



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

1313 Sherman Street  
Denver, CO 80203

P (303) 866-3441

F (303) 866-4474

Jared Polis, Governor

Dan Gibbs, DNR Executive Director

Rebecca Mitchell, CWCB Director

**TO:** Colorado Water Conservation Board Members

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

**DATE:** March 5, 2019

**AGENDA ITEM:** Consent Agenda Item 2, Floodplain Designation

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**Background:** Consent Agenda Item 2 includes one new floodplain study that is proposed for CWCB action. Staff is requesting Board designation and approval for this item subject to the specific reaches included in the recommendation below. A 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 these items is attached.

**Requested Action for Floodplain Resolution 19-696:** Staff recommends that the Board: 1) designate and approve the 100-year and 500-year detailed floodplain and floodway information contained in said report for Sloan's Lake Drainageway, Ashland Drainageway, Gray Street Tributary, and Pierce Street Tributary within the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and FEMA. This action is recommended in order to meet statutory requirements.



## Attachment - Supporting Information

### Consent Agenda Item 2 - Floodplain Designation March 2019

#### Summary

Consent Agenda Item 2 includes one floodplain study/map that is proposed for CWCB action. Staff is requesting Board designation and approval for this item. A 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 (communitywide 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 19-696

**Affected communities:** City and County of Denver, City of Edgewater, City of Lakewood, City of Wheat Ridge

**Name of study to be formally acted on:** "Flood Hazard Area Delineation, Sloan's Lake Drainageway and Tributaries", by Matrix Design Group, dated July 2018.

**Studied streams:** This report includes detailed 100-year and 500-year hydrologic and hydraulic information for Sloan's Lake Drainageway, Ashland Drainageway, Gray Street Tributary, and Pierce Street Tributary. 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 Adams County, City of Northglenn, and City of Thornton. The purpose of this report is to provide updated hydrologic and hydraulic information for the watershed. The watershed contains a drainage area of 4.9 square miles and includes the mainstem of Sloan's Lake Drainageway and three of its tributaries.

Hydrologic analyses were performed using UDFCD's Colorado Urban Hydrograph Procedure (CUHP, v. 2.0.0) and the EPA's Stormwater Management Model (SWMM, v. 5.1.011). Hydraulic analyses were carried out using both one-dimensional and two-dimensional models. For one dimensional modeling, the U.S. Army Corps of Engineers River Analysis System (HEC-RAS v. 4.1.1) based on steady flow conditions was used. For two-dimensional modeling, a FLO-2D model was prepared for areas of shallow flow and poorly defined channels. For areas in which floodways were identified, the floodways were computed assuming 0.5' rise criteria, which is consistent with both state and local jurisdiction regulations. Many of the reaches did not have floodways identified.

**Community Response:** UDFCD transmitted a letter to the CWCB dated January 15, 2019 requesting CWCB designation and approval of the subject report. No request letters were received from the other affected local governments. Conversations with staff from the partner jurisdictions indicate their desire for designation of this study.



**Staff Findings:** CWCB staff has determined that the subject 100-year and 500-year detailed floodplain and floodway information for the studied stream reaches is in conformance with the CWCB's rules and regulations for floodplain designation and approval. The CWCB staff has relied on the technical competence of Matrix Design Group, 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 19-696:** Staff recommends that the Board: 1) designate and approve the 100-year and 500-year detailed floodplain and floodway information contained in said report for Sloan's Lake Drainageway, Ashland Drainageway, Gray Street Tributary, and Pierce Street Tributary within the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and FEMA. This action is recommended in order to meet statutory requirements.

#### STAFF RECOMMENDATION SUMMARY

**Requested Action for Floodplain Resolution 19-696:** Staff recommends that the Board: 1) designate and approve the 100-year and 500-year detailed floodplain and floodway information contained in said report for Sloan's Lake Drainageway, Ashland Drainageway, Gray Street Tributary, and Pierce Street Tributary within the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and 2) authorize staff to prepare a floodplain resolution to be signed by the Director and transmitted to UDFCD, the City and County of Denver, the City of Edgewater, the City of Lakewood, and the City of Wheat Ridge, and FEMA. This action is recommended in order to meet statutory requirements.

