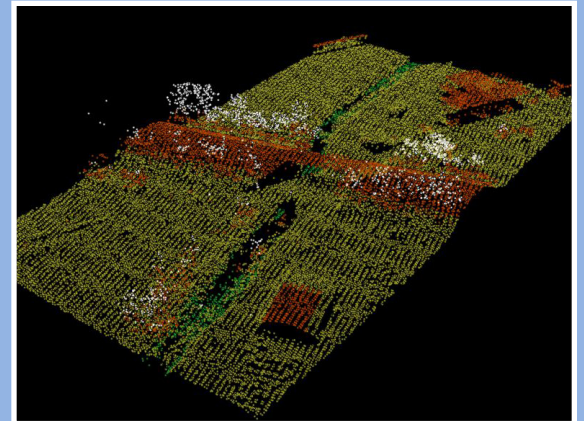


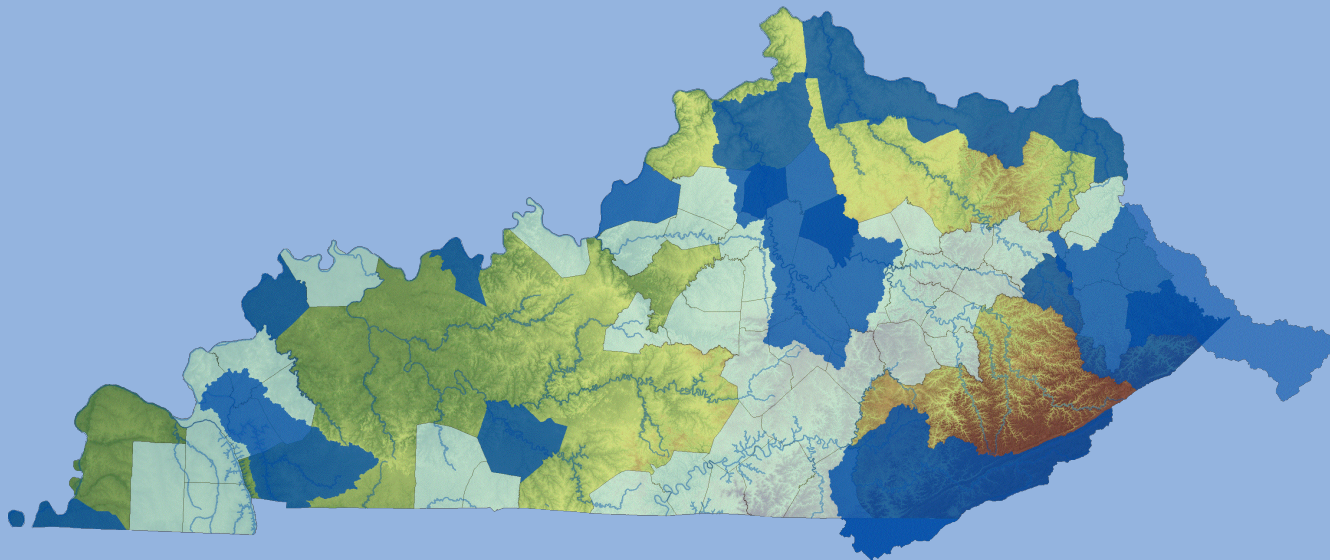
Lexington-Fayette Urban County Government

TOWN BRANCH Flood Plain Analysis



KDOW FEMA Statewide Flood MAP Program

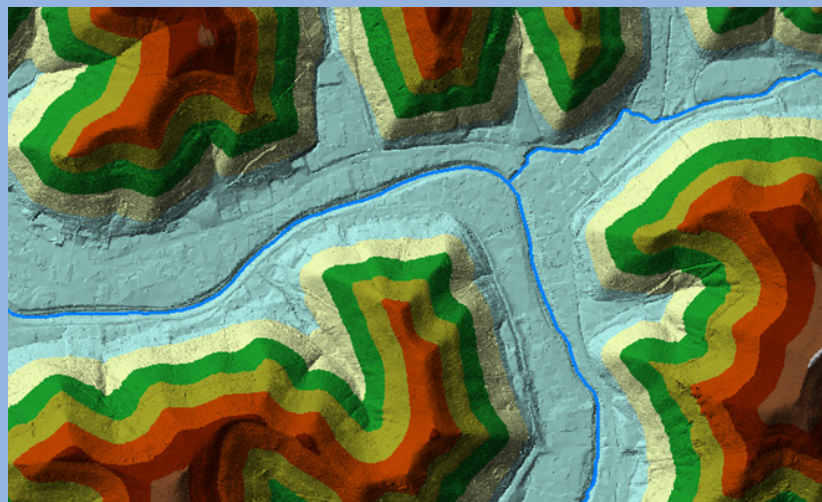
- Hydrology / Hydraulics and Floodplain Mapping
- QAQC for Hydrology / Hydraulics and Floodplain Mapping



12,030 square miles of terrain processing • 13,115 square miles of hydrology • 4,120 miles of hydraulic analysis • 7,360 square miles of FEMA Map Panels Created • 50 counties reviewed for compliance with FEMA Guidelines and Specifications

FEMA Training Modules Created for KDOW FEMA Program

FEMA Risk Map Products • Overview of Letters of Map Change (LOMCs) • Overview of FEMA's Community Rating System to Reduce Flood Insurance Premiums • Watershed-based Risk Analysis • Overview of Flood Insurance • Overview of Provisionally Accredited Levee Process • FEMA Flood Study Process: Basemap Terrain Engineering Mapping Adoption • Floodplain Management in KY and the National Flood Insurance Program • CNMS • Process for Identifying Flood Study Needs • Levee Engineering • FEMA Levee Analysis and Mapping Procedures (LAMP) • Uses of LiDAR and Availability in KY • Hydrology and Hydraulics for Non-Engineers • Dams in KY (Technical, Regulatory, and Flood Risk) • Overview of Floodproofing • Overview of FEMA's Flood Risk Geodatabase





3399 Tates Creek Rd., Ste. 130
Lexington, KY 40502
Phone: (859) 559.0516
Fax: (859) 559.0523

September 8, 2014

Theresa Maynard
Senior Buyer, Division of Central Purchasing
200 East Main Street
Lexington, KY 40507

RE: RFP # 47-2014
Town Branch Flood Plain Analysis

Dear Ms. Maynard

Vision Engineering and **URS Corporation** are pleased to present this proposal to provide Engineering Services for Town Branch Flood Plain Analysis. Our firms are currently working together providing flood mapping service throughout the Commonwealth. For this project Vision will serve as the prime consultant with URS assisting as a subconsultant. Vision Engineering is a local DBE firm located only in Lexington, Kentucky. Given our Team's past experience and expertise in the area of Flood Plain Analysis, we are unmatched in our ability to deliver this project for Lexington Fayette Urban County Government. We invite you to consider the following items in evaluating the advantage of selecting the Vision Team to serve LFUCG.

1. Since 2009, our team has completed over 80% of new FEMA flood study work in Kentucky, more than 4,000 linear miles of stream survey, analysis, and mapping. **Over 200 miles of these streams are located in Fayette County.** The Vision Team has completed more effective FEMA studies in Fayette County than any other engineering firm.
2. The recently adopted FEMA effective maps dated March 03, 2014 are the results of our Team's efforts in collaboration with LFUCG's staff, KDOW, and FEMA. Updating FEMA panels is a technically demanding and collaborative process. The recent process included collecting high resolution topographic mapping based on LIDAR, detail survey, engineering analysis, and mapping. More importantly, our team recognized the need and benefit of getting LFUCG's review of the products prior to officially going preliminary; this resulted in a very smooth adoption process.
3. Our Team understands the importance of Town Branch to downtown Lexington and any future development in that area. Our Team recently completed a LOMR study along Southland Drive where a previous engineering study overestimated the floodplain and floodway of Wolf Run. Due to the LOMR, a four story Hampton Inn is getting built at the corner of Southland Drive and Nicholasville Road with additional developments in the planning stages for that area. **Our technical competence accurately identified flood risk, helping to advance beneficial projects.**
4. Our Team is conducting a Physical Map Revision in Fayette County as part of the more recent FY2012 assignment from KDOW for West Hickman Creek. Selection of our Team would allow LFUCG to forgo the FEMA LOMR process. This represents monetary, human resource, and time savings for LFUCG.

Our clients are satisfied – we are an excellent Team to add to LFUCG's arsenal of consultants. You will be satisfied.

We appreciate this opportunity to submit our qualifications and are eager to be part of this project. If selected, this project will be our Team's priority and will receive our utmost attention and resources. We look forward to building a long term relationship with LFUCG. Please contact us if you have any questions.

Sincerely,
Vision Engineering

Jihad A. Hallany, P.E.
Principal



Table of Contents

| | |
|--|----|
| Project Approach | 1 |
| Firm Qualifications | 5 |
| Project Team | 7 |
| Client List..... | 14 |
| Related Projects Chart | 15 |
| Professional Services Pricing Sheet..... | 19 |
| Hourly Rate Schedule..... | 20 |



Project Approach

Background:

Historical data and observations indicate that the effective model may overestimate the 100 year base flood elevation for the stretch of Town Branch within the study area.

During the most recent FEMA map updates affecting Fayette County (FEMA FY2009 and FY2012) the Vision Engineering Team has completed over 200 miles of Hydrology & Hydraulics studies in the county as part of a contractor team supporting KDOW. Specifically, Vision Engineering has recently completed more H & H studies in Fayette County than any other engineering firm. As a result, we are able to provide the services needed to model streams competently, efficiently, and cost effectively.

Our capabilities and cost effectiveness are realized through our ongoing relationship with KDOW and our experience developing the latest flood risk maps for FEMA/KDOW during funding years 2009, 2010, 2011, and 2012 on into the present.

We have developed and applied computer programs and tools designed to accelerate data formatting and to achieve higher accuracy specifically suited to this type of study. Over the years we have also worked with KDOW and their contractors to develop KDOW's QA/QC process, so we are very familiar with and understand the steps required for model delivery and acceptance.

Overview:

It is widely accepted that climate change is expected to enhance the risk of extreme storm events (Milly et al., 2002). In addition, the frequency of flash floods and large-area floods in many regions is very likely to increase (Parry et al., 2007 and Alley et al., 2003) and here in Lexington we have recently experienced high intensity short duration storm events. These dangers are exacerbated by rapid urbanization occurring across the world (UN, 2010). In the United States, there was a 34% increase in the amount of land devoted to urban and built-up uses between 1982 and 1997 (USDA, 2001). Urbanization usually increases the size and frequency of floods (Parker, 2000; USGS

2003). These developments have placed a renewed emphasis on the evaluation of flood levels and damages, mainly for the purpose of disaster management and urban and regional planning (Milly et al., 2008). With increasing population growth and urban development, the likelihood of exposure to flood damage is rising. One of the most effective ways of assessing the flood risk to people and property is through the production of representative and accurate flood models, which show areas prone to flooding events of known return periods and occurrences.

Hydrological Engineering Center (HEC) tools will be used to accomplish the objective of this study. Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS) will be used to build the hydrological model while Hydrological Engineering Center-River Analysis System (HEC-RAS) will be used to build the hydraulic model. These tools are commonly used and have been employed for conducting various types of studies including building flood forecasting and flood inundation models (Knebl et al., 2005). If the **Vision Team** is selected, we will use these tools in conjunction with GIS expertise to delineate the floodplain and floodway boundaries for extreme storm events.

Study Area:

The beginning of the study area is at the outlet of the stormwater drain system west of Jefferson Street (KY 1928). Town Branch runs northwest parallel to Manchester Avenue and Old Frankfort Pike (KY 1681) for approximately 11,100 linear feet to the culvert at New Circle Road (KY 4). The study area will extend an additional 1,500 linear feet downstream of New Circle Road for a total of 12,600 linear feet of detail study. The drainage area of Town Branch at New Circle Road is approximately 7.5 square miles; at the CSX railroad the drainage area is approximately 2.5 square miles.

Within the study area, Town Branch crosses twelve bridges and culverts; two of the crossings along Manchester Road are significantly skewed, where the ineffective flow areas are substantial.

Land use in the subcatchment area near the CSX track is highly urbanized with a high percentage of impervious area and minimum detention. As Town



Town Branch downstream of Rupp Arena



Dead storage within the structure along Manchester Rd., the location of the log indication the depth of water during a storm event. Structure crosses Town Branch with high skew angle.



Same structure as above during a storm event on Tuesday September 2, 2014.





Town Branch at Cox Drive



Proposed location of the stream gage and telemetry. Existing VEGA gage along Jimmie Drive. Photo taken during storm event on September 2, 2014.

Branch flows away from Lexington’s urban core, the level of urbanization decreases.

Within the study area, there is a flow meter located along Jimmie Drive. This flow meter is intended to measure base flow up to 100 Mgal/day or 155 cfs. In addition, USGS rain gage 380249084295001 located at the LFUCG Building on East Main Street will be used.

Downstream of the study area is USGS stream gage 03289200 at Yarnallton Road at Yarnallton, KY. The gage has a drainage area of 30.0 square miles and a consecutive peak flow record since 1998.

Field Survey:

First, previous studies and available resources will be reviewed as outlined in the RFP on pages 34 and 35. Before conducting field surveys our Team will mail the Storm Drainage & Flooding Questionnaire form along with a letter, via certified mail, notifying the applicable property owner that our survey crews will be on-site conducting field work at specific times. Notification to property owners will be provided at least one week prior to conducting the field investigation.

Vision’s Team has completed over 800 miles of detail survey as per FEMA appendix M requirement including over 200 miles in Fayette County. For the field investigation of Town Branch a field visit to the stream will be conducted and cross sections will be surveyed at no more than 400 feet apart at locations such as riffle sections, wherever the stream cross section geometry changes significantly, or when the floodplain roughness changes significantly.

At each structure location, five cross sections will be surveyed:

- one cross section on each side at toe of the embankment of the structure
- one section located sufficiently downstream where the flow will have fully expanded
- one cross section sufficiently upstream where the flow is not impacted by the structure before the flow contracts
- the fifth section to be located along the roadway or raised curb.

Five pictures will be taken for each cross section:

- one picture looking downstream
- one looking upstream
- one across the section
- one picture for the left bank
- one for the right bank

One sketch for each structure and cross section will be developed, showing the opening, dimensions of the structure, height, pier, and the wing walls.

The skew angle of each structure (relative to the flow direction of Town Branch) will be measured and the effective flow area will be determined from field investigation to accurately estimate the active opening of each structure.

Our site visit revealed that at least two structures along Manchester Street cross Town Branch with a high skew angle causing deposition of sediment and debris within one of the culvert barrels. Two other structures have significant bends at Cox Street and Manchester Street.

Stream Gage Monitoring:

Model calibration and validation is an essential step in the development of a representative hydrological and hydraulic model. Model calibration involves adjusting parameter values so that the simulated results match the observed stream flow as closely as possible for the hydrologic model and the water surface elevation to match the measured stage for the hydraulic model.

As mentioned earlier, the only gage that is available within the study area is the VEGA base flow gage located at Jimmie Drive. However, this gage is not suitable for the purposes of calibrating a hydraulic model.

We recommend upgrading that gage and installing a SonTek IQ Plus Series or SonTek SL 1500 with real time data telemetry, both of these options are extensively used by USGS for stream gauging applications when they have complex flow conditions such as backwater sites in which a pressure sensor will not be suitable to accurately measure flow.



Town Branch through rail yard

“URS Corporation was able to achieve the better defined and actually true Flood map where several attempts of other good engineers in the area were unable to achieve. They worked in a timely manner and were very courteous.”

Mayor Jenny Sewell, City of Dawson Springs

The primary difference between the IQ and SL is the IQ is a “bottom mounted” system while the SL mounts to the side of the channel/stream. Both will measure velocity and water level changes and calculate flow in real time. This will only require mounting the system and then inputting the channel geometry. Neither the IQ nor the SL require calibration or service; they can be used for long term continuous monitoring. Another difference between the two flow meters is that the SonTek IQ plus is limited to 16 feet of flow depth, whereas the SonTek SL 1500 can measure velocity up to 33 feet of flow depth.

A Storm Data logger system can be used for a complete stream gauging site and includes options for real time data telemetry using either satellite or cellular data communications. The Storm data logger connects to all hydrological instrumentation and will allow access to data from anywhere in the world by using the Storm Central data to web service. A real time telemetry package will include the Storm Data logger mounted inside a fiberglass enclosure, a battery, a solar regulator, a solar panel, antennas, cables, wiring, etc.

LFUCG-owned properties on both sides of Jimmie Drive can be easily accessed for maintenance and, with all the infrastructure and utilities available on-site, a stream gage station at this location would be ideal, and would help to serve the wastewater treatment plant near Town Branch.

We also recommend installing a pressure transducer sensor (model H-3123) which can measure the water pressure (depth of flow) and then calculate the water flow from a rating curve we would develop using a cross section at the culvert upstream of New Circle Road (KY-4).

The stream flow meter telemetry station and pressure transducer sensor will be installed by the manufacturer, YSI, Inc. The Vision Team will monitor and collect sufficient flow data to ensure the proper calibration of both the hydrological and hydraulic models. This phase of the project will take several months or more and will be dependent on capturing extreme storm events.

The new gaging system will not have enough of a monitoring period to run a statistical analysis since a minimum of 10 years is recommended in Bulletin 17B. However, we might be able to correlate the

new stream gage at Jimmie Drive with the USGS 03289200 stream gage located downstream of the study area at Yarnallton Road. Using data collected at the new gage we will be able to correlate the peak flows and time to the peaks between gages.

Analysis Overview:

Two models will be generated, a hydrologic model using HEC-HMS and a hydraulic model using HEC-RAS. Using the newly installed stream gage along with the existing USGS stream gage and the NCFS Weather station data, the models will be calibrated and validated for different storm events.

Hydrological Model

There are multiple ways of creating a watershed stream network and specifying its properties in HEC-HMS. HMS models require three main input process parameters. Among them is the precipitation-loss method for overland flow, which accounts for the infiltration losses. For this study, the SCS curve number method will be used. Composite curve numbers will be computed from an overlay of the hydrologic soil group and the associated land use category.

After the precipitation losses are accounted for, a transform method must be specified for transforming overland flow into surface runoff. Different methods are available for the transform method in HMS including SCS, Clark or Snyder unit hydrograph. The SCS unit hydrograph method will be selected. This requires only one parameter as it assumes the shape of the unit hydrograph. In the SCS method, 37.5% of the runoff volume occurs before the peak flow, and the lag time can be estimated by taking 60% of the time of concentration. The lag time is the length of time between the centroid of the rainfall excess and the peak flow of the resulting hydrograph (HEC, 2010).

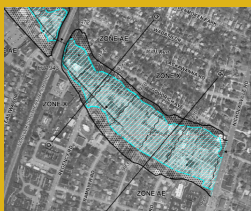
Once excess precipitation has been transformed into overland runoff and routed to the outlet of the sub-watershed, it enters the stream at that point and is added to the stream flow routed from the upstream sub basin. There are several methods available in HMS for stream flow routing including Kinematic Wave, Lag, Modified Puls, Muskingum, Muskingum-Cunge, and Straddle



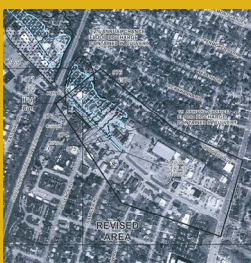
Curvature within the culvert at Cox Street, approximately 600 LF downstream of Begin of Study area.

**Southland Drive:
Wolf Run
Tributary of Town
Branch**

**LOMR completed by
Vision in 2013**



Before LOMR



After LOMR

Stager. The Muskingum-Cunge method will be used for this process.

The Muskingum-Cunge method has different parameters such as Manning’s n, a simplified eight point cross section of the floodplain, and the number of sub-reaches which need to be specified. The eight point cross section represents the surveyed cross section of the stream, while the Manning’s n of the channel, left, and right overbank will be estimated based on field investigation.

HEC-HMS Calibration Approach:

Model optimization involves adjusting parameter values so that the simulated results match the observed stream flow as closely as possible. HMS has an optimization feature which can be used to calibrate the model. To use this feature, a Discharge Gage containing actual flow values is created within the Time Series Data Manager. The simulated flow can be compared against the Discharge Gage values and the optimization function will automatically calibrate various parameters to match the observed values. The parameters that can be calibrated include loss functions like initial abstraction and curve cumbers, transform functions like SCS lag, and routing functions like the Muskingum-Cunge routing parameters. Otherwise calibration can also be done by changing parameters manually and comparing simulated results with field observations. Calibration of the hydrologic model will rely on multiple peak flow events that will be selected from the newly installed stream gage and pressure transducer.

USGS gage 03289200 has 16 years of record, which is a statistically useful sampling period to determine flood recurrence intervals. A flood frequency analysis based on the Bulletin 17B methodology will be used to estimate the peak flow for extreme storm events. Correlation analysis will be conducted between the newly installed gage and USGS gage 03289200 based on future storm events. The gage correlation function will be used to compare the peak flow of the USGS 03289200 to HEC-HMS model.

Based on a preliminary frequency analysis for the USGS gage 03289200, the peak flow for the 100-year flood event is 8,007 cfs (for a watershed of

30.0 square mile), whereas the effective FIS published peak flow at New Circle Road is 6,500cfs (watershed of 7.5 square miles) and at CSX railroad it is 4,900 cfs (watershed of 2.5 square miles). These values indicate potentially high flow estimates upstream of USGS gage 03289200.

Hydraulic Model:

For this study we will integrate field survey data and LIDAR data into the hydraulic model. The **Vision Team** has developed programs to integrate the field survey and LIDAR data in a format compatible to HEC-RAS. To create the geometric data file for HEC-RAS, a digital terrain model of Town Branch, the LIDAR that Vision’s Team acquired for Fayette County in FY2009 will be used. Town Branch’s hydraulic geometry will be represented by a sequence of cross sections no greater than 400 feet apart along the stream. Each cross section will be assigned a Manning’s n value for the left bank, channel, and right bank. Manning’s n values will be assigned for the left and right bank and wherever major changes in land use/land cover occur.

HEC-RAS Calibration Approach:

The goal of this project is to delineate the floodplain and floodway with certainty and accuracy. Simulations of historic events will be performed to calibrate modeling parameters such as Manning’s n, ineffective areas, and bridge/culvert modeling coefficients. Hydraulic models can be sensitive to starting conditions so relying on stream gage instrumentation will be crucial for capturing accurate boundary conditions. Once the calibration process is complete, the model can be used for floodplain and floodway delineations.

FEMA Map Update Process

The final step of the project will be to submit the revised mapping results to LFUCG. Upon LFUCG’s approval the results will be advanced to the FEMA map update process, typically a LOMR application. However, selection of our team offers an alternative path for incorporation of the anticipated reduction in floodplain extents. This advantage is addressed in our Firm Qualifications on the following page.



One strategic advantage of selecting the Vision Team rests in our ability to incorporate Town Branch updates in our existing KDOW/FEMA mapping efforts.

In other words, we can forego the LOMR application process and include the study in the current Physical Map Revision effort.



Firm Qualifications

Introduction and Advantage. Vision Engineering offers LFUCG a team that is unmatched in technical expertise, local knowledge, and our integral role in current FEMA mapping in Fayette County and throughout Kentucky. The Vision Team consists of Vision Engineering located on Tates Creek Road, and URS serving as a subconsultant. The team and staff selected for the Town Branch Flood Plain Analysis are the same professionals serving the Kentucky Division of Water's Statewide FEMA Risk MAP program delivering 80 percent of the flood plain analysis work performed in Kentucky since 2009. Fayette County represented a substantial portion of the FEMA FY2009 assignment; as a result the Vision Team completed more than 200 linear miles of floodplain mapping and associated survey, hydrology and hydraulics in Fayette County. We are also currently conducting a Physical Map Revision in Fayette County as part of the more recent FY2012 assignment. Selection of our team would allow LFUCG to forego the FEMA LOMR process. We would accomplish this by modifying the existing FEMA project schedule to align with LFUCG's schedule for Town Branch. This represents monetary, human resource and time savings for LFUCG.

Vision Engineering, LLC is a DBE firm located in Lexington, Kentucky. Vision Engineering was founded in 2003 as a specialized firm in environmental and water resources engineering. Vision's mission is to provide clients with unsurpassed engineering services by:

- Producing innovative and quality work
- Completing projects on time and within budget
- Maintaining effective communication between the design team, client and finance agencies
- Achieving minimum profit objectives assuring technological advancement, continuity and overall growth of the company.

URS Corporation is a fully integrated engineering, construction, and technical services organization with the capabilities to support every stage of the project life cycle. We offer program management; planning, design and engineering; systems engineering and technical assistance; construction and construction management; operations and maintenance; management and operations; information technology; and decommissioning and closure services. Through our network of offices in nearly 50 countries, we provide services to a broad range of clients, including U.S. federal government agencies, national governments of other countries, state and local government agencies in the United States and internationally, and private sector clients worldwide.

URS is a national FEMA contractor and has been for decades. In that capacity, URS has created numerous tools, training materials and resources for FEMA, states and local agencies. URS reviews all LOMRs and CLOMRs submitted in FEMA Regions II, III and VI representing Texas, Arkansas, Louisiana, New Mexico, Oklahoma, Washington DC, Delaware, Maryland, Pennsylvania, Virginia, West Virginia, New Jersey, New York, Puerto Rico, and the U.S. Virgin Islands.

The URS Kentucky office has seen steady growth over the past 9 years by focusing on customer service, quality work and leveraging our national expertise with local management. We have assembled a strong and diverse team of **local engineers and GIS professionals that have a proven record for delivering on complex water resources projects**. We encourage you to closely review our resumes to better understand the full depth of hydrologic and hydraulic (H&H) experience we offer.

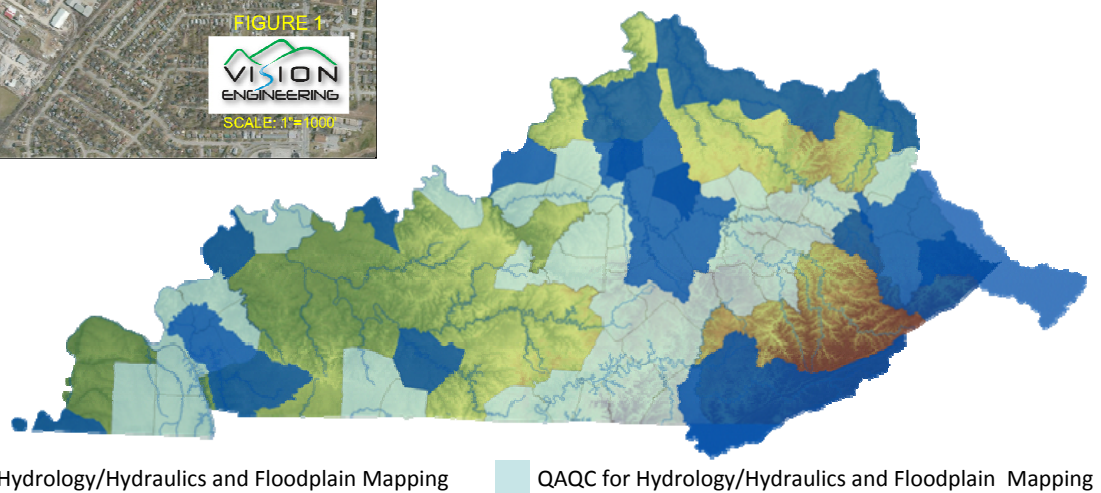
We are the largest provider of FEMA hydrology and hydraulics (H&H) and flood mapping services in Kentucky; URS in conjunction with Vision Engineering has delivered 80 percent of KDOW FEMA flood





study work since our first map production award in 2009. As a testament to FEMA and KDOW satisfaction, our original contract has been increased 6 times to cover new funding year awards and special assignments in **FEMA hydrology, hydraulic (H&H) and flood mapping services**. We are on schedule and our client is satisfied. In fact, due to the trust we've earned, URS is the only KDOW consultant selected to provide H&H study work in the most recent fiscal year assignments.

While FEMA identified Town Branch as a study in need of replacement, sufficient funding was unavailable to perform a restudy. The Vision team reviewed the project area and it is apparent that the existing floodplain is over predicted, necessitating the need for this 2 mile floodplain analysis and associated panel updates. Working together over the past 5 years the staff offered to LFUCG for this important effort have performed more than 4,000 linear miles of floodplain analysis which included 12,000 square miles of terrain processing, 13,000 square miles of hydrologic analysis, approximately 1,000 miles of stream survey and the creation of approximately 1,100 Federal Insurance Rate Map panels, represented in the graphic below.



Town Branch near New Circle Road (KY 4)

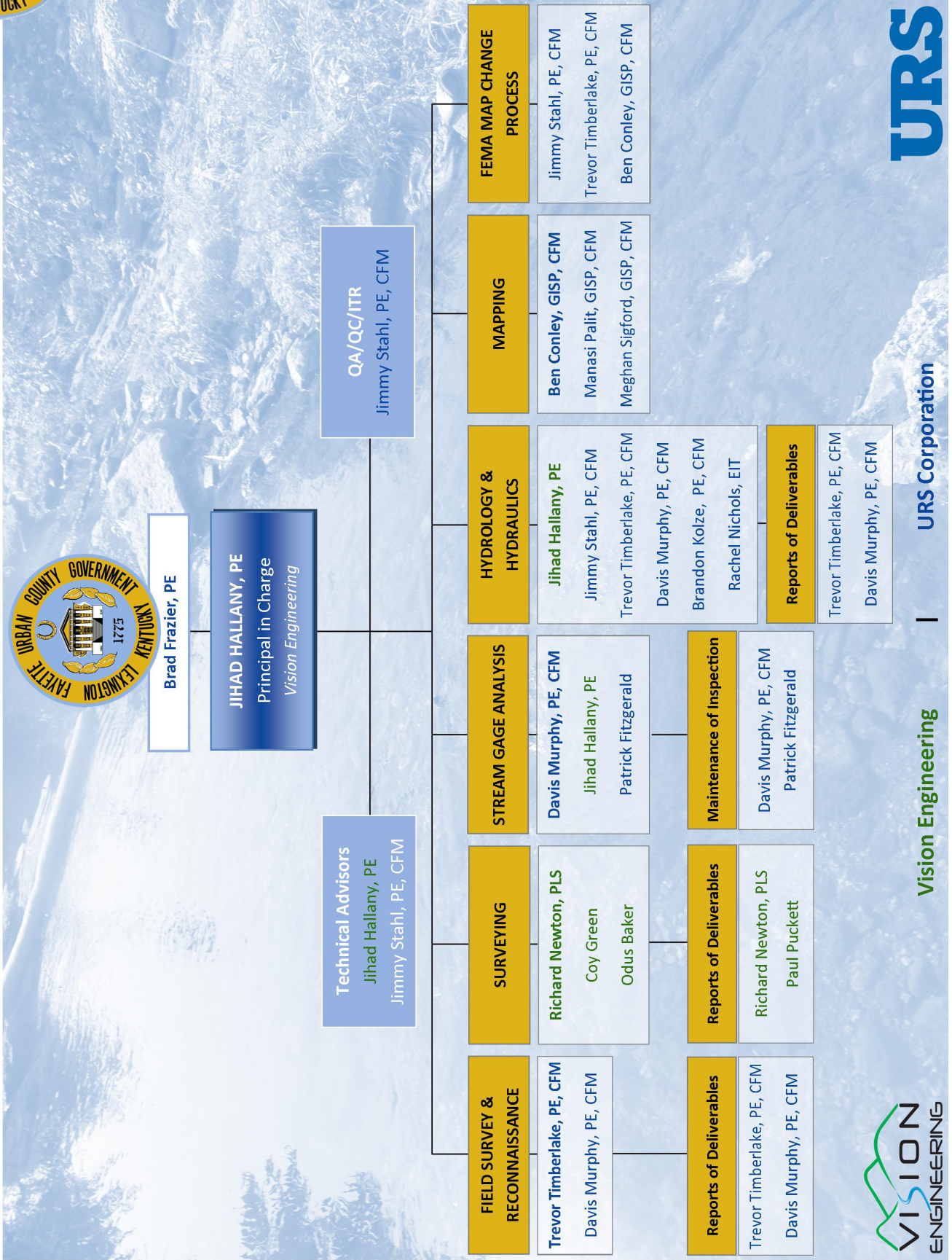
Additionally, we **successfully delivered more than 200 linear miles of analysis in Fayette County**.

The **Vision Team** offers a team of competent professionals that are ready, proven, and unmatched in our ability to deliver this project.

In addition to the vast amount of work we do for the state, the VISION TEAM has performed numerous flood plain analysis projects and FEMA Letters of Map Change for local communities throughout Kentucky. A sampling of our projects is provided in the Related Projects section.



Project Team



VISION ENGINEERING

VISION ENGINEERING

VISION ENGINEERING





JIHAD A. HALLANY, PE | Principal in Charge



YEARS OF EXPERIENCE: 14 years | **EDUCATION:** MS, Biosystems & Agriculture, University of Kentucky • BS, Civil Engineering, Water Resources & Structural, University of Kentucky | **PROFESSIONAL QUALIFICATIONS:** Professional Engineer: Kentucky #22838 • Indiana #10403666 • Ohio #69566

PROFESSIONAL SUMMARY

Mr. Hallany serves as the Principal in Charge since founding the firm in 2003, responsible for the operation of a 10+ person office that includes several engineering, environmental, construction service, inspection, and surveying disciplines serving both public and private clients. Mr. Hallany specializes in water resources, environmental design, and civil/site development.

PROJECT SPECIFIC EXPERIENCE

Kentucky Division of Water Statewide FEMA Map Risk Update, Fayette County, FEMA/ KDOW FY2009 (2011): Scope of services included hydrological and hydraulic analysis for portion of **North Elkhorn, I-75 Tributary, East I-75 Tributary, portion of Cane Run Tributary, Pleasant Ridge Tributary, Two Ponds Tributary, Brighton Tributary, Iron Works Tributary, Pipeline Tributary, Quarry Tributary, Radio tower Tributary, portion South Elkhorn Tributary, Stonewall Tributary, Avon, David Fork, Johnson Road Tributary, Shannon Run Tributary, Walnut Hill Church Tributary, Boone Creek Tributary, Jones Creek Tributary, Manchester Branch Tributary, Shelby Branch Tributary, Mary Reynolds Creek, I-64 Tributary, Dixie Tributary, Bryant Road Tributary, Waveland Museum Tributary, Baughman Fork Tributary, and Todd's Road Tributary approximately 200 miles of limited and detail studies.** The hydrological/hydraulic study was conducted per FEMA Guidelines and Specifications for Flood Hazard Mapping Partners Appendix C: Guidelines for Reverie Flooding Analysis and Mapping, November 2009. The outcome is used to establish base flood elevation and delineate the floodplain and floodway for multiple storm events, including 10, 25, 100, and 500 year. USGS stream gages within the study area used to calibrate hydrological/ hydraulic model. Frequency analysis using the log-Pearson Type III was developed to compare the peak flow for the 100 year, 24 hour storm event.

Southland Drive, Wolf Run LOMR (2012): Scope of services consisted of evaluating Wolf Run Creek effective XP-SWMM (H/H Model) along Southland Drive between Nicholasville Road (US-27) and the railroad track approximately 2,200 lf. Services also included the revision of the effective floodplain and floodway through LOMR process and update of Panel #210067119E.

Kentucky Division of Water Statewide FEMA Map Risk Update, Union County, FEMA/KDOW FY2010 (2012): Scope of services included hydrological and hydraulic analysis for detail study of Tradewater River, Cypress and Dyson Creek, approximately 30 miles of details studies. The hydrological/hydraulic study was conducted per FEMA Guidelines and Specifications for Flood Hazard Mapping Partners Appendix C: Guidelines for Reverie Flooding Analysis and Mapping, November 2009. The outcome is used to establish base flood elevation and delineate the floodplain and floodway for multiple storm events, including 10, 25, 100, and 500 year. USGS Stream gage along Tradewater River used to calibrate the hydrological model and estimate the groundwater parameter of the HEC-HMS model.

Kentucky Division of Water Statewide FEMA Map Risk Update, Fayette and Jessamine County, FEMA/KDOW FY2012 (2014): Scope of services included hydrological and hydraulic analysis for detail study of East and West Hickman (Fayette County) and Town Fork Tributary (City of Nicholasville), approximately 15 miles of details studies. The hydrological study was conducted per FEMA Guidelines and Specifications for Flood Hazard Mapping Partners Appendix C: Guidelines for Reverie Flooding Analysis and Mapping, November 2009. The outcome is used to calculate the peak flow for multiple storm events, including 10, 25, 100, and 500 year. USGS Stream gage along East and West Hickman used to validate the HEC-HMS model.

Freeman and Valley Creek, Elizabethtown (2010): City of Elizabethtown Stormwater Master Plan recommended constructing relieve channel between Freeman and Valley Creek when Freeman Creek at US-31 reaches certain to relieve flooding in Freeman Creek Watershed. Vision Engineering scope of services consists of evaluating exiting hydrological and hydraulic model, design channel, and obtain necessary permits. Unsteady state analysis of the Freeman and Valley Creek H/H model showed that the relieve channel will create flooding in the Valley Creek Watershed, an alternative solution replacing College Street Culvert by 80 feet span bridge and raising the vertical alignment of College Street.



JAMES R. STAHL, PE, CFM | Project Lead for URS



YEARS OF EXPERIENCE: 21 years | **EDUCATION:** ME, Specialty in Water Resources, University of Louisville • BS, Civil Engineering, University of Louisville | **PROFESSIONAL QUALIFICATIONS:** Professional Engineer: Kentucky #19867 • Certified Floodplain Manager • Certified URS Project Manager

PROFESSIONAL SUMMARY

Jimmy Stahl has over 20 years of experience in Water Resources. He is supported by a 25 person group in Louisville with access to technical resources throughout URS. Jimmy's primary focus is delivery of projects that involve hydrologic & hydraulic modeling, floodplain mapping, storm water management, and policy development. Primary clients include KYTC, FEMA, KDOW, USACE and KY municipalities. Projects performed and led range in size from \$1,000 to \$15,800,000. Project experience includes planning & design, storm water program development, watershed master planning, bridge/culvert scour analysis and structural assessment, urban & rural watershed analysis, karst systems, detention basin analysis, floodplain and drainage policies, training, outreach and public meetings. Jimmy has practical experience and training in these applications: HEC-RAS, HEC-HMS, HEC-1, HEC-2, WSPRO, FESWMS-2DH, HY-8, XP-SWMM, Pond Pack, Culvert Master, PEAK-FQ, InfoWorks, ArcView, ArcGIS, and other relevant software.

PROJECT SPECIFIC EXPERIENCE

Principal in Charge, Kentucky Division of Water FEMA CTP Program – Statewide Map Modernization and Risk MAP (2007 to Present): Jimmy serves as the PIC for this multi-year effort. Jimmy has served this client since winning the FEMA FY06 Kentucky Map Change, QA/QC project. He oversaw the development of Kentucky's QA/QC manual for checking FEMA map products, working hand in hand with KDOW. He is now the PIC for URS' FEMA map production services in KY, including oversight responsibility for approximately 8,800 square miles of hydrology, hydraulics for more than 5,000 stream miles, numerous public meetings, and GIS and engineering deliverables. Jimmy is proud of the team assembled to deliver these services to a satisfied client for 7 years running. This role requires a firm understanding and skill set in delivering H&H, GIS, schedule/cost management, client service, personnel management, leadership, public outreach, and guidance & training material development.

Principal in Charge, FEMA Letters of Map Change in KY: Jimmy served as PIC for projects that successfully obtained FEMA map corrections for the Tradewater River in Dawson Springs, KY for Mayor Jenny Sewell and in Madisonville, KY at Lake PeeWee.

Kentucky Transportation Cabinet, Bridge Scour Program Implementation, Kentucky, 1996-2000: Project manager for field assessment of 8,713 bridges in KY for susceptibility to scour. Assessment involved collecting data, face cross-sections, and digital pictures at each site, storing data, assessing scour susceptibility, and providing digital submittal. Included HEC-18 based procedure development, software development, use of GIS, and extensive data management.

Principal in Charge, Daviess County Storm Water Master Plan: Jimmy served as PIC on this project assisting in the development of the approach to modeling multiple watersheds and streams for identifying flood mitigation alternatives. Alternatives include roadway raising, bridge opening modifications, large and small detention basins, and other major structural improvements.

Warren County and Jefferson County, KY FEMA Map Modernization Projects: Project manager for Warren County, new approximate, limited detail studies, and detailed studies at sinkhole areas. Assisted the community in becoming a Cooperating Technical Partner, empowering them to obtain authority over project funding and direction. For Jefferson County, led engineering effort which involved new detailed hydrologic & hydraulic studies for approximately 90 stream miles and managed the creation of an unsteady model for Pond Creek - a very intense and unique effort.

Pear Orchard & Hawkins Watershed Master Plans, City of Elizabethtown, Project Manager: Project manager for development of watersheds master plans. Hawkins Watershed is unique in that it discharges into a cave. Unsteady state model developed to simulate complex existing conditions and multiple alternative solutions. Policy was established to manage future development. Heavy interaction with Mayor, City Manager, City Engineer and City Council.



RICHARD NEWTON, PLS | Survey Manager



YEARS OF EXPERIENCE: 35 years | **EDUCATION:** BA, Psychology, Wesleyan College | **PROFESSIONAL QUALIFICATIONS:** Professional Land Surveyor: Kentucky L.S. 2586

PROFESSIONAL SUMMARY

Mr. Newton has more than 35 years of experience in engineering/surveying projects. He is responsible for overseeing Vision Engineering’s survey department and correlating with the design team. Typical projects Mr. Newton completed include ALTA, boundary, legal description, final record plats, and easement acquisition. Mr. Newton utilizes conventional systems as well as global positioning system (GPS) technology.

PROJECT SPECIFIC EXPERIENCE

Kentucky Division of Water (KDOW) Statewide FEMA Risk Map Update, global positioning system (GPS) field collected data for detail and limited detail per FEMA Schedule M for culverts, bridges, dams, reservoirs, and Levees approximately 150 miles of detail and limited detail. The following are some of these streams:

- > Jessamine County: East Hickman, West Hickman, and Town Fork approximately 15 miles of detail survey
- > Scott County: North Elkhorn, approximately 18 miles of detail survey
- > Union County: Tradewater River, Dyson, and Cypress Creek approximately 20 miles of detail survey
- > Union County: Levee survey, approximately 6 miles of detail survey
- > Greenup County: Pond Run Tributary, approximately 16 miles of limited detail survey
- > Pike, Floyd, and Johnson Counties: Levisa Fork, 30 miles of detail survey
- > Pike County: Johns Creek, approximately 8 miles of detail survey

COY H. GREEN | Field Chief



YEARS OF EXPERIENCE: 12 years

PROFESSIONAL SUMMARY

Mr. Green is responsible for running one of Vision Engineering's survey crews. He has 12 years of experience operating surveying equipment (Robotic Total Station and GPS Hiper Lite+) and 4 years of experience running survey crews. Typical projects Mr. Green completes include topographic, utilities survey, construction staking, as-built drawings, and Federal Emergency Management Agency (FEMA) surveys per Schedule M Specifications.

PROJECT SPECIFIC EXPERIENCE

Kentucky Division of Water (KDOW) Statewide FEMA Risk Map Update, global positioning system (GPS) field collected data for detail and limited detail per FEMA Schedule M for culverts, bridges, dams, reservoirs, and Levees for approximately 400 miles of detail and limited detail. The following are some of these streams:

- > Fayette County: East Hickman, West Hickman, North Elkhorn, portion of North Elkhorn, I-75 Tributary, East I-75 Tributary, portion of Cane Run Tributary, Pleasant Ridge Tributary, Two Ponds Tributary, Brighton Tributary, Iron Works Tributary, Pipeline Tributary, Quarry Tributary, Radio tower Tributary, portion South Elkhorn Tributary, Stonewall Tributary, Avon, David Fork, Johnson Road Tributary, Shannon Run Tributary, Walnut Hill Church Tributary, Boone Creek Tributary, Jones Creek Tributary, Manchester Branch Tributary, Shelby Branch Tributary, Mary Reynolds Creek, I-64 Tributary, Dixie Tributary, Bryant Road Tributary, Waveland Museum Tributary, Baughman Fork Tributary, and Todd’s Road Tributary approximately 130 miles of limited and detail surveys
- > Pike and Floyd County: Tug Fork, approximately 103 miles of detail survey
- > Scott County: North Elkhorn, approximately 18 miles of detail survey



BENJAMIN T. CONLEY, GISP, CFM | GIS Mapping Team



YEARS OF EXPERIENCE: 13 years | **EDUCATION:** BA, Bellarmine University • GIS Certification, Denver University | **PROFESSIONAL QUALIFICATIONS:** Geographic Information Systems Professional Certification • Certified Floodplain Manager

Mr. Conley has over 13 years of experience using Geographic Information Systems (GIS) for geospatial data analysis, modeling and system design. Ben’s expertise is in FEMA policy, FEMA floodplain mapping, FEMA Guidelines and Specifications and FEMA’s Letter of Map Change process. Ben has proficiency in database development, data creation and collection, spatial analysis, and spatial information product development.

PROJECT SPECIFIC EXPERIENCE

Project Manager/GIS Lead, FEMA RISKMAP FY09-13, Kentucky Division of Water: As Project Manager on the KDOW/FEMA RiskMAP projects, Ben is responsible for management of day to day operations, project staff, deliverables, deadlines and meetings. Through public meetings and coordination with Local, State, and Federal officials, Mr. Conley has developed relationships across the state that can help facilitate the progress and smooth operation of potential KYTC assignments. Additionally, as GIS technical lead, Ben oversees LiDAR processing, floodplain delineation, Digital Flood Insurance Rate Map (DFIRM) production and development of automated GIS-based data processing routines for increased efficiency.

GIS Lead, Daviess County Storm Water Master Plan, Daviess County, KY: Goals for the project include improved access to public crossings and reduction of flooded areas. Efforts include support of hydrologic and hydraulic analysis, floodplain mapping, collection of historic flooding information, and documentation. The project will culminate in an alternatives analysis, preliminary cost estimate, and recommendations for moving forward. Ben is in charge of GIS deliverables and has developed floodplain delineation routines and processes for alternative comparisons.

GIS Lead, Dawson Springs, KY Letter of Map Revision (LOMR): Involves the development of a Letter of Map Revision in support of modifications to the existing FEMA Digital Flood Insurance Rate Map floodplain boundary of the Tradewater River. Ben oversaw terrain collection, processing, floodplain delineation, map creation, GIS deliverables, and coordinated the submittal to FEMA.

PATRICK B. FITZGERALD | Stream Gage Instrumentation Technical Lead



YEARS OF EXPERIENCE: 24 years | **EDUCATION:** BS, Chemical Engineering, University of Louisville Speed Scientific School

PROFESSIONAL SUMMARY

Patrick brings 24 years of experience in water resource management focusing on industrial pretreatment, stormwater, and wastewater. He has implemented and managed regulatory programs at the Louisville and Jefferson County Metropolitan Sewer District. Mr. Fitzgerald performed every role in the Industrial Waste Department in a 23 year career including Industrial Permitting, Sampling and Inspection, Hazardous Materials Ordinance Implementation, Database Management, Asset Management in GIS, Record Keeping, State Performance Audits, Significant Non-Compliance Calculations, Categorical Industry Determination, Consent Decree Compliance, and CSO Regulations for the Pretreatment Program.

PROJECT SPECIFIC EXPERIENCE

Patrick oversaw the implementation of a monitoring network of over 100 flow meters connected and monitored using a telemetry system. The network used mainly Telog RU-33 communications devices connected to water level sensors, rain gauges, sondes, and sewer flow meters. Each device was set up to communicate back to the Telog Enterprise System at designated frequencies. Users interacted with the data via a network-installed analysis tool or via a web portal. Each device was also set up with its own set of alarms and alerts and programmed to communicate to various users of the system information about the power levels, quantity, or quality of data. Parameters were set up for each data series to determine acceptable ranges, data check frequencies, and maintenance schedules.





TREVOR TIMBERLAKE, PE, CFM | Reconnaissance Lead/H&H Team



YEARS OF EXPERIENCE: 8 years | **EDUCATION:** ME, Civil Engineering, University of Louisville • BS, Civil Engineering, University of Louisville • Certification in Environmental Engineering, University of Louisville | **PROFESSIONAL QUALIFICATIONS:** Professional Engineer: Kentucky #27378 • ASFPM Certified Floodplain Manager

PROFESSIONAL SUMMARY

Mr. Timberlake is a water resources engineer and project manager responsible for implementation and technical review of hydrologic and hydraulic modeling & analyses in support of projects that include floodplain mapping, floodplain permits, proposed bridges, dams, and stormwater drainage.

PROJECT SPECIFIC EXPERIENCE

H&H Engineering Lead, KDOW FEMA Map Modernization/RiskMAP: Technical lead for hydrologic and hydraulic analyses for a KY Division of Water contract involving the production of Flood Insurance Studies (FISs) and Digital Flood Insurance Rate Maps (DFIRMs). To date, he has led the H&H team in the study of over 2,000 stream miles, including multiple counties and watersheds.

Project Manager, Dawson Springs, KY Letter of Map Revision (LOMR): Project involving the development of a Letter of Map Revision (LOMR) for modifications to the existing FEMA DFIRM floodplain boundary of the Tradewater River. Hydrologic/hydraulic analysis of the river involved statistical gage analysis, review of land cover, and modification to stream roughness parameters.

Project Manager, Daviess County Stormwater Master Plan: Project involving the development of a Stormwater Master Plan for multiple flooding sources in Daviess County Included HEC-HMS hydrologic, HEC-RAS hydraulic analysis (steady and unsteady-state) and cost estimation for multiple flood control alternatives and multiple design events. Culminated in document providing results and recommendations for moving forward.

MANASI PALIT, GISP, CFM | GIS Specialist/Data Management and Mapping



YEARS OF EXPERIENCE: 9 years | **EDUCATION:** Master of Urban Planning (conc. GIS and Spatial Analysis), University of Louisville • BEng, Computer Science, Pune University | **PROFESSIONAL QUALIFICATIONS:** Geographic Information Systems Professional Certification (GISP) • ASFPM Certified Floodplain Manager (CFM)

PROFESSIONAL SUMMARY

Manasi has over nine years of experience using GIS for data analysis and system design. During this time she has used GIS in the fields of Ocean Science, Emergency Management, Environmental Studies and Water Resources. Her interest has been to capture, implement, and integrate geographic data for spatial-and map-based queries and analysis. She has experience in designing, implementing and maintaining GIS solutions for different project areas.

PROJECT SPECIFIC EXPERIENCE

Kentucky Division of Water, Statewide Map Mod and Risk Map updates FY09, FY10, FY11, FY12, FY13: Working on creating updated products for MapMod and RiskMap for counties and watersheds across the state of Kentucky. Responsibilities include production and QA/QC of final products for Basemap, Topographic, Floodplain Mapping, DFIRM Database, Flood Risk Database and assisting with DFIRM Panels production, Flood Risk Maps and Flood Risk Reports.

Kentucky Division of Water, North Elkhorn Early Demonstration Project: Created new Flood Risk Datasets and Flood Risk Products for the North Elkhorn Watershed HUC 12 in Fayette County, KY. The Flood Risk Dataset will provide supplemental data to the DFIRM database. As part of this project, Multi Frequency Flood Depth grids were generated and loss estimation scenarios were run for all streams in the project area at a 100-year recurrence interval using HAZUS - FEMA’s risk assessment tool. These were presented using an updated database structure for RISKMAP.





C. DAVIS MURPHY, PE, CFM | Stream Gage Analysis Lead/H&H Team



YEARS OF EXPERIENCE: 6 years | **EDUCATION:** ME, Civil Engineering, University of Louisville • BS, Civil Engineering, University of Louisville | **PROFESSIONAL QUALIFICATIONS:** Professional Engineer: Indiana #11300601 • Certified Floodplain Manager

PROFESSIONAL SUMMARY

Mr. Murphy is a water resources engineer responsible for hydrologic and hydraulic modeling and technical review supporting projects in floodplain mapping and proposed bridges, with experience in stream restoration and morphologic data collection and analysis.

PROJECT SPECIFIC EXPERIENCE

FEMA/KY Division of Water - Kentucky Map Modernization/Risk MAP (FY2009-2013) - H&H Engineer: Mr. Murphy serves as an H&H engineer supporting FEMA/KDOW flood insurance studies of watersheds in Kentucky. Hydrology work includes a combination of HEC-HMS modeling, programmatic GIS analysis, and statistical gage analysis. Mr. Murphy has performed hundreds of stream miles of advanced statistical gage analysis supporting detailed H&H modeling and calibration. In addition, Mr. Murphy has produced HEC-RAS models of hundreds of miles of Zone AE studies and thousands of miles Zone A studies.

University of Louisville Stream Institute—Wilson Creek, Dix River, South Fork Curry’s Fork, and Benson Creek Watershed Assessment: Mr. Murphy has worked on several stream restoration projects where he installed and maintained stream morphological data collection stations. Data included pressure transducer stream depth data, barometric pressure calibration data, staff gage fabrication and data collection, ADV/ADCP flow measurements, bedload and surface sediments samples, bank erosion rates, and total station surveys.

J. BRANDON KOLZE, PE, CFM | Hydrology & Hydraulics Team Member



YEARS OF EXPERIENCE: 4 years | **EDUCATION:** ME, Civil Engineering, University of Louisville • Certificate of Environmental Engineering, University of Louisville | **PROFESSIONAL QUALIFICATIONS:** Professional Engineer: Kentucky #30389 • Certified Floodplain Manager

PROFESSIONAL SUMMARY

Mr. Kolze is responsible for hydrologic and hydraulic modeling and analyses supporting floodplain mapping and collection system design with a background in stream restoration and morphologic data collection and analysis. Mr. Kolze has managed extensive modeling efforts involving both combined and separate sewer systems for a variety of projects ranging from green infrastructure design to combined sewer overflow control.

PROJECT SPECIFIC EXPERIENCE

Hydrologic and Hydraulic Engineer, Kentucky Map Modernization/Risk MAP, FY09—FY11, Kentucky Division of Water: Mr. Kolze served as a hydrologic and hydraulic engineer for floodplain studies in 14 counties throughout Kentucky. His responsibilities included hydrologic analyses utilizing regression equations and stream gage data, the production of hundreds of steady-state HEC-RAS models for approximate studies, and the development of specialized software to automate routine tasks in the hydrologic and hydraulic modeling process.

Project Engineer, Dawson Springs Letter of Map Revision, Dawson Springs, KY: Mr. Kolze served as a project engineer on the development of a Letter of Map Revision (LOMR) for the city of Dawson Springs, KY. This project included a statistical hydrologic analysis of gages located along the Tradewater River, as well as modification of the existing hydraulic model based on inspection of aerial imagery and subsequent adjustments to Manning’s roughness values.





Client List

| CLIENT | CONTACT INFORMATION | SIMILAR WORK |
|-----------------------------------|--|---|
| City of Elizabethtown | Mr. Robert Bush, PE Director of Stormwater Management 200 West Dixie Avenue Elizabethtown, KY 42702 (270) 765.6121 ext. 4328 robert.bush@elizabethtownky.gov | Freeman and Valley Creek Hydrological and Hydraulic Study; City of Elizabethtown Amendment of Storm Water Master Plan; Gaging and Monitoring Plan for Freeman Creek Watershed; Stormwater Improvement of College Street |
| Greer Development | Mr. Lee Greer 3620 Walden Drive Lexington, KY 40517 (859)269.1966 lgreer@greercompanies.com | Southland Drive - Wolf Run LOMR study |
| Hamburg Place Silver Oaks, Inc | Mr. Warren Witt 2517 Sir Barton Way Lexington, KY 40509 (859)321.5799 warrenwitt@hamburgplace.com | Hamburg East Storm Water Management Plan; Polo Club Mult-Plate Arch Culvert; East of I-75 Tributary – LOMR study |
| Kentucky Division of Water | Mr. Carey Johnson State Floodplain Coordinator Kentucky Division of Water 14 Reilly Road Frankfort, KY 40601-1189 (502) 564.3410 carey.johnson@ky.gov | Statewide FEMA RiskMAP and KY map modernization; Floodmapping QA/QC Program; North Elkhorn RiskMAP Demonstration Project; FEMA Levee Analysis and Mapping Procedures Pilot Process. |
| City of Dawson Springs | Mayor Jenny Sewell 200 West Arcadia Avenue P.O. Box 345 Dawson Springs, KY 42408 (270) 797.2781 beshear@vci.net | Tradewater River and Hurricane Creek LOMR; Stream gage analysis; Hydraulic model analysis; floodplain reduction |

“URS has always maintained an outstanding relationship with the Kentucky Division of Water (a FEMA CTP). Their engineering and mapping products have always been of excellent quality with particular emphasis placed on the client’s need and input. The client service provided by URS is certainly top-notch; always geared to the overall improvement and efficiency of the program and needs within.”

*Carey Johnson,
KDOW, Kentucky Risk
MAP Program
Coordinator*

“We (Daviess County Public Works) selected URS in 2012 to help us address countywide flooding concerns. URS (Jimmy, Trevor and their team of H&H engineers) are competent, and capable in performing hydrology, hydraulics, and floodplain mapping. It’s obvious they know the FEMA process, bridge and culvert hydraulics, and floodplain management.”

*Mark Brasher, PE,
Daviess County Public
Works Director*



Related Projects

Lexington-Fayette Urban County Government
RFP #47-2014 – Request for Proposal for:
Floodplain Analysis for Town Branch to New Circle Road

Related Projects Chart: In-House

Instructions: Complete the chart below for the five (5) most recent projects involving floodplain studies performed by key personnel **who will be assigned to this project**. Estimate the percent of overall work product provided by each of the key personnel. Also indicate if the project included a stream gauge monitoring component and if a FEMA LOMR request was involved.

| | | | |
|----------------------------|--|------------------|---------------------------|
| Project Title | Fayette County FEMA Map Modernization & Risk MAP FY 2009 | | |
| Client Name | URS & Kentucky Division of Water | | |
| Project Description | Detail Survey, Hydrological, and Hydraulic analysis for portion of West Hickman, portion of North Elkhorn, I-75 tributary, East I-75 tributary, portion of Cane Run tributary, Pleasant Ridge tributary, Two Ponds tributary, Brighton tributary, Iron Works Tributary, Pipeline Tributary, Quarry Tributary, Radio tower tributary, portion South Elkhorn tributary, Stonewall Tributary, Avon, David Fork, Johnson Road Tributary, Shannon Run Tributary, Walnut Hill Church Tributary, Boone Creek Tributary, Jones Creek Tributary, Manchester Branch Tributary, Shelby Branch Tributary, Mary Reynolds Creek, I-64 Tributary, Dixie Tributary, Bryant Road Tributary, Waveland Museum Tributary, Baughman Fork Tributary, and Todd's Road Tributary approximately 200 miles of limited and detail studies that had been adopted as part of the latest FEMA Map Update, March 03, 2014 | | |
| Client Contact | Carey Johnson | phone | 502-564-3410 |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | Complete FEMA Map Updates |
| Date Completed | 2011 | Project Duration | 9 Months |
| Professional Services Cost | \$280,000 | | |
| Project Manager | Jihad Hallany | % Contribution | 70% |
| Lead Project Engineer | Jihad Hallany | % Contribution | |
| Other Key Personnel | Rich Newtown, Mike Hoffman, Coy Green, Odus Baker, and Paul Pucket | % Contribution | 30% |

| | | | |
|----------------------------|---|------------------|--------------|
| Project Title | Southland Drive, Wolf Run LOMR Panel # 210067119E | | |
| Client Name | Greer Land Company | | |
| Project Description | Detail Survey, Hydrological, Hydraulic analysis, and Letter of Map Revision (LOMR) for Wolf Run Creek along Southland Drive between Nicholasville Road (US-27) and rail road track approximately 2,200 Linear feet, Panel # 2100670119E, March 03, 2014 | | |
| Client Contact | Lee Greer | phone | 859-269-1966 |
| Stream Gauge Monitoring? | No | FEMA LOMR? | Yes |
| Date Completed | 2013 | Project Duration | 7 months |
| Professional Services Cost | \$21,000 | | |
| Project Manager | Jihad Hallany | % Contribution | 75% |
| Lead Project Engineer | Jihad Hallany | % Contribution | |
| Other Key Personnel | Mike Hoffman, Coy Green, Odus Baker, and Paul Pucket | % Contribution | 25% |



Related Projects

Lexington-Fayette Urban County Government
RFP #47-2014 – Request for Proposal for:
Floodplain Analysis for Town Branch to New Circle Road

Related Projects Chart: In-House

Instructions: Complete the chart below for the five (5) most recent projects involving floodplain studies performed by key personnel **who will be assigned to this project**. Estimate the percent of overall work product provided by each of the key personnel. Also indicate if the project included a stream gauge monitoring component and if a FEMA LOMR request was involved.

| | | | |
|----------------------------|--|------------------|---------------------------|
| Project Title | FEMA Map Modernization & Risk MAP FY 2009-2012 | | |
| Client Name | Kentucky Division of Water | | |
| Project Description | Fiscal Year 2009-2013 includes 13 county-wide floodplain mapping studies and studies in the Upper Cumberland watershed (FY '10), Lower Levisa and Tug Fork watersheds (FY '11), Lower Kentucky watershed (FY '12). Studies require updates to Flood Insurance Study (FIS) reports for each county where a new H&H study was performed, along with the production of Digital Flood Insurance Rate Maps (DFIRMs). In addition, contract administration was provided for LiDAR acquisition in several counties and watersheds in Kentucky, of which Fayette County was included. As part of the contract over 200 miles of H&H studies have been conducted in Fayette County alone. The overall contract to date has included over 4,120 stream miles of H&H analysis and 7,360 square miles of FEMA-compliant mapping. | | |
| Client Contact | Carey Johnson | phone | 502-564-3410 |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | Complete FEMA Map Updates |
| Date Completed | Ongoing | Project Duration | 2009-present |
| Professional Services Cost | Approximately \$16,000,000 | | |
| Project Manager | James R. Stahl & Ben Conley | % Contribution | 20% |
| Lead Project Engineer | Trevor Timberlake | % Contribution | 10% |
| Other Key Personnel | Manasi Palit, Meghan Dunn, Davis Murphy, Brandon Kolze, Rachel Nichols | % Contribution | 70% |

| | | | |
|----------------------------|--|------------------|--------------|
| Project Title | Daviness County Storm Water Master Plan | | |
| Client Name | Daviness County Drainage Advisory Committee | | |
| Project Description | Development of a storm water master plan with the goals of determining the costs associated with reducing the footprint of flooded areas during large flood events and the estimated costs to keep public road crossings from flooding. The project involved HEC-RAS modeling for multiple flooding events on 12 study streams, including an unsteady-state hydraulic model which was calibrated based on a 1997 flood by coupling historic high water marks and discharge based on rainfall depths extracted from historic NEXRAD radar data. The project also included the use of LiDAR to extract roadway elevation data for the assessment of flood overtopping of public crossings. | | |
| Client Contact | Mark Brasher, PE | phone | 270-683-3243 |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | No |
| Date Completed | Ongoing | Project Duration | 2012-present |
| Professional Services Cost | \$85,000 | | |
| Project Manager | Jimmy Stahl | % Contribution | 15% |
| Lead Project Engineer | Trevor Timberlake | % Contribution | 30% |
| Other Key Personnel | Ben Conley, Davis Murphy, and Rachel Nichols | % Contribution | 55% |



Related Projects

Lexington-Fayette Urban County Government
RFP #47-2014 – Request for Proposal for:
Floodplain Analysis for Town Branch to New Circle Road

Related Projects Chart: In-House

Instructions: Complete the chart below for the five (5) most recent projects involving floodplain studies performed by key personnel **who will be assigned to this project**. Estimate the percent of overall work product provided by each of the key personnel. Also indicate if the project included a stream gauge monitoring component and if a FEMA LOMR request was involved.

| | | | |
|----------------------------|--|------------------|--------------|
| Project Title | Statewide Roadway Design-H&H Support | | |
| Client Name | Kentucky Transportation Cabinet | | |
| Project Description | Multiple KYTC projects where services for hydrologic and/or hydraulic analyses were provided. Below are descriptions of two selected projects from the portfolio of work performed: KY Highway 413 over USACE-designed storage area, Loyall, KY: H&H analyses for the replacement of an existing bridge carrying KY 413 over and area formerly occupied by the newly re-routed Cumberland River in Harlan County, Kentucky. KY Highway 490 over Rockcastle River: Hydraulic analysis of a proposed bridge replacement using HEC-RAS to create a model of existing conditions and proposed conditions to determine post-construction impacts. | | |
| Client Contact | Kevin Martin, PE | phone | 502-564-3280 |
| Stream Gauge Monitoring? | | FEMA LOMR? | |
| Date Completed | 2013 | Project Duration | 2007-2013 |
| Professional Services Cost | Varied by assignment | | |
| Project Manager | Jimmy Stahl | % Contribution | 25% |
| Lead Project Engineer | Trevor Timberlake | % Contribution | 20% |
| Other Key Personnel | Ben Conley, Davis Murphy, Rachel Nichols, Manasi Palit | % Contribution | 55% |

| | | | |
|----------------------------|--|------------------|--------------|
| Project Title | Dawson Springs Stream Gage Analysis & LOMR | | |
| Client Name | City of Dawson Springs | | |
| Project Description | Due to inaccurate estimates of water surface elevations in the existing FEMA floodplain mapping, a study was performed on the Tradewater River, which backwater controls water surface elevations along Hurricane creek in the vicinity of the intersection of US 62 and KY 109 in Dawson Springs. A statistical frequency analysis of stream gage discharge data was conducted to yield a new estimate of the 100-year flood discharge for Tradewater River. An additional review of land use was conducted and adjustments were made to the roughness characteristics of the existing FEMA hydraulic model, resulting in water surface elevations several feet lower than the original FEMA-published values. A Letter of Map Revision (LOMR) application was submitted to FEMA and conditionally approved pending the public comments period. | | |
| Client Contact | Jenny Sewell | phone | 270-797-2781 |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | Yes |
| Date Completed | 2013 | Project Duration | < 1 year |
| Professional Services Cost | \$25,000 | | |
| Project Manager | Jimmy Stahl | % Contribution | 25% |
| Lead Project Engineer | Trevor Timberlake | % Contribution | 25% |
| Other Key Personnel | Brandon Kolze, Davis Murphy | % Contribution | 50% |



Related Projects

Lexington-Fayette Urban County Government
RFP #47-2014 – Request for Proposal for:
Floodplain Analysis for Town Branch to New Circle Road

Related Projects Chart: In-House

Instructions: Complete the chart below for the five (5) most recent projects involving floodplain studies performed by key personnel **who will be assigned to this project**. Estimate the percent of overall work product provided by each of the key personnel. Also indicate if the project included a stream gauge monitoring component and if a FEMA LOMR request was involved.

| | | | |
|----------------------------|--|------------------|----------------|
| Project Title | Flow Meter Expansion Project | | |
| Client Name | Louisville Metropolitan Sewer District | | |
| Project Description | Implementation of a monitoring network of over 100 flow meters connected and monitored using a telemetry system. The network used mainly Telog RU-33 communications devices connected to water level sensors, rain gauges, sondes, and sewer flow meters. Each device was set up to communicate back to the Telog Enterprise System at designated frequencies. Users interacted with the data via a network-installed analysis tool or via a web portal. Each device was also set up with its own set of alarms and alerts and programmed to communicate to various users of the system information about the power levels, quantity, or quality of data. Parameters were set up for each data series to determine acceptable ranges, data check frequencies, and maintenance schedules. | | |
| Client Contact | Wes Sydnor | phone | 502-540-6000 |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | No |
| Date Completed | 2013 | Project Duration | 2 years |
| Professional Services Cost | ~\$500,000 | | |
| Employee | Patrick Fitzgerald | Prior Employer | Louisville MSD |
| Employee Title/Function | Environmental Data Analyst | % Contribution | 60% |

| | | | |
|----------------------------|---|------------------|-----------------------|
| Project Title | Wilson Creek Restoration | | |
| Client Name | University of Louisville Stream Institute Research Project | | |
| Project Description | Restoration of a moved and straightened stream in Bernheim Forest's Research Arboretum, south of Louisville. Project includes post-restoration stream monitoring and research activities supporting the Stream Institute's mission. | | |
| Client Contact | | phone | |
| Stream Gauge Monitoring? | Yes | FEMA LOMR? | No |
| Date Completed | Ongoing | Project Duration | Ongoing |
| Professional Services Cost | Unknown | | |
| Employee | Davis Murphy | Prior Employer | UofL Stream Institute |
| Employee Title/Function | Engineering Technician | % Contribution | 60% |



Professional Services Pricing Sheet

Lexington-Fayette Urban County Government
RFP #47-2014 – Request for Proposal for:
Floodplain Analysis for Town Branch to New Circle Road
Professional Services Pricing Sheet

| Task | Estimated Cost |
|--|------------------------|
| 1. Conduct Field Survey | |
| a. Field reconnaissance | \$1,700 |
| b. Survey property owners | 1,560 |
| c. Obtain mapping | 650 |
| d. Field survey | 12,500 |
| e. Meetings | 1,350 |
| f. Prepare and furnish deliverables | 1,700 |
| Task Subtotal | <u>\$19,460</u> |
| 2. Purchase, Install and Monitor Stream Gauges | |
| a. Prepare gauging plan and determine costs | 3,400 |
| b. Purchase and install stream gauges (allowance) | 25,000 |
| c. Maintain gauges and provide monthly summaries | 5,440 |
| Task Subtotal | <u>\$ 33,840</u> |
| 3. Develop Hydrologic Data | |
| a. Perform hydrological analysis | 14,700 |
| b. Prepare and furnish deliverables | 2,040 |
| Task Subtotal | <u>\$ 16,740</u> |
| 4. Develop Hydraulic Data | |
| a. Perform hydraulic analysis | 18,100 |
| b. Meetings | 1,350 |
| c. Prepare and furnish deliverables | 2,040 |
| Task Subtotal | <u>\$ 21,490</u> |
| 5. Prepare and Respond to FEMA Submittal | |
| a. Prepare and submit LOMR* | 0 |
| b. Respond to questions/info requests* | 0 |
| c. Meetings | 3,240 |
| Fees* | 0 |
| Task Subtotal | <u>\$ 3,240</u> |
| Total Estimated Cost of Professional Services | <u>\$94,770</u> |

* Selection of Vision Team negates the need for LOMR submittal. Map updates can be incorporated into existing Fayette County FY12 PMR. Associated mapping costs addressed in Task 4.



Hourly Rate Schedule

VISION TEAM

| JOB CLASSIFICATION | VISION ENGINEERING | URS |
|---------------------------------------|--------------------|----------|
| Principal | \$105.00 | \$170.00 |
| Project Manager | \$105.00 | \$135.00 |
| Project Engineer (PE) | \$85.00 | \$85.00 |
| GIS & Mapping | \$60.00 | \$73.00 |
| Engineering Technician/CAD Technician | \$60.00 | \$58.00 |
| Survey Crew | \$105.00 | |
| Clerical | \$55.00 | |

Mileage:

IRS approved amount

References:

Alley, R. B., Marotzke, J., Nordhaus, W. D., Overpeck, J. T., Peteet, D. M., Pielke Jr., R. A., Pier-Rehumbert, R. T., Rhines, P. B., Stocker, T. F., Talley, L. D., Wallace, J. M., 2003.

HEC, 2010. HEC-HMS User's Manual Version 3.5. Hydrologic Engineering Center.

Knebl, M.R., Yang, Z. L., Hutchison, K., Maidment, D.R., 2005. Regional Scale Flood Modeling using NEXRAD Rainfall, GIS, and HEC-HMS/RAS: A case study for the San Antonio River Basin Summer 2002 storm event.

Milly, P.C.D., Wetherald, R.T., Dunne, K.A., Delworth, T.L., 2002. Increasing risk of great floods in a changing climate, Nature 415, 514-517.

Milly, P.C.D., Betancourt, J., Falkenmark, M., Hirsch, R.M., Kundzewicz, Z.W., Lettenmaier, D.P. Stouffer, R.J., 2008. Stationarity is dead—whither water management? Science 319 (5863), 573–574.

Parker, D.J., 2000. Floods. London. Routledge.

Parry, M. L., Canziani, O. F., Palutikof, J. P., van der Linden, P. J., Hanson, C. E., 2007. Climate Change 2007: Impacts, Adaption and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), Cambridge University Press, New York.

UN, 2010. World Urbanization Prospects, the 2009 Revision. United Nations, Department of Economic and Social Affairs, Population Division.

USDA, 2001. Summary Report: 1997 National Resources Inventory (revised December 2001). US Department of Agriculture, Natural Resource Conservation Service, Washington, DC.

USGS, 2003. United States Geologic Survey, Effects of urban development on Floods, April 2011.

Mike W. Hancock, P.E.
Secretary

Kentucky Transportation Cabinet

Steven L. Beshear
Governor

COMMONWEALTH OF KENTUCKY



Transportation Cabinet

certifies that

VISION ENGINEERING, LLC

3399 Tates Creek Road, Suite 130, Lexington, KY 40502-7401

*has met all eligibility requirements
to participate in the
Disadvantaged Business Enterprise Program*

This certificate is issued pursuant to 49 CFR Part 26 and is subject to suspension or revocation.

October 30, 2014

Renewal Date

DBE Liaison Officer

Kentucky
UNBRIDLED SPIRIT™

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

Vision Engineering is a DBE firm meeting all requirements of the Lexington Fayette Urban County Government. We are fully committed to meeting the goals required for this project.

| MBE/WBE Company, Name, Address, Phone, Email | Work to be Performed | Total Dollar Value of the Work | % Value of Total Contract Work |
|--|-------------------------|-----------------------------------|-----------------------------------|
| 1. Vision Engineering, LLC 3399 Tates Creek Road Suite 130 Lexington, Kentucky 859-559-0516 859-333-8015 jhallany@visionengr.com | Vision Engineering, LLC | | 55% |

The undersigned company representative submits the above list of MBE/WBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Vision Engineering

Jihad Hallany

Company

Company Representative

September 08, 2014

Principal

Date

Title

AFFIRMATIVE ACTION PLAN.....

Vision Engineering practices Equal Opportunity in recruiting, hiring and promoting.

GENERAL PROVISIONS

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, 29 U.S.C. 650 *et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
3. Addenda: All addenda, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
8. Bribery Clause: By his/her signature on the bid, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

A. Termination for Cause

- (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
- (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
- (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
 - (a) Failure to perform the contract according to its terms,

- conditions and specifications;
- (b) Failure to make delivery within the time specified or according to a delivery schedule fixed by the contract;
 - (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
 - (d) Failure to diligently advance the work under a contract for construction services;
 - (e) The filing of a bankruptcy petition by or against the contractor; or
 - (f) Actions that endanger the health, safety or welfare of the LFUCG or its citizens.


B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent, Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. **Assignment of Contract:** The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. **No Waiver:** No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. **Authority to do Business:** The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this

Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must be signed by a duly authorized officer, agent or employee of the Respondent.

16. **Governing Law:** This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
17. **Ability to Meet Obligations:** Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
18. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor is an independent contractor at all times during the performance of the services specified.
19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.



Signature

09/08/2014
Date

**DIRECTOR, DIVISION OF CENTRAL PURCHASING
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 EAST MAIN STREET
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL
EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs. The goal for the utilization of Disadvantaged Business Enterprises as subcontractors is a recommended goal. Contractor(s) who fail to meet such goal will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

Marilyn Clark, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
mclark@lexingtonky.gov

Firm Submitting Proposal: Vision Engineering, LLC

Complete Address: 3399 Tates Creek Road, Ste 130; Lexington, KY 40502-7401
Street City Zip

Contact Name: Jihad Hallany Title: Principal

Telephone Number: (859) 333-8015 Fax Number: (859) 559-0523

Email address: Jhallany@visinengr.com

WORKFORCE ANALYSIS FORM

Name of Organization: URS Corporation, Louisville, KY Office

Date: 9, 3, 14

| Categories | Total | White | | Latino | | Black | | Other | | Total | |
|---------------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| | | M | F | M | F | M | F | M | F | M | F |
| Administrators | 2 | 0 | 2 | | | | | | | 0 | 2 |
| Professionals | 45 | 26 | 15 | 0 | 1 | 1 | 0 | 0 | 2 | 27 | 18 |
| Superintendents | 0 | | | | | | | | | 0 | 0 |
| Supervisors | 7 | 6 | 1 | | | | | | | 6 | 1 |
| Foremen | 0 | | | | | | | | | 0 | 0 |
| Technicians | 3 | 2 | 1 | | | | | | | 2 | 1 |
| Protective Service | 0 | | | | | | | | | 0 | 0 |
| Para-Professionals | 0 | | | | | | | | | 0 | 0 |
| Office/Clerical | 0 | | | | | | | | | 0 | 0 |
| Skilled Craft | 0 | | | | | | | | | 0 | 0 |
| Service/Maintenance | 0 | | | | | | | | | 0 | 0 |
| Total: | 57 | 34 | 19 | 0 | 1 | 1 | 0 | 0 | 2 | 35 | 22 |

Prepared by: Matthew Winland, HR Generalist

Name & Title



LOCAL OFFICE

| Firm | | Location (City, State) | Date Office Established | Total Number of Employees | No. of Employees expected to work on DWQ Projects |
|---------------------------------------|--------------|----------------------------|-------------------------|---------------------------|---|
| VISION ENGINEERING (Prime Contractor) | Headquarters | Lexington, KY | 2003 | 10 | 5 |
| | Local Office | Lexington, KY | 2003 | 10 | 5 |
| | PM Location | Lexington, KY | | | |
| URS (Subconsultant) | Headquarters | San Francisco, CA | 1951 | 57,000 | 0 |
| | Local Office | Louisville, KY | 1994 | 84 | 5 |
| | PM Location | Versailles, Louisville, KY | | | |

WORKFORCE ANALYSIS FORM.....

| Categories | Total | White | | Latino | | Black | | Other | | Total | |
|---------------------|-------------------------------|-------|---|--------|---|-------|---|-------|---|-------|---|
| | | M | F | M | F | M | F | M | F | M | F |
| Administrators | | | | | | | | | | | |
| Professionals | 4 | 2 | | | | | | 2 | | 4 | |
| Superintendents | | | | | | | | | | | |
| Supervisors | | | | | | | | | | | |
| Foremen | | | | | | | | | | | |
| Technicians | 5 | 5 | | | | | | | | 5 | |
| Protective Service | | | | | | | | | | | |
| Para-Professionals | | | | | | | | | | | |
| Office/Clerical | 1 | | | | | | | | 1 | | 1 |
| Skilled Craft | | | | | | | | | | | |
| Service/Maintenance | | | | | | | | | | | |
| TOTAL: | 10 | 7 | | | | | | 2 | 1 | 9 | 1 |
| Prepared by: | Jihad Hallany, Office Manager | | | | | | | | | | |

EQUAL OPPORTUNITY AGREEMENT

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.



Signature

Vision Engineering, LLC
Name of Business

AFFIDAVIT

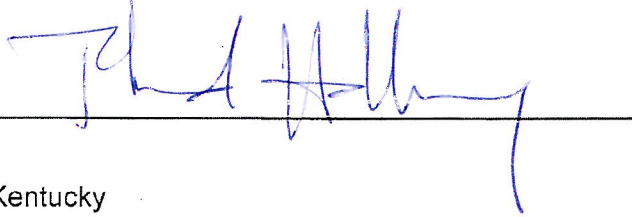
Comes the Affiant, Jihad Hallany, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Jihad Halany and he/she is the individual submitting the proposal or is the authorized representative of Vision Engineering, LLC, the entity submitting the proposal (hereinafter referred to as "Proposer").
2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.
6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

Continued on next page

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.



STATE OF: Kentucky

COUNTY OF: Jefferson *Fayette*

The foregoing instrument was subscribed, sworn to and acknowledged before me

by Lauren Ramirez on this the ~~5th day of September, 2014.~~

17 day of October, 2014

My Commission expires: ~~April 17, 2018~~

10-23-2015

451615


NOTARY PUBLIC, STATE AT LARGE



Lexington-Fayette Urban County Government
DEPARTMENT OF FINANCE & ADMINISTRATION

Jim Gray
Mayor

William O'Mara
Commissioner

ADDENDUM #2

RFP Number: **#47-2014**

Date: August 25, 2014

Subject: **Town Branch Flood Plain Analysis**

Please address inquiries to:
Theresa Maynard (859) 258-3320

TO ALL PROSPECTIVE BIDDERS:

Please be advised of the following clarifications to the above referenced bid.

- **CORRECTED: Related Experience Charts, Attachments #3 and #4 attached in Excel format for vendor convenience (disregard ones with Addendum #1). These are the ones that must be submitted with your response.**

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the bid and specifications are unchanged. This letter should be signed, attached to and become a part of your bid.

COMPANY: Vision Engineering, LLC

ADDRESS: 3399 Tates Creek Road, Suite 130; Lexington, KY 40502

SIGNATURE OF PROPOSER:



Lexington-Fayette Urban County Government
DEPARTMENT OF FINANCE & ADMINISTRATION

Jim Gray
Mayor

William O'Mara
Commissioner

ADDENDUM #1

RFP Number: **#47-2014**

Date: August 25, 2014

Subject: **Town Branch Flood Plain Analysis**

Please address inquiries to:
Theresa Maynard (859) 258-3320

TO ALL PROSPECTIVE BIDDERS:

Please be advised of the following clarifications to the above referenced bid.

- **See attached list of Questions and Answers**
- **Related Experience Charts, Attachments #3 and #4 attached in Excel format for vendor convenience**

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the bid and specifications are unchanged. This letter should be signed, attached to and become a part of your bid.

COMPANY: Vision Engineering, LLC

ADDRESS: 3399 Tates Creek Road Suite 130; Lexington, KY 40502-7401

SIGNATURE OF PROPOSER:



Daviess County Storm Water Master Plan US 431 over Panther Creek

| Previous Project Experience CLOMR/LOMR/LOMA | | | |
|--|-------|------|------|
| Creek Name | CLOMR | LOMR | LOMA |
| Lake PeeWee in Madisonville | | ✓ | |
| Tradewater River in Dawson Springs | | ✓ | |
| Wolf Run Tributary, Tates Creek Tributary, East Hickman Tributary, East I-75 Tributary, Cane Run Tributary, and Brighton Tributary in Fayette County | ✓ | ✓ | |
| Otter Creek Tributary 1 and Walnut Meadow Branch in Madison County | ✓ | ✓ | ✓ |
| East Spaws Creek in Morgan County | ✓ | | |
| Left Fork Peter Creek and Blackberry Creek in Pike County | ✓ | | |
| Horse Fork Tributary in Daviess County | ✓ | | |
| Lick Creek in Lawrence County | ✓ | | |
| Triplet Creek in Rowan County | ✓ | ✓ | |
| East Fork Creek in Jessamine County | ✓ | | |



**Vision and URS
perform numerous
FEMA Letters of
Map Change in
Kentucky**





3399 Tates Creek Road, Ste. 130
Lexington, KY 40502-7401
(859) 559-0516

