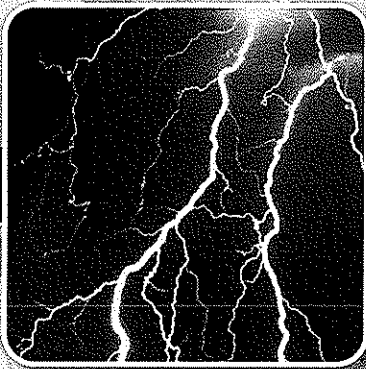


EXPRESSION OF INTEREST FOR

West Virginia Statewide Standard All-Hazard Mitigation Plan Update



RFQ # HSE09051
July 22, 2009

Submitted to:
West Virginia Division of
Homeland Security and
Emergency Management



Submitted by:

Baker

Michael Baker Jr., Inc.
5088 West Washington Street
Second Floor
Charleston, WV 25313

RECEIVED

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WV PURCHASING
DIVISION



Baker

Michael Baker Jr., Inc.
5088 West Washington Street
Second Floor
Charleston, WV 25313

304-769-0821
304-769-0822 FAX

July 22, 2009

Mr. John Abbott, State Buyer
West Virginia Department of Administration
Purchasing Division
2019 Washington Street, East
Charleston, WV 25305-0130

Re: RFQ HSE09051, Statewide Standard All-Hazard Mitigation Plan Update

Dear Mr. Abbott:

Michael Baker Jr., Inc. (Baker) is pleased to submit our Expression of Interest (EOI) for the Statewide Standard All-Hazard Mitigation Plan Update for West Virginia. Baker is uniquely qualified to ensure that the update to the plan is acceptable not only to FEMA but also to West Virginia stakeholders, which will be crucial for its successful implementation. Several of Baker's strengths that will help expedite both state adoption and FEMA review of the updated plan are listed below and detailed in the attached EOI.

- Nationally recognized as leader in GIS.
- Excellent track record as a consultant for FEMA.
- Experience writing and updating the WV Standard State All-Hazard Mitigation Plan, which included drafting the Enhanced State Hazard Mitigation Plan.
- Experience managing the WV All-Hazards Mitigation GIS.
- Has depth of resources to respond to changing needs of client and project.
- Experience with West Virginia clients, including WVDHSEM and other hazard mitigation stakeholder agencies.
- Awareness of scheduling needs for plan adoption and FEMA review.
- Understanding of 44 CFR 201.4 and National Flood Insurance Program requirements.

We appreciate your consideration and eagerly await a chance to further discuss our qualifications. We would be honored to continue to assist the state of West Virginia and are confident that the updated plan will greatly enhance the State's commitment to a comprehensive mitigation program for reducing the risks from natural disasters.

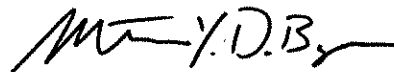
Should you have any questions, please contact Rusty Hall, our Office Principal, at 304-769-0821.

Sincerely,

MICHAEL BAKER JR., INC.



Russell E. Hall, P.E., P.S.
Principal-In-Charge



Martha Young DoByns
Project Manager

Executive Summary

The West Virginia Division of Homeland Security and Emergency Management (WVDHSEM) is seeking a highly qualified firm experienced in hazard mitigation to update the West Virginia Statewide Standard All-Hazard Mitigation Plan (Standard State Plan). Michael Baker Jr., Inc. (Baker) has the expertise and experience necessary to ensure expedient completion of a Standard State Plan Update that meets or exceeds State and Federal Emergency Management Agency (FEMA) requirements.

- **Baker has an intimate understanding of the current Standard State Plan and its associated GIS Database.** We facilitated the development of the first FEMA-approved Standard State Plan for West Virginia in 2004, produced the 2007 update to the Standard State Plan, and drafted an Enhanced Mitigation Plan to help prepare West Virginia for enhanced status with FEMA. This experience will allow for rapid project delivery.
- **Baker understands West Virginia.** Baker has conducted business in West Virginia for over 50 years, and currently maintains an office of approximately 40 employees in Charleston. We have worked closely with a broad range of state and regional agencies, many of whom are hazard mitigation planning stakeholders. Our West Virginia presence and experiences, particularly with issues related to floodplains, allows Baker to best assist the State in coordinating planning efforts and developing strategies to prevent loss of life and property.
- **Baker has the expertise and technical skills to provide an exemplary plan.** Baker can tap into its deep resources nationwide to provide highly qualified and experienced professionals. Our planning, emergency management, public coordination, financial administration, and Geographic Information System (GIS) staff resources will ensure that the Standard State Plan Update will be completed on schedule and be of the highest quality. Having assisted in the development of the West Virginia All-Hazards Mitigation GIS and conducted numerous Hazards - United States (HAZUS) analyses, Baker is particularly well prepared to conduct risk assessments required for the Standard State Plan Update. Our familiarity with the many Federal, regional, state, and local data sources will expedite the risk assessment update, and our relationships with WVDHSEM staff will facilitate a thorough capability assessment.
- **Baker has a track record of satisfying FEMA requirements.** Baker is well known for its role as the MapMod Program Management consultant for FEMA. Baker personnel have completed approved hazard mitigation plans for states and localities in the Mid-Atlantic and Mid-West regions. We have also assisted in the development of the HAZUS-Multi Hazard (MH) software tool for FEMA, and are the Risk MAP contractor in three FEMA Regions nationally. In short, our relationship with FEMA allows us to be well-informed of policies and issues that can inform the update process.

-
- **Baker can offer a Project Team tailored to the needs and expectations of this project.** The Charleston, WV office will be assigned the primary responsibility for coordinating this project, with substantial support primarily from the Columbus, OH office just three hours away. These offices could be supported by the entire Baker family, if necessary.

Our proposed Project Team includes **Martha Young DoByns, Ramesh Chintala, Mohiuddin Shaik, and Andy Gould** who performed such tasks as stakeholder involvement, hazard identification, risk assessment, development of the WV All-Hazards Mitigation GIS, assessment of Repetitive Loss and Severe Repetitive Loss databases, research of funding sources, capability assessment, and assurance of plan adoption and FEMA-approval for West Virginia's past statewide hazard mitigation plans. Our proposed Project Team also includes **Chad Berginnis, Drew Whitehair, and Jennifer Riddle**, who bring additional expertise to expedite the updates. Mr. Berginnis served as the State Hazard Mitigation Officer for the State of Ohio, has written a Standard State Plan and numerous local plans, and conducts training in hazard mitigation; Mr. Whitehair has extensive experience in project implementation and has conducted benefit-cost review/analysis for mitigation projects; and Ms. Riddle is an expert in document preparation.

Baker will implement an approach capable of meeting proposed schedules and budgets with extraordinarily high quality control standards. Our project management process, *The Baker Way*, utilizes a company investment in the development and implementation of a comprehensive, state-of-the-art Enterprise Resource Planning (ERP) system. This system provides Baker Project Managers a powerful tool to assist in tracking and monitoring a project's progress. The Baker system is "active," alerting managers when any elements of a project are not within expected limits.

Baker is poised to "hit the ground running" to allow ample time for review and plan adoption in advance of fall 2010. Baker will deliver a plan that complies with the Disaster Mitigation Act of 2000 and the National Flood Insurance Program requirements and all associated regulations. Baker also has the flexibility and technical expertise to provide a Standard State Plan Update that not only complies with regulations, but also enhances the State's commitment to a comprehensive mitigation program for reducing the risks from natural disasters. Baker looks forward to assisting West Virginia with this critical project.



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Attachment A: Project Staff Resumes

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Section I – Qualifications of Firm

Introduction

Michael Baker Jr., Inc. (Baker) has occupied an office in Charleston, WV for over 50 years and is part of the 4,700-strong Michael Baker Corporation (AMEX:BKR) with staff in 56 offices throughout the United States and abroad. Baker has established national practices in the following sectors: Homeland Security (including Hazard Mitigation and Disaster/Emergency Management Services), Geospatial, Transportation, Facilities, Environmental, Planning, and Water. Baker primarily serves public sector clients at all levels including the Department of Defense; agencies of the Department of Homeland Security including the Federal Emergency Management Agency (FEMA); State entities including Departments of Transportation, Offices of Emergency Management / Homeland Security, and numerous local entities. Baker consistently ranks in the top 10% of the nation's top 500 engineering firms. Our purpose is to create value by delivering innovative and sustainable solutions through values such as integrity, quality, teamwork, and commitment.

Hazard Mitigation and Disaster/Emergency Management Services

Baker is implementing life cycle planning concepts for a multitude of federal, state, and local clients. Since 1972, our all-risk, all-hazards approach has helped clients plan and prepare for natural disasters, technological emergencies, internal/external risks, and terrorist threats. Our diverse staff of emergency planning and resource specialists, planners, and emergency managers supports a broad range of projects that are increasingly interdisciplinary.

Baker has successfully supported disaster/emergency management and hazard mitigation efforts in all phases of natural and technological hazards programs, including prevention, mitigation, preparedness, response, and recovery. Successfully completing a wide range of related projects for clients at all levels of government, Baker understands the interdisciplinary approach to emergency management and the importance to work with multiple levels of government.

Areas of specialized hazard mitigation and emergency management support include:

- Hazard mitigation plan development, update, and evaluation;
- Hazard mitigation project scoping, development, and applications;
- Benefit-cost analysis;
- All hazard risk assessment analysis, including use of Hazards-United States – Multi Hazard (HAZUS-MH);
- Preparation/implementation of training exercises;
- Evacuation and sheltering planning;
- Post-disaster recovery planning and procedures;

-
- Provision of hazard survey teams; and
 - Infrastructure protection, planning, and design.

Relevant Experience

Baker is uniquely qualified to ensure that the update to the West Virginia Standard State All-Hazard Mitigation Plan (Standard State Plan) is acceptable not only to FEMA but also to West Virginia stakeholders, which will be crucial for its successful implementation.

Baker's prior experience with the Standard State Plan enables us to efficiently prepare for and execute the project. Baker possesses the "institutional memory" to quickly move through the risk assessment, capability assessment, stakeholder coordination, plan integration, review of funding sources, document preparation, and plan approval tasks. We have strengthened our team with the addition of Mr. Chad Berginnis, a former State Hazard Mitigation Officer for the State of Ohio. Additionally, with the inclusion of a document formatting expert to the team, Baker can provide a seamless document and can also offer advanced documentation options if desired.

Because of our intimate knowledge of the current plan and regulatory changes that have occurred since the last update, Baker can offer the WVDHSEM critical time and cost saving measures. Since the last update of the West Virginia plan, the primary changes in FEMA's regulations and guidance related to mitigation planning were the publication of the new Interim Rule on October 31, 2007 for hazard mitigation plans, and the release of the FEMA mitigation planning "blue book" (January 2008). Of these changes, the most important to this project is the inclusion of standards related to the development of a repetitive loss strategy in order to receive a more favorable cost share under the Severe Repetitive Loss program and the Flood Mitigation Assistance program.

Baker will update the loss estimate and vulnerability assessment early in the project so as to have a complete and thorough risk assessment; this will include a review of the Repetitive Loss and Severe Repetitive Loss data, incorporation of HAZUS data that will have been produced by the statewide HAZUS project for flood risk assessment, and updating/rolling up key risk assessment data from local plans. Also early in the project, Baker will meet with WVDHSEM to review current procedures and projects related to hazard mitigation that have taken place since the last plan. This will inform the capability assessment and progress summaries for many of the statewide strategies.

At dates determined at project initiation, Baker will conduct stakeholder meetings to share these risk and capability assessment results, to discuss strategies with lead agencies other than WVDHSEM, to ensure the Standard State Plan is integrated with other planning efforts, to allow stakeholder prioritization of strategies, and to assure compliance with FEMA regulations. Throughout all activities, Baker will document planning activities.

Based on our experience with mitigation planning and review of changes to FEMA guidance concerning the Standard State Plan update process, Baker recommends another change to the plan for the 2010 update. With the previous plan (2007), a format in line with the original plan's

(2004) format was followed; however, to facilitate FEMA's review, Baker proposes reformatting the document to match the crosswalk that FEMA will be using for the document review and approval process. Our proposed Project Team is well-suited for this task; our Document Formatting/Graphic Design Project Team member, Jennifer Riddle, can work closely with the Project Manager and previous plan author, Martha Young DoByns, to efficiently conduct this task if requested by WVDHSEM.

Our proposed Project Team can also provide WVDHSEM a novel method for disseminating information about the update and collecting public input by developing customized webpages which can either reside on the WVDHSEM website or be linked to it. These webpages would provide stakeholder meeting summaries, updates on progress of the plan, and a custom survey for the public to provide feedback. Also, a linked pdf document would be available to allow stakeholders and other citizens to easily navigate between document sections, figures, and appendices from the website, which would enhance usability of the resource.

Also, particularly because Baker has experience with stakeholder coordination on previous state hazard mitigation planning efforts, Baker recommends reducing the number of stakeholder meetings from three to two, in conjunction with increased electronic communications with stakeholders. We believe we can streamline the meeting processes to reduce demands on these agencies and help assure better attendance for stakeholders' decision-making.

Baker is experienced in disaster preparedness, response, recovery, and mitigation planning. Principal examples in addition to prior statewide hazard mitigation planning include the Emergency Operations Planning conducted for the City of Virginia Beach over the course of ten years, and the Municipal Domestic Water Security project Baker is conducting for the U.S. Department of Homeland Security.

Baker is a leader in GIS technology. Baker assisted in the development of the HAZUS-MH software tool for FEMA. Having assisted in the development of the West Virginia All-Hazards Mitigation GIS and conducted numerous HAZUS analyses, Baker is particularly well prepared to conduct risk assessments required for the Standard State Plan Update. Our familiarity with the many Federal, regional, state, and local data sources will expedite the risk assessment update.

Baker has a track record of satisfying FEMA requirements. Baker is well known for its role as the MapMod Program Management consultant for FEMA. Baker personnel have completed multiple approved state hazard mitigation plans as well as multiple local hazard mitigation plans. We are the Risk MAP contractor in three FEMA Regions nationally. Our relationship with FEMA allows us to be well-informed of policies and issues that can inform the update process.

The following selection of project descriptions illustrates that Baker has the qualifications and experience directly related to the skills required to successfully complete the Statewide Standard All-Hazard Mitigation Plan Update for West Virginia. **Table 1** provides a summary matrix of expertise Baker employed in these projects.

**Table 1
Summary of Relevant Work Experience**

Project	Client	Planning Team Coordination	Hazard Identification & Risk Assessment Development/Update	Mitigation Strategy and Action Plan Development/Update	Technical Report Writing	GIS Spatial Data Production, Evaluation, Analysis	Outreach and Education Programs	QA/QC to FEMA and/or Other Standards
West Virginia Standard State All-Hazard Mitigation Plan	WV Division of Homeland Security & Emergency Management	●	●	●	●	●	●	●
West Virginia Enhanced State Mitigation Plan	WV Division of Homeland Security & Emergency Management	●	●	●	●	●	●	●
WV Statewide Addressing & Mapping Project Management	WV Dept. of Administration Mapping Board	●			●	●	●	●
Emergency Operations Planning, Preparedness, Response, & Recovery Consultant	City of Virginia Beach Department of Public Utilities, VA				●	●	●	●
PEMA Hazard Mitigation Project	Pennsylvania Emergency Management Agency	●	●	●	●	●	●	●
Virginia Statewide Hazard Mitigation Plan	VA Department of Emergency Management	●	●	●	●	●	●	●
2005 FEMA Region 3 Task Order	FEMA Region III	●			●	●	●	●
System Study – Municipal Domestic Water Security	U.S. Department of Homeland Security	●			●		●	
GIS and IT Support for FEMA	FEMA (HQ)	●				●		●
Multi-Hazard Flood Map Modernization	U.S. Dept. of Homeland Security	●			●	●	●	●
HAZUS Flood Loss Estimation Module	FEMA		●		●	●		
Ohio HAZUS Modeling, 49 Counties	Ohio Emergency Management Agency		●		●	●	●	●
Jackson County, Ohio Countywide Hazard Mitigation Plan	Jackson County Emergency Management Agency	●	●	●	●	●	●	●
Village of Vinton Hazard Mitigation Plan	Village of Vinton / Gallia County Emergency Management Agency	●	●	●	●	●	●	●

West Virginia Standard State All-Hazards Mitigation Plan

Statewide, West Virginia

Baker developed a Standard State All-Hazards Mitigation Plan for the West Virginia Office of Emergency Services (WVOES) to comply with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 is federal legislation under the Department of Homeland Security's Federal Emergency Management Agency (FEMA), which requires states to have both a State-adopted and FEMA-approved plan as a condition of disaster assistance. This plan will enable West Virginia's state, local and other public agencies to qualify for Hazard Mitigation Grant Program (HMGP) project grants from FEMA, which will reduce the effects of disasters on the lives and property of the State's citizens.

Baker initially conducted a Statewide Risk Assessment from natural hazards such as floods, winter storms, tornadoes, and wild fires. The risk assessment was based on extensive research of past disasters and their effects on life and property. The risk assessment included profiles of a variety of hazards, vulnerability assessments, and preparation of loss estimates. Spatial and aspatial hazard datasets were compiled into a Geographic Information Systems (GIS) database using ESRI's ArcGIS 8.3 and Microsoft Access software. The GIS database was used to make projections of future risks to the State's critical infrastructure and to create maps of areas vulnerable to specific hazards. The results of the risk assessment allowed hazards to be ranked based on frequency of occurrence and potential consequences.

Baker coordinated the statewide planning process by organizing stakeholder meetings for over 100 different stakeholders in all levels of government, private enterprise, non-profits, and individual citizens.

The stakeholders helped identify hazard mitigation goals, strategies, and projects. The statewide plan also incorporated the results from local jurisdictional hazard mitigation plans prepared by the county governments.

Baker also facilitated the identification and prioritization of 22 mitigation strategies by the stakeholders, for the highest ranked hazards. An assessment of the state's capabilities to implement these strategies was conducted, including an evaluation of existing programs. Potential funding sources to implement the strategies were also identified. Further, lead and facilitating agencies were identified for implementing each strategy. Finally, Baker developed a plan maintenance process for monitoring progress of the plan, the implementation of the strategies, and a periodic assessment of their effectiveness in reducing risks.

Client

West Virginia Division of Homeland Security and Emergency Management
Department of Military Affairs
Building 1, Room EB80
1900 Kanawha Boulevard East
Charleston, WV 25305

Roger Jefferson

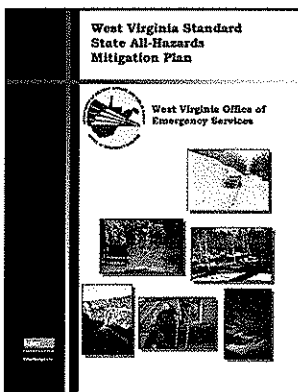
State Hazard Mitigation Planner
304-965 3503

Completion Date

2004

Baker's Role

- Statewide Risk Assessment
- GIS Database
- Statewide Planning Coordination
- Mitigation Strategy Development
- State Capability Assessment



West Virginia Enhanced State Hazard Mitigation Plan

Statewide, West Virginia

Baker conducted the Update to the Standard State All-Hazard Mitigation Plan in 2007 for the West Virginia Department of Homeland Security and Emergency Management (WVDHSEM). The Federal Emergency Management Agency (FEMA) approved the plan in the fall of 2007. Although WVDHSEM decided not to submit an Enhanced State Hazard Mitigation Plan to FEMA, Baker prepared a preliminary Enhanced Plan for the state to update and submit at a later date.

Since the start of 2000, West Virginia had experienced 12 events warranting Presidential Disaster declarations. Four disasters occurred in 2003 alone. West Virginia's mitigation planning helps ensure that it has the resources to help prevent the loss of life and property these events can affect, especially in the many floodprone neighborhoods of the state's mountain valleys.

Baker conducted a series of stakeholder meetings and maintained and expanded the WV All-Hazards Mitigation GIS. Baker provided an updated risk assessment, coordinated a renewed list and re-prioritization of mitigation strategies, incorporated new planning efforts from counties and other agencies, updated funding sources, and developed tracking forms and additional reference materials for the Standard State Plan appendices.

The Enhanced Plan, which currently serves as an appendix to the Standard State Plan, contains a thorough program management and project implementation capability assessment with examples of how WVDHSEM ensures Federal funding is managed responsibly.

Client

West Virginia Division of Homeland Security and Emergency Management
Department of Military Affairs
Building 1, Room EB80
1900 Kanawha Boulevard East
Charleston, WV 25305

Roger Jefferson

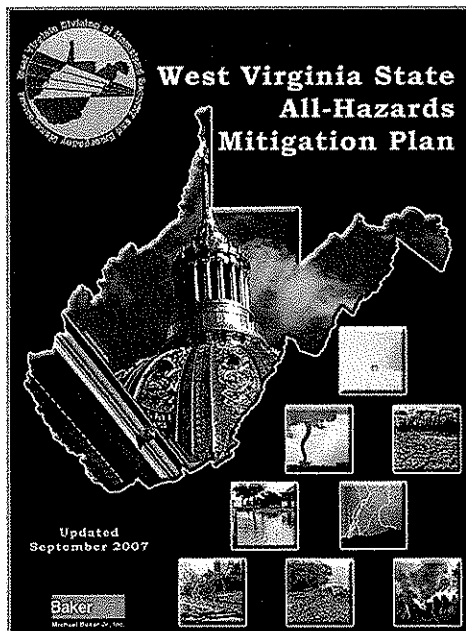
State Hazard Mitigation Planner
304-965 3503

Completion Dates

2007

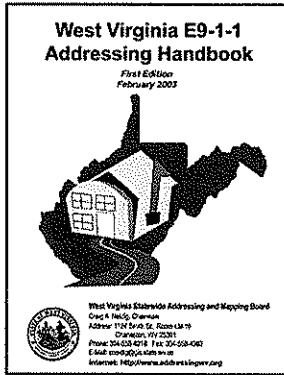
Baker's Role

- Statewide Risk Assessment
- GIS Database
- Statewide Planning Coordination
- Mitigation Strategy Development
- State Capability Assessment



West Virginia Statewide Addressing & Mapping Project Management

Statewide, West Virginia



The West Virginia Statewide Addressing and Mapping Board (WVSAMB) has been charged with developing an integrated addressing and photogrammetric base mapping system for the entire State of West Virginia. The system includes aerial photography for the development of digital maps and a computerized Geographic Information System (GIS) that

will interface with and contribute to the needs of the following: county Enhanced 911 services, state and local government agencies, telephone companies, US Postal Service, and utility systems, with a special focus on public safety and emergency response.

The West Virginia Legislature created the West Virginia Statewide Addressing and Mapping Board in the 2001 session (Senate Bill 460, codified as W. Va. Code Section 24E-1-1 et seq.). The mission of the Board is to advance the infrastructure of West Virginia by overseeing two major tasks: 1) providing new high quality digital mapping of the entire State of West Virginia; and, 2) assigning a standard city-style address to every identifiable structure in the state.

Baker was selected as the Project Manager for the duration of the \$16,200,000 project over five years. Baker's responsibilities include: The design of a world-class addressing and mapping system; determining operational, technical, budgetary, and support requirements; developing rules, standards, policies and procedures; developing security procedures; standardized formats for mapping and addressing databases; developing contractor specifications and recommendations; preparing qualifications-based selection QBS solicitations; advising the Board through the vendor selection process; system implementation; monitoring and evaluating the performance of vendors and consultants; evaluation and responsibility for deliveries acceptance; assisting counties and municipalities; maintaining compliance with laws; maintaining high professional standards; financial, costs and revenue accounting; preparing budgets and monitoring costs to mitigate risk; and assisting the Board with attracting additional funding.

Client

WV Dept. of Administration
Mapping Board
Greenbrooke Bldg., Suite 201A
Charleston, WV 25301

Jimmy Gianato
WVSAMB Vice Chair
304-436-4106

Craig Neidig
WV GIS Coordinator
304-558-4218

Completion Date

Estimated: 2009

Project Costs

\$16,200,000 (Total Contract)

\$4,794,305 (Fee)

Baker's Role

- Design of Addressing & Mapping System
- Operational, Technical, Budgetary, and Support Requirements
- Develop Rules, Standards, Policies & Procedures
- Develop Security Procedures
- Standardize Formats for Mapping & Addressing Databases
- Develop Contractor Specifications & Recommendations
- Prepare QBS Solicitations
- Vendor Selection Process
- System Implementation
- Monitor & Evaluate Vendor Performance
- Evaluate Deliveries Acceptance
- Assist Counties & Municipalities
- Maintain Law Compliance
- Financial, Costs and Revenue Accounting

City-Wide Emergency Operations Planning, Preparedness, Response, and Recovery Consultant

Virginia Beach, Virginia

As part of a ten-year Annual Services Contract (1998 - 2008) for Emergency Management Services primarily related to the City of Virginia Beach's infrastructure, Baker performed the following tasks:



Department of Public Utilities Emergency Operation Plan (EOP): As a component of the City's Emergency Operation Program, Baker staff prepared an updated Emergency Operations Plan for the Department of Public Utilities. Specific tasks included:

- Meeting with Public Utilities staff to discuss emergency operations planning, response, and recovery
- Preparing the EOP document including damage assessment information, primary and back-up communications plans, divisional organization charts, personnel telephone numbers, emergency contacts, samples of public notices, copies of emergency contracts, a list of priority service areas, a list of available emergency equipment, list of radio call numbers and vehicle numbers, and definition of emergency levels of readiness and response
- Developing and presenting training on the EOP for supervisors
- Preparing necessary mapping of critical areas using the City's GIS database

Department of Public Utilities Facilities Database: In keeping with the goal of the City of Virginia Beach to build a more disaster-resistant community, the Department of Utilities selected Baker to develop a database that can track damage to all public utility assets in the City. These assets include sewer pump stations, water pump stations, water storage tanks, and aerial pipe crossings. This database was developed as an aid in creating Facility File Folders for each asset under the Department's control. These Facility File Folders will be used during emergency events to compare pre-event conditions to post-event conditions and assist in asset management and facility condition assessments. The Folders include cost data for asset infrastructure, which is stored in the database, as well as pictures of the exterior and interior. The Department chose to have Baker develop prototype folders for each type of facility; create the database; and research cost data for common components. Baker also developed a "Users Guide" which documents the development and use of the Facility File Folders and the associated database

Department of Public Utilities Hazards Mitigation Grant Program (HMGP): Baker prepared an HMGP project application for the City to provide generator quick connections at approximately 100 critical pumping stations within the City. The grant, anticipated through FEMA's HMGP process as a result of Hurricane Bonnie, is intended for wind mitigation, one of the first such type grants in FEMA

Client

City of Virginia Beach, Virginia
Department of Public Utilities
2405 Courthouse Drive
Virginia Beach, VA 23456-9033

Phil Pullen, P.E.
757-385-4131

Completion Date

2006

Project Costs

\$2,714,974 (Fee)

Baker's Role

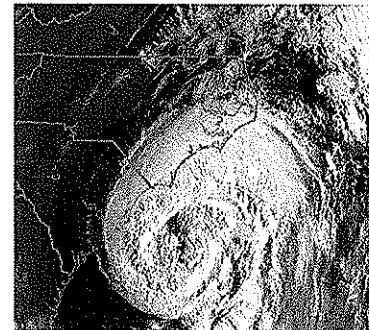
- Researching, developing, and preparing documentation, damage assessment information
- Providing specialty briefings regarding aerial reconnaissance and FEMA guidelines
- Participating and presenting information to the Damage Assessment Planning Team
- Grant Application preparation
- Preparing the Damage Assessment Planning Team Situation and Damage Assessment Planning Document

Region 3. As a result of the grant application, the City was awarded funding to provide generator quick connections at 40 pumping stations. Baker is now under contract with the City to provide the design and construction administration for this work.

Department of Public Works Debris Management: Baker staff assisted the City in development and maintenance of the disaster debris management and on-call debris clearing, disposal and reduction contract administration program; assisting the City in the development of a communications and public information program; maintaining the applicable databases, and providing on-call inspection and construction administration services for the City's disaster debris management program.

Water System Vulnerability Assessment and Security Review: Baker prepared a vulnerability assessment and security analyses of key facilities within the City of Virginia Beach's water system. The City of Virginia Beach critical infrastructure serves more than 400,000 customers daily. In addition, the City owns and maintains nine finished water pump stations, 13 finished water storage tanks, and more than 1,400 miles of finished water mains.

As part of the security review, Baker conducted on-site inspections of the 38 facilities to identify areas for enhancements to the security of the facilities. Threat scenarios were identified for each facility. Recommendations were made for security enhancements and risk reduction strategies, including both perimeter and inner defenses.



Water System Incident Response Plan: Baker developed an incident response plan for actions to be taken if there is a contaminant detected a breach of the water system.

Department of Public Works Infrastructure Mapping: Utilizing GIS databases, Baker has developed City-wide infrastructure map books for ready reference of City facilities and public works assets including roads, bridges, signals, culverts, fueling facilities, and major landmarks.

Department of Public Utilities Infrastructure Mapping: Utilizing GIS databases, Baker developed City-wide infrastructure map books for ready reference of City facilities and public utilities assets including water pump stations, water tanks, sewer pump stations, HRSD pump stations, shelters, aerial crossings of water mains and force mains, master meter locations, water sampling sites, fuel sites and bridges.

Baker also conducted the following Planning for the City of Virginia Beach:

- Department of Public Utilities Damage Assessment Plan
- Department of Public Works Damage Assessment Plan
- Department of Public Utilities Damage Assessment Plan 2000 Update
- Department of Public Works Damage Assessment Plan 2000 Update
- Department of Public Utilities Damage Assessment Plan 2001 Update
- Damage Assessment Planning Team Meetings and Technical Assistance
- Department of Public Works Shelters and Other City Facilities Assessment
- Assessment of Water and Sanitary Sewer Needs for Critical Care Facilities
- On-Line Water Quality Monitoring Review

PEMA Hazard Mitigation Project

Pennsylvania

Baker has been contracted to provide comprehensive hazard mitigation services to meet several needs of the Pennsylvania Emergency Management Agency (PEMA). The project will create standards for County Hazard Mitigation Plans in Pennsylvania and Standard Operating Procedures (SOPs) for developing such plans in accordance with guidance and regulations of the Federal Emergency Management Agency (FEMA). The project will update fourteen County Hazard Mitigation Plans (HMPs) in the state to comply with the developed standards and SOPs. The project will also modify the FEMA National Tool and other web-based tools to endow PEMA with several critical functionalities for integrating local plans into the state plan and tracking hazard mitigation projects and information.

The mix of tasks included in the project is intended to streamline hazard mitigation planning and hazard mitigation project management for Pennsylvania. The new standards developed by Baker will distill voluminous and important guidance materials into clear benchmarks and standard operating procedures so that updating and maintaining hazard mitigation plans will be a standardized process that local officials across the state can efficiently conduct. Baker has been tasked with updating 14 County HMPs throughout the state and testing the developed standards and SOPs in the process of updating such plans. Baker's geotechnical expertise will be critical to this task in order to meet the prescribed approach to identifying hazards. There is significant community outreach work stemming from this task as the project area encompasses approximately 550 local communities and many public and private stakeholders.

The database tools and web portal development components of the project will permit the generation and tracking of hazard mitigation projects from the HMPs. This will enable the state to track the effectiveness of particular mitigation strategies and enhance local projects' access to FEMA mitigation grants. Baker is also responsible for delivering an extensive training program on the use of the hazard mitigation tools.

Client

Pennsylvania Emergency Management Agency (PEMA)
2605 Interstate Drive
Harrisburg, PA 17110

Completion

Estimated: 2010

Total Project Value

\$1,156,000

Baker's Role

- Hazard Mitigation Planning
- Database Development
- Web Portal Design
- SOP Development
- GIS Services
- Community Outreach
- Coordination
- Training

Virginia Statewide Hazard Mitigation Plan

Virginia

The Virginia Department of Emergency Management selected Baker to prepare a comprehensive, statewide Multi-Hazard Mitigation plan, a component of the Commonwealth's Emergency Operations Plan. The plan was partially funded by FEMA and complies with the Disaster Mitigation Act of 2000.

Baker identified and mapped natural hazards; analyzed risks to property associated with hazard-prone areas; identified programs and resources involved in hazards analysis, risk assessment, and hazard mitigation policies and activities; identified mitigation policies that affect public and private entities; defined community roles; and formulated mitigation strategies to reduce future risks.

The plan included an overview of hazards in the Commonwealth, with a focus on events declared to be major disasters. An overview of hazard events and risk was developed. Virginia's hazards range from the more frequent events such as flood, wind, and winter storms, and drought, to less frequent disasters such as wildfire, dam break, earthquake, and landslide. The hazard assessment evaluated potential damage to life and property, including public utilities and infrastructure as well as individuals and businesses.

The plan summarized the planning process of the Virginia Mitigation Planning Committee, and described current programs that address hazards and mitigation.

Local mitigation actions were emphasized. Seven high priority mitigation planning actions were outlined, with 18 lower priority actions to be considered during future revisions to the plan. Funding priorities were developed for the different jurisdictions, considering local, state, and Federal programs. The plan included procedures for monitoring and updates.

Development of the plan included coordination with Commonwealth departments and agencies including Environmental Quality, Forestry, Housing & Community Development, Marine Resources Commission, Treasury Risk Management, and many others, as well as organizations such as the Virginia Association of Counties, Virginia Emergency Management Association, and other non-governmental groups.

Client

Virginia Department of Emergency Management
10501 Trade Court
Richmond, VA 23236

Mary Camp

Director, Recovery and Mitigation Division
804-897-6500

Completion Date

2002

Project Costs

\$73,690 (Fee)

System Study - Municipal Domestic Water Security

U.S. Department of Homeland Security

The U.S. Department of Homeland Security/Homeland Security Advanced Research Projects Agency (DHS/HSARPA) has selected Baker and its three subcontractors, Shaw Environmental and Infrastructure, ABSG Consulting, and Dr. Walter Grayman, P.E., to conduct a study of the state-of-the-art in water security. The project is intended to assist DHS in its efforts to secure the Nation's infrastructure and economy against terrorist attacks. The Baker Team will examine the public health, economic and national security importance to the Nation of the municipal domestic water systems. The Project Team will identify and assess those conditions that have the most serious consequences.

Client:

U.S. Department of Homeland Security
Science and Technology Directorate
Homeland Security Advanced Research
Projects Agency
Washington, DC 20528

Kevin Gates
(202) 254-6128

Cost: \$2.4 million (Fee)

The project will examine four "scenarios" as applied to post treatment distribution of water systems:

- Damage to key components of the water system from treatment to distribution resulting from the trusted insider threat.
- Intentional contamination of the distribution components of a system involving a chemical or biological agent that has sufficient toxicity/morbidity to impact even in highly diluted concentrations.
- The potential for having to decontaminate significant portions of the distribution system if a long-lived, highly active radiological isotope were released.
- The post-event system recertification challenge.

For each of these scenarios, the Baker Team will examine:



- How effective are current measures against this threat, including detection, mitigation measures, and decontamination?
- What level of physical, economic, or human damage might be inflicted on a system?
- What are the state-of-the-art emerging concepts for improved defenses against the threat?
- Can the threats be reduced through enhanced organizational or operational processes?
- Are there technical gaps in our ability to protect against these threats that can be addressed through research and development? What are the optimal sources for this research and development?

The Baker Team has enlisted the assistance of the Association of Metropolitan Water Agencies and the American Water Works Association in the effort. Water utilities have been invited to participate in the study in an advisory role and as "test beds" for project concepts.

GIS and IT Support for FEMA

Nationwide

Baker continues to provide extensive GIS/IT support to the Department of Homeland Security's Federal Emergency Management Agency (FEMA). Because of the breadth and depth of our experience and contracts, we have not attempted to cover all assignments; rather, we have highlighted key areas of our support.

Enterprise-Wide GIS (E-GIS). After performing an extensive, agency-wide requirements analysis, Baker submitted the Strategic Plan in August 2002. The FEMA E-GIS Strategic Plan parallels the content and structure of the FEMA-wide Strategic Plan, with the topical focus on GIS. The E-GIS Strategic Plan also incorporates FEMA's organizational values identified in the Agency Strategic Plan. Similar to the FEMA-wide Strategic Plan, the E-GIS Strategic Plan is goal and strategy-based, with a clearly stated Vision Statement and Mission Statement.

The five primary goals of the E-GIS Strategic Plan include:

- **Goal 1.** Establish standards for and integrate the use and storage of geospatial data within the FEMA Enterprise Architecture.
- **Goal 2.** Provide spatial analysis, display, and modeling capabilities across the FEMA Enterprise, including web-based services and access.
- **Goal 3.** Establish an E-GIS Business Plan and optimize resources and objectives.
- **Goal 4.** Establish compatibility with other Federal, state and local GIS programs.
- **Goal 5.** Provide GIS leadership in the emergency management community.

The recently funded next and final E-GIS planning phase is the Implementation Plan. This Plan will design the specifications for the FEMA GIS Enterprise including developing commercial-off-the-shelf (COTS) software specification and benchmarking, hardware/software systems architecture including security, GIS data model, cost/benefit analysis and recommendations for staffing resource requirements. Baker performed an agency-wide requirements analysis, developed a strategic plan, and is developing the E-GIS Implementation Plan, providing the framework for the development of FEMA's functional GIS capability for emergency management services.

Client

Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472

Mr. Mike Grimm
(202) 646-2878

Mr. Ed Corvi
(202) 646-2813

Mr. Jack Quarles
(940) 898-5156

Contract Period

Through 2004

Contract Amount

Various

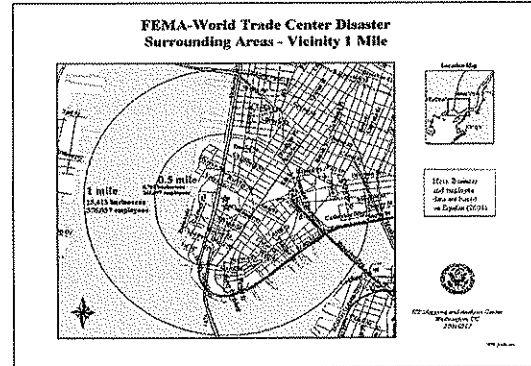
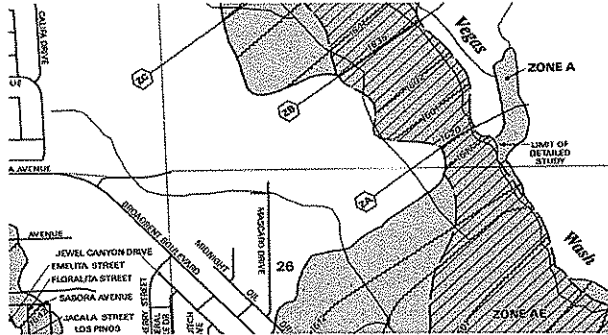
Baker's Role

- Flood Hazard Analysis and Mapping
- Program Management
- Public Outreach and Communication
- Training and Technical Support
- Library/Data Management
- Support Services for Federal, State, and Local Hazard Mitigation
- Multi-hazard Mapping

Innovations in GIS and IT Applications Support FEMA/DHS Goals

Baker develops DFIRMs using GIS technology, with DFIRM emphasis on spatial data production and analysis. Using funding available, Baker produced 1,700 preliminary panels and over 2,500 effective panels.

Baker led FEMA's workgroup to develop new DFIRM graphic and database guidelines and specifications. At FEMA's request, Baker produced the first DFIRM meeting the new standards for Clark County, NV, in November 2001. We prepared the 168-panel DFIRM in 18 months and distributed it to the County on CD with a tool for viewing and printing large graphic files.

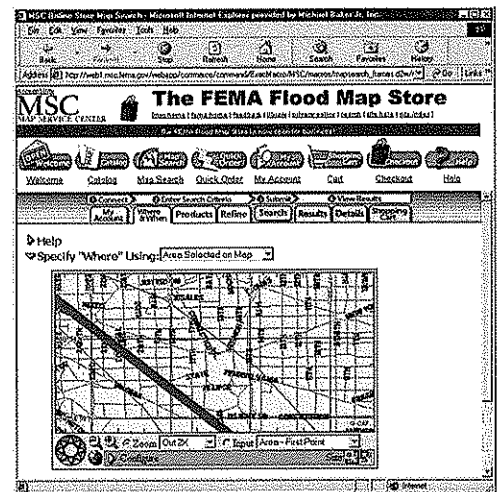


ESF-5 Mapping and Analysis Center (MAC). Since its inception, Baker has been the primary provider of on-site GIS support services for emergency management, systems implementation, GIS training, and operations and maintenance at the MAC, recently named the "GIS Center of Excellence" for the DHS. Baker provides full systems support for the MAC, including system design, installation and maintenance, and software customization.

Baker has responded to over 200 Presidential Disaster Declarations (49 in 2002 alone) and led the GIS response to the September 11th terrorist attack with FEMA Headquarters Emergency Support Team and Region II.

In 2001, Baker significantly upgraded MAC services to FEMA by deploying a multi-hazard interactive mapping web site through which a wide spectrum of maps are now available. Following disaster events, Disaster Field Office staff use Baker-developed GIS applications to distribute resources and coordinate with other Federal and state agencies.

Map Service Center (MSC) Improvements. Baker assisted FEMA in developing and implementing a strategic vision for the improved MSC. Baker spearheaded the use of innovative technology to transform the MSC into a secure, efficient, Internet-driven electronic distribution center for flood hazard data that facilitates data sharing among stakeholders.



Multi-Hazard Flood Map Modernization

Washington, D.C.

Baker was awarded a five-year contract to serve as the Program Manager to develop, plan, manage, implement, and monitor the Multi-Hazard Flood Map Modernization (MHFMM) Program for flood hazard mitigation across the United States and its territories. The contract was performance-based in order to align program success with FEMA's strategic and program objectives.

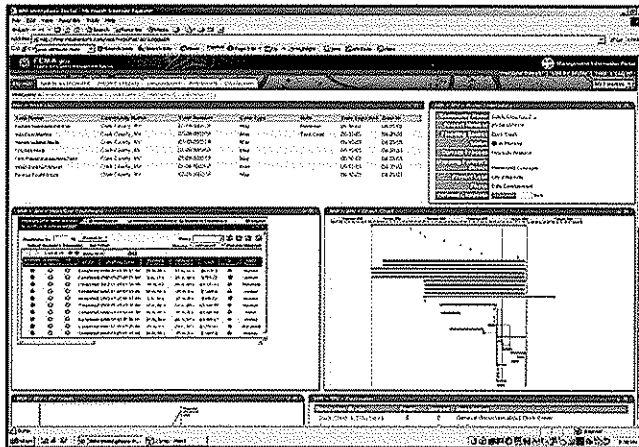
Baker's team helped FEMA to work with state, local, and other Federal partners to develop digital flood and multi-hazard data for the entire United States. Baker established 10 Regional Management Centers across the country to manage and monitor flood studies locally, and provide support to FEMA's 10 regional offices.

Client

U.S. Department of
Homeland Security
Washington, DC 20528

Cindy Croxdale
(202) 566-1600

Completion Date: 2009



The Management Information Portal will support data sharing.

Four key program components included:

- Development of a geospatial data collection and delivery system within 90 days of the final contract award to manage flood hazard data and, in the future, multi-hazard data.
- Establishment of a continually improving Program Management Office to direct and monitor program activities.
- Expansion of support for community partners through technical support, training, and incentives for program participation
- Providing risk communications to educate the public about reducing their vulnerability to floods and other hazards.

Highlights include:

1. Program Management. Baker provided program management services for the National Flood Insurance Program Map Modernization initiative, for the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA). FEMA selected Baker to provide program management services, including:

- Establish a Program Management Office to centralize program strategy and management. In addition to comprehensive program management procedures we developed a comprehensive risk management plan, which includes an Integrated Project Team (IPT) made up of a combination of FEMA and contractor staff dedicated to managing and mitigating business risks to the program.
- Implement nationwide program controls, including financial tracking and earned value reporting. Working in close partnership with our client, we developed procedures to manage not only work under our own contract, but also floodplain mapping studies implemented at the local level by FEMA's Regional Offices. Baker developed a Management Information Portal allowing FEMA Headquarters, the Regional Offices, and their contractors and communities to track and report on

their mapping projects. This management system also allows projects' status and financials to be rolled up at the state, regional, or national level for reporting to Headquarters and Regional management. Reporting at this level is not currently available, and its availability will help FEMA show their successes to management at DHS and Congress to obtain funding in program out-years.

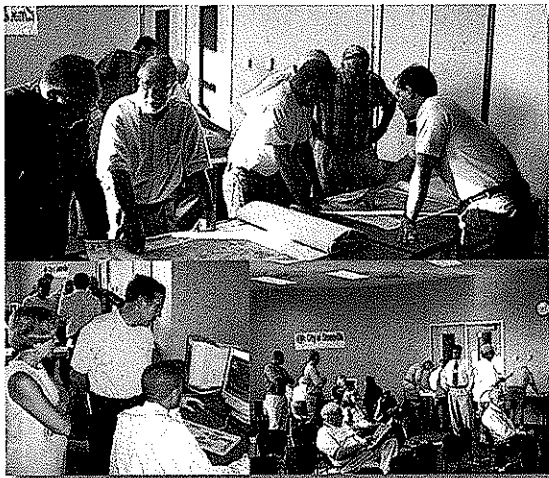
- Develop and implement national standards for the mapping projects, including procedures and data standards. These standards facilitate 1) management of mapping projects that follow a uniform process regardless of location, and 2) data sharing with state and local partners who contribute to and use FEMA's geospatial hazard data.

2. Outreach and Communications.

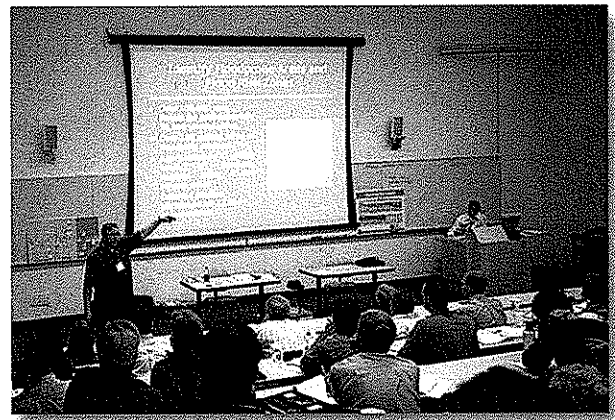
Baker's role included a comprehensive outreach and communications effort to help communicate flood hazard risk to the public, community officials, and other stakeholders. Baker helped FEMA communicate to the public through written materials, multi-media presentations, speeches and conference materials, web site content, and video. Baker supports community meetings at the initiation and completion of floodplain mapping studies, including technical support and presentations. Customer service assistance included responding to questions from community officials, Congress, and the public in writing, by email, and via a call center, in English and Spanish. Baker's outreach services also included a compliance component to support state local governments (with identified flood hazard areas) in establishing floodplain management ordinances to protect their citizens from flood hazards. These may include structural or non-structural (zoning) measures.

3. Inter-Agency Coordination

Floodplain management is an inherently local function, although FEMA provides regulation and support at the National level. Consequently, this program involved continuous coordination between FEMA's National and Regional Offices and the state and local agencies responsible for developing and sharing local data and implementing floodplain management procedures within their communities. We understand the sensitivities that may be present in dealing with a combination of local and national level agencies. Constant coordination with national organizations representing state and local agencies and officials help us align national and local efforts. As part of our prior contracts (1994-1999 and 1999-2004) with FEMA we also supported their participation in the Technical Mapping Advisory Council, an inter-agency group of representatives from multiple Federal entities, state and local governments, national professional associations, and the commercial sector.



Community Outreach Meetings help prepare officials and citizens

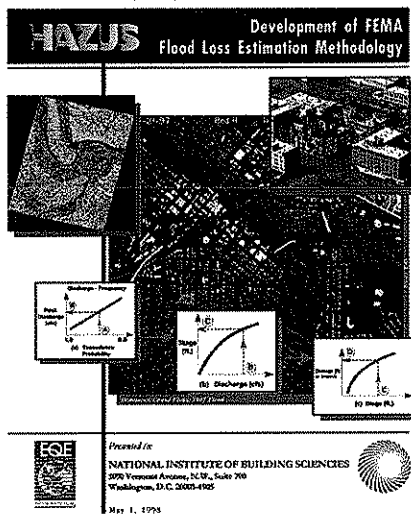


Baker trained regional, state and local officials and their contractors in flood hazard mapping and analysis.

HAZUS Flood Loss Estimation Module

Nationwide

Baker assisted ABS (prime firm) and NIBS to develop Hazards U.S. (HAZUS), FEMA's PC-based GIS initiative to develop regional loss estimation models and risk assessment methodologies. The Flood Loss Estimation Module (FLE) complements the earthquake and wind modules. The FLE is used to estimate loss from riverine and coastal disasters to residential and non-residential buildings, and public infrastructure such as roads, bridges, culverts, flood control structures, and water/wastewater facilities. The FLE also aids in flood-related emergency planning and hazard mitigation by allowing users to generate various hazard scenarios and by predicting their outcomes. The FLE provides a computerized approach to estimate direct and indirect economic impacts, loss of life and injuries, shelter demands, and agricultural impacts.



Policy makers, planners, engineers, and mitigation specialists can use FLE to assess flood loss potential and evaluate mitigation strategies from the community to the national level. Emergency managers can use HAZUS to determine appropriate evacuation procedures, shelter requirements, affected travel patterns, and business losses, for example. Ultimately, the FLE will be used by localities to assist in:

- Anticipating the potential location and scope of damage due to flooding;
- Identifying vulnerable areas including housing and infrastructure in those areas;
- Selecting mitigation measures; and
- Educating the public on becoming more disaster-resistant.

The HAZUS database can analyze up to 23 layers of connected data, including data on flood hazard, soils, economics, infrastructure, housing, and population. This flexibility allows the user to generate numerous flooding loss scenarios. Local users will be able to input site-specific data into the FLE module and then run customized models to estimate losses from specific flood events.

Baker also helped develop the Flood Information Tool (FIT). FIT aids communities with GIS databases containing detailed flood hazard information in preparing that information for use in HAZUS. A

Client

Federal Emergency Management Agency (FEMA)
500 C Street, SW
Washington, DC 20472

Claire Drury

202-646-2884

Philip Schneider

National Institute for Building Sciences

202-289-7800 ext. 127

Completion Date

Estimated: 2004

Actual: 2003

Project Costs

\$1,305,446 (Fee)

Baker's Role

- Flood hazard identification
- Flood loss estimation model development
- GIS program development
- Communication & Outreach Training
- Software assessment
- Identify future applications
- Study results management
- Data distribution
- Engineering
- H&H Analyses
- Mapping
- Program Management
- Administrative Support

prototype of FIT was applied by Baker for Mecklenburg County, NC. As part of a team with ABS, Baker generated flood depth data covering more than 200 miles of streams for the 100-year flood. The first county to coordinate with HAZUS, Mecklenburg County used the flood depth data with HAZUS to estimate potential flood damage, based on the County's original and revised floodplain maps. Baker and ABS performed analyses for 24 watersheds in the County.

Baker developed a web site for project information, and prepared a public information session at Mt. Weather to demonstrate the FIT tool to prospective community users and FEMA HQ and Region staff. Baker also developed outreach materials for HAZUS, including a web site with a Flood Information Tool for data exchange, and assisted with a HAZUS users' video.

Ohio HAZUS Modeling of 49 Counties, Ohio

Ohio Emergency Management Agency

Under the US Army Corps of Engineers Planning Assistance to States program, 49 Ohio counties had HAZUS flood models developed. Designed by Chad Berginnis, CFM, Senior Hazard Mitigation and Floodplain Management Specialist for Baker, this project provided data that would be useful in updating local mitigation plans as well as assist emergency management offices with evacuation, sheltering, and other response measures. Mr. Berginnis was responsible for the completion of this project.

The project involved developing 25- and 100- year scenario HAZUS runs not only for FEMA identified floodplain areas but for areas with drainage basins of 4 sq. mi. and greater. Stream segments were developed, and both hydrologic and hydraulic calculations were completed. Damage analyses were completed and exported into the standard suite of HAZUS Global Reports. Additionally, HAZUS maps were created.

After development and delivery of HAZUS scenario models, the information was incorporated into the State of Ohio's hazard mitigation plan update in 2008. These data enhanced earlier risk assessment information. Additionally, these data were provided to local mitigation plan "keepers" to use in upcoming updates of their plan. Finally, the HAZUS information is being maintained at the State Emergency Operations Center to be utilized in future flood events to assist with projecting possible damages from flooding events.

Mr. Berginnis served as project manager.

Client:
Ohio Emergency Management Agency

Steve Ferryman, CFM
(614) 799-3539

Baker's Role

- Developing Project / Writing Grant Application
- QA/QC HAZUS Scenario Runs
- Project Management, Monitoring, and Closeout
- Delivery of HAZUS Information to Ohio Counties
- Development of Protocols to Use HAZUS Information in the State Emergency Operations Center
- Incorporation of HAZUS Data into Statewide Hazard Mitigation Plan



Jackson County, Ohio Countywide Hazard Mitigation Plan

Jackson County Emergency Management Agency

The Appalachian Flood Risk Reduction Initiative was one of the first hazard mitigation planning programs in the country. Designed by Chad Berginnis, CFM, Senior Hazard Mitigation and Floodplain Management Specialist for Baker. This pilot project was funded by the US Department of Commerce and resulted in the development of fifteen local hazard mitigation plans. Mr. Berginnis was responsible for the completion of three of these plans, including the plan for Jackson County.

The project involved identifying and convening the Core Planning Group which consisted of representatives of all jurisdictions in the county. This was followed by developing a hazard identification/risk assessment and the core group assisted with researching the hazards. An inventory of critical facilities and infrastructure was developed as was the identification of all programs, policies and regulations that might interact with the management of the hazards. A multi-hazard risk map was developed for all hazards that had a geographic extent.

Once the hazards were agreed upon the core group developed the mitigation strategy and identified specific mitigation actions that were to be undertaken during the planning cycle. Additionally a plan maintenance process was developed.

Once the elements of the plan were developed, a draft plan was developed and submitted to the Ohio Emergency Management Agency and FEMA for review and approval. After approval, it was adopted by all participating jurisdictions. The plan was approved by FEMA July 18, 2005.

Mr. Berginnis served as project manager, facilitator, researcher, and co-author of the county's mitigation plan.

Client:

Jackson County Emergency Management Agency

Robert Czechlewski
(740) 286-5630

Baker's Role

- Designing / facilitating / coordinating Planning Team Meetings
- Development of the Risk Assessment
- Identification of Critical Infrastructure and Repetitive Loss Properties
- Preparation of GIS based Multi-Hazard Map
- Development of Mitigation Strategy and Mitigation Action Plan
- Development of Plan Maintenance Process
- Plan Writing
- Coordination of Public Outreach
- Review of Plan for Compliance with FEMA Mitigation Planning Standards
- Facilitation of Adoption and final FEMA Approval of the Plan

Village of Vinton Hazard Mitigation Plan

Village of Vinton, Ohio

Gallia County Emergency Management Agency

The Appalachian Flood Risk Reduction Initiative was one of the first hazard mitigation planning programs in the country. Designed by Chad Berginnis, CFM, Senior Hazard Mitigation and Floodplain Management Specialist for Baker. This pilot project was funded by the US Department of Commerce and resulted in the development of fifteen local hazard mitigation plans. Mr. Berginnis was responsible for the completion of three of these plans, including the plan for the Village of Vinton.

The project involved identifying and convening the Core Planning Group which consisted of representatives, stakeholders and concerned citizens of the village. This was followed by developing a hazard identification/risk assessment and the core group assisted with researching the hazards. An inventory of critical facilities and infrastructure was developed as was the identification of all programs, policies and regulations that might interact with the management of the hazards. A multi-hazard risk map was developed for all hazards that had a geographic extent.

Once the hazards were agreed upon the core group developed the mitigation strategy and identified specific mitigation actions that were to be undertaken during the planning cycle. Additionally a plan maintenance process was developed.

Once the elements of the plan were developed, a draft plan was developed and submitted to the Ohio Emergency Management Agency and FEMA for review and approval. The plan was approved pending adoption by FEMA in 2004.

Mr. Berginnis served as project manager, facilitator, researcher, and author of the village's mitigation plan.

Client:

Gallia County Emergency
Management Agency

Mike Null
(740) 441-2036

Baker's Role

- Designing / facilitating / coordinating Planning Team Meetings
- Development of the Risk Assessment
- Identification of Critical Infrastructure and Repetitive Loss Properties
- Preparation of GIS based Multi-Hazard Map
- Development of Mitigation Strategy and Mitigation Action Plan
- Development of Plan Maintenance Process
- Plan Writing
- Coordination of Public Outreach
- Review of Plan for Compliance with FEMA Mitigation Planning Standards
- Facilitation of Adoption and final FEMA Approval of the Plan

Reference Contacts

Each of the Project Profiles found in the previous section (*Relevant Experience*) lists Baker's client and contact information for your use as a reference. Additionally, we offer the following diverse list of past or current clients and contact information:

1. **U.S. Army Corps of Engineers – Huntington District**
Water Resources Engineering IDIQ Contract
Mr. David Meadows, P.E., Water Resources Engineering Chief
(304) 399-5243
502 Eighth Street
Huntington, WV 25701
2. **West Virginia Department of Transportation – Division of Highways**
Various Highway and Bridge Projects
Mr. James E. Sothen, P.E., Deputy State Highway Engineer
(304) 558-0191
1900 Kanawha Boulevard East, Building 5, Room A-317
Charleston, WV 25305
3. **Federal Aviation Administration – Beckley Airports District Office**
Mr. Matthew Di Giulian, P.E.
(304) 252-6216176
Airport Circle, Room 101
Beaver, WV 25813-9350
4. **Central West Virginia Regional Airport Authority – Yeager Airport**
Mr. Richard A. Atkinson, III, Airport Director
(304) 344-8033
100 Airport Road, Suite 175
Charleston, WV 25311-1080
5. **WV Division of Homeland Security & Emergency Management.**
WVSAMB State Wide (E-911) Mapping Project
Mr. Jimmy Joe Gianato, Director of Homeland Security
(304) 558-5380
1900 Kanawha Boulevard East
Building 1, Room EB-80
Charleston, WV 25305-0360
6. **West Virginia Division of Homeland Security and Emergency Management**
West Virginia State Wide Hazard Mitigation Plan and Update
Mr. Roger Jefferson, State Hazard Mitigation Planner
Phone: (304) 965-3503
Building 1, Room EB-80
1900 Kanawha Boulevard, East
Charleston, WV 25305

Local Knowledge and Presence

Having conducted business in the state for over 50 years, Baker is at home in West Virginia. Baker currently maintains an office of approximately 40 employees in Charleston. In 2008, Baker opened a new office in Beckley, WV. We have worked closely with a broad range of state and regional agencies, many of which are represented on the Hazard Mitigation Council. Baker has facilitated Memoranda of Understanding between State and Federal resource agencies and has conducted dozens of public hearings on sometimes controversial and complex projects throughout the state.

Baker has provided preliminary or final engineering for hundreds of miles of highway in the State, and conducted environmental surveys in the woods and streams throughout all the State's regions. Baker has played a substantial role in improving the State's mapping and emergency services through projects such as the Statewide Addressing and Mapping project and the disaster response and recovery plan for the Kanawha Valley Regional Transportation Authority. Our West Virginia presence and experiences, particularly with issues related to floodplains and disaster preparedness, response, recovery, and mitigation, allows Baker to best assist the State in coordinating planning efforts and developing strategies to prevent loss of life and property.

Firm Capacity and Resources

Baker offers available staff of over 250 (GIS specialists, planners, engineers, and technicians), who have worked with FEMA and/or the State of West Virginia, and are familiar with Federal, state, and local hazard assessment, loss estimation and mitigation planning requirements. The following section details the firm's capacity with regard to project management.

Consultant Philosophy

Schedule Control

Baker has demonstrated its capacity to meet project schedules especially where tasks are both numerous and on tight schedules. Before starting a project, the schedule and specific milestones are established and agreed upon. These milestones are continually monitored so that potential schedule difficulties can be identified and corrected before they can adversely affect the project schedule. Baker's project management process is called The Baker Way. The Project Delivery Process used in *The Baker Way* is illustrated in **Figure 1**.

Define and Track the Critical Path for the Contract and Each Task Order. Each Task Order requires certain activities to be completed within certain time frames. Combined together, these form the critical path for the overall contract. These activities include not only the main work flow of the Baker team, but such items as receipt of information from the client and in-house reviews. Points of interface and coordination are identified, as well as interim and final deadlines. The critical path serves as a tool to assist the Project Manager in controlling the process, to keep all participants aware of the schedule and progress of the work, and to alert all participants to any changes and their impacts. It also serves to forecast anticipated resources that will be required.

Use "Real Time" Information Management Systems To Ensure that Project Demands and Resources Are Aligned. Keeping multiple Task Orders on schedule requires a constant monitoring of the demands of each project as compared to the team's and firm's progress and capacity. To be effective, project management must have predictive information about potential shortfalls in capacity, coupled with the ability to augment resources before any shortfall occurs. This requires information not only about the proposed contract and Task Orders, but also about the overall resources and commitments of Baker and its consultants. Early detection and immediate, preventive action, before schedules are impacted—such as the reassignment of resources or hiring of additional staff—are the keys to maintaining project schedules.

Beginning in 2000, Baker invested approximately ten million dollars in the development and implementation of a comprehensive, state-of-the-art Enterprise Resource Planning (ERP) system, which is based on Oracle software. Today, Baker Project Managers have a powerful tool to assist in tracking and monitoring a project's progress. The Baker system is "active," alerting managers when any element of a project is not within expected limits. In addition to management of individual projects, this management tool allows Project Managers and the leadership of the firm to better anticipate office-wide or firm-wide impacts, such as availability and need for professionals or the need for more or upgraded equipment. Through the information management system, all senior leadership of the firm has access to the same project information as the Project Manager, so that the performance of individual Project Managers is scrutinized on a continuous basis by the firm's most senior leaders.

Build Flexibility Into the Process. Planning is an evolutionary process, subject to change from many forces. Scope or schedule may change because of drivers ranging from changing priorities by the client to a particular political situation. Baker builds flexibility into the process by close and constant monitoring of project workloads and resources so that the firm and its subconsultants can react instantly to change. Early detection and immediate action is the key to coping with change.

Keep Communications Flowing, and Document Them. Timely communication is the foundation of a good project. At Baker, the Project Manager is responsible for establishing the framework to ensure that appropriate communications are occurring as expected and are being documented. Communication includes also forms of exchange, ranging from contract documents and other written instructions to e-mails and phone calls. Documentation is especially critical for notifying the team and client when significant changes have occurred that may impact project direction, scope, or schedule. Baker routinely uses project web sites and e-mail alerts to quickly update team members and convey project information. Frequent communication with the client and its customers helps to ensure that the project is proceeding in the right direction, that work is developing in line with expectations, and that there are no surprises at formal reviews. Keeping the project on track in the first place is much more efficient than time-consuming re-work later due to poor communication.

Start with Quality Data. The insights and recommendations of activities are only as valid as the data upon which they are based. Baker will endeavor in all cases to utilize or generate, where needed, only current, accurate data, developed in keeping with highest professional standards. At

times, however, time or cost constraints may necessitate the use of existing data. Also, existing data may be sufficient to the task, offering a possible cost savings to the client. In all cases, Baker thoroughly documents sources of data, especially detailing any exceptions regarding quality, so that reviewers understand any resulting limitations to the findings of the work.

Use a "Bottom Up" Planning Approach, Using the Visioning or "Charrette" Process, Where Possible. The best planning solutions come from a "bottom up," or inclusive, grass roots approach. The visioning or charrette process supports the drive for inclusion. In this process, all stakeholders are brought together at the beginning of a project for intensive discussion. The purpose of this approach is to quickly identify issues and exchange ideas in an environment where all key participants are present (to the degree possible) and can provide input or respond in "real time." This process is both very efficient and generally results in a better project. In addition, bringing stakeholders together to listen to each other's views and issues generally results in greater consensus and support for the final product.

Budget Control

Use a Predictive, Cost Modeling Approach. Accurate cost estimating at the planning stage is imperative to maintaining credibility with all stakeholders. To this end, Baker uses a predictive, cost modeling approach. Where appropriate, an estimate will be developed at the beginning of the Task Order, established using cost information provided by the client, the anticipated scope of activity, and recent costs for similar projects in that locale. Throughout the planning processes and at formal cost estimates, the cost of each component will be compared to the original cost model to quickly identify items that are more, or less, expensive than anticipated so that the team can then analyze the reasons why. In this way, individual elements comprising the cost are identified, challenged, and either justified or modified to meet the cost plan.

Analysis of the reasons why different components are more or less expensive than predicted also helps identify real opportunities for savings without sacrificing quality of the project. Day-to-day cost management involves selection of strategies consistent with the scope and budget identified at the beginning of the project. In this way, individual elements comprising the cost are identified, challenged, and either justified or modified to meet the cost plan.

Clearly Identify the Scope of Each Task Order. A clearly defined scope of work for each task order benefits both the client and Baker because it provides the foundation for clear, mutual understanding of project objectives, requirements and expectations. The scope aids in planning and scheduling project activities, and establishes a baseline for future decisions, verification that work has been accomplished, and measurement of results.

Define Responsibilities and Lines of Authority. The contract will be lead by a Project Manager, and a Deputy Project Manager, all of whom have served in similar roles for major projects before. Key Task Leaders have been identified. As part of the development of the Contract Management Plan, the definition of responsibilities and lines of authority will be expanded to include the client and his agents. Obtaining authoritative direction from the client, particularly in cases where stakeholders provide unclear or opposing instructions to Baker, is essential, so that the Baker Project Manager and team understand what is expected, and so that the project schedule can be maintained.

Commit the Right People for the Duration. In contracts with highly variable workloads, there is always a balance between having the same people involved throughout (eliminating learning curves and transfers of knowledge) and not overloading those same people during workload peaks. For this reason, Baker commits a core team, consisting of the Principal-in-Charge, Project Manager, key task leaders, and key representatives, for the duration of the contract. Additional staff are added to provide local expertise, to provide additional or specialized expertise, or to accommodate peaks in workload. As part of developing the strategy for each Task Order, the Project Manager will assess the skills and expertise needed. He will identify the appropriate Task Leader, as well as potential staff resources that would satisfy those requirements, first from the core team and then from the rest of Baker. The point is that the right people with the right expertise do the work.

The workload for those individuals will be compared to the scope and schedule for the proposed project to determine if they are available to perform the Task. If candidates are already committed to other assignments (for example, if the client had numerous simultaneous Task Orders), then individuals of equal background and ability will be assigned instead. The client will have the opportunity to review the resumes of proposed staff, if desired, before the staffing plan for each Task Order is finalized. Once assigned to the Task Order, staff are committed for the duration of the work. This approach has the advantage of continuity, particularly at the most senior levels, while providing flexibility in bringing local knowledge, specialized expertise and capacity to the core team. One of the Baker team's strengths is the depth of professional resources available, which means that staff at all levels are frequently completing projects and are available for reassignment to assist in peak workloads.

Respect Limited Resources. The client may have limited resources with which to accomplish many diverse objectives. Baker will strive for ways to achieve the client's objectives such as cost and schedules. Another goal is to add value at no additional cost, where possible. As an example, Baker might approach a project using GIS to aid in analysis, and so that colorful and easy-to-understand visuals can then be prepared economically. The same project would be examined for an opportunity to enhance existing GIS databases, at no additional cost. Where deemed appropriate by the client, Baker will look for opportunities to reduce cost by use of existing data. Baker will apply technology to its highest and best use to reduce cost, enhance quality, and add value. Respect for limited resources especially includes the time and efforts of the client's representatives. Baker professionals, and its subconsultants as trained and directed by Baker, are well-organized and well-prepared, so as not to waste client time or resources. Meetings are efficient and productive; requests for data are complete and accurate the first time; and deliverables are of a quality to minimize review time.

Maintain Credibility with all Parties. It is the consultant's honor to advise clients on crucial issues that impact large areas, many people, and major investment. Not infrequently, these projects occur in an environment of controversy. Baker is committed to maintaining credibility with all parties by presenting accurate, factual information, with recommendations made through best professional analysis and judgment. Particularly sensitive is the development and presentation of costs associated with different planning scenarios.

Accept Responsibility for Errors or Problems, and Fix Them Immediately. In the rare instances where problems do occur, despite all controls, Baker will immediately fix the problem as soon as identified. Baker's commitment is to the overall success of the project.

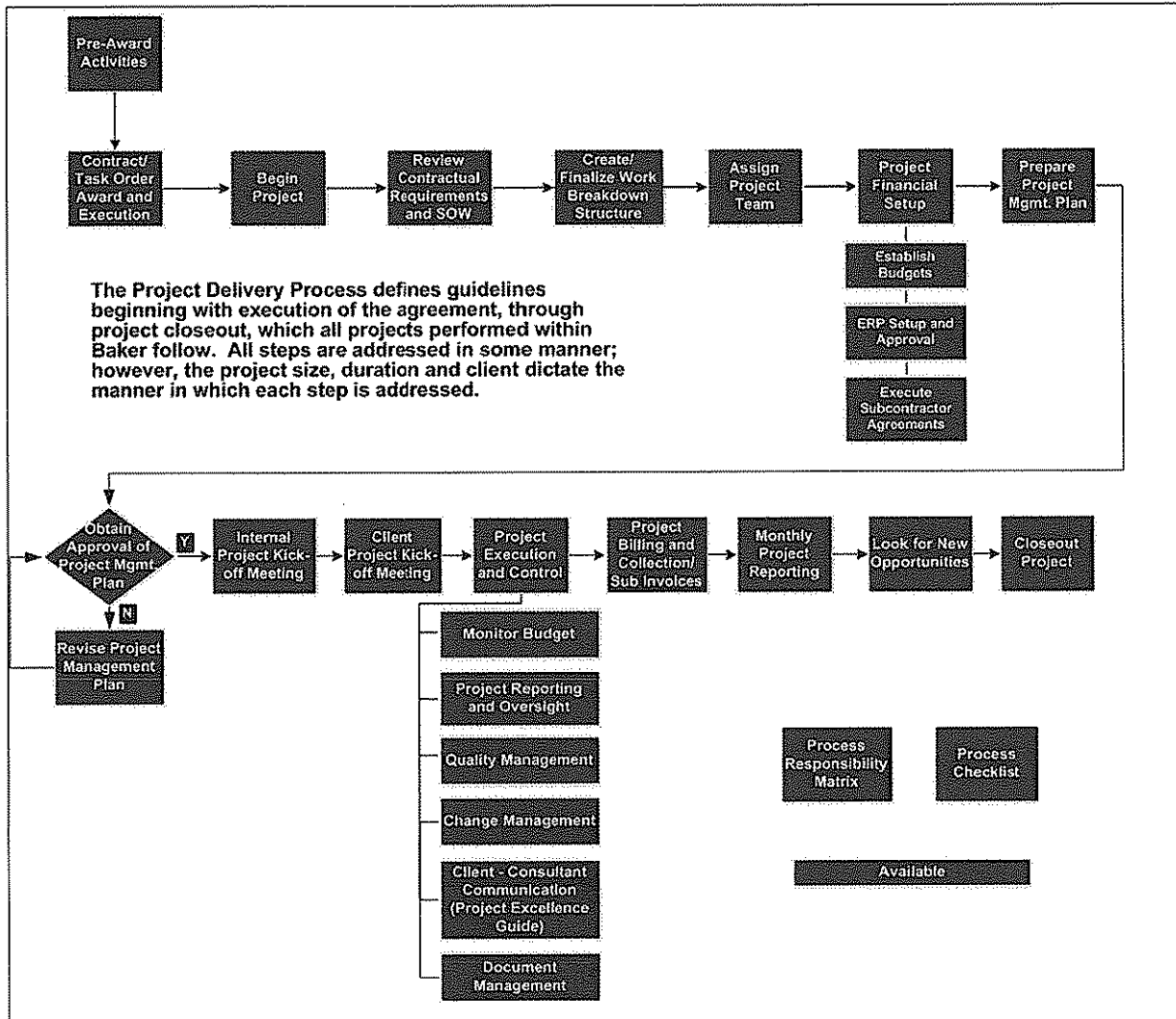
Assist the Client in Performing Efficient Reviews. Timely review by the client and its customers is important to meeting overall project schedules. The Baker Project Manager works with the client to establish a schedule for client reviews, and to determine the appropriate parties who will review submissions. When appropriate, review meetings are held with the team and appropriate client personnel. All discussion and exchange regarding reviews is documented so that Baker can ensure that comments are addressed. To expedite projects, Baker has successfully utilized internet-based review systems to allow team members to begin responding to comments in "real time" as other reviews are still taking place.

Work with the Client as a Partner. Baker views the client not only as "the client", but also as a partner whose participation is critical for success in the contract delivery process.

Figure 1
The Baker Way – Project Delivery Process

Baker

Project Management - The Baker Way



Section II – Qualifications of Staff

Baker's access to resources companywide paired with deep experience in hazard mitigation has allowed us to create a Project Team that is tailored to the needs and expectations of this type of project. The Charleston, WV office will be assigned the primary responsibility for coordinating this project, with substantial support primarily from the Columbus, OH office just three hours away. These offices will be supported by the entire Baker family with access to all necessary technical and organizational resources. A proposed organizational chart for the project is provided in **Figure 2**. An introduction to our key staff is provided below, with their relevant skills and experience summarized in **Table 2**. A resume showing select project experience for each key staff member is included at the end of this section.

Project Staff Organization and Roles

Baker's proposed *Project Manager* is **Martha Young DoByns**, Environmental Specialist and Mitigation Planner. Ms. DoByns will be the primary point of contact (POC) with the WVDHSEM and be responsible for execution and performance on all phases of the project. In addition, she will be responsible for integration of *State Planning Integration* and will conduct the *Risk Assessment* along with the GIS Specialist. Ms. DoByns was involved in the 2004 FEMA approved West Virginia Standard State Hazard Mitigation Plan and served as Assistant Project Manager for the FEMA approved Update to the Plan in 2007. Among her many tasks on these projects, Ms. DoByns extracted information from the local plans; identified hazards; gathered data from FEMA, the State Fire Marshall, the National Weather Service, and many other sources for the risk assessment; coordinated stakeholders; researched funding sources; described the state's program management and project implementation processes; documented the planning process; and responded to FEMA comments. Ms. DoByns has 12 years of professional experience, primarily writing environmental impact statements for transportation projects. She has worked on a wide variety of projects in West Virginia, familiarizing her with all regions of the state. Work on these projects has given Ms. DoByns public and agency coordination experience on complex and often controversial projects, such as the Corridor H highway from Elkins to the Virginia state line. Ms. DoByns will be actively involved in all phases of the project and is expected to have 25% participation in the project.

Principal-In-Charge Russell Hall, P.E., P.S. will ensure that all required resources including staff and equipment are available to the Project Manager to execute the project successfully. Mr. Hall has over 22 years of experience in transportation engineering working in both the government and private sectors. His experience, understanding of project delivery, and dedication to client satisfaction will guide this project. Mr. Hall is expected to have **less than 5% participation** in the project.

Chad Berginnis will serve as *Senior Advisor* for general matters related to Disaster Mitigation Act of 2000 and FEMA requirements. Mr. Berginnis has 16 years experience in various aspects of natural hazards management, flood loss estimation and reduction, and land use planning / programs at the state and local level. Mr. Berginnis is a recognized national expert in floodplain management and hazard mitigation, having participated on national research / focus groups, providing agency

(FEMA, USACE, OMB, CRS, IG, CBO, others) and Congressional testimony, and even having been selected to participate on an advisory panel to the Chinese Government on the development of a national floodplain management strategy. Mr. Berginnis developed the **Ohio HAZUS Assessment** project concept, authored the funding application, and served as the overall project manager funded under the U.S. Army Corps of Engineers Planning Assistance to States program, when he was the **Ohio State Hazard Mitigation Officer (SHMO)**. The project consisted of the development of Level 1 HAZUS flood data for 49 Ohio counties. Standard HAZUS reports were created and the data was used in the 2008 update of the State of Ohio's Hazard Mitigation Plan. Mr. Berginnis expected to have up to **20% participation** in the project.

Ramesh Chintala will serve as **Senior Advisor** for stakeholder coordination and capacity assessment tasks in particular. Mr. Chintala is a Water Resources Engineering Manager in the Denton, Texas office. He served as Project Manager for the FEMA approved West Virginia Standard State Hazard Mitigation Plan and its 2007 update. Among his many tasks for the plan and plan update, Mr. Chintala conducted stakeholder coordination, capacity assessment, and final quality control. Mr. Chintala has 14 years of design, management and operations experience in water resources systems analysis, hydrologic data collection and analysis, computer model development, watershed evaluation and runoff analysis, and sediment transport. Mr. Chintala is expected to have **less than 5% participation** in the project.

Mohiuddin Shaik, P.E., C.F.M. will work on the **GIS and Risk Assessment** tasks, including updating the WV All-Hazard Mitigation GIS as necessary. He will also generate many of the figures from the GIS for the document, and assist with stakeholder coordination. Mr. Shaik has 10 years professional experience and has been responsible for GIS, mapping, and geospatial applications to water resources on a wide variety of West Virginia projects. Mr. Shaik provided GIS Support for West Virginia's 2007 Standard State Plan Update and its associated draft Enhanced State Plan. He is also adept in computer programming with a technical background in transportation engineering, highway drainage design, as well as hydrologic and hydraulic modeling. Mr. Shaik is proficient in the following design and GIS software programs: HEC-RAS, Geo-RAS for floodplain, hydrologic and hydraulic analysis, ArcGIS, ArcView, ArcSDE, ArcIMS, Arcinfo, Intergraph MGE, IRASC, Inroads, Geopak. Mr. Shaik is expected to have approximately **15% participation** in the project.

Drew Whitehair will lead the **Capability Assessment** and **Mitigation Strategies** tasks with assistance from Chad Berginnis. Mr. Whitehair has five years experience in various aspects of emergency management at both the state and local level. Drew has worked through numerous federal disaster declarations in Ohio and assisted in implementing various programs as a result involving hazard mitigation, public assistance and individual assistance. Drew has particular expertise in hazard mitigation having developed and managed projects in communities small and large, rural and urban. His local involvement experience will inform the research and documentation for his tasks. Mr. Whitehair also has expertise in benefit-cost analysis and long-term recovery having conducted countless post-disaster briefings and serving on several damage assessment teams for both the public and individual FEMA assistance programs. Mr. Whitehair is expected to have up to **15% participation** in the project.

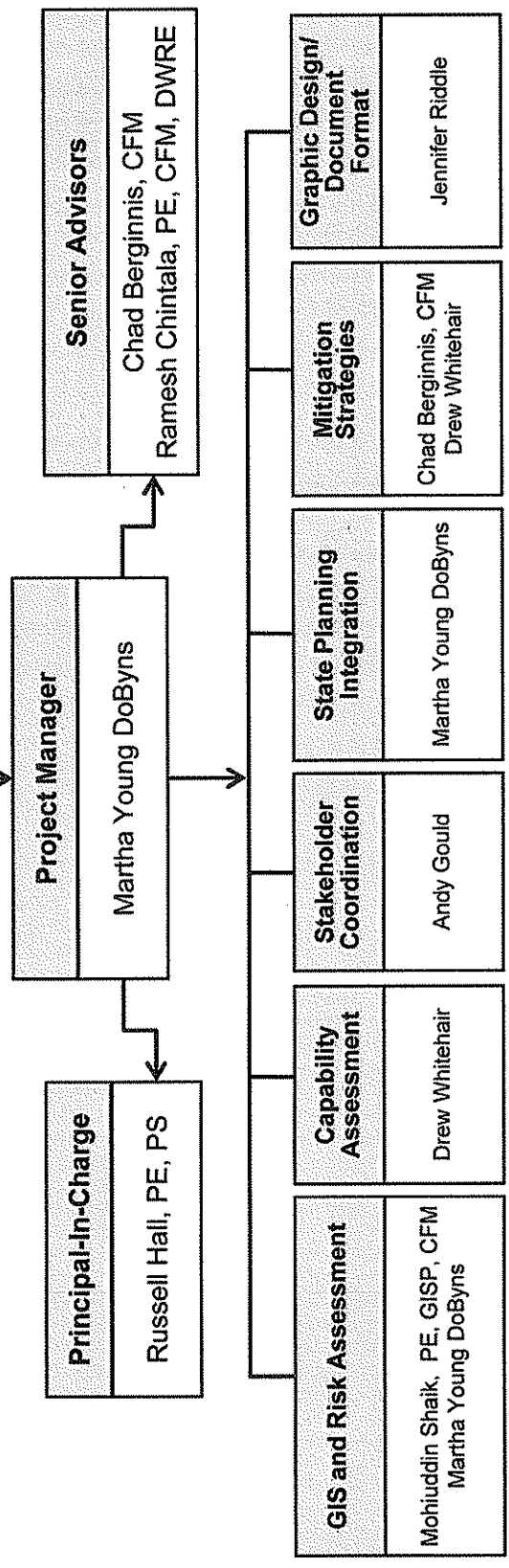
Andy Gould will lead the *Stakeholder Coordination* task. With his skills in GIS and being located in the same office as Mr. Shaik, he will be able to assist in the GIS and Risk Assessment task if needed. Mr. Gould was a key player in the 2004 West Virginia Standard State Hazard Mitigation Plan. He reviewed the local plans, performed hazard research, and was involved in stakeholder coordination meetings. With 13 years of professional experience, Mr. Gould has acquired skills in GPS and remote sensing techniques and has performed environmental and biological surveys including wetland delineation, stream determination, benthic sampling, fish and herpetology studies, sediment studies, and habitat assessments, for environmental permit documents such as NEPA, Section 404 of the Clean Water Act, Section 7 of the Endangered Species Act, and Section 106 of the National Historic Preservation Act. Mr. Gould is expected to have up to **10% participation** in the project.

Jennifer Riddle will provide *Document Formatting and Graphic Design Support*. This will involve converting the current approved state plan to a format following that of FEMA's state plan crosswalk to facilitate the review process. Ms. Riddle is able to quickly and efficiently work within MS Word and Adobe Acrobat documents to help provide clear and useful products. Ms. Riddle will also provide graphic support for figures that are not generated from the project GIS. Ms. Riddle will assist in preparations for stakeholder coordination meetings. Ms. Riddle has served as public involvement coordinator on several projects for various clients including the Appalachian Corridor H project in West Virginia. Ms. Riddle is expected to have up to **10% participation** in the project.

Figure 2
Project Staff Organization Chart



West Virginia Division of Homeland Security and Emergency Management



**Table 2
Project Staff Skills Matrix**

Staff Name	Mitigation Planning	Mitigation Project Experience	State Hazard Mitigation Plan Experience	Floodplain Management	Public Agency Coordination	WV Experience	FEMA Experience	GIS	Graphic Design
Martha Young DoByns	●	●	●		●	●	●	●	●
Chad Berginnis	●	●	●	●	●		●	●	
Ramesh Chintala	●	●	●	●	●	●	●	●	●
Mohiuddin Shaik			●	●	●	●	●	●	●
Drew Whitehair	●	●	●	●	●	●	●	●	●
Andy Gould	●	●	●		●	●	●	●	●
Jennifer Riddle					●	●			●

PROJECT STAFF RESUMES

This section provides resumes for Baker's proposed key staff members for the Statewide Standard All-Hazard Mitigation Plan Update. Resumes are presented in order of listing on the organization chart (**Figure 2**).

Martha Young DoByns

Project Manager and State Planning Integration and GIS & Risk Assessment

General Qualifications

Martha DoByns is an Environmental Specialist and Mitigation Planner with over nine years experience in planning projects at Baker. Ms. DoByns was a key player in the development of the West Virginia Standard State Hazard Mitigation Plan and its 2007 revisions, including the preliminary draft Enhanced State Mitigation Plan, for the West Virginia Department of Homeland Security and Emergency Management. Ms. DoByns has 12 years of professional experience, including project and task management; technical writing and editing; and gathering, analyzing, and managing scientific data.

Ms. DoByns is experienced in ensuring project compliance with Federal and State agency guidance and regulations, and organizing complex studies into reports intended for public use. In addition to the hazard mitigation plans, she has assisted in the management of National Environmental Policy Act (NEPA) documents, including Environmental Assessments (EA), Environmental Impact Statements (EIS), and Supplemental EISs, as well as assisting in Re-evaluations. Her duties have also included gathering, analyzing and managing ecological and socioeconomic data, responding to public and agency comments, and participating in public hearings. She has specialized training in wetland delineation and technical writing, and has presented on issues related to NEPA compliance. Ms. DoByns is responsible for a working knowledge of a wide range of disciplines, including terrestrial and aquatic ecology; socioeconomic investigations; air, noise and traffic studies; historic and archeological resource surveys; permitting; environmental regulations and documentation; engineering to reduce floodplain impacts; stream impact mitigation strategies; indirect and cumulative effects analysis; and public coordination. She has applied her skills and understanding of environmental regulations to studies for several different Federal agencies, including the Federal Highway Administration (FHWA), the U.S. Army Corps of Engineers (USACE), and the Department of Homeland Security (DHS).

Years with Baker: 9

Years with Other Firms: 3

Education

M.S., 1999, Marine Environmental Science, State University of New York at Stony Brook

B.A., 1992, Anthropology/Environmental Studies, Yale University

Select Baker Experience

Enhanced Hazard Mitigation Plan, Charleston, West Virginia. *West Virginia Division of Homeland Security and Emergency Management (WVDHSEM).* Technical Writer/Assistant Project Manager.

Responsible for revision of the standard state plan and stakeholder coordination. Baker conducted the triennial update of the Standard State All-Hazards Mitigation Plan to comply with the Disaster Mitigation Act of 2000 (DMA 2000) and 44 CFR 201.1-201.5. In addition to updating the Standard Plan, Baker helped prepare West Virginia for a future application to FEMA for enhanced-state status by preparing an Enhanced Hazard Mitigation plan for the state of West Virginia.

Standard State All-Hazards Mitigation Plan, West Virginia. *WVDHSEM.* Technical Writer. Responsible for data collection and management, stakeholder coordination, and authoring sections of the document. Baker developed a Standard State All-Hazards Mitigation Plan to comply with the requirements of the DMA 2000. The plan examined hazards including floods, wildfires, structural fires, dam failures, drought, winter storms, landslides, hurricanes, wind, earthquakes, and man-made hazards. West Virginia's plan was among the first FEMA approved state plans in the United States.

Melissa-Huntington Road (WV 10) EA, Huntington, West Virginia. *West Virginia Department of Transportation, Division of Highways (WVDOH).* Project Manager. Organized field studies, technical

editing, and production of Environmental Assessment (EA) for construction of 2.25-mile rural collector. Project was developed to improve safety and to serve the expected population growth in the Huntington metropolitan area. Principal issues included hazardous materials and stream relocations.

US VISIT - Environmental Baseline Studies & Strategic Environmental Appraisals, Nationwide. *U.S. Dept. of Homeland Security.* Environmental Scientist. Responsible for writing and production of Environmental Baseline Studies (EBSs) for all 165 Land Ports of Entry (LPOEs) located throughout the states bordering Canada and Mexico, as well as 15 Strategic Environmental Appraisals (SEAs) for the ecosystems containing the LPOEs. In support of the Border Station Infrastructure Security Enhancement Program being conducted by the US VISIT program, Baker developed the EBS and SEA document templates. The EBSs included collection of natural and physical resource data for subsequent analysis under NEPA. Ms. DoByns managed incoming data and reports from multiple task managers and field crews active simultaneously across the country and transferred new information and edits to dozens of actively developing documents as appropriate within a compressed timeline.

Appalachian Corridor H Environmental Impact Statement, Parsons to Davis, West Virginia. *WVDOH.* Technical Writer/Environmental Scientist. Responsible for editing and production of Supplemental EIS as well as public outreach activities and fieldwork. Key issues included protection of historic resources and endangered species habitat. The Appalachian Corridor H is a 100-mile proposed four-lane highway intended to provide access from Interstate 81 in northwestern Virginia through the mountainous terrain of West Virginia's Appalachian Highlands Region.

Spruce No. 1 Mine EIS, Logan County, West Virginia. *U.S. Army Corps of Engineers (USACE)/Arch Coal Inc.* Environmental Scientist. Writing and editing of DEIS for the USACE's decision to approve Clean Water Act Section 404 permit for a 2,278-acre coal mine. This document represented the first approved EIS for a mountaintop mining/valley fill project in the country. Principal issues included stream impacts, socioeconomic analyses, post-mining land use, and proposed mitigation.

Shawnee Highway EIS, Crumpler, West Virginia to Ghent, West Virginia. *WVDOH.* Assistant Project Manager. Writing and production of FEIS for 22-mile highway. After signing of DEIS for project, new alternatives were created to avoid residential relocations, necessitating revisions to traffic analyses and potential impact studies. Principal issues included relocations, public involvement activities, and stream impacts.

Moorefield Transportation Improvement Project EA, Moorefield, West Virginia. *WVDOH.* Assistant Project Manager. Writing and production of EA for the construction of a 5-mile bypass of downtown Moorefield, WV. The project was developed to address the region's increasing transportation demands and growing traffic safety concerns. Principal issues included cultural resources and wetland impacts.

U.S. Route 460 Connector, Phase II. Buchanan County, VA. *Virginia DOT.* Environmental Scientist. Conducted indirect and cumulative impact analysis for revised Environmental Assessment for shifting of section of highway moved to act as post-mining land use atop a proposed mountaintop mine. Principal issues included socio-economic effects.

State Highway 99 (The Grand Parkway) Draft and Final EISs (Segments E, F-1, F-2 and G), Greater Houston Metropolitan Area, Texas. *Grand Parkway Association and the Texas Department of Transportation, Houston District.* Assistant Project Manager. Preparation of multiple-volume Draft and Final EISs for four highway segments of independent utility (SIUs), approximately 12 to 14 miles in length each. The multi-volume approach incorporated a volume detailing the corridor analysis for the entire four-segment length, and a volume featuring the alignment selection process for an individual SIU. Concurrent preparation of the four EISs involved management of comment-response databases and editorial tracking to ensure application of all necessary changes to each individual EIS as appropriate. Principal issues included tolling, indirect and cumulative effects analysis, rapid land use changes, relocations, floodplain/floodway impacts, and public involvement/agency coordination activities.

Russell E. Hall, P.E., P.S.
Principal-in-Charge

General Qualifications

Mr. Hall currently serves as an Assistant Vice President of Michael Baker Jr., Inc., as well as Office Manager of the Charleston, WV office. He is an experienced transportation engineer who has been involved in numerous bridge and highway design projects in West Virginia for over 24 years. His project management responsibilities involve overseeing staff from project inception through completion, and ensuring that the clients' needs and requirements are met.

He also has over nine years of office management experience. His office management responsibilities include financial oversight and accountability for a staff of over 40 engineers, scientists, and administrative personnel for Baker's Charleston office. His major strengths include organizing and managing a project team, quality control and quality assurance, and problem resolution. He provides overall direction and maintains direct communications with all clients.

Mr. Hall is very proud of the fact that he has been able to spend his entire career in West Virginia working to address West Virginia's transportation needs.

Select Baker Experience

KVRTA-Disaster Response & Recovery Plan, Charleston, West Virginia. *Kanawha Valley Regional Transportation Authority.* Principal-In-Charge. Responsible for oversight of Project Management. Baker developed a disaster response and recovery plan for the Kanawha Valley Regional Transportation Authority (KVRTA), West Virginia's largest transit bus service provider. Baker facilitated stakeholder meetings to assess KVRTA's capabilities with regard to their anticipated role in regional emergency response plans. The new plan also includes Continuity of Operations Plan (COOP) elements and is compliant with the National Incident Management System (NIMS) and National Response Plan (NRP) objectives.

I-64/U.S. 35 Interchange Study, I-64 to WV 34 Interchange, Putnam County, West Virginia. *West Virginia Department of Transportation, Division of Highways (WVDOH).* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. This project under first phase was for the study of two interchange sites on I-64, Cow Creek and Crooked Creek. This project under the final phase was for the complete preparation of right of way plans and construction plans for a new location of US 35 from I-64 (Crooked Creek location) to and including an interchange with WV 34.

Blennerhassett Island Bridge, Appalachian Corridor D, Washington County, Ohio and Wood County, West Virginia. *WVDOH.* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Upon completion of construction of the Blennerhassett Island Bridge over the Ohio River by 2007, the 878' – 6" long network tied arch was ranked as the longest of its type in the United States and one of the longest in the entire world. Baker provided project management, environmental and location studies, permitting, preliminary and final design as well as construction phase services.

Years with Baker: 5

Years with Other Firms: 19

Education

B.S., 1985, Civil Engineering, West Virginia University Institute of Technology

Licenses/Certifications

Professional Engineer, West Virginia, 1990, 10947

Professional Surveyor, West Virginia, 1996, 1878

Kanawha River Bridge, Charleston, West Virginia. *Brayman Construction Company.* Principal-In-Charge. Responsible for oversight of Project Management. Baker's Charleston, West Virginia office redesigned seven piers for the contractor and performed a complete analysis of the superstructure and substructure to properly size the piers.

Kanawha-Putnam Bike/Pedestrian Plan, Phase I, 315 D Street, South Charleston. *Regional Intergovernmental Council.* Principal-In-Charge. Responsible for oversight of Project Management. Baker performed a cursory inventory of existing bicycle and pedestrian facilities, identified areas with a high level of bicycle and pedestrian activity, collected existing resources and performed a broad base public outreach effort to identify bicycle and pedestrian issues in Kanawha and Putnam Counties for the Regional Intergovernmental Council (RIC). All data, survey results and preliminary findings were compiled for analysis and incorporation into the final plan during Phase II of the study.

Miller Creek King Coal Highway Surface Mine Project Baseline Data Collection, Mingo County. *Consol, Inc.* Principal-In-Charge. Responsible for oversight of Project Management. Baker was responsible for conducting baseline data collection and reporting for the approximately 2,300 acre Miller Creek King Coal Highway mountaintop/area/contour mine project including stream/wetland delineations and jurisdictional determination report, benthic and fish surveys and report, native topsoil sampling, mist net and pedestrian mine opening and cave survey, Phase I archeological survey, and historic resources viewshed analysis. The King Coal Highway - Buffalo Mountain Development Initiative produced an approximate five (5) mile section of line and rough grading for the King Coal Highway, as part of the post-mine land use. This initiative was of tremendous value as an innovative Public-Private Partnership that produces significant savings to the taxpaying public. Typical grade/drain projects in southern West Virginia cost as much as \$25 million per mile, and it was anticipated that this initiative would save as much as \$110 million in the cost to construct embankments for future highway construction.

NPDES Permit Review, Boone County, West Virginia. *Consol, Inc.* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Baker developed a geologic model in SurvCADD, utilizing the core hole data provided by the client for the approximately 11,500 acre Miller Creek Project Area in Mingo County and completed a reserve analysis for the entire area. In addition, Baker developed a general mine plan and layout for a variety of permitting options for the client and subsequently completed an overall AOC+ spoil optimization for the initial permit area to be developed by the client.

Town of Moorefield-Maple Avenue Streetscape, Moorefield. *Town of Moorefield.* Principal-In-Charge. Responsible for oversight of Project Management. The Town of Moorefield was in need of a pedestrian-friendly way of connecting the downtown area with the highly utilized nearby community park. Maple Avenue was a secondary street connecting the two areas, but had no sidewalks and deep ditches along most of the corridor. Moorefield tasked Baker with the planning and design of improvements that would both upgrade existing facilities and create a unified community linking the downtown with the community park.

US 35/I-64 Interchange Post Design, West Virginia. *WVDOH.* Principal-In-Charge. The design phase of this project provided for the preparation of construction and right of way plans for approximately three miles of 4-lane divided highway. The construction plans were separated into three construction contracts and included the design of two interchanges, two bridges, numerous box culverts and a vehicular underpass. The post design phase of this project provided for the review and approval of shop drawings and responding to Requests for Information. Baker designed the original post-tensioned concrete box bridge. Contractor value engineered the superstructure to a steel girder bridge. Foundation for piers and abutments were as designed. Baker reviewed pile testing, mass concrete results, and MSE wall calculations provided by the contractor.

WV Enhanced Hazard Mitigation Plan, Charleston. *West Virginia Division of Homeland Security and Emergency Management.* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Baker prepared an Enhanced Hazard Mitigation plan for the state of West Virginia to comply with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000) and 44 CFR 201-5.

On-Call Engineering/Architectural Services, Yeager Airport (CRW), Charleston, West Virginia.

Central West Virginia Regional Airport Authority. Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Baker provided multi-discipline, on-call services to the Central West Virginia Regional Airport Authority (CWVRAA), which owns and operates Yeager Airport (CRW). Baker provided a full range of services to CWVRAA on an "On-Call/As-Needed" basis, including architecture, civil, structural, mechanical, electrical and environmental engineering, general engineering administration, surveying, and construction management.

Flood Protection Options Report-Bonham Elementary School, Kanawha County. *West Virginia*

Division of Homeland Security and Emergency Management. Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Baker was retained by the West Virginia Division of Homeland Security and Emergency Management to prepare a report to address flood protection options for Bonham Elementary School in Kanawha County, West Virginia.

City of Charleston Bridges-Engineering Consulting Services, Charleston, West Virginia. *City of Charleston, West Virginia.* Principal-In-Charge. Responsible for oversight of Project Management. Baker's Charleston, West Virginia office provided various services for the City of Charleston. Baker reviewed existing inspection reports, performed bridge inspections and recommended and prioritized repairs for 13 bridges owned by the city.

Central WV Regional Airport Authority-Extend Runway 5-23, Charleston, West Virginia. *Central West Virginia Regional Airport Authority.* Principal-In-Charge. Responsible for oversight of Project Management. Baker performed complete planning, design, and construction management services for the 500-foot extension of Runway 5-23 for the Central West Virginia Regional Airport Authority at Yeager Airport in Charleston, West Virginia. The work was coordinated with the contractor for the grading operations for the ongoing Runway 23 Safety Area project, and FAA Airways Facilities for retrofit of the ALSF 1 approach light system. Nighttime closure of the runway was required for construction with no impacts to air service.

Appalachian Corridor H Environmental Impact Statement, Appalachian Highlands Region, Elkins, West Virginia. *WVDOH.* Principal-In-Charge. Responsible for ensuring quality and timely deliverables since 2006. The Appalachian Corridor H is a 100 mile proposed four-lane highway intended to provide access from Interstate 81 in Northwestern Virginia through the rugged, mountainous terrain of West Virginia's Appalachian Highlands Region. Baker was responsible for preparing the tiered Corridor H Supplemental EIS study. This consisted of a corridor-level study evaluation (Corridor Selection EIS) to determine the environmental and engineering constraints existing along 24 potential alternative corridors (Tier 1) and a follow-on Alignment Selection FEIS (Tier 2). Baker also provided advanced preliminary engineering on the preferred alignment. Following the 1996 Record of Decision, the WVDOT and FHWA were sued in Federal District and Appeals Courts by a coalition of 13 environmental groups. Baker provided lawsuit support for legal council during that period-project is now under construction and Baker is providing environmental monitoring and engineering services.

Drainage Manual, Charleston, West Virginia. *WVDOH.* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. Baker prepared a revised Drainage Manual for the West Virginia Department of Highways. The manual was completely rewritten based on the AASHTO Model Drainage Manual.

Design Manual for Deep and Shallow Foundations, Statewide, West Virginia. *WVDOH.* Principal-In-Charge. Responsible for oversight of project finances, schedules and quality control. The goal of this project is to develop geotechnical factors for LRFD, as found in AASHTO Specifications and update other geotechnical guidelines for the WVDOT/DOH Bridge Design Manual.



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Chad M. Berginnis, C.F.M.
Senior Advisor and Mitigation Strategies

General Qualifications

Mr. Berginnis has 16 years experience in various aspects of natural hazards management, flood loss reduction, and land use planning / programs at the state and local level. In these roles, Chad has designed and implemented various programs including subdivision review/permitting, floodplain management, hazard mitigation (including developing, managing and implementing a Hazard Mitigation Grant Program project for a small village), and also managed these programs at both the state and local level. Chad has had to perform various functions from local zoning inspector, to floodplain administrator, to State of Ohio Hazard Mitigation Officer, working with communities small and large, rural and urban. Chad has particular expertise in all aspects of floodplain management and hazard mitigation; program development and management; public outreach / communications; and conducting public meetings having conducted several hundred of them throughout his career. Mr. Berginnis also has expertise in long term recovery and hazard mitigation following flood events having developed/conducted damage assessment training, developed cost-effective hazard mitigation grant program projects, developed efficient processes for developing and submitting mitigation grant program project applications (statewide) for funding, and managing hazard operations at a FEMA/state Joint Field Office for three Federally declared disasters.

Mr. Berginnis is a recognized national expert in floodplain management and hazard mitigation, having participated on national research / focus groups, provided agency (FEMA, USACE, OMB, CRS, IG, CBO, others) and Congressional testimony, and been selected to participate on an advisory panel to the Chinese Government on the development of a national floodplain management strategy. Mr. Berginnis has held various positions with the Association of State Floodplain Managers, including Flood Insurance policy committee chair, Vice Chairman, and Chairman.

Select Experience

2008 State of Ohio Hazard Mitigation Plan Update. Ohio – statewide. Mr. Berginnis served as the project manager, author, researcher, and reviewer of the comprehensive update to the State of Ohio's hazard mitigation plan. The state's hazard mitigation plan, which must be updated every three years, was updated to include a more comprehensive hazard identification and risk assessment (HIRA), an achievable mitigation strategy, a progress report on completed mitigation actions, and incorporated information from local mitigation plans that were developed since the last update of the state plan.

Appalachian Flood Risk Reduction Initiative (AFRRRI). Appalachian region of Ohio. Mr. Berginnis developed the project concept, authored the funding application, and served as the overall project manager for this pilot project funded through the U.S. Economic Development Administration. The purpose of the project was to provide an intensively facilitated mitigation planning process for 15 Appalachian communities in order for them to have the ability to access FEMA hazard mitigation funds and develop highly customized mitigation plans to better enable the communities to implement and update them. Also, the project involved developing detailed flood hazard data in order to better evaluate flood mitigation alternatives.

Years with Baker: 1

Years with Other Firms: 16

Education

B.S., 1994, Natural Resources and Environmental Science, Ohio State University

Licenses/Certifications

Certified Floodplain Manager, 2000, US-00-00088

Jackson County, Ohio Hazard Mitigation Plan. Jackson County and incorporated jurisdictions, Ohio. As part of the Appalachian Flood Risk Reduction Initiative, Mr. Berginnis was the project manager, lead facilitator, and co-author of the Jackson County All Hazard Mitigation Plan. In this role, he led the core planning group made up of county and community officials, facilitated meetings, conducted research on hazards and mitigation strategies, and served as co-author and technical reviewer of the plan document. Also, Mr. Berginnis facilitated the state's review of the plan for compliance with FEMA planning requirements and FEMA's ultimate approval of the plan.

Village of Vinton, Ohio Hazard Mitigation Plan. Village of Vinton, Ohio. As part of the Appalachian Flood Risk Reduction Initiative, Mr. Berginnis was the project manager, lead facilitator, and co-author of the Village of Vinton's All Hazard Mitigation Plan. In this role, he led the core planning group made up of village officials, stakeholders, and concerned citizens, facilitated meetings, conducted research on hazards and mitigation strategies, and served as co-author and technical reviewer of the plan document. Also, Mr. Berginnis facilitated the state's review of the plan for compliance with FEMA planning requirements and FEMA's ultimate approval of the plan.

Ohio Natural Hazard Mitigation Planning Guidebook. Ohio – statewide. Mr. Berginnis was project manager, co-author, reviewer, and researcher of this document necessitated by the passage of the Federal Disaster Mitigation Act of 2000. The project involved development of an easy-to-read and practical guidebook for Ohio communities to use when developing local hazard mitigation plans.

Ohio Floodplain Regulation Criteria. Ohio – statewide. Mr. Berginnis was project manager, co-author, reviewer, and researcher of this comprehensive update to Ohio's model flood damage reduction regulations. The fourth and fifth editions included innovative model “higher” regulatory standards that described the standard, reviewed the advantages and disadvantages of each, and provided specific model language that could be easily inserted into a community's regulations. Also, the document incorporates the Association of State Floodplain Managers No Adverse Impact philosophy.

Village of Corning Flood Mitigation Project. Village of Corning, Ohio. Mr. Berginnis developed the project concept, authored the funding application, and served as the overall project manager for this comprehensive flood mitigation project funded under FEMA's Hazard Mitigation Grant Program (HMGP). In 1998 a devastating flood damaged nearly one-third of all buildings. Mr. Berginnis assisted village officials immediately after in developing a recovery strategy, conducting damage assessments and convening a volunteer group to assist with the development of the HMGP project application. The FEMA approved application involved the mitigation of fifty-eight structures, including the acquisition / demolition of 29 structures, the elevation of 7 structures, and the retrofitting of 22 structures. As part of the project development and implementation processes, Mr. Berginnis led the volunteer group, facilitated meetings (including holding several public meetings), secured funding, developed implementation processes and procedures, and conducted extensive public outreach including the development of outreach materials.

Ohio HAZUS Assessment. Eastern and southeastern counties, Ohio. Mr. Berginnis developed the project concept, authored the funding application, and served as the overall project manager for this project funded under the US Army Corps of Engineers Planning Assistance to States program. The project consisted of the development of level 1 HAZUS flood data for 49 Ohio counties. Scenario events were created for the 100 - and 25 - year frequency floods on watercourses with drainage areas 4 square miles or greater. Standard HAZUS reports were created and the data was used in the 2008 update of the State of Ohio's Hazard Mitigation Plan.

Ohio Emergency Management Agency (2005-2008). Mitigation Branch Chief and State Hazard Mitigation Officer. Managed Ohio's hazard mitigation programs and a staff of six, including FEMA's Pre-Disaster Mitigation (PDM), Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), Repetitive Flood Claims (RFC), Severe Repetitive Loss (SRL), and hazard mitigation planning. Also responsible for conducting training/workshops/presentations, strategic planning, project management, and general technical assistance. Key achievements included:

- Led the effort to update Ohio's State Hazard Mitigation Plan in 2008 (including authoring the update)
- Author of a 2007 PDM project application to update state plan into an enhanced level status.
- Assisted in the development of local mitigation plans compliant with DMA 2000 and oversaw review of hundreds of local plans for compliance with DMA 2000 requirements.
- Developed innovative use of HAZUS and local mitigation plan data in the state Emergency Operations Center for planning and assessment purposes.
- Overhauled grant processes to improve efficiency and timeliness including implementing a pilot "Expedited HMGP Buyout Program" leading to project implementation within 8 months of the disaster declaration.
- Managed over \$40 million in grant awards/disbursements, ensuring budget and timeframe compliance.
- Integrated federal and state agencies into Ohio's mitigation programs and activities.
- Managed Ohio's Mitigation Program operations for three federally declared disasters. Activities included participating in preliminary damage assessments, the development of the state's mitigation strategy, updating the HMGP Administrative Plan, coordinating with FEMA Joint Field Office mitigation staff, and developing and implementing the HMGP application process (including conducting workshops and participating in public meetings).
- Participated on the NEMA Mitigation Committee and coordinated the Association of State Floodplain Managers Mitigation Pod (four policy committees including Mitigation, Flood Insurance, Floodproofing, and Floodplain Regulations).
- Participated in numerous FEMA stakeholder group meetings (i.e., enhanced plan review committee, national Unified Hazard Mitigation Assistance programs stakeholder group)
- Integrated other agencies involved in natural hazards management (Ohio DNR, USACE, USGS) into State's hazard mitigation programs and activities, including leading Ohio's State Hazard Mitigation Team (SHMT), and founding participant in the US Army Corps of Engineers Silver Jacket program.

Ohio Department of Natural Resources (1999-2005). Floodplain Management Program Supervisor.

Assisted the Program Manager in overseeing Ohio's Floodplain Management Program. Responsibilities included managing FEMA grant programs (budgeting, developing annual work plan, fiscal and activity reporting) including Community Assistance Program (CAP), Map Modernization Management Support Program, and Cooperating Technical Partners Program, supervision of 4 program staff, and working with the Program Manager to set programmatic annual and strategic goals. Also responsible for conducting Community Assistance Visits (CAVs), Community Assistance Contacts (CACs), ordinance reviews, delivering workshops and presentations, participating in public meetings, and general technical assistance.

Key achievements included:

- Direct management of grants totaling over \$300,000 annually.
- Worked with Program Manager to create CAP program assessment and resource gap analysis.
- Developed, managed, and implemented the Appalachian Flood Risk Reduction Initiative, a \$500,000 grant from the US Economic Development Administration.
- Authored or co-authored several publications including the Ohio Floodplain Regulation Criteria handbook, Ohio Natural Hazard Mitigation Planning Guidebook, Alternative Violation Remedy Process, and the Standard Operating Procedure for the Floodplain Management Program during flood disasters.
- Receipt of the Tom Lee Award – Platinum Level for outstanding state floodplain management program from the Association of State Floodplain Managers in 2002.

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- Assisted with the development of “No Adverse Impact” strategic plan, annual workplan, and products.
 - Facilitated creation of the ASFPM Training Committee.

Perry County Planning Commission (1998-1999). Planning Director. Full responsibility for countywide planning program including zoning technical assistance and administration of county subdivision and floodplain management regulations. Assisted municipalities and townships with updating and adopting zoning, subdivision, and floodplain management regulations. Prepared and presented staff reports and recommendations to the Perry County Planning Commission for subdivision reviews, variances, and zoning updates. Attended and led numerous public meetings to discuss land use and development issues. Prepared budget and monitored expenses for Planning Commission office. Key achievements included:

- Created and implemented subdivision review process for Perry County.
- Authored comprehensive update to the Perry County Subdivision Regulations
- Developed and administered a \$1.2 million Hazard Mitigation Grant Program project for Village of Corning.
- Assisted with the update of three township zoning codes.

Ohio Department of Natural Resources (1992-1998). Floodplain Management Program Environmental Specialist. Provided technical assistance to communities statewide in adopting floodplain management regulations, establishing administrative (permitting and records management) and enforcement processes, evaluating local programs and developing reports including conducting over one hundred CAVs and CACs, interpreting federal and state floodplain management statutes, and reviewing specific development proposal for compliance. Conducted numerous education and outreach activities including conducting workshops for local officials, attending a multitude of public meetings, writing articles for The Antediluvian - the Floodplain Management Program's biannual newsletter, co-authoring fact sheets. Led quality improvement teams as a trained meeting facilitator. Key achievements included:

- Assisted Program Manager with State Hazard Mitigation Team duties including the creation of the evaluation process used by the State of Ohio to evaluate Hazard Mitigation Grant Program project applications.
- Participated as member of Division of Water Quality Guidance Committee which fosters the implementation of Total Quality Management principles within the Division.

Honors and Awards

Tom Lee Award—Platinum Level for outstanding state floodplain management program, Association of State Floodplain Managers, 2002

Innovation in Floodplain Management Award for the creation/implementation of the Appalachian Flood Risk Reduction Initiative, Ohio Floodplain Management Association, 2003

ACE Project Team/Mission Possible Award for statewide floodprone structure inventory project, State of Ohio Governor's Office, September 2004

Ramesh Chintala, P.E., C.F.M., D.WRE

Senior Advisor

General Qualifications

Mr. Chintala is an expert in modeling the hydrologic and hydraulic behavior of river and stormwater systems. He is skilled in developing sophisticated numerical models and devising engineering solutions to complex flooding problems. Mr. Chintala has analyzed rivers and watersheds in a wide variety of fluvial environments throughout the United States. His areas of expertise include watershed hydrology, river hydraulics, fluvial geomorphology, flood control, floodplain management, sedimentation engineering, erosion control, and stormwater management. His experience covers numerous studies involving steady, unsteady, and multi-dimensional numerical models of rivers using advanced geospatial techniques.

Mr. Chintala served as Project Manager for the West Virginia Standard State Hazard Mitigation Plan and its 2007 revisions, including the preliminary draft Enhanced State Mitigation Plan, for the West Virginia Department of Homeland Security and Emergency Management. He coordinated stakeholders in West Virginia's hazard mitigation and ensured the state had a plan that was not only acceptable to FEMA, but also served specific states needs. He has served as either Project Director or Project Manager for Regions I, II and III or Region VI of FEMA for five years of the agency's Multi-Hazard Map Modernization project.

Years with Baker: 7

Years with Other Firms: 10

Education

M.S., 1996, Water Resources, Baylor University

B.E., 1991, Civil Engineering, University of Delhi, India

Licenses/Certifications

Professional Engineer, California, 2001

Certified Floodplain Manager, 2005

Experience

West Virginia Hazard Mitigation Plan, Statewide, West Virginia. *West Virginia Division of Homeland Security and Emergency Management (WVDHSEM).* Project Manager. Responsible for examining hazards, including floods, wildfires, structural fires, dam failures, drought, winter storms, landslides, hurricanes, wind, earthquakes, and man-made hazards. Plan was among the first FEMA approved state plans in the United States. Baker developed a Standard State All-Hazards Mitigation Plan for West Virginia to comply with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 is federal legislation requiring states to have a state-adopted and FEMA-approved plan as a condition of disaster assistance.

Enhanced Hazard Mitigation Plan, Charleston, West Virginia. *WVDHSEM.* Project Manager. Responsible for ensuring project delivery, stakeholder coordination, oversight of the project GIS update, revision of the risk assessment, and assessment of the state's program and project implementation capabilities. Baker conducted the triennial update of the Standard State All-Hazards Mitigation Plan to comply with the Disaster Mitigation Act of 2000 (DMA 2000) and 44 CFR 201.1-201.5. In addition to updating the Standard Plan, Baker helped prepare West Virginia for a future application to FEMA for enhanced-state status by preparing an Enhanced Hazard Mitigation plan.

Multi-Hazard Flood Map Modernization (Map Mod) - Year 5, Nationwide. *FEMA.* Project Director. Responsibilities included coordinating map partner monitoring activities for FEMA Region VI. Led the planning activities for the FEMA Region VI regional management center. This task order is the fifth year of a five-year, \$500M program. The major points of this program are 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.

Multi-Hazard Flood Map Modernization (Map Mod) - Year 4, Nationwide. *FEMA.* Project Manager. Responsibilities included supervising detailed and complex technical reviews of map revision requests under technical coordination contract for Regions I, II and III. This task order is the fourth year of a five-year, \$500M program. The major points of this program are 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.

Multi-Hazard Flood Map Modernization (Map Mod) - Year 3, Arlington, Virginia. *FEMA.* Project Manager. Supervised detailed and complex technical reviews of map revision requests under technical coordination contract for Regions I, II and III. This task order is the third year of a five-year, \$500M program. The major points of this program are to establish and maintain a premiere data collection and delivery system; achieve effective program management; build and maintain mutually beneficial partnerships; and expand and better inform the user community.

Multi-Hazard Flood Map Modernization (Map Mod) - Year 2, Arlington, Virginia. *FEMA.* Project Manager. Supervised detailed and complex technical reviews of map revision requests under technical coordination contract for Regions I, II, and III. This task order is the second year of a five-year, \$500M program. The major points of this program are to establish and maintain a premiere data collection and delivery system; achieve effective program management; build and maintain mutually beneficial partnerships; and expand and better inform the user community.

Multi-Hazard Flood Map Modernization (Map Mod) - Year 1, Nationwide. *Federal Emergency Management Agency (FEMA).* Project Manager. Supervised detailed and complex technical reviews of map revision requests under technical coordination contract for Regions I, II, and III. This task order is the first year of a five-year, \$500M program. Development of a geospatial portal to manage, maintain and distribute nationwide flood hazard data. Management/oversight of flood hazard studies nationwide, including standards and tools. Program management, including reporting/managing cost, schedule and scope of FEMA's national effort

USACE-Huntington District Contract, Various Cities, Kentucky. *U.S. Army Corps of Engineers, Huntington District.* Technical Advisor. Conducted independent technical reviews of analysis and reports. Baker prepared lake sedimentation reports for Dewey, Fishtrap, North Fork Kokosing, and Summerville Lakes. Project involved developing a digital terrain model of the lake bottom for current conditions, and overlaying it with a digital terrain model from previous conditions, and using GIS to determine the amount and distribution of sedimentation in the lakes.

Drainage Manual, Charleston, West Virginia. *West Virginia Department of Transportation, Division of Highways.* Project Manager. Served as project manager in preparation of the West Virginia Department of Highways Drainage Manual. Also served as Principal Author. Baker prepared a revised Drainage Manual for the West Virginia Department of Highways. The manual was completely rewritten based on the AASHTO Model Drainage Manual.

Blennerhassett Island Bridge, Appalachian Corridor D, Washington County, Ohio and Wood County, West Virginia. *West Virginia Department of Transportation, Division of Highways.* Technical Advisor. Responsible for technical expertise and oversight of the Hydraulic Analysis, Scour Studies and Erosion Countermeasures reports. Upon completion of construction of the Blennerhassett Island Bridge over the Ohio River by 2007, the 878' – 6" long network tied arch that ranks as the longest of its type in the United States and one of the longest in the entire world. Baker provided project management, environmental and location studies, permitting, preliminary and final design as well as construction phase services.

Mohiuddin Shaik, P.E., GISP, CFM

GIS and Risk Assessment

General Qualifications

Mr. Mohiuddin Shaik has over 10 years experience as a GIS Specialist in the Charleston, West Virginia office of Michael Baker Jr., Inc. He is adept in Geographic Information Systems (GIS) with a technical background in Water Resources and Transportation Engineering. Mr. Shaik also offers a background in Major/Minor Drainage, Highway Design. He is a registered professional civil engineer, certified GIS Professional, certified floodplain manager and has successfully completed the FEMA's HAZUS Advanced Flood Vendor Training and have made several conference and seminar presentations on the HAZUS at SAME Regional Conference and other venues. He has been actively involved in local training workshops as presenter for WVDOH and other agencies on floodplain related topics.

His experience covers numerous studies involving steady, unsteady, and multi-dimensional numerical models of rivers using advanced geospatial techniques. Representative projects include hydrologic studies of watersheds, FEMA flood insurance studies, LOMR and CLOMR map revisions and MT-2 technical reviews, floodplain management studies, hydraulic design and scour evaluation of bridges, design of hydraulic structures. He is skilled in developing sophisticated numerical models and devising engineering solutions to complex flooding problems.

Mr. Shaik is proficient in various Highway Design, Water Resources Modeling, and GIS software programs available in the Industry.

Select Baker Experience

HAZUS-MH MR3 Statewide County Level Flood Risk Analysis. *West Virginia Division of Homeland Security and Emergency Management (WVDHSEM).* Sr. HAZUS Specialist/ Project Manager. Baker was recently selected to complete the HAZUS-MH MR3 Level I analysis for the state of West Virginia. The project analyses the flood risk for all the major flow events. A component of the project requires custom reporting and mapping to be developed. It's anticipated to be completed by end of 2010. Also, includes some value added application development and training. Involves application of hydraulic engineering principles and GIS sciences.

West Virginia Enhanced State Hazard Mitigation Plan. *WVDHSEM.* GIS Specialist. The plan was prepared in compliance with the Disaster Mitigation Act of 2000 which enables states to receive hazard mitigation grant funding from FEMA. Plan elements included identification of hazards, facilitating the formation of a state hazard mitigation council, conducting risk assessments and hazards ranking, conducting a vulnerability assessment and loss estimates, holding large planning council meetings to develop planning goals and strategies, prioritizing the strategies and developing a strategy implementation plan, conducting a

Years with Baker: 9

Years with Other Firms: 1

Education

M.S., 1999, Engineering Science,
Louisiana State University

B.E., 1997, Civil Engineering,
Osmania University, India

Graduate Studies, Business
Administration, Marshall University

Licenses/Certifications

Professional Engineer, West
Virginia, 2004, 16213

ASFPM Certified Floodplain
Manager, 2005, US-05-01626

GIS Professional, West Virginia,
2006, 00054674

FEMA Authorized HAZUS Advanced
Flood Vendor, 2006

Foreign Languages

Hindi (can speak, read, and write)

Telugu (can read and write)

Urdu (can speak)

state capability assessment, investigating funding sources, integrating local planning efforts, assisting with state plan adoption, and the development of an advanced GIS database containing both spatial and aspatial data for hazard mitigation planning. ESRI's ArcGIS 9.1 and Microsoft Access 2002 computer programs were used to build the GIS database.

CAMC Risk Assessment and Flood Protection Study. *Charleston Area Medical Center/BSA Life Structures, Charleston, WV.* Water Resources Engineer/GIS Specialist. Completed the Hydrology and Hydraulic studies of the Veneble branch watershed and developed the flood risk assessment report with recommendations for Interim and long-term flood protection measures to protect the hospital premises from the various flood events. Duties included detailed hydrologic modeling with hydraulic analysis and coming up with flood protection plans. Baker completed the H&H studies as part of the PDM grant application to FEMA for this project. Ongoing project.

Technical Reviews of MT-2 Letter of Map Revision Requests, Map-Mod Project. *Federal Emergency Management Agency.* Water Resources Engineer/GIS Specialist. Responsible for review of the H&H analysis submitted as part of CLOMR/LOMR by the requestors from various States of FEMA Regions 1, 2 and 3. Supervise a team of GIS Analyst and Junior Engineers on the detailed technical reviews of H&H, Creating the digital map attachments to update the FIRMS using the various GIS software's and tools available including the DFIRM tools developed for FEMA.

Coalfields Expressway, West Virginia. *West Virginia Department of Transportation, Division of Highways (WVDOH).* GIS Specialist. Responsible for continuing support of all environmental GIS aspects of the Highway project. Developing GIS for studies in support of National Environmental Policy Act documentation using Arcview and Intergraph's MGE. Created the database application for performing the necessary data retrieval and data manipulations for the Coalfields 404 Permit Application.

Appalachian Corridor H EIS, West Virginia. *WVDOH.* GIS Specialist. Performed all the required GIS analysis and created the GIS data for the preparation of the Supplemental Draft of Environmental Impact Statement. Work involved extensive use of different GIS Tools, methodologies and software for the analysis of various impacts. Developed a Metadata Tool, a database application in Access 97 and Visual Basic. The Tool was modeled following the guidelines provided by FGDC. This tool will be used to provide the Metadata as per state requirements.

MPOWR Web Site Support and Maintenance. *Michael Baker Jr., Inc.* Systems Programmer. Responsible for creating new project web sites as necessary, in addition to delivering continued support and maintenance at the existing project websites. (<http://mpowr.bakerprojects.com>). Provide technical support as needed. Perform programming tasks to use the stored data on the web sites and develop stand alone and run time applications, using various third party tools and Visual Interdev 6.0 programming platform.

PennDOT SR44 over Janders Run and SR244 over Genesee River. *Pennsylvania Depart of Transportation.* Water Resources Engineer/GIS Specialist. Completed the Hydrology and Hydraulic Modeling on the State Route (SR) 44 and SR 244 Bridges. The project involved detailed analysis of different options as required by the Penn DOT. Scour computations and Final H&H report was developed. HEC-RAS computer program was used for the modeling with ArcGIS 9.2.

Davis Creek Bridge, H & H Report, West Virginia. *WVDOH.* Water Resources Engineer/GIS Specialist. Worked on the Hydraulic Report for the proposed bridge. Used the HEC-RAS 4.0 and HEC-GeoRAS extensions to perform the hydraulic modeling of existing and proposed conditions for the various design discharges. Bridge Scour Analysis was also performed.

Elk Twomile Bridge, H & H Report, West Virginia. *WVDOH.* Water Resources Engineer/GIS Specialist. Worked on the Hydraulic Report for the proposed bridge. Used the HEC-RAS 4.0 and HEC-GeoRAS extensions to perform the hydraulic modeling of existing and proposed conditions for the various design discharges. Bridge Scour Analysis was also performed.

Huntington District-Levisa Fork Tributaries, Flood Study, Floyd County, KY. *United States Army Corp of Engineers (USACE), Huntington District.* Water Resources Engineer/GIS Specialist. Worked on creating the digital terrain models for performing the Hydraulic Analysis for the Levisa Fork and its tributaries in Floyd County, Kentucky. Developed and implemented the methodology to create and merge the underwater topo (using the cross sectional data at bridge locations) into existing ground topo, thus providing the realistic DTM. Completed the floodplain and floodway modeling for various floods including the 1977 flood. Various flood profiles were generated using the RASPLLOT. Required customized GIS tools development and supervision of GIS Analysts on job.

Huntington District-Levisa Fork Tributaries, Flood Study, Johnson County, KY. *USACE, Huntington District.* Water Resources Engineer/GIS Specialist. Worked on creating the digital terrain models for performing the Hydraulic Analysis for the Levisa Fork and its tributaries in Johnson County, Kentucky. Developed and implemented the methodology to create and merge the underwater topo (using the cross sectional data at bridge locations) into existing ground topo, thus providing the realistic DTM. Responsible for the final workmap production. Required customized GIS tools development and supervision of GIS Analysts and Jr. Engineers on job.

Huntington District-Clendenin Lake, DTM Development. *USACE, Huntington District.* Water Resources Engineer/GIS Specialist. Developed digital terrain models for performing the Sedimentation Analysis. 1937 hardcopy maps were used as source to digitize the contours and other spatial features to create a DTM. More recent Photogrammetric survey data was used to create the existing DTM. The two DTM were then used in comparative analysis to determine the lake sedimentation rates and other factors. Supervised GIS Analysts on the data conversions tasks.

PennDOT Emergency Bridge Replacements, Hydrology and Hydraulic Studies. *Pennsylvania Depart of Transportation.* Water Resources Engineer/GIS Specialist. Completed the Hydrology and Hydraulic Modeling on the SR 29 and SR 3025 Bridges. The project involved detailed analysis of different options as required by the Penn DOT. Scour computations and Final H&H report was developed. HEC-RAS computer program was used for the modeling with ArcGIS.

South Carolina Floodplain Mapping Program, Technical Review. *Federal Emergency Management Agency.* Water Resources Engineer/GIS Specialist. Performed and Supervised the Engineering Review of the detailed and approximate floodplain studies.

Gypsy Bridge, H & H Report and Hydraulic and Scour Study, Proposed US-19 Bridge over the West Fork River, near Gypsy, West Virginia. *WVDOH.* Water Resources Engineer/GIS Specialist. Worked on the Hydraulic Report for the proposed bridge. Used the HEC-RAS 3.1 and HEC-GeoRAS extensions to perform the hydraulic modeling of existing and proposed conditions for the various design discharges. Analyzed permanent and temporary (construction related) hydraulic impacts of bridge alternatives from project inception through Final Plans submittal.

Hydraulic and Scour Studies, Proposed Corridor H Section 6 Bridges, Moorefield, Hardy County, West Virginia *WVDOH.* Water Resources Engineer/GIS Specialist. Several Bridges were analyzed: Bridge Over the South Branch of the Potomac River, Mainline and Connector Bridges Over Dumpling Run, and Bridge Over Fort Run, Division of Highways.

Hydraulic and Scour Study, Proposed James Rumsey Bridge Over the Potomac River, near Shepherdstown, West Virginia. *WVDOH.* Water Resources Engineer/GIS Specialist. Analyzed hydraulic impacts from various construction alternatives.

WVDOH Drainage Manual. *WVDOH.* Water Resources Engineer/GIS Specialist. Helped in Certain chapters of the drainage manual involving GIS data for Map and Charts creation. Quality control of some chapters.



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Drew L. Whitehair

Mitigation Strategies and Capability Assessment

General Qualifications

Mr. Whitehair has five years experience in various aspects of emergency management at both the state and local level. He has worked through numerous federal disaster declarations and assisted in implementing various programs involving public assistance and individual assistance. Mr. Whitehair has particular expertise in hazard mitigation having developed and managed projects in communities small and large, rural and urban. Mr. Whitehair's computing skills include numerous GIS software programs and HAZUS-MH. Mr. Whitehair also has expertise in benefit-cost analysis and long-term recovery, having conducted countless post-disaster briefings and serving on several damage assessment teams for both the public and individual FEMA assistance programs. Mr. Whitehair has participated on national research/focus groups for both FEMA's benefit-cost analysis tool and Severe Repetitive Loss grant program.

Years with Baker: <1
Years with Other Firms: 5
Education
B.S., 2004, Emergency Management,
University of Akron
A.A.S., 2004, Forensic
Science/Criminal Justice, University
of Akron

Select Experience

City of North Royalton Stormwater Management Project. Cuyahoga County, Ohio. *Hazard Mitigation Grant Program.* Mr. Whitehair worked with the city to determine eligibility for funding through FEMA and also served as the state project manager. The scope-of-work involved enhancing/upgrading a stormwater conveyance system for a two-block radius, which during heavy precipitation events would result in minor to moderate flooding of surrounding residential properties. This was the first stormwater management project administered by the State of Ohio under the FEMA Hazard Mitigation Grant Program.

Tuscarawas County Mass Casualty Plan. Tuscarawas County, Ohio. Mr. Whitehair served as the author, researcher, and project lead for the creation of a county-wide mass casualty plan for a population of 90,000. In this role, Drew led the core planning team comprised of county/local officials and private citizens, facilitated meetings, and conducted research.

Federal Disaster Recovery. As part of a state/federal team, Mr. Whitehair has worked recovery operations through seven federal disaster declarations in Ohio. In 2004 and 2005, Drew supported FEMA Public Assistance operations by conducting post-disaster briefings, damage assessments, and supported operations by reviewing and determining eligibility for hundreds of project applications submitted by local governments as a result of damaged infrastructure. From 2006 to 2008, Mr. Whitehair supported not only Public Assistance operations but also Hazard Mitigation operations in state/federal field offices within the State of Ohio. Hazard Mitigation support included conducting post-disaster briefings, benefit-cost analysis, HAZUS, program strategy, and education/outreach.

Ohio Emergency Management Agency, Hazard Mitigation Programs (2005-2009). Hazard Mitigation Specialist. Primarily responsible for acting as a chief liaison between FEMA and local governments as well as coordination and monitoring of Ohio's participation in grant programs, i.e., federal and state disaster assistance mitigation programs through the administration of the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) Program, Flood Mitigation Assistance (FMA) Program, Repetitive Flood Claims (RFC) Program, and the Severe Repetitive Loss

(SRL) Program. Provided technical assistance to communities statewide in formulating mitigation projects and strategies and conducted numerous education/outreach activities including training workshops for local officials and leading or attending a multitude of public meetings. **Key achievements included:**

- Assisted in effectively managing Ohio's mitigation program operations in three Federal disaster declarations, including Joint Field Office operations, mitigation strategy, and development of the highly competitive HMGP application process.
- Invited to participate in a national focus group for the redevelopment of the FEMA benefit-cost analysis tool.
- Invited to participate in a national focus group to update program policy for the FEMA Severe Repetitive Loss (SRL) grant program.
- Successfully redesigned and implemented in-house processes for conducting National Environmental Policy Act (NEPA) compliance.
- Formulated a strategy combining section 404 HMGP funding and section 406 Public Assistance funding to be implemented following a disaster declaration to ensure and maximize mitigation effectiveness and success.
- Developed a comprehensive 3-hour FEMA project application training workshop to improve the quality and competitiveness of applications received from Ohio's communities.
- Successfully developed and implemented mitigation projects involving acquisition, structural elevation and retrofit, stormwater infrastructure, and community flood risk reduction studies that focus primarily on hazard identification, technical feasibility, and project design.
- Directly managed over \$6 million in grant awards and disbursements in the past three years.

Ohio Emergency Management Agency, Public Assistance Programs (2004-2005). Public Assistance Specialist. Responsible for gathering and compiling statistical data of disaster damages and preparing documentation to assist local governments and/or individuals and families in obtaining disaster assistance from the federal government. Assist in the administration of the FEMA Public Assistance Program (program eligibility, reviews, site inspections and closeouts) for the State of Ohio. Assembled data necessary for the state to request financial disaster assistance from federal and other outside resources and conducted numerous public assistance training workshops for local officials. **Key achievements included:**

- Assisted in effectively managing Ohio's public assistance program in two federal disaster declarations, including Joint Field Office operations, and the eligibility reviews of approximately 400 project applications.
- Served as a state liaison on damage assessment teams (both for public assistance and individual assistance) in order to verify the need for supplemental Federal assistance.
- Directly managed over \$4 million in grant awards and disbursements.

Andrew L. Gould, B.A.

Stakeholder Coordination

General Qualifications

Mr. Gould serves as a GIS Analyst in the Charleston, West Virginia office of Michael Baker Jr., Inc. Mr. Gould offers 13 years experience in GPS, GIS, and other Remote Sensing Techniques. Mr. Gould also has over 6 years of experience in performing Geographic analysis primarily of environmental and biological surveys. Mr. Gould is proficient in ArcGIS, including Spatial Analyst and 3d Analyst, Microstation V8, and AutoCAD version 2005 through 2009, AutoCAD Civil 3D 2009 and 2010, and SurvCAD. Mr. Gould also has additional environmental expertise including wetland delineation, stream determination, benthic sampling, fish and herpetology studies, sediment studies, and habitat assessments, as well as experience in the NEPA processes, including Section 404 of the Clean Water Act, Section 7 of the Endangered Species Act, and Section 106 of the National Historic Preservation Act.

Years with Baker: 11

Years with Other Firms: 3

Education

B.A., 1996, Biology and Geography,
West Virginia University

Licenses/Certifications

US Army Corps of Engineers
Wetland Delineator Certification
Program, West Virginia, 2004

Experience

West Virginia Mitigation Plan, Statewide, West Virginia. *West Virginia Office of Emergency Service.* Hazard Mitigation Planner. Responsible for the coordination of county plans with both FEMA representatives and individual counties, hazard research, subcontractor coordination, and final document production, including part authorship.

Appalachian Corridor H Environmental Impact Statement, Appalachian Highlands Region, Elkins, West Virginia. *West Virginia Department of Transportation, Division of Highways.* Environmental Associate. Responsible for the maintenance of ongoing environmental contracts with West Virginia Department of Transportation including endangered species surveys (including mist net surveying for Indiana Bat), stream and wetland survey and mitigation and document production of such projects. GIS work included analysis of endangered species habitat and watershed delineation. Field work included evaluation of Potential Roost (PRT) habitat and summer foraging habitat for the Indiana bat (*Myotis sodalis*) through field based surveys on Corridor H Forman to Moorefield section, as well as the Bismarck to Forman Section. Performed survey of vegetation type and ground coverage on reclamation areas along the Elkins to Kerens section, as well as the Moorefield to Baker section of Corridor H. Also provided data analysis and summary report. Performed survey of stream sampling, sediment studies and biological barrier determinations. Performed survey of stream sampling, sediment studies, and biological barrier determinations. GPS surveying of tributary streams to Slip Hill Mill Run, near Parsons, WV.

Belleville Mitigation Wetland Monitoring, Belleville, WV. *WVDOH.* Designed and constructed piezometers for water level testing. Provided photos, panoramic and spontaneous for vegetation, wildlife, and water monitoring. Field surveys of habitat and wildlife including macroinvertebrates, fish, avian, and herpetology studies. Vegetation surveys including species indexing and areal cover estimations. GIS mapping of all details for field maps and reports, as well as coauthor of yearly reports.

Northern Flying Squirrel Habitat Mapping, Davis, WV. *WVDOH.* Field surveys, including GPS, of vegetation types and potential habitat for the Northern Flying Squirrel, an endangered species. GPS points were used in an ERDAS related GIS analysis to determining presence/absence of possible habitat.

Wetland Delineation and Stream Determination, Shawnee Highway, near Ghent, WV. WVDOH.

Wetland delineation and Stream determination for proposed 404 permits along a designed corridor for the Shawnee Highway project along with GPS locations. Subsequent GIS of all field collections.

Environmental Field Surveys, Miller Creek Proposed Mine, Delbarton, WV. Consol Energy. Field work included stream and wetland delineation, benthic macroinvertebrate sampling and identification, and fish sampling and identification for permitting of a proposed surface mine. Subsequent GIS of all field collections.

Honey Lake Conservation Conveyance, Honey Lake, CA. Herlong, CA. Environmental Associate. Performed field survey to locate and quantify Carson Wandering Skipper (CWS), an endangered butterfly on and around Honey Lake, an evaporation basin near Herlong, CA. Survey methods included GPS of CWS, possible nectar sources, water sources and other habitat features, as well as detailed field notes pertaining to the area. Prepared survey reports, GIS of resources, and consultation with U.S. Fish and Wildlife Service, U.S. Department of Agriculture, and California state agencies.

Proposed I69 Highway, Shreveport, LA. Environmental Associate. Performed field survey to locate and quantify Red-Cockaded Woodpecker, an endangered bird along proposed construction corridor. Survey methods included habitat identification and field surveys for individuals of the species.

Construction and Baseline Monitoring Plan for the Westridge South Surface Mine. Hobet Mining, LLC. Environmental Associate. Conducted fieldwork including habitat assessment evaluations, longitudinal profiles, cross-sectional dimensions, benthic macroinvertebrate sampling, fisheries resource sampling, riparian evaluations, and bank erosion hazard index calculations. Performed GIS analysis of all subwatersheds and field collections. Prepared the plan for mitigation implementation and monitoring.

Revised Compensatory Mitigation and Restoration Plan for the Mt. Laurel Complex. Mingo Logan Coal Company. Environmental Associate. Conducted fieldwork including habitat assessment evaluations, longitudinal profiles, cross-sectional dimensions, benthic macroinvertebrate sampling, fisheries resource sampling, riparian evaluations, and bank erosion hazard index calculations. Performed GIS analysis of all subwatersheds and field collections. Incorporated a revised monitoring and detailed construction plan for implementation purposes.

Compensatory Mitigation and Restoration Plan for Hobet Mining LLC. Hobet Mining, LLC. Environmental Associate. Includes Westridge South, No. 22, 44, and 45. Conducted fieldwork including habitat assessment evaluations, longitudinal profiles, cross-sectional dimensions, benthic macroinvertebrate sampling, fisheries resource sampling, riparian evaluations, and bank erosion hazard index calculations. Performed GIS analysis of all subwatersheds and field collections. Incorporated a revised monitoring and detailed construction plan for implementation purposes.

Henrico County Stream Restoration. Department of Public Works, Henrico County, VA. Environmental Associate. Conducted fieldwork including habitat and riparian assessment evaluations, benthic macroinvertebrate sampling and water quality assessment, stream and wetland delineation, and Unified Stream Methodology. Performed GIS analysis of all subwatersheds and field collections. Prepared summary report of assessment findings.

Jennifer Riddle

Graphic Design/Document Format

General Qualifications

Ms. Riddle provides artistic direction, graphic design, and production management for direct-citizen communication materials including advertisements, brochures, newsletters, displays, presentations, and other communication mediums. Her technical knowledge includes the four-color print production process; photography, digital image processing; and designing and managing websites, and web-based publications. Ms. Riddle has served as public involvement coordinator on several projects for various clients.

Years with Baker: 11

Education

B.S., 1999, Media Arts and Design/Print Communication Graphics, James Madison University

A.S., 1997, General Education, Tidewater Community College

A.S., 1997, Liberal Arts, Tidewater Community College

Experience

S.R. 2 Major Investment Study (LAK-2-0.00), Lake County, Ohio. *Lake County, Ohio.* Public Involvement Coordinator. Responsible for coordinating public involvement meetings. Baker managed a major investment study for 19 miles of S.R. 2 (Lakeland Freeway) in Lake County, Ohio. The facility is 40 years old and in need of major reconstruction. It is also heavily congested, endures high accident rates and is in a growing suburban area. The study determined a long-term multimodal investment plan to ensure that the corridor met the region's transportation needs through the year 2025. The study included a comprehensive public involvement program, as well as traffic modeling, conceptual design, alternative analysis and an environmental overview.

I-69 Tier 2 Section 5 - EIS and Engineering Services, Bloomington, Indiana. *Indiana Department of Transportation.* Public Involvement Coordinator. Responsible for coordinating public involvement efforts with the Project Management Consultant and the client. Prepared various collateral materials for public distribution. Baker provided Tier 2 environmental and engineering services to the Indiana Department of Transportation for one of six sections of the planned I-69 corridor. Baker's section, Section 5, is located in Monroe and Morgan Counties, Indiana. Services included NEPA Environmental Impact Statement studies and documentation, Engineer's Report, and Public Involvement.

Terrorist Incident Emergency Response Plan, Virginia Beach, Virginia. *City of Virginia Beach, Virginia.* Graphic Designer. Responsible for designing emergency response flyer for training sessions. Baker provided updates to the Terrorist Incident Emergency Response Plan (ERP) and provided training to all members within the Department of Public Utilities.

Bridge Type Selection Study and Report for Downtown Louisville I-65 Bridge over the Ohio River (Section 2), Louisville, Kentucky and Jeffersonville, Indiana. *Kentucky Transportation Cabinet.* Graphic Designer. Responsible for public information graphics. Under this multi-million dollar, multi-year contract, Baker provided project management, bridge type study, and public involvement services. Baker engaged the public in the bridge type selection process in order to develop a bridge that satisfies both the residents of the area and the functional needs of the structure while recognizing the fiscal limitations of the overall project. A Final Bridge Type Selection Report was prepared that detailed all aspects of the selection process and incorporated comprehensive data on the three recommended alternatives, single- and three-tower cable stays and a three-span through arch. Based on these recommendations and public input, the Kentucky Transportation Cabinet selected the three-tower cable stayed option.

I-69 Location and Environmental Study, El Dorado, AR to McGehee, Arkansas. *Arkansas State Highway and Transportation Department.* Public Involvement Coordinator. Responsible for coordinating public involvement efforts with the Project Management Consultant and the client. Prepared various collateral materials for the public distribution. Baker is conducting an engineering location study of several alternatives, an assessment of all environmental impacts, and the preparation of Draft and Final Environmental Impact Statements, including a Record of Decision for the AHTD. This approximately 100-mile Section of Independent Utility (SIU) 13 of I-69 will connect the Mississippi River crossing of I-69 to the El Dorado, Arkansas area.

U.S. Route 231 Corridor Engineering and Environmental Services, West Lafayette, Indiana. *Indiana Department of Transportation.* Public Involvement Coordinator. Responsible for facilitating the project's Community Advisory Committee (CAC). Designed and maintained a comprehensive and visually interactive public website (www.relocate231.com) for the study. The website included: pages to submit and review public comments; a CAC application form and CAC comment page (to track CAC comments independently); a repository where all prior project-related documents could be downloaded; project newsletters; media clips from television coverage of the project; and FAQs that were developed in response to public and CAC comments during project development. Also responsible for managing the project's internal website for exchange of project documents and graphics. Designed project newsletters and other handout materials, including bookmarks and posters to advertise the project website. Responsibilities included writing a project public involvement plan, coordinating and facilitating public information meetings, dispersing press releases, designing information and display graphics for public distribution, and collecting and organizing public comments.

Appalachian Corridor H Environmental Impact Statement (EIS), Appalachian Highlands Region, Elkins, West Virginia. *West Virginia Department of Transportation, Division of Highways.* Public Involvement Coordinator. Designed exhibits displaying possible scenic town and roadway enhancements along the proposed Corridor H alignment. Enhancements included the addition of shrubbery, bike paths, sidewalks, park benches, street lights, gateways, and kiosks. Also responsible for maintaining the internal project websites. Responsible for project management websites for internal display and exchange of project documents and graphics. Also responsible for layout and graphics for the project's EIS and interactive CD-ROMs. The Appalachian Corridor H is a 100-mile proposed four-lane highway intended to provide access from Interstate 81 in northwestern Virginia through the rugged terrain of West Virginia's Appalachian Highlands Region. Baker was responsible for preparing the tiered Corridor H Supplemental EIS study. This consisted of a corridor-level study evaluation (Corridor Selection EIS) to determine the environmental and engineering constraints existing along 24 potential alternative corridors (Tier 1) and a follow-on Alignment Selection FEIS (Tier 2). Baker also provided advanced preliminary engineering on the preferred alignment.

Small Urban Area Transportation Plans, Various Locations, Virginia. *Virginia Department of Transportation, District 4.* Graphic Designer. Responsible for the creation and design of each 2020 Transportation Plan poster. Baker prepared 43 Transportation Plans for small areas around the state that were not part of Metropolitan Planning Organizations (MPOs) and also developed travel demand models and initial MPO long range plans for two new MPOs. Roadway needs were the primary focus of the small urban area plans, but other modes were considered, particularly in the MPO plans. Extensive data collection and local coordination were conducted in the development of each plan. Printed and web-based interactive GIS maps were developed for each plan.

CONTINUING EDUCATION/TRAINING

Community Impact Assessment - Understanding CIA & Transportation Decision-making (provided current practices and recent innovations in conducting CIAs for federally funded projects), Federal Highway Administration (FHWA), Indianapolis, Indiana, July 2002

COMPUTER SKILLS

Adobe Acrobat Professional, Dreamweaver, Illustrator, and Photoshop; InDesign; Microsoft Office Suite; QuarkXpress