

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us



TO: Colorado Water Conservation Board Members

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

DATE: October 28, 2011

SUBJECT: **Consent Agenda Item 6**
November 15-16, 2011 Board Meeting
Watershed & Flood Protection Section – Floodplain Designation

John W. Hickenlooper
Governor

Mike King
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Background

Consent Agenda Item 6 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.

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. A further discussion of legislative authority and responsibilities delegated to the CWCB, is provided in the attached document. 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.

Additional supporting information for this item is attached.

Staff Recommendation

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

Attachment - Supporting Information

Consent Agenda Item 6 – Floodplain Designations November 2011

Summary

Consent Agenda Item 6 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...”
- “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 Actions

Floodplain resolution number: FPR 11-637

Affected communities: City of Centennial, City of Lone Tree, City of Greenwood Village, Douglas County, Arapahoe County

Name of study to be formally acted on: “Flood Hazard Area Delineation, Cottonwood Creek”, by Muller Engineering Company, Inc., August 2011

Studied streams: This report includes detailed 100-year floodplain information for Cottonwood Creek, Havana Tributary A, Peoria Tributary B, and Inverness Tributary C. The studied streams are in the South Platte River watershed.

Technical Issues: This report was authorized by the Urban Drainage & Flood Control District (UDFCD) under joint sponsorship with Douglas County and the Southeast Metro Stormwater Authority (SEMSWA). The purpose of this report is to develop detailed flood hazard data for Cottonwood Creek between Peoria Avenue and Interstate 25 as well as for three of its largest tributaries – Havana Tributary A, Peoria Tributary B, and Inverness Tributary C. The total study area includes approximately 11.2 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 September 28, 2011 requesting CWCB designation and approval of the subject report. SEMSWA submitted a separate letter requesting designation on behalf of the City of Centennial on October 5, 2011. Arapahoe County submitted a separate letter requesting designation on October 6, 2011. Douglas County submitted a separate letter requesting designation on October 6, 2011.

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 Muller Engineering Company, Inc., 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 11-637: Staff recommends that the Board: 1) designate and approve the 100-year detailed floodplain information contained in said report for Cottonwood Creek, Havana Tributary A, Peoria Tributary B, and Inverness Tributary C within the City of Centennial, the City of Greenwood Village, the City of Lone Tree, Douglas County 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 Centennial, the City of Greenwood Village, the City of Lone Tree, Douglas County, Arapahoe County, the Southeast Metro Stormwater Authority, and FEMA. This action is recommended in order to meet statutory requirements.