

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Kevin Houck, P.E., CFM
Watershed & Flood Protection Section

DATE: June 29, 2011

SUBJECT: **Agenda Item 16**
July 12-13, 2011 Board Meeting
Watershed & Flood Protection Section – Floodplain Designations

John W. Hickenlooper
Governor

Mike King
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Background

Agenda Item 16 includes one new floodplain study that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A brief summary of the study is presented in the attached document. Additional supporting information for this item is attached.

CWCB staff performs technical reviews of floodplain information to meet statutory requirements (C.R.S. 37-60-) and to assure the Board that the information is in compliance with the CWCB's "Rules and Regulations for Regulatory Floodplains in Colorado," (2 CCR 408-1). A further discussion of related CWCB authorities and responsibilities is provided in the attachment to this memo. The Board's designation and approval of floodplain information greatly assists local governments with their land use efforts and their need to comply with requirements of the National Flood Insurance Program.

This item was originally presented for Board action as a Consent Agenda during the May 2011 meeting in Durango. It was removed from the Consent Agenda with a request for a detailed presentation at the July meeting. Staff will provide a presentation to the Board regarding new floodplain information for East Toll Gate Creek within the City of Aurora and Arapahoe County.

Staff Recommendation

Staff recommends that the Board: 1) designate and approve the 100-year detailed floodplain information contained in said report and 2) authorize staff to prepare a floodplain resolution to be signed by the CWCB Director reflecting the official designation and approval action. This action is recommended in order to meet statutory requirements.

Attachment - Supporting Information

Agenda Item 16 – Floodplain Designations July 2011

Summary

Agenda Item 16 includes one floodplain study/map that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A brief summary of the studies is presented below.

CWCB staff performs technical reviews of floodplain information to assure the Board that the information is in compliance with the requirements of the CWCB's "Rules and Regulations for Regulatory Floodplains in Colorado," 2 CCR 408-1. Furthermore, Sections 31-23-301 and 30-28-111, Colorado Revised Statutes, state that legislative bodies of local jurisdictions may provide zoning regulations for land uses on or along any storm or floodwater runoff channel or basin only after designation and approval by the CWCB. In addition, Section 37-60-106(1)(c), Colorado Revised Statutes, directs the CWCB to designate and approve storm or floodwater runoff channels or basins and to make such designations available to legislative bodies of local jurisdictions.

The CWCB's designation and approvals greatly assist local communities in meeting the statutory requirements of the State and the regulatory requirements of the National Flood Insurance Program. Floodplain information is broadly categorized as detailed or approximate using the following definitions. Detailed floodplain information means floodplain information prepared using topographic base maps, hydrologic analyses, and hydraulic calculations to arrive at precise water surface profiles and floodplain delineations suitable for making land use decisions under statutorily authorized zoning powers. Approximate floodplain information means floodplain information prepared using a significantly reduced level of detail to arrive at floodplain (hazard delineation) without water surface profiles.

CWCB staff performs technical reviews on the following types of reports and maps for approval and designation by the Board:

- "Flood Insurance Study" (FIS), which is produced by the Federal Emergency Management Agency (FEMA) and used for floodplain management, regulation, and insurance purposes.
- "Flood Insurance Rate Map" (FIRM), which is produced by FEMA and used for floodplain management, regulation, and insurance purposes. A FIRM may be published with or without an associated hydrologic and hydraulic report.
- "Flood Hazard Boundary Map" (FHBM), which was produced by the Federal Insurance Administration and are used for floodplain management, regulation, and insurance purposes. An FHBM usually depicts approximate floodplain boundaries only, and does not have an accompanying report. Note: For all FHBM designations, the CWCB staff will perform (in-house or by contract with a consultant) hydrologic analyses.
- "Floodplain Information Report", which is produced by local governments, state and federal agencies, special districts, or the private sector, and are used for floodplain management purposes and sometimes adopted by FEMA for use in Flood Insurance Rate Map revisions.

- Various hydrology studies and related floodplain studies (community-wide or site specific) that depict 100-year floodplain information that is useful for floodplain management purposes.
- “Floodplain Information” is a generic term used to describe any of the above types of reports and/or maps in the CWCB’s “rules and regulations...”

A “Floodplain Resolution” is a formal document prepared by CWCB staff describing the Floodplain Information that is to be designated and approved by the Board.

Summary of Designation Action

Floodplain resolution number: FPR 11-636

Affected communities: City of Aurora, Arapahoe County

Name of study to be formally acted on: “Flood Hazard Area Delineation, East Toll Gate Creek (Upper)”, by J3 Engineering Consultants, December 2010

Studied streams: This report includes detailed 100-year floodplain information for East Toll Gate Creek. The studied stream is in the South Platte River watershed.

Technical issues: This report was authorized by the Urban Drainage & Flood Control District (UDFCD) under joint sponsorship with the City of Aurora and the Southeast Metro Stormwater Authority (SEMSWA). The purpose of this report is to develop detailed flood hazard data for Willow Creek upstream of Hampden Avenue. The total study area includes approximately 2.6 square miles of drainage area. Hydrologic analyses were performed using UDFCD’s Colorado Urban Hydrograph Procedure (CUHP, v. 1.3.1) and the EPA’s Stormwater Management Model (SWMM, v. 5.0). Hydraulic analyses were carried out using the U.S. Army Corps of Engineers River Analysis System (HEC-RAS) based on steady flow conditions. Floodways were computed assuming both 0.5’ and 1.0’ rise criteria, which are consistent with both FEMA and local jurisdiction regulations.

Community response: UDFCD transmitted a letter to the CWCB dated March 23, 2011 requesting CWCB designation and approval of the subject report. The City of Aurora submitted a separate letter requesting designation on March 29, 2011. Although a request letter has not been received from SEMSWA, conversations with their staff indicate they agree with the results of the study and are comfortable with designation.

Staff findings: CWCB staff has determined that the subject 100-year detailed floodplain information for the studied stream reaches is conformance with the CWCB’s rules and regulations for floodplain designation and approval. The CWCB staff has relied on the technical competence of J3 Engineering Consultants, who produced the study, but also performed an independent technical review of the report. CWCB staff therefore endorses this study as containing the most current floodplain mapping available and urges the affected communities to adopt said study for land use regulation purposes pursuant to statutory authority.

Requested action for Floodplain Resolution 11-636: Staff recommends that the Board: 1) designate and approve the 100-year detailed floodplain information contained in said report for East Toll Gate Creek within the City of Aurora and Arapahoe County, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City of Aurora, Arapahoe County, the Southeast Metro Stormwater Authority, and FEMA. This action is recommended in order to meet statutory requirements.