FLOOD ACTIONS & UPDATE

June 12, 2012

ACTION	TIME FRAME/STATUS
Coordination with ISU, Story County & IDOT	• August 2010 forward
Coordination with Iowa Flood Center (IFC)	• September 2010 forward
Development of LiDAR mapping for Ames' watersheds	• Iowa Flood Center began mapping in 2011 • Key input for local flood study • Current completion goal June 2012
Detailed flood plain mapping of College Creek & Worle Creek	• 2 year IDNR-funded project • Work commenced December 2011 • Planned completion August 2012
Squaw Creek basin road-flooding forecasting system	• 2-year pilot project conducted by IFC • $350,000 funding from Iowa Highway Research Board and IDNR • Work commenced late 2011 • Will provide much more accurate potential flooding prediction at each roadway crossing
Create Squaw Creek Watershed Authority (WMA) to address flooding & water quality issues across the entire watershed	• Initial work began late 2011 • First watershed-wide effort to address flooding issues across jurisdictions • City Council will consider Intergovernmental (28E) Agreement creating WMA 6/12/2012 • Phase 2 grant goal is to put together a Watershed Master Plan in 2012/13.
Update detailed aerial mapping of Ames	• Included in Ames City Assessor's budget for 2012/13 • Input for implementation of local flood study
Public input on flood study	• Pilot citizen focus group held 4/18/2012 • Additional public input meetings will be coordinated with flood study consultant
Comprehensive flood study*	• Request for Qualifications (RFQ) issued 4/6 • Proposals due 4/27 • Eight proposals evaluated 5/10 • Finalist interviews 5/23-30 • Contract negotiation June 1-15 • Council consideration of contract and potential award on 6/26 • Draft report submitted by 11/1 • Final report submitted by 12/1

* Selected pages from the Request for Qualifications are attached. The study scope is described on pages 4-6, public involvement on page 8, and the project timeline on page 9.

City of Ames, Iowa

Request for Qualifications
AMES FLOOD MITIGATION STUDY

April 5, 2012

PROJECT SUMMARY

Following the intense rainfalls and damaging flooding of 2010, the Ames City Council established a goal to mitigate both river flooding and localized flooding in the community. They have initiated a process to determine how best to achieve these goals, with collaboration from the public, involvement of other affected jurisdictions, and professional expertise.

This solicitation is for a variety of professional services to assist City staff in developing options and recommendations that will be presented to the Ames City Council for consideration and adoption.

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SUBMITTAL DELIVERY ADDRESS

John Dunn, PE
Director, Water and Pollution Control Department
300 E 5th Street, Bldg. 1
Ames, IA 50010
515-239-5150

SUBMITTAL DEADLINE: 4:00 p.m. CDT on April 26, 2012

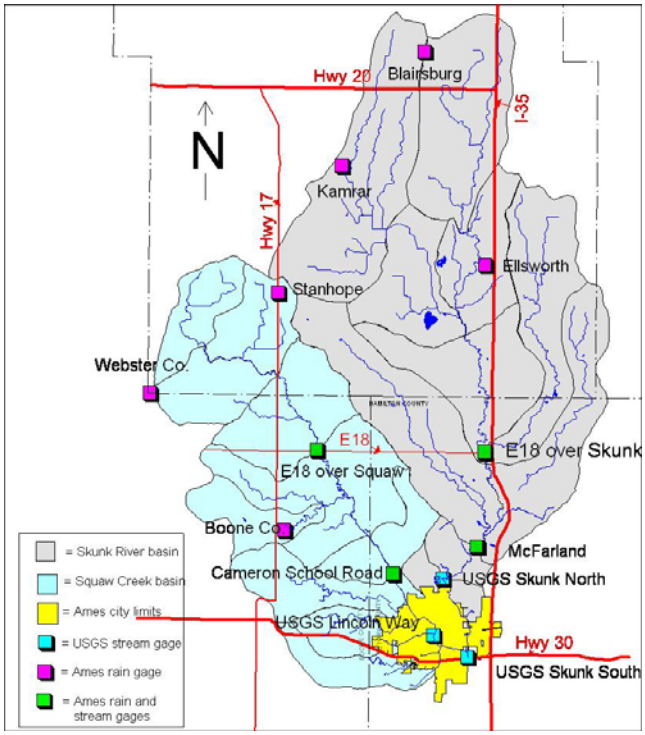
Request for Qualifications
AMES FLOOD MITIGATION STUDY

PROJECT BACKGROUND

The City of Ames is a river town, situated at the confluence of Squaw Creek and South Skunk River. The community has considerable residential and commercial development adjacent to the floodplains. In recent years, the community has experienced repeated flooding from these waterways. Major floods in the Ames area occurred in 1965, 1975, 1990, twice in 1993, 1996, 2007, 2008, and 2010. The flood of record occurred on Wednesday, August 11, 2010, eclipsing the previous peak by more than a foot.

As a result of the floods of 2010, the Ames City Council established a goal to mitigate the impact of future flooding on the Ames community. As a result of that goal, the City of Ames is soliciting proposals from qualified consultants to develop a Comprehensive Flood Plain Management Study. This study will update and build upon the *Skunk River/Squaw Creek Flood Plain Management Study*, prepared by Snyder and Associates following the 1993 floods.

Existing Hydrologic Modeling. As a mitigation measure following the 1993 floods, a 28E inter-governmental cooperative agreement was signed between the City of Ames, Story County, Iowa State University, and Iowa Department of Transportation. The purpose of the agreement, which is still in place, is to provide a flood-warning system that would provide the funding partners with advance warning for the purpose of protecting their respective facilities and interests.



The flood-warning system is made up of two parts. The first is a data collection system comprised of ten rain gauges and four stream gauges distributed throughout the Squaw Creek and South Skunk River basins. These gauges transfer rainfall and stream stage information to the Ames Water Plant via cell phone. The data are also shared with the National Weather Service, which subsequently provides the stream gauge data to the public through its Advanced Hydrologic Prediction Service. The four stream gauges maintained by the City of Ames are in addition to three gauging stations maintained by the U.S. Geological Survey.

The second part of the flood-warning system is a hydrologic model for Squaw Creek and South Skunk River. The model was originally developed as a HEC-1 model in 1995 and was converted to a HEC-HMS model in approximately 2000. The model was recalibrated in 2011 to account for changes in land use, as well as to reparameterize the model's curve numbers, impervious area, lag times, and rating curves to reflect the current conditions of the Ames area watersheds. The model is maintained by the City of Ames and is available to proposing firms. Electronic data (MS Excel) of rainfall and stream stage gathered from the Ames flood-warning system are available from 2005 to the present. Scanned data of select events prior to 2005 are also available. See information later in this document for instructions on how to access the model and other data.

Current FEMA Mapping Under Way. FEMA is in the process of a Physical Map Revision (PMR) for College Creek and Worle Creek. The PMR will result in enhanced floodplain mapping for approximately 14 stream miles (four miles for College Creek and ten miles for Worle Creek and two tributaries). The project is being done under FEMA's RiskMAP program and will use the City's LIDAR data. The project will create new Hydraulic and Hydrologic models for these watersheds.

The project began in early 2012, with an estimated six months for the engineering analysis and initial mapping. It will be about 24 months for the total project which will result in the adoption of new maps. The contact for the project is Britton Wells, Water Resources Engineer with AMEC Environment & Infrastructure.
(britton.wells@amec.com)

Current Planning and Zoning Information. Information related to planning and zoning inside the City of Ames, including the City's "Flood Plain Zoning Regulations," is available from the Planning and Housing Department's pages on the City of Ames web site. (http://www.cityofames.org/index.aspx?page=581)

Current Public Works Information. Information related to the City of Ames GIS systems and storm sewer utility is available from the Public Works Department's pages on the City of Ames web site. (http://www.cityofames.org/index.aspx?page=163)

DESIRED SCOPE OF WORK

The Ames Flood Mitigation Study will serve as a multi-year planning document to guide the City of Ames in establishing a prioritized list of actions that can be undertaken to reduce the impact of flooding on the Ames community. The study will serve as the basis for establishing flood mitigation priorities and recommending possible mitigation activities. Implementation of any recommendations reached is beyond the scope of this Request for Qualifications.

The ultimate deliverable of the study will be a written report that documents the following activities, including the following major components.

1. Baseline Flood Discharge Update.

    a. Using the recommended methodology contained in the U.S. Geological Survey's Bulletin #17B, "Guidelines for Determining Flood Flow Frequency," estimate the 2-, 5-, 10-, 25-, 50-, 100-, and 500-year discharges at the three USGS gauge locations.

    b. When developing the discharges, give consideration to the variations induced by the timing of the peaks on each stream. Evaluate the impact of coincidental peaks versus offset peaks.

    c. Using FEMA's "Guidelines and Specifications for Flood Hazard Mapping," determine if the updated 100- and 500-year discharges are statistically different from the existing base flood discharge.

    d. Included in the evaluation of the flood flow frequencies should be a sensitivity analysis based on a range of possible future rainfall estimates. Up to five rainfall scenarios will be developed by City staff in conjunction with researchers at Iowa State University, with each scenario differing in the way historical rainfall trends are extrapolated into the future. The purpose of this analysis is to help the City Council and the public consider a range of possible flood impacts resulting from climate variability. The results from this sensitivity analysis will be used when considering possible mitigation activities and strategies.

2. Floodplain Mapping Update. Submit updated models and maps to the City for review and comment.

    a. A HEC-RAS model is currently being developed by the Iowa Flood Center and is expected to be ready by mid-May. The model's boundary extends from Ken Maril Road (on the South Skunk River) to Riverside Road (South Skunk River) to Cameron School Road (Squaw Creek). The model will include bridges and in-line structures and will be calibrated with water surface elevation measurements.

i. The hydraulic model should be reviewed and validated to ensure that the results are reasonable and that the modeling parameters provide an accurate simulation.

b. Transfer the model results to a GIS format to delineate the flood inundation for each storm event analyzed.

i. Manually refine, as necessary, the plots to reflect the calculated base flood elevations for each storm interval analyzed.

ii. Prepare floodplain maps displaying the 2-, 5-, 10-, 50-, 100, and 500-year floodplain overlain on aerial photographs. Include maps that show the relative differences in the extent of the floodplain as a result of the rainfall scenarios described in paragraph 1d above.

iii. Tabulate the addresses of structures which, based on the flood inundation maps, would potentially be impacted for each of the storm intervals studied, including the various rainfall scenarios. Flood entry elevations were compiled as a part of the previous floodplain management study. Subsequent property development and the potential for an expended floodplain definition may necessitate the collection of new or updated flood entry elevations. This activity involves the identification of those locations where data are needed. Collection of actual flood entry elevations is outside the scope of work requested.

c. While submission of updated models and maps to FEMA for adoption and publication may ultimately be requested by the City of Ames, it is not included in the requested scope of work. If desired by the City, it will be included through a change order via a separate contract.

3. Alternatives Analysis. The core of the study will be to identify, evaluate, and recommend a list of possible flood mitigation alternatives. **Public participation and input is central to this portion of the study.** (See the Public Involvement section later in this document.)

a. Working with City staff and the other governmental partners, develop a list of possible flood mitigation efforts that could be undertaken. At the initial alternatives development stage, all ideas should be considered as “on the table.”

b. Conduct a public meeting where the full range of possible mitigation measures is presented. The intent is to gather public input and suggestions on the possible measures presented and on additional possible measures to be considered.

c. After development of the list of possible mitigation measures, conduct a feasibility analysis of each that considers things such as constructability, permitting constraints, cost, impacts to land and property owners, reduction in base flood elevations, environmental impacts, and other benefits and impacts.

d. For those alternatives deemed “feasible,” conduct supplemental hydrologic and hydraulic analyses necessary to evaluate the alternatives. In particular, this will be required for any options that may involve detention or storage components or road and bridge modifications.

e. Conduct a workshop meeting with the Ames City Council to present the results of the alternatives analysis, including the methodology for determining which measures were ultimately recommended and how public input was incorporated into the final recommendations.

OVERALL MANAGEMENT OF AMES FLOOD MITIGATION STUDY

The Ames City Council chartered the study and retains the ultimate responsibility and authority for adopting any recommendation or enacting any decisions regarding flood regulation and mitigation within the Ames community. The contract for professional services that will result from this Request for Qualifications will be with the City of Ames.

The Ames Flood Mitigation Study will be administered by the City of Ames, with significant input and assistance from a core team comprised of staff from the City of Ames, Iowa State University, Story County, and the Iowa Department of Transportation. As partners, the Story County Board of Supervisors, Iowa State University Administration, and Iowa Department of Transportation are responsible for making flood-related decisions that affect their respective jurisdictions.

Lead staff members forming the core team are as follows:

City of Ames
- Bob Kindred, Assistant City Manager
- John Dunn, Director, Water and Pollution Control
- John Joiner, Director, Public Works
- Steve Osguthorpe, Director, Planning and Housing

Story County
- Leanne Harter, Director, Planning and Zoning
- Darren Moon, Story County Engineer

Iowa State University
- David Miller, Associate Vice President for Facilities

Iowa Department of Transportation
- Tony Gustafson, Assistant District 1 Engineer
- Scott Dockstader, District 1 Engineer

PUBLIC INVOLVEMENT

Input from interested members of the Ames community will play an essential role in forming the ultimate conclusions and recommendations of the study. Multiple meetings are envisioned to allow and encourage the public-at-large to lend their input, questions, and concerns.

Ahead of the consultant beginning work on the Ames Flood Mitigation Study, a series of six public meetings will be held. Two meetings will be facilitated by staff from Iowa State University and will primarily reach out to the student and academic part of the community. Two meetings will be led by Story County, one with a broad, county-wide public audience and one that is targeted more specifically to emergency responders. Finally, two meetings will be facilitated by City of Ames staff, with a broad public audience. The selected consultant will not be required to prepare for or attend these meetings. City staff will work with the other entities to gather summaries of the key input and feedback from these meetings and will provide the compilation to the consultant.

As the consultant begins its work, it is envisioned that the initial task would be a workshop with City of Ames staff, with representatives from other interested governmental agencies in attendance. The majority of the workshop would include a small working group from the City of Ames, Iowa State University, Story County, and Iowa Department of Transportation. A portion of the meeting may involve a larger group of staff from these organizations who can share their organization's experiences, concerns, and desired outcomes from the study.

It is also envisioned that the consultant would play a significant role in at least four public meetings.

- A workshop-style meeting with the Ames City Council and other local governmental bodies following the conclusion of the technical analyses, to present the results of the hydrologic and hydraulic modeling efforts.

- A public meeting to gather input and feedback on possible mitigation strategies. While the meeting may include city staff and the consultant presenting a range of possible mitigation measures, the intent is to gather public input before any suite of measures have been evaluated or selected as the "preferred" recommendations.

- A second workshop-style meeting with the Ames City Council at the conclusion of the study to present possible mitigation measures and receive additional guidance from the City Council.

- A final presentation to the Ames City Council of the final evaluated recommendations incorporating technical, financial, and policy criteria developed in conjunction with City staff and the City Council.

PROJECT TIMELINE

Development of the Ames Flood Mitigation Study is intended to begin immediately after the consulting firm is selected. It is anticipated that the process will begin immediately and will proceed through the end of 2012. Ideally, the study will be to a point that at least conceptual recommendations can be made to the Ames City Council in September 2012. This timeline will allow cost estimates and funding options to be developed in advance of the Ames City Council's January 2013 Capital Improvements Plan and February 2013 operating budget reviews. The schedule below is meant as guidance; firm project deadlines will be negotiated by the City of Ames and the selected consulting team.

Anticipated Project Schedule:

Distribute Request for Qualifications *(this document)*	April 5, 2012
Pre-submittal Informational Meeting *10:00 -11:30 am CDT* *Conference Room 235* *Ames City Hall* *515 Clark Avenue* *Ames, IA 50010*	April 19, 2012
RFQ Response Deadline	April 26, 2012
On-site Interviews	May 7-11, 2012*
Professional Services Agreement Awarded by Ames City Council	May 22, 2012*
Draft Report Submitted	November 1, 2012
Final Report Submitted	December 1, 2012

[* Dates later delayed]

CONSULTANT SELECTION PROCESS

The consultant selection process will be conducted by the City of Ames.

The selection process will follow the general three-step process described below.

1. Request For Qualifications. The release of this document constitutes an open, formal Request for Qualifications (RFQ).

    a. City staff will be evaluating the submitted qualifications based on the skill and ability to work with the City to develop the right approach for the Ames community.

    b. A pre-submittal informational meeting will be held to allow interested firms to clarify the purpose and intent of the RFQ as well as the desired end product of the study. Additional information on the pre-submittal meeting is provided at the end of this document.

    c. City staff will use the selection criteria described below to review and rank the Statements of Qualifications received in order to establish a list of preferred firms for participation in the formal interview step.

    d. As a part of its evaluation, the City may conduct reference investigations, as necessary, to evaluate and determine the past performance record of the top-ranked firms prior to extending invitations for formal interviews. Reference checks may include inquiries as to the ability of the firm to perform the size and type of work included under this RFQ and to determine the likely quality of services being offered. Such reference investigations may include inquiries of past clients and contractors on prior projects and will include both the overall firm and the consultant's proposed key team members.

    e. The City also reserves the right to investigate and confirm a firm's financial responsibility and viability. Unfavorable responses to these investigations may be considered by the City when ranking firms for additional consideration. **By submitting a Statement of Qualifications (SOQ), the submitting firm authorizes the City of Ames to conduct such reference investigations.**

2. Formal Interviews. Based on the information submitted in the SOQ, the City will invite approximately three firms to participate in formal interviews with the selection team. Interviews will be conducted on site at the City of Ames. The format and expectations for the formal interviews will be shared with the invited firms in advance. Interviews are tentatively planned for the week of May 7, 2012. The exact number of firms invited to interview is at the discretion of the City.

3. Negotiation of Final Scope. Following the formal interviews, the City of Ames will negotiate a final contract for professional services and associated scope of services with the preferred firm. Once an agreement has been reached that City staff determines to be fair, competitive, and reasonable, the selection team will submit the negotiated contract to the Ames City Council which will make the final decision on contract award.

   Once a contract has been awarded by the Ames City Council, a City of Ames purchase order will be issued for the project. No work may begin until a purchase order has been issued.

All materials submitted shall become the property of the City of Ames. Note that all materials received by the City of Ames become "public records" and will be made available for review to any person upon request. Any materials submitted to the City of Ames are subject to potential public records requests. Proposing firms should clearly indicate to the City any material, submitted in any format, which is considered "proprietary." In the event of a public records request for items so designated, the City will provide notice to the firm that a public records request has been received. The firm would then be responsible for seeking an injunction to block the release of the documents.

It is expected that the results of the Ames Flood Mitigation Study will form the basis of an on-going program of mitigation measures. However, **the scope of work covered by this solicitation is for development of the Ames Flood Mitigation Study only.** There is no guarantee that the firm selected to prepare the plan will be retained for any later portions. Future execution of the study's recommendations will most likely include additional competitive solicitations for professional services.

STATEMENT OF QUALIFICATIONS CONTENTS

The Statement of Qualifications (SOQs) will form the basis of selecting the "short list" of firms that will be asked to meet with the City in a formal interview setting.

The Statement of Qualifications should include the following components. When submitting their SOQ, firms are asked to provide the materials in the order listed below. SUBMITTING FIRMS ARE RESPONSIBLE FOR REVIEWING AND UNDERSTANDING THE REQUIREMENTS OF THIS SOLICITATION. Careful attention must be given to ensure that all requested items contained in this RFQ are included in the submittal and sections comply with applicable page limits.

1. Cover Letter. A cover letter is required, stating the firm's interest in being considered for the project. The letter should clearly identify the main point of contact for the submitting firm.

2. General Profile. A one-page general profile of the firm is required. For Statements of Qualifications that involve multiple firms submitting as a single project team, one additional page is permissible. The profile should describe the general nature of services provided by the firm, the location of main and branch offices, and the number of years the firm has provided services similar to those requested by this RFQ. Any sub-consultants which are proposed to be a part of the design team must be identified.

3. Key Personnel. A one-page summary is required that includes the names of the key personnel to be involved in preparing the Ames Flood Mitigation Study, along with a brief summary of their areas of expertise and their intended role in the project. (Resumes and CVs may be appended to the submittal but cannot substitute for the required summary page.) Please indicate those persons possessing the licenses and certifications necessary to perform the type of work being requested.

   Additionally, a one-page organizational chart for this project shall be provided. Indicate the key personnel and their relationship to the overall project. Note that it is a requirement of the City of Ames that the key personnel identified during the consultant selection process will be required to participate in and execute the project. Substitution of personnel after an award of contract will require approval by the City of Ames.

4. References. A listing of no more than five reference projects of similar size and scope shall be provided. Particular emphasis should be placed on innovative, cost-effective solutions on similar projects, including projects involving analysis of potential rainfall events in excess of historical levels. Indicate which members being proposed for the Ames Flood Mitigation Study were involved in the reference projects and what their role in the reference projects was. Please provide contact information for the project owners, the nature of the firm's scope

of work on the project, and the date the contract started and ended. Each project listing shall be no longer than one page in length.

5. Multiple Firms. For Statements of Qualifications that involve multiple firms submitting as a single project team, provide a maximum two-page summary of the roles each firm will play and the project management approach that will be used to provide seamless delivery of the end product.

6. Estimate of Resources. Based on the firm's understanding of the scope of work required, provide a maximum two-page preliminary estimate of the firm's resources that could be dedicated to the project. This can be in a form of the firm's choosing but should clearly convey a sense of the amount of effort and resources the firm believes will be required for the Needs Assessment phase of the project. As an example, an estimate of staff hours would be an acceptable method to meet this requirement. A statement of availability should also be included that confirms that these resources can be committed to allow the work to progress within the Project Timeline described earlier.

   A preliminary fee proposal should not be included at this stage. During the subsequent formal interview step, a "two envelope" proposal process will be used to allow proposed scopes to be evaluated separately from fee proposals. **The City of Ames is committed to a qualifications-based evaluation and selection process.** If the proposed scope and associated fee of the preferred team appears to be "unreasonable" when compared to the proposed scope and fee of the other teams, the City of Ames reserves the right to take this into consideration when making its ultimate selection.

7. Supplemental Information. Firms are encouraged to submit any additional or supplemental information that they believe may be important to the City's selection team when narrowing the list of firms invited to participate in formal interviews. Please discuss any critical assumptions, extenuating circumstances, or other factors that may be critical to understanding the submitted qualifications. There is no page limit for this supplemental information; however, firms are encouraged to limit the additional information to topics relevant to the specific scope of work under consideration.

Any requests for clarification on the submittal requirements or review process must be received by City of Ames no less than three days prior to the submission deadline listed below.

SELECTION CRITERIA

The intent of the selection process is to select the most qualified, responsive, and responsible firm based on the identified needs of the City of Ames. The following table identifies the scoring rubric that the City of Ames will use to rate and compare submittals. The areas identified reflect those skills, expertise, and capabilities that the City of Ames believes are highly desirable in the selected consulting firm. Firms are encouraged to use this list when preparing their SOQ to ensure that the submitted materials address the selection team's priorities.

Criteria	Points Available	Points Awarded
General Firm Profile		
Depth of resources and technical support in the disciplines necessary for this project	15	
Breadth of expertise in evaluating multiple flood mitigation techniques and measures	15	
General Firm Profile Subtotal	30	
Proposed Project Team Profile		
Expertise in performing and evaluating hydrologic and hydraulic modeling.	15	
Demonstrated success in securing FEMA support for recommendations and conclusions	15	
Exemplary public education and involvement strategies	10	
Experience incorporating sensitivity analyses into flood inundation predictions	10	
Proposed Project Team Profile Subtotal	50	
Statement of Qualifications		
Quality of the submittal is representative of the quality that would be acceptable for the final Flood Mitigation Study report (includes grammar, spelling, formatting, etc.)	5	
Presentation of information is clear and logical; all required components submitted	5	
Specific SOQ Elements Subtotal	10	
Overall Impression		
Appropriateness of the firm's qualifications	10	
Overall Impression Subtotal	10	
Overall Firm Score	100	

The selected firm will have a demonstrated record of successfully completing similar projects. Representatives from the selected firm will become integral members of the City's flood mitigation team and will assist the City in developing a conceptual plan, establishing major philosophical requirements and expectations, and identifying and evaluating various alternatives to meet the current and future needs of the Ames community.

The scores generated by applying this rubric will provide a framework for the City to evaluate and compare submissions. While the general concept would be for the highest scoring firms to be invited to interview, the City of Ames reserves the right to consider other topics not included in the rubric and to exercise professional judgment and discretion when extending invitations. **In all cases, the City of Ames reserves the right to select a firm and award a contract that is in the best interests of the City.**