MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

SUBJECT: Chatfield Reservoir, Colorado, Storage Reallocation Project

1. Purpose: Enclosed is the Chatfield Reservoir Storage Reallocation Final Integrated Feasibility Report and Environmental Impact Statement, dated July 2013, with Addendum No. 1, dated March 2014 (FR/EIS), the decision document for the subject project. I request that you concur with my finding in this memorandum that the proposed reallocation project is feasible and economically justified, approve the FR/EIS and sign the Record of Decision. These actions will complete the conditional authorization of the project as required by Section 808 of the Water Resources Development Act (WRDA) of 1986 (P.L. 99-662). Additionally, in accordance with the implementation guidance, dated 12 May 2010, I request that you determine that the work proposed to be performed by the non-federal sponsor under the authority of Section 116 of Division C of the Omnibus Appropriations Act of 2009 (P.L. 111-8) is integral to the project.

2. Authorizations:
   a. Section 808 of WRDA 1986, as amended by Section 3042 of WRDA 2007 (P.L. 110-114), authorizes the Secretary of the Army to reassign existing storage at Chatfield Reservoir to joint flood control/conservation purposes, including storage for municipal and industrial (M&I) water supply, agriculture, environmental restoration, and recreation and fishery habitat protection and enhancement, subject to three conditions. The conditions are: the reallocation must be at the request and in coordination with the Colorado Department of Natural Resources (CDNR); the Chief of Engineers must find the reallocation to be feasible and economically justified; and appropriate non-federal interests must agree to repay the cost allocated to such storage in accordance with the provisions of the Water Supply Act (WSA) of 1958 and such other federal laws as the Secretary determines appropriate. If these conditions are met, the Secretary can approve the reallocation without obtaining additional authority from Congress.
   b. Section 116 of Division C, of the Omnibus Appropriations Act of 2009 authorizes the CDNR to perform facility modifications and mitigation for the project, and directs the Secretary of the Army to collaborate with the CDNR and local interests to determine storage cost repayments that reflect the limited reliability of the reallocated storage space.

3. Existing Project: Chatfield Dam and Reservoir is an existing U.S. Army Corps of Engineers multi-purpose project, completed in 1973. The project is located within the South Platte River Basin, southwest of Denver, Colorado, eight miles upstream at the confluence of the South Platte River and Plum Creek. The reservoir’s location is directly on the South Platte River, or “on-
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The study area encompasses the area in the immediate vicinity of Chatfield Reservoir and extends approximately 45 miles downstream to where the river intersects the Adams/Weld County line. The existing Chatfield Reservoir is operated for flood control, as part of the Corps' Tri-Lakes System in conjunction with the Cherry Creek and Bear Creek Reservoirs, and for the additional purposes of recreation, fish and wildlife and water supply. The original recreation facilities were constructed using Federal Land and Water Conservation Act (LWCA) funds and are leased to and operated by Colorado State Parks (an agency within CDNR) as Chatfield State Park, one of the most visited State Parks in Colorado. The reservoir has a storage capacity of 234,932 acre-feet (AF) below the spillway crest, which consists of inactive/sediment storage; a 206,779 AF exclusive flood control pool; and a 27,405 AF conservation pool, which is kept filled between elevations 5385 above mean sea level (msl) and 5432 msl through an agreement between CDNR and Denver Water. Under the agreement, Denver Water uses its senior water rights to store water for water supply, under the condition that, except in drought, the top of pool is kept between 5423 msl and 5432 msl to be available for recreation and fish and wildlife use. Wetlands and mature cottonwood trees are established along the banks of the reservoir, and the riparian and flood plain habitat along the South Platte and Plum Creek arms of the reservoir are designated as Critical Habitat of the federally-threatened Preble’s meadow jumping mouse.

4. Sponsor and Need for Reallocation: The FR/EIS was prepared in response to a request from CDNR to evaluate the use of Chatfield Reservoir for water supply. CDNR, acting through the Colorado Water Conservation Board, is the non-federal sponsor for the FR/EIS study, and will be the sponsor for implementation of the reallocation project. CDNR entered into a Feasibility Cost Share Agreement with Omaha District on 2 September 1999, and in a letter dated 11 September 2013, expressed their intent to sign the project implementation agreement. CDNR is serving as the project sponsor on behalf of a group of 12 individual water providers in the greater Denver area. CDNR will enter into a project agreement with the Corps and will also enter into third-party sub-agreements with each of the 12 individual water providers. The providers will use their water rights to store water in the reallocated 20,600 AF and will fund the project costs in proportion to their storage use. CDNR and the 12 water providers are requesting storage in Chatfield Reservoir to increase the availability of M&I water to help meet a portion of existing and future water needs. For the 12 water providers, the combined annual demand in year 2050 is projected to be approximately 190,000 AF/year.

5. Selected Plan: The Selected Plan recommended in the Final FR/EIS provides 20,600 AF of storage in Chatfield Reservoir between the elevations 5432 msl and 5444 msl for M&I water supply and other purposes including agriculture, environmental restoration, and recreation and fishery habitat protection and enhancement. The storage will be provided through a reallocation from the exclusive flood control pool to a joint conservation/flood control pool. This raises the conservation pool level 12 feet. To mitigate for the inundation of recreation and environmental
resources, the Selected Plan includes relocation and modifications of existing recreation facilities and compensatory environmental mitigation features with monitoring and adaptive management. Implementation of the pool rise and use of the reallocated storage space will occur in increments as the recreation modifications and portions of the environmental mitigation features are completed. Some changes to reservoir operations will occur to carry out the water supply purpose, and will be documented in the Water Control Manual which will be updated for division approval in a separate action after the FR/EIS is approved.

a. Water Supply: The Selected Plan would help meet the water providers’ forecasted demand for M&I water supply by providing an average year yield of up to approximately 8,539 AF/year of M&I water, sustainable over the 50-year period of analysis. The M&I water would be provided through dam releases; no new intakes or pipelines are planned.

b. Flood Risk Management: Flood control capabilities at Chatfield and the Tri-Lakes System would not be reduced by the reallocation. During small flood events which can be accommodated in the reallocated flood pool above 5444 msl, the Chatfield operation may slightly increase releases and affect the timing and duration of releases made from Cherry Creek and Bear Creek, but the primary flood risk management purpose for all the lakes is not affected. During large flood events which are predicted to require storage below 5444 msl, the Corps would drawdown the Chatfield reallocated joint-use conservation pool and there would be no change to the Tri-Lakes System flood control storage evacuation releases.

c. Recreation Modifications: Significant modifications will be implemented on Chatfield Project lands to relocate and replace existing recreation facilities, resources and project roads that will be inundated by the pool raise and affected by greater and more frequent fluctuations in pool elevation. Facilities at 14 day-use sites within Chatfield State Park will be replaced in-kind, and include a marina, concession building, breakwater, fishing pier, boat ramps, swim beach, trails, picnic tables, group picnic areas, rest rooms, game courts, a balloon launch, earthwork, roads, a bridge, parking lots, utilities, and other associated facilities. Cottonwood trees and other vegetation not otherwise replaced as part of environmental mitigation will be replaced to restore the recreation experience.

d. Environmental Mitigation: The Compensatory Mitigation Plan and the Adaptive Management Plan describe the environmental mitigation, monitoring and contingencies that will be implemented to replace or compensate for the loss of habitat on Chatfield Project lands inundated by the pool raise, including wetlands, bird habitat and habitat (including Designated Critical Habitat) of the federally-threatened Preble’s meadow jumping mouse. Mitigation will consist of on-site and off-site measures, including preservation and enhancement of same-type habitat existing at other locations; regeneration of cottonwood woodlands; conversion of upland
grassland and shrubland to forested riparian, riparian shrubland and scrub-shrub wetland habitat for the Preble’s mouse; creation of wetlands; stream improvements to control erosion and sediment and expand riparian habitat; control of invasive vegetation; and restoration of construction sites. These features will be located on-site at 29 sites on 165 acres of Chatfield Project lands; off-site on 888 acres along the West Plum Creek Critical Habitat Unit (CHU) for Preble’s mouse; and off-site along 4.5 stream miles of Sugar Creek in the Pike National Forest within the Upper South Platte CHU. The West Plum Creek sites will be acquired by the non-federal sponsor from willing sellers preferably in fee or alternatively with a conservation easement approved as a non-standard estate by HQUSACE Real Estate on 22 January 2014. A total of 796 Ecological Functional Units (EFUs) conservatively estimated to be permanently lost will be replaced by the following: 211 EFUs for noncritical Preble’s habitat, up to 65 EFUs for West Plum Creek Preble’s critical habitat, up to 396 EFUs for bird habitat, and up to 124 wetland habitat EFUs. The Selected Plan includes monitoring for up to five years of the environmental mitigation features to establish success. The Adaptive Management Plan has been included to ensure the adequacy of these mitigation actions. It serves as a framework for how uncertainties regarding impacts and/or mitigation will be addressed for selected resources that may be affected by the Selected Plan.

e. Plan Accomplishments: The Selected Plan is the least cost alternative, the NED plan and the locally-preferred plan. It provides an average year yield of 8,539 AF/year at less cost than other alternatives for water supply. The plan meets all federal NED goals, Corps planning goals and Environmental Operating Principals. All required environmental mitigation and recreation modifications are reasonably attainable. Implementation of the plan is within the financial capability of CDNR and the water providers. The reallocation has no significant effect on the primary flood risk management purpose of Chatfield and the other Tri-Lakes reservoirs, and with the implementation of the recreation modifications and the environmental mitigation, has no severe effect on other authorized project purposes. The Chatfield Dam is classified as DSAC IV, and dam safety and seismic evaluations concluded there are no dam safety issues at Chatfield Reservoir.

6. Non-Federal Responsibilities: In accordance with cost-sharing provisions for M&I water supply in the WSA of 1958 and Section 103(c)(2) of WRDA 1986, costs for design and implementation and operation, maintenance, repair, rehabilitation, and replacement (OMRR&R) for the reallocated storage and reallocation project features are funded at 100 percent non-federal expense. CDNR would pay the updated cost of storage, and finance all environmental mitigation and recreation modification costs, as well as all oversight costs incurred by the Omaha District for implementation phase activities, including design, construction, monitoring and adaptive management. Under the authority of Section 116, CDNR, through a non-profit corporation created with the water providers, would design and construct the recreation modifications and the
environmental mitigation features. The Corps, U.S. Fish and Wildlife Service, and State of Colorado would review the design and monitor the construction of the environmental mitigation and recreation modification measures. Operation and maintenance for the modified recreation facilities and features of Chatfield State Park would continue to be provided by Colorado State Parks through their lease agreement. CDNR would be responsible for monitoring the environmental mitigation sites for five years following construction and for operating and managing the mitigation sites in perpetuity. Upon obtaining approval of the Corps, CDNR may consider transferring the off-site West Plum Creek mitigation properties to another public agency or appropriate non-governmental organization for long-term management. CDNR would provide annual payments to the Corps for the water supply proportional share of joint costs for the Chatfield Project OMRR&R costs, as well as specific Chatfield Project OMRR&R costs directly related to operations for the Selected Plan. CDNR and the water providers would be responsible for the OMRR&R of their own infrastructure facilities.

7. Cost of Storage: On 22 January 2009, Assistant Secretary of the Army (Civil Works) (ASA(CW)) granted an exemption of the policy for calculating the updated cost of storage. Based on the high costs for riparian habitat impacts, recreation modifications, low dependable water yield, and the updated cost of storage, the cost per acre-foot at Chatfield was shown to be about four times greater than the next highest cost for a Corps reallocation project. The ASA(CW) exempted Chatfield Reservoir reallocation from the existing policy and established a one-time reduction of the estimated updated cost of storage which more equitably reflects the reliability of inflows and yield. With the ASA(CW) exemption, the cost of storage to be paid by CDNR is 41 percent of the calculated updated cost of storage. The updated cost of storage is an amount that is repaid to the United States Treasury for the proportion of the joint costs of Chatfield Project construction related to the 20,600 AF of reallocated water storage and is computed as of the fiscal year in which the project agreement is signed. Using the ASA(CW) exemption at FY14 price levels, the cost of storage is $16,285,392. This amount may be paid in one up-front lump sum, or amortized over 30 years for an annual cost of $844,350 at FY14 price levels using the federal water supply discount rate of 3.125 percent (EGM 14-01).

8. Project Costs and Benefits: In addition to the cost of storage, CDNR, is responsible for 100 percent of the financial costs of water supply infrastructure, recreation modifications and environmental mitigation. At FY14 price levels and federal FY14 discount rate of 3.5 percent, these have a present value of $107,867,362. Adding the $16,285,392 cost of storage, the total financial first cost of the project is $124,152,754. Annual financial benefits and costs are $8,292,017 and $7,819,678 respectively. Net annual financial benefits are $472,349, and the financial benefit to cost ratio is 1.06. At FY14 price levels and 3.5 percent discount rate, annual National Economic Development Benefits (NED) benefits and costs (which do not include the
cost of storage) are $8,404,137 and $7,775,248 respectively. Net annual NED benefits are $628,890, and the NED benefit to cost ratio is 1.08.

9. Operation, Maintenance, Restoration, Relocation and Repair (OMRR&R): CDNR will be responsible for four types of OMRR&R costs. First, based upon the proportion of the reallocated 20,600 AF to the total usable storage of the reservoir, CDNR would pay 8.99 percent of Chatfield Project annual joint use OMRR&R, for which the estimated annual cost is $172,730. Second, CDNR would pay for any additional Corps operational costs resulting directly from the implementation of the Selected Plan, estimated at $47,180 annually (FY14 price levels). Third, CDNR and the water providers are responsible for the OMRR&R of their own water supply infrastructure, estimated at $1,451,227 annually (FY14 price levels). Fourth, CDNR is responsible for the OMRR&R of the environmental mitigation features, estimated at $855,448 annually (FY14 price levels). Using FY14 price levels and federal FY14 3.5 percent discount rate, the total estimated annual cost for these four OMRR&R costs are present valued at $59,262,620 and annualized at $2,526,585 per year. These costs are included in the present valued and annual costs presented in paragraph 8 above. A fifth type of OMRR&R costs is for the modified recreation facilities; these costs will continue to be provided by the Colorado State Parks, the leaseholder of the Chatfield State Park, and are not included in the water supply OMRR&R costs.

10. NEPA Compliance: Signing the ROD will complete the NEPA compliance requirements for this project.

a. The FR/EIS analysis of alternatives, evaluation of environmental affects, and integrated report/EIS format comply with NEPA requirements. Environmental mitigation and recreation modifications are a significant component of the Selected Plan as they are required to address the adverse impacts of the reallocation. The adverse impacts to recreation and the environment are mitigatable and will be mitigated to the most sustainable alternative to below a level of significance.

b. The primary scoping comment period opened 26 October 2004, and scoping comments were formally received through March 2005. Public and agency review for the Draft FR/EIS, including public meetings, began 8 June 2012, and upon request was extended to 6 September 2012. Public and agency review for the Final FR/EIS occurred from 3 August to 5 September 2013.

11. Stakeholder Input: The planning process included extensive coordination with a wide range of potentially affected/interested parties, including federal, state and local government agencies. Input from interest groups and the general public was also solicited and included the scoping process and public reviews of the Draft FR/EIS and Final FR/EIS. All comments and recommendations were reviewed and considered. Beyond the environmental mitigation and recreation modifications of the
Selected Plan, the water providers have agreed to provide additional actions on their own outside of the Federal project to address additional stakeholder concerns.

12. Technical Review: Technical review has been an integral part of the development of the FR/EIS. Several Corps offices, including the Omaha District, Planning Center of Expertise for Water Management and Reallocation, Cost Center of Expertise, the Flood Risk Management National Planning Center of Expertise and the Ecosystem Restoration Planning Center of Expertise, have been involved in technical review of the analysis and documentation associated with the study. Technical reviews on the Draft and Final FR/EIS were conducted by the Omaha District, Northwestern Division, Headquarters and Agency Technical Review. An Independent External Peer Review of the Pre-Public Draft FR/EIS was completed on 25 October 2011; the twenty-seven comments received were addressed in the July 2013 Final FR/EIS and March 2014 Addendum No. 1. The Environmental Protection Agency and U.S. Fish and Wildlife Service were provided draft and final reports and reviewed applicable technical areas.

13. Policy Compliance Review: HQUSACE conducted Policy Compliance Reviews of several versions of the FR/EIS throughout the report development, including the 2009 Preliminary Draft; the June 2011 Pre-Public Draft; the March 2012 revised Draft; the June 2012 Public Review Draft; the March 2013 Pre-Public Final; the July 2013 Public Review Final; the December 2013 Addendum No. 1; and the revised March 2014 Addendum No. 1. The HQUSACE Policy Review Team also participated in numerous informal Vertical Team issue resolution discussions. The enclosed Documentation of Review Findings compiles the comments, responses and assessments of the HQUSACE policy reviews. With the July 2013 Final FR/EIS and March 2014 Addendum No. 1, the HQUSACE Policy Review Team has concluded that all policy review comments have been satisfactorily resolved, and the documents and Selected Plan are policy compliant and legally sufficient.

14. Determinations Required by Authorizing Legislation: Section 5.5.2 and Section 9 of the Final FR/EIS Main Report summarize how Alternative 3, the Selected Plan, meets the requirements of the legislative authorizations for the reallocation and the existing Chatfield Lake project.

- Section 808 of WRDA 1986, as amended.
  
  (1) CDNR Request. In the letter dated 31 January 2012, CDNR reconfirmed interest in the project and requested the reallocation to water supply.

  (2) Feasible and Justified Findings. Based upon the information in the Final FR/EIS and Addendum No. 1, I find that Alternative 3 is feasible and economically justified.
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(3) Cost-Share Sponsor. In the letter dated 11 September 2013, CDNR expressed their intent to sign the project implementation agreement. Your approval of the Final FR/EIS with Addendum No. 1 will complete the authorization requirements for the Chatfield Reallocation Project.


(1) CDNR Request to Perform Work. The FR/EIS provides information as to how the proposed CDNR work meets the requirements of the Implementation Guidance for Section 116, dated 12 May 2010. In the 10 February 2012 letter, CDNR through the Colorado Water Conservation Board, requested to perform through its agencies and non-federal project partners, the water providers, all the modification and mitigation work for the project. CDNR intends to accomplish the work through a non-profit corporation created with the water providers. Of the estimated $107,867,362 project first costs for design and construction (excluding cost of storage), the cost of the CDNR work is estimated to be approximately $106,117,362 and the Corps oversight funded by CDNR is approximately $1,750,000. The CDNR work will consist of design, construction, project management and coordination for all project features, including but not limited to: 1) on-site and off-site environmental mitigation; 2) modification/re-construction of all impacted recreation facilities; 3) utility relocations; 4) earthwork and shoreline contouring; 5) road, bridge and parking lot construction; 6) demolition, clearing and grubbing; and 7) vegetation management. I concur with the FR/EIS recommendation that the proposed CDNR work is integral to the reallocation project. All the work and features are essential components of the Selected Plan; would otherwise have been performed by the Corps; are not inherent governmental responsibilities; and are not already a task required to be performed by the non-federal sponsor (such as LERRDs). All the non-federal work is eligible to be performed by CDNR, because the cost of the work is within the non-federal cost-share, which for water supply is 100 percent non-federal. Your determination that the non-federal work is integral to the reallocation project will identify what work CDNR is authorized to perform. The actual CDNR work will be performed with oversight, inspection and approval of the Omaha District in accordance with the project agreement.

(2) Cost of Storage. This directive has been fulfilled by the issuance of the ASA(CW) memorandum of 22 January 2009, approving a policy exception allowing for the reduction of the cost of storage payment amount which reflects the limited reliability of the resource.

c. Land and Water Conservation Fund Act (LWCF). In the letter dated 4 October 2010, the National Park Service concurred that Alternative 3 is in compliance with the LWCF, because the recreation facilities will be relocated and replace in-kind, and recreational use of Chatfield Lake will continue.
15. Recommendation: The Omaha District Commander recommends implementation of the Selected Plan, Alternative 3, which would reallocate 20,600 AF of exclusive flood storage to joint flood control/conservation storage to provide an average annual yield of 8,539 AF/year for the purpose of M&I water supply and other purposes including agriculture, environmental restoration, and recreation and fishery habitat protection and enhancement. The reallocation will occur between 5432 msl and 5444 msl and include mitigation measures identified for environmental resources and for recreation resources, as described in the Final FR/EIS and Addendum No. 1. At FY14 price levels, the estimated fiscal first cost to implement the reallocation project is $124,152,754, which includes an estimated $16,285,392 payment to the U.S. Treasury for the cost of storage. I concur with the findings of the district commander and his recommendation. I recommend you determine that the work proposed to be performed by CDNR is integral to the reallocation project; approve the Final FR/EIS with Addendum No. 1, and sign the Record of Decision. Upon completion of those action, the Corps will complete negotiations and submit for your approval an agreement with CDNR for implementation of the reallocated water storage, recreation modifications and compensatory mitigation features.

6 Encls
1. Report and Addendum
2. Draft Record of Decision
3. CDNR Letters
4. Policy Guidance
5. Independent External Peer Review – Corps of Engineers Agency Response
6. HQUSACE Documentation of Policy Review Findings

STEVEN L. STOCKTON, P.E.
Director of Civil Works