



COLORADO

**Colorado Water
Conservation Board**

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TO: Colorado Water Conservation Board Members

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

DATE: May 5, 2016

AGENDA ITEM: Consent Agenda Item 4, Floodplain Designation

Background: Consent Agenda Item 4 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 studies 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 these items is attached.

Requested Action for Floodplain Resolution 16-661: Staff recommends that the Board: 1) designate and approve the 100-year hydrologic and hydraulic information contained in said report for the West Vine Basin, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to the City of Fort Collins, and to FEMA. This action is recommended in order to meet statutory requirements.



Attachment - Supporting Information

Consent Agenda Item 4 - Floodplain Designation May 2016

Summary

Consent Agenda Item 4 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 Study 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 16-661

Affected communities: City of Fort Collins

Name of study to be formally acted on: “As Built Hydraulic Analysis for the West Vine Basin and Cache La Poudre River”, by Anderson Consulting Engineers, revised August 2015

Studied streams: This report includes 100-year hydrologic information for the West Vine Basin in the City of Fort Collins. The studied stream is in the South Platte River watershed.

Technical Issues: The West Vine Drainage encompasses approximately 2,350 acres in northwestern Fort Collins. In general the basin drains west to east along five historical flow paths that are not well defined. Construction of irrigation canals and land development has significantly altered the historical flow paths of the basin. The current/effective West Vine Basin Master Drainage Plan was completed in 2003 by URS. It is noted that an update to the existing condition hydrology, hydraulics, and flood hazard mapping for the West Vine Basin was completed in early 2013 by ICON Engineering, Inc. (ICON). In 2012, ICON also completed an alternative evaluation for the water quality master plan of the West Vine Basin, which will serve as an addendum to the 2003 Master Drainage Plan. The study reach associated with the West Vine Basin Floodplain for this project extends from the Poudre River upstream to Vine Drive. An outfall channel project was constructed according to this background information. This report encompasses all of these updates. MODSWMM was used for the hydrologic update and HEC-RAS Version 4.1 was used for the hydraulic analysis. Updated 100-year hydraulic information was prepared and floodway data was computed assuming 0.5’ rise criteria, which is consistent with State and local regulations.

It is emphasized that this designation request only relates to the West Vine Basin. The designation request does not include the Poudre River floodplain included in said report.

Community Response: No formal requests for designation were received. However, the City of Fort Collins sent an informal email dated January 27, 2016, requesting designation. The City of Fort Collins locally adopted said study on January 8, 2016.

Staff Findings: CWCB staff has determined that the subject 100-year hydrologic and hydraulic information for the studied stream reaches is in conformance with the CWCB’s rules and regulations for floodplain designation and approval. CWCB staff therefore endorses this study as containing the most current hydrologic available and encourages the affected communities to consider adopting said study for land use regulation purposes pursuant to statutory authority.

Requested Action for Floodplain Resolution 16-661: Staff recommends that the Board: 1)



designate and approve the 100-year hydrologic and hydraulic information contained in said report for the West Vine Basin, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to the City of Fort Collins, and to FEMA. This action is recommended in order to meet statutory requirements.

STAFF RECOMMENDATION SUMMARY

Requested Action for Floodplain Resolution 16-661: Staff recommends that the Board: 1) designate and approve the 100-year hydrologic and hydraulic information contained in said report for the West Vine Basin, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to the City of Fort Collins, and to FEMA. This action is recommended in order to meet statutory requirements.

