

MINUTES OF SPECIAL MEETING
CASS COUNTY JOINT WATER RESOURCE DISTRICT
CASS COUNTY HIGHWAY DEPARTMENT
WEST FARGO, NORTH DAKOTA
SEPTEMBER 2, 2015

The Cass County Joint Water Resource District held a special meeting on September 2, 2015, at 9:00 a.m. at the Cass County Highway Department, West Fargo, North Dakota.

Present were those whose names appear on the attached roster.

Chairman Mark Brodshaug called the meeting to order and introductions were made.

Western Cass Flood Insurance Study

Jason Benson provided an overview of the status of the Western Cass Flood Insurance Study. The Cass County Joint Water Resource District had the opportunity to review floodplain modeling information from the Federal Emergency Management Agency (FEMA). Comments have been submitted to FEMA due to several technical concerns that have not been addressed. FEMA hosted resiliency meetings on August 18 and 19, 2015, and several communities commented on the maps inaccuracies and expressed a desire that they be corrected before they are officially released to the public. FEMA responded they would not correct the technical issues at this time and would issue preliminary maps in late September. The technical concerns have resulted in a preliminary floodplain map that misrepresents the 100-year flood risk for several areas.

Kurt Lysne gave an informational PowerPoint Presentation on the Western Cass County Flood Insurance Study (FIS) to township officials, city leaders, political jurisdictions, and representative of the congressional delegation. Mr. Lysne showed the scope of the Western Cass FIS, and reviewed maps showing examples of current floodplains within the study area. Mr. Lysne explained after reviewing the flood insurance modeling information, Cass County Joint Water Resource District and other local officials still have several technical concerns that have not been addressed, including:

Calibration

The 2009 calibrated model is 2.0 feet to 2.5 feet higher than 2009 observed data at various locations on the Sheyenne Diversion channel and Sheyenne River within the Horace to West Fargo Diversion. *FEMA Guidelines and Specifications, Appendix C*, states that models should match known high water marks within 0.5 ft. FEMA's consultant has stated that *Appendix C* is superseded, but the Cass County Joint Water Resource District cannot find documentation of that. Even if that is the case, an error of 2.0 feet or greater on a calibration event with known high water marks is unacceptable. In the current effective FIS along the Sheyenne River just north of West Fargo, the difference between a 100-year flood and a 500-year flood is

approximately 2 feet. The magnitude of an error in a calibrated model this great has tremendous consequences in a region as topographically flat as the Red River Valley and puts into question the accuracy of the results for the 100-year model.

Software

The current modeling effort for the Western Cass County Flood Insurance Study used a beta release of software from the United States Army Corps of Engineers Hydrologic Engineering Center. It was released in October 2014 and designated as HEC-RAS Version 5.0 Beta October 2014. That version of the software generated significant errors, so a patch was released in February 2015. The current models should be run with the latest patch to assure that there are not significant errors in the Western Cass County Flood Insurance Study results.

Channel Geometry

The West Fargo Diversion project had extensive sedimentation in the channel prior to 2011. During the winter of 2011-2012 the sediment was removed, restoring the original channel capacity. The model correctly used the sediment constricted cross-sections for the 2009 calibration. However, for the 100-year flood event, the constricted cross-sections were also used. Using the constricted cross-sections results in higher water surface elevations in the model. The updated cross-section information has been submitted to FEMA, but there has been resistance to properly incorporate the information into the model.

Hydrology

The current modeling effort for the Western Cass County Flood Insurance Study assumes that there is a 100-year flood on the Sheyenne River in combination with a 100-year flood on the Maple River. This is not what would be expected because the probability of having a flood of that magnitude on both rivers simultaneously would be much greater than a 100-year event at their confluence.

These technical concerns have resulted in a model that cannot be used for floodplain mapping. As a result, the preliminary floodplain map misrepresents the 100-year flood risk for several areas. Kurt Lysne explained and expressed concern about the responsibility that would be placed on individual townships, city leaders, and political jurisdictions to provide evidence the FEMA preliminary maps are incorrect.

After discussion, the Board invited township officials, city leaders, political jurisdictions, and the congressional delegation to join them in communicating to FEMA by sending a letter outlining the concerns and issues with a request to delay the preliminary maps until the issues are corrected. It was determined the Water Resource District would coordinate with the Cass County Highway Department and assemble the letter to FEMA.

Chairman Brodshaug stated the Cass County Joint Water Resource District can help rural Cass County townships to research and respond to the FEMA preliminary map issues and concerns.

Adjournment

There being no further business for the Board to consider, the meeting adjourned without objection.

APPROVED:

Mark Brodshaug
Chairman

ATTEST:

Carol Harbeke Lewis
Secretary-Treasurer