

# CRMC ANNUAL REPORT

FOR CALENDAR  
YEAR 2021



## Chatfield Storage Reallocation Project



PREPARED BY:  
Chatfield Reservoir  
Mitigation Company, Inc.

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# Chapter 1 – Introduction

## Overview

Presented herein is the Chatfield Reservoir Mitigation Company, Inc’s (CRMC) sixth annual report on progress towards implementation of the Federal and State requirements for environmental and recreational mitigation activities for the Chatfield Storage Reallocation Project (CSRP or Project).

This report, which is prepared for the U.S. Army Corps of Engineers (USACE or Corps), summarizes CRMC’S activities from January 1, 2021 through December 31, 2021 pursuant to the 2014 Water Storage Agreement (WSA), the combined Feasibility Report and Environmental Impact Statement (FR/EIS or Reallocation Report), and the Colorado Parks and Wildlife (CPW) Fish, Wildlife, and Recreation Mitigation Plan.

## History

In 1994, the Colorado Water Conservation Board (CWCB), on behalf of Colorado Department of Natural Resources (CDNR) and the project participants, initiated the study for the CSRP based on previous Congressional authorization for USACE to reallocate storage space within Chatfield Reservoir for water supply. On May 29, 2014, USACE issued its Record of Decision approving the CSRP. Further, the State Fish, Wildlife and Recreation Mitigation Plan (122.2 Plan) was subsequently approved by the CPW Commission, satisfying all federal and state project review and approval requirements.

The Project consists of reallocating storage space in Chatfield Reservoir by USACE authorizing the use of 20,600 acre-feet of storage space by the project participants for municipal and other purposes. The Reallocation Report also included extensive hydrologic studies by USACE demonstrating that flood protection provided by Chatfield Reservoir would not be compromised by the CSRP.

On May 7, 2020, the CSRP received formal approval from USACE that “all recreation modifications, compensatory mitigation features, real estate interests, and ‘other modifications to the project’ as defined in the [WSA] have been satisfactorily completed.” The USACE approval and payment of the First Cost of Storage granted CDNR and the project participants the permanent right to store water in the reallocation pool.

This Annual Progress Report is a requirement of the Appendix K – Compensatory Mitigation Plan of the Reallocation Report. The Compensatory Mitigation Plan (See CMP, p109) and the Adaptive Management Plan also require submittal by the CRMC of the following reports at various times:

- As-Built Reports
- Monitoring Reports
- Adaptive Management Analysis Reports
- Design Reports
- Water Quality Monitoring Report (AMP, p21)
- Water Quality Modeling Report (AMP, p23)

The Annual Report provides updates on the status of the reports identified above, but actual submission of the reports will be handled separately when submission is required.



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## Annual Report Organization

This Annual Report is organized into four parts: a discussion of the CRMC’s accomplishments, organization, and project design (Chapters 1, 2 and 3), and a list of Federal and Colorado Requirements addressed and summarized in Table 2 that identifies all material requirements and their status to facilitate USACE progress review (Chapter 4).

### Chapters 1, 2, and 3 – CRMC

1. Introduction
2. CRMC: Describes CRMC organization including current Company Members, Board of Directors, General Manager, Company Counsel, Accountant, Auditor, Project Coordination Team (PCT), Technical Advisory Committee (TAC), Operational Advisory Committee (OAC), Chatfield Marina Coordination Committee (CMCC), Reservoir Model Coordination Committee (RMCC), Operational Advisory Committee (OAC), Reservoir Model Coordination Committee (RMCC), Adaptive Tree Management Plan Committee (ATMP), and the Offsite Subcommittee.
3. Design, Construction, and Opinion of Probable Cost (OPC) Update: Describes the design and implementation procedures and processes to complete the Reallocation Project.

### Chapter 4 – Federal and State Requirements

#### Federal Requirements:

**Water Storage Agreement** — the Water Storage Agreement (WSA) was executed by the Department of the Army and the Colorado Department of Natural Resources (CDNR) on October 9, 2014. The contract provisions discuss the roles and responsibilities of the parties, as well as conditions for reallocation of water storage space, implementation of recreation modifications, and completion of compensatory mitigation features for the CSRP. The WSA grants the right to utilize water supply storage to the CDNR and its designees. Sub-agreements, referred to as Water Provider Agreements, were initially executed between CDNR and each of the eight original participating water providers in October 2015. The sub-agreements extend the right to store water in the reallocated spaced for each of the water providers (e.g., CRMC Members) based on their pro-rata share in the storage space reallocated by the Project.

**Components of the Reallocation Report (FR/EIS)** — various appendices of the FR/EIS discuss federal mitigation requirements, as follows:

- **Compensatory Mitigation Plan:** This is Appendix K of the Reallocation Report which describes the required mitigation activities.
- **Recreation Facilities Modification Plan:** This is Appendix M of the Reallocation Report that describes the impacts of the Reallocation Project on recreation facilities (except for the Chatfield Marina) and modifications to the facilities necessary to mitigate for the impacts.
- **Chatfield Marina Reallocation Impact Assessment Report:** This is Appendix N of the Reallocation Report that assesses the potential impacts of the Reallocation Project on the Marina and modifications to the facilities to mitigate for the impacts.
- **Tree Management Plan:** This is Appendix Z of the Reallocation Report that provides an evaluation of the trees that would need to be moved and identifies an adaptive management approach through monitoring of tree stress and mortality. The AMP also “*consolidates and adds information previously provided in the draft FR/EIS*”, which includes the Tree Management Plan.



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- **Adaptive Management Plan:** This is Appendix GG of the Reallocation Report that provides a framework for how uncertainties regarding impacts and/or mitigation will be addressed over time for a variety of resources that may be affected by implementation of the Project.
  - **U.S. Fish and Wildlife Service Biological Opinion:** These are Appendices II and KK of the Reallocation Report which identifies the impacts to the Preble's Meadow Jumping Mouse (PMJM) by the CSR and requirements for monitoring and mitigation of the impacts.

#### **Colorado Requirements:**

Chapter 6 of the Reallocation Report (Description of Selected Plan, Section 6.3) refers to additional requirements of Colorado State Parks and Colorado Division of Wildlife (now Colorado Parks and Wildlife, hereafter CPW) and states:

*"These actions are beyond the Selected Plan. These additional measures are described for information only. They are not part of the federal reallocation project and are not included in project costs or evaluations of the FR/EIS."*

Similar language is stated on pages 3 and 4 on the September 2014 Addendum 2 to the FR/EIS.

- **Fish, Wildlife and Recreation Mitigation Plan:** This report, which is a requirement of Colorado Revised Statutes 37-60-122.2, also identifies actions that CRMC will implement to mitigate unavoidable adverse impacts the Project may have on fish, wildlife and recreation.
- **Water Providers Agreements:** These agreements mentioned above between CDNR and each of the original eight Water Providers, dated October 15, 2015, grant each Water Provider the right to use storage space in Chatfield Reservoir in consideration of CRMC performing the obligations specified in the agreements, and require the Water Providers to be CRMC members and to fund CRMC's activities.



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## Summary of Key Accomplishments in 2021

- Collectively, the Chatfield Storage Reallocation Project's Water Providers stored a maximum volume of about 7,368 acre-feet in the reallocation pool, which is nearly 36% of the total 20,600 acre-foot capacity. On June 8, 2021, Chatfield Reservoir reached an elevation of 5,436.85 ft msl, which is almost 5 out of the 12 vertical feet that comprises the Fluctuation Zone.
- The Plum Creek environmental mitigation work was featured as one of 62 projects in the publication, *Engineering with Nature: An Atlas, Volume 2*. The U.S. Army Corps of Engineers' initiative features global projects that emphasize, "intentional alignment of natural and engineering processes to efficiently and sustainably deliver economic, environmental and social benefits through collaborative process." (<https://ewn.erdc.dren.mil/atlasv2.html/>)
- CRMC's environmental mitigation engineering team, led by Muller Engineering, won an American Council of Engineering Companies (ACEC) of Colorado Engineering Excellence Award for the design and oversight of the mitigation improvements along Plum Creek and South Platte River.
- Hosted a delegation from the Omaha District of the U.S. Army Corps of Engineers, which included District Commander, Colonel Mark R. Himes.
- Obtained approval from the TAC, CRMC, and USACE of the various annual reports, including the following:
  - 2020 CRMC Annual Report
  - 2020 Mitigation Monitoring Report
  - 2020 Adaptive Tree Management Plan Monitoring Report
  - 2020 Sandstone Ranch and Schmidt Property Off-Site Management and Monitoring Reports
  - 2020 Water Quality Monitoring and Modeling Report
- Conducted numerous OAC meetings to discuss water accounting, the operations of the reallocation pool, and to prepare the CSR Operations Plan.
- Conducted several annual monitoring tasks, including tree health assessment, compensatory mitigation, noxious weed management, target environmental resources, off-site, and water quality.



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## Definition of Terms

The following definitions are taken from the WSA Article I –Definitions and are used in this Annual Report.

1. The term "Chatfield Storage Reallocation Project" shall mean the reallocation of storage space in the Chatfield Project for joint flood control-conservation purposes, including storage for municipal and industrial water supply, agriculture, environmental restoration, and recreation and fishery habitat protection and enhancement, and the performance of recreation modifications and compensatory mitigation features as generally described in the Reallocation Report.
2. The term "Reallocation Report" shall mean collectively: the Chatfield Reservoir Storage Reallocation Final Integrated Feasibility Report and Environmental Impact Statement (also referred to herein as the FR/EIS), dated July 2013, including Appendices A through HH, and Addendum No. 1, dated March 2014, including Appendices II through LL, approved by the Assistant Secretary of the Army (Civil Works) on May 29, 2014; and Addendum No. 2, dated September 2014, approved by the Northwestern Division Regional Integration Team Leader, U.S. Army Corps of Engineers, on September 26, 2014.

The following definitions apply to this Annual Report:

- The term "Water Provider" and "Chatfield Water Provider" shall mean a participating member of the CRMC;
- The term "Corps" and "USACE" shall mean the U.S. Army Corps of Engineers;
- The term "Members" shall mean the CRMC Members;
- The term "Unit" shall mean the amount of a Member's assessments and the number of votes a Member is entitled to cast based upon the volume in acre feet of a Member's storage space in CSRP. One Unit is equal to one acre-foot of storage space in Chatfield.





## Acronyms

<b>AMP</b>	Adaptive Management Plan, Appendix GG of the Reallocation Report
<b>ATMP</b>	Adaptive Tree Management Plan
<b>BMI</b>	Bellingham Marine, Inc.
<b>CDNR</b>	Colorado Department of Natural Resources
<b>CDPHE</b>	Colorado Department of Public Health and Environment
<b>Center CWCD</b>	Center of Colorado Water Conservancy District
<b>Central CWCD</b>	Central Colorado Water Conservancy District
<b>CMCC</b>	Chatfield Marina Coordination Committee
<b>CMP</b>	Compensatory Mitigation Plan, Appendix K of the Reallocation Report
<b>CPMD</b>	Castle Pines Metro District
<b>CPNMD</b>	Castle Pines North Metro District
<b>CPW</b>	Colorado Parks and Wildlife
<b>CRMC</b>	Chatfield Reservoir Mitigation Company, Inc.
<b>CSRP</b>	Chatfield Storage Reallocation Project
<b>CWCB</b>	Colorado Water Conservation Board
<b>CWP</b>	Chatfield Water Providers, now formally the Chatfield Reservoir Mitigation Co.
<b>CWSD</b>	Centennial Water and Sanitation District
<b>DOC</b>	Dredging Operations Committee
<b>EFU</b>	Environmental Functional Unit
<b>EM</b>	Environmental Mitigation
<b>FWRMP</b>	Fish Wildlife and Recreation Mitigation Plan, C.R.S. 37-60-122.2
<b>MSA</b>	Master Services Agreement
<b>OAC</b>	Operational Advisory Committee
<b>OPC</b>	Opinion of Probable Cost
<b>PCT</b>	Project Coordination Team
<b>PgM</b>	Program Management team of CDM Smith Inc. and Leonard Rice Engineers, Inc.
<b>PMJM</b>	Preble's Meadow Jumping Mouse
<b>RFMP</b>	Recreation Facilities Modification Plan, Reallocation Report Appendix M
<b>RM</b>	Recreation Modification
<b>RRR&amp;R</b>	Repair, Rehabilitation, Reconstruction and Replacement
<b>TAC</b>	Technical Advisory Committee
<b>USACE</b>	U.S. Army Corps of Engineers
<b>WSA</b>	Water Storage Agreement between the Department of the Army and the Colorado Department of Natural Resources dated October 9, 2014.



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## Chapter 2 – The CRMC

Formation of the CRMC was a requirement of the CMP (see Reallocation Report, Appendix K Section 7.3, p108).

*Each of the 12<sup>1</sup> Chatfield Water Providers will be required to be a member of the Chatfield Reservoir Mitigation Company, which will remain incorporated until all compensatory mitigation obligations have been successfully met and all monitoring and financial obligations are completed.*

The CRMC was incorporated<sup>2</sup> on October 8, 2015. The sole purpose of the CRMC is to conduct such business as may be necessary to satisfy the mitigation obligations of the Members as required for implementation of the CSR. Bylaws<sup>3</sup> of the CRMC were adopted at a regular scheduled meeting held on October 12, 2015 and were amended on October 17, 2016.

Currently, CRMC consists of ten Members including: Centennial Water & Sanitation District (CWSD); Colorado Water Conservation Board (CWCB); Central Colorado Water Conservancy District (CCWCD); Castle Pines North Metro District (CPNMD); Colorado Parks and Wildlife (CPW); Town of Castle Rock; Dominion Water & Sanitation District; Center of Colorado Water Conservancy District; Castle Pines Metro District; and Denver Water<sup>4</sup>. The number of Members and their proportion of units owned will likely change from time to time.

### Company Organizational Structure

The CRMC consists of ten CRMC Members with a five Member Board of Directors, which is supported by a General Manager, General Counsel, Accountant, and Auditor. The Project Coordination Team (PCT) provides high level guidance and design package approvals with respect to CSR implementation activities.

**Board of Directors and CRMC Members.** The five Directors for the CRMC Board are elected by the Members at the CRMC Annual Meeting. The five remaining entities are highly active and well represented. The current Board, as of the date of this report, consists of:

- Randy Ray, President (CCWCD)
- Kris Wahlers, Vice President (CPW)
- John Kilrow, Secretary (CWSD)
- Lauren Ris, Treasurer (CDNR/CWCB)
- Jim Worley, Board Member (CPNMD)

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<sup>1</sup> Since the Publication of the Reallocation Report, there are currently 10 Members of the CRMC.

<sup>2</sup> October 8, 2015. *Articles of Incorporation of Chatfield Reservoir Mitigation Company, Inc. A Colorado Non-Profit Corporation.*

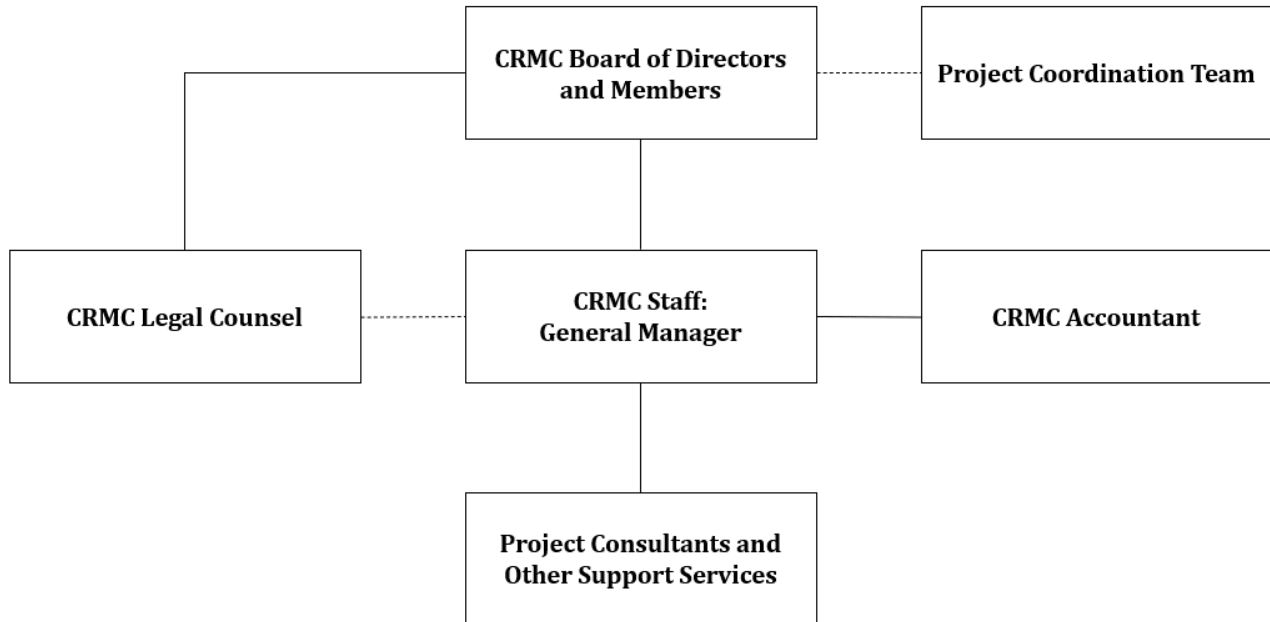
<sup>3</sup> October 17, 2016. *Bylaws of Chatfield Reservoir Mitigation Company, Inc.*

<sup>4</sup> Denver Water was formally accepted as a member of CRMC in January 2022.



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## CRMC Organizational Chart - 2021



**CRMC Staff:** Charly Hoehn continues to serve as CRMC’s General Manager.

**General Counsel.** The firm of Holland & Hart, LLP continues to serve as the role of General Counsel for CRMC, along with related legal support specialists.

**Accountant:** Pinnacle Consulting Group, Inc. continues to serve the CRMC as the official accounting firm of record.

**Company Auditor:** Haynie & Company continues to serve CRMC as the official auditing company of record.

**Project Consultants and Other Support Services:** Several firms that comprised the Project Design Teams continue to provide services to CRMC including ERO Resources, Muller Engineering, Great Ecology, Hydros Consulting, and GEI Consultants.

**Company Representative:** William P. Ruzzo, PE, LLC (Bill Ruzzo) served as a company representative through a standard consultant agreement through December 31, 2021.

**Public Relations Team:** CRMC was supported by Capitol Representatives for government and public relations activities through September 30, 2021.



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## Financial Organization

**Operations Account:** The CRMC has two main bank accounts. A company operations account is held at First Bank of Colorado. Annual assessments for the CRMC members are deposited into this account, from which normal operating bills are paid. The annual operations budget is established annually at a Special Meeting of the CRMC Members.

**Escrow Account:** Beginning on or about October 15, 2015, each Member of the CRMC has entered into an escrow agreement with the U.S. Bank National Association (Escrow Agent) and deposited funds (and/or entered into a CWCB loan agreement) into the Escrow Account in proportion to their Units in the CRMC. The Escrow Fund is a requirement of the Reallocation Report. Escrow funds are being systematically expended to cover the costs of engineering services, construction, and activities related to the implementation of the CSRP. The CRMC accounting firm provides monthly status reports to the Board of Directors.

## Project Coordination Team

A Project Coordination Team (PCT) was created, as required in Article VII of the WSA, to provide senior management oversight of the implementation of the CSRP. The PCT is led by USACE. It is also comprised of the Water Providers and CDNR as indicated in the Compensatory Mitigation Plan.

## Technical Advisory Committee

The Technical Advisory Committee (TAC) was launched in 2016 and continues to meet and operate as needed to review various CSRP design packages and CMP-related plans and reports for consideration and approval. The TAC provides initial review and approval of design packages, management plans for off-site properties, annual monitoring reports, and technical questions regarding proposed changes to the CMP, which are then submitted to the CRMC and PCT for further approval prior to submitting information to USACE for final review, comment, and approval. The multi-step process helps to ensure CRMC and USACE that proper technical input has been provided prior to on the ground implementation of the required environmental mitigation and recreation modification activities.

## Operational Advisory Committee

The formation of the Operational Advisory Committee (OAC) occurred in September 2018. The OAC's purpose is to develop a mutually acceptable plan or protocol related to water rights accounting for the water providers as a coordinated group, as well as storage patterns and releases for the reallocated reservoir space. The committee is comprised of representatives from USACE, CRMC, the Chatfield Water Providers, Denver Water, and the Colorado State Engineers Office.

## Chatfield Marina Coordination Committee

The Chatfield Marina Coordination Committee (CMCC) was established in 2011 to oversee the additional work to develop replacement plans for the current marina area that focus on the concept of like-kind replacement. The CMCC will continue to meet as needed to address the requirements of the CSRP, consider the comments and concerns of the marina vendor (Chatfield Marina, Inc), and coordinate activities of interest through CPW.



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## Reservoir Model Coordination Committee

The CRMC established a Reservoir Model Coordination Committee (RMCC) in December 2016 to oversee the reservoir water quality modeler's (Consultant) work. Members of the RMCC include the CRMC General Manager, a representative of the Members of the CRMC, and a representative of the Chatfield Watershed Authority. The RMCC will continue to meet as needed to evaluate the model, review and comment on documents prepared by the Consultant, and provide technical direction to the Consultant. Annual water quality data will be evaluated and incorporated into the model to assess any water quality changes in the reservoir as a result of the CSR. P.

## Adaptive Tree Management Plan Committee

The CRMC established the Adaptive Tree Management Plan (ATMP) Committee in November 2016 to establish a formal means to annually assess conditions in the Fluctuation Zone (FZ), make recommendations regarding tree and vegetation removal and preservation activities, and recommend additional management actions as needed. Members of the ATMP Committee include the USACE, CPW, CRMC, as well as ad hoc technical advisors such as ERO Resources and Colorado State Forest Service (CSFS). The ATMP committee has discussed and made recommendations on the following topics:

- Reviewed the tree inventory assessment approach within the FZ to identify dead and unhealthy trees for removal and healthy trees to remain.
- Reviewed and provided requirements for the demonstration plot to evaluate tree removal activities and monitoring plots to evaluate tree health during inundation.
- Reviewed and provided comments on the design, construction, and monitoring of possible installation of large woody debris to mitigate and enhance fish and wildlife habitat.
- Provided guidance and direction on the FZ Vegetation Removal Plan.
- Reviewed and approved the final Adaptive Tree Management Plan (ATMP).

Beginning in 2021, the ATMP Committee reviews the annual monitoring efforts as summarized in the annual ATMP Monitoring Report, which includes the annual Tree Health Summary Report prepared by CSFS.

## Offsite Subcommittee

The Offsite Subcommittee was created as part of the April 2020 Management and Monitoring Plans for Sandstone Ranch and Schmidt Property. The Offsite Subcommittee is tasked with reviewing the annual monitoring reports during the fulfillment of mitigation obligations. If necessary, the subcommittee will also review any adaptive management strategies recommended for implementation to maintain baseline vegetation community dynamics. Members of the Offsite Subcommittee include the USACE, CDNR, CRMC, Douglas County Open Space and Natural Resources, as well as ad hoc technical advisors such as Great Ecology and ERO Resources.



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# Chapter 3 – Design, Construction, & Opinion of Probably Cost

## Design

The final design packages for environmental mitigation measures and recreational modifications, required for CSRP implementation, have been completed. Those design packages were submitted, reviewed, and approved by the necessary entities including (as appropriate depending on the specific package and its requirements) the TAC, CMCC, CRMC Board, PCT, and USACE (Omaha District).

### Summary of Design Packages

**Environmental Mitigation Project No. 1 (EM1) — EFU Independent Technical Review:** Review and assessment of the environmental impacts measured as EFU debits; develop design criteria to improve and enhance vegetation communities; review target environmental mitigation measures; review preliminary design of environmental enhancements; recommend additional environmental enhancements; and conduct annual field surveys of the impacted area and mitigation sites. The CRMC retained ERO Resources Corporation for this work.

**Environmental Mitigation Project No. 2 (EM2) — On-Site Mitigation and Borrow Area Reclamation Design:** Design of the on-site environmental mitigation and borrow areas reclamation that coincide with: The South Platte River, Plum Creek, and Marcy Gulch; Plum Creek 122.2 Plan restoration requirements; fluctuation zone habitat; wetlands; and the South Platte River aquatic habitat enhancement upstream of Chatfield Reservoir. The CRMC retained Muller Engineering Company for this work.

**Environmental Mitigation Project No. 3 (EM3) — Sugar Creek Design:** Design of the Sugar Creek Sediment Mitigation Project including, surface modifications to Douglas County Road 67 (CR 67); culvert extensions / rundowns, sediment traps and stilling basins in CR 67; small mammal crossings on CR 67; Sugar Creek bank and stormwater rundown stabilization; enhanced upland PMJM critical habitat; and drop structures within the Sugar Creek channel. The CRMC retained CH2M Hill Engineers, Inc. for this work.

**Environmental Mitigation Project No. 4 (EM4) — East Plum Creek Site Design:** This project is no longer necessary and will not be implemented for CSRP.

**Environmental Mitigation Project No. 5 (EM5) — Off-Site Mitigation Design:** Design of the off-site mitigation areas in the South Platte River, Plum Creek, and West Plum Creek watersheds tributary to Chatfield Reservoir; develop target percentages of EFU habitat types; identify parcels that could provide EFUs, provide initial estimate of acres of habitat for PMJM, birds, wetlands, and mature cottonwoods; estimate the number of EFUs that may be provided through off-site projects; prioritize parcels based on cost/EFU, and identify and survey reference areas of undisturbed habitat similar to that planned in the other mitigation areas. The CRMC retained Great Ecology, Inc. for this work.



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**Environmental Mitigation project No. 6 (EM6) — Property Evaluation and Conservation Easements:**

Advise the project team regarding properties that may be available to provide EFU's. Provide consultation on cost estimates for procuring conservation easements or acquisition of properties for off-site mitigation. The CRMC retained Mark S. Weston, Ltd. to assist with this work. The contract expired in 2017 and was not amended. Currently, CRMC has engaged the services of Great Ecology, Inc. (EM5) to assist with off-site mitigation activities.

**Environmental Mitigation project No. 7 (EM7) — Cultural Resources Management and Investigation**

**Services:** Conduct literature research, perform cultural resources field investigations, develop avoidance and mitigation work plans; and provide field support during mitigation plan implementation. The CRMC retained ERO Resources Corporation for this work.

**Environmental Mitigation project No. 8 (EM8) — Reservoir Water Quality Model Development:**

Conduct data acquisition and analysis; model evaluation and selection; model development, calibration, and validation; model sensitivity analysis; and model documentation. The CRMC retained Hydros Consulting, Inc. for this work. Water Quality monitoring, which collects the necessary data for the water quality model, is performed by GEI Consultants, Inc. under separate contract with the CRMC.

**Environmental Mitigation project No. 9 (EM9) — Water Rights Evaluation:** Conduct water rights investigations for the purposes of supplying temporary CSRP construction water and environmental vegetation water. CRMC retained Leonard Rice Engineers, Inc. for this work.

**Recreational Modification Project No. 1 (RM) — Recreational Marina Design:** To design of the Chatfield Reservoir Marina, which includes major facilities such as buildings, dockage, parking lots, and major utilities; and identify the applicable design criteria that may be applicable to the Marina, the CRMC retained SmithGroup for the preliminary work and 75% design. CRMC retained Bellingham Marine, Inc. (BMI) for the remainder of the design-build work. SmithGroup was a sub-consultant to HDR, Inc. in the early stages of the development, but transitioned to a direct contract with CRMC.

**Recreational Modification Project No. 2 (RM2) — Design for Recreational Facility Modifications:** Design of the on-site Chatfield Reservoir recreational facilities such as roadways, swim beach, boat ramps, picnic areas, and reclamation of borrow areas and other disturbed areas, which includes major facilities such as buildings, parking lots, and major utilities. The CRMC retained HDR, Inc. for this work.

**Vegetation Removal within the Fluctuation Zone:** Selectively remove the dead, dying, or unhealthy trees within the Fluctuation Zone, which were marked by Colorado State Forest Service through its tree assessment. The purpose of this effort was to clear any hazardous or potentially hazardous trees prior to the increased water storage anticipated in spring 2020. Remaining healthy trees will continue to be monitored as part of the Adaptive Tree Management Plan (ATMP). CRMC contracted with Colorado State Forest Service to provide oversight and with Markit! Forestry, Inc. to perform the tree removal services.



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## Plans and Reports

Until all defined objectives and success criteria are met, annual monitoring and reporting will continue pursuant to the following plans:

1. **Compensatory Mitigation Plan (CMP):** Annual monitoring results of the target environmental resources are summarized in the **Annual Mitigation Monitoring Report**, including the following:
  - a. Calculation and establishment of EFUs and EFU lift
  - b. Success criteria monitoring of the on-site mitigation and habitat enhancement areas
  - c. Success criteria monitoring of the Sugar Creek mitigation area
  - d. Monitoring of on-site cottonwood regeneration areas
  - e. Inspection of temporarily disturbed areas for revegetation and presences of noxious weeds and bare areas
2. **Adaptive Tree Management Plan (ATMP):** Annual monitoring results of objectives and management actions related to the Fluctuation Zone, are summarized in the **Annual ATMP Monitoring Report**, including the following:
  - a. Tree Health Assessment
  - b. Noxious Weed Management
  - c. Summaries of other annual monitoring and reporting efforts including water quality and residual EFU analysis
3. **Off-Site Management and Monitoring Plans:** Annual monitoring results of target environmental resources at Sandstone Ranch and Schmidt Property are summarized in their respective **Annual Off-Site Management and Monitoring Reports**.
4. **Adaptive Management Plan (AMP):** Annual water quality monitoring and modeling results are summarized in the **Annual Water Quality Monitoring and Modeling Report**.

## Construction

Overall construction of the CSRCP commenced in late 2017. CRMC reached completion by March 2020. Regular updates to the overall schedule, road closures, and park day-use closures were regularly posted on the CRMC website at <https://chatfieldreallocation.org/construction/>. CRMC utilized construction oversight services from each of the main design consultants (Muller, HDR, and CH2M) to ensure that construction met specifications.

### On-Site Environmental Mitigation

- **Plum Creek Environmental Mitigation** – In November 2017, CRMC entered into a contract with Concrete Express, Inc. (CEI) to construct the Plum Creek Environmental Mitigation Project. CEI was tasked with constructing a new stream system, complete with the installation a new main channel and secondary channels, several riffle-drop structures, guide banks and sloughs. A significant revegetation effort was associated with the project, which involved the installation of over 54,000 native potted plants, shrubs, and trees.





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CEI completed construction of the Plum Creek Environmental Mitigation Project in December of 2018. Supplemental watering of the planted vegetation material continued until October 2019. Monitoring of the Plum Creek compensatory mitigation features also commenced in 2019 and will continue for a minimum of five years and when the success criteria has been met for three consecutive years.

- **South Platte Environmental Mitigation** – In June of 2018, CRMC entered into a contract with CEI to construct the South Platte Environmental Mitigation Project, located upstream of Chatfield Reservoir. The project involved significant regrading and stabilization work along Upper Titan Lake to repair damage caused by the 2015 flood. Additionally, the project involved stream restoration along Willow Creek, and regrading and stabilization work along the South Oxbow and Cigar Lake. The project also involved a significant revegetation effort, involving the installation of over 36,000 native potted plants, shrubs, and trees.

CEI completed construction of the South Platte Environmental Mitigation Project in October 2019. Supplemental watering of the planted vegetation material continued until October 2020. Monitoring of the compensatory mitigation features began in 2020 and will continue for a minimum of five years and when the success criteria has been met for three consecutive years.

### On-site Recreation Modifications

- **Season 1: (November 2017 – September 2018)**

The Season 1 activities included work on the North Boat Ramp, Massey Draw, Eagle Cove, Balloon Launch/Deer Creek, Swim Beach, Jamison, Catfish Flats, and Fox Run day use areas, Deer Creek Crossing, and a portion of the Perimeter Road stretching from Fox Run north to Eagle Cove. The North Boat Ramp, Massey Draw, Eagle Cove, Deer Creek, Balloon Launch, and Jamison day use areas were completed in 2018, as well as the Perimeter Road from Fox Run north to Eagle Cove. The Swim Beach, Catfish Flats, and Fox Run carried over into Season 2 work and were completed by summer 2019.

- **Season 2: (September 2018 – August 2019)**

The Season 2 activities included the completion of the Swim Beach, Catfish Flats, and Fox Run, as well as construction of Gravel Ponds, Kingfisher, Roxborough Cove, and Plum Creek day use areas, the South Platte Bridge, Marina landside, Marina docks and fuel system, Marina floating building, and the Perimeter Road, east and west of the South Platte Bridge. Additionally, Season 2 work included the Denver Water Temporary Pump Station relocation near the Fox Run day use area and the revegetation of the Fluctuation Zone and Borrow Areas.

The improvements summarized above were completed by the end of 2019, with the exception of the Marina fuel system, Marina floating building, and the Denver Water Temporary Pump Station. These activities reached final completion in 2020.

### Off-Site Environmental Enhancement and Roadway Improvement

- The Sugar Creek (CR 67) roadway improvements received final acceptance by Douglas County in July 2019. Periodic inspections of the sediment control and collection systems are ongoing.



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## Estimated Project Cost (Opinion of Probable Cost)

Pursuant to Article XV, Section D. of the WSA:

*Within eighteen months after the effective date of this Agreement, the CDNR will reexamine and refine the total costs of the Chatfield Storage Reallocation Project, and give notice to the Government of such refined cost estimate in accordance with the notice provision of this Agreement. If the refined cost estimate exceeds one hundred and thirty four million dollars (\$134,000,000) by ten percent or more, the CDNR shall have the right, for a period of 90 days after the day on which it gives notice to the Government, to terminate this Agreement.*

CDNR, in conjunction with the CRMC Members and PgM, refined the Total Project Cost Estimate based on preliminary designs and updated factors. CDNR provided a letter to Colonel John W. Henderson on April 8, 2018 stating:

*Based upon the preliminary design work completed as of October 2017, CDNR received an updated preliminary cost estimate for the Chatfield Storage Reallocation Project which exceeds \$134 million by more than ten percent. CDNR notified all CRMC Members of the updated probable cost (e.g. \$171 million) and requested official responses as to whether each member would remain in the project or would exercise its right to use the “off ramp” provision included in the water provider agreements. All CRMC members elected to remain in the project.*

CRMC staff continues to update the Total Project Cost Estimate on a monthly basis, which is reported on a regular basis at the CRMC Regular Board Meetings. This particular reporting mechanism began in January 2018.



**Table 1 – Summary of Total Project Costs**

Item	Cost Estimate as of January 2022	Percent Expended	Comment
CEI GMP	\$27,768,582.72	100%	Plum Creek and RM work
Mortenson GMP	\$47,488,270.92	100%	RM Work
Other RM Work	\$1,177,733.52	100%	Tree removal, landscape maintenance, utility reimbursement
Marina - Water Side	\$13,155,146.09	100%	Design & Construction
South Platte Enhancements	\$13,286,444.28	100%	CEI & weed management
Marcy Gulch Enhancements	\$0.00	100%	
Sugar Creek	\$3,279,276.30	100%	Enhancement & Roadway
Off-Site EFUs	\$7,283,523.22	100%	Off-site land purchases & enhancements
Design / Engineering	\$11,523,953.97	100%	EM1, EM2, EM6, EM7, & RM
Program Management	\$4,312,981.55	100%	CDM Smith & Leonard Rice
Construction Management	\$4,128,713.94	100%	CRMC staff, services during construction, and QA
First Cost of Storage	\$16,285,392.00	100%	WSA, Fixed Cost
Fluctuation Zone & Tree Removal	\$4,917,916.06	100%	Markit! Forestry / CSFS
Water Quality Modeling & Monitoring	\$821,344.69	100%	
Xcel Energy Gas Line Relocation	\$3,880,765.00	100%	
Vegetation, Weed Treatment, & Tree Inventory	\$1,343,197.30	100%	
Legal Services	\$347,511.52	100%	
Upper Plum Creek Enhancements	\$0.00	100%	Stream Stabilization
Financial Plan (Revenue Agreements)	\$1,372,529.47	100%	Revenue Agreement for Park and Concessionaires
USACE Bulkhead Gate	\$184,384.95	100%	
Denver Water - Temporary Pump Stations	\$568,488.86	100%	
Construction and Vegetation Water	\$53,159.60	100%	
Shoreline Stabilization Plan	\$716,100.00	100%	122.2 Plan, Fixed Cost
Stream Enhancement - Upstream	\$369,600.00	100%	122.2 Plan, Fixed Cost
Stream Enhancement - Downstream	\$265,000.00	100%	122.2 Plan, Fixed Cost
Insurance Policy - Builder's Risk	\$160,371.00	100%	
CoAgMet – Weather Station	\$9,491.00	100%	
EM Watering	\$1,079,536.53	100%	WSRI (Previously under CEI)
EM Plant Warranty	\$38,500.00	100%	
Perimeter Road Repairs	\$961,238.92	100%	
Post- Implementation - Additional Project Costs	\$4,220,846.59	72%	Monitoring, repair, etc.
<b>TOTAL</b>	<b>\$171,000,000.00</b>	<b>99%</b>	



# Chapter 4 – Progress Summary

The status of key CSRP requirements is provided in the tables provided below, organized into Federal and Colorado requirements. Table 2 includes the document name, relevant section in the document, a “short title” identifying the topic, specific language in the document describing any requirements, and a short description of the status. Where additional information about the status is needed, the information is included in footnotes at the end of the table.

Added in the 2018 Annual Report is Table 3 – Status of Project Compliance by WSA Exhibit B Milestones. This table incorporates the items detailed in Table 2 and how they correspond to each mitigation milestone that allows for initiation of water storage of the reallocated storage space upon successful implementation.

This Annual Report does not repeat all the requirements listed in the referenced documents, but simply reports on the status of certain activities implemented to comply with the requirements. More detailed information is available by further review of the referenced documents. Completed requirements are highlighted in the table by blue or green shading.

**Table 2 – Summary Status of Federal and State Requirements for CSRP**

Federal Requirements – Water Storage Agreement					
Item	Document	Section	Short Title	Requirement	Status
1	Water Storage Agreement	Article II-(B.1)	Reallocated Storage Milestones	<i>The CDNR shall have the right to utilize the storage space in the Chatfield Project between elevations 5,432 feet and 5,444 feet above NGVD, which is estimated to contain 20,600 acre-feet after adjustment for sediment deposits, provided that, in accordance with the Reallocation Report, the appropriate reallocated storage milestone as shown in Exhibit B attached to and made a part of this Agreement is met...</i>	<b>Complete:</b> received authorization on May 7, 2020
2	Water Storage Agreement	Article II-(F)(1)	Payment Requirements for Reallocated Space	<i>The CDNR shall pay the following sums to the Government for the Chatfield Project costs attributable to the storage space reallocated in the Chatfield Project pursuant to paragraph A. of this Article.</i>  <i>1. First Cost of Storage, lump sum amount of \$16,285,392. (see below for continuation of required payments)</i>	<b>Complete</b> (see Item 1)
3	Water Storage Agreement	Article II-(F)(2)	Payment Requirements for Reallocated Space	<i>2. 100 percent of specific RRR and R costs... commencing with costs incurred by the Government after the first reallocated storage milestone, as shown in Exhibit B to this Agreement, has been met.</i>	No Action Required at this time



**Federal Requirements – Water Storage Agreement**

Item	Document	Section	Short Title	Requirement	Status
4	Water Storage Agreement	Article II-(F)(2)	Payment Requirements for Reallocated Space	2. 8.99 percent of the joint-use RRR and R costs... commencing with costs incurred by the Government after the first reallocated storage milestone, as shown in Exhibit B to this Agreement, has been met.	No Action Required at this time
5	Water Storage Agreement	Article II-(F)(3)	Payment Requirements for Reallocated Space	3. 100 percent of the specific annual operations and maintenance expenses... commencing with expenses incurred by the Government after the first reallocated storage milestone, as shown in Exhibit B to this Agreement, has been met.	Ongoing
6	Water Storage Agreement	Article II-(F)(3)	Payment Requirements for Reallocated Space	3. 8.99 percent of the joint-use annual operation and maintenance expenses... commencing with expenses incurred by the Government after the first reallocated storage milestone, as shown in Exhibit B to this Agreement, has been met.	Ongoing
7	Water Storage Agreement	Article II-(F)(4)	Payment Requirements for Reallocated Space	4. 100 percent of District Engineer costs for other modifications.	Ongoing
8	Water Storage Agreement	Article II-(F)(5)	Payment Requirements for Reallocated Space	5. 100 percent of District Engineer cost of government oversight of non-Federal Work.	Ongoing
9	Water Storage Agreement	Article II-(G)(1)	Payment Requirements for O&M	Upon completion of the payment required by paragraph F.1. of this Article, the CDNR shall have a permanent right, under the provisions of the Act of 16 October 1963 (Public Law 88-140, 43 U.S.C. 390c-f), to the use of the water storage space in the Chatfield Project as provided in paragraph B. of this Article, subject to the following:  1. The CDNR shall continue payment of joint-use annual operation and maintenance expenses (see below for continuation of required payments)	Ongoing
10	Water Storage Agreement	Article II-(G)(2)	Payment Requirements for O&M	2. The CDNR shall bear the repair, rehabilitation, reconstruction and replacement costs in accordance with paragraph F.2.	No Action Required at this time (see Items 3 & 4)



**Federal Requirements – Water Storage Agreement**

<b>Item</b>	<b>Document</b>	<b>Section</b>	<b>Short Title</b>	<b>Requirement</b>	<b>Status</b>
11	Water Storage Agreement	Article II-(H)	Detailed Plans for Non-Federal Work	<i>Prior to the CDNR issuing solicitations for construction of the non-Federal work, the CDNR shall provide the detailed plans for carrying out such work to the Government.</i>	<b>Complete</b>
12	Water Storage Agreement	Article II-(I)	Final As-Built Drawings	<i>Upon completion of the non-Federal work, the CDNR shall furnish to the Government a copy of all final as-built drawings for the construction portion of such work.</i>	<b>Complete</b>
13	Water Storage Agreement	Article II-(J)	Recreation OMRR&R Manual	<i>Upon completion of the recreation modifications, or functional portions thereof, by the CDNR, and final inspection of the recreation modifications, or functional portions thereof, by the Government, in accordance with paragraph I. of this Article, the CDNR shall prepare and furnish to the Government for review and approval a proposed Recreation Operation, Maintenance, Repair, Rehabilitation and Replacement Manual</i>	<b>Complete:</b> CDNR received USACE approval memo on April 9, 2020.
14	Water Storage Agreement	Article II-(K)	Mitigation OMRR&R Manual	<i>Upon completion of the compensatory mitigation features, or functional portions thereof, by the CDNR, and final inspection of the compensatory mitigation features, or functional portions thereof, by the Government, in accordance with paragraph I. of this Article, the CDNR shall prepare and furnish to the Government for review and approval a proposed Mitigation Operation, Maintenance, Repair, Rehabilitation and Replacement Manual</i>	<b>Complete:</b> CDNR received USACE approval memo on March 11, 2020 for on-site mitigation and April 9, 2020 for Sugar Creek.
15	Water Storage Agreement	Article II-(L)	Provide Lands, Easement, and Rights of Way	<i>In accordance with Article III of this Agreement, the CDNR shall provide all lands, easements, and rights-of-way, required for the non-Federal work related to the compensatory mitigation features on lands not owned by the United States, and the operation, maintenance, repair, rehabilitation and replacement of the completed compensatory mitigation features on such lands.</i>	<b>Complete:</b> CDNR and Douglas County executed a legal agreement and declaration of restrictions for two off-site properties on March 24, 2020.
16	Water Storage Agreement	Article II-(M)	Relocations	<i>In accordance with Article III of this Agreement, the CDNR shall perform all relocations required for performance of the non-Federal work, or required due to changes in the Chatfield Project pool elevations, resulting from the Chatfield Storage Reallocation Project.</i>	<b>Complete:</b> All impacted utilities have been relocated in accordance with Article III.B. (Note 1)



**Federal Requirements – Water Storage Agreement**

<b>Item</b>	<b>Document</b>	<b>Section</b>	<b>Short Title</b>	<b>Requirement</b>	<b>Status</b>
17	Water Storage Agreement	Article II-(O)	Agreements for Compensatory Mitigation (USFS Agreement).  Sugar Creek Compensatory Mitigation	<i>The CDNR shall execute, or facilitate the execution of, agreements required for the construction, operation, maintenance, repair, rehabilitation and replacement of the compensatory mitigation features located within the boundaries of the Pike National Forest. The CDNR shall coordinate the agreement with the Government for review and approval prior to execution.</i>	<b>Complete:</b> (Note 2)
18	Water Storage Agreement	Article II-(O)	Agreements for Compensatory Mitigation (Douglas County Agreement)  County Road 67 maintenance with Douglas County	<i>The CDNR shall execute, or facilitate the execution of, agreements required for the construction, operation, maintenance, repair, rehabilitation and replacement of the compensatory mitigation features located within the boundaries of the Pike National Forest. The CDNR shall coordinate the agreement with the Government for review and approval prior to execution.</i>	<b>Complete:</b> (Note 3)
19	Water Storage Agreement	Article II-(P)	Encroachments on Compensatory Mitigation	<i>The CDNR shall prevent obstructions or encroachments on the compensatory mitigation features located on lands not owned by the United States (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the compensatory mitigation features, hinder operation and maintenance of the compensatory mitigation features, or interfere with the proper function of the compensatory mitigation feature.</i>	<b>Complete:</b> CDNR and Douglas County executed a legal agreement and declaration of restrictions for two off-site properties on March 24, 2020.
20	Water Storage Agreement	Article III-(A)(2)	Mineral Assessment Report	<i>For those lands identified in the target habitat (with associated buffers) in the Compensatory Mitigation Plan where the mineral rights have been severed from the surface estate, the CDNR shall obtain a Mineral Assessment Report for each property indicating the potential for mineral development, including the potential for mining and surface disturbance, and submit the reports to the Government for review.</i>	<b>Complete:</b> CDNR received USACE approval on April 17, 2019 for Schmidt and January 28, 2020 for Sandstone Ranch.



**Federal Requirements – Water Storage Agreement**

<b>Item</b>	<b>Document</b>	<b>Section</b>	<b>Short Title</b>	<b>Requirement</b>	<b>Status</b>
21	Water Storage Agreement	Article III-(A)(3)	Non-Targeted Offsite Mitigation Properties	<i>The CDNR shall provide the Government with general written descriptions, including maps as appropriate, of such lands for the Government's review and approval [for offsite mitigation areas that are not included in the targeted properties identified in the CMP].</i>	<b>Complete:</b> all off-site mitigation areas are within the targeted habitat areas identified in the CMP.
22	Water Storage Agreement	Article III-(A)(4)	Acquire Lands, easements, and rights-of-way	<i>... the CDNR shall acquire all lands, easements, and rights-of-way required for that work. Furthermore...the CDNR shall acquire all lands, easements, and rights-of-way required by Article II.L. of this Agreement. The CDNR shall ensure that lands, easements, and rights-of-way ... are retained in public ownership or in the ownership of a non-profit organization approved by the Government ...</i>	<b>Complete:</b> CDNR and Douglas County executed a legal agreement and declaration of restrictions for two off-site properties on March 24, 2020.
23	Water Storage Agreement	Article IV-(A)(1)	Funding First Cost of Storage	<i>Not later than 45 calendar days after the CDNR is notified by the District Engineer that the first reallocated storage milestone, as shown in Exhibit B to this Agreement, has been met, the CDNR shall provide the Government with the lump sum payment of \$16,285,392 required by Article II.F.1. of this Agreement...</i>	<b>Complete</b>
24	Water Storage Agreement	Article V-(B & C)	Water Meters and Measuring Devices	<i>The CDNR agrees to furnish and install, without cost to the Government, suitable meters or measuring devices satisfactory to the District Engineer for the measurement of water which is withdrawn from the Chatfield Project by any means other than through the Chatfield Project outlet works or the ditch outlet works.</i>	No Action Required at this time
25	Water Storage Agreement	Article V-(D)	Control Environmental Pollution	<i>During any construction, operation, maintenance, repair, rehabilitation or replacement by the CDNR of facilities that it owns, operates or controls... or replacement ... of recreation modifications or the compensatory mitigation features, specific actions will be taken to control environmental pollution...</i>	<b>Complete:</b> Requirement met throughout construction
26	Water Storage Agreement	Article VII (A)	Project Coordination Team	<i>In order to provide senior management oversight of the implementation of the non-Federal work, the CDNR and the Government, not later than 30 calendar days after the effective date of this Agreement, shall appoint named representatives to a Project</i>	<b>Complete</b>





**Federal Requirements – Water Storage Agreement**

<b>Item</b>	<b>Document</b>	<b>Section</b>	<b>Short Title</b>	<b>Requirement</b>	<b>Status</b>
				<i>Coordination Team, which shall include representatives of the Water Providers.</i>	
27	Water Storage Agreement	Article IX (A)	Hazardous Substances	<i>After execution of this Agreement and upon direction by the District Engineer, the CDNR shall perform, or ensure performance of, any investigations for hazardous substances that the Government or the CDNR determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601-9675; hereinafter "CERCLA"), that may exist in, on, or under lands, easements, and rights-of-way that the CDNR proposes to acquire pursuant to Article II.L of this Agreement.</i>	<b>Complete</b>
28	Water Storage Agreement	Article X (A)	Historic Preservation	<i>In the event that the Government determines that any identification, survey, or evaluation of historic properties is required for construction of the non-Federal work, the CDNR shall perform such identification, survey, or evaluation in accordance with this paragraph and other written directions of the Government</i>	<b>Complete</b>
29	Water Storage Agreement	Article XIV (A)	Records and Audits	<i>Not later than 90 calendar days after the effective date of this Agreement, the Government and the CDNR shall develop procedures for keeping books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to this Agreement.</i>	<b>Complete</b> CRMC retains copies of all contracts, amendments, and change orders related to implementation of CSRP
30	Water Storage Agreement	Article XIV (B)	Audit Act Compliance	<i>...the CDNR is responsible for complying with the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507), as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive.</i>	<b>Complete:</b> CRMC audit performed annually
31	Water Storage Agreement	Article XV-(D)	Refine Cost Estimate	<i>Within eighteen months after the effective date of this Agreement, the CDNR will reexamine and refine the total costs of the Chatfield Storage Reallocation Project, and give notice to the Government of such refined cost estimate in accordance with the notice provision of this Agreement.</i>	<b>Complete</b> (Note 4)



Federal Requirements – Water Storage Agreement					
Item	Document	Section	Short Title	Requirement	Status
32	Water Storage Agreement	Exhibit B	Establish Escrow Account	<i>The CDNR and the Water Providers, through the sub-agreements referenced in Article VI of this Agreement, will establish an environmental escrow fund that will be at least equal to the estimated cost of fully implementing and completing the Compensatory Mitigation Plan (CMP) (Appendix K of the Reallocation Report) including a reasonable contingency.</i>	<b>Complete</b> (Note 5)

Federal Requirements – FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
33	FR\EIS Appendix K Compensatory Mitigation Plan	Section 6.3.2.3	Monitoring of Sugar Creek	<i>The Sugar Creek critical habitat mitigation area will be monitored annually for at least 5 years following implementation of the mitigation activities and reported annually (CMP Section 6.3.2.3, p86)</i>	Ongoing
34	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.1.3	Offsite Mitigation Process	<i>Property evaluations will be the responsibility of the Chatfield Water Providers (Section 7.2.1). The Chatfield Water Providers will coordinate with the Project Coordination Team (Section 7.2.1) regarding the protection of properties...All protected properties will be managed by the Chatfield Water Providers, or its designee, to benefit one or more of the target environmental resources. The Chatfield Water Providers will have 2 years from submittal of the protection documentation to develop a management plan for the protected property and submit it to the Project Coordination Team and Technical Advisory Committee for their review and comment and approval by the Corps. [CMP, Section 7.1.3, p96].</i>	<b>Complete:</b> CDNR received USACE approval for the management and monitoring plans and baseline reports associated with Sandstone Ranch and Schmidt Property on March 11, 2020.
35	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.2.1	Establish Escrow Fund	<i>The Chatfield Water Providers will establish an environmental mitigation escrow fund that will be at least equal to the estimated cost of fully implementing and completing the CMP including a reasonable contingency. The funding amount will be established by the Project. [CMP Section 7.2.1 Environmental Mitigation Escrow Fund, p103]</i>	<b>Complete</b> (Note 5)



Federal Requirements — FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
36	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.3	The Mitigation Company	<i>Each of the 12[1] Chatfield Water Providers will be required to be a member of the Chatfield Reservoir Mitigation Company, which will remain incorporated until all compensatory mitigation obligations have been successfully met and all monitoring and financial obligations are completed.[CMP Section 7.3 p108]</i>	<b>Complete</b> (Note 6)
37	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.3	Sugar Creek Cost Share Agreement	<i>The mitigation for impacts to designated critical habitat along Sugar Creek will be enforced by the Challenge Cost Share Agreement between Douglas County, the USFS, and the Chatfield Reservoir Mitigation Company (Appendix E) ... [CMP Section 7.3 Responsibilities for Compensatory Mitigation, p108]. The parties will finalize and sign the agreement between the final FR/EIS and ROD. Any revisions to this version of the agreement are not anticipated to significantly depart from the terms and conditions of the current version of the agreement. [CMP Section 7.3 Responsibilities for Compensatory Mitigation, p.E-1]</i>	<b>Complete</b>
38	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.3	Annual Report of Overall Progress	<i>The Chatfield Reservoir Mitigation Company would annually elect directors (currently assumed to be five) to manage the implementation of all mitigation obligations. The responsibilities of the directors would include:...annual report of overall progress...[CMP, Section 7.3, p109]</i>	<b>Complete for 2016, 2017, 2018, 2019, 2020, and 2021</b>
39	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.3	Technical Advisory Committee	<i>Two such committees, the Technical Advisory Committee and the Operations Advisory Committee, will be created to provide assistance with technical and operational issues...The Technical Advisory Committee will provide review and comments on technical components of the implementation process... [CMP Section 7.4, p110]</i>	<b>Complete</b> (Note 7)
40	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.3	Operations Advisory Committee	<i>Two such committees, the Technical Advisory Committee and the Operations Advisory Committee, will be created to provide assistance with technical and operational issues...The Operational Advisory Committee will provide review and comments on mitigation obligations related to operational issues. The principal goal of the committee is to facilitate efficient collective operations. [CMP Section 7.4, p110]</i>	<b>Complete</b> (Note 8)



Federal Requirements — FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
41	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.4	Annual Mitigation Monitoring Reports	<i>The Chatfield Water Providers will provide annual monitoring reports to the Project Coordination Team and the Technical Advisory Committee for review and comment. The reports will address the monitoring actions listed in Section 7.4 for each mitigation activity. [CMP Section 7.4.1, p112]</i>	Ongoing
42	FR\EIS Appendix K Compensatory Mitigation Plan	Section 7.4	As-Built Reports	<i>For all compensatory mitigation activities involving construction, earth moving, or grading, including the restoration and revegetation of borrow areas and other temporary disturbance within Chatfield State Park, an as-built report will be provided to the Corps and Colorado State Parks no later than 60 days following completion of the mitigation activity. [CMP, Section 7.4.1.1 p113].</i>	<b>Complete:</b> Submission of as-builts to USACE occurred upon completion of the portion of completed work
43	FR\EIS Appendix K Compensatory Mitigation Plan	CMP Appendix E	Sugar Creek Operating and Financial Plan Agreements	<i>The Company agrees to budget and set aside funds for payment to the County in an initial amount of \$48,750 per year, which reflects the initial estimate of annual invoices for the Reimbursed County Maintenance Work, plus a 25 percent contingency.[CMP Appendix E, pE- 25]...Since the asphalt resurfacing of the lower segment of CR 67 is anticipated to occur every 5 to 7 years, and will require increased funding, the Company shall set aside \$20,000 per year in additional funds for this work. These funds shall be escrowed in a separate account and may not be expended for any other purpose. [CMP Appendix E, pE-25]</i>	<b>Complete</b>
44	FR\EIS Appendix M Recreation Facilities Modification Plan	Chapter 2 Site Characteristics	Cultural Resource Inventory	<i>An inventory of cultural resource sites prepared by the USACE (USACE 2007) was reviewed to determine if known cultural resource sites would be affected by the reallocation plan. Based on this review, any cultural resource sites impacted by this plan will be handled according to USACE, and the Colorado State Historical Preservation Office guidelines. However, as more detailed plans are developed and construction sites are better defined, the inventory will be further reviewed. [RFMP p2-23]</i>	<b>Complete</b>



Federal Requirements — FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
45	FR\EIS Appendix M Recreation Facilities Modification Plan	Chapter 3 Recreation Facilities Modifications	In-Kind Replacement	<i>An important assumption that guided the conceptual design effort was that no facility or program area would lose any capacity or functionality as the result of relocation or modification. Put another way, the recreation modification plan provides for in-kind [1] replacement of facilities affected by higher water levels. [RFMP, p3-1]</i>	<b>Complete</b>
46	FR\EIS Appendix M Recreation Facilities Modification Plan	Chapter 4 Marina Operations	Marina Operations	<i>[The] closure of the park or other interruptions to visitation during the construction of facilities included within the recreation relocation plan would have a significant economic impact. The magnitude of this impact will depend on construction timing, how it is phased, and other considerations that can't be defined with precision at this point in time. This underscores the need for development of an agreement between State Parks and reallocation project participants that accounts for potential revenue losses once a construction program has been defined. [RFMP p4-1].</i>	<b>Complete</b>
47	FR\EIS Appendix M Recreation Facilities Modification Plan	Chapter 4 Marina Operations	Lost Revenue Agreements	<i>[The] closure of the park or other interruptions to visitation during the construction of facilities included within the recreation relocation plan would have a significant economic impact. The magnitude of this impact will depend on construction timing, how it is phased, and other considerations that can't be defined with precision at this point in time. This underscores the need for development of an agreement between State Parks and reallocation project participants that accounts for potential revenue losses once a construction program has been defined. [RFMP p4-1].</i>	<b>Complete</b>
48	FR\EIS Appendix N Chatfield Marina Reallocation Impact Assessment	Chapter 6 Moving Forward - Next Steps	Marina Design and Construction	<i>The initial task will be to integrate the alternatives from this report into the Environmental Impact Statement, allowing the public review cycle to move forward. During that time, the stakeholders of the project need to develop an implementation strategy that allows the preparatory work to proceed in a logical progression... Negotiation of responsibility for the engineering and design costs is a significant effort in itself.</i>	<b>Complete</b>



Federal Requirements — FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
				<i>Once the agreements are in place and documented in a Memorandum of Understanding, design and engineering may commence. [Appendix N p29]</i>	
49	FR\EIS Appendix Z Tree Management Plan	Section 2.1	Adaptive Management Monitoring	<i>The adaptive management approach would entail leaving these trees in place and then monitoring the trees for signs of severe stress and mortality, and removing unhealthy and dead trees from this area on an as needed basis to eliminate potential risks to visitor and dam safety. [TMP Section 2.1, p4]</i>	<b>Complete</b>
50	FR\EIS Appendix Z Tree Management Plan	Section 2.2	Tree Removal Analysis	<i>There is an interest in leaving a small portion of trees in place below 5439 ft. msl to provide wildlife and fisheries habitat. Specific trees to be left in place would be identified and evaluated by a team of representatives from the Corps, Colorado State Parks (Parks), and the Colorado Division of Wildlife (CDOW). The Chatfield project's designated Special Technical Advisors would be given the opportunity to provide input to this process. [TMP Section 2.2, p5]</i>	<b>Complete</b>
51	FR\EIS Appendix GG Adaptive Management Plan	Oversight and Schedule	Monitoring for Adaptive Management	<i>Annual monitoring reports will include information on needed and proposed adjustments and uncertainties. [AMP, p5] The schedule for implementing adaptive management is variable. By their very nature, adaptive management actions are implemented on an "as needed" basis and as informed by monitoring. Table 1 provides a schedule of how adaptive management will likely be implemented. [AMP, p6]</i>	Ongoing
52	FR\EIS Appendix GG Adaptive Management Plan	Water Quality Core Objectives	Annual Water Quality Monitoring Report	<i>The water quality monitoring results and water quality standards attainment assessment will be included in an Annual Water Quality Monitoring Report that is presented to the TAC and PCT. [AMP, p20-21]</i>	Ongoing
53	FR\EIS Appendix GG Adaptive Management Plan	Water Quality Contingencies	Annual Water Quality Modeling Report	<i>Once initially developed, a dynamic water quality model would be applied annually on an ongoing basis... Water quality monitoring, modeling and results will be included in an Annual Water Quality Modeling Report... [AMP p23]</i>	Ongoing: modeling is reported along with above Item 52 in combined annual report (Note 9)



Federal Requirements — FR/EIS					
Item	Document	Section	Short Title	Requirement	Status
54	FR\EIS Appendix GG Adaptive Management Plan	Operations Contingencies	CRMC Member Water Rights Releases	<i>As part of this AMP, the PCT and the Chatfield Reservoir Mitigation Company will explore ways to adjust their management and operation of the reallocated storage to further minimize impacts on the target environmental resources considering system constraints and project yield. [AMP p30].</i>	No Action Required at this time
55	FR\EIS Addendum 1 Appendix KK Biological Opinion for Preble's Mouse	p15	Annual Monitoring Reports	<i>The Chatfield Water Providers would provide annual monitoring reports to the Project Coordination Team and the Technical Advisory Committee. A Service representative will participate on the Technical Advisory Committee. The Chatfield Water Providers will also provide annual reports to the Service addressing impacts and mitigation to the Preble's mouse and its habitats and compliance with the terms and conditions specified in this biological opinion [BO p15].</i>	Ongoing



**State Requirements — Fish, Wildlife and Recreation Mitigation Plan**

Item	Document	Section	Short Title	Requirement	Status
56	Fish, Wildlife and Recreation Mitigation Plan	Section 4.1.3.1	Regular Forecast Meetings	Parties will meet bi-monthly February through October of each year to share their knowledge of current conditions and discuss forecasts for future Chatfield operations. [FWRMP, Section 4.1.3.1, p19].	<b>Complete:</b> establishment of OAC meets this requirement
57	Fish, Wildlife and Recreation Mitigation Plan	Section 4.1.3.3	Water Releases	In general, Project participants in consultation with CPW, will use good faith efforts to adjust timing and amount of water releases from Chatfield so as to beneficially impact recreation and the environment. [FWRMP, Section 4.1.3.3, p19]	No Action Required at this time: OAC will discuss any proposed adjustments
58	Fish, Wildlife and Recreation Mitigation Plan	Section 4.1.4	Annual Monitoring Reports	By their very nature, adaptive management actions are implemented on an “as needed” basis and as informed by monitoring. The monitoring of impacts and mitigation will provide important information and feedback for an interactive process of refining action to minimize impacts and address uncertainties. Annual monitoring reports will include information on needed and proposed adjustments and uncertainties. [FWRMP, Section 4.1.4, p21]	Ongoing
59	Fish, Wildlife and Recreation Mitigation Plan	Section 4.2.1.1	Upstream Habitat and Recreation Mitigation	The Project Participants will fund stream habitat improvements on up to 0.7 miles of the main stem of the South Platte River above Chatfield Reservoir above the highest point of potential inundation from the Project. [FWRMP, Section 4.2.1.1, p22] ...In addition, as part of the Compensatory Mitigation Plan, the Participants will implement the Sugar Creek Sediment Mitigation Project... [FWRMP, Section 4.2.1.1, p22] ... As a third mitigation element, the Participants will construct the Plum Creek Restoration... [FWRMP, Section 4.2.1.1, p22]	<b>Complete</b>
60	Fish, Wildlife and Recreation Mitigation Plan	Section 4.2.1.2	Downstream Habitat and Recreation Mitigation	To mitigate the potential impacts of increased storage in Chatfield Reservoir, the Project Participants will fund stream habitat improvements on up to 0.5 miles of the main stem of the South Platte River downstream of Chatfield Reservoir. [FWRMP Section 4.2.1.2, p23].	<b>Complete</b>





**State Requirements — Fish, Wildlife and Recreation Mitigation Plan**

Item	Document	Section	Short Title	Requirement	Status
61	Fish, Wildlife and Recreation Mitigation Plan	Section 4.3.3	Weed Control Measures	The Project Participants will take responsibility for controlling the spread of noxious or invasive weeds associated with the Project's increase in water level fluctuations. [FMRMP, Section 4.3.3, p34].	Ongoing: Fluctuation Zone Noxious Weed Management Plan approved in 2020
62	Fish, Wildlife and Recreation Mitigation Plan	Section 5.1.2	Marina Replacement Plan	The mission of the Chatfield Marina Coordination Committee (CMCC) is to advance plans for replacement of the current marina area improvement with like-kind facilities. [FWRMP, Section 5.1.2 The Marina Replacement Plan, p56].	<b>Complete</b>
63	Fish, Wildlife and Recreation Mitigation Plan	Section 5.1.3	Temporary CPW Resident Engineer	The project participants will fund the temporary hiring by CPW of a qualified engineering employee during the design and construction activities related to recreation facilities modifications and environmental mitigation with the Chatfield State park property. [FWRMP Section 5.1.3, p61]	<b>Complete</b>
64	Fish, Wildlife and Recreation Mitigation Plan	Section 5.2	Financial Mitigation	The Mitigation Company will be a Colorado non-profit corporation named the Chatfield Reservoir Mitigation Company (CRMC). It will be formed to accomplish the financial and mitigation obligations from the Chatfield Reservoir Reallocation Project (Reallocation Project). [FWRMP Section 5.2, p61]	<b>Complete</b> (Note 6)
65	Fish, Wildlife and Recreation Mitigation Plan	Section 5.2	CPW Escrow Account	An independent escrow agent will be selected and paid for by the Water Providers to manage mitigation contributions and payments and prepare an annual report documenting activity. Upon execution of this Agreement, the Water Providers will establish an interest-bearing CPW Account with initial funding equivalent to 12 months of future, expected annual mitigation payments... [FWRMP Section 5.2, p65].	<b>Complete</b>



State Requirements — Fish, Wildlife and Recreation Mitigation Plan					
Item	Document	Section	Short Title	Requirement	Status
66	Fish, Wildlife and Recreation Mitigation Plan	Section 5.2	Financial Mitigation - CPW Concessionaires	This agreement affirms that the Water Providers will present a mitigation proposal to the marina and livery concessionaires that CPW determines to be fair and reasonable. [FWRMP Section 5.2, p66]	<b>Complete</b>
67	Fish, Wildlife and Recreation Mitigation Plan	Section 5.2	Marketing Plan	Mitigation Company will retain a specialist to manage Reallocation project-related marketing and public relations needs during and after Reallocation Project construction. [FWRMP, Section 5.2, p65]	<b>Complete</b>

State Requirements — Water Providers Agreement					
Item	Document	Section	Short Title	Requirement	Status
68	Water Providers Agreement	Article VI-(J)	Refinement of Total Cost	Within 24 months of the effective date of this Agreement, the Total Project Costs will be re-examined and refined.	<b>Complete</b>
69	Water Providers Agreement	Article VI-(H)	Force Majeure Report	Neither Party to this Agreement shall be liable for any delay or failure to perform due solely to conditions or events of force majeure, as that term is defined in this paragraph; provided that: (i) the nonperforming Party gives the other Party prompt written notice describing the particulars of the force majeure; (ii) the suspension of performance is of no greater scope and of no longer duration than required by the force majeure event or condition; and (iii) the nonperforming Party proceeds with reasonable diligence to remedy its inability to perform and provides weekly progress reports to the other Party describing the remedial actions taken.	No Action Required at this time



<b>LEGEND:</b>	“Complete”	All the required actions have been met.
	“No Action Required at this time”	Actions may be required at a future date.
	“No Action”	Required actions are not applicable.
	“In Progress”	Required actions have been initiated.
	“Ongoing” *	Required actions occur on an annual or regular basis.

\*As all key CSRP requirements tied to the authorization of water storage in the reallocation pool have been met, a new status category, “Ongoing,” has been added to describe long-term and/or post-implementation actions that occur on an annual or regular basis.

**TABLE NOTES:**

- Note 1            Since the Project is not expected to cause a person, personal property, or a utility to be displaced, nor does the Project involve federal financial assistance, the opinion of the CRMC is that the Act does not apply.
- Note 2            This agreement, originally titled as the “Challenge Cost Share Agreement”, has been replaced by an agreement with the same substantive requirements entitled “Non-Funded Participating Agreement” between the CRMC and the U.S. Forest Service (USFS) as required by the USFS.
- Note 3            This agreement is referred to as the Operating and Financial Plan Agreement between Douglas County and the Chatfield Reservoir Mitigation Company Inc. Related to Maintenance of County Road 67 and Its Adjacent Area.
- Note 4            CDNR April 8, 2016. Chatfield Storage Reallocation Project. Letter from Robert Randall, CDNR to Colonel John W. Henderson.
- Note 5            CDNR December 22, 2015. Letter from CDNR Director Mike King to Colonel John Henderson.
- Note 6            CRMC October 8, 2015. Articles of Incorporation of Chatfield Reservoir Mitigation Company, Inc. a Colorado Non-Profit Corporation.
- Note 7            The TAC was formed in March 2016 and held its first meeting on April 27, 2016.
- Note 8            The OAC was formed in September 2018 and held its first meeting on September 11, 2018.
- Note 9            The TAC approved combining the annual water quality monitoring and annual water quality modeling report due to overlapping requirements. TAC approved changing the due date for the combined report from March 1 to May 1 to allow sufficient time for processing and analyzing the data.



**Table 3 – Status of Project Compliance by WSA Exhibit B Milestones**

(also commonly referred to as Table 6-4 from Reallocation Report)

<b>General Requirements Applicable to All Milestones</b>		
<b>Item (from Table 2)</b>	<b>Short Description</b>	<b>Status</b>
25	Control environmental pollution	Complete
26	Project Coordination Team	Complete
29	Recordkeeping requirements	Complete
30	Single Audit Act Compliance	Complete
31	Refine Total Cost Estimate	Complete
32, 35	Establish Escrow Fund for Construction	Complete
36	Form Mitigation Company	Complete
38	Provide Corps with Annual Report	Complete
39	Form Technical Advisory Committee	Complete
40	Form Operations Advisory Committee	Complete

<b>First Milestone: Complete Implementation of all on-site compensatory mitigation, including on-site mitigation in critical habitat</b>		
<b>Item (Table 2)</b>	<b>Short Description</b>	<b>Status</b>
11	Provide designs for USACE approval	Complete
12, 42	Provide as-builts to USACE	Complete
13, 14	Provide OMRR&R manuals to USACE for approval	Complete
27	Hazardous Substances	Complete
28, 44	Historic Preservation	Complete
45	In-kind replacement for recreational facilities	Complete
46, 47	Marina financial compensation	Complete
48	Marina design and construction agreements	Complete
50	Trees in fluctuation zone analysis	Complete

<b>Second Milestone: Complete implementation of all off-site mitigation of impacts to Preble’s critical habitat on the South Platte River arm</b>		
<b>Item (Table 2)</b>	<b>Short Description</b>	<b>Status</b>
17, 37	Pike National Forest agreement	Complete
18, 37	Douglas County Sugar Creek agreement	Complete
12, 42	Provide Sugar Creek as-builts	Complete
43	Set aside funds for Sugar Creek O&M future expenses	Complete

<b>Third Milestone<sup>1</sup>: Complete implementation of all off-site mitigation to gain 100% of needed Preble’s EFUs in the West Plum Creek CHU including implementation of 25% of off-site mitigation</b>		
<b>Item (Table 2)</b>	<b>Short Description</b>	<b>Status</b>
15, 22	Corps approval of off-site legal	Complete
16	Relocations	Complete
19	Prevent encroachments	Complete
20	Mineral Assessment reports	Complete
21	Non-targeted off-site property reports	Complete
34	Management plans for off-site properties	Complete

<sup>1</sup> The Fourth, Fifth, and Sixth Milestones (Complete implementation of 50%, 70%, 90% of off-site mitigation) abide by the same compliances as the Third Milestone.



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## Chapter 5 - References

October 8, 2015. Articles of Incorporation of Chatfield Reservoir Mitigation Company, Inc. A Colorado Non-Profit Corporation.

October 15, 2015. Escrow Agreement

October 12, 2015. Bylaws of Chatfield Reservoir Mitigation Company, Inc.

Chatfield Reservoir Reallocation Project Participants, January 2014. Fish, Wildlife and Recreation Mitigation Plan.

CRMC Memorandum to CPW dated January 8, 2016. Chatfield Storage Reallocation Project – FWRMP (122.2 Plan) Clarification

William P. Ruzzo, PE, LLC August 25, 2015. Program Manager Selection Process. William P. Ruzzo, PE, LLC December 28, 2015. CPA Accounting Firm Selection Process. William P. Ruzzo, PE, LLC December 29, 2015. Legal Counsel Selection Process.

Smith Group JJR December 2015. Chatfield Reservoir Marina Study CDNR April 8, 2016. Chatfield Storage Reallocation Project.

