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DEPARTMENT OF DEFENSE

Department of the Army; Army Corps of Engineers

Notice of Availability of the Draft Environmental Impact Statement for the Dam Safety Modification Study for the Cherry Creek Project, Arapahoe County, Colorado

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Availability.

SUMMARY: The U.S. Army Corps of Engineers (Corps) has made available for public review and comment the Draft Environmental Impact Statement (Draft EIS) for the Federal action to remediate dam safety concerns at Cherry Creek Dam. The dam safety concerns are primarily related to a hydrologic deficiency resulting from an extreme precipitation event and the large population that could be affected by such an event. Cherry Creek Dam and Lake is located on Cherry Creek, 11.4 miles upstream of its confluence with the South Platte River, in Aurora, Colorado (southeast Denver metropolitan area). The remediation actions will be identified through a Dam Safety Modification Study being conducted in accordance with Corps policy as described in Engineering Regulation 1110-2-1156 "Safety of Dams – Policy and Procedures."

DATES: The public comment period on the Draft EIS begins on December 12, 2018 and will last 45 days. Submit written comments on the Draft EIS on or before January 28, 2019.

ADDRESSES: Send written comments, requests to be added to the mailing list, or requests for sign language interpretation for the hearing impaired or other special assistance needs to U.S. Army Corps of Engineers Omaha District, ATTN: CENWO-PMA-C, ATTN: Cherry Creek

DSMS, 1616 Capitol Avenue, Omaha, NE 68102-4901; or e-mail to *cenwo-planning@usace.army.mil*.

FOR FURTHER INFORMATION CONTACT: Mr. John Palensky, U.S. Army Corps of Engineers, 1616 Capitol Ave, Omaha, NE 68102, or *john.a.palensky@usace.army.mil*.

SUPPLEMENTARY INFORMATION: The Corps is issuing this notice pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq*.; the Council on Environmental Quality's (CEQ) regulations for implementing the procedural provisions of NEPA, 43 CFR Parts 1500 through 1508; the Department of the Interior's NEPA regulations, 43 CFR Part 46.

The Corps published a Notice of Intent (NOI) to prepare the Draft EIS in the **Federal Register** on December 17, 2013. Public scoping meetings to share information and to allow the public to provide oral or written comments were held near Cherry Creek Dam on January 22, 2015 at the Cherry Creek High School and on January 24, 2015 at the Campus Middle School. Three public scoping meetings were held (September 20, 21 and 22, 2016) in the vicinities of the 3 potential impact areas of the Cherry Creek project, the Cherry Creek Presbyterian Church, Virginia Village Library, and the Aurora Municipal Center. The Corps is planning an additional public on December 12, 2018 at the Lake House at Cherry Creek, Greenwood Village, Colorado to present the Draft EA and seek additional input from the agencies, utility companies and other stakeholders.

Background Information. The Cherry Creek Dam and Reservoir Project is located in western Arapahoe County, Colorado southeast of the city of Denver. The project consists of a main dam embankment, outlet works, and an emergency side-channel spillway. The 14,300-foot-long embankment holds approximately 270,000 acre-feet of water at the top of the dam. Cherry

Creek Dam and Reservoir is operated as a system with the Chatfield and Bear Creek projects. Chatfield Dam is located on the South Platte River approximately 15 miles upstream of the South Platte's confluence with Cherry Creek in downtown Denver. Bear Creek Dam is located on Bear Creek, which flows into the South Platte River approximately seven miles upstream of the South Platte's confluence with Cherry Creek. The tri-lakes system is operated to minimize flows at the Denver gauge on the South Platte River in downtown Denver, CO.

The dam was screened in 2005 using the Screening Portfolio Risk Assessment (SPRA). As a result of that analysis, an Issue Evaluation Study (IES) was completed in 2011. The most significant failure mode identified during the IES was overtopping and failure of the embankment during extreme floods. Combined with the extremely high consequences, primarily due to the project location upstream of the Denver metropolitan area, the dam was found to pose an unacceptable risk to the public.

A Dam Safety Modification Study (DSMS) was started in 2013. The purpose of the DSMS is to identify and recommend a risk management plan that reduces risks posed by Cherry Creek Dam. The recommended plan is the No Action Alternative. Federal costs of implementation for this alternative are zero. In some instances, the justification can be made that tolerating structures with high consequences from a failure is in the interest of society. In the case of Cherry Creek Dam, the probability of failure is very low, individual risk is more than two orders of magnitude below the USACE threshold, the risk posed by the project meets the principle of equity as described in ER 1110-2-1156, and the benefits provided by the dam to society justify continued federal investment in this project by the federal government. Risks at the dam are being properly monitored by USACE and state of the practice actions are being

taken, including improvements to the USACE warning issuance time and improvements to emergency planning and preparedness by downstream local emergency management agencies.

During the DSMS, the Omaha District initiated a Water Control Plan (WCP) Modification Study in accordance with ER 1110-2-240, Water Control Management and ER 1110-2-1156, Safety of Dams, Policy and Procedures. The purpose of the study was to reduce the potential risk of failure of Cherry Creek Dam during extreme floods by releasing more water from the outlet works at the dam while limiting exposure to potential downstream damages. The study proposed using a pool elevation trigger. The modification to the WCP was approved in April 2017.

Another factor that reduced overtopping risk in the Future without Action Condition (FWAC) is the restoration of the spillway capacity. The spillway is located on the right side of the embankment and is configured to spill water into the adjacent Sand Creek basin, which flows into the South Platte River in Commerce City north of downtown Denver. Over time soil has accumulated on the bed of the spillway channel resulting in an increase in the spillway crest elevation of approximately 12.5 feet. The spillway crest will be returned back to its design elevation through the maintenance program. A draft Environmental Assessment to evaluate the potential environmental and social effects of the Cherry Creek Spillway Project is currently being prepared under the Operation and Maintenance (O&M) program. Conducting the spillway project under the O&M program will allow the issue to be addressed as a matter of required maintenance as opposed to a dam modification via the Dam Safety program. A contract for the spillway excavation work is planned for 2019 and anticipated to take 12 to 18 months. The costs for returning the spillway to the design configuration are about $11 million.

The Draft EIS document was produced to look at environmental impacts from implementing potential risk reduction alternatives. While the focus of the DSMS concerns tolerable risk, risk of life loss, etc., the focus of this Draft EIS is not to evaluate impacts of dam failure, but to compare direct, indirect, and cumulative effects of implementing any of the alternatives that address risk.

This notice announces the availability of the Draft EIS and begins a 45-day public comment period on the range of alternatives and effects analysis. Analysis in the Draft EIS will support a decision on the selection of an alternative. The Draft EIS can be accessed at: *http://www.nwo.usace.army.mil/Missions/Civil-Works/Planning/Project-Reports/*. The Corps is serving as the lead Federal agency for the NEPA analysis process and preparation of the Draft EIS. No Cooperating Agencies were established for this study.

Project Alternatives. The purpose of the Cherry Creek DSMS is to identify and recommend a risk management plan that addresses risk of life loss and significant economic, social, and environmental damages associated with a potential failure of Cherry Creek Dam. In addition to the No Action Alternative, Alternatives 2F (raise dam 7.1 feet and spillway to elevation 5610.5 from original design of 5599.8 feet NAVD88 to prevent overtopping) and 3B (dam raise of 6.2 feet and no spillway raise) were evaluated in the final array of alternatives.

Dam Raise Alternative 3B consists of the FWAC spillway and a dam raise to contain the PMF. A dam raise height for this alternative is 6.2 feet and the crest width was assumed to be approximately 38 feet to allow reconstruction of the crest road using current road design standards. Various methods for raising the dam were considered, including an earth raise, reinforced concrete wall, and mechanically stabilized earth. The most efficient method of raise depends on several factors including the height of raise, crest width, availability of on-site

materials, and steepness of embankment side slopes. Earth/rock fill raises compete well for raises below 4 to 5 feet if the crest width can be minimized. Reinforced Concrete (RC) wall raises are clearly more cost effective for larger raises and when a wide crest is required to allow construction of a crest road that meets modern standards of construction, therefore, the dam would be raised using an RC wall if Alternative 3B is implemented.

Dam Raise Alternative 2F consists of a RC wall dam raise of 7.1 feet and a spillway raise to crest elevation 5610.5 feet NAVD88 to prevent overtopping during the PMF. This spillway crest elevation of 5610.5 feet was chosen to minimize non-breach flows in the spillway impact area. As with Alternative 3B the dam would be raised using an RC wall and the crest width would be approximately 38 feet to allow reconstruction of the crest road using current road design standards.

The Draft EIS evaluates the potential effects on the human environment associated with each of the alternatives. Issues addressed include: land use and vegetation, social and economic conditions, recreation, water resources, air quality, noise, and environmental justice.

Schedule. The public comment period will begin December 12, 2018. Comments on the Draft EIS must be received by January 28, 2019. The Corps will consider and respond to all comments received on the Draft EIS when preparing the Final EIS. The Corps expects to issue the Final EIS in the summer of 2019, at which time a Notice of Availability will be published in the **Federal Register**.

The public meeting date or location may change based on inclement weather or exceptional circumstances. If the meeting date or location is changed, the Corps will issue a press release and post it on the web at *http://www.nwo.usace.army.mil/Media/News-Releases/* to announce the updated meeting details.

Public Disclosure Statement. If you wish to comment, you may mail or e-mail your comments as indicated under the **ADDRESSES** section of this notice. Before including your address, phone number, e-mail address, or any other personal identifying information in your comment, you should be aware that your entire comment - including your personal identifying information - may be made available to the public at any time. While you can request in your comment for us to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Brenda S. Bowen,
Army Federal Register Liaison Officer.
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