engineer	*Years of relevant experience with other employer(s)*	3
Degree(s) / Years / Specialization	BS / 2019 / Environmental Engineering / Louisiana State A&M University		
Active registration number / state / expiration date	PE.0049277 / Louisiana / 3-31-2025 CFM US-22-12180 / 01-31-2026		
Year registered	2024	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	Base Level Engineering, H&H Analysis/Modeling		

Mr. West will serve as an Hydraulic Modeler for large and small scale H&H models for this contract. Mr. West has successfully prepared 2D H&H models for several watersheds for structure replacement analysis, flood reduction analysis, dam and reservoir modeling, and backwater flooding analysis.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
04/23 – Ongoing	**Louisiana Watershed Initiative (LWI) Region 6, Louisiana.** *DOTD.* **HEC-RAS Modeler.** Mr. West is the Lead modeler for the Eastern Central Louisiana Coastal (Region 6) HEC-RAS model. Mr. West developed the loss method for infiltration, soils, and land use data. Mr. West created centerlines for the major streams in the watershed by filtering out small streams from the National Hydrology Database. Mr. West developed the hydraulic models' break lines, bridge structures, and mesh geometry, and simulated storms within the HEC-RAS models and adjusted calculated values to calibrate and validate the model.
04/23 – 12/2024	**Louisiana Watershed Initiative Modeling Contract – Region 1, Louisiana.** *DOTD.* **HEC-RAS Modeler.** Mr. West was the lead modeler for Black Lake Bayou (Region 1) HEC-RAS model and technical QC reviewer for Lower Sabine. He developed the loss method for infiltration, soils, and land use data. I created centerlines for the major streams in the watershed by filtering out small streams from the National Hydrology Database and the hydraulic models' break lines, bridge structures, and 1-D geometry. He simulated storms within the HEC-RAS models and adjusted calculated values to calibrate and validate the model.
04/24-Ongoing	**St. Tammany Parish Comprehensive Drainage Plan.** *St. Tammany Parish Government.* **Assistant Project Manager/Lead Modeler.** Mr. West assisted with general project management duties, such as resource allocation, team coordination, scheduling, and financial analysis. Mr. West attended public outreach meetings and assists the public in understanding the project objective and goals. Mr. West completed the existing models for the parish consisting of 12 models.
4/23 – 12/2024	**LWI/SPP Group 1 Bundick Lake Flood Surcharge Management, Beauregard Parish, Louisiana.** *DOTD.* **Hydraulic Modeler.** Mr. West provided HEC-RAS troubleshooting and QA/QC for the models, as well as inundation mapping. The project will determine improvements to Bundick Lake outlet works to reduce flooding within the watershed.
4/23 – 12/2024	**LWI/SPP Group 1 Anacoco Creek Watershed upper and Lower, Vernon Parish, Louisiana.** *DOTD.* **Hydraulic Modeler.** Mr. West provided HEC-RAS troubleshooting and QA/QC for the models and provided inundation mapping. The project will determine improvements to both Vernon Lake and Anacoco Lake outlet works to reduce flooding within the watershed.
7/23 – 12/2024	**LWI/SPP Group 1 Three Mile Lake, St. Landry Parish, Louisiana.** *DOTD.* **Hydraulic Modeler.** Mr. West completed all HEC_RAS modeling of the watershed basin, provided on-site inspection, improvement alternatives modeling, and provided inundation mapping. The project will determine improvements to infrastructure around Three Mile Lake to reduce backwater flooding from the Atchafalaya Floodway.
02/22 – 02/23	**LCG Stormwater Master Plan, Lafayette Parish.** *Lafayette Consolidated Government.* **Hydraulic Modeler.** Mr. West analyzed multiple watersheds with 2D hydraulic modeling in HEC-RAS. Mr. West completed the existing conditions model for one of the watersheds in this project. Mr. West assisted with the proposed alternatives to mitigate flooding for the basin that was also developed for the client. Mr. West was responsible for the proposed and existing models. Using the outcome of the proposed projects to establish mitigation alternatives for stormwater management. Mr. West reviewed the results and drafted a report highlighting the conclusions made

02/22 – 02/23	**LCG Residential Buyout Plan, Lafayette Parish.** *Lafayette Consolidated Government.* **Hydraulic Modeler.** Mr. West used GIS programming to create a structure map of Lafayette Parish to locate at-risk structures for a buyout program. Using the outcome of the proposed locations to establish a mitigation plan that distinguished houses that would be the most at-risk alternatives from stormwater flooding. Mr. West reviewed the results and drafted a report highlighting the conclusions made.
05/22 – 02/23	**RESTORE Parish Matching Grant Program.** *CPRA*. **Hydraulic Modeler.** The CPRA Parish Matching Program was designed to help coastal parishes that received RESTORE funds prioritize Coastal Master Plan projects while also recognizing and responding to the needs of parishes to implement projects that may not be contained in the Coastal Master Plan. Mr. West is responsible for the Existing and proposed models completed in the USACE HEC-RAS modeling program. Using the projects to establish non-structural mitigation alternatives for stormwater management. Mr. West reviewed the results and drafted a report highlighting the conclusions made.
02/22 – 02/23	**Chennault Stormwater Plan.** *Calcasieu Parish Public Works.* **Hydraulic Modeler.** Mr. West analyzed the Chennault Airport's existing drainage conditions with 2D hydraulic modeling in HEC-RAS. Proposed alternatives to mitigate flooding for the Airport were also developed for the client. Mr. West was responsible for the proposed models. Using the outcome of the proposed projects to establish mitigation alternatives for stormwater management. Mr. West reviewed the results and drafted a report highlighting the conclusions made
05/22 – 02/23	**Comite River Improvements Feasibility Study.** *East Baton Rouge Parish Department of Transportation and Drainage.* **Hydraulic Modeler.** For the Comite River improvements, it was proposed that the removal of debris from the Comite River would improve drainage for the channel. Mr. West was the lead modeler for the project which consisted of a review of all video data received from an aerial drone survey, marking and sizing obstructions made, an existing model consisting of over 200 impacted channel locations, a proposed model, and the associated technical report. Mr. West created presentations and assisted in stake holder meetings.
06/20 – 02/21	**Steady Flow 1D HEC-RAS Model, Beaver Creek, and Long-Slash Branch Watersheds. Hydraulic Modeler.** Mr. West completed 1D hydraulic and hydrologic models for the Bever Creek and Long-Slash Branch watersheds. These studies involved the hydrologic and hydraulic analysis of drainage structures and drainage areas within the watersheds. Existing conditions and proposed conditions models were created along with a benefit-cost analysis for the improvements proposed in the proposed conditions model.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Achutam Baral, PE, CFM**	*Years of relevant experience with this employer*	1.5
Title	Civil Engineering- Water	*Years of relevant experience with other employer(s)*	4.5
Degree(s) / Years / Specialization	M.Eng.Sc., 2019, Water Resources Engineering, University of Louisiana at Lafayette B.S.E., 2012, Civil Engineering, Tribhuvan University, Nepal		
Active registration number / state / expiration date	PE 0048564 /Louisiana / 09/30/26; CFM/ US-24-13247 / 1/31/2026		
Year registered	2024	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	H&H Analysis / Flood Mapping		

Mr. Baral is a Water Resources Engineer with a background and a strong passion for hydrologic and hydraulic (H&H) modeling. His proficiency extends to hydrodynamic modeling software, including HEC-RAS, HEC-HMS, and ArcGIS. In addition, he possesses skills in programming languages such as MATLAB and Python, enabling him to conduct thorough data analysis, create complex models, and develop innovative algorithms to address real-world H&H challenges. Mr. Baral's dedication to solving water resources problems using cutting-edge technology and analytical expertise has been a driving force throughout his career. He is currently leveraging Large Language Model (LLM) for H&H modeling automation.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
05/23 - On Going	**IIJA Off System Bridge Replacement, District 07.** *DOTD.* **Hydraulic Engineer.** Performed hydraulic analysis of existing bridges and compared results to multiple bridge replacement alternative structures. Hydraulic analysis has been performed under DOTD hydraulic guidelines utilizing HEC-RAS as well as DOTD Hydrwin software. This project program requires Michael Baker to deliver 12 bridge replacements within the 30.3 million dollars allocated for District 07. DOTD issued NTP for additional services in May 2023.
05/23 - 12/24	**Louisiana Watershed Initiative (LWI) Region 1 IDIQ, Louisiana.** *DOTD.* **Hydraulic Engineer / Modeler.** Addressed issues related to hydrological and hydraulic analysis of the watershed, including 1D/2D H&H modeling, and provided technical guidance to the team. Performed statistical analysis of the model results to identify parameter sensitivity to improve overall model results. Performed validation of the model utilizing multiple historical events.
05/23 - On Going	**Louisiana Watershed Initiative Modeling Contract - Region 6, Louisiana.** *DOTD.* **Hydraulic Engineer / Modeler.** Michael Baker is providing engineering and modeling services to the DOTD for Region 6 for the LWI. The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk. It is organized by seven modeling regions, each encompassing multiple HUC-8 watersheds. For the contract, Michael Baker is providing hydrologic and hydraulic modeling, data collection and analysis, stakeholder engagement, and surveying.
01/22 - 05/23	**Comprehensive H&H RAS 2D Modeling Project.** *Calcasieu Parish, Louisiana.* **H&H Modeler/Analyst.** The project's objective is to enhance and safeguard the drainage infrastructure within the Parish and ultimately ensure the protection of human life and private property. Part of the water resources team that developed an H&H model and provided drainage solutions to the Calcasieu Parish government. Analyzed the field survey data and created the cross-sections for the major channel within the Parish. Additionally, generated spatial value of the SCS curve number based on the land-use and soil type dataset. Also modified the natural channel to capture bathymetry using field survey data of the Vinton Region within a Parish. Lastly, performed H&H modeling and floodplain analysis of the Vinton Region and presented the Stormwater Master Plan to the Parish government.
05/22- On Going	**Parish Comprehensive Drainage Plan, St. Tammany Parish, Louisiana.** *St. Tammany Parish.* **Hydraulic Engineer / Modeler.** Michael Baker conducted a comprehensive drainage plan for the Saint Tammany Parish located on the north shore of Lake Pontchartrain, Louisiana. The plan evaluated the existing state of drainage in the parish including flood risk, water quality and development guidelines, recommended capital projects, and potential policy changes that would lead to reduced flood damage and increased safety. The Michael Baker team provided data gathering efforts, ranked list of problem areas and provided four (4) in-person public and stakeholder outreach throughout Phase I of this project.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Morgan White, CFM**	*Years of relevant experience with this employer*	2
Title	Planner - Hazard Mitigation	*Years of relevant experience with other employer(s)*	9
Degree(s) / Years / Specialization	MPA / 2000 / Public Administration, Texas State University - San Marcos BS / 2014 / Environmental Studies, Texas A&M University		
Active registration number / state / expiration date	Certified Floodplain Manager No. 54486506 / Texas / exp. 12/31/2025		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	Mitigation Planning / Analysis		

Ms. White is a certified floodplain manager with experience in both the public and private sectors. Ms. White has substantial planning, program, and project management expertise from her time spent working for a variety of state-level organizations, including at the Texas Water Development Board where she was part of the team that stood up the first-ever regional and state flood planning program for Texas. She also has experience working in surface water resources permitting, pesticide regulation, and regulatory floodplain management programs. Early in her career, Ms. White gained experience creating and managing legislation in the Texas Legislature. Ms. White holds a Bachelor of Science in Environmental Studies and a Masters in Public Administration.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
08/23 - On Going	**National Mitigation Planning Program, Nationwide.** *FEMA.* **Capability-Building Lead.** Lead capability-building initiatives, including trainings and resource development, for FEMA's National Mitigation Planning Program, as a member of the Resilience Action Partners team under the Community Engagement and Risk Communication (CERC) contract. Responsible for supporting FEMA headquarters' efforts to equip local, tribal, territorial and state government staff with relevant knowledge and tools to successfully develop and implement hazard mitigation plans. This includes updating training and technical assistance resources based on updated mitigation planning policies.
04/24 - On Going	**Phase 1: Arkansas Water and Flood Plan, Arkansas.** *U.S. Army Corps of Engineers and the Arkansas Department of Agriculture's Natural Resources Division.* **Technical Lead.** Led the development of the flood plan components of Phase 1 of the new, state-wide Arkansas Water and Flood Plans. Facilitated five in-person stakeholder meetings across the state of Arkansas and incorporated feedback into the project plans. Coordinated with the Arkansas Department of Agriculture Natural Resources Division and the U.S. Army Corps of Engineers to craft the goals, objectives and a proposed schedule, task list, and budget for Phase 2 of the project and documented these details in the final programmatic work plan deliverable. The deliverable was sent to the Governor of Arkansas and her approval of the plans allowed the Arkansas Department of Agriculture to move forward with Phase 2 of the project.
04/23 - 06/24	**Building Resilient Infrastructure and Communities Direct Technical Assistance Initiative, Nationwide.** *FEMA.* **Senior Planner.** Led a team providing community engagement and communication support to local communities through the Building Resilient Infrastructure and Communities (BRIC) grant program's Direct Technical Assistance (DTA) initiative. As a member of the Resilience Action Partners team under the CERC contract, provided planning and community engagement-related support and expertise as Regions 6 and 7 implemented direct technical assistance for selected communities and tribal nations. Provided direct planning, community engagement, and communications-related support to these communities, with a focus on building buy-in and support from local leadership and the general public for proposed resilience and mitigation projects within the community. Supported the development of tribal hazard mitigation plans. Contributed to the development and delivery of Community Profiles, which aimed to create a foundation for the DTA provider team to coordinate and engage intentionally, through enhanced understanding of the priorities, challenges and sentiments the community or tribal nation holds.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Kevin T. Narvaez**	*Years of relevant experience with this employer*	12
Title	Project Manager - Water and FEMA	*Years of relevant experience with other employer(s)*	9
Degree(s) / Years / Specialization	MS / 2006 / Geographic and Cartographic Sciences, George Mason University BA / 2001 / Geography/Regional Planning, West Chester University		
Active registration number / state / expiration date	GIS Certificate / George Mason University / N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	Post-Preliminary Processing		

Kevin Narvaez is a Study Manager with 12 years of experience working on FEMA projects. While serving as the Post-Preliminary Production (PPP) Lead for Region 3, Kevin consistently provided guidance to mapping partners on due process and final mapping activities, milestones, and timeline awareness of PPP. Efforts routinely involved coordinating quality reviews, managing Mapping Information Portal (MIP) task assignments, and orchestrating information gathering and regional approval as needed. While recently serving as ARC's SharePoint Administrator, Access Manager, and RAM Access Portal Supervisor, Kevin was exposed to the variety of team member experience, skill sets, and anticipated roles within ARC Production and Technical Services (PTS) work. Kevin has diverse skills in Geographic Information Systems (GIS), public involvement, information technology, planning, graphic design, flood risk assessment, and hazard mitigation. He has used those skills to collaborate with clients at the local, state, and national levels and in varied market sectors. Kevin has performed quality reviews (QRs) and has experience with the due process efforts on Interim FEDD File 1 and 2, Proposed Flood Hazard Determinations, QR4-Part 1 and 2, Federal Register publications, and appeal periods. Kevin also has experience with final mapping activities, including QRs 5-8, Letters of Final Determination, Revalidation, Final FEDD File production, and Technical Support Data Notebook reviews.

Experience dates (mm/yy-mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/22 - On Going	**Region 3; Production and Technical Services (PTS) for the Risk MAP Program, Multiple Locations.** *FEMA.* **PPP Study Manager.** Kevin provides PPP and Due Process management for several Region 3 studies. Kevin is responsible for tracking budget, delegating work assignments to team members and identifying level of effort requirements with task due dates to ensure milestones and deliverables are met. He routinely coordinates with ARC leaders and the region to provide study status updates. Kevin also served as the Region 3 PPP Lead and was responsible for post-preliminary support to the region and study managers. This support included coordinating and performing due process and other final mapping regulatory quality reviews that FEMA standards require. Kevin is familiar with MIP tasks and protocols, FEMA guidelines and standards, regional preferences, best practices, and technical skill sets essential for timely submittals that advance projects without costly delays.
01/22 - On Going	**PTS Standard Operations Task Order, Zone 1, Multiple Locations.** *FEMA.* **Technical Manager.** Provides SharePoint administration for the ARC project team. Duties include content additions, modifications, application tools support, user account creation/permissions management, and ad-hoc needs to ensure project materials are secure. Kevin also manages service account licensing for ARC PTS applications and coordinates with appropriate departments to anticipate future needs.
02/08 - 09/11	**Region 3, Regional Task Order, Multiple Locations.** *FEMA.* **GIT Specialist.** Scope of work included FEMA program tracking and map production and adoption services, as well as the completion of preliminary production and PPP on several DFIRMs. Worked to ensure the GIS data used in DFIRM production were accurate and matched guidelines and specifications requirements.
09/05 - 09/10	**Flood Map Modernization (Map Mod) Program, Multiple Locations.** *FEMA.* **GIT Associate.** Participated in the creation of FEMA's online flood map production toolset to update the nation's flood hazard data. Created training materials/user guides, conducted robust testing of new applications, and recommended potential error solutions and process enhancements.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Joe Kuechenmeister, PE, CFM**	*Years of relevant experience with this employer*	18
Title	Civil Engineer	*Years of relevant experience with other employer(s)*	0
Degree(s) / Years / Specialization	MSE / 2005 / Environmental Engineering, University of Michigan at Ann Arbor BSE / 2004 / Civil and Environmental Engineering, University of Michigan at Ann Arbor		
Active registration number / state / expiration date	PE No. 44335 / Colorado / exp. 10/31/2025 CFM No. US-07-02453 / exp 07/31/2025		
Year registered	2010	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	Map Rev / LOMRs / CLMORs		

Joe is a Water Project Manager with 16 years of experience who has been sharing their technical knowledge through presentations over the past decade, teaching best practices in floodplain engineering, FEMA's National Flood Insurance Program (NFIP), and more. Joe has an extensive background focused on the civil and environmental engineering fields. Joe has experience in hydraulic and hydrologic engineering, floodplain studies, mapping, analysis, hazard mitigation, and floodplain development review. Joe managed FEMA's Revision Program for Regions 8 and 9 from 2008 to 2015. Since 2016, Joe has been managing the Letter of Map Change (LOMC) Delegation Program for the Mile High Flood District (MHFD) in Denver, CO.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
12/17 - On Going	**LOMC Support, Denver, CO.** *Mile High Flood District.* **Project/Revisions Manager.** Manages a team of engineers to perform technical reviews and final determination production for flood hazard data revision requests submitted to FEMA through the Revision Program. Developed processing efficiencies to reduce case review costs from those of the incumbent review contractor. This allowed for processing a record number of MHFD Revision requests within the allotted FEMA Cooperating Technical Partners grant funding. Responsible for providing engineering support and guidance to MHFD officials, community officials, floodplain managers, and individual requesters. Responsible for assisting the MHFD with managing its LOMC Partnership Program by overseeing the technical reviews of flood hazard revision projects that are submitted to FEMA for review and approval through the Letter of Map Revision (LOMR) application process. Provides engineering support to resolve complex technical and regulatory issues during the technical review process, and interprets NFIP regulations and their effects on pending Revision requests.
12/018 - 02/19	**Alabama Risk MAP Program, Statewide.** *Alabama Department of Economic and Community Affairs.* **Project Manager**. Provided professional engineering services to develop Digital Flood Insurance Rate Maps (DFIRMs) and Flood Insurance Study (FIS) reports in Alabama. Tasks included evaluating existing effective maps and supporting data; identifying and resolving data inadequacies; developing base maps and terrain data; hydrologic and hydraulic modeling; delineating floodplain boundaries and the regulatory floodway using updated topographic data; developing Flood Risk Products; preparing and distributing preliminary DFIRM and FIS reports; finalizing the DFIRM in accordance with FEMA guidelines and specifications; conducting community engagement; developing outreach materials; and providing quality control. Managed various flood study production and quality assurance and quality control tasks to support DFIRM and FIS report production as needed.
12/03 - 09/15	**Map Modernization and Production and Technical Services (PTS) for the Risk MAP Program, Region 8 and Nationwide**. *FEMA.* **Project Manager.** Was part of "Mapping on Demand" team, which served as the national service provider to develop, plan, manage, implement and monitor the Flood Map Modernization Program for flood hazard mitigation across the U.S. and its territories under a five-year contract. Managed and supervised engineering technical reviews of Revision requests that were submitted to FEMA for review and approval through the LOMR application process. Provided technical support for the Engineers in the review group when they were tasked with complex technical issues, and provided direction when interpreting NFIP regulations and their implications on pending requests. Completed technical reviews of 90 LOMR applications for accuracy and feasibility while verifying that the applications met all the community's and client's minimum requirements, as established by the NFIP. Was responsible for providing technical support and guidance to FEMA officials, community officials, floodplain managers and individual requesters. Also supported study production.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Nicole Metzger**	*Years of relevant experience with this employer*	7
Title	Oceanographer / Project Manager	*Years of relevant experience with other employer(s)*	15
Degree(s) / Years / Specialization	MS / 1997 / Oceanography/Marine Science, The State University of New York at Stony Brook BS / 1992 / Civil Engineering, Massachusetts Institute of Technology		
Active registration number / state / expiration date	N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	Coastal H&H Analysis		

Nicole Metzger has 25 years of engineering and project management experience involving coastal, offshore, and subsea projects for private industry, academic and research pursuits, and local and federal governments. She has also served as an independent reviewer for technical designs of various oceanographic systems and data collection sensors on behalf of the National Science Foundation and for classified military projects. Nicole is a proven problem solver, working successfully on complex projects in remote and austere environments offshore and around the globe. She has worked on coastal and oceanographic projects in the Atlantic Ocean, Pacific Ocean, Southern Ocean, Indian Ocean, Baltic Sea, South China Sea, Malacca Strait, North Sea, English Channel, Gulf of Oman, Persian Sea, and the Java Sea.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/10 - On Going	**Coastal Flood Hazard Studies, Nationwide**. *FEMA.* **Coastal technical lead and project manager.** Major tasks include field reconnaissance; extensive outreach with local officials, cooperating technical partners, state and federal agencies, Indian Tribes, and stakeholders; modeling offshore water levels and waves; transforming waves into the nearshore and onshore to evaluate wave effects at the shoreline; assessing episodic storm-induced erosion and shoreline change and performance of shoreline protection structures; and translating results into flood insurance rate maps which FEMA uses to define insurance rating structures and other non-regulatory products to help communities visualize their risks and potential mitigation options. Studied more than 8,500 miles of coastline impacted by the Great Lakes, Atlantic Ocean, Gulf of Mexico, and Pacific Ocean throughout the nation and its territories
2010 - On Going	**Headquarters (HQ), Programmatic Support, Washington, DC**. *FEMA.* **Coastal Subject Matter Expert/Task Manager.** Providing support for emergent needs at HQ, which included guidance development, lessons learned, and development of best practices to inform policy. Led the development of the Coastal Disaster Data Playbook documenting procedures for data acquisition, development of advisory products and maps, and dissemination of data and products before, during, and after a major storm event; this document serves as a road map for various local, state, Federal, and private entities to guide actions for disaster preparation, response, and recovery. Lead author of the Pacific Coast Probabilistic Flood Analysis assessment report defining risk-based methods to evaluate coastal hazards which my team implemented at pilot sites for proof-of-concept. Participate in national and regional coastal technical and policy forums and summits. Serve as subject matter expert as needed. Led development of coastal products in support of the Federal Flood Risk Management Standard established through Executive Order 14030 that requires agencies to prepare for and protect federally funded buildings and projects from flood risks; more specifically, the products provide estimations of future conditions and risks for consideration in siting federal or federally funded projects and mitigating current or potential future flood risks. Serve as subject matter expert as needed.
2017-2025	**Disaster Response and Recovery Efforts, Several US Locations**. *FEMA.* **Field Operations/ Task Manager.** These efforts involved conducting data analysis and visualization, developing advisory base *flood* elevations to facilitate resilient rebuilding and recovery, supporting FEMA's direct housing missions, conducting assessments of structures to document damage and losses and validate flood hazard studies and FIRMs for affected areas or identifying areas for future study needs or resilience projects.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Nanda Meduri, PE, PMP, CFM**	*Years of relevant experience with this employer*	1
Title	Senior Technical Manager	*Years of relevant experience with other employer(s)*	20
Degree(s) / Years / Specialization	MBA / 2014 / General Management Strategy, University of Maryland, College Park Campus MS / 2004 / Civil Engineering, Louisiana State University BE / 2000 / Civil Engineering, Osmania University, India		
Active registration number / state / expiration date	PE No. 46259 / Maryland / exp. 12/29/2026 Project Management Professional No. 1723588 / N/A / exp. 06/12/2026 Certified Floodplain Manager / exp. 12/29/2026		
Year registered	2014	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	Base Level Engineering Support		

Nanda is an accomplished Project Manager with over 15 years of experience working in a variety of roles as a PM and Task Lead responsible for project schedules, budgets and deliverables. Nanda has provided both project management and technical support for Risk Mapping, Assessment and Planning (Risk MAP) projects in FEMA regions 2, 3, 5, 8 and 9. Nanda has managed around 450 miles of detailed studies, more than 1,500 miles of approximate studies, and 150 miles of redelineation as the PM/Task Order Manager for multiple studies in NY, PA, WI and CA. Nanda has managed more than 2,500 miles of Base Level Engineering (BLE) studies in various NY counties and around 300 miles of BLE study in the Russian River Watershed of CA. Nanda has 20 years of experience in Water Resources Engineering, specifically, Hydrologic and Hydraulic (H&H) modeling for FEMA Flood Insurance Studies under the National Flood Insurance Program. Nanda is proficient in using established project management methodologies to improve key performance indicators. Nanda also has more than 8 years of supervisory experience directing a team of 10 to14 water resources engineers in performing H&H analyses in support of Risk MAP projects.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/21 - 09/23	**Region 2, Production and Technical Services (PTS) for the Risk MAP Program, Multiple Counties, NY**. *FEMA.* **Senior Engineer/Quality Control (QC) reviewer.** Served as the QC reviewer for Jefferson County and the Fulton County and Livingston County studies in NY, which included both detailed and approximate stream reaches. These riverine studies combined rainfall-runoff modeling, regression, and gage analyses to generate discharges and 1D steady/2D unsteady hydraulic flow analyses for floodplain development.
01/20 - 09/22	**Region 2, PTS Production, Saratoga County, CA**. *FEMA.* **Task Lead.** Served as the engineering Task Lead/Manager for over 55 miles of detailed studies and 400 miles of approximate stream reaches. For riverine studies, performed a combination of rainfall-runoff modeling, regression and gage analyses to generate discharges. Performed 1D steady/2D unsteady hydraulic flow analyses for floodplain development.
2019 - 2022	**Region 2, PTS Production, BLE Study, Western NY**. *FEMA.* **Project Manager.** Responsible for the delivery of large-scale, multi-frequency inundation mapping in the counties and communities of Western NY. Production included the analysis of over 2,570 miles of BLE study using 1D methods to produce flood risk data that met FEMA's guidelines and standards.
2018 -2021	**Region 3, PTS Production, Lehigh County, PA**. *FEMA.* **Task Lead.** Served as the engineering Task Lead/Manager for over 70 miles of detailed study stream reaches. For riverine studies, performed a combination of regression and gage analyses to generate discharges. Performed 1D steady hydraulic flow analyses for floodplain development.
2018 -2021	**Region 9, PTS Production, Monterey County, CA**. *FEMA.* **Project Manager.** Managed the production of over 28 miles of complicated detailed studies within Monterey County and the cities of Gonzales, Soledad and Natividad. These river reaches were analyzed to develop floodplains based on hydrologic analyses using watershed modeling and a hydraulic analysis using 1D steady and 2D unsteady flow methods. 2D analyses were best suited to generate floodplains for the flat topography of these areas.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Taryn Murray, CFM, PMP**	*Years of relevant experience with this employer*	18
Title	Technical Manager / ARC Policy & Program Director	*Years of relevant experience with other employer(s)*	3
Degree(s) / Years / Specialization	MS / 2011 / Environmental Science, Marshall University BS / 2002 / Biological Science, Marshall University		
Active registration number / state / expiration date	Certified Floodplain Manager No US-21-12136 / exp. 01/31/2026		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	FEMA Support		

Ms. Murray specializes in hazard mitigation planning, floodplain management, and community outreach. Over the last 18 years she has acquired vast knowledge of federal and state policies, regulations, standards, guidance, and processes associated with emergency management, hazard mitigation, and risk assessment and communication. She routinely applies that knowledge as a technical advisor and project manager, supporting related planning and implementation activities. She assists states and communities with the development of local hazard mitigation plans involving risk assessment and vulnerability analysis of natural and human-made hazards. She coordinates and facilitates county meetings in which she educates county and municipal officials on the hazard mitigation planning process and requirements. Additionally, she acts as Programs & Policy Director under Michael Baker 's Advancing Resilience in Communities (ARC) Joint-Venture contract with the Federal Emergency Management Agency (FEMA) where she flood hazard assessment policy and mitigation action. Currently the ARC Due Process/ Post-Preliminary Production (PPP) Lead, Taryn serves as an appeals Subject Matter Expert (SME) and provides program-wide oversight and support for ARC's Due Process/PPP and quality initiatives. Taryn previously served as the Region 3 Due Process/PPP Lead and Region 3 Risk MAP Technical/Quality Manager for FEMA's Community Engagement and Risk Communication (CERC) contract. Under the CERC contract, Taryn helped develop NFIP) training for local officials and Letter of Map Change (LOMC) training for FEMA. She delivered those trainings to local officials in numerous states. Taryn is the former Chair of the Pennsylvania Association of Floodplain Managers

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
10/23 - On Going	**Region 3, PTS for the Risk MAP Program, Multiple Locations**. *FEMA.* **PPP Production Lead.** Responsible for tracking, staff training, and oversight of PPP work in ARC's Alexandria, Virginia production center. Duties include project management support and advising ARC PPP production and management staff. The ARC Alexandria production center prepares Flood Hazard Determination notices for due process, administers Risk MAP appeal periods, evaluates LOMCs, develops Summaries of Map Actions, issues Letters of Final Determination and Final Products, and coordinates, and supports Consultation Coordination Officer meetings as needed.
10/22 - On Going	**Region 3, PTS for the Risk MAP Program, Multiple Locations**. *FEMA.* **QA/QC Manager and PPP Production Lead**. Provides quality process support and consultation to Task Order Managers and Project Managers (PMs). Participates in ARC's Quality Working Group, supporting the development of quality management standard operating procedures and quality checklists. Supports Region 3 FY22 PMs by providing quality guidance and SME consultation and promoting continuous improvement.
01/16 - 02/20	**Headquarters (HQ) and Regions, CERC, Nationwide**. *FEMA.* **Technical Advisor.** Provided Risk MAP subject matter expertise and quality reviews to assist FEMA with improved outreach and communication related to Risk MAP due process and products. Developed and reviewed enhanced Preliminary and Post-Preliminary outreach materials to increase risk awareness throughout communities and to simplify dense technical material into plain language for public consumption. Supported the development and delivery of LOMC training and NFIP training for local official. Coordinated with FEMA Region 3 Project Officers to develop and stand up a Levee Strategy and Implementation Plan program and process. Led support for FEMA Region 3 with the development of a SID 622 standard implementation process, including standard templates, timeline, and media contact collection and monitoring. Served on FEMA HQ's Risk MAP Guidelines and Standards Committee.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Kushal Regmi, PE**	*Years of relevant experience with this employer*	6
Title	Civil Engineer - Water	*Years of relevant experience with other employer(s)*	3
Degree(s) / Years / Specialization	M.S., 2019, Civil Engineering, University of Memphis B.S., 2015, Civil Engineering, Tribhuvan University		
Active registration number / state / expiration date	PE No. 144568 / Texas / exp. 03/31/2026		
Year registered 2022	*Discipline*	Civil	
Contract role(s) / brief description of responsibilities	BLE Support		

Mr. Regmi is a professional engineer focused on water resources engineering. He possesses strength in hydrologic and hydraulic modeling using a diverse array of hydraulic modeling techniques, including 1D, 2D, and complex 1D-2D coupled unsteady models. Mr. Regmi has a proven track record in delivering flood risk identification and watershed planning projects. His expertise extends to developing automation scripts and tools when dealing with large-scale datasets based on geographic information systems (GIS) to enhance process efficiency and expedite project delivery while maintaining product quality. He is proficient in the application of GIS-based tools in the water resources domain.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/22 - On Going	**Louisiana Watershed Initiative Modeling Contract - Region 6, Louisiana.** *Louisiana Department of Transportation and Development (DOTD).* **Civil Associate**. Michael Baker is providing engineering and modeling services to the Louisiana Department of Transportation & Development (DOTD) for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the contract, Michael Baker is providing hydrologic and hydraulic modeling, data collection and analysis, stakeholder engagement, and surveying.
12/22 -10/23	**San Antonio River Authority Cooperative Technical Parter (CTP) Program.** *San Antonio River Authority.* **Civil Engineer.** Responsible for performing the position of a task lead, overseeing the delivery of the Hydraulics, Floodplain Mapping, and Flood Risk Products Technical Support Data Notebook (TSDN) to the San Antonio River Authority for the Lower Cibolo Watershed. Responsibilities involved coordinating and guiding the team in the development of a hydraulic models for 254 miles of Zone A streams and 90 miles of Zone AE streams, as well as producing floodplain mapping and flood risk products for these study streams. Additionally, duties included collaborating with SARA to ensure timely project deliverables, providing regular progress updates, and upholding project quality standards. Michael Baker is providing engineering services for the San Antonio River Authority (SARA) to develop hydraulic models, perform floodplain mapping (FPM), and develop flood risk products (FRP). For the project, it will provide surveying, hydraulic modeling, floodplain mapping and flood risk products, project management, and review for 334 stream miles in the Lower Cibolo Creek watershed.
10/19 - 08/23	**Harris County MAAPnext Watershed Floodplain Modeling and Mapping (Brays Bayou, Goose Creek, and Jackson Bayou Watersheds), Harris County, Texas.** *Harris County Flood Control District.* **Civil Associate.** Responsible for the preparation of HEC-RAS models for multiple riverine systems, including a 70-mile-long 1D riverine model for Brays Bayou and its tributaries integrated with a 127-square-mile 2D model of its watershed, a 17-mile-long 1D riverine model for Jackson Bayou and its tributaries integrated with a 26-square-mile 2D model of its watershed, and a 20-mile-long 1D riverine model for Goose Creek and its tributaries integrated with a 32-square-mile 2D model of its watershed. Key duties included extracting survey data from available effective FEMA models, updating LiDAR data for the channel areas not adequately captured, developing automation codes to streamline repetitive tasks such as structure data entry, interconnecting all HEC-RAS models of individual tributaries using storage areas, model stabilization, and calibration using historical major flood events. Responsible for generating TSDN Reports for both Phase 1 (Brays Bayou) and Phase 2 (Goose Creek and Jackson Bayou) Watersheds, involving Combined Probability and Annual Chance analyses, FIS profile and Floodway Data Table preparation, creation of Flood Risk Products, and the compilation of various necessary tables for the TSDN narrative. Michael Baker provided professional engineering services for the flood risk analysis and mapping project that produced new and updated flood hazard data for Harris County.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Mujahid Chandoo, PE**	*Years of relevant experience with this employer*	19
Title	Project Manager	*Years of relevant experience with other employer(s)*	0
Degree(s) / Years / Specialization	B.S., 2006, Civil Engineering, California State University at Fullerton A.S., 2003, Mathematics, Fullerton College		
Active registration number / state / expiration date	PE No. 0044045 / Louisiana / exp. 03/31/2026		
Year registered 2019	*Discipline*	Civil	
Contract role(s) / brief description of responsibilities	H&H		

Mr. Chandoo brings a wealth of knowledge and expertise to our team with his extensive knowledge in surface water and floodplain management. His areas of expertise encompass hydrology, hydraulics, sediment transport, and advanced modeling. He has contributed to roadway hydrology and storm drain design, Federal Emergency Management Agency (FEMA) floodplain mapping and processing, sediment transport modeling, dam breach analysis and preparation of Emergency Action Plans, environmental documentation, and large-scale 2-dimensional floodplain studies. This diverse project experience has honed his skills and provided him with a comprehensive understanding of various aspects of hydrologic studies. He is well-versed in the application of United States Army Corps of Engineers (USACE) HEC-RAS 1D/2D, HEC-RES SIM, Stormwater and Wastewater Management Model (XP-SWMM), PCSWMM, Bentley CivilStorm, and Watershed Modeling System. He seamlessly incorporates GIS hydro applications into his work, enhancing the accuracy and efficiency of his hydrology and hydraulics analyses.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
09/23 - 06/2025	**City of Austin CTP, Austin, Texas.** *City of Austin.* **Engineer.** Michael Baker, as part of the Austin Modeling & Mapping Partners JV (AMMP JV) developed hydrologic and hydraulic data, performed floodplain mapping, developed flood risk products, and performed quality assurance and quality control activities tasks for the area referred to as Study Area #4 – Urban and West Watersheds South of the River including Lady Bird Lake (South) and Lake Austin (South).
06/23 - 12/23	**Carpenters Bayou H&H Analysis.** *Harris County Flood Control District.* **Project Manager.** Responsible for performing an expedited flood risk reduction evaluation for the Cloverleaf subdivision in the Carpenters Bayou watershed in response to a two-week rapid response request. The project evaluated feasible alternatives to minimize flood risk and reduce hydraulic impacts along Carpenter's Bayou downstream of the Cloverleaf subdivision. Evaluated alternatives, developed cost estimates, and quantified project benefits including flood risk reduction benefits to the Harris County Toll Road Authority (HCTRA)infrastructure. Developed four alternatives for consideration. Based on the no-rise constraint downstream on Carpenters Bayou, cost, and potential benefits, the recommended project improvements included a new box culvert under Beltway 8, channel improvements, and a detention basin. Benefits to HCTRA's infrastructure included reduction in the inundation area and WSEL reductions. Successfully delivered the project within two weeks of NTP.
01/22 - 08/24	**Task Order 3 Series II HUC8 Specific Hydrologic and Hydraulic Modeling, Lower Grand, West Central Louisiana Coastal Region 6, Louisiana.** *Louisiana Department of Transportation and Development (DOTD).* **Engineer.** Michael Baker is performing hydrologic and hydraulic modeling for United States Geological Survey 8-digit cataloging unit subbasins Lower Grand and West Central Louisiana Coastal. These HUC 8s are in Louisiana Watershed Initiative Region 6. The contract includes data gap analysis, quality assurance/quality control, stakeholder engagement, topographic and bathymetric surveying, hydrometeorology and hydrography data, hydrological and hydraulic model developments, and data management. Michael Baker is developing a 2-D hydrological and hydraulic model of both HUC 8s utilizing rain-on-grid
07/22 - 12/25	**Parish Comprehensive Drainage Plan, St. Tammany Parish, Louisiana.** *St. Tammany Parish.* **Engineer.** Michael Baker conducted a comprehensive drainage plan for the Saint Tammany Parish located on the north shore of Lake Pontchartrain, Louisiana. The plan evaluated the existing state of drainage in the parish including flood risk, water quality and development guidelines, recommended capital projects, and potential policy changes that would lead to reduced flood damaged and increased safety. The Michael Baker team provided data gathering efforts, ranked list of problem areas and provided four (4) in-person public and stakeholder outreach throughout Phase I of this project.

16. Staff Experience:

Firm employed by	Michael Baker International, Inc.		
Name	**Manoj KC. PhD, PE, CFM**	*Years of relevant experience with this employer*	6
Title	Water Resources Engineer	*Years of relevant experience with other employer(s)*	12
Degree(s) / Years / Specialization	Ph.D / 2014 / Civil Engineering (Water Resources), Auburn University MSE / 2012 / Civil Engineering (Water Resources), Auburn University BE / 2007 / Civil Engineering, Tribhuvan University, Pulchowk Campus		
Active registration number / state / expiration date	PE No. 45281 / Louisiana / exp. 09/30/2025		
Year registered	2021	*Discipline*	Civil
Contract role(s) / brief description of responsibilities	BLE Support		

Dr. KC has diverse experience in applied surface water, hydrologic and hydraulic modeling research, civil and hydraulic engineering design, research experience in hydrogeomorphology, and ecosystem and climate modeling. He has published several technical papers on overland flow travel time in peer-reviewed journals.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/20 - 03/24	**Louisiana Watershed Initiative Modeling Contract - Region 6, Louisiana**. *Louisiana Department of Transportation and Development (DOTD).* **Water Resources Engineer.** Responsible for providing support for the data collection and analysis of hydraulic datasets, models, and studies; and proposition of modeling design approaches for four HUCs of Region 6 for Louisiana Watershed Initiative (LWI). Michael Baker is providing engineering and modeling services to the Louisiana Department of Transportation & Development (DOTD) for Region 6 for the Louisiana Watershed Initiative (LWI). The LWI project was launched in 2018 and introduced a watershed-based approach to reducing flood risk in Louisiana. It is organized by seven modeling regions, each of which encompasses multiple HUC-8 watersheds. For the contract, Michael Baker is providing hydrologic and hydraulic modeling, data collection and analysis, stakeholder engagement, and surveying.
07/19 - 08/21	**Harris County MAAPnext Watershed Floodplain Modeling and Mapping (Brays Bayou, Goose Creek, and Jackson Bayou Watersheds), Harris County, Texas.** *Harris County Flood Control District.* **Water Resources Engineer.** Responsible for reviewing 1D and 2D unsteady HEC-RAS models for different sub-watersheds of Cypress Creek Watershed. Responsible for reviewing 1D/2D unsteady HEC-RAS models for different sub-watersheds of Brays Bayou. Michael Baker provided professional engineering services for the flood risk analysis and mapping project that produced new and updated flood hazard data for Harris County. Michael Baker built detailed HEC-HMS and 1D and 2D unsteady HEC-RAS models for watersheds to aid the understanding and regulation of flood risk of local governments. Tasks included project management, field surveys, hydrologic and hydraulic data development, flood hazard data development, and floodplain mapping and GIS data development.
12/22 - 03/24	**San Antonio River Authority Cooperating Technical Partner ID/IQ**. *San Antonio River Authority.* **Project Manager.** Manoj oversaw delivery and quality review of terrain development, hydrologic and hydraulic models, floodplain mapping and flood risk products in the Lower San Antonio Watershed. Manoj led the development of updated hydraulic modeling in two HUC-10 watersheds, using XP-SWMM 1D-2D models, HEC-RAS 1D unsteady and 1D-2D coupled models, and 1D steady HEC-RAS models. Michael Baker provided RiskMAP Phase 2 services for the following tasks: For the Lower San Antonio River Watershed, Michael Baker performed terrain development, including hydro-corrected DEMs, developed flood frequency analysis with MOVE.3 extension of records, and performed independent QA/QC of HEC-HMS models for 6 tributary watersheds to the Lower San Antonio River.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Jennifer Sloan Ziegler, PE, PhD, ENV SP, CECP**	*Years of relevant experience with this employer*	2
Title	Environmental Senior Project Manage	*Years of relevant experience with other employer(s)*	9
Degree(s) / Years / Specialization	BS / 2010 / Civil & Environmental Eng; MS / 2012 / Civil Eng; PhD / Civil Eng / 2013		
Active registration number / state / expiration date	PE 41984 / LA / exp. 03/2026		
Year registered 2017	*Discipline* PE (Civil)		
Contract role(s) / brief description of responsibilities	Floodplain Management, Community Outreach/Training		

Jennifer provides environmental and coastal engineering management and design services for clients across the country while also assisting in strategic business development pursuits of new clients. She has 14 years of extensive and diverse experience as an environmental project engineer and manager, working for consulting firms, a university, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the United States Senate.

- ✓ Community Planning & Outreach Expertise
- ✓ Mitigation Planning Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
05/23 – Ongoing	**Mississippi Municipality & County Water Infrastructure Grant Program.** *MDEQ.* **Program Manager.** Internal NS program manager ensuring all contract documents and procedures meet or exceed federal and state requirements for reimbursement match. In this role, she has created internal procedure documents; developed template documents including engineering and construction contracts, memorandums, procurement policy manuals, etc.; and assisted our project managers with program compliance across the board, including quarterly reports, modification requests, project closeouts, and others. All documents and procedures must comply with state of Mississippi law and 2 CFR part 200, including applicable provisions listed in 2 CFR 200.327.
05/24 – Ongoing	**Moss Point General Services Contract, Moss Point, MS.** *City of Moss Point.* **Program Manager.** In this role, Jennifer supports the Moss Point City Engineer by facilitating meetings between agency, consulting, and educational stakeholders to support the development of technical guidance, data collection of stormwater systems, and decision support tools. She also assists with ensuring compliance with federal requirements for CDBG-DR funding.
10/23 – Ongoing	**Stormwater Compliance, DeSoto County, MS.** *DeSoto County and the Cities of Southaven, Horn Lake, Hernando, and Olive Branch.* **Project Engineer.** Jennifer is working with DeSoto County and the Cities of Southaven, Horn Lake, Hernando, and Olive Branch in the implementation of their Municipal Separate Storm Sewer System (MS4) permits under the National Pollution Discharge Elimination System (NPDES). Jennifer reviews and makes recommendations to the county and municipalities to update environmental policies and procedures, specifically related to stormwater and construction activities; conducts erosion and sediment control inspections; reviews SWPPPs and erosion control plans; updates and provides stormwater training to contractors and employees; makes recommendations to enhance stormwater compliance activities; and ensures general compliance with MDEQ permits.
05/24 – Ongoing	**Ditch Watershed Plan and Restoration, Coahoma County, MS.** *Coahoma County.* **Project Manager.** Lead engineer on a project in Coahoma County to restore and stabilize a watershed in the Mississippi Delta. The goal of the project is to implement permanent stabilization structures to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens, and to decrease flooding within the HUC12 watershed. The project will stabilize the bank channel to eliminate continued channel sloughing and erosion; stabilize the channel bottom by stabilizing the head cut progressing upstream in Government Ditch; reduce water velocity in the channel; and reduce flooding in the vicinity of Government Ditch within the HUC12. **Jennifer also led strong public engagement and education program that calls for the development of specialized education on the proposed project and its impacts.**
04/24 – 08/24	**Lower Luxapallila Creek Watershed Preliminary Investigation Feasibility Report, Columbus, MS.** *City of Columbus.* **Project Engineer.** Preliminary Investigation Feasibility Report (PIFR) for the Lower Luxapallila Creek Watershed. This is the first step in developing a watershed management plan for the National Resource Conservation Service (NRCS). Jennifer successfully steered the PIFR to a watershed that met federal funding requirements. This watershed has widespread flooding and water quality issues which will be addressed in the next step of the project.

06/22 – 03/23	**Front Beach Event Space and Marina, Ocean Springs, MS.** *City of Ocean Springs.* **Lead Engineer and Project Manager.** Lead engineer and project manager for a project redeveloping a beach-front property for the City of Ocean Springs. This project includes an event structure, green space, living shoreline, bulkhead, marina, restrooms, and stormwater features.
02/21 – 03/23	**HCPHC Environmental IDIQ, Hancock County, MS.** *Hancock County Port and Harbor Commission.* **Project Manager.** Project manager overseeing all environmental projects under contract with Hancock County Port and Harbor Commission. Contracted work to date includes mitigation bank feasibility assessment, permit application, and permit renewal.
03/21 – 01/23	**MDOT Properties, Phases I and II, Gulfport, MS.** *MDOT.* **Lead Engineer and Project Manager.** Project manager and lead engineer for a Phase I ESA for a 30-acre site in accordance with ASTM E 1527-13. This ESA identified multiple Recognized Environmental Conditions, triggering a Phase II ESA and potential Corrective Action.
10/21 – 03/23	**Watershed Management Plans.** *Jackson County, MS.* **Lead Engineer and Project Manager.** Project manager and lead engineer for the creation of Jackson County's County-Wide Watershed Management Plan and portions of EPA-compliant WMPs for three HUC-12s in Jackson County. These portions include watershed management plan objectives, **stakeholder engagement,** watershed characterization, fieldwork, plan implementation and evaluation, and financing strategies. Additionally, Jennifer was responsible for evaluation of feasible resource strategies, evaluation of existing stormwater ordinances and policies, and providing program-level stormwater support services as needed.
05/19 – 03/23	**Coastal Preserves Management Planning.** *Hancock, Harrison and Jackson Counties, MS.* **Project Engineer.** Responsible for identifying restoration techniques for 13 individual coastal preserves sites across coastal Mississippi. This work included identifying restoration techniques and creating opinions of probable cost.
03/20 – 11/20	**Round Island Intertidal Circulation Enhancements, Pascagoula, MS.** *MDEQ.* **Lead Engineer.** Lead engineer on the construction administration and record drawings for MDEQ's Round Island Intertidal Circulation Enhancements project in Pascagoula.
01/21 – 08/21	**Sustainability and Resiliency Master Plan, Gulfport, MS.** *Port of Gulfport.* **Project Engineer.** Responsible for writing the NFWF proposal to fund the Port of Gulfport's Sustainability and Resiliency Master Plan. The proposal was awarded federal funding. The S&R Master Plan is currently underway.
01/21 – 03/23	**Stormwater Program, Hancock County, MS.** *Hancock County.* **Project Engineer.** Engineer on three EPA-focused stormwater management plans for three HUC-12s in Hancock County. Responsible for evaluation of feasible resource strategies, evaluation of existing ordinances and policies.

16. Staff Experience:

Firm employed by	Olsson, Inc.		
Name	**Brynn Tucker, EI**	*Years of relevant experience with this employer*	5
Title	Associate Engineer | Water Resources	*Years of relevant experience with other employer(s)*	0
Degree(s) / Years / Specialization	BS / 2020 / Biological Engineering		
Active registration number / state / expiration date	EI / Arkansas / exp. 12/2025		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	BLE and Discovery Support		

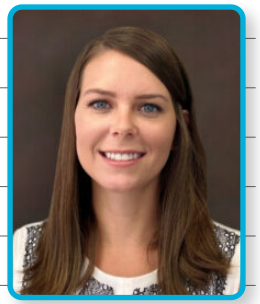
Brynn is a water resources engineer who specializes in projects involving floodplains, wetlands, and stormwater management. She navigates various modeling software, including software packages developed by the U.S. Army Corps of Engineers' Hydraulic Engineering Center (i.e., HEC-RAS and HEC-HMS) and the U.S. Environmental Protection Agency (i.e., SWMM). Brynn uses these programs to develop hydrologic and hydraulic (H&H) models and perform base level engineering (BLE). She has been heavily involved in the state of Arkansas' Cooperating Technical Partners (CTP) program and BLE projects for the Texas Water Development Board (TWDB).

- ✓ Proficient in using advanced 2D modeling techniques and software packages such as HEC-RAS, HEC-HMS, and SWMM.
- ✓ Led multiple Discovery and BLE projects.
- ✓ Contributed to FEMA Risk MAP initiatives, including risk identification, assessment, communication, and mitigation, with a focus on community outreach and education.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
06/2020 – Present	**State of Arkansas FEMA CTP Program,** *Statewide Arkansas. Arkansas Natural Resources Commission / Arkansas Department of Agriculture Natural Resources Division (ADANRD).* **Project Engineer.** Since 2011, ADANRD has partnered with Olsson to manage the CTP program within Arkansas. Brynn has contributed to various Federal Emergency Management Agency (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) initiatives, including mapping risk data and conducting BLE studies to assess, communicate, and mitigate risks. She has also assisted with community outreach.
12/21 – Present	**Frog-Mulberry Watershed Discovery Project, Arkansas and Missouri.** *ADANRD.* **Project Engineer.** Brynn led data collection efforts for the Frog-Mulberry Watershed Discovery project, which spans multiple counties in Arkansas and Missouri. In addition to gathering H&H data, land use information, and historical flood data, Brynn coordinated with partners and stakeholders, reviewed existing mitigation plans, and developed floodplain maps. She also facilitated post-project stakeholder meetings and provided basic BLE education to local communities. ***Additional Discovery projects:** Beaver Reservoir, Buffalo, Eleven Point, Fourche La Fave, Lake Conway-Point Remove, Little Missouri, Lower Arkansas, Lower Little Arkansas-Oklahoma, Lower Ouachita-Smackover, Lower Saline, McKinney-Posten Bayous, Spring, Strawberry, Upper Ouachita, and Upper White-Village Watersheds
9/23 – Present	**Little Red BLE Study, Arkansas.** *ADANRD.* **Project Engineer.** Brynn served as the project engineer on the 2D BLE H&H study of the Little Red Watershed, which spans approximately 1,800 square miles across eight Arkansas counties. She performed detailed analyses of stream flows and floodplain extents, developed floodplain maps, and coordinated submittals to FEMA's Mapping Information Platform (MIP). ***Additional BLE studies:** Beaver Reservoir, Buffalo, Bull Shoals Lake, Current Elk, Fourche La Fave, Frog-Mulberry, Illinois, Lake Conway-Point Remove, Little Missouri, Little Red, Lower Arkansas, Lower Black, Lower Little Arkansas-Oklahoma, Lower Ouachita-Smackover, Lower Saline, McKinney-Posten Bayous, Middle White, Petit Jean, Strawberry, Upper Black, Upper Ouachita, Upper Saline, and Upper White-Village Watersheds
2021 – 2023	**Running Water Draw and Palo Duro Watersheds 2D BLE Studies, Texas.** *Texas Water Development Board (TWDB).* **Project Engineer.** Brynn completed BLE hydraulic modeling for all study streams using advanced 2D modeling techniques. Submittals, including floodplain maps, water surface elevation grids, and flood depth grids, were submitted via FEMA's Mapping Information Platform (MIP).
07/2024 – 08/2024	**No-Rise Analysis, Jonesboro, Arkansas.** *Michael Baker International.* **Technical Reviewer.** Brynn performed 2D hydraulic modeling and H&H analysis to review several design plans created by Michael Baker. She also documented the No Rise.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Sarah McEwen, PE, CFM**	*Years of relevant experience with this employer*	2
Title	Central Region Hydrology & Hydraulics Lead	*Years of relevant experience with other employer(s)*	9
Degree(s) / Years / Specialization	BS / 2013 / Civil Engineering		
Active registration number / state / expiration date	PE 42539 / LA / exp. 09/2026; Certified Flood Plain Manager - US-14-07857		
Year registered 2018	*Discipline* PE (Civil)		
Contract role(s) / brief description of responsibilities	FEMA H&H Analysis, Risks		



Sarah serves as the Central Region Hydrology and Hydraulics Discipline Lead, managing all hydrology, hydraulics, and drainage projects in MS, LA, and AR. She has extensive experience with state agencies, including current work on master services H&H contracts for MDOT and ARDOT, and previously led the program management for the Louisiana Watershed Initiative for the LA Office of Community Development. A Certified Floodplain Manager, Sarah has a background in floodplain mapping and expertise in HEC-HMS, HEC-RAS, HEC-SSP, PCSWMM, HY-8, Hydraulic Toolbox, XPSWMM, ESRI ArcGIS, AutoCAD, SMS SRH2D, MicroStation, and GeoPak. She is also a member of the Transportation Research Board (TRB) and the AKD50 Standing Committee on Hydrology, Hydraulics, and Stormwater.

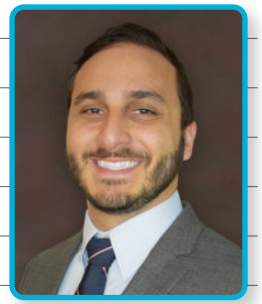
- ✓ Hydrology & Hydraulics Analysis Expertise
- ✓ Floodplain Mapping Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
07/13 – 04/17	**Digital: Flood Insurance Rate Map (DFIRM).** *Mississippi Department of Environmental Quality.* **Program Project Engineer.** Responsible for updating FEMA floodplain maps for communities throughout Mississippi. Tasks include processing and analysis of digital terrain data in various formats, GIS data processing and analyses, hydrologic and hydraulic modeling and analyses, digital mapping, and extensive database management. Participated in community outreach meetings and educational programs to support the floodplain mapping projects of communities.
09/23 – Ongoing	**SR 313 Bridge Replacement, Marshall County, MS.** *MDOT.* **Project Engineer.** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase. Role includes PM on project and technical lead.
08/23– Ongoing	**MDOT SR 4 Bridge Replacement, Tippah County, MS.** *MDOT.* **Project Manager & Technical Lead.** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase.
04/23 – Ongoing	**MDOT SR 172 Bridge Replacement, Tishomingo County, MS.** *MDOT.* **Project Manager & Technical Lead.** Bridge replacement project involving modeling the existing and proposed bridge in SMS to analyze scour. Project is now in design phase.
01/15 – 08/15	**Sonny McDonald Industrial Park, Jackson, MS.** *Mississippi Department of Environmental Quality.* **Project Engineer.** This project for the Hinds County Development Authority included using HEC-RAS, ArcGIS, and hydrologic and hydraulic calculations to evaluate the proposed in-line structure risk during a breach. The dam was evaluated for risk and appropriate documentation submitted to MDEQ Dam safety division. The study involved unsteady flow analysis, review of hydrology, and use of ArcGIS to map the breach boundary to evaluate the potential impacts of the breach.
08/24 – Ongoing	**General Services Contract, Moss Point, MS.** *City of Moss Point, MS.* **Project Engineer.** Supports the Moss Point City Engineer by facilitating meetings between agency, consulting, and educational stakeholders to support the development of technical guidance, data collection of stormwater systems, and decision support tools.
05/17 – 06/18	**Lakefront Airport 2D Subsurface Modeling, New Orleans, LA.** *Lakefront Management Authority Board of Commissioners.* **Project Engineer.** General review and assistance in drainage design for the airport. Work included using hydraulic software such as PCSWMM, to create a hydraulic analysis of the pre- and post-conditions of the site that would meet or exceed drainage regulations.

10/23 – Ongoing	**Government Ditch Watershed Plan Restoration & Environmental Assessment, Coahoma County, MS.** *MS Soil & Water Conservation Commission.* **Project Engineer.** Engineer for the restoration and stabilization of a watershed in the Mississippi Delta. The goal of the project is to implement permanent stabilization structures to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens, and to decrease flooding within the HUC12 watershed.
04/19 – 04/23	**Louisiana Watershed Initiative, Statewide, LA.** *LA Office of Community Development.* **Project & Program Manager.** Services included project management, design guidance review, and overall facilitation and quality control of the watershed initiative. Sarah served as the Project Manager for Task 1, which included leading a team to review current guidance/policies, summarize and present current data, develop a technical approach and guidance document for the Pilot Amite River model use and internal staff modifications. In addition, she served as the Project Manager for Task Order 12, which included project management of data and modeling activities. In this role she facilitated meetings between agency, consulting, and university stakeholders to support the development of technical guidance, oversee the 48 HUC 8 regional models, and decision support tools. Her technical background allowed her to advise and assist OCD on program decisions and support moving the multi-year schedule forward. In 2022, she took over as Program Manager, overseeing all Task Orders including Statewide Watershed Plan.
08/17 – 04/23	**CPRA, Mid-Barataria Sediment Diversion, Plaquemines Parish, LA.** *Coastal Protection & Restoration Authority.* **Project Engineer.** In charge of coordination with subconsultants on weekly progress reports for submission to the Louisiana Coastal Protection and Restoration Authority. Tasks include management and processing of data received from subconsultants. Other roles include reviewing BOD report for technical approach and clarity. In addition, she led the scour evaluation of the bridge at a site with both riverine and coastal design factors evaluated for impact on the proposed structure including complex piers in a cohesive soil environment. Piers were evaluated using both HEC-18 and FLDOT methods due to the complex pier and cohesive soil conditions. A practical application of the scour methodology was used to replicate the most realistic scour conditions anticipated at the site.
01/16 – 04/17	**Delta Levee Protection Study, along Mississippi River from Memphis to Vicksburg.** *Mississippi Department of Environmental Quality.* **Project Engineer.** Includes review and HEC-SSP analysis of hydrologic information from USGS and USACE historical gauge information provided along the reaches of the Mississippi River from Memphis to Vicksburg. Frequency analyses of river gage data were used to estimate the 1-percent-annual chance discharges along the portion of the Mississippi River that is the subject of this project. The U.S. Army Corps of Engineers provided two HEC-RAS geometry files for two reaches of the Mississippi River. The reaches were merged then modified to include appropriate Manning's. Ultimately the cross sections were calibrated, thinned, calibrated, and extended into the delta region to provide a flood analysis of without levee conditions. Software used includes HEC-SSP, HEC-RAS, and Arc-GIS.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Daniel Saliba, PE**	*Years of relevant experience with this employer*	5
Title	Water Resources Engineer.	*Years of relevant experience with other employer(s)*	9
Degree(s) / Years / Specialization	BS / 2011 / Civil Engineering		
Active registration number / state / expiration date	PE 38884 / AL / exp. 12/2025		
Year registered 2019	*Discipline*	PE (Civil)	
Contract role(s) / brief description of responsibilities	FEMA Analysis, Post Preliminary		



Mr. Saliba joined Neel-Schaffer in 2020 and has 14 years of experience as a Water Resources Engineer. Daniel has extensive experience in developing HEC-RAS hydraulic models for steady and unsteady analysis, developing comprehensive watershed hydrology with HEC-HMS, creating 2D hydraulic models in urban areas, and performing floodplain analyses and mapping for coastal counties. His experience includes three years with the Alabama Department of Environmental Management.

- ✓ Floodplain Analysis Expertise
- ✓ FEMA Analysis Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
04/22 – 11/22	**No-Rise for Greenway along Smith-Rocky Branch, Richland, SC.** *Richland County, SC.* **Project Engineer.** Responsible for development of 1D hydraulic model for Rocky Branch for the purpose of analyzing impacts of a pedestrian greenway that was being constructed in the floodway. The design was optimized to achieve a no-rise. Work was performed for Richland County in 2022.
10/22 – 05/25	**Stop 30 CLOMR over Drakes Creek, Hendersonville, TN.** *City of Hendersonville.* Project Engineer. Responsible for development of 1D hydraulic model for Drakes Creek for the purpose of modeling a road realignment and bridge replacement for Stop 30 Road. A CLOMR package was created for submittal to FEMA to show impacts to the special flood hazard area and floodway.
01/14 – 09/20	**Floodplain Development for State of Alabama Water Resources.** *Alabama Office of Water Resources (ADECA/OWR).* **Project Engineer and Watershed Lead.** Modeled 1D hydraulic analysis streams for approximate and detailed studies on multiple watersheds across the state. Developed hydrology using USGS regression, gage analysis, and rainfall data. Developed Flood Insurance Study Reports for multiple counties in the state. Provided hydraulic and hydrologic reports to coincide with updated study procedures and assumptions.
08/19 – 09/20	**LOMR/CLOMR Reviews.** *State of Alabama.* **Assistant Project Manager.** Worked with clients to review and approve LOMRs and CLOMRs on behalf of FEMA. Helped train communities and colleagues on the LOMR process. Provided bi-weekly updates to clients regarding the status of ongoing projects and budgets.
10/24 – 12/24	**Overall Creek and Puckett Creek Map Revision, Murfreesboro, TN.** *City of Murfreesboro.* **Project Engineer.** Responsible for development of 1D hydraulic models of Overall Creek and Puckett Creek using field-run survey and LiDAR ground surface data. Multiple flood profiles and the regulatory floodway were modeled with HEC-RAS and inundation areas were mapped with ArcGIS software to produce updated delineations in support of a FEMA Letter of Map Revision request.
01/24 – Ongoing	**West Alabama Highway, Multiple Counties in West Alabama.** *HDR/ALDOT.* **Engineering Water Lead.** Responsible for managing the development of all 1D hydraulic major stream crossing modeling for bridges and bridge class culvert extensions in FEMA flood zones for three segments. Led team in modeling all cross drains for three segments. Designed infiltration swales to mitigate stormwater runoff and helped with the design of side ditches and median drains.
08/21 – 10/22	**Little Harpeth River No-Rise Analysis. Brentwood, TN.** *Multiple homeowners.* **Project Engineer.** Responsible for development of 1D hydraulic model for Little Harpeth River for the purpose of analyzing impacts of six homes along the river that were to be elevated above the BFE. The design was optimized to achieve a no-rise.
02/22 – 04/23	**MS4 Program Embedded Staff with Office of Design Policy & Support.** *GDOT.* **Water Resources Consultant.** Served as embedded staff within the GDOT ODPS. Tasks include review and responses from Stormwater Report inbox, review assigned project reports and plans, attend progress meetings and project meetings, contribute to MS4 policy and procedure revisions, support GDOT professionals on DOT stormwater policy compliance, and data collection and modeling for litigation.

10/20 – 05/21	**Bridge Replacement over Spears Creek, Richland, SC.** *SCDOT.* **Project Engineer.** Responsible for development of 1D hydraulic model for Spears Creek for the purpose of analyzing impacts of replacing a box culvert with a single span bridge at Church Road. Work was performed for the South Carolina Department of Transportation in 2022.
02/20 – 06/20	**Black Branch Creek Drainage Studies, Chatsworth, GA.** *GDOT.* **Project Engineer.** Responsible for development of 1D hydraulic model for Black Branch Creek for the purpose of analyzing impacts of potential drainage improvements between North 2nd and North 4th Avenues. Work was performed for the Georgia Department of Transportation in 2020.
04/20 – 08/20	**Town Branch Drainage Study, Fort Oglethorpe, GA.** *GDOT.* **Project Engineer.** Responsible for development of 1D hydraulic model for Town Branch for the purpose of analyzing impacts of widening/lengthening two multi-barrel box bridges at State Route 146 and Fant Drive. Work was performed for the Georgia Department of Transportation in 2020.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Maggie Waldron**	*Years of relevant experience with this employer*	1
Title	Environmental Scientist	*Years of relevant experience with other employer(s)*	5
Degree(s) / Years / Specialization	BA / 2013 / Economics, Classical Studies; MS / 2019 / Geography; PhD, in progress, Coastal Science		
Active registration number / state / expiration date	N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	Floodplain Management, Mitigation Planning		

Maggie serves as an Environmental Scientist, conducting environmental and geospatial analysis and documentation for a wide range of clients. She provides technical expertise in coastal environments, remote sensing, and Geographic Information Systems (GIS). Her responsibilities include developing and advising on technical solutions related to environmental concerns, conducting environmental studies, and consulting on procedures. Maggie has seven years of experience in environmental, geospatial, and research science with the University of Southern Mississippi (USM), where she managed research projects addressing coastal change, biogeography, geodesy, remote sensing, Real Time Kinematic GNSS, and other geospatial methods. She coordinated with university and external collaborators, including federal and state agencies. At USM's Gulf Coast Geospatial Center (GCGC), Maggie collected, managed, analyzed, and interpreted data from ecological, biophysical, GNSS, and remotely sensed datasets, and prepared technical reports, manuscripts, and presentations to disseminate research findings.

- ✓ Community Planning Expertise
- ✓ Mitigation Planning Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
05/24 – Ongoing	**Government Ditch Watershed Plan and Restoration, Coahoma County, MS.** *MS Soil & Water Conservation Commission.* **Environmental Scientist.** Contributing environmental and spatial analysis and writing for an Environmental Assessment, including wetland and other waters delineation and habitat studies, for a project that aims to restore and stabilize a failing stormwater channel. Additionally, Maggie provided the development of a Public Participation Plan and interagency coordination. The goal of the project is to reduce sediment transport and improve water quality in the Sunflower River and to decrease flooding within the HUC12 watershed.
08/24 – Ongoing	**Jackson County County-Wide Resiliency Plan, Jackson County, MS.** *Jackson County Board of Supervisors.* **Deputy Project Manager.** Leading Data Collection, GIS, and Community Engagement Tasks in support of the creation of a county-wide plan to increase the resiliency of the county's economy, natural environment, and communities to coastal hazards, including storm surge, riverine, and precipitation-induced flooding. This work includes conducting spatial analysis using FEMA Special Flood Hazard information along with other data pertaining to the natural and built environment to assess, quantify, and visualize flood vulnerabilities for assisting planning and decision-making. Project activities also include facilitating communication with a broad group of stakeholders about flood risk and vulnerability across the county, as well as preparing written documentation, maps, and other visual data products to contribute to the final Resiliency Plan.
10/20 – 04/24	**Field Implementation of Belowground Biomass for Increased Dune Stability and Resiliency, Pass Christian, MS.** *USACE Engineer Research & Development Center.* **Principal Investigator.** Project collected and analyzed quarterly terrestrial LIDAR surveys, ground-based RTK surveys and vegetation information, and UAS imagery at an experimental dune site in Pass Christian. Led field survey planning, data collection, and analysis and contributed to writing of a peer-reviewed publication. The goal of the project was to investigate the impacts of organic wrack placement on beach dune stability, accretion, and volume as well as vegetation changes through time.
10/22 – 12/22	**Invasive Species Mapping and Forecasting at Deer Island, MS.** *Mississippi Department of Marine Resources.* **Environmental Scientist.** Created maps and areal estimates of Phragmites australis coverage at Deer Island, MS using remotely sensed image classification and spatial/GIS analysis to assist MDMR Invasive Species and Coastal Preserves Coordinators with species management decisions.

05/24 – 08/24	**Gulfport Commerce Corridor, Gulfport, MS.** *City of Gulfport.* **Lead GIS Scientist.** Scientist for a 23-acre road corridor project. Deliverables included a wetland and other waters delineation, threatened and endangered species survey and agency coordination, environmental and spatial analysis, GIS habitat mapping, and report writing.
01/17 – 01/20	**Historic Estuarine Land Cover Change Assessment for the Pascagoula River Estuary, Jackson County, MS.** *University of Southern Mississippi.* **Researcher/Analyst.** Created historical image mosaics and mapped historical and present-day estuarine habitats using textural and spectral image analysis to analyze spatial change for National Academy of Sciences Gulf Research Program-funded Data Synthesis project, "Understanding the Trajectory of Coastal Salt Marsh Structure, Function, and Processes in the Face of Sea Level Rise: A Synthesis from Historical Imagery, Biophysical Processes, and Hierarchical Modeling." Produced data products available at https://aquila.usm.edu/saltmarsh/ and led writing and submission of a peer-reviewed publication in the Journal of Coastal Research.
04/24 – Ongoing	**Shelbyville Overlook, Bedford County, TN.** *City of Shelbyville.* **Environmental Lead.** Completing the NEPA review as a Categorical Exclusion (CE) for a Transportation Alternatives Program (TAP) funded project. The NEPA review included an Initial NEPA Study, Section 106 assessment, and the CE document. The project aims to provide green space and tourist attractions as well as enhancing connectivity in the downtown Shelbyville area through the rehabilitation of a multi-use path and construction of an overlook along the Duck River.
09/24 – Ongoing	**Tyne Boulevard Bikeway, Davidson County, TN.** *City of Forest Hills.* **Environmental Lead.** Completing the NEPA review as a Categorical Exclusion (CE) for a Transportation Alternatives Program (TAP) funded project. The NEPA review includes an Initial NEPA Study, Section 106 assessment, and the CE document. The purpose of the project is to provide a bikeway connection between bike lanes located along scenic Hillsboro Pike to a widely used existing pathway system on Otter Creek Road, improving bicycle and pedestrian connectivity between the neighborhoods within Forest Hills as well as between the City and its neighbors.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Pat Bonck**	*Years of relevant experience with this employer*	3
Title	Planner	*Years of relevant experience with other employer(s)*	33
Degree(s) / Years / Specialization	BS / 1992 / 1992 / General Studies;		
Active registration number / state / expiration date	N/A		
Year registered	N/A	*Discipline*	N/A
Contract role(s) / brief description of responsibilities	FEMA Support		

Mr. Bonck joined Neel-Schaffer in 2022 and has over 24 years of experience in the planning field, including more than 20 years as the Zoning Administrator for Harrison County. He built the Zoning Department from scratch, integrating newly adopted rules with the County's Building Code and Engineering Departments. Following Hurricane Katrina, he contracted with Ohio State University and Jackson State University to update Harrison County's Comprehensive Plan, incorporating a New Urbanist Sector Map. His experience includes zoning, developing and implementing building codes, land use studies, and managing commercial and residential developments.

- ✓ Floodplain Ordinance Development Experience
- ✓ FEMA/NFIP Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
07/21 – 03/22	**Landscaping Zoning Ordinance Text Amendment.** *Harrison County.* **Planner.** The ordinance change included specific plans for Hwy 49 (commercial corridor) and Hwy 67 and SR 605 (a Mississippi Scenic Byway) with an emphasis on using native plants. Particular attention was given to identifying specific species with root systems and canopy shapes appropriate for existing utilities and parking lots/slabs in the planting area and to not hide businesses or their signs from the traveling public.
2024 – 2025	**Pike County General Services.** *Pike County.* **Planner.** Supported as a planner for ordinance reviews and floodplain management activities focused on the review of Community Rating System implementation and feasibility of mitigation measures as needed.
08/15 – 03/16	**Sign Regulations Zoning Ordinance Text Amendment.** *Harrison County, MS.* **Planner.** Harrison County's Zoning Ordinance as originally adopted did not include general commercial sign regulations. Several attempts were made over the years to adopt a sign ordinance, but the diversity of community types across the county, such as Highway Commercial, Suburban, and Rural, made standard regulations difficult to adopt without being too complex. The choice was made to focus on one corridor, the Hwy 67 and SR 605 Mississippi Scenic Byway. The adopted regulations had to comply with the Scenic Byway guidelines and be functional for the commercial properties along the corridor while being non-offensive to residential neighbors. One goal was to avoid a sign spending war that national franchises could afford but that local small businesses would have a hard time competing with. Allowable signage had to be effective but uniform in size and placement. The adopted regulations included on-building, monument signs and limited short-term banners and inflatable signs. The regulations prohibited flashing signs and signs on permanently parked vehicles.
01/25 – 01/26	**Community Rating System (CRS) Coordinator.** *Gulfport, MS.* **Planner.** Compiled floodplain building permit and customer assistance data for the 2024 fiscal year and submitted to the Mississippi Emergency Management Agency (MEMA) representative for Gulfport's FEMA CRS compliance.
03/20 – 08/20	**Land Use Elements & Smart Growth Strategies, Laurel, MS.** *City of Laurel.* **Planner.** Chosen to help the City of Laurel plan for growth by identifying and characterizing existing land use elements and identifying areas for future conservation and growth as it relates to Land Use Planning and its Transportation System. The project included form-based zoning text amendments integrated into the city's existing Zoning Ordinance for downtown and smart growth initiatives and recommendations for four overlay zoning districts, including the Medical District, which is a mixed-use development surrounding their regional hospital. These four areas were chosen by the city to encourage mixed-use development facilitating new business and residential development for both young professionals and baby boomer retirees.
09/22 – 12/22	**LBC Class II Rubbish Facility.** *Harrison County, MS.* **Planner.** Developed and submitted a permit application for a 15-acre Class II Rubbish Facility located along Highway 67 in Harrison County. Assisted the client with the zoning application, modification of the Solid Waste Master Plan, and the MDEQ Permit.

16. Staff Experience:

Firm employed by	Neel-Schaffer, Inc.		
Name	**Monica Patel, CERP**	*Years of relevant experience with this employer*	2
Title	Environmental Manager	*Years of relevant experience with other employer(s)*	12
Degree(s) / Years / Specialization	BA / 2006 / Economics; MS / 2010 / Environmental Management		
Active registration number / state / expiration date	Certified Ecological Restoration Practitioner #0339		
Year registered 2019	*Discipline* N/A		
Contract role(s) / brief description of responsibilities	NFIP Support & Training		

Monica Patel is an accomplished Environmental Manager with 15 years of experience in planning, restoration, monitoring, and geospatial analysis. She leads comprehensive environmental studies in coastal environments and has directed diverse natural resource studies, including stream and wetland delineations, submerged aquatic vegetation surveys, protected species surveys, invasive species surveys, habitat assessments, elevation surveys, and shoreline change surveys. She is proficient in using Trimble and RTK GPS equipment for precise geospatial data acquisition and ESRI ArcGIS software for advanced spatial analysis, comparison analysis, and cartographic mapping. Her extensive experience with NEPA compliance includes securing numerous approvals, from Categorical Exclusions to Findings of No Significant Impact Reevaluations, for a variety of federal agencies.

- ✓ Mitigation & Resiliency Planning Expertise
- ✓ Community Engagement and Training Expertise
- ✓ Federal Compliance Expertise

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
01/24 - On Going	**Government Ditch Watershed Plan and Restoration, Coahoma County, MS.** *MS Soil & Water Conservation Commission.* **Environmental Manager.** Led Environmental Assessment (EA) efforts on a project to restore and stabilize a failing stormwater channel. The goal of the project is to implement permanent stabilization structures to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens, and to decrease flooding within the HUC12 watershed. Coordinated environmental technical fieldwork and reporting efforts, and served as the primary author of the EA, ensuring comprehensive evaluation and compliance with USDA NRCS guidelines and NEPA regulations.
10/24 - On Going	**Jackson County Resiliency Plan, Jackson County, MS.** *Jackson County Board of Supervisors.* **Environmental Planning.** Supported environmental planning activities for a countywide coastal resiliency initiative aimed at reducing flood risk, improving infrastructure resilience, and guiding future investments across Jackson County. Responsibilities included reviewing and commenting on the project's Community Engagement Plan to strengthen inclusive public participation. Contributed to plan analysis by evaluating potential regulatory considerations, environmental constraints, and flood-prone areas using existing land use and infrastructure data. The project is funded to develop long-term resiliency strategies addressing coastal hazards, climate impacts, and infrastructure vulnerabilities at the regional scale.
08/22 - 04/24	**Rhodes Bayou Maintenance and Flood Mitigation.** *City of Moss Point.* **Environmental Scientist.** Conducted habitat assessment, submerged aquatic vegetation study, Section 404/401 permitting, and agency coordination with MDEQ, MDMR, and USACE. The project aims to mitigate flooding during storm events to the local residential community while maintaining water quality standards.
07/22 - 06/23	**Salt Bayou Marsh Creation Environmental Screening. S***t. Tammany Parish.* **Environmental Scientist.** Conducted a desktop evaluation of current environmental conditions in the project area to inform project development and the permitting process. The project includes the design of a marsh restoration project along the northeast border of Lake Pontchartrain in response to historic wetland loss. The project goal is to create 278 acres and nourish 155 acres of marsh; 433 total acres of wetland restoration. The project consists of one marsh creation site and three marsh nourishment sites.
11/22 - 09/23	**Queensburg Avenue Property HUD Floodplain and Wetlands Evaluation.** *Jones County, MS.* **Environmental Project Lead.** Completed the wetlands and floodplains components of the HUD EA for the construction of a new apartment complex for eligible low-income families, elderly, and persons with disabilities. Wetlands component included field delineation, data collection and mapping using Trimble equipment and ArcGIS, agency coordination, and HUD worksheets. Floodplains component included an 8-step process, public involvement, and HUD worksheets.

07/22 - On Going	**Bayous Maintenance Dredging, Gautier, Jackson County, MS.** *Jackson County Board of Supervisors.* **Environmental Scientist.** Conducted submerged aquatic vegetation survey, habitat assessment, avoidance and minimization guidance, Section 404/401 permitting, and agency coordination with MDEQ, MDMR, and USACE.
05/24 - On Going	**Burns Bottom Redevelopment, Columbus, Lowndes County, MS.** *Columbus Redevelopment Authority.* **Environmental Project Lead.** Preparing in HUD's HEROS system for a 15-acre brownfield redevelopment project located in a designated floodplain. Scope includes an evaluation of 25 environmental factors under 24 CFR Part 58, with specific emphasis on floodplain management, wetlands, land use compatibility, and potential contamination. Work included conducting a preliminary wetland and floodplain assessment and initiating the 8-step decision-making process under Executive Orders 11988 and 11990. Coordination efforts supported alignment with local redevelopment goals, and mitigation documentation was developed to facilitate HUD compliance and project approval.
08/24 - On Going	**Okhissa Lake Scenic Rivers Community Development, Franklin County, MS.** *Scenic Rivers Development Alliance.* **Environmental Project Lead.** Conducted environmental review for a HUD-funded community development project adjacent to Okhissa Lake within the Homochitto National Forest. Project scope includes construction of approximately 9,650 feet of access and internal roads, multi-use trails, culverts, parking areas, and stormwater infrastructure. Responsibilities included floodplain and wetland impact assessment, support for HUD Part 58 compliance, and evaluation of drainage design in relation to stormwater best management practices.
11/24 - On Going	**Emergency Drainage Rehabilitation, Moss Point, Jackson County, MS.** *City of Moss Point.* **Environmental Project Lead.** Environmental coordination conducted for a HUD CDBG-DR funded emergency drainage rehabilitation project spanning seven road segments over approximately 7 miles in Moss Point, Mississippi. The project aims to restore storm-damaged drainage systems and mitigate future flood risks resulting from Hurricanes Ida and Zeta. Coordination included early consultation with the U.S. Army Corps of Engineers (USACE), Mississippi Department of Marine Resources (MDMR), and Mississippi Department of Environmental Quality (MDEQ) to evaluate potential impacts to wetlands, tidal wetlands, and water quality. Project elements were assessed to determine permitting requirements, and regulatory feedback was used to confirm components that fall outside of Section 404/401 jurisdiction. Completed the U.S. Fish and Wildlife Service (USFWS) IPaC submission and secured a no effect determination for federally listed species. Efforts support HUD Part 58 compliance and facilitate environmental clearance for critical infrastructure rehabilitation.
03/19 - 12/19	**Coastal Preserves Spatial Ecological Risk Assessment and Management Planning, Coastal Counties, MS.** **Geospatial Analyst.** Led spatial modeling efforts for a multi-parameter comprehensive ecological risk assessment. Utilized advanced geospatial analysis techniques and ecological modeling in ArcGIS software to evaluate risks across more than 35,000 acres within 13 coastal sites. Results informed the management plan to develop site-specific strategies to mitigate identified risks and enhance ecological resilience.
06/17 - 02/19	**Coastal Marsh Reference Site Monitoring for Beneficial Use Site Design, Coastal Counties, MS.** **Environmental Scientist.** Conducted bi-annual vegetation and elevation/topography surveys at three reference sites over three years to inform the design of beneficial use sites. Conducted field data collection, GIS analysis, and tabular data analysis. Prepared site reports summarizing findings of each monitoring event and cumulative analysis to identify vegetation and elevation trends.

16. Staff Experience:

Firm employed by	GOTECH, Inc.				
Name	**Bruce Dyson, P.E., P.L.S.**		*Years of relevant experience with this employer*	29	
Title	Engineering & Surveying Manager		*Years of relevant experience with other employer(s)*	17	
Degree(s) / Years / Specialization		Bachelor's-of-Science / 1978 / Civil Engineering			
Active registration number / state / expiration date		P.E. License No. 20162 / LA / 3-31-2026; P.L.S. License No. 4670 / LA / 3-31-2026			
Year registered	1982; 1992	*Discipline*	Registered Professional Civil Engineer; Professional Land Surveyor		
Contract role(s) / brief description of responsibilities		LOMAs / LOMRs			

Mr. Dyson has been involved in a variety of survey projects. He is experienced in the areas of civil engineering, project management, construction administration and management, and cost estimating. Specific areas of expertise include drainage improvements, land surveying and flood control. Mr. Dyson has supervised up to five survey crews at GOTECH working on a variety of public and private contracts such as contracts with LA DOTD, US Army Corps of Engineers, Federal Aviation Administration, Parish governments, and New Orleans Sewerage & Water Board.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
11/22 – 06/23	**Louisiana Watershed Initiative (LWI) Modeling Contract Region No. 3.** *DOTD.* **Project Manager.** Mr. Dyson was the project manager for the Region 3 Master Drainage Plan Project. GOTECH served as a subconsultant to WSP in Region 3. The work included 105 stream cross sections and 164 structure surveys.
09/21 – 08/22	**LWI Modeling Contract Region No. 2.** *DOTD.* **Project Manager.** Mr. Dyson was the project manager for the Region 2 Watershed Initiative Project. Provided topographic and bathometric surveys in North Louisiana as a part of the master drainage plan work. Over 135 structures were surveyed and over 150 miles of streambeds were surveyed as part of the modeling efforts.
04/15 – 09/19	**Acadian Rd Roundabout, Route LA 20 (Canal Blvd) & Local Routes (Back Street, Jackson Street, Thompson Place), Thibodaux, LA .** *DOTD.* **Engineering / Survey Manager.** Mr. Dyson was responsible for providing professional supervision and project management oversight for the right-of-way mapping services to support parcel acquisition required for design of a new road roundabout in Thibodeaux, Louisiana. Project included field property surveys performed to DOTD survey standards and parcel title work reviews of affected properties. Final right-of-way map and parcel description deliverables, along with MicroStation parcel mapping files, were reviewed and submitted in accordance with established DOTD Location and Survey delivery requirements.
10/17 - 03/18	**I-10 at Morrison Rd Interstate Lighting, Orleans Parish, LA.** *DOTD.* **Engineering / Surveyor Manager.** Mr. Dyson was responsible for providing supervision and project managment of topographic surveys to support various interstate lighting design projects. The projects included static GPS control surveys and topographic field surveys performed to DOTD survey standards within the full limits of the highway interchange. The survey field information gathered included roadway surface features, drainage structures, designated subsurface utility locations, and structure data on elevated portions of the interstate bridge overpass. Final deliverables, and MicroStation mapping files, were certified and submitted in accordance with established DOTD Location and Survey delivery requirements.
02/14 - 11/16	**LA Hwy 431 at LA Hwy 934 Intersection Improvements, Ascension Parish, LA.** *DOTD.* **Quality Control Reviewer.** Mr. Dyson was responsible for the quality control of the Hwy 431 / 934 Intersection Improvements project. Provided topographic surveying and mapping services for the project. The work was located in Ascension Parish on what are currently two-lane highways with narrow shoulders and adjacent open ditch drainage. Obtained field data in a format that was used in MicroStation CADD drawings with Inroad's software. Mapped the data in an AutoCAD version for the designers to use. The topographic map showed existing features as pavement, ditches, culverts, lighting, signs, utility poles, traffic controls, driveways, and other utilities. Developed an existing drainage map for the project. The watershed covered approximately 25 acres of contributing drainage area.
10/12 - 12/14	**I-10 (LA 30 to LA 22), Ascension Parish, LA.** *DOTD.* **Quality Control Reviewer.** Mr. Dyson was responsible for the quality control reviewer for the Interstate 10 project in Ascension Parish. The project included a segment of the Interstate from LA Hwy 30 to LA Hwy 22. Cross Sections were taken from right-of-way line to right-of-way line to provide data for the Interstate widening design. Overpass details were obtained to show bridge details, bent locations, piling spacing and clearance dimensions.

09/07 - 09/13	**New Orleans Submerged Streets Repair-Permanent Repair to Federal Aid Eligible Roads as a Result of Damage Due to Hurricane Katrina in 2005.** *LA DOTD.* **Engineering Coordinator.** Mr. Dyson was the Engineering Coordinator for this project. GOTECH provided topographic surveying, preliminary and final roadway plans, and construction support for the project streets located in Jefferson and Orleans Parishes.
02/06 - 08/11	**John James Audubon Bridge Design/Build Project, St. Francisville, LA.** *LA DOTD.* **Assistant Design Engineer.** Mr. Dyson was responsible for performing quality control reviews on the construction documents. The cable-stayed bridge structure crossed the Mississippi River linking the St. Francisville area with the New Roads community. Approximately 3.5 miles of a mainline and sideroad network were designed by GOTECH. The project involved intersection designs, drainage analysis, alignment geometric designs, profile/grade analysis and cost estimating.

16. Staff Experience:

Firm employed by	GOTECH, Inc.		
Name	**James "Drew" Walsh, P.E., PMP, CFM**	*Years of relevant experience with this employer*	6
Title	Director of Engineering & Project Management	*Years of relevant experience with other employer(s)*	22
Degree(s) / Years / Specialization	Bachelor of Science / 1996 / Environmental Engineering / United States Military Academy, West Point, NY Master's in Business Administration / 2003 / Louisiana State University		
Active registration number / state / expiration date	P.E. License #29340 / LA / exp. 3/31/2027 Project Management Professional / Certification # 231196 ASFPM Certified Floodplain Manager / Certificate No. US-21-12010 NABCEP Certified PV Installation Professional / Certification # PV-102415-003096 ASFPM Certified Floodplain Manager / Certificate No. US-21-12010		
Year registered	2001	*Discipline*	Civil Engineering
Contract role(s) / brief description of responsibilities	LAMP		

Mr. Walsh is a talented leader and engineer with 20+ years' experience. Mr. Walsh is an Engineer at GOTECH who specializes in Project Management, Hydraulics, Hydrology, Utility Coordination and Site Engineering. Mr. Walsh has a broad base of experience on engineering projects across Louisiana in a variety of settings. He has done SUE investigations on many projects involved with, including LA DOTD roadway projects, sewer rehabilitations, sight development, drainage improvements and other civil projects.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
02/19-Present	**Pointe-Marie: A New Village, Baton Rouge, LA. Project Manager and Lead Engineer.** Mr. Walsh is currently the project manager and lead engineer for the on-going design and construction of Pointe-Marie. This project entails a planned community development of a mixed-use village encompassing over 120 acres. His duties include the design of roadways, drainage, grading, sanitary sewer system, utility layout and coordination and overseeing construction activities. Phase I is complete and working on Phase II. Mr. Walsh developed a Hydraulic Model for the 120ac Pointe-Marie development to Master Plan the drainage. From the model, developed construction plans for 5 drainage projects that will improve the drainage for this development. Working to improve drainage across overhead utilities and underground pipelines in the north end of the property to include Entergy Transmission and Distribution, Shell Pipeline, Baton Rouge Sewer Force Main and Entergy Gulf States. Mr. Walsh developed a Hydraulic Model for the 120ac Pointe-Marie development to Master Plan the drainage. From the model, developed construction plans for 5 drainage projects that will improve the drainage for this development.
07/12-02/19	**Veteran Contractors, LLC. Owner and Operator** Mr. Walsh is the Owner and Operator of Veteran Contractors, LLC. He is responsible for managing projects and the oversight, performance and outcome of work done by Veteran Contractors, LLC. Work included the installation of residential solar systems for over 2,000 homes. PosiGen Solar Installer – Designed systems and did layout drawings for nearly all installed systems, stamped layouts and wind load certifications.
08/11-07/12	**Royal Engineers & Consultants** Mr. Walsh was **Senior Project Engineer/Service Line Director – Head of Civil Engineering**, managing projects, personnel, resources, stakeholders, schedules, and budgets on a wide variety of projects. Worked on Canal Crossings in St. Bernard Parish, Grants Management in Orleans Parish, Sewer Pump Stations in Orleans Parish, preforming engineering, design and construction.
08/08-08/11	**Permanent Canal Closures and Pumps.** *US Army Corps of Engineers, Hurricane Protection Office.* **Senior Project Manager** for Permanent Canal Closures and Pumps. This was a $700M project for three pump stations and closures for the 17th Street, Orleans Ave and London Ave Canals. Managed the writing of the Request for Proposals (RFP), the completion of the Environmental Report, gaining the Partnership Agreement with the Non-Federal Sponsor, Orleans Parish Sewage and Water Board, CPRA, SLFPA-E and the Orleans Levee District, and the advertisement of the project. I was working on finalizing the real estate acquisition and preparing for the project kickoff and outlining the requirements of the Government's involvement. I was part of the selection committee during the initial selection of the contractor.

07/06-08/08	**Stuart Consulting Group.** *US Army Corps of Engineers, Hurricane Protection Office.* **Project Manager.** Managed projects from engineering, design, production of plans and specifications by an A/E, through advertisement, award and construction. These projects were done to repair damage caused by Hurricane Katrina to Orleans, Jefferson, St. Bernard and Plaquemines Parishes Pump Stations, totaling over $100M. Coordinated with the following the levee districts as part of this project, Orleans, Pontchartrain, Lafourche, East and West Jefferson, Algiers and Lake Borgne, and was presenting to them and attending meetings as they were forming into SLFPA-East and SLFPA-West after Hurricane Katrina as well as CPRA. Also managed the $240M Orleans Parish Non-Federal Pump Station Storm Proofing Project from inception to construction.
02/96-07/06	**Shread – Kuyrkendall & Associates, Inc.** **Civil / Hydrologic / Hydraulic Engineer** ▪ **Pump Station Projects (LaPlace, LA)** – Performed hydrologic and hydraulic study on areas to determine need, location and size of multiple pump stations. Used HEC-HMS to model the hydrology of the area and HEC-RAS to model the canals. ▪ **Reserve Oxidation Pond (Reserve, LA)** – Determine size of treatment pond, size aerators and pumps, produce plans, specifications, and operation plan. ▪ **Copper Mill Golf Course Project (Zachary, LA)** – Prepared preliminary design for subdivision layout including subsurface drainage, and roadways.

16. Staff Experience:

Firm employed by	Civil Design & Construction, Inc. (CD&C)		
Name	**Chris Ballard, PLS**	*Years of relevant experience with this employer*	9
Title	Survey Manager	*Years of relevant experience with other employer(s)*	19
Degree(s) / Years / Specialization	BS / 2004 / Biological Science / Southeastern LA University		
Active registration number / state / expiration date	PLS No. 5033 / Louisiana / exp. 09/30/2026		
Year registered N/A *Discipline*	N/A		
Contract role(s) / brief description of responsibilities	Land Surveyor		

Meets MPR 4 Mr. Ballard serves as the Survey Manager for this project. He will work to oversee the project progress stays on schedule, aide in both crew coordination and office production, and provide final QC on the firms' deliverable to the Prime Consultant. Mr. Burgess has an extensive background in providing topographic surveys for DOTD in accordance with Location and Survey policies and procedures. He has overseen projects utilizing traditional means and methods of collecting data as well as those that include the use of 3D Terrestrial Scanning.

Experience dates (mm/yy-mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
12/23 – 05/23	**H.012618 LA 347 Drainage Improvements:** Mr. Ballard is the Survey Manager for this project. Topographic Survey for just over 2 miles of roadway. Both traditional means and methods and 3D Scanning were used to collect topographic data for this roadway improvement project. Project was completed to DOTD Location and Survey Standards and practices.
02/23 – 12/23	**H.012027.5 - I-20 UPPR:** Mr. Ballard is the Survey Manager for this project. Topographic Survey for the interstate in North Louisiana. Both traditional means and methods and 3D Scanning were used to collect topographic data for this interstate and overpass improvement project. This project also included coordinate and survey of the Union Pacific Railroad line crossing I-20. Project was completed to DOTD Location and Survey Standards and practices.
09/18-01/20	**H.004100 I-10: LA 415 to Essen Lane on I-10 and I-12, West and East Baton Rouge, LA:** Mr. Ballard is the Survey Manager for this project. CD&C as a sub-consultant on this project is responsible for topographic surveying the portion of I-10 in West Baton Rouge Parish beginning at the start of the project limits to a point just before the approach of the I-10 Bridge and the limits of the project along LA 415 including work on Tributaries of the Intercoastal Canal. This work included using 3D Scanning for the bridge at I-10 bridge @ LA 415 as well as scanning every 500' for control verification and incorporation of the Mobile Lidar for the I-10 pavement.
04/17-07/17	**H.010006.5-3 LA 58 Petit Caillou Bridge Rehabilitation (Sarah Bridge), Terrebonne Parish, LA:** Mr. Ballard is the Survey Manager for this project which included a complete topographic survey, utility coordination, channel cross sections, and the scanning of the existing vertical lift bridge for the design of its repairs/replacement. Project included data collection of the topography via traditional means and methods along with 3D terrestrial scanning and hydrographic surveying.
02/19-09/19	**Bridge Replacements in East Feliciana Parish, Rural East Feliciana Parish, LA**: Mr. Ballard is the Survey Manager for this project for East Feliciana Parish Police Jury. It includes the replacement of 2 bridges which were damaged from flooding and the repairs to many rural roadways throughout the parish. These projects are being funded thru FEMA and all documentation has to be in accordance with FEMA's policies and procedures.

16. Staff Experience:

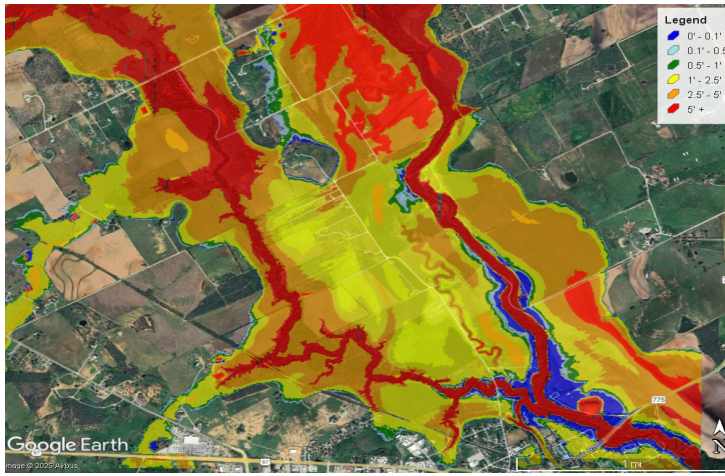
Firm employed by	Civil Design & Construction, Inc. (CD&C)				
Name	**Madison Mills, PLS**		*Years of relevant experience with this employer*	4	
Title	Survey Project Manager		*Years of relevant experience with other employer(s)*	4	
Degree(s) / Years / Specialization	BS / 2016 / Civil Engineering				
Active registration number / state / expiration date	PLS No. 5293 / Louisiana / March 31, 2027				
Year registered	N/A	*Discipline*	N/A		
Contract role(s) / brief description of responsibilities	Professional Land Surveyor				

Mr. Mills joined CD&C in 2021 as a Land Surveying Intern and has recently been licensed as a Professional Land Surveyor. He serves as a Survey Technician and assistant PM for CD&C working to manage field crews, process field crew data, and finalize deliverables.

Experience dates (mm/yy–mm/yy)	*Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).*
12/23 – 05/23	**H.012618 LA 347 Drainage Improvements:** Mr. Mills is the Survey Project Manager on this project. Topographic Survey for just over 2 miles of roadway. Both traditional means and methods and 3D Scanning were used to collect topographic data for this roadway improvement project. Project was completed to DOTD Location and Survey Standards and practices.
09/23 – 12/23	**H.015619.5 LA 106:** Mr. Mills is the Survey Project Manager on this project. Topographic Survey for just over 8 miles of roadway. Traditional means and methods was used to collect limited topographic data for this overlay and roadway rehabilitation project. Project was completed to DOTD Location and Survey Standards and practices.
05/23 – 08/23	**H.015056 - LA 685:** Mr. Mills is the Survey Project Manager on this project. Topographic Survey for just over 4,503 feet of roadway. Both traditional means and methods and 3D Scanning were used to collect topographic data for this roadway improvement project. Project was completed to DOTD Location and Survey Standards and practices.
05/23 – 08/23	**H.015058 - LA 14 Business:** Mr. Mills is the Survey Project Manager on this project. Topographic Survey for just over 12,300 feet of roadway. Both traditional means and methods and 3D Scanning were used to collect topographic data for this roadway improvement project. Project was completed to DOTD Location and Survey Standards and practices.
02/23 – 12/23	**H.012027.5 I-20 UPPR:** Mr. Mills is the Survey Project Manager on this project. Topographic Survey for the interstate in North Louisiana. Both traditional means and methods and 3D Scanning were used to collect topographic data for this interstate and overpass improvement project. This project also included coordinate and survey of the Union Pacific Railroad line crossing I-20. Project was completed to DOTD Location and Survey Standards and practices.
08/22 – 02/23	**4400017091 Louisiana Watershed Initiative Region 5 – Task Order 3:** Mr. Mills is working as a Survey PM this Louisiana Watershed Initiative project. He has been responsible for managing crews, processing field data, creating punch-lists, working with utilities, and complete the final deliverables to the client. CD&C is a sub-consultant on this project.
01/22 – 11/22	**4400017091 Louisiana Watershed Initiative Region 5 – Task Order 2:** Mr. Mills is working as a Survey PM this Louisiana Watershed Initiative project. He has been responsible for managing crews, processing field data, creating punch-lists, working with utilities, and complete the final deliverables to the client. CD&C is a sub-consultant on this project.
08/21 – On-Going	**H.011833.5 St. Mary Street Sidewalks; Scott, LA:** Mr. Mills served as a Survey Tech for this project. CD&C completed a topographic along this route. The survey utilized 3D Terrestrial Scanning of all hard surfaces and traditional methods for all other features. CD&C SUE personnel worked to coordinate the collection for all the utility information and location such that survey crews could collect data and incorporate for the submittal up to QLD Level B however an official SUE submittal was not required of this project. Final submittal will be in accordance with latest DOTD Location and Survey standards.

SECTION 17

FIRM EXPERIENCE



MICHAEL BAKER INTERNATIONAL'S PROJECTS

17. Firm Experience:

Firm name	Michael Baker International, Inc.	*Discipline(s)**	Other (Water Resource)
Project name	**Louisiana Watershed Initiative Modeling Contract; Regions 6, 4 and 1**	*Firm responsibility (prime or sub?)*	Prime
Project number	4400017092	*Owner's Name*	Louisiana Department of Transportation (DOTD)
Project location	Statewide, Louisiana	*Owner's Project Manager*	Jie Gu, P.E.
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, Louisiana 70802 | 225-379-1483 | Jie.Gu2@la.gov		
Services commenced by this firm (mm/yy)	11/20	*Total consultant contract cost ($1,000's)*	8,456
Services completed by this firm (mm/yy)	12/24	*Cost of consultant services provided by this firm ($1,000's)*	8,456

REGION 6

Michael Baker provides engineering and modeling services as Prime Consultant for the Louisiana Watershed Initiative, launched in 2018 to reduce flood risk using a watershed-based approach. The project covers seven modeling regions with multiple HUC-8 watersheds.

Task Order 1: Collected existing datasets, models, and studies for 4 HUC-8 watersheds in southeast Louisiana. Developed a detailed modeling design approach, schedules, cost estimates, and a data gap analysis report. Created a methodology for modeling flood risks in transition zones and a data management plan.

Task Orders 2 & 3: Performed hydrologic and hydraulic modeling for Eastern Louisiana Coastal, East Central Louisiana Coastal, Western Central Louisiana Coastal, and Lower Grand watersheds. Supplemented data collection, provided quality control, engaged stakeholders, reviewed historic storm events, and conducted surveys. Developed tiered modeling design plans and rain-on-grid analyses using HEC-RAS 6.0.

Task Order 4: Determined AEP design storms using Atlas 14 precipitation data and BV-SST methodology. Conducted consequence analysis, proof of concept evaluations, and stakeholder engagement.

REGION 1

Michael Baker, as a sub-consultant to AtkinsRéalis, provided services for the Louisiana Watershed Initiative. The project covers seven modeling regions with multiple HUC-8 watersheds.

Task Order 3 (Series II): Performed hydrologic and hydraulic modeling for Black Lake, Saline Bayou, and Bodcau Bayou watersheds. Conducted terrain reconditioning, subbasin delineation, loss estimation, and meteorological model setup. Developed combined 1D/2D HEC-RAS models, calibrated and validated models, and performed sensitivity analysis. Delivered technical reports and hydrologic and hydraulic models.

REGION 4

Michael Baker, as a sub-consultant to C.H. Fenstermaker LLC, provided services for the Louisiana Watershed Initiative. The project covers nine modeling regions with multiple HUC-8 watersheds.

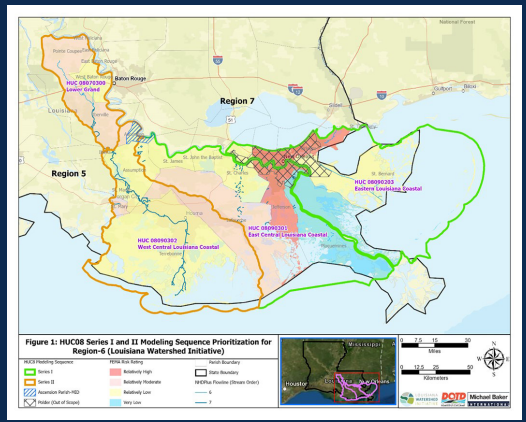
Task Orders 2 & 3: Performed hydrologic and hydraulic modeling for the Lower Sabine watershed. Supplemented work plan reports, provided modeling methodology, data gap analysis, data management plan guide, hydrometeorology report, and QA/QC plan. Developed tiered modeling design plans and rain-on-grid analyses using HEC-RAS 6.3.1. Delivered technical reports and training guides.

PROJECT SIMILARITIES

- ✓ Data Collection
- ✓ Hydraulic Modeling Design
- ✓ Data Management Plan
- ✓ Stakeholder Engagement
- ✓ Surveying
- ✓ Calibration & Validation
- ✓ Design Storms
- ✓ Technical Reports
- ✓ Proof of Concept Project Evaluations
- ✓

LA DOTD PROJECT

Team Members Who Worked on This Project:
Eric Erikson | Justin West | Achutam Baral | Daniel Thornhill | Mohamed Bagha | Manoj KC | Mujahid Chandoo



17. Firm Experience:

Firm name	Michael Baker International, Inc.	*Discipline(s)**	Other (Water Resource)
Project name	**FEMA Production and Technical Services**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	Federal Emergency Management Agency
Project location	FEMA Regions 1,2,3, & 5	*Owner's Project Manager*	Chance Caione
Owner's address, phone, email	500C Street SW, 3rd Floor, Washington, DC 20472 | 202-394-8690 | chance.caione@fema.dhs.gov		
Services commenced by this firm (mm/yy)	09/21	*Total consultant contract cost ($1,000's)*	125,000
Services completed by this firm (mm/yy)	09/28	*Cost of consultant services provided by this firm ($1,000's)*	125,000

Michael Baker International (Michael Baker) leads Advancing Resilience in Communities (ARC), a Joint Venture (JV) that provides architect and engineering (A&E) services through a Production and Technical Services (PTS) contract. ARC supports FEMA's Risk Mapping, Assessment and Planning (Risk MAP) program within Zone 1. Zone 1 encompasses FEMA Regions 1, 2, 3 and 5. The ARC JV combines five experienced A&E firms under one umbrella to provide capacity, technical competence and innovative approaches to deliver high-quality services between and during disasters. The Michael Baker-led JV's vision is to advance resilience in communities. This is accomplished by connecting data, technology and local insights to provide personalized experiences that increase capability and propel communities and individuals to make resilient decisions.

Michael Baker's responsibilities include DFIRM production, risk assessments, and mitigation planning and technical assistance. DFIRM production included scoping support, topographic data development, field surveys, base-map acquisition, hydrologic and hydraulic analyses, 2D Base Level Engineering (BLE), coastal flood hazard analysis, delineation of floodplain boundaries, DFIRM database production; flood insurance study report production, risk communication and outreach, distribution of preliminary maps and reports; and coordination with community mapping partners to address issues related to study accuracy or schedule. Michael Baker was also responsible for preparation of base flood elevation notices, assistance in addressing appeals and protests regarding preliminary maps and reports, and preparation of letters of final determination, creation of Federal Register notifications, completion of summaries of map actions; and publication of base flood elevations on the web.

PROJECT SIMILARITIES

- ✓ Base Map
- ✓ Survey and Topo
- ✓ Hydrologic Analysis
- ✓ Hydraulic Analysis (1D & 2D)
- ✓ Floodplain Mapping
- ✓ DFIRM Production
- ✓ Floodplain Boundary Standards
- ✓ Project Scoping
- ✓ Mitigation Technical Assistance
- ✓ CNMS updates
- ✓ MIP Submittals
- ✓ Database Development
- ✓ Data Visualization

Team Members Who Worked on This Project:
Jason Isherwood | Kevin Doyle | Muhammad Akhtar | Larinia Ascunce | Manoj KC

17. Firm Experience:

Firm name	Michael Baker International, Inc.	*Discipline(s)**	Other (Water Resource)
Project name	**San Antonio River Authority (SARA) CTP Professional Services Contract**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	San Antonio River Authority
Project location	Multiple Locations	*Owner's Project Manager*	Erin Cavazos, PE
Owner's address, phone, email	100 E Guenther St, San Antonio, TX 78204 | 210-227-1373 | ecavazos@sariverauthority.org		
Services commenced by this firm (mm/yy)	06/19	*Total consultant contract cost ($1,000's)*	1,375
Services completed by this firm (mm/yy)	01/24	*Cost of consultant services provided by this firm ($1,000's)*	1,375

MAS 21 - Lower Cibolo Watershed Restudy Michael Baker conducted a Flood Risk Project for the San Antonio River Authority (SARA) to develop flood hazard data and perform technical risk analysis for the Lower Cibolo Watershed, adhering to FEMA and regional standards. The project began with detailed field surveys and verifications, ensuring accurate data collection.

The hydraulics analysis covered approximately 100 stream miles in detail, 15 miles with limited detail, and over 300 miles approximately. Complex 1D-2D HEC-RAS models were developed to simulate spill flow dynamics and backwater effects, producing hydraulic modeling files and digital data for various annual chance events. Floodplain maps for over 440 stream miles and floodway maps for 86 miles were created, with internal QA/QC reviews ensuring data accuracy.

Upon completion, Michael Baker mapped annual chance water surface limits, depth grids, and elevation grids using new LiDAR data. They developed Annual Chance and 30-year Chance Grids, prepared HAZUS results, and created digital work maps for review meetings.

MAS 19 - Upper San Antonio River Watershed Michael Baker updated hydraulic modeling for 171 miles of streams using new LiDAR data, reflecting changes in land use, terrain, and rainfall intensities. The Terrain Task involved processing TNRIS aerial LiDAR data into a watershed-wide dataset and creating a hydro-corrected digital elevation model (HDEM).

The new LiDAR data was used to redelineate stream centerlines, update cross-section alignments, and reevaluate Manning's 'n' values. Survey data for multiple structures was incorporated into the hydraulic models. Hydraulics analysis activities included updating models with new flows, revising geometry, and establishing water surface elevations for various annual chance events. Models were developed using XP-SWMM and HEC-RAS.

Upon completion, Michael Baker developed floodplain mapping for the 10 percent, 1 percent, and 0.2 percent annual chance floodplain boundaries. Non-regulatory Flood Risk Products were also developed, including a Flood Risk Report and Database. Digital work maps were prepared for review meetings.

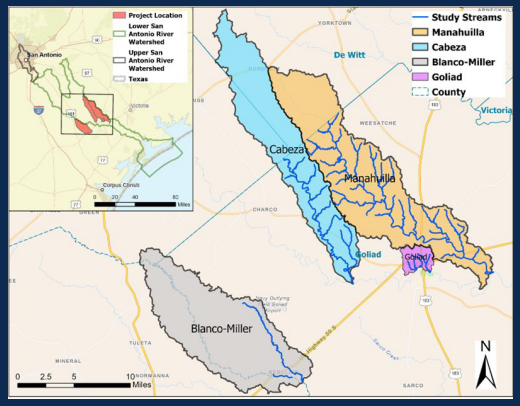
MAS 23 - Lower San Antonio River Watershed Under a CTP services contract with SARA, Michael Baker provided topographic data development, flood frequency analysis, and independent reviews of SARA's HEC-HMS models for five tributary watersheds. Flood Frequency Analysis used stream records from USGS gaging stations and Bulletin 17C guidelines to estimate annual chance flows.

Michael Baker performed independent QA/QC reviews of the hydrological models for completeness, parameter reasonableness, and regulatory adequacy. These reviews covered 172 miles of stream and 287 square miles of watersheds, including Cabeza Creek, Goliad Tributaries, Manahuilla Creek, Blanco Creek, and Millers Creek. The technical review ensured consistency with FEMA standards and standard engineering practice.

PROJECT SIMILARITIES

- ✓ Topographic Survey
- ✓ 334 miles of 1D/2D Hydraulic Modeling
- ✓ Floodplain Mapping
- ✓ Flood Risk Products
- ✓ FEMA Guidelines and Standards
- ✓ RiskMAP Phase 2 Services
- ✓ Develop Terrain Data
- ✓ Develop Hydraulic Data
- ✓ Flood Frequency Analysis
- ✓ Independent QC, FEMA Standards
- ✓ FIRM Database Development

Team Members Who Worked on This Project:
Manoj KC | Mohamed Bagha | Aron Langley



17. Firm Experience:

Firm name	Michael Baker International, Inc.	*Discipline(s)**	Other (Water Resource)
Project name	**Austin CTP / Stormwater Mapping and Modeling**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	City of Austin, Watershed Protection Department
Project location	Austin, Texas	*Owner's Project Manager*	Karl McArthur, PE, CFM
Owner's address, phone, email	301 W. Second Street, Austin, TX | 737-291-3107 | karl.mcarthur@austintexas.gov		
Services commenced by this firm (mm/yy)	04/21	*Total consultant contract cost ($1,000's)*	$550
Services completed by this firm (mm/yy)	05/25 (On Going)	*Cost of consultant services provided by this firm ($1,000's)*	$550

Michael Baker, as part of the Austin Modeling & Mapping Partners JV (AMMP JV) developed hydrologic and hydraulic data, performed floodplain mapping, developed flood risk products, and performed quality assurance and quality control activities tasks for the area referred to as Study Area #4 – Urban and West Watersheds South of the River including Lady Bird Lake (South) and Lake Austin (South).

Hydrologic analysis involved developing HEC-HMS model to determine the existing and fully developed land use condition discharges for streams draining to Lady Bird Lake (South) and Lake Austin (South), covering a total drainage area of approximately 16 square miles. Automated delineation tools were used to refine and subdivide subbasins, with careful review to ensure accuracy. Our tasks included reviewing effective Letters of Map Revision (LOMRs) and incorporate relevant information from major City of Austin or development projects. The models used Atlas 14 rainfall data for various recurrence intervals, applied according to the City's updated Drainage Criteria Manual. Subbasin delineations incorporated hydraulic structures, and areas impacted by recent construction. Hydrologic parameters were updated to reflect current land use conditions, using the City's most recent datasets. Our team developed Modified Puls routing storage-discharge tables and calibrated the models using historical event simulations and statistical analysis of streamflow gages. Data and information will be provided to the engineering team based on established milestones.

Hydraulic analysis used HEC-RAS 6.4 to develop steady state hydraulic models for existing and fully developed land-use conditions for approximately 21 miles of streams. All floodplains were studied as detailed analysis (Zone AE). 35 hydraulic structures were incorporated from effective models or field surveys.

Michael Baker reviewed and incorporated effective Letters of Map Revision (LOMRs) and relevant City of Austin or development project information. Historical event simulations were used to calibrate and validate the models. For areas outside the City of Austin, Michael Baker updated effective floodway encroachments and produced updated floodway maps. Water surface elevation profiles were produced for various recurrence intervals and historical events, consistent with FEMA's Data Capture Standards. Our team used FEMA's CHECK-RAS program for initial verification and addressed any significant issues.

Our team established a QA/QC procedure that aligns with FEMA's Standards for Flood Risk Projects and the City of Austin's "Project Quality Assurance Plan." This multi-level approach ensured an independent, senior staff review, comment, and approval of completed work, meeting FEMA's Independent Quality Control review requirements. Quality control checklists were created for survey, hydrology, and hydraulics activities, detailing milestone review events and documenting reviewer comments.

PROJECT SIMILARITIES

- ✓ Data Collection
- ✓ H&H Modeling
- ✓ Independent QC
- ✓ LOMRs Review
- ✓ Floodway Mapping
- ✓ FEMA Data Capture Standards
- ✓ FEMA Flood Risk Standards

Team Members Who Worked on This Project:

Mujahid Chandoo | Mohamed Bagha

17. Firm Experience:

Firm name	Michael Baker International, Inc.	*Discipline(s)**	Other (Water Resource); Other (Public Outreach)
Project name	**MAAPNext Watershed Floodplain Modeling and Mapping (Brays Bayou, Goose Creek, and Jackson Bayou Watersheds)**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	Harris County Flood Control District
Project location	Harris County, Texas	*Owner's Project Manager*	Todd Ward, PE, CFM
Owner's address, phone, email	13105 Northwest Freeway, Ste. 600, Houston, Texas 77040 | 346-286-4858 | todd.ward@hcfcd.hctx.net		
Services commenced by this firm (mm/yy)	03/19	*Total consultant contract cost ($1,000's)*	$1,953
Services completed by this firm (mm/yy)	09/23	*Cost of consultant services provided by this firm ($1,000's)*	$1,953

Michael Baker provided professional engineering services for a FEMA and HCFCD funded flood risk analysis and mapping project to produce new and updated flood hazard data for Brays Bayou, Goose Creek, and Jackson Bayou watersheds in Harris County. This project consisted of building detailed HEC-HMS and 1D-2D unsteady HEC-RAS models for 108 stream miles across the three watersheds to aid the understanding and regulation of flood risk. Tasks included project management, floodplain mapping studies, field surveys, H&H data development, flood hazard data development, and floodplain mapping and flood risk products development. Michael Baker is completing all work in compliance with HCFCD and FEMA guidance, best practices, and standards.

Michael Baker performed hydrologic analysis and created HEC-HMS models for each watershed. Activities included watershed and sub-watershed boundary verification and updates, parameter calculation for losses, and hydrograph development using Basin Development Factor (BDF) method and incorporation of NOAA Atlas 14 rainfall data to support the level of detail required for the project.

For each of the three watersheds studied, a watershed wide 1D-2D unsteady HEC-RAS model was then created and included the main stem and the tributary streams. Storage Area/2D connections were used at the junctions to provide hydrodynamic continuity. The channel bathymetry cross sections and hydraulic structures were imported from effective hydraulic models and adjusted for subsidence and datum changes. Channel cross sections along stream reaches were modeled in 1D, incorporating survey and updated structures. Overbank areas were modeled using 2D meshes and incorporating breaklines using 2018 LiDAR terrain data. The 1D sections were connected to the 2D meshes using lateral weirs. Calibration was performed using NexRAD precipitation data, gauge data, and high-water mark data. Where available, additional data, including flood loss data, aerial imagery, and social media posts (such as drone footage and photos) were used to validate model calibration.

The H&H modeling results were then used to determine where additional detailed study is needed. Michael Baker developed a rain-on-grid (RoG) analysis to identify flood risks outside the riverine floodplain. This data was used, along with flood loss data, to determine where additional H&H analysis (Urban Flood Risk Modeling) would be needed in an iterative process that will yield additional flood hazard information.

The results of the hydraulic modeling analysis were used to develop floodplain and floodway boundaries consistent with FEMA Data Capture Standards. Combined probability analysis was performed to account for coastal storm surge impacts on the riverine floodplain. Our team also developed flood risk products from the flood study data, including water surface elevation grids, depth grids, percent annual chance grids and Changes Since Last FIRM maps. Extensive coordination with study partners and stakeholders was accomplished through project meetings, open houses, written and verbal correspondence, and status reports.

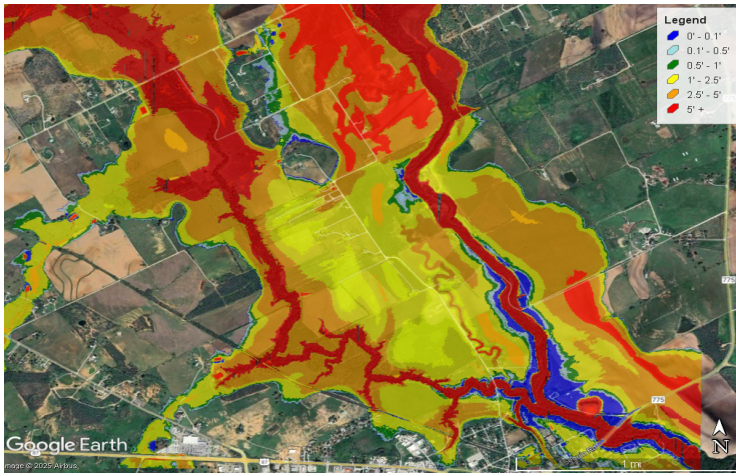
PROJECT SIMILARITIES

- ✓ Complex Hydrodynamic Modeling
- ✓ NOAA Atlas 14
- ✓ FEMA Grant Funding
- ✓ Public Outreach

Team Members Who Worked on This Project:

Mujahid Chandoo | Mohamed Bagha | Manoj KC

SUBCONSULTANT PROJECTS



17. Firm Experience:

Firm name	Neel-Schaffer, Inc.	*Discipline(s)**	Other (Water Resources), Other (Public Outreach)
Project name	**Government Ditch Watersheds: Supplemental Watershed Project Plan, Environmental Analysis, and Design**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	MS Soil and Water Conservation Commission
Project location	Coahoma County, MS	*Owner's Project Manager*	Nick Ivy
Owner's address, phone, email	680 Monroe Street, Suite B; Jackson, MS 39202; 601.720.5866, nivy@mswcc.ms.gov		
Services commenced by this firm (mm/yy)	08/23	*Total consultant contract cost ($1,000's)*	$3,400
Services completed by this firm (mm/yy)	On Going	*Cost of consultant services provided by this firm ($1,000's)*	$3,400

NSI was contracted to prepare a supplemental watershed project plan, environmental analysis, and design for Government Ditch Watershed in Coahoma County, MS. The sponsor objectives of the project include:

- Reduce erosion and agricultural land loss along the portion of Government Ditch between the confluence and Old Highway 49.
- Decrease localized flooding within the watershed.
- Improve water quality by reducing sediment loads downstream of Government Ditch.

The purpose of the proposed project is to reduce sediment transport and improve water quality in the Sunflower River, which has a TMDL for pathogens and to decrease flooding within the watershed. Any proposed action would need to meet the following needs:

- Stabilize channel banks.
- Stabilize the channel bottom by stabilizing the head cut progressing upstream in Government Ditch.
- Reduce water velocity in the channel.
- Reduce flooding in the vicinity of Government Ditch within the HUC12.

To achieve these goals the project is broken into two parts: planning and design. Within planning, there are three phases: Collection and Analysis of Information; Formulation and Evaluation of Alternatives; and Preparation of Watershed Plan-Environmental Assessment (Plan-EA). A summary of Part 1 and the Phases can be found below:

Part 1: Planning (Preparation of Plan-EA): The work covers Phases 1, 2, & 3 of Plan-EA process.

Phase 1: Collection and Analysis of Information: This phase includes: development of Public Participation Plan; interagency coordination; Notice of Intent; inventory of watershed resources; and hydrologic & hydraulics analysis (HEC-HMS and HEC-RAS 2D).

Phase 2: Formulation and Evaluation of Alternatives: This phase will include formulation and evaluation of alternatives to address existing problematic conditions identified in Phase 1.

Phase 3: Preparation of Plan-EA: This phase will include: initial meeting with sponsor and agency to identify preferred alternative and drafting of required sections of the Plan-EA.

Part 2: Design: The Design Phase includes the work necessary to prepare a complete set of construction plans and specifications and to advance the project to a state of construction readiness.

PROJECT SIMILARITIES

- ✓ Data Collection & Discovery
- ✓ Hydrologic & Hydraulic Analysis
- ✓ Public Outreach & Community Engagement

Team Members Who Worked on This Project:

Pat Bonk, Maggie Waldron, Monica Patel, Sarah McEwen, Jennifer Sloan Zeigler

17. Firm Experience:

Firm name	Neel-Schaffer, Inc.	*Discipline(s)**	Other (Water Resources), Other (Public Outreach)
Project name	**Pike County GSA 2009-2025**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	Pike County, MS
Project location	Pike County, MS	*Owner's Project Manager*	Rochelle Collins
Owner's address, phone, email	200 E. Bay St., Magnolia, MS 39652; 601-783-5289		
Services commenced by this firm (mm/yy)	02/2009	*Total consultant contract cost ($1,000's)*	$5,000 (yearly)
Services completed by this firm (mm/yy)	Ongoing	*Cost of consultant services provided by this firm ($1,000's)*	$5,000 (yearly)

Since 2009, NSI has been contracted to support Pike County MS through a General Services Contract. The general services contract includes floodplain administration, ordinance support, engineering design and construction, construction administration, grant support, public engagement, and coordination with stakeholders.

A part of the GSA work was conducted in for these core components:

Stakeholder Engagement: During and before design of new transportation, regional, water wastewater, or water resource projects plan for workshops and other key stakeholder engagement milestones as well as tactics for public communications and outreach. Communicate and update the Pike County Board of Supervisors on active projects with schedules, budgets, and milestones. Support planning and budgeting for future projects.

Data Collection: Support the county with assessing management of submittals into digital products, and storage of digital twins provided to the county which could include survey, field reconnaissance reports and models, existing infrastructure condition assessments, and other as-builts.

Engineering Design and Construction: Support the design, specification, construction and administration of smaller engineering projects. Support grant management and construction administration of larger county-wide projects.

Floodplain Administration and County Ordinances: Support the county Floodplain Administrator with implementation of the National Flood Insurance Program including Base Flood Elevation Determinations, elevation certificate reviews, training, and outreach. Support and make recommendations on countywide permit procedures and ordinances.

Other Services: As called upon, support the facilitation of other services like grant proposal writing, administration, engineering plan reviews, development permits, survey, inspection, and other engineering related services.

PROJECT SIMILARITIES

- ✓ Public Outreach & Community Engagement
- ✓ Floodplain Administration
- ✓ Floodplain Ordinance Development

Team Members Who Worked on This Project:

Pat Bonck | Jennifer Sloan Zeigler | Sarah McEwen

17. Firm Experience:

Firm name	Neel-Schaffer, Inc.	*Discipline(s)**	Other (Water Resources), Other (Public Outreach)
Project name	**Moss Point Stormwater Drainage Master Plan**	*Firm responsibility (prime or sub?)*	Prime
Project number	N/A	*Owner's Name*	City of Moss Point, MS
Project location	Moss Point, MS	*Owner's Project Manager*	Billy Knight
Owner's address, phone, email	4320 Mc Innis Ave, Moss Point, MS 39563; 228.475.0300; contact@cityofmosspoint.org		
Services commenced by this firm (mm/yy)	03/25	*Total consultant contract cost ($1,000's)*	$950
Services completed by this firm (mm/yy)	08/26	*Cost of consultant services provided by this firm ($1,000's)*	$650

NSI was contracted to prepare a Master Drainage Study for the City of Moss Point. City-wide drainage studies, like Moss Point is undertaking, are effective because it provides the opportunity for Moss Point to reach out to its stakeholders, building support for improvements while planning for economic and community growth. The master drainage study process is comprehensive, action oriented, and emphasizes broad environmental goals and objectives that cover all aspects of stormwater management. Success in this process requires partnerships with the right blend of stakeholders, including those that live and work in the city. Assessing the water quantity and quality in a community is necessary to be able to select and implement the best practices to reduce impacts on the water resources and reduce flooding in the city through identified solutions.

To develop an executable master drainage study, our team is undertaking the following core components:

Stakeholder Engagement: Developed a Community Engagement Plan and timeline, including identifying and establishing internal and external stakeholder groups and working with trusted community voices to reach a broader public audience in the planning process. The plan includes a schedule for workshops and other key stakeholder engagement milestones as well as tactics for public communications and outreach.

Data Collection: Multiple data collection methods were used for this project including survey, field reconnaissance, review of existing reports and models, existing infrastructure condition assessment, and other methods as needed. New Citywide LiDAR is being collected and processed to support detailed watershed delineation.

Hydrologic and Hydraulic Analysis: Employing state-of-the-art GIS-based software called PCSWMM to evaluate and map inundation because of the various recurrence events and compound flooding conditions for both the existing, existing ideal, and proposed conditions in each watershed.

Project Development – Solution: Use the developed models to identify problems areas and potential solutions, create a ranking matrix to identify the most pressing stormwater needs and to create a priority list for project implementation.

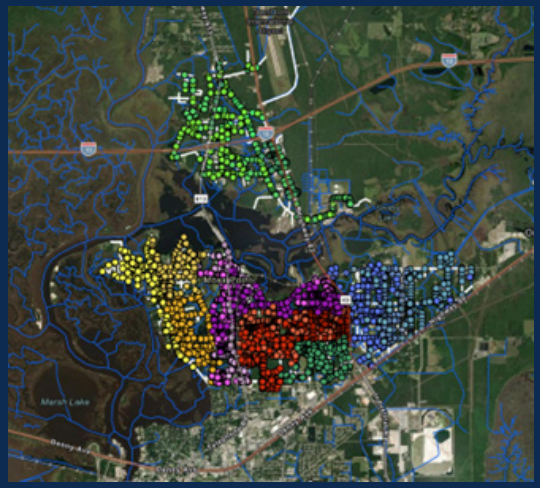
Master Plan Completion: A master drainage study report will be given to the City for future updates and deployment through the Stormwater Mitigation Program.

PROJECT SIMILARITIES

- ✓ Public Outreach & Community Engagement
- ✓ Data Collection and Discovery

Team Members Who Worked on This Project:

Pat Bonk | Monica Patel | Sarah McEwen | Maggie Waldron | Jennifer Sloan Ziegler |Daniel Saliba



17. Firm Experience:

Firm name	Olsson, Inc.			*Discipline(s)**	Other (Water Resources)
Project name	**State of Arkansas FEMA CTP Program**			*Firm responsibility (prime or sub?)*	Sub
Project number	N/A	*Owner's Name*	Arkansas Natural Resources Commission (ANRC) / Arkansas Department of Agriculture Natural Resources Division (ADANRD)		
Project location	Statewide, Arkansas	*Owner's Project Manager*	Whit Montague, PE, CFM | Engineer Supervisor at ANRC		
Owner's address, phone, email	101 E. Capitol, Ste. 350 Little Rock, AR 72201 | 501.682.3969 | whitney.montague@agriculture.arkansas.gov				
Services commenced by this firm (mm/yy)	07/2011			*Total consultant contract cost ($1,000's)*	$4,660
Services completed by this firm (mm/yy)	Ongoing			*Cost of consultant services provided by this firm ($1,000's)*	$4,100

The ANRC and ADANRD engaged Olsson to help implement FEMA's Risk Mapping, Assessment, and Planning (MAP) Program initiatives through the Cooperating Technical Partners (CTP) program. Our work with the ADANRD involved extensive stakeholder coordination at all levels and included the following tasks:

- Preparing and updating the state's Risk MAP multiyear business plan: We developed strategies for Risk MAP outreach and coordination across Arkansas.
- Maintaining the CNMS database.
- Hosting annual state partners meetings.
- Completing discovery meetings and BLE studies for more than 35 watersheds, covering 85 percent of the state.
- Updating the tracking tool and community ranking method.
- Completing new flood insurance studies for individual streams and county-wide studies in selected watersheds.
- Developing and presenting BLE workshops and training classes for local officials.

PROJECT SIMILARITIES

- ✓ Capability to leverage 2D BLE data for decision-making
- ✓ Proven experience coordinating extensive stakeholder engagement for diverse audiences
- ✓ Technical expertise in H&H analysis and modeling, as well as Hazus Flood Risk Assessments
- ✓ Expertise in maintaining databases and digital tools to manage models and updates

Team Members Who Worked on This Project:

Lee Beshoner | Brynn Tucker

17. Firm Experience:

Firm name	Olsson, Inc.		*Discipline(s)**	Other (Water Resources)
Project name	**Running Water Draw and Palo Duro Watersheds 2D BLE Studies**		*Firm responsibility (prime or sub?)*	Sub
Project number	N/A	*Owner's Name*	Texas Water Development Board (TWDB)	
Project location	Texas	*Owner's Project Manager*	Manuel Razo, GISP, CFM | Assistant Director, Flood Science and Community Assistance at TWDB	
Owner's address, phone, email	51700 N. Congress Ave. Austin, TX 78701 | 512.475.1850 | manuel.razo@twdb.texas.gov			
Services commenced by this firm (mm/yy)	05/2011		*Total consultant contract cost ($1,000's)*	$526
Services completed by this firm (mm/yy)	12/2023		*Cost of consultant services provided by this firm ($1,000's)*	$424

Our team conducted comprehensive 2D BLE H&H studies for the Running Water Draw watershed and the Palo Duro watershed in Texas. We also performed internal technical reviews of BLE activities for 10 additional watersheds. Altogether, the project involved studying more than 350 miles of streams and numerous playas.

The Running Water Draw watershed spanned approximately 1,515 square miles across six counties in Texas and one county in New Mexico. The Palo Duro watershed covered around 999 square miles, extending across four counties in Texas and one county in New Mexico.

Our process began with a thorough data gap analysis to identify the information needed for accurate modeling. We then completed detailed hydrologic modeling for various storm events using HEC-RAS rain-on-grid processes to determine runoff. We reviewed available stream gage data for the watersheds to validate the hydrology and hydraulics, identifying any discrepancies or anomalies. Additionally, we completed BLE hydraulic modeling for all study streams using advanced 2D modeling techniques that leveraged various data sources to maintain efficiency in both budget and timeline.

Our submittals, consistent with TWDB requirements, included floodplain mapping, water surface elevation grids, flood depth grids, and modeling for multiple storm events. We also performed a Hazus Flood Risk Assessment, developing annualized loss estimates and identifying areas of mitigation interest within the watershed. This project not only provided critical insights into flood risks but also equipped stakeholders with the necessary tools to develop effective mitigation strategies.

PROJECT SIMILARITIES

- ✓ Capability to leverage 2D BLE data for decision-making
- ✓ Proven experience coordinating extensive stakeholder engagement for diverse audiences
- ✓ Technical expertise in H&H analysis and modeling, as well as Hazus Flood Risk Assessments
- ✓ Expertise in maintaining databases and digital tools to manage models and updates

Team Members Who Worked on This Project:

Lee Beshoner | Brynn Tucker

17. Firm Experience:

Firm name	Olsson, Inc.		*Discipline(s)**	Other (Water Resources)
Project name	**Louisiana Watershed Initiative Region 7**		*Firm responsibility (prime or sub?)*	Sub
Project number	N/A	*Owner's Name*	Louisiana Department of Transportation and Development (DOTD)	
Project location	Statewide, Louisiana	*Owner's Project Manager*	Billy Williamson, PE | Director of Dams, Levees, and Water Resources at DOTD	
Owner's address, phone, email	1201 Capitol Access Rd. Baton Rouge, LA 70802 | 225.379.3023 | Billy.Williamson@LA.gov			
Services commenced by this firm (mm/yy)	07/2011		*Total consultant contract cost ($1,000's)*	$1,415
Services completed by this firm (mm/yy)	5/2024		*Cost of consultant services provided by this firm ($1,000's)*	$1,065

At the outset of the Louisiana Watershed Initiative (LWI) project, it was recognized that effectively reducing flood risk through informed decision-making and project implementation requires a comprehensive understanding of water behavior and the interconnectivity within and between watersheds. To achieve this, LWI embarked on a mission to gather and analyze statewide data, and to develop modeling performance standards. These efforts aimed to provide a clear and detailed picture of watershed conditions across the state.

The information collected and the models developed are intended to inform future policy and land use decisions. By offering decision-makers the ability to compare the effectiveness of various alternative solutions, LWI aims to enhance the capacity to reduce flood risk. This initiative not only seeks to mitigate immediate flood hazards but also to foster long-term resilience and sustainability in Louisiana's watersheds.

Serving as a subconsultant, our team performed Independent Technical Reviews (ITR) of the following deliverables for eight watersheds within Region 7:

- Hydrologic and hydraulic model parameters and development
- Hydrometeorologic data
- Calibration results
- Modeling quick guides
- Final GIS deliverables
- Storm development and consequence analysis

Review acitivties also included reviewing internal quality control (QC) documentation to ensure quality procedures and TDQ guidance were adequately followed.

PROJECT SIMILARITIES

- ✓ Knowledge of watershed conditions across Louisiana
- ✓ Technical expertise in H&H analysis and modeling

Team Members Who Worked on This Project:

Lee Beshoner

17. Firm Experience:

Firm name	GOTECH, Inc.	*Discipline(s)**	Survey
Project name	**Louisiana Watershed Initiative (LWI) Modeling Contract Region No. 3**	*Firm responsibility (prime or sub?)*	Sub
Project number	4400017069	*Owner's Name*	DOTD
Project location	Ouachita, Richland, Franklin Parishes	*Owner's Project Manager*	Mark Chenevert
Owner's address, phone, email	1201 Capitol Access Road, Room 405-E, Baton Rouge, LA 70802-4438, 225-379-1591, mark.chenevert@la.gov		
Services commenced by this firm (mm/yy)	11/22	*Total consultant contract cost ($1,000's)*	$187,000
Services completed by this firm (mm/yy)	06/23	*Cost of consultant services provided by this firm ($1,000's)*	$183,188

GOTECH, Inc. provided survey services for the LA Watershed Initiative Region 3 drainage master plan project.

GOTECH field crews collected survey data in the Bayou Macon Basin. Located in the Monroe area of North Louisiana, the work included 105 stream cross sections and 164 structure surveys. Control surveys were conducted at each structure site. GPS observations were made to establish northing, easting and elevation data for each control point.

GOTECH crews obtained specific data on bridges (pier locations, low chord elevation, deck information, railing shots, cross sections) and at culvert structures (invert, geometry, cross sections, etc.). The data was submitted to the prime consultant for their modeling effort.

PROJECT SIMILARITIES

- ✓ Topographic survey for H&H Modeling
- ✓ Hydraulic Structure Surveying
- ✓ Floodplain Topographic Surveying

Team Members Who Worked on This Project:

Bruce Dyson

17. Firm Experience:

Firm name	GOTECH, Inc.	*Discipline(s)**	Survey
Project name	**Louisiana Watershed Initiative (LWI) Modeling Contract Region No. 2**	*Firm responsibility (prime or sub?)*	Sub
Project number	4400017068	*Owner's Name*	DOTD
Project location	Rapides, Grant, LaSalle, Winn Parishes	*Owner's Project Manager*	Mark Chenevert
Owner's address, phone, email	1201 Capitol Access Road, Room 405-E, Baton Rouge, LA 70802-4438, 225-379-1591, mark.chenevert@la.gov		
Services commenced by this firm (mm/yy)	09/21	*Total consultant contract cost ($1,000's)*	$425,767
Services completed by this firm (mm/yy)	08/22	*Cost of consultant services provided by this firm ($1,000's)*	$359,316

GOTECH provided survey services for the Louisiana Watershed Initiative Modeling Master Drainage Plan Project. Region 2 was an area generally located between Monroe and Alexandria in North Louisiana.

Topographic and bathymetric surveys were completed in the lower Ouachita basin. GOTECH crews collected field data on the lower Ouachita River and the lower Red River areas. Control surveys were completed by way of GPS observations in the field. A minimum of three control points were set at each structure. The Ouachita River surveys covered a stream length of approximately 130 river miles, including 46 cross sections. There were over 100 structures surveyed in the Ouachita River watershed and 35 structures surveyed in the Red River basin. The structures were classified into 5 categories: Bridge Major, Bridge Large, Bridge Small, Culvert Large and Culvert Small. River surveys (hydrographic) were completed using single beam fathometer equipment to produce stream cross section data. Survey data was compiled into electronic spreadsheets for use by the modelers.

PROJECT SIMILARITIES

- ✓ Topographic survey for H&H Modeling
- ✓ Hydraulic Structure Surveying
- ✓ Floodplain Topographic Surveying

Team Members Who Worked on This Project:

Bruce Dyson

17. Firm Experience:

Firm name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Survey
Project name	US 190 Superstreet	*Firm responsibility (prime or sub?)*	Sub
Project number	H.005733.5	*Owner's Name*	DOTD
Project location	St. Tammany Parish, LA	*Owner's Project Manager*	Josh Harrouch
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 225-242-4640| Joshua.Harrouch@la.gov		
Services commenced by this firm (mm/yy)	01/16	*Total consultant contract cost ($1,000's)*	N/A
Services completed by this firm (mm/yy)	08/16	*Cost of consultant services provided by this firm ($1,000's)*	$207

Project Description: This project was the topographic survey of US 190 in Covington. The survey limits were along a portion of the existing routes of US 190, Holiday Square Frontage Road, US 190 Service Road, Holiday Boulevard, Holycrest Plaza Driveway, Louis Prima Drive, Park Place Drive, Lake Drive, Crestwood Boulevard, 9th Avenue, Three Rivers Road, River Highlands Boulevard, Harrison Avenue, Maple Ridge Avenue, North 12th Street, Sunshine Avenue, North 6th Street, Riverside Drive, and North 2nd Street and is approximately 2.9 miles in length.

CD&C's Role: CD&C's role was to provide the complete topographic survey and drainage map for this project including all utility coordination. The survey begins at the intersection of US 190 and Holiday Square Frontage Road. From this point, the survey proceeded in a northerly direction along US 190 for approximately 2.9 miles to a point that is 700 feet South of Intersection of US 190 and E. Boston Street in Covington, LA. The width of the survey and DTM extended to the Western Edge of Pavement to Eastern Edge of Pavement along US 190 and tied in with the existing topographic features picked up on the previous survey done under H.011137.5 and H.011152.5 (Interstate 12 Survey). This also included cross sectioning a portion of the Abita River in the project area. All topographic survey elements were performed in accordance with the latest DOTD Location and Survey Manual and conformed to the latest standard practices / procedures. All deliverables were in DOTD required formats. 3D terrestrial scanning was used in conjunction with traditional means and methods to complete this project.

PROJECT SIMILARITIES

- ✓ DOTD Project
- ✓ Topographic Survey
- ✓ Survey of Hydraulic Structures
- ✓ Survey Data Collection Using Scanning Techonology

Team Members Who Worked on This Project:
Karla Weston, | Christopher Ballard| Jacob Stoehr

LA EXPERIENCE

LA DOTD PROJECT

17. Firm Experience:

Firm name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Survey
Project name	I-20 UPRR Overpass	*Firm responsibility (prime or sub?)*	Sub
Project number	H.012027.5	*Owner's Name*	DOTD
Project location	Shreveport LA	*Owner's Project Manager*	Thomas Gattle (Huval & Assoc.)
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 337-234-3798 | tgattle@huvalassoc.com		
Services commenced by this firm (mm/yy)	01/23	*Total consultant contract cost ($1,000's)*	N/A
Services completed by this firm (mm/yy)	12/23	*Cost of consultant services provided by this firm ($1,000's)*	$281

Project Description: CD&C, Inc. was a sub-consultant on this project. CD&C, Inc. performed a full topographic beginning and ending 5000 feet beyond either end of the approach slab of the I-20 eastbound and westbound bridge structure. Terrestrial Laser Scanning was used on all hard surface areas such as Parking Lots, Roadway and Bridge structures, and Union Pacific Railroad rails. The survey total distance was 2.03 miles with a width of approximately 350 feet. This included one mile along Highway 79 with a width of 300 feet.

CD&C's Role: CD&C completed a topographic along this route. The survey utilized 3D Terrestrial Scanning of all hard surfaces and traditional methods for all other features. Final submittal was in accordance with latest DOTD Location and Survey standards.

LA DOTD PROJECT

LA EXPERIENCE

PROJECT SIMILARITIES

- ✓DOTD Project
- ✓Topographic Survey for H&H Modeling and Design
- ✓Latest Technology Scanning Equipment

Team Members Who Worked on This Project:
Karla Weston | Christopher Ballard | Madison Hills

17. Firm Experience:

Firm name	Civil Design & Construction, Inc.	*Past Performance Evaluation Discipline(s)**	Survey
Project name	Verot School Road	*Firm responsibility (prime or sub?)*	Sub
Project number	H.011235	*Owner's Name*	DOTD
Project location	Lafayette, LA	*Owner's Project Manager*	Thomas Gattle (Huval & Assoc.)
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 | 337-234-3798 | tgattle@huvalassoc.com		
Services commenced by this firm (mm/yy)	08/16	*Total consultant contract cost ($1,000's)*	N/A
Services completed by this firm (mm/yy)	On-Going	*Cost of consultant services provided by this firm ($1,000's)*	$435

Project Description: This project is located in Lafayette Parish between Lafayette Regional Airport and Broussard, LA. The project is for the proposed widening of US 90 / I-49 South and realignment of Verot School Road. A topographic survey was performed along the entire proposed route as well as an existing drainage map. This included a complete topographic survey of all utilities with depths, drainage and finished floor elevations of all buildings that fell within the designated survey limits. Also, CD&C was required to coordinate with the topographic survey of the adjacent I-49 Connector project and include required portions of the I-49 Connector project with the survey of this project.

CD&C's Role: CD&C performed a complete topographic survey of the project site by using 3D Terrestrial Scanning in conjunction with traditional means to complete the survey. Control was set for the scanning throughout the project limits. Coordination with Cardno, Inc. (team member) was necessary for the location of all utilities in the project area. CD&C also coordinated with all the property owners for access to the properties and also meet with safety advisors for the industrial business that were impacted. The survey included coordination with the ongoing I-49 Connector project and merging of that survey to the CD&C survey in order to make a complete project for the area. CD&C also researched and compiled an existing right-of-way line work for the prime consultant to use for exhibits for the project. In order to complete the survey CD&C also had to coordinate with BNSF railroad for access to BNSF's rail.

PROJECT SIMILARITIES

- ✓ DOTD Project
- ✓ Topographic Survey
- ✓ Drainage Mapping

Team Members Who Worked on This Project:
Karla Weston | Christopher Ballard | Madison Mills

LA EXPERIENCE

SECTION 18

APPROACH & METHODOLOGY

18. Approach and Methodology:

DOTD can help reach their goals of flood risk identification and mitigation by deploying the Michael Baker team's national FEMA and CTP experience, national 'deep bench' of technical and regulatory experts, and local H&H modeling expertise. Our team is committed to providing innovative and effective solutions to DOTD's challenges by leveraging our proven solutions on the NFIP and FEMA's CAP-SSE Tired Framework.

At Michael Baker International, we pride ourselves on delivering exceptional service and expertise to our clients. With a strong focus on collaboration and a client-first mentality, we are committed to providing tailored solutions that drive success, enhance community safety, and foster long-term partnerships. Our approach is grounded in exceptional program management, ensuring that every project we undertake meets the highest standards of quality and efficiency be leveraging the following strengths:

- ✓ **A LOCAL TEAM FOCUSED ON DOTD'S PROGRAM** Our team is composed of dedicated professionals from Michael Baker International, Inc., Neel Schaffer, Inc., Olsson, GOTECH Inc., and CD&C. Each member brings a wealth of experience working with the Louisiana Department of Transportation and Development (DOTD). We understand the unique challenges facing the state, its parishes, and the public, and we are eager to tailor our services to meet the specific needs of DOTD and its clients. This program will be led by **Project Manager, L.R. "Eric" Erikson, PE, CFM,** who will ensure that our efforts are aligned with DOTD's goals and objectives. Mr. Erikson has managed several past and current DOTD projects with great success.
- ✓ **UNMATCHED FEMA PROGRAM EXPERTISE** Michael Baker International brings ***nearly 50 years*** of experience working with the Federal Emergency Management Agency (FEMA). Our deep knowledge of FEMA Guidelines & Standards, combined with our innovative solutions, allows us to tackle challenges efficiently and earn recognition for our clients. Our extensive portfolio includes projects across the country, particularly in Louisiana, Arkansas, and Texas. Our Technical Advisor, Mohamed Bagha, PE, CFM, has led several significant projects for FEMA Region VI, demonstrating our capability and expertise. Additionally, our **Deputy Project Manager, Kara Moree, CFM,** has a background as a local Parish Floodplain Administrator and possesses extensive knowledge of the CAP-SSSE Tiered State Framework Tier System.
- ✓ **PROVEN EXPERIENCE WITH STATE CTP PROGRAMS** Michael Baker International excels at transferring our national expertise to state and local levels, scaling our services to meet the diverse needs of our clients. Our proficiency is evident through our successful execution of Cooperating Technical Partners (CTP) contracts at both municipal and state levels. We have a strong track record in the Southern U.S., with our **Technical Advisor, Mohamed Bagha, PE, CFM, PMP, ENV SP,** having worked with the San Antonio River Authority CTP and Harris County CTP in Texas. This experience underscores our ability to deliver high-quality, customized solutions that address the specific requirements of each CTP program.

BUSINESS PLANS BASED ON CURRENT ENGINEERING AND MITIGATION NEEDS & CONDUCTING DISCOVERY EFFORTS

Because of our long history with FEMA's programs we understand engineering and mitigation needs that drive business planning at the regional, state, and local levels. Michael Baker uses a GIS-based approach to needs assessment and business planning, as shown through the example in the image below, whereby we evaluated engineering and mitigation data across FEMA Region VIII against Regional priorities and goals to establish a Business Plan for the Region that achieved their goals by prioritizing projects over multiple years.

Our team is active at the Federal, State, and local levels and is aware of emerging regulatory conditions, technologies, and trends. We understand DOTD's goals and have the dedication and capacity to help you achieve them.

PROFICIENCY

Michael Baker is a national leader in floodplain mapping activities and water resources engineering. For nearly 50 years Michael Baker has continually supported FEMA's flood hazard mapping program. We have helped FEMA, States, Regional entities, and local communities implement the Map Modernization Program and Risk MAP Programs. Michael Baker assisted FEMA with the creation of the CTP program and has been a leader with the evolution of the program, translating technical and program expertise into efficient analysis and mapping for state, regional, and local communities. Michael Baker has supported 35 CTPs nationwide, demonstrating the proven capacity and ability to complete work on similar contracts, on time and within budget. Our Team provides responsive, comprehensive and exceptional service in each of the scope items.

Michael Baker produced over 100,000 stream miles of updated flood hazard information – enough to circle the earth over 3.5 times.

Once business plans are in place, the foundation for program success shifts to project-level issue identification and scope development, a process referred to by FEMA as "Discovery". Our Team has assembled an effectual strategy that has enhanced stakeholder engagement during Discovery, a process that has been deployed to over 30 successful Discovery meetings across the Nation.

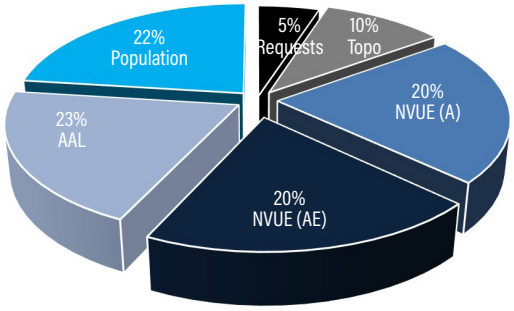


Figure 2: Twenty five inputs were inventoried to determine the top six factors for project prioritization.

Through the completion of these Discovery meetings we have strengthened existing partnerships, built new relationships, and integrated local planning, mapping, and mitigation groups. The Discovery planning and meetings have evolved over time, and as FEMA continues to evolve their processes, our Team is evolving with them.

FIELD SURVEY, LIDAR COLLECTION

Elevation data is a foundational piece of FEMA flood studies, and our team has expertise in both Survey and Remote Sensing services. Michael Baker is experienced in collecting and processing elevation data for FEMA studies, and remains on the cutting edge of the field, investing in remote sensing technology that allows us to bring topographic data collection to our CTP projects ***at a cost savings to our clients.*** To bolster our surveying and LiDAR capabilities, we have added two specialty subcontractor to our team:

- **Civil Design and Construction, Inc.** will provide field surveying and LiDAR collection. CDC has *been working in Louisiana and for DOTD for 20 years*, and we are thrilled to have their local expertise as part of our team.
- **GOTECH, Inc**. will assist in topographic survey as well as survey of hydraulic structures and floodplaings. They will also assist the review of LOMR, CLOMR and similar map revision applications.

HYDROLOGIC AND HYDRAULIC ANALYSIS, NUMERICAL MODELING, FLOODPLAIN MAPPING

Michael Baker, Neel-Schaffer, and Olsson all have the local knowledge and experience necessary for the successful performance of the hydrologic and hydraulic analyses required, and our firms will be working collaboratively to bring DOTD the accurate flood risk and flood mitigation solutions desired.

The experts on the Michael Baker Team not only possess the skill required to model large, complex drainage systems; we also have the real-world experience to understand the output data and ensure the results are realistic. Our engineers have significant experience using integrated one-dimensional/two- dimensional (1D/2D) hydraulic modeling, a powerful tool for the analysis of complex overland flow areas. Engineers on our team have used 1D/2D modeling on FEMA flood mapping and CTP projects as well as watershed level master planning projects for the State of Louisiana, providing us with the practical knowledge to present alternatives and recommendations which are innovative, effective, and feasible.

Michael Baker has been a long-term industry leader in FEMA floodplain mapping products and services. Michael Baker has continually worked as a partner with FEMA to develop guidelines and standards for these, including the creation of GIS-based tools that were distributed nationally to generate FEMA-compliant products. Our team will leverage this experience to help DOTD provide additional efficiency and accuracy to achieve its goals.

Our engineers and GIS professionals use the latest and most accurate data and techniques to delineate floodplain inundation areas in locations with FEMA maps, as well as new study areas. Michael Baker has an established and effective methodology to review and verify the floodplains to ensure accuracy. We have also created innovative tools, such as our RiverSystems® tools, tailored to effectively and efficiently ensure that floodplains incorporated into the FIRM are compliant with FEMA's Floodplain Boundary Standards (FBS).

DODT can help save time as we did on the MAS-21 Lower Cibolo Creek watershed hydraulics, floodplain mapping, and flood risk products TO. Michael Baker applied the proprietary RiverSystems tool to rapidly generate compliant cross sections and floodplain boundaries for multiple Zone A reaches.

FLOOD RISK PRODUCTS, RESILIENCE MEETINGS, PUBLIC OPEN HOUSES, AND PERFORM COMMUNITY ENGAGEMENT, RISK COMMUNICATION, AND TECHNICAL TRAINING

Michael Baker is on the forefront of Flood Risk Product development. We have successfully delivered Changes Since Last FIRM (CSLF) data, flood depth grids, flood risk analysis grids, enhanced flood risk assessment data, and the Areas of Mitigation Interest datasets for states and communities across the Nation, including Delaware, Pennsylvania, Virginia, the District of Columbia, Arizona, California, Florida, Nevada, Missouri, Montana, North Carolina (Mecklenburg County), and Ohio. Michael Baker has also converted CSLF and depth grid datasets into KMZ files for ease of viewing in Google Earth.

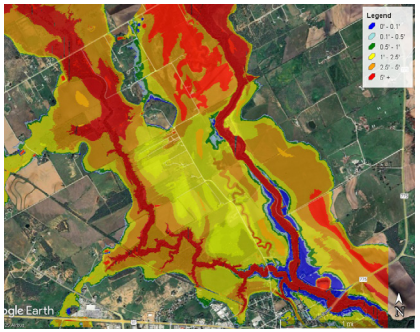


Figure 3. Baker developed KMZ depth grids for the MAS -21 Lower Cibolo Creek RiskMAP as part of CTP with San Antonio River Authority.

Driving action, our team supported high-profile recovery efforts such as the Louisiana Mapping Project, which included mapping and outreach to 15 coastal parishes following Hurricane Katrina, and provided FEMA Headquarters and Regions IV and VI data and staff resources that resulted in no disruption in metrics.

We were one of the first in the Nation to host Flood Risk Review and Resilience meetings, which are an important part of the Risk MAP outreach program and critical milestones for effective risk communication. The Flood Risk Review meeting provides community officials with an opportunity to review and provide comments on the proposed mapping changes prior to distribution to the public.

Figure 4. Nationwide, our experts have coordinated more than 400 outreach meetings and successfully completed over 20 Flood Risk Review meetings and Resilience meetings.

Coupled with Michael Baker's vast outreach expertise is the local experience of Michael Baker / Olsson and the specialty outreach skills of Neel-Schaffer, that will enable our team to create outreach and communication that is tailored to the project and stakeholders, enhancing local awareness, adoption and partnerships.

Michael Baker has a diverse staff experienced in large and successful outreach programs, including graphic artists highly skilled in creating materials for use in communicating the messages necessary to elicit understanding and action. We have a proven track record of creating flyers, handouts, PowerPoint presentations, conference displays, fact sheets, and websites. Team members who conduct the Discovery meetings will remain on the project throughout the Final Consultation Coordination (CCO), Open House, Flood Risk Review, and Resilience meetings, in order to build and sustain relationships with community leaders. Michael Baker team members have coordinated more than 400 outreach meetings for local officials across the Nation.

At Michael Baker we share our knowledge with our CTP clients and FEMA communities through collaboration and training. We worked with FEMA Region VI to conduct training focused on using flood risk products to manage development, respond to and recover from disasters, and communicate risk to watershed stakeholders, including live GIS working sessions. Training products include "how-to" recipe cards for using flood risk products at the community level, fact sheets, and recorded audio/visual tutorials.

We trained over 170 mapping partners and Regions in the Mapping Information Platform (MIP) used to manage schedule and cost using an Earned Value Management System. This expertise will allow our team to ensure the MIP is always current and accurate for DOTD CTP projects reducing questions and oversight from FEMA Region VI. Michael Baker also led the development of the NFHL which is now the authoritative source for digital flood hazard information for the Nation.

FLOOD INSURANCE RATE MAPS, PRELIMINARY FIRMS, POST-PRELIMINARY PROCESSING

Michael Baker has extensive experience producing FIRMs and FIS reports through FEMA and CTP contracts. **To date, we have been contracted to produce over 50,500 FIRM panels nationwide.** We have developed and implemented program- leading custom toolsets within our RiverSystems suite of tools to streamline the flood data production process and generate deliverables that are automatically compliant with FEMA's Data Capture Standards and easily submitted through the MIP.

In order to generate FEMA-compliant products, Michael Baker also developed the "DFIRM Tools" as part of our RiverSystems tools, an enterprise database solution through ESRI ArcGIS leveraging the ArcSDE platform that generates maps, reports, and databases that are in compliance with FEMA's Guidelines & Standards. These programs will help streamline and add efficiency for project assistance efforts for DOTD.

Once the distribution of preliminary map products occurs, Michael Baker excels in walking CTPs and the mapped communities through the post-preliminary process. We have extensive experience walking communities through the appeals, Letter of Final Determination, and adoption process. We understand the regulatory process and the timing of every action that must occur during that process to comply with the Code of Federal Regulations and not get hung up on a technicality.

Michael Baker's experience in post-preliminary processing is highlighted through the support provided on the Expanded Appeal Process (EAP) guidelines and standards published in November 2011. EAP changed the process by providing notice of increased Base Flood Elevations to stakeholders. Michael Baker has supported FEMA Headquarters as a lead author and key work group member in the development of the new EAP guidelines and standards.

AWARD WINNING

The American Council of Engineering Companies awarded an Engineering Excellence Award to Michael Baker for the NFHL. Evidence of our commitment to supporting FEMA and its state and local partners.

RISK MAP SERVICES; CNMS, DAM/LEVEE/COASTAL ANALYSES, COORDINATION WITH OTHER CTPS AND AGENCIES, MITIGATION PROJECT SUPPORT, AND GENERAL PROGRAM MANAGEMENT SUPPORT

For each of our CTP projects, we work to tie the FEMA products we are making to local projects and initiatives, a process that will be a focus for any work we do with DOTD. A recent example of this is the provision of post-flood depth grids, where we rapidly deployed an interpretation of FEMA's Risk MAP Products in the aftermath of recent flooding events in Boulder County, Colorado. This effort assisted recovery and planning efforts, supporting FEMA's Risk MAP objectives of identifying and implementing mitigation projects.

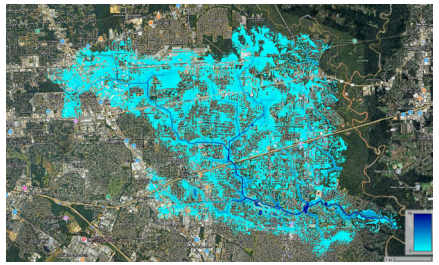


Figure 5. Example of a Depth Grid Rasters Produced During Flood Scenario Modeling. Baton Rouge, LA.

Our staff were leaders and key participants on the Levee Analysis and Mapping Procedures

(LAMP) solution team. In addition to participating in the PTS LAMP Integrated Program Delivery Team meetings and co-authoring the LAMP approach, we led a joint PTS effort to develop three LAMP training presentations for internal and external stakeholders, assisted in delivering training to over 80 individuals from FEMA Headquarters and Regions, and provided direct training to Regions IV, VIII, and IX and their mapping partners.

Michael Baker was also a leader in the development of coastal flood risk project guidelines that have been used nationwide. Michael Baker led the development of 10 new coastal guidance documents and procedure memoranda, including the Atlantic Ocean and Gulf of America Coastal Guidelines Update (February 2007), and contributed to the development of seven additional documents.

DOTD can enhance it's understanding of flood risk and develop plans to mitigate risks by using Michael Baker's proven technical expertise and innovation.

Michael Baker provides coastal flood hazard analysis solutions throughout the U.S. Our general expertise in the areas of coastal hydrodynamics and wave analysis and morphology provide a strong technical foundation for our specific expertise in coastal flood risk analysis. Within the past 5 years, Michael Baker has undertaken the analysis of coastal flooding risk, including impacts of sea-level rise and tsunamis, for more than 30 coastal counties on the Atlantic, Pacific, and Gulf of America coastlines.

Michael Baker and Neel-Schaffer perform numerical modeling of coastal processes, including waves, hydrodynamics, and morphology, using industry standard tools like ADCIRC, STWAVE, RMA-2. GENESIS, DYNLET, and CMS for both government and private sector clients. We are conducting three large-scale storm surge modeling projects in the Southeast U.S., extending from the South Carolina–Georgia state line to the Florida Keys. These studies simulate ocean- and shelf-scale wave processes, dynamically coupled with an ADCIRC model, to analyze hydraulic processes and inundation expected due to hurricane-induced coastal flooding. Each of these simulations is executed on model meshes containing more than 2 million nodes. Michael Baker is a longstanding program guidance leader for FEMA, having led or been instrumental in every update to FEMA mapping guidelines and standards since 1985. Michael Baker also led the development of the Mapping Information Platform (MIP), which continues to serve as the IT backbone of Risk MAP and the NFHL today.

SCHEDULE Our team is committed to delivering exceptional results for CTP/NFIP task orders with the agreed-upon timelines for each task order. By leveraging our expertise, coupled with advanced techniques, we ensure that each task order is completed efficiently and accurately. An example of a typical CTP/NFIP task schedule is shown below:

NFIP CAP-SSSE TIERED STATE FRAMEWORK (TSF)

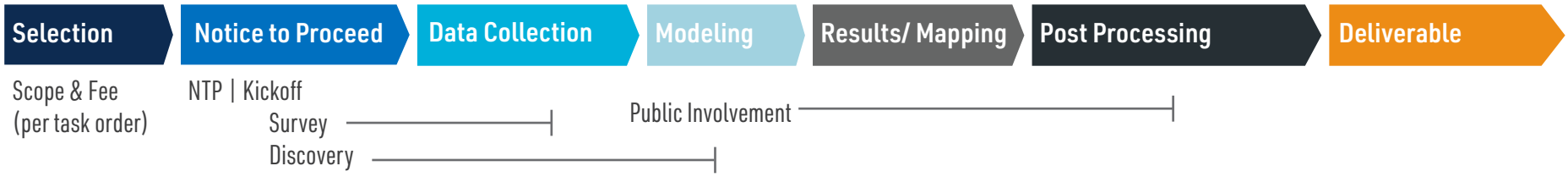
We offer collaborative support to the State NFIP Office in communicating methods and developing deliverables in accordance with the FEMA 4.1 TSF Playbook. **Our Deputy Project Manager, Kara Moree, CFM** brings a unique and diverse perspective as an NFIP subject matter expert to assist specifically with the CAP-SSSE grant and implementation. She brings valuable experience having served as:

- ✓ **Floodplain Management Specialist for FEMA Region VI**
- ✓ **Local Floodplain/CRS Administrator for Ascension Parish**
- ✓ **CAP Committee Chairman of the Louisiana Floodplain Management Association (LFMA) for the past several years**

With a comprehensive understanding of NFIP basics and local administration, the Michael Baker Team builds on the State NFIP Office's achievements from the TSF Playbook and Assessment Tool. We leverage this knowledge to enhance partnerships with various agencies, maximizing the State NFIP Floodplain Management Program's effectiveness. Such partners could include GOHSEP, CPRA, LFMA, LA Dept. of Insurance, Louisiana Watershed Initiative, ASFPM, USACE, EPA, other FEMA Region VI States, HUD and others that support or have similar floodplain management initiatives.

By thoroughly analyzing the current TSF assessment of the State NFIP program, we facilitate preparation for the 2026 cycle, enhancing existing benchmarks and incorporating new priorities such as Equity, Climate Change, and Strategic Planning. Our approach emphasizes leveraging existing activities and optimizing stakeholder communication to foster collaboration on state model floodplain ordinances and develop templates and SOPs for the NFIP Program.

DOTD can help reach its NFIP & CTP goals of reduced flood risk across Louisiana by deploying the Michael Baker team. We offer nearly 50 years of FEMA and CTP national expertise combined with local H&H modeling expertise and watershed knowledge.



SECTION 19

WORKLOAD

19. Workload:

Firm(s) ***ALL FIRMS*** *MUST BE REPRESENTED IN THIS TABLE*	*Past Performance Evaluation Discipline(s)*	*Contract Number and State Project Number*	*Project Name*	*Remaining Unpaid Balance* **
Michael Baker International, Inc.	Road Bridge	Contract No. 4400021519; S.P. No. H.012030.5 F.A.P. No. H012030	US 371: KCS RR Overpasses HBI	$67,107 (Rd) $31,334 (B)
	Road Bridge	Contract No. 4400025026; S.P. No. H.015338 F.A.P. No. H015338	Infrastructure Investment and Jobs Act (IIJA) Off-System Bridge Program – District 07, Supplemental Agreement No. 1	$186,695 (Rd) $186,695 (B)
	Road Bridge Environmental	Contract No. 4400019379; S.P. No. H.013797 F.A.P. No. H013797	LA 30: EBR PL-I-10	$84,000 (Rd) $75,000 (B) $150,475 (E)
	Environmental	Contract No. 4400005484; S.P. No. H.005168 F.A.P. No. DE-9208 (500)	NORG EIS, New Orleans, Louisiana	$256,293
	Environmental	Contract No. 4400005484; S.P. No. H.005168	NORG – Avondale PEL Study, New Orleans, Louisiana Supplemental Agreement	$289,764
	Environmental	Contract No. 4400005484; S.P. No. H.005168	NORG (Jefferson) GHG/Renderings	$50,720
	Other (Water Resource)	Contract No. 4400017092; Task Order No. 4	Collection of Existing Watershed Datasets, Models, and Studies; and Proposition of Modeling Design Approach, Schedule and Costs, Region 6	$400,000
	Other (Aviation)	Contract No. 4400019130; Task Order No. 1	IDIQ Contract for Statewide Aviation Program Update – Phase II Statewide	N/A
	CE&I/OV	Contract No. 4400025536; Task Order No. 1 S.P. No. H.013997; F.A.P. No. H013997	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Loc Rd. over Borrow Pit (Blind RV BT LNCH), St. James Parish	$72,130
	CE&I/OV	Contract No. 4400025536; Task Order No. 2 S.P. No. H.012936; F.A.P. No. H012936	IDIQ Contract for Construction Engineering and Inspection Services in District 61, LA 78: US 190- LA 1	$2,787
	CE&I/OV	Contract No. 4400025536; Task Order No. 3 S.P. No. H.013458; F.A.P. No. H013458	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Manchac Acres & HH Wilson Rd Bridges	$9,911
	CE&I/OV	Contract No. 4400025536; Task Order No. 4 S.P. No. H.015604; F.A.P. No. H015604	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Pear St. at LA 1: Drainage	$74,133
	CE&I/OV	Contract No. 4400025536; Task Order No. 5 S.P. No. H.012057; F.A.P. No. H012057	IDIQ Contract for Construction Engineering and Inspection Services in District 61, LA 431: Villar Canal and Drainage Bridges	$723,433
	CE&I/OV	Contract No. 4400025536; Task Order No. 6 S.P. No. H.013956; F.A.P. No. H013956	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Beamon Rd over Bayou Maringouin	$20,821
	CE&I/OV	Contract No. 4400025536; Task Order No. 7 S.P. No. H.014319; F.A.P. No. H014319	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Cedarcrest Avenue over Wiener Creek	$98,015

Michael Baker International, Inc.	CE&I/OV	Contract No. 4400025536; Task Order No. 8 S.P. No. H.015944; F.A.P. No. H015944	IDIQ Contract for Construction Engineering and Inspection Services in District 61, LA 3125 (LA 70 – LA 3213)	$410,277
	CE&I/OV	Contract No. 4400025536; Task Order No. 9 S.P. No. H.016026; F.A.P. No. H.016026	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Grosse Tete Emergency Project	$246,906
	CE&I/OV	Contract No. 4400025536; Task Order No. 10 S.P. No. H.014088.6; F.A.P. No. H.014088	IDIQ Contract for Construction Engineering and Inspection Services in District 61, US 61: INT. Improvements at LA 427	$336,795
	CE&I/OV	Contract No. 4400025536; Task Order No. 11 S.P. No. H.015440.9; F.A.P. No. H015440	IDIQ Contract for Construction Engineering and Inspection Services in District 61, LA 69: 0.5 Mi N of LA 404-LA 1	$285,706
	CE&I/OV	Contract No. 4400025536; Task Order No. 12 S.P. No. H.014993.6; F.A.P. No. H014993	IDIQ Contract for Construction Engineering and Inspection Services in District 61, Lemon Rd over Drainage Bayou	$166,062
	CE&I/OV	Contract No. 4400024660; Task Order No. 1 H.013958.6; S.P. No. H.013958.6	IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 03 Carpenter Bridge Rd over Whisky Chitto Creek	$94,920
	CE&I/OV	Contract No. 4400024660; Task Order No. 2 H.014415.6; S.P. No. H.014415.6	IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 03; LA 352 Drainage Improvement	$139,881
	CE&I/OV	Contract No. 4400024660; Task Order No. 3 H.009629.6; S.P. No. H.009629.6	IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 03; US 90 RR-Pinhook_ LA 92-LA 88	$318,233
	CE&I/OV	Contract No. 4400024660; Task Order No. 4 S.P. No. H.005967.6; F.A.P. H.005967	IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 03; Nelson Rd Ext & Bridge	$423,003
	CE&I/OV	Contract No. 4400024660; Task Order No. 5 S.P. No. H.005967.6; F.A.P. H.005967	IDIQ Contract for Construction Engineering and Inspection Services (CE&I) with Majority of Work in District 03; I-10: JEFF DAV PL-I-49(OGFC/SLAB REPAIR)	$447,172
Neel- Schaffer, Inc.	Planning	SPN 736-99-1548	Travel Demand Model Support Services Statewide	$47,790
	ITS	Contract No. 4400010428 EWL 3, H.004774.5; H.007300	Kansas Lane: Garrett Road Connector and I-20 Improvements	$805
	Planning	Contract No. 4400015733; H.972374.1	Local Public Agency Documented Planning Process, Statewide	$85,032
	Road	Contract No. 4400017293; H.010616	I-20: LA 544 Overpass Replacement	$26,300
	ITS	Contract No. 440005459; H.004780.5	Kansas Lane Connector, S.A. #6	$5,234
	ITS	Contract No. 4400016364; H.013256.6	I-10 ITS Scott to Lake Charles Technical Support Services During Construction	N/A
	ITS	Contract No. 4400016364; H.011504.5	Alexandria ITS Phase 2	N/A
	Traffic	Contract No. 4400017438; H.013284	MRB South GBR: LA 1 to LA 30 Connector, Ascension, EBR, Iberville & WBR	$138,585
	Traffic	Contract No. 4400018271; H.014746.1	LA 383 Corridor Study (on hold and should not count as backlog)	$13,195
	Traffic	Contract No. 4400018271; H.014746.5, SA #2	LA 383 Corridor Study (on hold and should not count as backlog)	$59,915
	Planning	Contract No. 4400018271; H.014746.1	LA 383 Corridor Study (on hold and should not count as backlog)	$94,106

Neel- Schaffer, Inc.	Planning	Contract No. 4400021094	Update Statewide Transportation Plan and Travel Demand Model	$7,638
	Traffic	Contract No. 4400026458; H.014710.5	Cedar Street Ext. to LA 22 and Roundabout	$37,151
	Road	Contract No. 4400024927; H.015226.5	US 90: Roundabout at LA 101	$76,146
	Traffic	Contract No. 4400025299; H.013421.5	Dist. 02H Flashing Yellow Arrow Part 2	$243,256
	Traffic	Contract No. 4400025299; H.015645.5	LA 47 Hayne Blvd Safety Improvements	$77,783
	Road	Contract No. 4400025299; H.016168.1	Baton Rouge Northern Bypass Expressway	$641,816
	Traffic	Contract No. 4400024927; H.014366.5	LA 621 Realignment at LA 73	$337,398
	Traffic	Contract No. 4400024927; H.014366.5	LA 621 Realignment at LA 73	$71,101
	Planning	Contract No. 4400023689; H.013622.5	LRSP Ardenwood Dr. Road Diet	$43,813
	Road	Contract No. 4400023689; H.013622.5	LRSP Ardenwood Dr. Road Diet	$5,318
	Road	Contract No. 4400023689; H.013622.5	LRSP Ardenwood Dr. Road Diet (awaiting NTP for design; should not count as backlog)	$91,133
	Traffic	Contract No. 4400024927; H.009425.5	LA 16: N 2nd St. to E. of Duncan Ave.	$159,175
	Road	Contract No. 4400025299; H.015986.5	I-49 at LA 3233 (Harry Gilbeau Road) Traffic Study	$109,566
	Traffic	Contract No. 4400028434; H.015568.5	LA 44: Pelican Point Roundabout and Widen	$153,864
	Traffic	Contract No. 4400023689; H.015574.5	LCG FYA Signal Improvements Phase 2	$299,434
Olsson, Inc.	Other (Water Resource)	4400017093 H.013789	IDIQ Contract for Louisiana Watershed Initiative (LWI) Modeling Contract Region No. 7 Task Order No. 4	$76,912
GOTECH, Inc.	CE&I/ OV	4400021740; SPN: H.004100.6	I-10: LA 415 to Essen Ln on I-10 & I-12 (West & East Baton Rouge Parish)	$1,216,546
	Survey	4400025040; SPN: H.015530	Infrastructure Investment Off-System Bridge Program – Devall Rd over Drainage Ditch District 61 (Ascension Parish)	$3,150
	Survey	4400025040; H.015531	Rue De Kajun over Bayou Pierre Part (Ascension Parish)	$3,150
	Survey	4400025040; H.015532	Beco Rd over Duckroos Bayou (Ascension Parish)	$3,150
	Survey	4400025040; H.015540	Section Rd over Poydras (Point Coupee & WBRP)	$3,150
	Survey	4400025040; H.015534	Line Rd over Black Creek (E Feliciana Parish)	$3,150
	Survey	4400025040; H.015535	Billy Goat Rd over Palmers Ranch (E Feliciana Parish)	$3,150
	Survey	4400025040; H.015533	Midway Rd over Black Creek (E Feliciana Parish)	$3,150
	Survey	4400025040; H.015536	Thompson Creek Rd over Shady Grv Bayou (Iberville Parish)	$3,150
	Survey	4400025040; H.015538	Callegan Rd over Drainage Bayou (Iberville Parish)	$3,150
	Survey	4400025040; H.015542	Highland Rd over Madden Creek (W Feliciana Parish)	$3,150
	Survey	4400025040; H.015542	Greenwood Rd over Old Creek (W Feliciana Parish)	$3,150
	Survey	4400025040; H.015541	Canfield Rd over West Fork Bayou (W Feliciana Parish)	$3,150

GOTECH, Inc.	Survey	4400025040; H.015539	Lorio Dairy Rd over Bayou Sere (Point Coupee Parish)	$3,150
	CE&I/OV	4400024438; SPN: H.010673 Control Section No. 283-09	US90Z: Harvey Canal Tunnel Rehab Route US 90-Z Federal Aid Project (Jefferson Parish)	$166,480
	CE&I/OV; Survey	4400021680; SPN: H.008145.6	LA 1: Leeville to Golden Meadow (Lafourche Parish)	$657,432
	CE&I/OV	4400028884; SPN: H.003931.5	Calcasieu River Bridge (Calcasieu Parish)	$48,597
	CE&I/OV	H.001498.6	LA 24 & LA 306: Company Canal Bridge	$399,600
	CE&I/OV; Survey	4400023897; H.011965.6	LA 47: IWGO Bridge Rehab Orleans Parish	$255,000
	CE&I/OV; Survey	4400027349; H.003931.6	Calcasieu River Bridge – Hm & Field	$2,134,826
	Survey	4400023512; H.009730.5	Luling Bridge Inspection	$94,555
	CE&I/OV	4400026468	Lafayette Traffic Signals	$79,280
	CE&I/OV	4400025536; H.014993.6	Lemon Rd Bridge over Drainage Bayou	$114,735
Civil Design & Construction, Inc.	Survey	4400027093; H.015949	LA 335	$ 14,089
	Survey	4400023689; H.013622.5	LRSP Ardenwood Dr	$ 24,366
	Survey	4400027093; H.015847.5	US90: LA668 - LA318	$ 78,910
	Survey	4400027093; H.014824.5	US90: 1.6MI S LA317 - 1.2 MI N Wax Lake B	$ 32,563
	Survey	4400026911; H.013718	LA 23 – Gretna Blvd.	$40,800

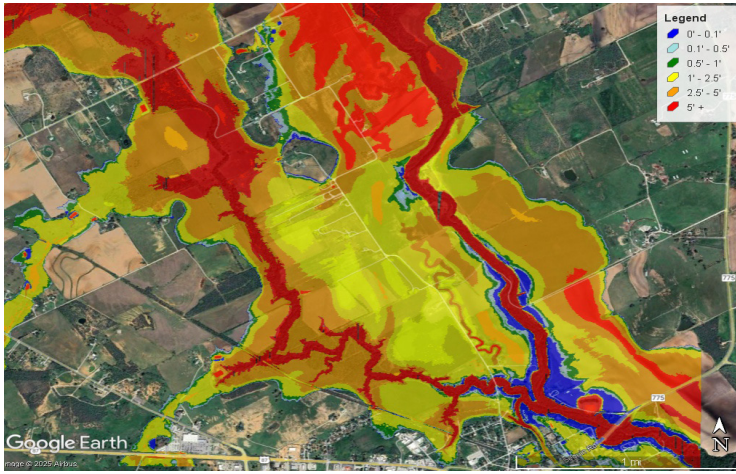
Our expertise in hydrologic modeling, 1D, 2D, 1D-2D and Rain-on-Mesh hydraulic modeling, and innovations like scripting and cloud-based modeling has created efficiencies to help our clients (including FEMA, USACE and CTP clients across the country) complete flood hazard modeling and mapping projects under budget and on schedule.

On the nationwide CERC contract, Michael Baker is assisting FEMA in collaborating with state and local entities to increase the public's risk awareness, drive action to reduce risk, and help communities become more resilient when confronting natural disasters.

We bring FEMA regulatory knowledge and experience **ensuring strict adherence to all FEMA guidelines and standards**, having led, or supported all major updates to FEMA's mapping guidelines since 1985.

SECTION 20

CERTIFICATIONS/LICENSES



20. Certifications/Licenses:

If the advertisement requires submission of licenses and/or certificates, include them here. ***Otherwise, leave this section blank.***

Secretary of State Registration - Michael Baker International, Inc.

Name	Type	City	Status
MICHAEL BAKER INTERNATIONAL, INC.	Business Corporation (Non-Louisiana)	PITTSBURGH	Active

Previous Names

MICHAEL BAKER, JR., INC. (Changed: 7/6/2015)

Business: MICHAEL BAKER INTERNATIONAL, INC.
Charter Number: 30035020F
Registration Date: 12/29/1972

Secretary of State Registration - Neel-Schaffer, Inc.

Name	Type	City	Status
NEEL-SCHAFFER, INC.	Business Corporation (Non-Louisiana)	JACKSON	Active

Previous Names

Business: NEEL-SCHAFFER, INC.
Charter Number: 34112054F
Registration Date: 4/25/1983

Secretary of State Registration - Civil Design & Construction, Inc.

Name	Type	City	Status
CIVIL DESIGN & CONSTRUCTION, INC.	Business Corporation	PORT ALLEN	Active

Previous Names

Business: CIVIL DESIGN & CONSTRUCTION, INC.
Charter Number: 35961196D
Registration Date: 6/15/2005

Secretary of State Registration - GOTECH, Inc.

Name	Type	City	Status
GOTECH, INC.	Business Corporation	BATON ROUGE	Active

Previous Names

Business: GOTECH, INC.
Charter Number: 33323660D
Registration Date: 2/11/1981

Secretary of State Registration - Olsson, Inc.

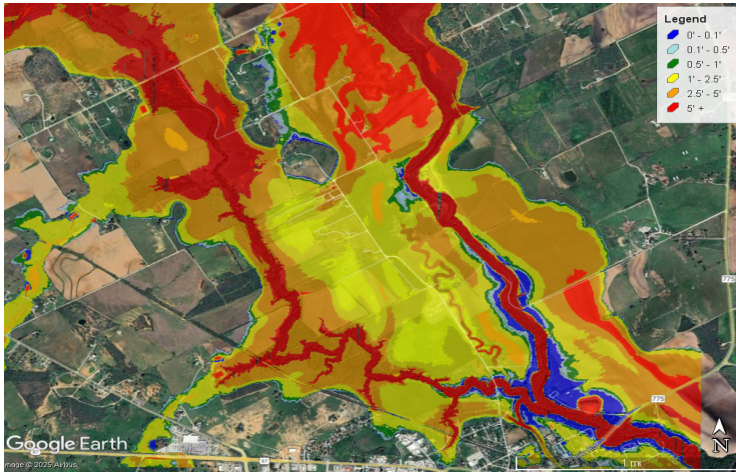
Name	Type	City	Status
OLSSON, INC.	Business Corporation (Non-Louisiana)	LINCOLN	Active

Previous Names

OLSSON ASSOCIATES, INC. (Changed: 11/29/2018)

Business: OLSSON, INC.
Charter Number: 36630524F
Registration Date: 1/7/2008

QA/QC PLAN | SUB-CONSULTANT INFORMATION | LOCATION



21. QA/QC Plan

If the advertisement requires submission of a QA/QC plan, include it here. ***Otherwise, leave this section blank. If a QA/QC plan is included in this section and was not required by the advertisement, it will be redacted.***

Per the RFP, this section is not applicable.

22. Sub-consultant information:

If one or more sub-consultants will be used, provide the name, address, point of contact and phone number for each. Otherwise, leave this section blank.

Firm Name (Name must match exactly as registered with Louisiana's Secretary of State (SOS): including punctuation, include screenshot(s) from SOS at the end of Section 20)	Address	Point of Contact and email address	Phone Number
Neel-Schaffer, Inc.	10000 Perkins Rowe, Suite G360, Baton Rouge, LA 70810	Kara Moree, CFM kara.moree@neel-schaffer.com	(225)-924-0235
Olsson, Inc.	3537 N. Steele Blvd, Suite 310 Fayetteville, AR 72703	Lee Beshoner, PE, CFM lbeshoner@olsson.com	(479)-443-3403
GOTECH, Inc.	8383 Bluebonnet Boulevard Baton Rouge, LA 70810	Rhaoul A. Guillaume, Sr., PE, F.ASCE rhaoul@gotech-inc.com	(225) 766-5358
Civil Design & Construction, Inc.	PO Box 857 Port Allen, LA 70767	Karla E. Weston, PE Kweston@cdcbr.com	(225)-765-1802

TEAMED FOR DOTD

We have built our team to execute and complete each task efficiently and to the highest standard.

DOTD's goals for this CTP Program will be achieved with the Michael Baker Team - a team with subconsultants that are highly committed to Michael Baker, supporting our management and staffing strategy to exceed DOTD's expectations for a program of this scale. We have brought together our wide-ranging experience to identify the best options for floodplain management for agencies, communities, and citizens, as shown in the table to the right.

	Discovery	H&H Engineering	LAMP	FIRMs and FIS	FEMA Risk Map	FEMAs Mapping	FEMAs CNMS	Community Outreach	Flood Ordinances	Website	CAV & CAC
Michael Baker International, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Neel-Schaffer, Inc.	✓	✓			✓			✓	✓		✓
Civil Design & Construction, Inc.		✓									
Olsson, Inc.	✓	✓		✓		✓					
GOTECH, Inc.						✓					

23. Location:

If location is an evaluation criterion for this advertisement (see page 2) and the prime consultant intends to establish a local presence, describe the plan for doing so.. ***Otherwise, leave this section blank. Any information included in this section will be redacted if not required by the Evaluation Criteria section of the advertisement.***

This section is not applicable for the Michael Baker team.

Michael Baker

INTERNATIONAL

MICHAEL BAKER INTERNATIONAL
2600 CitiPlace Drive · Suite 450
Baton Rouge, LA 70808