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October 30, 2008

Mr. Ron Mentzer, Director
Community Development Department
City of Warrenville
3S258 Manning Avenue
Warrenville, Illinois 60555

Re: September 2008 Flood Investigation

Dear Mr. Mentzer,

Following is a proposed scope and estimated fee for Strand Associates, Inc. to provide engineering services to the City of Warrenville (Warrenville) for study of the flood event that took place along the West Branch DuPage River (WBDPR) September 13 through September 16, 2008.

Scope of Services

Our proposed scope of services entails the following:

1. Develop a list of data and information necessary to perform the study and review the list with Warrenville staff. Warrenville shall transmit the list to DuPage County as a formal request for information. Attend one meeting with DuPage County to discuss the list and items available from the County.

2. Meet with Warrenville staff and representatives to collect information and discuss flooding experienced by Warrenville. Data that Warrenville gathered via GPS will be mapped on County GIS topographic mapping by City of Warrenville staff. We assume the attribute table for the GPS data shall contain accuracy for each elevation point.

3. Confirm when and by what government entity Fawell Dam was originally constructed.

4. Based on records and information provided by DuPage County, verify if the floodplain maps for the City of Warrenville were modified as a result of the construction of Fawell Dam. If modified, summarize what modifications occurred and provide an opinion on whether or not these modifications were processed and correctly implemented.

5. Evaluate the most recent DuPage County WBDPR FEQ model based on current river characteristics. Evaluate model results using rainfall data and parameters from the September 13 flood event as provided by DuPage County and the City of Warrenville.

6. Determine whether the WBDPR water levels indicated by the FEQ model concur with the river water level data gathered by Warrenville and provide an opinion as to our confidence in the model according to the approved operating plan.

7. Quantify rainfall amounts for the September 13 event and determine the theoretical storm frequency (i.e., 100-year rainfall, 500-year rainfall, etc.).

8. Verify whether the current approved operation plan is consistent with the operation plan Strand Associates based its 1999-2000 Fawell Dam review and conclusions on.

9. Analyze Fawell Dam operation during the September 13 event to verify whether operation was consistent with the current approved operating plan. Provide an opinion on whether or not the gates at Fawell Dam should have been fully open during the September 13 flood event.

10. Analyze the operation of Fawell Dam during the September 13 event and determine if the dam had an impact on river water elevations north of I-88 including any impact that may be caused by the dam pool. Provide an opinion whether the elevation of the dam pool impacts water flow raising river elevations north of I-88.

11. Evaluate existing FEMA Flood Insurance Study mapping and the West Branch of the DuPage River Flood Profile elevation drawings in the area of the I-88 Bridge over the West Branch of the DuPage River and, using City/County provided data, verify if the existing bridge elevations are consistent with the elevations reflected in the Flood Insurance Study. This does not include evaluation of the FEMA regulatory model.

12. Evaluate the DuPage County WBDPR FEQ model for the water elevation impacts at the I-88 Bridge and provide an opinion based on the model as to whether the I-88 bridge structure increased flood elevations north of the bridge during the recent flood event.

13. Evaluate the DuPage County WBDPR FEQ model and the City/County provided data on design and elevations of the existing Ferry Road Bridge River and provide an opinion on whether the Ferry Road bridge structure increased flood elevations north of the bridge during the recent flood event. If impacted, provide an opinion on the relative level of impact.

14. Evaluate the DuPage County WBDPR FEQ model with respect to City of Warrenville provided USGS flood flow and height data for the September 2008 and 1996 flood events and provide an opinion as to why the flood flow elevations in Naperville were lower in 2008 as compared to 1996.

15. Investigate the McDowell Grove Wood Construction Barge/Bridge temporary structure with respect to the following:
    a. Observe and verify the dimensions of the temporary structure and the depth of water it displaces.

b. Collect information such as photographs and eyewitness accounts from Warrenville staff, DuPage County, and the Forest Preserve District of DuPage County as to the condition and operation of the temporary structure during the September 13 event.
c. Based on the information collected, provide an opinion as to whether the temporary structure may have impacted flow in the river and whether it could have affected flood elevations upstream in Warrenville.
d. Verify where the temporary structure is located in relationship to the "gauging station" dictating operation of Fawell Dam.
e. Based on the information collected, provide an opinion as to whether the temporary structure impacted measured flood elevations at the Fawell Dam "gauging station" thereby impacting the County's operational decisions of the Fawell Dam in a manner that may have caused unintended increases in flood elevations upstream.

16. Meet with City staff to examine localized flooding at the River Road/Bower School area to determine possible causes and potential recommended actions to mitigate future flooding. We understand that Warrenville performed field observations and found suspect infrastructure that may have contributed to the flooding. In addition, GPS elevations have been obtained from the top of the berm behind the school that will be provided to Strand. If additional survey is necessary it will be provided by the City. If additional field observations are necessary they shall be discussed with City staff and an amendment made to this scope of services.

17. Meet with City staff and other local authorities with jurisdiction over the suspect infrastructure to present findings and assist in discussions to determine potential course of action to rectify the situation.

18. Provide written opinions/conclusions on Scope Items 4 through 17, inclusive.

19. Attend one staff/technical investigation meetings and one City Council Meeting to present technical findings and conclusions.

20. Provide the City with a final report of data analyses performed and used to support the conclusions for independent verification by Warrenville if necessary.

Owner Responsibilities

1. Inform DuPage County in writing of the City's intention to study the September 13 flood event and request their cooperation in providing data and assisting the efforts of Strand Associates.

2. Submit a formal request for information to DuPage County based on the list of data and information developed under Scope Item 1.

3. Provide documentation, reports, field data collected, and GPS data collected from the September 13 event and associated flooding.

Services not Included

1. Electronic/GPS Survey: Survey data shall be provided by Warrenville. If Warrenville and Strand determine during the course of the study that additional survey data is necessary it shall be provided for under an amendment to this proposal.

2. Hydrologic/Hydraulic Model Creation: We assume that modeling performed as a part of this study will be done using the existing DuPage County model for WBDPR including input of September 13 event data necessary to run a model of the subject event. If it is determined that modification of the existing model or creation of a new model is necessary these services shall be provided for under an amendment to this proposal.

Staff

Mike Waldron, P.E. will be the Project Manager for this project who will be involved in all aspects of the project and will attend all meetings. Nick Orf, P.E., CFM will be the Lead Project Engineer for this project and will perform all day-to-day efforts on this project. Nick has used the WBDPR model and is experienced with the characteristics of the river upstream of Fawell Dam. Jim Haitsma will provide survey data and mapping assistance and will also provide electronic/GPS survey services if necessary. We have also included Mark Shubak, P.E. on the project as quality control. Mark has extensive experience with stormwater and flood studies and will provide an "outside" perspective on our findings and recommendations.

Staff resumes are provided for your information.

Compensation

Attached is a breakdown of the estimated hours associated with each Scope Item. These hours are based on our understanding of the scope of services requested by Warrenville. If we feel additional hours may be necessary, we will inform Warrenville of such and will not exceed these hours without written approval from Warrenville.

Services will be provided on an hourly rate basis plus expenses. Hourly rates for the staff members anticipated to work on this project are as follows:

Michael R. Waldron, P.E.	$135.51
Nicholas J. Orf, P.E., C.F.M.	$93.64
Mark Shubak, P.E.	$108.52
James B. Haitsma	$77.59
Secretary	$66.64

Our total estimated fee for Services is $57,800.

Schedule

Upon agreement between Strand and Warrenville on the scope of services and fee we would begin field investigation and data collection immediately while memory is still fresh from the event.

Proceeding with the technical portion of the study will depend on DuPage County providing the required model and supporting data. Upon receiving the necessary information from the County we anticipate four to six weeks to perform the modeling and evaluation of the September 13 event regarding Fawell Dam and to determine the impact the dam and the temporary structure had on river levels upstream.

If it is determined that Fawell Dam impacted upstream river levels we anticipate another four to six weeks to evaluate alternative dam operations and impacts.

We would anticipate having findings and recommendations ready to present to Warrenville four weeks after all necessary evaluations are complete.

Thank you for the opportunity to assist the City with this study. If you have any questions concerning the proposed scope of services please let me know.

Sincerely,

STRAND ASSOCIATES, INC.

Michael R. Waldron, P.E.

Enclosure(s)