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Exhibit A

Kevin J. Lynch, CO Bar No. 39873
Brad Bartlett, CO Bar No. 32816
Victoria Hambley *appearing under Student Practice*
Bradley Neagos *appearing under Student Practice*
University of Denver Sturm College of Law
Environmental Law Clinic
2255 East Evans Avenue
Denver, Colorado 80210
Telephone: 303.871.6140
Fascimile: 303.871.6847
Email: klynch@law.du.edu
Email: bbartlett@law.du.edu

Attorneys for Petitioner

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER, a Colorado non-profit corporation,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenor Respondents.

**PETITIONER'S OPENING BRIEF FOR
REVIEW OF AGENCY ACTION
(Oral Argument Requested)**

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STATEMENT OF ISSUES PRESENTED FOR REVIEW

1. Whether the U.S. Army Corps of Engineers, Omaha District (“Corps”) violated Section 404 of the Clean Water Act, 33 U.S.C. § 1344, by failing to select the least environmentally damaging practicable alternative for the Chatfield Reallocation Project.
2. Whether the Corps violated the National Environmental Policy Act, 42 U.S.C. §§ 4321–4370h, by failing to evaluate reasonable alternatives to the Project including enhanced water conservation, upstream gravel pit water storage, and the Rueter-Hess Reservoir.
3. Whether the Corps violated NEPA’s informed decision-making and public participation requirements by relying on incorrect water rights assumptions and using confusing and misleading terminology to describe potential water yield, which is the main justification for the Project.

INTRODUCTION

Chatfield State Park is a unique outdoor laboratory and recreational sanctuary for over a million visitors each year. It is a one-of-a-kind natural refuge for residents of metro Denver seeking to escape the constraints of urban life along the Front Range. Because of its close proximity to the metropolitan area, those who value the outdoors and desire a peaceful respite in nature are able to reap many recreational opportunities without traveling several hours into the mountains.

Chatfield is situated at the juncture of the plains and the foothills, and its ecosystem is unlike any other park in Colorado. Mature riparian forest offers a cathedral-like beauty, with ancient cottonwoods that create alternations of light and shadow over walking paths.

Century-old cottonwoods, willows, red twig dogwood, box elder, snowberry and chokecherry shrubs, herbaceous ground cover, and soaring tree trunks all contribute to Chatfield's visual diversity. The sounds of wind in the branches and water trickling in the river combine with smells of vegetation and damp soil to create a rich sensory experience.

On May 29, 2014, the Corps issued a Record of Decision ("ROD") approving the reallocation of 20,600 acre-feet in the Chatfield Reservoir from flood control to water storage for municipal and industrial use. ("Chatfield Reallocation Project" or "Project"). The Project was conceptualized as a solution to anticipated pressure on water providers in the Denver metro area. However, it will radically alter the aesthetics and recreational opportunities available at Chatfield and wholly fails as a solution to anticipated water demands, offering only a dependable yield of zero water supply to the region. Because so many water providers have dropped out of the project, state taxpayers will bear much of the environmental mitigation costs.

In order to store water, the Project requires the clear-cutting of 269.5 acres of trees in the Park, including 26.8 acres of hundred-year-old mature cottonwoods that make Chatfield State Park so unique and desirable. The Project's anticipated flooding will cause many of them to die, and water-logged trees are a potential hazard to boaters and dam operations. Thus, the trees will be removed before inundation occurs. Denver Audubon members are particularly concerned with this activity. Because the reservoir will not operate full time at the high water level, unsightly, treeless mudflats will emerge around the reservoir during low water levels, impeding visitors' enjoyment of the park. The Corps admits that this Project, compared to the other alternatives it considered, will cause the

water level to fluctuate the most, making mudflats and shoreline rings more visible than with any other alternative. The trees proposed to be removed also provide shade, contribute to the beautiful aesthetics along the edge of the reservoir, enhance the riparian environment, and are a refuge for important bird species. The Park and its ecosystem will be irreparably disrupted by this activity. Further, planned mitigation to offset the environmental impacts of the Project will occur largely on private lands. These lands are inaccessible to the public, resulting in a striking loss of opportunity for the public and Denver Audubon members to experience the Park's critical aesthetic and recreational values.

This case presents an issue of first impression: whether the Corps, in choosing the least environmentally damaging practicable alternative ("LEDPA") under Section 404(b)(1) of the Clean Water Act ("CWA"), may ignore the broad evaluation of alternatives under the National Environmental Policy Act ("NEPA") and instead focus on a small segment of the broader project. Specifically, the Corps failed to evaluate alternatives to the Project as a whole and select the least environmentally damaging option. Rather than comply with the CWA requirements and relevant federal agency guidelines, the Corps arbitrarily segmented the Project into smaller parts in order to secure approval for its preferred alternative. The Corps would not let a private party harm the waters of the United States in this way. We respectfully ask the Court to hold the Corps accountable for this violation of the CWA.

Additionally, the Corps violated NEPA by disregarding several viable and significantly less environmentally damaging alternatives to the Project, such as enhanced water conservation, upstream gravel pit storage,, and storage of water at the Rueter-Hess

reservoir. The Corps further violated NEPA by failing to supplement the environmental impact statement (“EIS”) after its initial assumptions regarding what water would be stored at the project were proven to be inaccurate, and also by using terminology different from the industry standard in order to hide the fact that the Project would not increase reliable water supplies. Each of these deficiencies prevent the Corps from meeting the twin aims of NEPA to foster informed decision making and public participation.

Denver Audubon respectfully asks the Court to require the Corps to adhere to the same strict standards as any CWA 404 permit applicant. Denver Audubon also requests the Court to enjoin the Project from moving forward until: (1) a complete analysis of alternatives is performed, and (2) the project is reevaluated with proper water provider and water yield information available to the public. Denver Audubon therefore asks this Court to vacate the ROD approving the Chatfield Reallocation Project.

STATUTORY AND REGULATORY BACKGROUND

I. CLEAN WATER ACT

Section 404 of the CWA authorizes the Corps to issue permits to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. 33 U.S.C. § 1344. The permitting program is premised on the legal mandate that no discharge of dredged or fill material be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment or (2) the nation’s waters would be significantly degraded.

Under Section 404(b)(1), the Corps *shall not* permit a discharge that would result in significant degradation of the waters of the United States, or where a less environmentally

damaging practicable alternative exists. 40 C.F.R. § 230.10. This alternative is referred to as the “least environmentally damaging practicable alternative,” or LEDPA. *Id.*

While the Corps does not issue Section 404 permits for its own activities, regulations co-developed by the EPA and the Corps nonetheless mandate that the Corps abide by the same steps and analysis as if it were *actually issuing* itself a permit, including explicitly the 404(b)(1) guidelines requiring selection of the LEDPA. 33 C.F.R. § 335.2. Similarly, the Corps itself acknowledges in its own internal guidance documents that it must comply with the 404(b)(1) guidelines “[to] incorporate water quality policies embodied in Sections 102, 401 and 404 of the Federal Water Pollution Control Act...which are applicable to Corps of Engineers feasibility studies and preconstruction planning and engineering.” U.S. Army Corps of Eng’rs, Dep’t of the Army, *Planning Guidance Notebook*, Appendix C, C-6 Water Quality and Related Requirements, Page C-41.¹

When selecting the LEDPA, relevant guidance states that mitigation measures determined to be appropriate should be planned for concurrent implementation with other major project features where practical. U.S. Water Res. Council, *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, IV 1.6.1(g)(3) (March 10, 1983) (“Principles & Guidelines”).² See also AR016811. Though the Corps applies the Principles & Guidelines in civil works projects, the CWA requirements, including the Section 404(b)(1) Guidelines, still apply. AR018022. To comply with the Guidelines, alternatives must be considered **prior to**

¹ Available at <http://planning.usace.army.mil/toolbox/library/ERs/a-c.pdf>.

² Available at http://planning.usace.army.mil/toolbox/library/Guidance/Principles_Guidelines.pdf

mitigation when identifying the LEDPA. *Id.* Stated differently, the Guidelines require avoidance and minimization of adverse impacts and the selection of the LEDPA **before** requiring compensatory mitigation for any unavoidable impacts. *Id.*

Additionally, the *Memorandum of Agreement between the EPA and Department of the Army Concerning the Determination of Mitigation Under the CWA Section 404(b)(1) Guidelines* (“MOA”) clarifies this same sequencing requirement of selecting the LEDPA before considering the compensatory mitigation for a project. (ECF No. 33-2, at 16). According to the MOA’s Q&A, the Department of the Army intended integration of this sequencing framework into **all** Corps activities, including civil works projects. *Id.*

II. NATIONAL ENVIRONMENTAL POLICY ACT.

The National Environmental Policy Act (“NEPA”) is our nation’s basic charter for environmental protection, “enacted in recognition of the profound impact of man’s activity on the interrelation of all components of the natural environment.” *Utah Shared Access Alliance v. Carpenter*, 63 F.3d 1125, 1130-31 (10th Cir. 2006). NEPA imposes a duty on agencies to “use all practicable means...to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.” 40 C.F.R. § 1500.2(f). Before taking “major Federal actions significantly affecting the quality of the human environment,” agencies must take a “hard look” at potential environmental impacts by means of an environmental impact statement (EIS). *See* 42 U.S.C. § 4332(2)(C). The EIS evaluates the environmental impact of the proposed action, as compared with the impact of alternative courses of action. *Fuel*

Safe Wash. v. FERC, 389 F.3d 1313, 1323 (10th Cir. 2004). When an agency prepares an EIS, its purpose is to:

serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.

40 C.F.R. § 1502.1.

To comply with NEPA, an agency must rigorously explore all reasonable alternatives to a proposed project. 40 C.F.R. § 1502.14(a). For those alternatives that are eliminated from detailed study, the agency must briefly discuss the reasons for their elimination. *Id.*; *Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152, 1166 (10th Cir. 2002). The consideration of alternatives to a proposed action is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14; *see also Fuel Safe Wash.*, 389 F.3d at 1323.

Additionally, Congress enacted NEPA with twin objectives that procedurally govern how an agency satisfies its statutory obligations. 42 U.S.C. § 4332. The twin aims of NEPA require agencies to consider the environmentally significant aspects of a proposed agency action, and to let the public know that the agency’s decision-making process included evaluating environmental concerns. *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983).

Under these aims, NEPA requires an agency to actively foster public participation and informed decision-making by obtaining and disclosing all information that is necessary and relevant to the agency decision. 40 C.F.R. §§ 1502.1, 1506.6, 1502.22; *Friends of Marolt Park v. U.S. Dep't of Transp.*, 382 F.3d 1088, 1095 (10th Cir. 2004). The agency must include

in an EIS “information relevant to reasonably foreseeable significant adverse impacts if it is essential to a reasoned choice among alternatives.” 40 C.F.R. § 1502.22(a).

STATEMENT OF FACTS

In 1967, the Corps began construction of the Chatfield dam pursuant to the Flood Control Act of 1950. AR036125. The purpose for creating the reservoir included flood control, recreation, fish and wildlife habitat, and water supply. AR036125. In July 1974, the Corps leased 5,378 acres of land and water to the state of Colorado for what is now known as Chatfield State Park. AR036142.

Since its creation, Chatfield has blossomed into the most popular state park in State of Colorado, hosting over 1.5 million visitors annually. AR036126. Accordingly, Chatfield is the highest grossing state park in Colorado, and much of its revenue now serves as financial support for other state parks. AR036126. The park boasts a beautiful, sweeping landscape that encompasses a variety of ecosystems including prairie, mature cottonwood forest, and pristine wetlands. These habitats support 375 species of birds, fourteen of which are listed as protected at the state and federal level, as well as thousands of other species of flora and fauna. AR037487-94.

For the last fifteen years, monthly “Walk the Wetlands” hikes have offered park visitors a unique experience to view the rare birds that migrate through the park. (Ex. 4, Hugh Kingery Decl. ¶10.) This monthly hike alone has resulted in the identification of 184 species of birds, ranking Chatfield as one of the three highest locations in the nation in terms of breeding bird density. (*Id.*) It is impossible to find any other riparian area in the state of Colorado with as numerous cottonwood trees as Chatfield. (Ex. 5, Urling Kingery

Decl. ¶5.) An entire ecosystem has evolved around the nature and wildlife within the Park with diverse species such as beaver, elk, coyotes, and a seemingly endless variety of birds. (See Ex. 6, Bob Stocker Decl. ¶3.)

Outdoor enthusiasts, as well as casual visitors, can take advantage of the unique aesthetics at Chatfield through diverse recreational opportunities. A leisurely stroll down one of the Park's twenty miles of meandering paved paths, a rigorous hike on a remote dirt trail, boating, kayaking and fishing along the South Platte, as well as many other activities, are available to fit the interests of any individual at the park. See AR036365.

Denver Audubon was invited to establish its offices and a nature center at Chatfield in 1999. (Ex. 2, Polly Reetz Decl. ¶6.) Denver Audubon relies on Chatfield State Park to further its mission of conservation, education, and research. (*Id.*)

Initially, the Project was proposed as a means of providing water storage for sixteen water providers in the Denver metropolitan area, in an effort to account for the growing population anticipated along Colorado's Front Range. AR036152. The Project would allow water providers to store water at levels up to 5,444 feet above mean sea level, 12 feet higher than the reservoir currently operates. AR036150. By the time the Project was approved in 2013, it had only eleven participants. See AR036152. The Colorado Water Conservation Board ("CWCB"), which itself has no water rights, acquired the shares from water providers who had dropped out. *Id.*

The stated purpose and need of the Project is to increase the availability of water, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial water, sustainable over a 50-year period. AR036126. The average

year yield is the average amount of water per year that fourteen water providers estimate they could have stored in Chatfield for the years 1942-2000 if Chatfield had existed during the entire 59-year period.³ AR036153. Calculations for each water provider were based on inflows during each year, the effective date of each water provider's water rights, and whether the water providers had effluents from water rights upstream that could be recaptured in Chatfield for later use. AR036153; AR036929. Due to a combination of low inflows in most years, and low seniority of water rights held by the water providers, the projected maximum volume of 20,600 acre-feet would have been stored in Chatfield in only 16 of the 59 years (i.e. 27% of the time). AR036153. This means that if the water rights were similar for the next half century, for 73% of the years, the Reservoir will be operating at the low water level, with unappealing and unusable mudflats surrounding it.

The Corps considered in detail four possible alternatives to meet the purpose and need of the proposed project. AR036132. Alternative One is the No-Action alternative. AR036132. This alternative entails no action at Chatfield Reservoir, instead requiring the construction of a new reservoir combined with downstream gravel pits to accommodate the water providers. AR036132. Alternative Two would require the use of non-tributary groundwater ("NTGW") combined with downstream gravel pit storage to meet the needs of

³ It is important to note that this definition of average year yield in the Purpose and Need Statement included water providers who had dropped out or were in the process of dropping out. On the previous page, it is listed that Hock Hocking, Parker WSD, Perry Park, City of Brighton, City of Aurora, and Roxborough WSD were no longer going to be part of the Project, yet the average year yield calculation only excluded two of the six entities that were dropping out. Therefore, the average year yield in the EIS reflects data from fourteen water providers, even though there were only eleven water providers committed to the project at the creation of the EIS. The average year yield throughout the document is therefore inaccurate.

water providers. AR036132. Alternative Three, the agency's preferred alternative, entails reallocation of 20,600 acre-feet of potential water storage to Chatfield Reservoir.

AR036132-33. Alternative Four involves a partial reallocation to Chatfield Reservoir to allow for up to 7,700 acre-feet of storage, combined with NTGW use and gravel pit storage. AR036133.

The Corps considered these four alternatives in detail in both the draft and final EIS. *See* AR036104-656. The Corps ultimately selected Alternative Three as the preferred alternative. AR036134; *see also* AR036235-45. This alternative results in the most severe impacts to Chatfield State Park, including the removal of 269.5 acres of trees, 26.8 acres of which are hundred-year-old cottonwoods. AR039036. Moreover, after tree removal, Alternative Three calls for the flooding of 586 acres of parklands and wildlife habitat, along with dredging and filling 6.89 acres of natural wetlands. AR038984.

After completion of the draft EIS in June 2012, the public was allowed to comment on the Corps' analysis, methodology, and conclusions for approximately a one month period. AR036562. Five overarching concerns were raised by Denver Audubon during public commenting on the draft EIS: (1) the CWA § 404(b)(1) analysis was improperly performed, by means of segmentation (AR037268-69); (2) the Corps did not sufficiently explain its reasoning for eliminating viable alternatives, including enhanced water conservation, upstream gravel pit storage, and water storage at the Rueter-Hess reservoir (AR037268); (3) the Corps identified a "dependable yield" of zero acre-feet for the Project, which was hidden in an appendix within the EIS rather than disclosed in the executive summary (AR036926; AR037192-93); (4) the Corps' use of the terms "average year yield"

and “dependable yield” were used arbitrarily instead of terms that are generally accepted for these types of projects (AR037294); and (5) the specific water rights and associated allocation were not disclosed, which is the only way to determine how much water might be stored at the reservoir (AR037294).

The Corps did not substantively address the public comments to the Draft EIS noted above in the Final EIS issued in July of 2013. *See* AR036175-7303. The Corps summarily restated its underlying rationale being questioned rather than responding to the specific concerns brought up to that underlying rationale. AR037268-69. Subsequently, the Corps issued a ROD approving the Project on May 29, 2014. AR041877. Denver Audubon filed this appeal in October of 2014.

STANDING

While not challenged by the Defendants or Interveners, Denver Audubon is cognizant of its duty to demonstrate its standing to bring suit.

An association has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

Wyo. Timber Indus. Ass'n v. U.S. Forest Serv., 80 F. Supp. 2d 1245, 1252 (D. Wyo. 2000).

Denver Audubon meets the organizational standing requirements in this case.

Many of Denver Audubon’s members can demonstrate standing to sue in their own right. To establish standing, a party must show that (1) it has suffered an injury-in-fact that is concrete and particularized and actual or imminent; (2) the injury is fairly traceable to

the challenged action; and (3) a favorable decision will likely redress the injury. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-561 (1992).

The Supreme Court has long held that harm to the environment will support standing, “if that harm in fact affects the recreational or even the mere esthetic (sic) interests of the plaintiff” *Summers v. Earth Island Inst.*, 555 U.S. 488, 494 (2009) (citing *Sierra Club v. Morton*, 405 U.S. 727 (1972)). An agency’s failure to comply with the procedural requirements of NEPA creates a risk that environmental impacts will be overlooked. *City of Davis v. Coleman*, 521 F.2d 661, 670-71 (9th Cir. 1975). Such a failure provides “sufficient injury in fact to support standing.” *Id.*

Denver Audubon is an independent and autonomous chapter of the National Audubon Society, with the mission of advocating for the environment and connecting people with nature through conservation, education, and research. Denver Audubon members have been actively working to keep Chatfield State Park as a pristine recreational area for the public since 1975. Denver Audubon’s members’ declarations demonstrate the environmental, recreational, and aesthetic harm that would result in injury to the interests of the organizations and members. Specifically, as discussed in the attached declarations, members such as Ann Bonnell, the Reetzes, the Stockers, and the Kingerys will be directly injured by the Reallocation Project if it proceeds as currently prescribed.

Every year, approximately four thousand people visit the Audubon Center at Chatfield to explore, learn, and revel in the beauty of the park. Many come to participate in “Walk the Wetlands,” started by Denver Audubon members Hugh and Urling Kingery. (Ex. 4, Hugh Kingery Decl. ¶10.) Not only do individuals and families come to the park, but

Chatfield has been a place for many local corporations and groups to hold “work days in the park” as well. (Ex. 2, Polly Reetz Decl. ¶7.) The impacts of the project will severely limit the experiences available and result in a decrease in public interest and attendance at the park. (Ex. 2, Polly Reetz Decl. ¶9.) This ultimately will affect Denver Audubon’s ability to attract participants to attend its educational programs. (*Id.*; Ex. 1, Gene Reetz Decl. ¶6.)

Audubon member Ann Bonnell’s recreational and aesthetic interests will also be injured as a result of this Project, and she shares Mr. and Mrs. Reetz’s sentiments about losing the Park as it is today. (*See* Ex. 3, Ann Bonnell Decl. ¶5.) Ms. Bonnell has been an active supporter of the Chatfield basin since before Chatfield State Park was created. (Ex. 3, Ann Bonnell Decl. ¶7.) While Ms. Bonnell has enjoyed all areas of the park throughout the years, of particular importance to her lately have been the twenty miles of paved trails unique to Chatfield. AR036365. (Ex. 3, Ann Bonnell Decl. ¶8.) Ms. Bonnell is 78 years young, but unfortunately broke her femur and wrist in the winter of 2015. (*Id.*) As part of her rehabilitation, she walks on the wide, flat paved areas of Chatfield. (*Id.*) This both soothes her soul by being able to participate in her life-long passion of birdwatching, and helps her to physically recuperate from her surgery. (*Id.*).

Chatfield is a place of rejuvenation and healing for many individuals from all walks of life. (*See* Ex. 7, Nancy Stocker Decl. ¶¶2-4.) Audubon members sincerely believe that a second look at the potential impacts of the Project is critical to ensure the Park continues to serve such a special role in the Front Range community. (Ex. 1, Gene Reetz Decl. ¶7; Ex. 3, Ann Bonnell Decl. ¶16; Ex. 6, Bob Stocker Decl. ¶3.) If removed, no amount of mitigation

will be able to restore the century-old vegetation and growth that defines the character of Chatfield State Park. (Ex. 1, Gene Reetz Decl. ¶7.)

STANDARD OF REVIEW

The Administrative Procedure Act (“APA”) provides the standard of review for final agency action. *See, e.g., Olenhouse v. Commodity Credit Corp.*, 42 F.3d 1560, 1572 (10th Cir. 1994). Under the APA, agency action must be set aside if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.” 5 U.S.C. § 706(2)(A). An agency’s action is arbitrary and capricious if the agency:

- (i) entirely failed to consider an important aspect of the problem;
- (ii) offered an explanation for its decision that runs counter to the evidence before the agency or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise;
- (iii) failed to base its decision on consideration of the relevant factors; or
- (iv) made a clear error of judgment.

See New Mexico ex rel. Richardson v. BLM, 565 F.3d 683, 704 (10th Cir. 2009).

Further, an agency’s action is not in accordance with the law if the action:

- (i) fails to meet statutory requirements;
- (ii) fails to meet procedural requirements;
- (iii) fails to meet Constitutional requirements; or
- (iv) is unsupported by substantial evidence.

Olenhouse, 42 F.3d at 1574.

Review of an agency’s decision is generally confined to the administrative record compiled by the agency and presented to the reviewing court. *See Fla. Power & Light Co. v. Lorion*, 470 U.S. 729, 743-44 (1985). However, courts must nevertheless conduct a searching and thorough review of the agency action. *Olenhouse*, 42 F.3d at 1574.

Finally, in cases where a party is challenging an agency's determination of the LEDPA, agencies bear the burden of proving that the chosen alternative is the LEDPA by explaining how other practicable alternatives are more environmentally damaging.

40 C.F.R. § 230.10; *Alliance to Save the Mattaponi v. U. S. Army Corps of Eng'rs*, 606 F. Supp. 2d 121, 130 (D.D.C. 2009).

ARGUMENT

The Corps violated the CWA by failing to select the least environmentally damaging practicable alternative and, instead, arbitrarily segmented the Project. Additionally, the Corps acted unlawfully when it failed to follow the Section 404 Guidelines in the LEDPA process. The Corps violated NEPA by failing to consider reasonable alternatives including enhanced water conservation, upstream gravel pit storage, and water storage at the Rueter-Hess Reservoir. The Corps also violated NEPA by failing to ensure informed decision making and public participation when the agency relied on incorrect water rights assumptions and used confusing and misleading terminology in drafting the EIS.

I. THE CORPS VIOLATED THE CLEAN WATER ACT BY FAILING TO SELECT THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE.

This case presents a question of first impression: whether the Corps, in approving its own action under Section 404 of the Clean Water Act, is held to the same standard as it would apply to any permit applicant. The Corps should have relied on the extensive NEPA alternatives analysis when choosing the least environmentally damaging practicable alternative under the CWA. The Corps will ask this Court to ignore regulations and guidance documents clearly applicable to all Section 404(b)(1) analyses and instead allow the Government to achieve a convenient and desired outcome by breaking the Project into

smaller segments. This approach defies not only EPA and Corps regulations and guidance, but also common sense. The relocation of recreational facilities, as well as the habitat and environmental mitigation, are an integral part of the Project. The Project and associated activities triggering the Section 404(b)(1) analysis are inextricably linked.

The Corps' Section 404(b)(1) analysis is flawed for two key reasons. First: the Corps failed to use the NEPA Project alternatives in evaluating the LEDPA as required by the law. 40 C.F.R. § 230.10(a)(4). Had the Corps properly compared Project Alternative 3 to Project Alternatives 1, 2, and 4 during its dredge and fill analysis, Alternative 3—as the most environmentally damaging alternative—could never have been selected as the LEDPA. Second, the Corps unlawfully segmented the Project. Asserting that two segments of the Project (the relocation of recreational facilities and habitat/environmental mitigation) are merely “incidental” to the reallocation of water storage, the Corps limited its Section 404(b)(1) analysis only to “alternatives” to these narrow segments. AR041043. Such artificial division of the Project runs afoul of the “anti-segmentation” rule, rendering the Corps' action arbitrary, capricious, and not in accordance with the law.

A. The Corps Violated the CWA by Failing to Use the NEPA Alternatives in the EIS as the Basis for Evaluating and Selecting the LEDPA.

The 404(b)(1) guidelines make clear that, except in rare situations, alternatives considered under NEPA provide the basis for evaluating alternatives to select the LEDPA. 33 C.F.R. § 230.10(a)(4). The record is devoid of any evidence that the Project is one of those rare situations, because the activity requiring fill of wetlands is an integral part of the entire Chatfield Reallocation Project. Because the Corps failed to utilize the alternatives in

the EIS as a basis for evaluating and selecting the LEDPA, the Corps failed to meet the requirements of the Clean Water Act.

The Corps was required to evaluate and compare all practicable alternatives, including at least the NEPA alternatives, in selecting the LEDPA. 40 C.F.R. § 230.10(a)(4). In *Sierra Club v. Van Antwerp*, environmental organizations opposed the issuance of a Section 404(b)(1) permit for mining operations near the Everglades. *Sierra Club v. Van Antwerp*, 709 F. Supp. 2d 1254, 1259 (S.D. Fla. 2009). There, the court explained that while Section 404(b)(1) determinations are governed substantively by CWA, procedurally both NEPA and CWA should govern agency decisions. *Id.* Similarly, in *Utahns*, the court held that the issuance of a Section 404(b)(1) permit by the Corps for a highway project that did not utilize NEPA alternatives in its CWA analysis was arbitrary and capricious. 305 F.3d at 1152.

As in *Sierra Club* and *Utahns*, the Corps' Section 404(b)(1) analysis failed to evaluate the three alternatives that were evaluated in the NEPA analysis. AR038958-84. Rather than looking at alternatives to only small segments of the Project during the Section 404(b)(1) analysis, the Corps should have analyzed at least those alternatives that were deemed reasonable under NEPA. *See* 40 C.F.R. § 230.10(a)(4). The Corps' flawed analysis was inadequate to satisfy the § 404(b)(1) requirements, and made it impossible for the true LEDPA to be selected.

In addition to regulations mandating consideration of NEPA alternatives and well-established case law upholding the requirement, Corps internal guidance also states that "the NEPA process will be integrated with the Corps...planning processes. This integration

is intended to reduce process overlap and duplication. The integrated process will help assure that well-defined study conditions and well-researched, thorough assessments of the environmental...resources affected by the proposed activity are incorporated into planning decisions.” *Planning Guidance Notebook*. U.S. Army Corp of Engineers. at 2-16.

For all of these reasons, the Corps was required in this case to use the NEPA alternatives as the inputs for its 404(b)(1) analysis. Case law, the 404(b)(1) Guidelines themselves, and the Corps’ own guidance documents all support this conclusion. Because the Corps made no effort to show that the extensive analysis of environmental impacts of the NEPA alternatives was not relevant under the Clean Water Act, its 404(b)(1) analysis was legally flawed and must be vacated.

B. A Proper 404(b)(1) Analysis for Chatfield Would Reveal That the Corps Did Not Demonstrate Alternative 3 As the LEDPA.

In order to fully understand what the Corps did in its 404(b)(1) analysis, it is important to understand in more detail what it should have been done in this case. Thus, this section will give a broad overview of how the Corps should have conducted a LEDPA analysis for the entire Chatfield Reallocation Project. This analysis suggests a possible motive for why the Corps did not want to choose LEDPA from among the NEPA alternatives: Alternative 3 is the most damaging alternative and therefore could not be chosen as the LEDPA. In order to avoid this finding, the Corps would have to eliminate all the other NEPA alternatives as not practicable – essentially revealing its NEPA process to be nothing more than an empty analysis of false alternatives.

Under the Clean Water Act, the Corps should have first evaluated Alternatives 1 through 4 and determined if each was practicable. Determining practicability under CWA

is an independent analysis; therefore, the Corps cannot determine impracticability based solely on the fact that an alternative is not the preferred NEPA alternative. *Utahns*, 305 F.3d at 1176-87; 40 C.F.R. § 230.5(c). The Corps cannot base a determination of impracticability based solely on its own rejection of an alternative under NEPA. Like the project in *Utahns*, the Corps erred by not considering at least the three practicable and reasonable alternatives derived from the NEPA analysis. Doing so would result in a new CWA 404(b)(1) analysis and LEDPA determination. 305 F.3d 1152. Unlike *Alliance*, the Corps also did not attempt to explain why listed alternatives other than the preferred alternative were impracticable. 606 F. Supp. 2d 121. Because the Corps did not determine that any of the other NEPA alternatives were not practicable, it had to then compare the environmental impacts of each alternative.

For the next step of choosing the least environmentally damaging from among all practicable alternatives, agencies bear the burden of proving that the chosen alternative is the LEDPA by explaining how other practicable alternatives are more environmentally damaging. 40 C.F.R. § 230.10; *Alliance to Save the Mattaponi v. U.S. Army Corps of Eng'rs*, 606 F. Supp. 2d 121, 130 (D.D.C. 2009). In *Alliance*, the court reasoned the “Corps must do more than give vague explanations...[and] it must explain fully, based [o]n analysis adequate to the task, why other alternatives are either impracticable or more damaging.” *Id.* In *Alliance*, the court found that the Corps’ LEDPA determination was arbitrary and capricious because it failed to explicitly define why other alternatives were impracticable and to compare those alternatives against one another. Just like in *Alliance*, the Corps did

not explicitly define why other alternatives were impracticable. Rather, the Corps justified its use of the segmented project in a meaningless analysis. *See* AR041038-68.

When compared to the other NEPA alternatives, Alternative 3 could not be chosen as the LEDPA. Alternative 3 inundates 586 acres of wildlife habitat, destroys a minimum of 42.5 acres of mature cottonwoods, floods 159 acres of wetlands, and is the **most** environmentally damaging practicable alternative. Each other alternative impacts less wetlands, has fewer water quality impacts, and impacts less wildlife habitat, including endangered species habitat. Alternative 3 is by a wide margin the most environmentally damaging alternative.

Table 1 – Project Alternatives’ Impacts to the Aquatic Ecosystem⁴

<i>Project Alternative</i>	<i>Wetlands</i>	<i>Water Quality</i>	<i>Threatened and Endangered Species</i>
Alternative 1: No Action	21.26 acres	None	Potential for loss of Preble’s habitat; aquatic species could benefit from creation of aquatic habitat at gravel pits
Alternative 2: NTGW + Downstream Gravel Pits	9 acres	Short-term, insignificant impacts from well construction and gravel pit conversion	Aquatic species could benefit from creation of aquatic habitat at gravel pits
Alternative 3: 20,600 acre-foot Reallocation (<i>Corps’ chosen alternative</i>)	157.2 acres; additional acres potentially impacted by road and recreation facility relocations	Chatfield Reservoir effects (eutrophication, algal blooms, lower metals, increased phosphorous concentrations); potential downstream South Platte River impacts during low-flow periods	454 acres of Preble’s habitat flooded, including 155.2 acres of critical riparian habitat; additional 2.54 acres impacted by facilities relocation
Alternative 4: 7,700 acre-foot Reallocation + NTGW + Downstream Gravel Pits	119.8 acres; additional acres potentially impacted by road and recreation facility relocations	Same types of impacts as Alternative 3, but at lower levels	270 acres of Preble’s habitat flooded, including 87.6 acres of critical riparian habitat; additional 2.54 acres impacted by facilities relocation

The only potential way that the Corps might argue Alternative 3 is not the most environmentally damaging alternative is to argue that the impacts will all be fully mitigated; however, compensatory mitigation cannot be considered when selecting the LEDPA. The MOA, cited above, between the Corps and EPA makes clear that in projects such as this, the primary emphasis is on avoidance of impacts to wetlands, with compensatory mitigation only considered for unavoidable impacts. (ECF No. 33-2,

⁴ AR036196-245.

at 16 (discussing sequencing of mitigation after avoidance and minimization)). The Corps further explained in the MOA that the mitigation framework outlined is intended to apply to all Corps activities, including Civil Works projects. *Id.* at 6. Considering compensatory mitigation would lead to absurd results such that any alternative could be chosen as LEDPA because compensatory mitigation would mean that all projects have a net of no environmental impact. Not only does this defy logic, it also is contrary to Corps and EPA guidance on the matter.

The Corps ignored its own internal guidance when it did not follow the § 404(b)(1) permitting process in selecting the LEDPA. The Tenth Circuit has held that “the failure of an agency to comply with its own regulations constitutes arbitrary and capricious conduct.” *Cotton Petrol. Corp. v. U.S. Dep’t of Interior, Bureau of Indian Affairs*, 870 F.2d 1515, 1527 (10th Cir. 1989). Additionally, “Agency decisions that depart from established precedent without a reasoned explanation will be vacated as arbitrary and capricious.” *Id.* at 1527. Because the Corps failed to conduct a proper LEDPA analysis for the Project, comparing Alternative 3 to the other NEPA alternatives, and because the Corps ignored its own internal guidance, this Court should vacate the ROD and enjoin action on the Project until the Corps had conducted a valid 404(b)(1) analysis.

C. The Corps Unlawfully Segmented the Project to Produce a Favorable Section 404(b)(1) Analysis for Its Preferred Alternative.

The Chatfield project was improperly segmented into recreational facility modifications, rising water levels, and environmental mitigation measures. AR038598. The three segments are inextricably linked because the relocation of recreational facilities and mitigation only occur to offset the harms of raising the water level at Chatfield

Reservoir. By breaking up the integral components of the Project, the Corps' narrow analysis disregards well understood NEPA alternatives that would have completely avoided discharge of dredged or fill material. Avoiding the discharge of dredged or fill material, wherever practicable, is the primary purpose of the 404(b)(1) guidelines. Therefore, the Corps' segmentation of the project into smaller parts for only the CWA analysis renders the entire analysis unlawful.

Throughout the NEPA process the Corps compared distinct, complete alternatives to each other. AR036171. However, when the Corps went through the Section 404(b)(1) analysis, it abruptly segmented Alternative 3 into three parts. The Corps then looked at practicable alternatives to one of these parts, the relocation of recreational facilities. AR038958.

The Corps made clear throughout the EIS, in every part except Appendix W where the 404(b)(1) analysis is supposed to be, that the relocation of recreational facilities is an integral part of the complete Project, including the rising water levels. On the very first page of the EIS, when discussing the list of work to be done as part of the Project, including explicitly the relocation of recreational facilities, the Corps explained that the "proposed CDNR work is integral to the reallocation project, because all the work and features are essential components of the Selected Plan." AR036104, 036560. The Corps reiterated this conclusion in a section specifically about recreation, stating clearly: "The Recreation Facilities Modification Plan is considered to be an integral part of the Selected Plan." AR036568. Similar statements were made regarding mitigation measures. AR036573. The Colorado Water Conservation Board, ("CWCB"), which is funding the relocation of

recreational facilities, agreed with this assessment, stating that “[a]ll of the identified implementation work is integral to the project.” AR036564 (explicitly including work on recreational facilities). The only place in the EIS where the relocation of recreational facilities is not treated as an integral part of the whole project is in the 404(b)(1) analysis. AR036582-84; AR038978-82.

Additionally, applicable Federal regulations require the Corps to consider alternatives that would avoid discharge altogether. Corps regulations make clear that it is in the public interest to discourage the “unnecessary alteration or destruction” of wetlands. 33 C.F.R. § 320.4(b). The 404(b)(1) guidelines, codified at 40 C.F.R. § 230, include specific requirements to avoid discharge of dredged or fill material into wetlands. 40 C.F.R. § 230.10(a). The guidelines also instruct that NEPA alternatives should ordinarily provide the basis for review. 40 C.F.R. § 230.10(a)(4).

The Corps’ internal guidelines also support the idea of a single, complete project being carried through all phases of analysis. Project planners must “focus on the larger, complete plan(s) even when carrying out specific, individual tasks.” U.S. Army Corps of Eng’rs, Dep’t of the Army, *Planning Guidance Notebook* at 2-5. The Principles and Guidelines document from 1983 confirms this approach, emphasizing that the entire project, including mitigation, must be considered as an integral plan. U.S. Water Res. Council, *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, IV 1.6.1 (March 10, 1983).

Other agencies also noticed the flaws in the Corps’ CWA compliance. In July of 2009, the Corps Regulatory Branch reiterated the importance for Corps Civil Works to perform its

Section 404(b)(1) analysis on the entire Project, not just segmented parts. AR044710.

When the Corps drafted its initial Preliminary Draft EIS (“PDEIS”), EPA sent a letter on May 13, 2009 stating its concern that the analysis should not have “considered the raising of water levels separately from the other associated actions, including the relocation of infrastructure.” AR044692; *see also* AR038692. In a response letter dated February 3, 2010, the Corps asserted that the PDEIS was merely preliminary and that, when it did issue a FEIS for public comment, it would demonstrate compliance. AR038695. However, the Corps failed to correct the flaws identified. AR041038. Although the Corps Civil Works program eventually convinced the other agencies to go along with its viewpoint, Denver Audubon respectfully asks the Court to make the ultimate determination of what procedures the Clean Water Act and NEPA require. There is no need to defer to an unreasonable interpretation of the Corps’ own regulations and guidance documents.

Lastly, courts have rejected attempts to segment a project based on arguments that smaller portions of the project have an independent utility. Although the Tenth Circuit has not commented on segmentation with regards to a CWA analysis, it has recognized that segmentation of a project is improper in the context of NEPA analysis. *Citizens' Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1028 (10th Cir. 2002). “One of the primary reasons for requiring an agency to evaluate ‘connected actions’...is to prevent agencies from minimizing the potential environmental consequences of a proposed action...by segmenting or isolating an individual action that, by itself, may not have a significant environmental impact.” *Id.* Similarly, in *Utahns*, the Tenth Circuit also stated that “...significant cumulative impacts are not to be made to appear insignificant by

breaking a project down into small component parts.” 305 F.3d at 1182 (citing 40 C.F.R. § 1508.27(b)(7)).

Similarly, in a Federal district court in Florida, an attempt to segment a development project in order to avoid greater NEPA review and also to speed up the issuance of the Section 404 permit under the Clean Water Act was rejected. *Fla. Wildlife Fed’n v. U.S. Army Corps of Eng’rs*, 401 F. Supp. 2d 1298, 1313-23 (S.D. Fla. 2005). The court explicitly relied on the “anti-segmentation” rule which prohibits agencies from evading NEPA responsibilities by artificially dividing projects up in order to avoid findings of significant impact. *Id.* at 1313.

The segmentation of the Chatfield Project is even more egregious than the dispute in *Florida Wildlife Federation* because in this case, the Corps engaged in a broad analysis of NEPA alternatives and only narrowed the scope of analysis for the LEDPA determination. The Corps should not have limited its scope of environmental analysis under Section 404(b)(1) to particular segments when it is clear the Chatfield project was conceptualized as an integrated whole. There is no indication that the relocation of recreational facilities has independent utility; instead, it is only being done in order to compensate for the many negative impacts of rising water levels. An agency is not allowed to change the scope of analysis simply to help its preferred or otherwise convenient alternative secure regulatory approval. *Fla. Wildlife Fed’n*, 401 F. Supp. 2d at 1318.

Other cases also make clear that in the NEPA context, the overall project should be considered rather than smaller segments of the project. Because NEPA ordinarily provides the inputs for the Section 404(b)(1) analysis, these cases are instructive for this issue of

first impression under the Clean Water Act. One of these cases is discussed in the record, in a memorandum from Corps legal counsel to the Director of Civil Works. The memorandum noted that a case from the Ninth Circuit, *Save Our Sonoran*, required a complete project be included in the permitting analysis. AR016159. Legal counsel stated, “the Corps should continue to apply 33 C.F.R. Appendix B to all cases, and should use precedent—including that in *Save Our Sonoran*—to guide implementation of Appendix B where the particular factual circumstances are easily indistinguishable from the precedential cases’ facts.”

AR016159; *Save Our Sonoran, Inc. v. Flowers*, 408 F.3d 1113, 1126 (9th Cir. Ariz. 2005). If the Corps had followed instruction given by its own legal counsel, they would have arrived at the conclusion that it needed to analyze the Project as a single and complete concept.

In *Save Our Sonoran*, the permit applicant sought to fill portions of braided washes to provide road and utility access to a major residential development. *Sonoran*, 408 F.3d at 1118. The Corps issued the § 404(b) permit by analyzing only the impact of the washes and not the entire project. *Id.* at 1119. The court reasoned that “the Corps must determine the potential impact that a proposed development would have on the jurisdictional waters, and on ‘those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review.’” *Id.* at 1120 (citing 33 C.F.R. Pt. 325, App. B § 7(b)(1)). The court held that any development the Corps permits would have an effect on the entire property, and thus the NEPA analysis should have been carried through for the entire project. *Id.* at 1122. This means that if there are portions of a project which are inextricably linked, a NEPA analysis must be done for the entire project, and not simply a segment.

The Ninth Circuit stated that “each fact situation must be evaluated to determine if there is sufficient federal control and responsibility over the activities occurring in jurisdictional waters and requiring a Corps permit.” AR016159. When the Corps is confronted with a situation where the activity requiring a permit is one component merely part of a larger non-federal project, the Corps must identify the specific activity over which it has sufficient control and responsibility to warrant further review under NEPA. AR016160 (citing *Sylvester v. U.S. Army Corps of Eng’rs*, 884 F.2d 394 (9th Cir 1989)). 33 C.F.R. Part 325, Appendix B dictates that if the Government has “sufficient control and responsibility” over the permitted activity and interrelated activities, both activities must be considered for NEPA analysis. AR016161.

In this case, the segmentation of the Project is similar to the segmentation of the *Save Our Sonoran* facts.. It is clear that the three separate segments are inextricably linked, therefore must be considered as a whole project in accordance with 33 C.F.R. Part 325, Appendix B guidance as well as precedent from *Save Our Sonoran*. The Corps’ legal counsel had brought to light the fact that there were regulations and precedent available to guide them in the permitting process including the aforementioned Planning Guidance Notebook, MOA, and P&G. For the Corps to disregard this detailed guidance is arbitrary, capricious, and an abuse of discretion.

Although there is scant law on segmentation of a project under the Clean Water Act, NEPA case law makes clear that projects should not be broken down into smaller parts to avoid significant regulatory requirements. Therefore, the Corps should not avoid the complications of applying 404(b)(1) to the entire Project by segmenting out the relocation

of recreational facilities to ensure more favorable review. Denver Audubon respectfully asks the Court to set important precedent on segmentation with regards to the CWA to definitively provide guidance for future projects in this jurisdiction.

Because the NEPA alternatives ordinarily supply the basis for choosing LEDPA under the 404(b)(1) guidelines, and because the relocation of recreational facilities is an integral part of the Project rather than a distinct segment, the Corps violated the CWA when it failed to identify the LEDPA after comparing Alternative 3 to the other NEPA alternatives.

II. THE CORPS' NEPA ANALYSIS WAS DEFICIENT BECAUSE IT IMPROPERLY EXCLUDED REASONABLE ALTERNATIVES FROM DETAILED STUDY.

The Corps violated NEPA when it failed to consider all reasonable alternatives to the Project including enhanced water conservation, upstream gravel pits for water storage, and the already-existing Rueter-Hess Reservoir for water storage. At a minimum, these actions should have been combined into an additional alternative studied in detail alongside Alternatives 1, 2, 3, and 4. Instead, the Corps relied on three main arguments to screen these alternatives out—arguments which have been rejected by federal courts and are impermissible under NEPA.

First, the Corps improperly screened out alternatives that it deemed could not meet the entire purpose and need standing alone. The Corps is required, however, to consider partial alternatives, perhaps in combination with other actions. Second, the Corps invalidly rejected storage at Rueter-Hess Reservoir because it would require action by a third party. Finally, the Corps built straw man arguments without adequate support by asserting that additional infrastructure would be needed to store water anywhere but at Chatfield,

without adequately explaining this justification for screening out alternatives. Particularly egregious was the screening of Rueter-Hess. As the Corps was well aware, infrastructure to connect the South Platte River to Rueter-Hess Reservoir had been or was planned to be constructed in the near future.

Alternatives including the proposed action are the heart of the EIS. 40 C.F.R. § 1502.14. The Corps failed to rigorously explore and objectively evaluate all reasonable alternatives. It failed to discuss the reasons for eliminating alternatives. It devoted little serious investigation of each alternative to be considered in detail, including the proposed action. It unlawfully included only alternatives within its jurisdiction. 40 C.F.R. § 1502.14(a)-(c). In each foregoing instance, the Corps acted arbitrarily and capriciously, denying the public the ability to evaluate comparative merits.

A. Alternatives cannot be eliminated from detailed study on the basis that they are partial alternatives.

The Corps failed to consider the partial alternatives of enhanced water conservation and upstream gravel pit storage, and is prohibited from using the argument that, standing alone, the options cannot provide for the project need. *Davis v. Mineta*, 302 F. 3d 1104, 1122 (10th Cir. 2002); *Utahns*, 305 F.3d at 1164.

In *Utahns*, the court held that a violation of NEPA occurred rendering the FEIS inadequate, by the failure to consider the integration of two individual actions as a reasonable alternative to a highway project. 305 F.3d at 1170-71. In *Davis*, the court held that rejecting options because, standing alone, they would not meet the purpose and need of the project was one of the most “egregious shortfalls of the environmental assessment.”

302 F.3d at 1122-23. Similarly here, the Corps did not consider the reasonable option of enhanced water conservation in combination with existing upstream gravel pit storage.

Neither the Corps, nor the public, has any idea of how much water could be saved by the water providers participating in the Project through enhanced conservation. Nowhere in the FEIS does the Corps conduct any serious or detailed review of how much water could be saved through more aggressive conservation measures. The FEIS does briefly touch on the general topic of water conservation in a subchapter ironically titled “The Concept of Increased Water Conservation.” AR036187-93. As this Court has correctly noted, that portion of the FEIS discusses current water conservation measures and current conservation programs. (ECF No. 48 at 10.)⁵ But the Corps made no effort in that section to actually analyze how much water supplies could be increased through more aggressive conservation, despite the title indicating that it would discuss “**increased** water conservation.” Instead, the Corps made a conclusory and unsupported assertion that “the water shortages of sustainable water supplies faced by the water provides will not be resolved by water conservation measures alone” and thus rejected conservation as a practicable alternative. AR036188. This situation is thus actually worse than the cases in

⁵ Denver Audubon acknowledges that the Appendix AA does discuss future water conservation plans for at least some of the water providers. (ECF No. 48 at 10). But these plans are already in existence. The purpose of including a detailed discussion of enhanced water conservation in an EIS would be to push and encourage the water providers to do more than they are already planning to do. Simply noting existing plans for the future or even listing off measures that have been identified for possible future implementation does not replace some sort of rigorous analysis by the Corps of how much water the supply of sustainable water could be increased through conservation and how that could be used, at least in part, to meet the purpose and need of the Project under consideration. By simply paying lip service to the general topic of conservation, the Corps avoided informing itself and the public of how water supply could be increased through conservation.

Utahns and *Davis* because the Corps rejected conservation not as a partial solution to the purpose and need of this Project, but rather to the much broader need for conservation across the entire region. This Court should not sanction such a dramatic expansion of reasoning that has already been rejected in its more limited form by the Tenth Circuit.

Similarly, upstream gravel pits were eliminated from detailed consideration “due to limited storage capacity.” AR036201; AR037197. The Titan ARS gravel pit alone provides at least 4,500 acre-feet with the potential to store up to 11,000 acre-feet. AR036183; AR039473. Oddly this alternative was deemed insufficient while downstream gravel pit reservoirs, identified to have a capacity of 7,835 acre-feet of storage volume, were carried forward as part of Alternative 2. AR036183; AR036195.

The justification for treating the upstream gravel pits differently from the downstream gravel pits was incredibly thin. AR036197. According to the Corps, upstream gravel pits have “limited storage capacity” and “logistical difficulties of combining reservoirs to meet the storage requirements of the project.” *Id.* No explanation is given for why the Corps drew a line between the 7,835 acre-feet available downstream and the 4,500 acre-feet available upstream at the Titan ARS pit. And the Corps does not even mention in the EIS that evidence elsewhere in the record indicates that the Titan ARS gravel pit could potentially store 11,000 acre-feet, much more than the downstream gravel pits which were examined in more detail. AR039473. Even if the Titan ARS gravel pit could only store 4,500 acre-feet, the Corps did not adequately explain why this partial solution should not have been considered in more detail, as the downstream gravel pits were.

The Corps relied on the invalid justification for excluding enhanced water conservation and upstream gravel pits—specifically that they would not provide a complete solution to the purpose and need. Because the Tenth Circuit and other courts have held this reasoning is not sufficient to screen out an alternative from detailed study in an EIS, this Court should vacate the ROD and remand the EIS to the Corps with instructions that it prepare a Supplemental EIS fully analyzing these partial alternatives.

B. The Corps Cannot Eliminate Rueter-Hess Because It Would Require Action by a Third Party.

The Corps unlawfully eliminated Rueter-Hess Reservoir from full, detailed consideration on the basis that utilizing it requires third-party action. Rueter-Hess Reservoir was listed initially as a potential alternative to the Project in the initial screening process of the EIS. AR036202. It was eliminated before detailed consideration solely because the owner of the Reservoir had not yet made storage available for sale. AR036202. When the abrupt elimination of Rueter-Hess was brought up during the public commenting period, the Corps stated that a pipeline did not yet exist to connect Rueter-Hess to Chatfield.⁶ AR037196. Utilization of the Rueter-Hess Reservoir could have been an integral component of the broad problem of the need for local, cost-effective and environmentally sound storage of water.

In *Morton*, the court rejected the government's argument that the only alternatives required for discussion were those which the official or agency issuing the statement could

⁶ As discussed in the following section, this is also an invalid reason for eliminating Reuter-Hess Reservoir both because it was too conclusory and also because factually it is incorrect, since the Corps has been working on permitting for Project WISE which includes connections from the South Platte River to Reuter-Hess Reservoir.

adopt and put into effect. *Nat. Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 835 (D.C. Cir. 1972). Rather, the court reasoned that when the proposed action is an integral part of a broad problem, the range of alternatives that must be evaluated is broadened. *Id.*

Like *Morton*, the Corps eliminated Rueter-Hess Reservoir from consideration because Parker Water and Sanitation District (“PWSD”) has not yet “made any additional [storage] capacity available for sale.” AR036202. Even if PWSD refused to make any additional storage capacity available, that would not be an adequate reason to exclude the alternative from the EIS. But PWSD had not refused to do so, and the Corps should have analyzed the impacts that would have been associated with storing water at Rueter-Hess instead of Chatfield. Even more troubling, the operator of Rueter-Hess Reservoir is not just some random third party—PWSD was actually one of the initial participants in the Project, although they dropped out because they presumably found better alternatives to the Project, such as Rueter-Hess and Project WISE. The Corps’ alternatives analysis was thus severely flawed because it was based on an improper rationale for screening out Rueter-Hess Reservoir based on the need for third party action.

C. The Corps did not provide adequate rationale for eliminating Rueter-Hess Reservoir and upstream gravel pits from consideration.

In *Wilderness Soc.*, the court held that the defendant agency did not provide sufficient evidence to support their claim that directional drilling was technically and economically infeasible to support rejection of the alternative for the project in question. *Wilderness Soc., Ctr. for Native Ecosystems v. Wisely*, 524 F. Supp. 2d 1285, 1309 (D. Colo. 2007). In the same manner, the Corps has failed to prove that Rueter-Hess Reservoir and upstream gravel pits are infeasible alternatives. AR036201-02.

The Corps stated in the FEIS that Rueter-Hess was eliminated because its owner, PWSD had not made any additional capacity available for sale. AR036198. Public comments noted that in January 2010, the Colorado Public Works Journal indicated that storage space **would be** available after the project was completed. AR037197. The Corps failed to provide a source that would make their statement more than an assumption—there is no evidence in the record that PWSD expressly indicated that there is no more available storage space in Rueter-Hess Reservoir. AR036198.

The Corps also asserted that “current storage commitments” at Rueter-Hess Reservoir precluded it from detailed consideration. AR036198; AR036202. But on the contrary, comments provided to the Corps’ draft EIS pointed out that there was in fact, excess capacity that would be for sale. AR037197. In response to public comments, the Corps once again stated that there was no storage for sale without any authority and for the first time asserted that Rueter-Hess Reservoir was precluded from being a viable alternative because it lacked infrastructure. *Id.* Again, the record fails to support this with any evidence and the FEIS directly contradicts this assertion by stating that new infrastructure was constructed to reach at least four of the Chatfield Project participants. AR036516.

The Corps itself had issued a public notice for Section 404 permitting at Rueter-Hess, which showed that existing and planned infrastructure will enable water to be taken from the South Platte River, downstream of Chatfield, to be stored at Rueter-Hess, and that the Corps knew of this. AR041022. Project WISE infrastructure connects the South Platte River to the Rueter-Hess Reservoir, making Rueter-Hess a viable alternative to Chatfield for

the water providers. The Corps asserted different justifications such as the purported need for a pipeline to connect Chatfield and Rueter-Hess Reservoir. AR037196 (“no pipeline is currently proposed to connect Chatfield Reservoir to Rueter Hess Reservoir”). The secondary justification is incorrect, and the Corps should not have alleged it.

Lacking infrastructure was not listed in the Corps’ reasons for elimination anywhere in the FEIS, and was subsequently asserted after the fact in responses to comments without evidentiary support. AR036202; AR037195-97. None of the reasons the Corps provided are supported by evidence in the record; therefore, Rueter-Hess should have been considered as a full or partial alternative.

Similarly, the Corps did not provide adequate rationale for eliminating upstream gravel pits. The administrative record demonstrates that the pits were summarily eliminated because use would require diversion to and from the South Platte River and because their storage capacity is limited. AR036201. However, the Corps admits that the Lower South Platte gravel pits are subject to the same diversion limitation, but they were carried forward for analysis. *Id.* The Corps failed to explain why Lower South Platte gravel pits were carried forward while local upstream gravel pits were not. *Id.* Furthermore, the upstream gravel pits are located adjacent to Plum Creek and less than a mile from Chatfield Reservoir, making a diversion to the South Platte River feasible. Additionally, the upstream gravel pits could provide approximately 11,000 acre-feet of storage. AR036183. This represents well over half of the 20,600 acre feet of storage space that the Corps identified as an objective in its purpose and need statement. AR036129. The record does not

support the Corps' assumption that the local upstream gravel pits would be less feasible than other alternatives, and their elimination was inadequately discussed.

III. The Corps Failed to Foster Informed Decision Making and Public Participation as Required by NEPA.

The Corps violated NEPA's requirement to foster informed decision making and public participation when they made incorrect assumptions regarding future water rights holders and used misleading, non-standard terms regarding water yield during the creation of the EIS. Because these deficiencies mean the twin aims of NEPA were not met, this Court should vacate the ROD and remand to the Corps with instructions that the FEIS must be supplemented or revised in a way that does foster informed decision-making and public participation.

A. Neither the Corps nor the public know what water will be stored for a significant portion of the project, with unknown consequences for the environmental impact.

The record before the court makes clear that neither the Corps nor the public know what the environmental impacts of the Project will be, because for over 20% of the water storage, no one has any idea what water rights will be stored there. AR036150. Knowing what water rights will be stored in Chatfield Reservoir, particularly the seniority of those rights, is critical to accurately assessing what the environmental impacts of the Project will be. The purpose of NEPA is to insure a fully informed and well-considered decision.

Amigos Bravos v. U.S. Bureau of Land Mgmt., Case No. 09-CV-00037-RB-LFG, 2011 WL 7701433, *5, *10 (D.N.M. Aug. 3, 2011). If the seniority of the water rights to be stored at Chatfield is unknown, the Corps should have analyzed the potential impacts based on the range of reasonable variation in seniority of the water rights. Instead, the Corps simply

relied on outdated assumptions which it knew were not accurate at the time the ROD was approved. Therefore, the FEIS needs to be remanded to the Corps to fully analyze the range of future impacts of the Project.

Additionally, further contradictory information contained in the EIS, which the Corps relied on to make their decision, causes them to violate the informed decision-making requirement of NEPA. The planning section of the FEIS states, “data also considered in this analysis were collected from involved water providers to determine the near term need for water that could be provided by up to a 20,600 acre-foot reallocation at Chatfield Reservoir.” AR036175. The FEIS includes a table of water storage rights that was used to explain what the future of Chatfield Reservoir would look like, but a footnote mentioned that this table included water providers that were in the process of dropping out of the project. AR036150. The FEIS explains that beginning in 2004, these entities began discussing how storage at Chatfield was to be allocated, yet the process was very turbulent as these initial participants began dropping out and the percentages had to be changed. *Id.* The table containing the analysis for the average year yield of 8,539 acre feet that is stated in the purpose and need in Appendix BB was based off of the fifteen water providers initially involved in the project. AR036929. As previously stated, this analysis is inaccurate because it includes water providers who were already listed as no longer participating in the project or were in the process of dropping out. AR036152. Thus, at the time the Corps signed the ROD for the Project, it knew that the assumptions made in the FEIS regarding the water that would be stored were incorrect.

The filings by the intervenors in this case highlight the changing and uncertain nature of the storage rights and the water which will be stored in them. Specifically, the Chatfield Participating Entities claim in their Motion to Intervene that they are paying for “approximately 61% of the capacity in Chatfield Reservoir that will be provided by the reallocation of storage space.” (ECF No. 17-2, at 1). The remaining storage capacity in the reservoir, nearly 40%, is being paid for by the State of Colorado, primarily the Colorado Water Conservation Board, one of the agencies that is part of the Colorado Department of Natural Resources. (ECF No. 22-1, at 6) (CDNR has sole responsibility for funding the Project, while water providers are paying CWCB for their share of the storage space allocation). However, the CWCB cannot store any water in the Project as it is only authorized to have instream flow rights, and the Project is intended only for Municipal and Industrial water. AR036998. Therefore, a large portion of the storage capacity will have to be sold off to various water providers in the future. No one—not the Corps, nor the public—knows what water rights will be stored in approximately one third of the storage space in the Project.

The water rights which will be stored in the Project have a profound impact on the environmental impacts to be expected at Chatfield. If CWCB sells storage capacity to a senior water rights holder, then the Reservoir could be full much more frequently. If it sells the storage capacity to a provider with more junior water rights than the current participants, the Reservoir will be full even less than estimated. Appendix V of the EIS briefly mentions in one sentence that reservoir levels may be affected by reservoir management, but does not give an example of what that situation would look like, even

though it goes through extensive hypothetical analyses of other situations such as dry years or flooding. AR038889. The Corps chose not to analyze the impacts based on a reasonable range of possible future outcomes, but instead based its analysis on data that it knew to be inaccurate at the time the ROD was signed, and even at the time the FEIS was published.

The Corps acknowledged that “[m]any of those impacts depend on the timing and duration of pool level fluctuations under the proposed reallocation alternatives (Alternatives 3 and 4) or on other sources of uncertainty.” AR036371. The FEIS recognizes that uncertainties could impact numerous environmental resources, such as water quality, aquatic life and fisheries, tree clearing in the fluctuation zone, wetlands, weed control, and more.

AR036372-76. However, in a quite long list of uncertainties that might impact those resources, changes in the seniority of the water rights is not mentioned and changes in the Chatfield water providers is only listed with respect to operations of the reservoir and not with respect to the direct environmental impacts. AR036376. In the discussion of the environmental impacts of Alternative 3, the FEIS does not mention potential changes in the water providers or changes in the seniority of the water rights to be stored as part of the Project. AR036378-85. The FEIS only briefly mentions in Appendix V that “it is assumed that the water provider acquiring rights to that space would store and release water in the same manner as the original water provider. Under the current understanding of how water providers would access and store water at Chatfield, there are no expected direct or indirect impacts on upstream areas outside of the Chatfield Reservoir study area.”

AR038891.

This failure to analyze the effect of water rights in the reservoir means that neither the Corps nor the public were informed about the potential environmental impacts of the Project. At a minimum, the Corps needed to disclose the shortcoming in its analysis of the environmental impacts, which it did not do. *See Lands Council v. Powell*, 395 F.3d 1019, 1032 (9th Cir. 2005). In the public comments, this issue of the impact of water rights on the environment was brought up, and the Corps responded that “if water rights changes lead to significant effects not originally identified in the EIS, a supplement would be warranted. AR037202. At the time of the finalization of the EIS, the list of water providers was not complete, and therefore the conclusion that there would be no direct or indirect impacts to the environment was purely hypothetical and thus arbitrary and capricious. The ROD should be vacated and the Corps instructed to supplement the EIS to assess how the environmental impacts might vary based on the water rights eventually stored, or to place limitations on what water rights can actually be stored in the Project.

B. The Corps used misleading, non-standard terminology to describe yield, to bury the fact that the project will reliably store no additional water at great cost.

The Corps violated NEPA’s requirement for informed public participation by substituting standard terms for terms of their own arbitrary creation – specifically using “average year yield” instead of “firm yield” or “safe yield”. In the executive summary of the final EIS and the purpose and need statement, critical parts of the document for alerting the public about what the government proposes to do, the Corps chose not to use the standard industry terms safe or firm yield to describe how much water storage the project would provide. They did this because such terminology would have made plain that the project

would reliably increase water storage in the region by **0 acre feet**. Instead, the Corps used an apparently made up term of “average year yield” to present the project in a better light. The damning conclusion that the project would provide 0 acre feet of storage was instead buried on page 2,740 of the EIS, where only the most dedicated of observers would find it. This usage of confusing and non-standard terminology along with burying a key conclusion deep within the appendices contributed to the Corps’ failure to promote informed public participation in this case, which is a violation of NEPA.

In *Friends of Earth v. Hall*, the court found that failure to disclose a technical uncertainty in the EIS and relying on its conviction the project would be successful, without assessing the environmental impact of its failure, was a violation of the informed public participation aim of NEPA. *Friends of Earth v. Hall*, 693 F.Supp. 904, 922 (W.D. Wash. 1988). In the Chatfield case, the Corps failed to disclose two important things: (1) the definition of the term average year yield; and (2) how it differed from the standard industry term.

The final EIS uses the term “average year yield” seven times in the executive summary, without defining what it means. AR036126; AR036130; AR036133; AR036137. In the purpose and need statement contained in chapter 1 of the FEIS, the Corps again fails to define the term, although it does explain how the average year yield for the Project was calculated. AR036153. The term is not defined until Chapter 2 of the FEIS, where it is defined in reference to the Project, further highlighting that this is not an industry standard term but rather one made up especially for the Chatfield Reallocation Project. AR036174.

The FEIS finally states on the 450th page that “average year yield” means the average annual amount of water expected to result from the storage of water rights. AR036553.

The second issue of the low dependable yield is mentioned in Chapter 5 without disclosing that the dependable yield is not just low, it is nonexistent or zero. AR036540-41. For an interested member of the public who was able to read the EIS to page 2,740 and see the dependable yield of zero, they would realize that under every measure analyzed, the Project will reliably store 0 acre feet of water per year. AR036926. As a result of the “very low yield to storage ratio, the cost of this project is vastly higher than any other Corps reallocation.” AR036926 (Updated Cost of Storage of \$14,300 per AF/yr is “[m]ore than 4 times the highest”). However, it was unreasonable to bury such an important conclusion so deep in the EIS Appendices. Had this information been presented prominently in the EIS, the Corps would have done much more to promote informed public participation.

The FEIS does occasionally use the standard terminology, without explaining why the terminology varies or what significance the changes in terminology have, further limiting informed public participation. “Firm annual yield” is mentioned in discussions of converting agricultural water to municipal and industrial use. AR036186. But firm yield is never defined or used elsewhere in the FEIS. “Dependable yield” is referenced as being “low,” but similarly is not defined in the FEIS itself. AR036540-41. “Dependable Yield Mitigation Water” was important enough to be included in the list of acronyms, AR036652, but the Corps failed to explain why “dependable yield” was therefore not the appropriate measure to use in analyzing the Project. The more common term “safe yield” is not used in the FEIS. The Corps does not explain in the FEIS why it chose the unusual non-standard

“average year yield” terminology. Denver Audubon can only conclude that the Corps wished to obscure this inconvenient fact from the public and to make the preferred alternative look less unreasonable. However, other parts of the record and Corps guidance documents shed light on how unusual this terminology is. The terms in the FEIS were contrary to the Corps’ own practices as stated in the Corp’s *Handbook on Water Supply Planning and Resource Management* (“Handbook”). AR000503-906. “Average year yield” is not found anywhere in the Handbook, yet it does refer to “dependable yield,” AR000829, “firm yield,” AR000849. The Handbook even divides up authority for Water Supply Storage Agreements based on “dependable” acre-feet of storage. AR000534. Most prominently, the Handbook relies on a definition of “safe yield” as “the maximum quantity of water which can be reliably available throughout the most severe drought of record, or some other specified criterion” as well as a slightly less strict definition for “yield” based on 98% dependability. AR000883. Safe yield is the term discussed in the section on “Water Supply Planning and Drought” because planners cannot rely on annual averages to ensure that drought conditions are avoided. AR000622. Safe yield and yield differ substantially from “average year yield” as it is used in the FEIS.

The record sheds scant light into how the Corps decided to use the confusing and unusual term “average year yield,” but email correspondence related to the draft EIS also highlights how unusual the terminology is. Back in 2006, an economist for the Corps stated that he had always used the term firm yield, but noted that there was interest in using the alternative term “average year yield.” AR005652. Early drafts of the appendices still used the standard industry terminology “firm yield” but objections were raised because that was

inconsistent with the term “average year yield” used in the EIS discussion. AR019827. A subsequent email from the Corps’ contractors at Tetrattech states that the term “average year yield” was “reached by consensus,” with no further explanation of why or how such consensus was reached. AR019826. This email exchange should be contrasted with earlier internal presentations which used the standard terminology for yield: “firm yield and dependable yield is the maximum sustainable flow at some point in time during the most adverse sequence of stream flow.” AR010741. Thus on the record before the court, the Corps did not adequately explain why it chose to use confusing and misleading terminology and to bury the critical conclusion of 0 dependable yield many thousands of pages into the appendices of the FEIS.

Because the FEIS used the confusing and unusual term “average year yield” to present the project to the public, and only included the conclusion of 0 dependable yield buried in Appendix BB, the Corps failed to meet NEPA’s requirement to promote informed public participation. This flaw is further exacerbated by the Corps’ failure to analyze what water rights would actually be stored at Chatfield as part of the Project, given that approximately 40% of the storage space was unaccounted for at the time the ROD was issued.

CONCLUSION

Denver Audubon respectfully requests the Court to vacate the Record of Decision and remand the FEIS to the Corps to reconsider the alternatives chosen and properly choose the LEDPA under the CWA requirements. Additionally the Court should require the Corps to prepare a supplemental EIS to account for the change in water providers and the

environmental impacts of these changes, as well as substantively address the public comments and use terminology that is industry custom.

PETITIONER'S LIST OF EXHIBITS

Exhibit 1	Declaration of Gene Reetz
Exhibit 2	Declaration of Polly Reetz
Exhibit 3	Declaration of Ann Bonnell
Exhibit 4	Declaration of Hugh Kingery
Exhibit 5	Declaration of Urling Kingery
Exhibit 6	Declaration of Bob Stocker
Exhibit 7	Declaration of Nancy Stocker

CERTIFICATE OF SERVICE

I certify that on April 1, 2016, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such to the attorneys of record.

Phillip Dupre, Phillip.R.Dupre@usdoj.gov
Barbara M.R. Marvin, Barbara.Marvin@usdoj.gov
Jacob Licht-Steenfat, Jacob.Licht-Steenfat@usdoj.gov

Attorneys for Respondent, U.S. Army Corps of Engineers

Bennett W. Raley, bwraley@mac.com
Deborah Lynn Freeman, dfreeman@troutlaw.com
Michael Allan Kopp, mkopp@troutlaw.com

Attorneys for Intervenor-Defendants Castle Pines Metropolitan District et al.

Casey Ann Shpall, casey.shpall@state.co.us

Attorney for Intervenor-Defendant Colorado Department of Natural Resources

/s/ Kevin J. Lynch
Kevin J. Lynch

Exhibit B

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER, a Colorado non-profit corporation,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenor Respondents.

EXHIBIT 3 — DECLARATION OF ANN BONNELL

I, Ann Bonnell, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge and experience. If called as a witness, I could and would testify to these facts.
2. I have been a member of Audubon Society of Greater Denver ("Denver Audubon") since May 9, 1983. I am on the Board serving as 2nd Vice-President. I also serve on the Conservation Committee, the Trip Committee, and the Audubon Center at Chatfield Committee.
3. Audubon sub-leases 8.6 acres in the southwest corner of Chatfield State Park for the Audubon Center at Chatfield. There is a farmhouse and garage utilized for

Exhibit C

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FOR THE DISTRICT OF COLORADO**

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UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
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CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenor Respondents.

EXHIBIT 4 — DECLARATION OF HUGH KINGERY

I, Hugh Kingery, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge and experience. If called as a witness, I could and would testify to these facts.

2. I first visited the area now encompassed by Chatfield State Park in 1967. I walked downstream from the Waterton bridge into the current boundaries of the park, looking for birds, especially migrants. Over the years, I've posted 700 "Chatfield" trips to eBird, the Cornell Lab of Ornithology website. I found many regularly migrating warblers, vireos, flycatchers, and fringillids. I also found some rarities – the following near the Waterton bridge, not within the present park boundaries but indicative of the observations others have had within the park. They include the first Colorado record of Prairie Warbler

in 1975, the second for Scott's Oriole, and the first Blue-winged Warbler in 1975 (found by W. W. Brockner).

3. In 1971 I started what turned into a 15-year study of a Heronry located in a cottonwood grove west of the present "Heron Overlook." The colony started with 9 Great Blue Heron nests, which increased to 148 in 1985, after the reservoir started to flood the heronry grove. Double-crested Cormorants joined the colony in 1979, increasing from 5 nests that year to 178 in 1986.

4. Of equal significance, the study documented the change in bird nesting in this cottonwood grove over three distinct periods: a 4-year Baseline, before the reservoir affected the grove, which provides a model for the cottonwood groves along the South Platte in this area; a 5-year Transitional period as waters started to flood the grove, and finally, six years when reservoir waters flooded the grove. In the latter period, Frank Justice and I paddled out to the grove in a foldboat.

5. The breeding bird density found in the Baseline Period ranks among the highest breeding bird densities in the country. (See detailed report in Colorado Birds 43(1):26:44.) This study demonstrated the richness of the entire cottonwood stream bottom along the South Platte River and the importance to breeding birds the cottonwood riparian area that remains.

6. Since then I've continued my fascination with Chatfield, particularly the South Platte riparian area. My wife and I return to the river bottom frequently in order to enjoy and to document the birds we find there. The South Platte corridor contains one the few Colorado breeding areas for Least Flycatchers and for American Redstarts, as well as

the more common and expected species. Plum Creek has another colony of Least Flycatchers.

7. Each December, we cover the east side of the river for the Christmas Bird Count. We usually find 35-45 species. One time we watched a Bobcat perched in a cottonwood; as we watched, it jumped to the ground (20 feet or so) and disappeared in the brush. We couldn't find it again. Another time, on a banding trip with a Division of Wildlife biologist, we returned to her truck to discover a Black Bear perched in the truck bed.

8. Once we heard an Eastern Screech-Owl but thought that the call came from another birder who could whistle an imitation of its call. He thought the same of us – and we finally discovered the little owl – a real one – perched in a hole in a cottonwood between us.

9. In January, 1993, my wife and I skied south along Plum Creek and saw, scratching in the leaves in a bare patch under a tree, a Long-billed Thrasher. Only Colorado's third record, the first two had occurred in 1906 and 1949. Dozens of other birdwatchers flocked to see it.

10. In 2000, through Denver Audubon Society, we started a monthly "Walk the Wetlands" hike that starts at the Denver Audubon Nature Center and goes a mile and a half downstream through the park, crosses a cattail marsh and wetland to a Gazebo that overlooks the stream bottom, and then returns to the Nature Center. In its 15 years it has recorded 184 species of birds.

11. Besides birds we've seen coyote, black bears, elk, mule deer, skunks, chipmunks, beaver, muskrats, and the afore-mentioned bobcat.

We find it fulfilling to return to the park and savor its wildlife.

I declare under the penalty of perjury that the foregoing is true and correct and was executed this 9th day of March, 2016.

/s/ Hugh Kingery
Hugh Kingery

Exhibit D

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No.: 1:14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,

Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS,

Respondents.

RESPONSE BRIEF FOR RESPONDENT

JOHN C. CRUDEN
Assistant Attorney General

Of Counsel:

CATHERINE E. GROW
Office of Counsel
U.S. Army Corps of Engineers, Omaha
District
1616 Capitol Ave.
Omaha, NE 68102
(402) 995-2600

PHILLIP R. DUPRÉ
BARBARA M.R. MARVIN
U.S. Department of Justice
Environment & Natural Resources Division
P.O. Box 7611
Washington, D.C. 20044
(202) 616-7501

DANIEL INKELAS
Office of the Chief Counsel
U.S. Army Corps of Engineers
441 G St. NW
Washington, DC 20314
(202) 761-0345

JACOB LICHT-STEENFAT
Assistant United States Attorney
U.S. Attorney's Office
1225 Seventeenth St., Suite 700
Denver, CO 80202
(303) 454-0100

*Attorneys for Respondent U.S. Army Corps
of Engineers*

ORAL ARGUMENT REQUESTED

May 25, 2016

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JURISDICTIONAL STATEMENT

This Court has jurisdiction over this petition for review of agency action pursuant to 28 U.S.C. § 1331.

INTRODUCTION

The Audubon Society of Greater Denver (“Petitioner” or “Audubon Society”) challenges the decision of the Assistant Secretary of the Army (Civil Works) approving the Chatfield Reservoir Storage Reallocation Final Integrated Feasibility Report and Environmental Impact Statement (“Final Report and EIS”). *See* AR041875-041876. In the Final Report and EIS, the United States Army Corps of Engineers (“Respondent” or “Corps”) recommended increasing the availability of water for municipal and industrial water supply and other purposes through the reallocation of existing storage space in Chatfield Reservoir southwest of Denver to help meet existing and future water needs in the Denver metropolitan area. Petitioner argues that the approval of the Corps’ recommendation violated Section 404 of the Clean Water Act (“CWA”), 33 U.S.C. §§ 1251-1388, and the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321-4370h. The extensive administrative record concerning the Corps’ recommendation, and the Assistant Secretary’s decision approving that recommendation show, first, that the Corps properly focused its analysis under Section 404 of the CWA on the only activities that fell under the Corps’ regulatory jurisdiction under the CWA, namely the Recreation Facilities Modification Plan and Compensatory Mitigation Plan. Second, the record also shows that, in recommending reallocation of water storage space in Chatfield Reservoir, the Corps complied with NEPA by considering a reasonable range of alternatives for the proposed project and fostering informed decisionmaking and providing sufficient information to foster public participation in compliance with NEPA.

STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

1. Whether the Corps reasonably determined that the Chatfield Reallocation project was in compliance with Section 404 of the Clean Water Act, based on an evaluation of alternatives to the specific activities requiring a discharge into waters of the United States, rather than evaluating alternatives to relocating water for storage at Chatfield Reservoir, which does not require a discharge into waters of the United States.

2. Whether the Corps analyzed the environmental impacts from a reasonable range of alternatives to reallocating water storage at Chatfield Reservoir.

3. Whether the Corps' Environmental Impacts Statement provided sufficient information to the agency's decision-makers and the public regarding the potential environmental effects from the Chatfield Reallocation, thereby fostering informed decisionmaking and public participation.

STATEMENT OF THE CASE

A. Statutory and Regulatory Background

1. Clean Water Act

The CWA establishes a comprehensive program designed to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To achieve this goal, the CWA prohibits the discharge of pollutants, including dredged or fill material, into navigable waters unless authorized by a CWA permit. 33 U.S.C. § 1311(a). The CWA defines “navigable waters” as “waters of the United States,” which, in turn, is defined by regulation. 33 U.S.C. § 1362(7); 33 C.F.R. § 328.3(a).

Section 404 of the CWA authorizes the Corps to regulate discharges of dredged and fill material into “waters of the United States,” through the issuance of permits. 33 U.S.C. § 1344. Subject to the guidelines “developed by the Administrator of the Environmental Protection

Agency [(“EPA”)] in conjunction with the Secretary of the Army,” 40 C.F.R. § 230.2(a), and issued under Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1) (referred to as the “Section 404(b)(1) Guidelines” and codified at 40 C.F.R. pt. 230), and other applicable criteria, the Corps will grant a permit application to discharge dredged or fill material into waters of the United States “unless the district engineer determines that [to do so] would be contrary to the public interest.” 33 C.F.R. § 320.4(a)(1). The 404(b)(1) Guidelines provide that “[n]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” 40 C.F.R. § 230.10(a). This requirement is commonly known as identifying the LEDPA (least environmentally damaging practicable alternative). A “practicable” alternative is one that is “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2).

The Corps can reduce potential adverse impacts associated with a discharge by requiring mitigation as a condition of a permit. 33 C.F.R. § 325.4(a)(3); *see also* 33 C.F.R. § 320.4(r)(1) (resource losses are to “be avoided to the extent practicable”). “Consideration of mitigation will occur throughout the permit application review process and includes avoiding, minimizing, rectifying, reducing, or compensating for resource losses.” 33 C.F.R. § 320.4(r)(1). Mitigation to be accomplished through compensation “may occur on-site or at an off-site location.” *Id.* While the Corps has authority to issue permits under Section 404, “[u]nder section 404(c) [of the CWA], the Administrator of [EPA] may exercise a veto over the specification by the U.S. Army Corps of Engineers . . . for the discharge of dredged or fill material.” 40 C.F.R. § 231.1(a).

“Although the Corps does not process and issue permits for its own activities, the Corps authorizes its own discharges of dredged or fill material by applying all applicable substantive legal requirements, including public notice, opportunity for public hearing, and application of the section 404(b)(1) guidelines.” 33 C.F.R. § 336.1(a). “Evaluation of the effects of the discharge of dredged or fill material, including consideration of the Section 404(b)(1) Guidelines, shall be included in an EA [Environmental Assessment], EIS [Environmental Impact Statement] or EIS Supplement prepared for all Corps actions in planning, design and construction where the recommended plan or approved project involves the discharge of dredged or fill material into waters of the United States.” U.S. Army Corps of Engineers Planning Guidance Notebook, Engineer Regulation 1105-2-100, App. C., ¶ C-6(h), p. C-43, *available at* <http://planning.usace.army.mil/toolbox/library/ERs/entire.pdf>.

2. The National Environmental Policy Act

Congress enacted NEPA to establish a process for federal agencies to consider the environmental impacts of their actions. *Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978). NEPA serves to inform agency decision-makers and the public regarding environmental effects from the proposed federal action. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). “In NEPA, Congress codified rules designed to ‘focus[] both agency and public attention on the environmental effects of proposed actions’ and thereby ‘facilitate[] informed decisionmaking by agencies and allow[] the political process to check those decisions.’” *WildEarth Guardians v. U.S. Fish & Wildlife Serv.*, 784 F.3d 677, 690 (10th Cir. 2015) (quoting *N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 703 (10th Cir. 2009)). NEPA is thus an “essentially procedural” statute, *Citizens to Pres. Boomer Lake v. Dep’t of Transp.*, 4 F.3d 1543, 1554 (10th Cir. 1993), in that it “does not mandate particular results, but simply prescribes the necessary process.” *WildEarth Guardians*, 784 F.3d at 690

(quoting *Robertson*, 490 U.S. at 350); *Rags Over the Ark. River v. Bureau of Land Mgmt.*, 77 F. Supp. 3d 1038, 1053 (D. Colo. 2012) (quoting *Vt. Yankee Nuclear Power Corp.*, 435 U.S. at 558 (“The purpose of NEPA is ‘to insure a fully informed and well-considered decision,’ not to dictate a particular outcome.”)). See also *Hillsdale Envtl. Loss Prevention, Inc. v. U.S. Army Corps of Eng’rs*, 702 F.3d 1156, 1166 (10th Cir. 2012) (“NEPA imposes procedural, information-gathering requirements on an agency, but is silent about the course of action the agency should take.” (citation omitted)).

NEPA “requires only that [an] agency take a ‘hard look’ at the environmental consequences,” *Rags Over the Ark. River*, 77 F. Supp. 3d at 1047-48 (quoting *Utah Shared Access All. v. U.S. Forest Serv.*, 288 F.3d 1205, 1207–08 (10th Cir. 2002)), before it takes “major Federal action significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(c). In order to satisfy this procedural requirement, before approving a project and commencing any major action, “an agency must prepare a ‘detailed statement’ . . . [on] the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented [and] alternatives to the proposed action.” *City of Alexandria, Va. v. Slater*, 198 F.3d 862, 868 (D.C. Cir. 1999) (citing 42 U.S.C. § 4332(2)(C)(i)-(iii)). Accord *Sierra Club v. Bostick*, No. CIV–12–742–R, 2013 WL 6858685, at *3 (W.D. Okla. Dec. 30, 2013), *aff’d* by 787 F.3d 1043 (10th Cir. 2015). The analysis and evaluation of “the projected environmental impacts of all ‘reasonable alternatives’ for completing the proposed action” is “‘at the heart of the environmental impact statement.’” *City of Alexandria*, 198 F.3d at 866 (quoting 40 C.F.R. § 1502.14) (emphasis added).

Agency compliance with NEPA is bounded by a “rule of reason.” *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004). Accordingly, in reviewing claims alleged under

NEPA, courts should consider only “whether [the] agency’s decisions regarding which alternatives to discuss and how extensively to discuss them were arbitrary, keeping in mind that such decisions are ‘necessarily bound by a rule of reason and practicality.’” *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1277 (10th Cir. 2004) (quoting *Airport Neighbors All., Inc. v. United States*, 90 F.3d 426, 432 (10th Cir. 1996)).

B. Factual Background

Chatfield Reservoir is a water storage facility located within the South Platte River Basin and directly on the South Platte River southwest of Denver. AR036127. The Reservoir was constructed in 1973, AR036176, as part of the Chatfield Dam and Lake project, which Congress first authorized in 1950 for flood control purposes. *See* Flood Control Act of 1950, Pub. L. No. 81-516, 64 Stat. 163, 175; AR036125.¹

In 1986, Congress legislated modifications of the Reservoir and authorized reassignment of a portion of the storage space “to joint flood control-conservation purposes, including storage for municipal and industrial water supply, agriculture, and recreation and fishery habitat protection and enhancement.” Water Resources Development Act of 1986 (“WRDA”), Pub. L. No. 99-662, 100 Stat. 4082, 4168.² The WRDA authorized the Secretary of the Army to reassign storage space in the Chatfield Dam and Lake project “upon request of and in coordination with the Colorado Department of Natural Resources [(“CDNR”)]and upon the Chief of Engineers’ finding of feasibility and economic justification.” *Id.* Any reallocation was conditioned on agreement of the nonfederal parties (the water providers) to repay the costs of the reallocated

¹ “AR” means the index to the Administrative Record filed on April 1, 2015, and Supplement to the Administrative Record filed on April 21, 2015. *See* Dkt. Nos. 29, 31.

² In 2007, Congress amended the WRDA to add environmental restoration as a permitted purpose for reallocation of storage space in the Reservoir. Water Resources Development Act of 2007 (“WRDA 2007”), Pub L. No. 110-114, 121 Stat. 1041, 1116.

storage space in accordance with federal law. AR035125. In 2009, Congress authorized the CDNR to perform modifications of the Reservoir necessary for reassignment or reallocation of storage space and any required mitigation that might result from implementing reallocation, and it directed the Secretary to collaborate with the CDNR and other local interests to determine a method of calculating storage costs that would reflect the limited reliability of the resources. Omnibus Appropriations Act of 2009, Pub. L. No. 111-8, § 116, 123 Stat. 524, 608.

1. History of the Project

Not long after construction of Chatfield Reservoir was completed, some local water providers began planning for the possibility that additional storage space might be reallocated. AR036178. Their efforts intensified in the 1990s with the creation of the Metropolitan Water Supply Investigation (“MWSI”), whose work focused on investigating possible cooperative solutions to future water supply needs in the Denver metropolitan area. AR036142. The MWSI’s investigation identified Chatfield Reservoir “as an important potential source of water storage.” *Id.* The Chatfield Work Group formed under the auspices of MWSI and worked with the Colorado Water Conservation Board (“CWCB”), a division of CDNR, and Corps to continue to investigate the possibilities for reallocation of flood storage or recreation storage. *Id.* In 2004, at the Corps’ and the CWCB’s request, a subcommittee of water providers was formed to determine the allocation among interested water providers of the potentially available storage space in the Reservoir. AR036151. In 2012, the CWCB asked the Corps to consider reallocating space in the Reservoir for a group of water providers who were requesting reallocated space. AR036126,³ AR036558. The Corps and the CWCB then jointly conducted a

³ Also in 2012, the CWCB, which is the local sponsor of the reallocation project, proposed to accomplish all of the modifications and mitigation required for the reallocation through its agencies and non-federal project partners, the water providers. *Id.*

study of the proposed reallocation, which addressed, *inter alia*, the water resource problem of the inadequacy of the water supply to meet increasing demand in the Denver metropolitan area over the next fifty years in conjunction with the opportunity for “[e]xpanding the use of an existing storage facility to provide additional water supplies.” AR036127, AR036128.

2. The Final Report and EIS

The joint study by the Corps and the CWCB culminated in the Final Report and EIS, AR036104-036656, which integrates the Corps’ analysis of possible effects of the proposed project under NEPA with the findings of feasibility and economic justification required by the WRDA into a single document. AR036125. The Final Report and EIS was first issued in July 2013, AR036104, and later supplemented by addenda dated March 2014, AR041265, and September 2014, AR041925. In the Final Report and EIS, the Corps defined the purpose and need of the proposed project as being “*to increase availability of water*, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial . . . water, sustainable over the 50-year period of analysis, in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met.” AR036153 (emphasis added).

a) As Part of its NEPA Analysis, the Corps Considered Numerous Alternatives to the Preferred Alternative for the Chatfield Reallocation Project.

Pursuant to NEPA, the joint study analyzed the possible environmental impacts of various alternatives to reallocating storage space at Chatfield Reservoir that satisfied the purpose and need for the proposed project. AR 036131. The Corps and CWCB first explored a number of potential project concepts other than the Chatfield Reallocation, and engaged in rigorous screening of those concepts. All alternatives were evaluated in relation to four considerations: 1) ability to meet the project’s purpose and need; 2) cost; 3) logistics and technology (including water rights and availability, land availability, permitting and mitigation feasibility, design and

construction feasibility, and operational feasibility); and 4) environmental impacts (including significance and ability to mitigate). AR036131-036132. This screening process led to the development of four main alternatives, the environmental effects from which were considered and compared in detail in the Final Report and EIS. AR036132; AR036203-AR036231 (Alternatives Considered in Detail). The four alternatives selected for further consideration were:

1. No Action—Penley Reservoir combined with Gravel Pit Storage. Under the No Action Alternative flood control storage space within Chatfield Reservoir would not be reallocated to joint flood control-conservation storage (hereafter referred to as conservation or water supply storage/pool), and the operation of the reservoir would remain the same. For this alternative it was assumed the water providers would use Penley Reservoir and gravel pit storage to meet their future water needs. The water providers would newly construct Penley Reservoir and would install the infrastructure needed to convert existing gravel pits for water storage.

2. Least Cost Alternative to Chatfield Reservoir storage reallocation—[Increased Non-Tributary Ground Water (“NTGW”) use] combined with Gravel Pit Storage. Normally the No Action Alternative is also the Least Cost Alternative. However, the water providers participating in the Chatfield Reservoir reallocation study are opposed to long-term use of NTGW due to water supply management strategies of becoming less dependent on non-renewable water supplies. For this study, it is assumed that NTGW could provide water to a significant part of upstream water providers through the 50-year planning period, and downstream water providers would be served by the development of gravel pits for water storage.

3. Reallocation to allow an additional 20,600 acre-feet of Water Supply Storage. The 20,600 Acre-Foot Reallocation Alternative would reallocate storage from the flood control pool to the conservation pool. The additional storage would be used for M&I water supply, agriculture, recreation, and fishery habitat protection and enhancement purposes. Under this alternative, the base elevation of the flood control pool would be raised from 5,432 to 5,444 feet msl but the reallocation of storage for this proposal involves only the volume between 5,432 and 5,444 feet msl.

4. Reallocation to allow an additional 7,700 acre-feet of Water Supply Storage combined with NTGW and Gravel Pit Storage. The 7,700 Acre-Foot Reallocation Alternative, like Alternative 3, would reallocate storage from the flood control pool to the conservation pool for multiple purposes. Again the additional storage would be used for M&I water supply, agriculture, recreation and fishery habitat protection and enhancement purposes. Because the average year yield from Chatfield Reservoir storage reallocation for Alternative 4 is less than the average year yield for Alternative 3, additional water supply sources (NTGW and downstream gravel pit storage) are also included in Alternative 4 so that the total average year yield equals 8,539 acre feet, but the reallocation of storage for this proposal involves only the volume between 5,432 and 5,437 feet msl.

AR036132-036133 (emphasis added).

These four alternatives were evaluated based on several different factors, including their environmental consequences (AR036369-036533) and financial effects (AR036539-036543).

The proposed alternatives were compared by their contributions to the planning objectives, response to planning constraints, and their acceptability, completeness, effectiveness, and efficiency with respect to the planning objectives. AR036549-036550. The 20,600 Acre-Foot Reallocation Alternative (Alternative 3) was determined to be “the least cost alternative, the locally-preferred plan, and would provide \$8.42 million in annual National Economic Development (NED) benefits.”⁴ AR036136. The Final Report and EIS also found that “[t]he adverse impacts to recreation and the environment [from Alternative 3] are mitigable and would be mitigated to the most sustainable alternative to below a level of significance.” *Id.* Alternative 3 was designated as the Selected Plan, hereinafter the “Chatfield Reallocation.” AR036557.

⁴ “The total annual NED project cost would be \$7.92 million.” AR036136.

b) **As Part of its NEPA Analysis, the Corps Examined the Proposed Alternative for the Project for Compliance with Other Environmental Laws.**

The Corps determined that the Chatfield Reallocation would be in compliance with all relevant environmental laws, including the Clean Water Act. AR038675-038676 (Final Report and EIS, App. S – Compliance with Environmental Statutes). As an initial matter, the Corps determined that “[t]he increase in the pool elevation of Chatfield Reservoir will not discharge fill into any jurisdictional waters of the United States; and, therefore, a 404 permit and a 401 certification are not required for this aspect of the [Chatfield Reallocation].” AR038676. However, the Chatfield Reallocation “would involve relocation of recreation facilities (e.g., boat ramps, bike paths), and road and bridge construction, actions incidental to this alternative that would result in discharge of dredged or fill material into waters of the United States.” *Id.* The Corps therefore conducted a CWA, Section 404(b)(1) Analysis (hereinafter “Section 404(b)(1) analysis”) of the activities that would result in the discharge of dredged or fill material into waters of the United States. AR038956 (Final Report and EIS – App. W, CWA Section 404(b)(1) Analysis, Dredge and Fill Compliance).

The Corps reviewed two sets of proposed discharges for compliance with the 404(b)(1) Guidelines. First, the Corps reviewed discharges associated with relocating recreational facilities. AR038978-038981. The Corps determined that the purpose of this project was “to maintain the recreation experience following the reallocation of storage at Chatfield Reservoir by providing, to the maximum extent feasible, in-kind recreation facilities.” AR038978-038979. The Corps reviewed a preliminary plan for the relocation of recreation facilities and made suggestions to revise the plan to avoid or minimize the discharge of fill material into wetlands. AR038979. The Corps concluded that, as required by the 404(b)(1) Guidelines, “[t]he proposed Recreation Facilities Modification Plan . . . avoids and minimizes the discharge of fill material

into waters of the U.S to the maximum extent practicable while still meeting the objective of providing recreation facilities that maintain the existing recreational experience.” AR038981.

Second, the Corps reviewed a portion of the Compensatory Mitigation Plan (“CMP”), which would “involve the creation, enhancement, and protection of wetlands, riparian habitat, Preble’s habitat, and bird habitat.” *Id.* The CMP involved “minor discharges of fill material into waters of the U.S.” AR038967. Although “[t]he proposed environmental mitigation could be implemented without the discharge of dredged or fill material into waters of the U.S.,” these alternatives “would result in a greater area of net disturbance and environmental impact; and would complicate the construction, maintenance, and reliability of the mitigation.” AR038982. Accordingly, the Corps determined that “[t]he CMP avoids and minimizes the discharge of fill material into waters of the U.S. [sic] to the maximum extent practicable while still meeting the objective of fully mitigating the impacts to wetlands, riparian habitat, Preble’s habitat, and bird habitat impacted by the [Chatfield Reallocation].” *Id.*

The Corps concluded that the Chatfield Reallocation was in compliance with Section 404 of the CWA because the activities incidental to the reallocation involving discharges into waters of the United States would “have less adverse impact on the aquatic ecosystem and avoid and minimize the discharge of fill material into waters of the U.S to the maximum extent practicable while still meeting the objectives of providing recreation facilities that maintain the existing recreational experience and fully mitigate the impacts to wetlands, riparian habitat, Preble’s habitat, and bird habitat.” AR038984.

c) **In the Final Report and EIS, the Corps Found the Proposed Chatfield Reallocation to Be Feasible and Economically Justified.**

The Final Report and EIS also includes an economic analysis and comparison of the alternatives for the proposed project. AR036535-036565. In that section of the Final Report and EIS, the Corps reviewed the water supply yields for each alternative, compared the financial costs of water storage and addressed the maintenance, implementation, and operating costs associated with each alternative and the economic impacts of each alternative on the region. It also discussed other possible effects of each alternative on life, health, safety, and community cohesion and analyzed the possible impacts that each alternative might have on other operation purposes of the Chatfield Dam and Reservoir project. AR036535-036548. Based on this analysis, the Corps found that the proposed alternative, the Chatfield Reallocation: 1) satisfies the goals for the federal National Economic Development Account; 2) is the least costly alternative that provides the desired annual year yield; and 3) has a cost within the financial capabilities of the water providers. AR036558. Accordingly, as required under the WRDA, the Corps concluded that the proposed (and ultimately selected) alternative was economically justified. *Id.* Based on the evaluations of engineering, environmental, institutional, and social considerations in the Final Report and EIS, the Corps also concluded that the proposed alternative for the project was feasible. *Id.*

3. The Corps' Record of Decision

On May 29, 2014, the Assistant Secretary of the Army for Civil Works, Jo-Ellen Darcy, issued a Record of Decision approving the Chatfield Reallocation for implementation, and completing the NEPA compliance process. AR041875-041876. Based on the Final Report and EIS, review by other federal, state, and local agencies, public input, and her staff, the Assistant Secretary found that the Corps' proposed alternative for the project was "technically feasible,

economically justified, environmentally acceptable, and in the public interest.” AR041875. The Assistant Secretary also found that the proposed alternative “incorporates all practicable means to avoid or minimize adverse environmental effects, and the unavoidable impacts are mitigated.” AR041876. Accordingly, the Assistant Secretary concluded “that the benefits of the Chatfield Storage Reallocation Project outweigh the costs and any adverse effects.” *Id.*

C. Procedural Background

On October 8, 2014, the Audubon Society filed the instant Petition for Review of Agency Action in this matter. Dkt. No. 1. The Corps filed its Answer to the Petition on December 8, 2014. Dkt. No. 9. On April 1, 2015, the U.S. Army Corps of Engineers filed the Administrative Record for its decision in this this matter. Dkt. No. 29. On April 21, 2015, the U.S. Army Corps of Engineers filed a Supplement to the Administrative Record. Dkt. No. 31.

On June 1, 2015, Petitioner filed a Motion to Complete and Supplement the Administrative Record. Dkt. No. 33. On March 2, 2016, this Court denied Petitioner’s Motion to Complete and Supplement the Administrative Record in full.⁵ Dkt. No. 48. Petitioner filed its opening brief in this matter on April 1, 2016. Dkt. No. 49.

SUMMARY OF THE ARGUMENT

Under Section 404 of the Clean Water Act, the Corps may approve of its own discharges of dredged or fill material into waters of the United States where there is no “practicable alternative to the proposed discharge” that is less environmentally damaging. 40 C.F.R.

⁵ Petitioner included several declarations with its brief. *See* Dkt. Nos. 49-1 through 49-8. To the extent these declarations are used to establish the standing of Petitioner to bring this action, the Corps has no objection to their consideration. *See* Pet’r’s Br. 12-13. However, as this Court explained in its Order, the instant review is limited to the administrative record. Dkt. No. 48 at 2-3. Accordingly, these declarations should be disregarded to the extent Petitioner seeks to use them for any purpose other than establishing standing.

§ 230.10(a). Here, Petitioner contends that the Corps, in conducting its Section 404(b)(1) analysis, was required to consider alternatives to the entire Chatfield Reallocation, rather than alternatives only to the activities that involved discharges into waters of the United States, *i.e.* the relocation of recreational facilities and certain environmental mitigation activities. However, the scope of a Section 404(b)(1) analysis is properly focused on the activities that involve discharges of dredged or fill material into waters of the United States, even where those activities are part of a larger project, here the water reallocation, which does not involve discharges into waters of the United States. Moreover, that the Corps was required to review alternatives to the larger project under NEPA for reasons unrelated to its regulatory authority under Section 404 of the CWA—in this case because the Corps was conducting the project under its civil works authority—does not require the Corps to look beyond the specific activities involving discharges into waters of the United States when conducting its Section 404(b)(1) analysis.

Petitioner also argues that the Corps violated NEPA by not giving detailed consideration to certain alternative concepts or potential water sources and by providing insufficient or confusing information to the public concerning the project and its potential environmental effects. To the contrary, however, the Corps’ administrative record conclusively shows that the Corps rigorously examined a reasonable range of alternatives for the proposed project and provided a detailed explanation to both the agency decisionmaker and the public of its NEPA process and the comparative environmental effects of the alternatives it considered.

STANDARD OF REVIEW

Judicial review of an agency’s “compliance with NEPA and the CWA [is conducted] pursuant to the Administrative Procedure Act, 5 U.S.C. §§ 701-06.” *Greater Yellowstone Coal.*, 359 F.3d at 1268. Under the Administrative Procedure Act (“APA”), a court may set aside

agency actions “found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A); *Greater Yellowstone Coal*, 359 F.3d at 1268.

“Reviews of agency action in the district courts must be processed *as appeals*.”

Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1580 (10th Cir. 1994). Accordingly, this Court’s review is limited to the administrative record compiled and relied upon by the agency. *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 419-20 (1971), *abrogated on other grounds by Califano v. Sanders*, 430 U.S. 99 (1977); *S. Utah Wilderness All. v. Bureau of Land Mgmt.*, 425 F.3d 735, 744 (10th Cir. 2005) (“the court [appropriately] limited its review to the administrative record . . .”) (citation omitted); *Ctr. for Native Ecosystems v. U.S. Fish & Wildlife Serv.*, 795 F. Supp. 2d 1199, 1201 (D. Colo. 2011) (“review is limited to the administrative record before the agency at the time the . . . decision was made” (citing 5 U.S.C. § 706)). And, as an appeal, “[the court] should not rely on evidence outside that record.” *Id.* (citing *Olenhouse*, 42 F.3d at 1579-80).

“The APA’s arbitrary and capricious standard is a deferential one; administrative determinations may be set aside only for substantial procedural or substantive reasons, and the court cannot substitute its judgment for that of the agency.” *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1164 (10th Cir. 2002), *modified on reh’g*, 319 F.3d 1207 (10th Cir. 2003) (citation omitted). “A presumption of validity attaches to the agency action and the burden of proof rests with the appellants who challenge such action.” *Citizens’ Comm. to Save Our Canyons v. Krueger*, 513 F.3d 1169, 1176 (10th Cir. 2008) (quoting *Colo. Health Care Ass’n v. Colo. Dep’t of Soc. Servs.*, 842 F.2d 1158, 1164 (10th Cir.1988)).⁶

⁶ Petitioner states that “[the Corps] bear[s] the burden of proving that the chosen alternative is the LEDPA by explaining how other practicable alternatives are more environmentally damaging.” Pet’r’s Br. 16 (citing 40 C.F.R. § 230.10; *All. to Save the Mattaponi v. U. S. Army Corps of*

ARGUMENT

I. The Corps Properly Approved of its Discharges into Waters of the United States Under the Clean Water Act.

The Corps’ determination that the Chatfield Reallocation satisfies the requirements Section 404 of the CWA, including the Section 404(b)(1) Guidelines, is reasonable, adequately supported by the administrative record, and must be upheld.

A. The Corps’ Properly Decided to Evaluate Alternatives to the Proposed Discharges into Waters of the United States.

Under the Section 404(b)(1) Guidelines, the Corps is to evaluate “alternative[s] to the proposed discharge [into waters of the United States].” 40 C.F.R. § 230.10(a). In developing the alternatives, the Corps is to determine the overall project purpose for the activity requiring a discharge into waters of the United States. 40 C.F.R. § 230.10(a)(2). “[T]he determination of a project’s purpose” is “[c]entral to evaluating practicable alternatives.” *Nat’l Wildlife Fed’n v. Whistler*, 27 F. 3d 1341, 1345 (8th Cir. 1994).

Here, “[t]he proposed reallocation of storage and use of the reallocated storage will not require the discharge of dredge or fill material into waters of the U.S.” AR038958. Importantly, this determination by the Corps was not in dispute during its decision-making process and Petitioner does not—and may not—challenge it now. *Cf. Hillsdale Envtl. Loss Prevention*, 702 F. 3d at 1176 n.14. Accordingly, the Corps did not define the overall project purpose for its Section 404(b)(1) analysis to be the purpose for which the overall water storage reallocation was proposed, *i.e.* “to increase availability of water . . . in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met.” AR036153. Instead, the Corps

Eng’rs, 606 F. Supp. 2d 121, 130 (D.D.C. 2009)). Nothing in *Alliance to Save the Mattaponi’s* Standard of Review section supports this proposition. *See* 606 F. Supp. 2d at 127 (noting instead that “[a]gency actions are presumed to be valid”).

determined the overall project purpose in its Section 404(b)(1) analysis to be the purpose for which discharges into waters of the United States were required. Specifically, with respect to the Recreational Facilities Modification Plan, the Corps found that “[t]he purpose of relocating the recreation infrastructure at Chatfield State Park is to maintain the recreation experience following the reallocation of storage at Chatfield Reservoir” AR038978-038979. With respect to the CMP, the Corps determined that the purpose of these environmental mitigation efforts was to “fully mitigat[e] the impacts to wetlands, riparian habitat, Preble’s habitat, and bird habitat impacted by the Project.” AR038982.

The Corps properly identified the overall project purpose as the purpose for the activities involving discharges into jurisdictional waters, even though these activities were part of a larger project that would not require discharges into waters of the United States. As the Corps’ regulatory jurisdiction is limited, such an approach is permissible. *See Ohio Valley Envtl. Coal. v. Aracoma Coal Co. (OVEC)*, 556 F.3d 177, 195 (4th Cir. 2009) (“The Corps’ jurisdiction under CWA § 404 is limited to the narrow issue of the filling of jurisdictional waters.”); *Save Our Sonoran, Inc. v. Flowers*, 408 F.3d 1113, 1122 (9th Cir. 2004) (“[T]he Corps’ permitting authority is limited to those aspects of a development that directly affect jurisdictional waters.”).

Moreover, several cases have specifically held that the Corps may limit the overall project purpose to the purpose behind the specific activities for which a Section 404 permit was sought, even if that activity supports a larger project. In *National Wildlife Federation v. Whistler*, a developer planned to build a housing development and re-open an old river channel to provide the development with boat access to the Missouri River, which would destroy existing wetlands. 27 F.3d 1341, 1343 (8th Cir. 1994) (footnote omitted). In conducting its Section 404(b)(1) analysis, “[t]he Corps concluded that the project’s purpose was to provide boat access

to the Missouri River from [the] planned development,” evaluated alternatives analysis based upon that purpose, and issued a permit. *Id.* at 1343-44. The Eighth Circuit upheld the Corps’ decision, which was challenged on the grounds that the Corps should have deemed the project’s purpose to be “to build a residential or ‘high-end’ residential development,” and that alternatives to that residential development should have been considered in the Section 404(b)(1) analysis. *Id.* at 1345. The Corps’ decision to limit its alternatives analysis only to the boat access project was appropriate because the overall housing development was located on uplands and could proceed without a permit from the Corps. *Id.*

In *Hoosier Environmental Council v. U.S. Army Corps of Engineers*, state and federal authorities proposed “an extension of Interstate 69 (‘I-69’) through the southwestern quadrant of Indiana.” No. 1:11-cv-0202-LJM-DML, 2012 WL 3028014, at *1 (S.D. Ind. 2012), *aff’d*, 722 F.3d 1053 (7th Cir. 2013). The decisions related to the highway extension were made in two tiers. *Id.* The Tier 1 decision for the overall route was chosen by the Indiana Department of Transportation (“INDOT”) and the Federal Highway Administration (“FHWA”), during which an EIS was conducted pursuant to NEPA. *Id.* Although the EIS stated that the decision was consistent with the Section 404(b)(1) Guidelines, the Corps noted that it had not made any such determinations that the overall route selected for the highway extension was consistent with Section 404 of the CWA. *Id.* at *2. The Tier 1 decision as to the overall route for the highway extension was challenged in federal court, though claims related to Section 404 of the CWA were dropped. *Id.* at *3. The district court upheld the selection of the overall route by INDOT and the FHWA. *Id.*

INDOT and the FHWA then conducted a Tier 2 analysis of the highway extension, in which it “broke [the overall route chosen] into five different segments, with a variety of

alternative routes within each segment.” *Id.* A Section 404 permit application was submitted related to one of those segments, Section 3, in which the Corps determined that “[t]he purpose of the proposed fill is to construct six separate and complete crossings for the construction of Section 3 of the Interstate 69 highway extension project” *Id.* at *5 (quoting Corps decision document). Plaintiffs challenged this permit “assert[ing] that the CWA requires the Corps to undertake an analysis of whether there is a less damaging practicable alternative for the entire I–69 project,” not just the activities related to Section 3. *Id.* at *10. The Court rejected this argument, noting that “Plaintiffs cite no law to support the proposition that the Corps must evaluate alternatives for the entire project when [an applicant] is only seeking a permit for one sub-section of the project.” *Id.*

Similarly, where an applicant has already selected a site for a larger project, it is appropriate for the Corps to only review alternatives that are practicable at the already-selected site. *See Sylvester v. U.S. Army Corps of Eng’rs*, 882 F.2d 407, 409-10 (9th Cir. 1989) (appropriate to only look at alternatives to golf course next to an already-fixed resort site, as “[t]he location of the resort buildings was fixed by decisions [not requiring approval of] the Corps of Engineers”); *Sierra Club v. U.S. Army Corps of Eng’rs*, 450 F. Supp. 2d 503, 526 (D.N.J. 2006) (finding appropriate the Corps’ selection of a “location-specific overall project purpose definitions where the specific site was essential to the project purpose”), *vacated and remanded on mootness grounds*, 277 Fed. App’x 170 (3d Cir. 2008); *see also Great Rivers Habitat All. v. U.S. Army Corps of Eng’rs*, 437 F. Supp. 2d 1019, 1024 (E.D. Mo. 2006) (rejecting argument that “the Corps erred in its practicable alternatives analysis because it defined the project’s purpose too narrowly, thereby manipulating the project purpose to exclude alternative sites.”).

The Corps' decision to define the overall project purpose as the purpose for relocating recreational facilities and conducting environmental mitigation for evaluating alternatives under the Section 404(b)(1) Guidelines must be upheld, as its "statement of the project purpose was not arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." *Great Rivers Habitat All.*, 437 F. Supp. 2d at 1027.

B. The Corps Properly Selected the LEDPA in Its Section 404(b)(1) Analysis.

Petitioner's argument that the Corps did not select the LEDPA is solely based on its position that it should have evaluated alternatives to the overall reallocation project, *i.e.* Alternative 3 – Reallocation to allow an additional 20,600 acre-feet of Water Supply Storage at Chatfield. *See* Petitioner's Opening Brief ("Pet'r's Br.") 19-23 (Dkt. No. 49). To the extent the Corps appropriately exercised its discretion in deciding to analyze alternatives only to the discharges to waters of the United States in its Section 404(b)(1) analysis, Petitioner does not dispute that the Corps selected the LEDPA for both the proposed mitigation of environmental resources and modification of recreational facilities. *See* AR038956 (App. W to EIS).

Moreover, the Corps' analysis clearly shows it met the substantive requirements of the CWA and the Section 404(b)(1) guidelines. *See* 33 C.F.R. § 336.1(a). The Corps separately evaluated discharges associated with the Recreation Facilities Modification Plan and CMP. AR038978-038982. With respect to the Recreational Facilities Modification Plan, the Corps evaluated alternatives that could "maintain the recreation experience following the reallocation of storage at Chatfield Reservoir by providing, to the maximum extent feasible, in-kind recreational facilities." AR038978-038979. The Corps, however, rejected the "discharge avoidance alternative" because "it in effect negates the benefits of the [Land Use Development

Policy] waiver^[7] and does not provide recreation facilities that maintain the existing level of recreational experience.” AR038981. The approved Recreational Facilities Modification Plan did, however, require changes to “minimize[] the discharge of fill material into waters of the U.S. to the maximum extent practicable while still meeting the objective of providing recreation facilities that maintain the existing recreational experience.” *Id.*

The CMP involved “the creation, enhancement, and protection of wetlands, riparian habitat, Preble’s habitat, and bird habitat.” AR038967. In order to create new wetlands, the CMP requires “[t]he redirection of surface water to mitigation areas [that] may require minor discharges of fill material into waters of the U.S.” *Id.* In addition, certain environmental mitigation efforts will involve discharges of fill material into wetlands adjacent to Sugar Creek. AR038968. The Corps evaluated alternatives to the CMP focusing on whether they could “fully mitigat[e] the impacts to wetlands, riparian habitat, Preble’s habitat, and bird habitat impacted by the Project.” AR038982. In particular, the Corps evaluated a no-discharge alternative, but determined that “it would result in a greater area of net disturbance and environmental impact; and would complicate the construction, maintenance, and reliability of the mitigation.” *Id.* Accordingly, the Corps approved the CMP, which “avoids and minimizes the discharge of fill material into waters of the U.S. to the maximum extent practicable.” *Id.*

In sum, the Corps properly determined that there was “[no] practicable alternative to the proposed discharge[s],” the Recreation Facilities Modification Plan and CMP, “which would have less adverse impact on the aquatic ecosystem.” 40 C.F.R. § 230.10(a).

⁷ This waiver was separately granted by the Corps to the State of Colorado and Water Providers. AR038980.

C. The Corps' Section 404(b)(1) Analysis Was Permissible and Must Be Upheld, Even If It Could Have Conducted the Section 404(b)(1) Analysis Differently.

Although Petitioner frames the issue as a binary one—whether the Corps should have evaluated alternatives to the entire reallocation or alternatives to the activities that would discharge into waters of the United States—under the APA, “[a]s long as the agency provides a rational explanation for its decision, a reviewing court cannot disturb it.” *Nat’l Wildlife Fed’n*, 27 F.3d at 1344 (citing *Overton Park*, 401 U.S. at 416). Indeed, “[t]he Corps’ actions are presumptively valid under the APA, and [Petitioner] bears the burden of proving the agency acted arbitrarily and capriciously.” *Hillsdale Envtl. Loss Prevention*, 702 F.3d at 1167 (citation omitted); *see also Sierra Club v. Van Antwerp*, 526 F.3d 1353, 1363 (11th Cir. 2008) (admonishing the district court for failing to “view the CWA claims [challenging the Corps’ determination of a Section 404 permit] through the deferential lens of the APA” (footnote omitted)). This means that this Court need not decide whether the Corps *could* have decided to evaluate the alternatives for the entire project—or even if it was the better choice—as long as the Corps has a rational explanation for its decision.

The Corps’ decision to evaluate only alternatives to the proposed discharge—as compared to the entire reallocation—was made after it “considered ‘all relevant factors and articulate[d] a rational connection between the facts found and the choice made.’” *Colo. Dep’t of Soc. Servs. v. U.S. Dep’t of Health & Human Servs.*, 29 F.3d 519, 522 (10th Cir. 1994) (quoting *Action, Inc. v. Donovan*, 789 F.2d 1453, 1457 (10th Cir. 1986)). In May 2009, EPA personnel sent correspondence to the Corps encouraging it to evaluate alternatives to the entire Chatfield Reallocation when conducting its Section 404(b)(1) analysis, rather than just the alternatives to the activities involving discharges to waters of the United States—essentially the position Petitioner advance here. AR038688; AR038691.

Personnel at the Corps considered EPA's suggested approach to the Section 404(b)(1) analysis and explained why it was inappropriate in this case.

The references cited by EPA require compliance with the Guidelines, for Civil Works projects, if there is a discharge of dredged or fill material into a water of the U.S. The Corps does not dispute this point. However, the action under review by the Corps is the reallocation of water storage at Chatfield Lake. No discharge of dredged or fill material is necessary for this action to occur. Authorization of this action will result in indirect impacts to the aquatic resources mentioned in EPA's letter. In others words, the reallocation of storage (no 404 authorization necessary) will cause the inundation of aquatic resources (indirect impacts). While the relocation of recreation facilities, which may require a 404 authorization, may result in direct impacts to aquatic resources, the relocation will not cause the inundation of aquatic resources.

Under 33 CFR 325, Appendix B, it is the Corps' responsibility to determine the appropriate scope of analysis for both NEPA and Section 404. However, the scope of analysis can be different for each statute. Historically, the Corps Regulatory Program has expanded the scope of analysis beyond the immediate permit area if our issuance of a permit would result in "environmental consequences" that are "essentially products of the Corps permit action." For Section 404, it would be incorrect to apply this principle in reverse; essentially expanding the scope of analysis backwards from the permit action to capture an action, as well as associated impacts, that did not require Section 404 authorization. However, the NEPA scope of analysis should, and does, cover all actions related to the reallocation of storage at Chatfield Lake.

AR044652. This approach was ultimately reflected in the Corps' determination that the Chatfield Reallocation was in compliance with Section 404 of the CWA. *See* AR038956.

Moreover, after further consultation between the agencies, EPA concurred in the Corps' Section 404(b)(1) analysis, stating that because the "reallocation of storage space will not require a discharge of dredge or fill material into waters of the U.S.," it was "comfortable with the approach taken by the Corps [in its] §404(b)(1) analysis." AR038701. Petitioner seeks to make hay out of the fact that the appropriate alternatives to be used in the Section 404(b)(1) analysis

were discussed within the Corps and between the Corps and EPA, Pet'r's Br. 25-26, but discussion does not diminish the deference the Corps is owed as to its ultimate decision. *See Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 659 (2007) (“[T]he fact that a preliminary determination by a local agency representative is later overruled at a higher level within the agency does not render the decisionmaking process arbitrary and capricious.”). Indeed, “an effective deliberative process, by its very nature, requires the expression of open, frank and often contradictory opinions.” *Ctr. for Biological Diversity v. Fed. Highway Admin.*, 290 F. Supp. 2d 1175, 1194 (S.D. Cal. 2003). And, in particular, that EPA “changed [its] mind” was something it was “fully entitled to do,” and not a basis to invalidate the Corps’ decision. *See Nat'l Ass'n of Home Builders*, 551 U.S. at 658-59. In fact, this is often times the very function and result of such inter-agency review, comment, and consultation.

The Corps carefully considered its approach to the Section 404(b)(1) analysis, concluding that it should only evaluate alternatives to the proposed activities involving discharges into waters of the United States. There was a rational basis for the Corps’ approach to its Section 404(b)(1) analysis, which was ultimately supported by EPA. Accordingly, the Corps’ decision must be upheld. *See Hillsdale Env'tl. Loss Prevention*, 702 F.3d at 1167.

D. Petitioner’s Arguments Reflect a Profound Misunderstanding of the CWA and NEPA.

Petitioner’s arguments regarding the Corps’ evaluation of the Chatfield Reallocation under Section 404 of the CWA stem from its profound misunderstanding of the interplay between the CWA and NEPA, especially as these statutes apply when the Corps conducts a Civil Works project, the case here. Under the Section 404(b)(1) Guidelines, the Corps is to evaluate “practicable alternative[s] to the proposed discharge [into waters of the United States].” 40 C.F.R. § 230.10(a). Under NEPA, where an agency proposes a “major Federal action[]

significantly affecting the quality of the human environment,” the agency must prepare an EIS on the proposed action, including an analysis of a reasonable range of alternatives to the proposed action. 42 U.S.C. § 4332(C). Although often conducted simultaneously, the scope and goals of each analysis is different, with the scope of the Section 404(b)(1) analysis tethered to the proposed discharge into waters of the United States, and the scope of the NEPA analysis tied to the effects from a proposed federal action.

As the Corps is conducting the Chatfield Reallocation through its Civil Works Program, pursuant to the Corps’ regulations, the entire reallocation project and a reasonable range of alternatives that would achieve the project’s purpose and need were properly the subject of the Corps’ NEPA review in the EIS. *See* 33 C.F.R. §§ 230.1-230.26. However, only the relocation of recreational facilities and environmental mitigation plans involve discharges into waters of the United States, and thus the Corps properly focused its review of practicable alternatives under Section 404 of the Clean Water Act to those actions over which it had regulatory jurisdiction.

1. The Corps Was Not Required to Use the Same Alternatives In Its Evaluations Under NEPA and the CWA.

Despite asserting that the “the Corps failed to use the NEPA Project alternatives in evaluating the LEDPA *as required by law*,” there is simply no law that supports this proposition. Pet’r’s Br. 17 (citing 40 C.F.R. § 230.10(a)(4); emphasis added). Indeed, the primary authority Petitioner cites for this proposition is 40 C.F.R. § 230.10(a)(4), which states nothing of the sort.

For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these NEPA documents may address a broader range of alternatives than required to be considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be

necessary to supplement these NEPA documents with this additional information.

40 C.F.R. § 230.10(a)(4). This regulation simply states that a NEPA analysis “will in most cases provide the *information* for the evaluation of alternatives under these Guidelines,” not the alternatives themselves. *Id.* (emphasis added). Moreover, the regulation specifically notes that “these NEPA documents may address a broader range of alternatives than required to be considered under [the CWA].” *Id.*

Petitioner’s interpretation of this regulation as creating substantive obligations for a Section 404(b)(1) analysis is misguided. Indeed, Petitioner cites no case holding that the Corps is required “to evaluate and compare . . . the NEPA alternatives[] in selecting the LEDPA.” Pet’r’s Br. 18 (citing 40 C.F.R. § 230.10(a)(4)). The plain language of the regulation simply authorizes the Corps to pull information from an already completed NEPA analysis when completing its analysis under Section 404 of the CWA.

As the relevant actions being reviewed under NEPA and the CWA are different, it is unsurprising that the alternatives analyses conducted under these statutes would be different. Chatfield Reservoir is federally owned, Congress specifically authorized the additional reallocation of water for storage at Chatfield, and the reallocation will be carried out, at least in part, by the Corps’ Civil Works Program. It is this broad involvement by the Corps in the Chatfield Reallocation that makes the entire reallocation the “major federal action” being reviewed under NEPA. *See Vill. of Los Ranchos de Albuquerque v. Barnhart*, 906 F.2d 1477, 1480 (10th Cir. 1990) (“The requirements of NEPA apply only when the federal government’s involvement in a project is sufficient to constitute ‘major federal action.’”). In contrast, “[t]he Corps’ jurisdiction under CWA § 404 is limited to the narrow issue of the filling of jurisdictional waters.” *OVEC*, 556 F.3d at 195.

Indeed, were the Corps not the owner and operator of the reservoir, and its sole involvement that of a regulator, the scope of its NEPA analysis may have been different. In this situation, the Corps, as a regulator, would only be reviewing Section 404 permit applications for the proposed discharges into waters of the United States related to the environmental mitigation plans and relocation of recreational facilities. Where the Corps conducts a NEPA analysis related to its role as a regulator, the scope of the Corps' analysis is "to address the impacts of the specific activity requiring a [Section 404] permit *and* those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review," 33 C.F.R. pt. 325, App. B, § 7.b.(1) (emphasis added), which are defined as "portions of the project *beyond the limits of Corps [regulatory] jurisdiction* where the Federal involvement is sufficient to turn an essentially private action into a Federal action," *id.* at § 7.b.(2)(emphasis added). The Corps' NEPA regulations for its regulatory role go onto specifically note that where a non-federal "permit applicant [] propose[s] to conduct a specific activity requiring a [404] permit (e.g., construction of a pier in a navigable water of the United States) which is merely one component of a larger project (e.g., construction of an oil refinery on an upland area)," such activity does not necessitate the Corps to review the larger project, absent additional indicia of federal control.⁸ *See* 33 C.F.R pt. 325, App. B, § 7.b.

Admittedly, in many situations in which the Corps is acting in its regulatory capacity, its review of alternatives under NEPA and its review of alternatives under Section 404 will be

⁸ Although Petitioner attempts to frame the issue as "whether the Corps, in approving its own action under Section 404 of the Clean Water Act, is held to the same standard as it would apply to any permit applicant," Pet'r's Br. 16, it appears just the opposite. Petitioner attempts to tie the Corps' Section 404(b)(1) analysis to its NEPA analysis, but the Corps NEPA analysis was expanded to address the Corps' overall involvement in the project through its Civil Works Program, a position that no private permit applicant could ever be in.

similar or even the same; however, this is because often the sole federal involvement requiring review under NEPA is the issuance of a permit under Section 404.⁹ *See* 33 C.F.R. Part 325, Appendix B, § 7.b.(1) (“The district engineer should establish the scope of the NEPA document (e.g., the EA or EIS) to address the impacts of the specific activity requiring a [Section 404] permit . . .”). That the alternatives analyses are often similar does not create a requirement that they always be so, especially where, as here, the Corps’ regulatory jurisdiction under Section 404 is limited to a small portion of a far broader federal project.

2. This Court Should Not Address Which Alternative Reviewed Under NEPA Was the Least Environmentally Damaging Practicable Alternative.

As discussed in Section I.A., *supra*, the Corps properly evaluated alternatives to the proposed discharges into waters of the United States, not alternatives to the entire Chatfield Reallocation project. If, however, this Court were to find that the Corps erred in failing to consider alternatives to the entire Chatfield Reallocation in its Section 404(b)(1) analysis, the

⁹ Neither *Sierra Club v. Van Antwerp*, 709 F. Supp. 2d 1254 (S.D. Fla. 2009), *aff’d* 362 Fed. App’x 100, (11th Cir. 2010), nor *Utahns for Better Transportation* stand for the proposition that “[t]he Corps was required to evaluate and compare all practicable alternatives, including at least the NEPA alternatives.” *See* Pet’r’s Br. 18. *Van Antwerp*’s statement that, “[i]n issuing 404(b) permits the Corps’ decisionmaking authority is governed substantively by the CWA and procedurally by both the CWA and NEPA,” actually supports the Corps’ decision in this case. *See Van Antwerp*, 709 F. Supp. 2d at 1259. Indeed, that is the very point the Corps makes here: NEPA, although creating procedural requirements, does not substantively change the scope of the Corps’ permitting authority under Section 404 of the Clean Water Act.

With respect to *Utahns*, Petitioner incorrectly states that “the court held that the issuance of Section 404(b)(1) permit by the Corps for a highway project that did not utilize NEPA alternatives in its CWA analysis was arbitrary and capricious.” Pet’r’s Br. 18. Although the court did find that the Corps’ issuance of the Section 404 permits was arbitrary and capricious, the federal agencies evaluated the same alternatives under both NEPA and the CWA. *Compare Utahns*, 305 F.3d at 1164-74 (NEPA alternatives) *with id.* at 1186-91 (CWA alternatives). Regardless, nothing in *Utahns* stands for the proposition that NEPA, a procedural statute, may substantively effect the scope of a Section 404(b)(1) analysis.

Court should remand this matter back to the Corps, as the Corps did not conduct a Section 404(b)(1) analysis in which it analyzed the alternatives used in the NEPA analysis, let alone determine what the LEDPA would be under such an analysis. There is simply no administrative record to review on this issue. *Cf. Ctr. for Native Ecosystems*, 795 F. Supp. 2d at 1201 (“review is limited to the administrative record before the agency at the time the . . . decision was made”). This Court should not, in the first instance, address Petitioner’s argument that, amongst the alternatives evaluated under NEPA, the Chatfield Reallocation was the “most environmentally damaging practicable alternative,” and thus could not have been selected as the LEDPA in a Section 404(b)(1) analysis. *See* Pet’r’s Br. 21, *see also id.* at 19-23.

In particular, this means the Court need not address Petitioner’s argument that the Corps, in conducting its Civil Works Projects, must consider alternatives “prior to mitigation when identifying the LEDPA.”¹⁰ Pet’r’s Br. 5-6 (citing AR018022); *see also id.* at 22 (“The only potential way that the Corps might argue Alternative 3 is not the most environmentally damaging alternative is to argue that the impacts will all be fully mitigated; however, compensatory mitigation cannot be considered when selecting the LEDPA.”).¹¹ Petitioner does not contend

¹⁰ Although Petitioner makes this statement in its Statutory and Regulatory Background section, the statement does not cite to a statute or regulation, but instead to a letter by the Assistant Regional Administrator, Office of Ecosystems Protection and Remediation, EPA Region 8. *See* AR0018022.

¹¹ The Corps notes that to the extent that the Petitioner relies on the *Memorandum of Agreement between the EPA and Department of the Army Concerning the Determination of Mitigation Under the CWA Section 404(b)(1) Guidelines* (“MOA”) for the proposition that the Civil Works Program may not take into account mitigation prior to determining the LEDPA, the MOA states that “[it] is specifically limited to the Section 404 Regulatory Program.” *See* MOA at 1 (Dkt. No. 33-2). Moreover, the portion of the MOA that Petitioner relies on to state that the Corps “intended to apply [the mitigation framework] to all Corps activities, including Civil Works program,” Pet’r’s Br. 22 (citing Dkt. No. 33-2 at 12) is not actually the MOA, but a separate “Questions and Answers” document attached to the MOA, which is not signed by either the Assistant Secretary of the Army or the Assistant Administrator of the EPA. *See* Dkt. No. 33-2 at 7 (Section 404(b)(1) Guidelines Mitigation MOA “Questions and Answers”).

that the Corps improperly took into account mitigation when determining the LEDPA for the Section 404(b)(1) analysis it did conduct here, which is the only Section 404(b)(1) analysis properly before this court for review. *See generally* Pet’r’s Br. 19-23; AR038956 (App. W, CWA Section 404(b)(1) Analysis). There is simply no basis for this Court to opine on the validity of a hypothetical Section 404(b) analysis doing otherwise. *See Ash Creek Mining Co. v. Lujan*, 934 F.2d 240, 244 (10th Cir. 1991) (hypothetical agency actions are not ripe for review).

3. The Corps Did Not Improperly Segment its Section 404(b)(1) Analysis.

Petitioner also contends that “[t]he Chatfield project was improperly segmented into recreational facilities modification, rising water levels, and environmental mitigation measures.” Pet’r’s Br. 23. Importantly, Petitioner appears to concede that courts have only applied the concept of segmentation in the NEPA context; none have applied it to Section 404 of the CWA. *See* Pet’r’s Br. 26 (noting that “the Tenth Circuit has not commented on segmentation with regards to a CWA analysis”). This makes sense, given that the concept of improper segmentation arises from “[Council on Environmental Quality (“CEQ”)] regulations [that] require [] ‘connected’ or ‘closely related’ actions ‘be discussed in the same impact statement.’” *See Citizens’ Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1028 (10th Cir. 2002) (quoting 40 C.F.R. § 1508.25(a)(1)); *see also Hirt v. Richardson*, 127 F. Supp. 2d 833, 842 (W.D. Mich. 1999). Of course, these CEQ regulations—and the segmentations analyses courts use to apply them—govern only the Corps’ analyses under NEPA, not analyses under Section 404 of the Clean Water Act. *See, e.g.*, 40 C.F.R. pt. 1501 (NEPA and Agency Planning).

In contrast, there are regulations and case law which discuss the appropriate scope of a Section 404(b)(1) analysis. *See supra* Section I.A. This Court need only apply those regulations and case law to assess the validity of the Corps’ Section 404(b)(1) analysis. Although Petitioner

asserts that whether NEPA regulations creating the concept of improper segmentation should also be applied to analyses under Section 404(b)(1) of the CWA is an “issue of first impression under the [CWA],” Pet’r’s Br. 27-28, there is no issue—NEPA regulations do govern Section 404(b)(1) analyses.

Moreover, Petitioner’s attempt to apply the NEPA concept of segmentation to the Corps’ Section 404(b)(1) analysis gets it backwards. When the Corps is determining the scope of its NEPA review based upon its role as a regulator, the Corps may be “considered to have control and responsibility for portions of the project beyond the limits of Corps jurisdiction [under section 404 of the CWA],” which include “cases where the environmental consequences of the larger project are essentially products of the Corps permit action.” 33 C.F.R pt. 325, App. B, 7.b.(2). Here, the Recreational Facilities Modification Plan and CMP, are indisputably “incidental to the proposed reallocation,” AR038961, in that these discharges would only occur if the Corps chose to reallocate water storage at Chatfield Reservoir, and Petitioner concedes this very point when noting that “the relocation of recreational facilities and mitigation only occur to offset the harms of raising the water level at Chatfield Reservoir,” Pet’r’s Br. 23-24. In other words, “the environmental consequences of the larger project,” in this case the overall reallocation, are not “essentially products of the Corps permit action,” *i.e.* the Recreational Facilities Modification Plan and CMP. 33 C.F.R. pt. 325, App. B, 7.b.(2). Indeed, Corps personnel considered and rejected this very argument, noting that “[f]or Section 404, it would be incorrect to apply this [anti-segmentation] principle in reverse; essentially expanding the scope

of analysis backwards from the permit action to capture an action, as well as associated impacts, that did not require a Section 404 authorization.”¹² AR040996.

Given this, it is unsurprising that nothing in the cases cited by Petitioner indicates that the anti-segmentation rule derived from NEPA regulations should be applied to alternative analyses under Section 404 of the CWA. Although the challenge in *Florida Wildlife Federation v. U.S. Army Corps of Engineers* involved both NEPA and the CWA, the court’s segmentation analysis was limited to the NEPA claim. *See* 401 F. Supp. 2d 1298, 1313 (S.D. Fla. 2005) (“The anti-segmentation rule is generally that an agency cannot evade its responsibilities’ under the National Environmental Policy Act . . .”) (internal quotations and citation omitted).

Save Our Sonoran addressed two issues. First, the Ninth Circuit upheld a finding that the Corps had improperly segmented its NEPA analysis, though it did not use the term segmentation. *Save Our Sonoran*, 408 F.3d at 1121-23. Second, the Ninth Circuit upheld the district court’s decision to enjoin the entire development in question, even though the entire development would not have occurred on jurisdictional waters, “because the uplands are inseparable from the [jurisdictional] washes, [and thus] the Corps’ permitting authority, and likewise the court’s authority to enjoin development, extended to the entire project.” *Id.* at 1124. In contrast, here the Corps specifically found that the reallocation itself would not require a discharge into jurisdictional waters.¹³ AR038958.

¹² Even if the Recreational Facilities Modification Plan and CMP are in some sense “integral” to the overall project, Pet’r’s Br. 24, that does not mean the Corps was required to analyze the broader project in its Section 404(b)(1) analysis. Indeed, such an approach is foreclosed by cases such as *National Wildlife Federation v. Whistler*, 27 F.3d 1341 (8th Cir. 1994), *see* Section 1.A., *supra*, which held that the Corps, in its Section 404(b)(1) analysis, may review alternatives for activities involving discharges into jurisdictional waters, even if those activities are part of a larger project.

¹³ Petitioner also argues that a “memorandum from Corps legal counsel to the Director of Civil Works,” which discusses *Save Our Sonoran*, supports its contention that the entire reallocation

Petitioner also asserts that Corps guidance required the Section 404(b)(1) analysis to evaluate the entire Chatfield Reallocation. Pet'r's Br. 5. However, the Corps' *Planning and Guidance Notebook* "provides the overall direction by which Corps of Engineers Civil Works projects are formulated, evaluated and selected for implementation."¹⁴ Nothing in this guidance substantively affects the appropriate scope of a Section 404(b)(1) analysis, which simply states that the Corps should "complete the investigations and analyses required by the Section 404(b)(1) Guidelines," and provides a "suggested format for the Section 404(b)(1) evaluation," which the Corps used here.¹⁵ Similarly, nothing in the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* affects the appropriate scope of a Section 404(b)(1) analysis.¹⁶

Given that the Corps evaluated alternatives to the proposed discharges to waters of the United States in its Section 404(b)(1) analysis, and given that every court to look at Petitioner's anti-segmentation argument has done so when applying NEPA, this Court should decline Petitioner's invitation to "set [] precedent," Pet'r's Br. 30, and extend NEPA rules to analyses conducted under Section 404(b)(1) of the CWA.

should have been analyzed in the Section 404(b)(1) analysis. Pet'r's Br. 28. However, that guidance was specifically on the appropriate scope of NEPA analyses; indeed, the subject line of the Memorandum was "Legal Guidance on the NEPA Scope of Analysis in Corps Permitting Actions." AR016156; *see also* AR016161 at n.7 (calling "[t]he Subsection 404(b)(1) alternatives analysis [] a separate inquiry").

¹⁴ U.S. Army Corps of Engineers, *Planning Guidance Notebook*, ER 1105-2-100 (April 2000) at 1-1, *available at* <http://planning.usace.army.mil/toolbox/current.cfm?Title=Planning%20Guidance%20Notebook&ThisPage=PlanGuideNotebook&Side=No>

¹⁵ *Id.* at C-41; *compare id.* at Ex. C-1 (Recommended Outline for Section 404(b)(1) Evaluation) with AR038956 (App. W, CWA Section 404(b)(1) Analysis).

¹⁶ *See* U.S. Water Resource Council, *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (Mar. 10, 1983) (not mentioning Section 404 of the CWA).

II. The Corps Analyzed a Reasonable Range of Alternatives for the Proposed Reallocation Project.

NEPA requires federal agencies to explore and evaluate alternatives for proposed major federal actions. 40 C.F.R. § 1502.14. However, an EIS “need not include an infinite range of alternatives, but is required to cover those which are feasible and briefly explain why other alternatives, not discussed, have been eliminated.” *Middle Rio Grande Conservancy Dist. v. Babbitt*, 206 F. Supp. 2d 1156, 1175 (D.N.M. 2000) (citing *City of Carmel-By-The-Sea v. U.S. Dep’t of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997); 40 C.F.R. § 1502.14(a)-(c)). “In determining whether an agency considered reasonable alternatives, courts look closely at the objectives identified in an EIS’s purpose and needs statement.” *Citizens’ Comm. To Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1030 (10th Cir. 2002) (citing *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1174-75 (10th Cir. 1999)). If an agency has appropriately defined the objectives of an action, “NEPA does not require [the] agenc[y] to analyze ‘the environmental consequences of alternatives it has in good faith rejected as too remote, speculative, or . . . impractical or ineffective.’” *Id.* (quoting *All Indian Pueblo Council v. United States*, 975 F.2d 1437, 1444 (10th Cir. 1992)). Rather, the reviewing court should “apply a ‘rule of reason test’ that asks whether “the environmental impact statement contained sufficient discussion of the relevant issues and opposing viewpoints to enable the [agency] to take a hard look at the environmental impacts of the proposed [action] and its alternatives.” *Id.* (citing *Colo. Envtl. Coal.*, 185 F.3d at 1174). “Alternatives that do not accomplish the purpose of an action are not reasonable,” *Amigos Bravos v. U.S. Bureau of Land Mgmt.*, Nos. 6:09–cv–00037–RB–LFG; 6:09–cv–00414–RB–LFG, 2011 WL 7701433, at *29 (D.N.M. Aug. 3, 2011) (quoting *Custer*

Cty. Action Ass'n v. Garvey, 256 F.3d 1024, 1041 (10th Cir. 2001), and such alternatives need not be studied in detail by the agency.¹⁷

In the Final Report and EIS, the Corps defined the purpose and need of the proposed project as being “*to increase availability of water*, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial . . . water, sustainable over the 50-year period of analysis, in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met.” AR036153 (emphasis added). In identifying alternatives to the Chatfield Reallocation that could meet that purpose and need and would be considered in detail in the EIS, the Corps applied a rigorous screening process. The Corps first identified an initial set of concepts related to water supply based on the problems and opportunities associated with reallocating storage space in Chatfield Reservoir. AR036171.¹⁸ These concepts, which fell within five broad categories, were then evaluated against four general

¹⁷ The CEQ’s regulations govern implementation of NEPA. The regulations require agencies to “[r]igorously explore and objectively evaluate all reasonable alternatives,” 40 C.F.R. § 1502.14 but they also allow agencies to eliminate alternatives that do not meet the reasonable objectives for the project from further study. *See City of Alexandria*, 198 F.3d at 867 (affirming FHWA’s decision to eliminate ten-lane bridge alternative when only proposed twelve-lane bridge would meet project’s capacity objectives); *N. Buckhead Civic Ass’n v. Skinner*, 903 F.2d 1533, 1541-42 (11th Cir. 1990) (same). *See also Tongass Conservation Soc’y v. Cheney*, 924 F.2d 1137, 1140-42 (D.C. Cir. 1991) (Bader Ginsburg, J.) (upholding agency’s decision to eliminate 13 of 14 alternatives after preliminary analysis for failing to meet project’s purpose and need).

¹⁸ The Corps identified the following three problems or “undesirable conditions to be solved” by the reallocation project: population growth resulting in increased municipal and industrial water demands; reliance of some water providers on non-renewable Denver Basin groundwater as the result of water need; agricultural water providers’ need for augmentation water for alluvial wells. AR036172-036173. The Corps also identified four opportunities for improving positive conditions as being presented by the project, i.e., the opportunity to expand use of an existing facility to provide additional water supply; the opportunity to logistically and cost-effectively capture available flow by virtue of Chatfield Reservoir’s on-channel location; the opportunity to deliver water via gravity flow because of Chatfield Reservoir’s high elevation; and the potential Chatfield Reservoir offered for storage of augmentation water for future use. AR036173-036174.

evaluation criteria, including the completeness, efficiency, effectiveness, and acceptability of an alternative to meet the stated purpose and need of the project.¹⁹ AR036179. The Corps then applied these “screening criteria” to thirty-eight potential “project concepts,” *i.e.*, to sources of water potentially available to meet a substantial portion of the water providers’ requests for increased water storage. AR036181. The Corps’ initial screening process resulted in selection of the four alternatives (a no action alternative and three action alternatives) for further consideration, each of which was designed to meet the purpose and need of the project. *See* AR036203.

Notwithstanding the Corps’ rigorous analysis and comprehensive discussion of alternatives, Petitioner contends that the Corps violated NEPA by failing to consider certain project concepts, specifically, enhanced water conservation and the use of either upstream gravel pits or another existing reservoir (Rueter-Hess) for water storage. Pet’r’s Br. 30-31. Petitioner first argues that the Corps erred in eliminating enhanced water conservation and use of upstream gravel pits based on its determination that these potential concepts for the project could not alone satisfy the project’s purpose and need. Petitioner contends that this is an improper basis for elimination or, alternatively, that the Corps should have considered combining the concepts as an additional alternative. *Id.* Petitioner is wrong

Petitioner relies heavily on the Tenth Circuit’s statement in *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002), that the Federal Highway Administration’s (“FHWA”) failure to consider two alternatives to a highway construction project, (a Transportation Management System and

¹⁹ As the Corps further explained, the general criteria encompassed several specific areas of consideration, including: ability to meet the purpose and need of the action; cost; logistics and technology; water rights and water availability; land availability and land use; permitting and mitigation feasibility; design and construction feasibility; and operational feasibility. AR036179-036180.

expansion of mass transit), either together or in combination with alternative proposals for road expansion, constituted “one of the most egregious shortfalls” of FHWA’s environmental assessment for the project. But Petitioner’s reliance is misplaced, in that the court’s statement in *Davis* was based on considerably different facts.²⁰ Notably, in *Davis*, the Court found that FHWA had ultimately selected only two alternatives for the proposed project, the preferred alternative and a no-build alternative, for further examination and that it had dismissed, in what the Court found to be a “conclusory and perfunctory matter,” other alternatives that evidence in the record suggested were reasonable. *Davis*, 302 F.3d at 1122.

In contrast, in this case, the Corps engaged in a detailed evaluation of each of thirty-eight potential concepts for the project pursuant to carefully identified concepts concerning water supply and specific evaluation criteria, and it explained the basis for the criteria and resulting analysis in the Final Report and EIS in great detail. *See* AR036177-AR036203. Moreover, following its thorough screening process, the Corps ultimately selected four different project concepts for a detailed alternatives analysis: a no action alternative, and three action alternatives, one involving reliance on non tributary ground water, and two involving reallocation. And, unlike the agency in *Davis*, the Corps did, in fact, carry other project concepts forward in combination with other alternatives that it analyzed in detail, by combining new construction with gravel pit storage (Alternative 1); use of non tributary ground water with gravel pit storage (Alternative 2); and reallocation of a lesser amount of storage with gravel pit storage (Alternative

²⁰ In addition, in *Davis*, the Court found the FHWA’s alternatives analysis inadequate based in part on the requirements of section 4(f) of the Department of Transportation Act, 49 U.S.C. § 303(c). *See Davis*, 302 F.3d at 1120 (discussion of alternatives under NEPA is “necessarily bound by rule of reason and practicality,” whereas section 4(f) “requires the [agency] to consider all ‘prudent and feasible alternatives.’”). The Department of Transportation Act is not at issue here and it does not set the standard for the Corps’ NEPA analysis of alternatives for a proposed Civil Works project.

4).²¹ And, finally, unlike in *Davis*, Petitioner here cites to no reports or other evidence in the record that shows that the concepts for the proposed project Petitioner insists should have been considered as part of the detailed alternatives analysis would have been feasible, practicable, or effective in meeting the project's purpose and need.

Petitioner's second argument is that the Corps should have given fuller consideration to enhanced water conservation as a practicable alternative to the Chatfield Reallocation. Here, however, what Petitioner fails to grasp is that the question presented to the Corps for analysis and recommendation was not reallocation of water storage space, but increasing water supply through reallocation or other means. Moreover, the Corps fully considered the effect of conservation to meet the increasing demand for water in the Denver area, and it properly concluded that "[c]onservation helps to stretch existing resources, but does not solidify additional needed water supplies." AR036187. Petitioner's suggestion that the Corps should be required to "analyze how much water supplies could be increased" through means other than reallocation of storage space, Pet'r's Br. 32, or that the purpose of the alternatives analysis should have encompassed "push[ing] and encourag[ing] the water providers to do more than they are already planning to do," *id.* n.5, is not consistent with the project's purpose and need.²²

²¹ Thus here, unlike the situation in *Davis*, Petitioner does not allege that the Corps failed to consider alternatives in combination, only that the particular project concepts Petitioner favored were not carried forward in the Corps' detailed alternatives analysis.

²² In fact, in the Final Report and EIS, the Corps did expressly encourage the water providers to continue and increase their existing conservation efforts. *See* AR036187 ("All 12 water providers recognize the importance of incorporating aggressive and meaningful water conservation efforts in their operations. Each of these entities is part of the reallocation project because they need additional water, which is ever increasingly costly and difficult to acquire. *Thus, these providers need to reduce their demands and stretch their supplies* and have therefore included water conservation,") (emphasis added); AR036188 (recognizing that "[m]ost of the water providers will, of necessity and with or without the Chatfield Reservoir storage reallocation project, develop even more stringent water conservation measures in the future to reduce their future water demands").

Rather, as the Corps properly concluded, although water conservation was a consideration in identification of the alternatives for the reallocation project that were analyzed in detail, which was “relied upon as “a major tool for reducing [the water providers’] future water demands,” AR036193, it constitutes an important “parallel action” that “is not an equivalent practicable alternative to the proposed project.” AR036188.

Petitioner’s third argument is that the Corps’ justification for eliminating the upstream gravel pits from consideration because of their more limited storage capacity was “incredibly thin” and that the Corps provided no explanation for drawing a line between the 7,835 acre-feet available downstream and 4,500 acre feet available at one of the upstream pits. Pet’r’s Br. 33. This is simply untrue. The Corps did, in fact, explain that it drew a line at 7,700 acre-feet because the water providers, who are paying the costs for the reallocated space, considered that any lesser amount of storage space would offer too little benefit in relation to the associated costs. AR036176.

Finally, Petitioner argues that the Corps’ elimination of the Rueter-Hess Reservoir from its detailed alternatives analysis on the basis that reallocation of that storage space would require action by a third party was “unlawful.” Pet’r’s Br. 34. Petitioner bases this argument on a statement by the United States Court of Appeals for the D.C. Circuit finding that where a “proposed action is an integral part of a coordinated plan to deal with a broad problem, the range of alternatives that must be evaluated is broadened.” *See id.* at 41 (citing *Nat’l Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 835 (D.C. Cir. 1972)). Like the appellee in a case later decided by the D.C. Circuit, however, in this argument, Petitioner “overread[s] *Morton*.” *City of Alexandria*, 198 F. 3d at 868.

In *City of Alexandria*, the D.C. Circuit clarified that the “broad articulation of ‘reasonable alternatives’ [in *Morton*] was “compelled by the national scope of the problem being addressed”—(there, “a cross-agency effort . . . to increase American energy supplies” during the widespread energy crisis in the 1970s.). 198 F. 3d at 868. And, as the Court further clarified

Morton thus stands for the proposition . . . that a ‘reasonable alternative’ is defined by reference to a project’s objectives. *Morton* explained that, *within the context of a coordinated effort to solve a problem of national scope*, a solution that lies outside of an agency’s jurisdiction might be a ‘reasonable alternative’ . . . [as] might . . . an alternative within that agency’s jurisdiction that solves only a portion of the problem given that other agencies might be able to provide the remainder of the solution. Such a holistic definition of ‘reasonable alternatives’ would, however make little sense for a discrete project within the jurisdiction of one federal agency, as we recognized in *Morton* when we contrasted the Secretary’s action with that of building a ‘single canal or dam.’

City of Alexandria, 198 F.3d at 869 (quoting *Morton*, 458 F.2d at 835) (emphasis added).

In contrast to the national scope of the energy problem in *Morton*, here, the need for additional water supplies to meet anticipated, future water demand in the Denver metropolitan area is “primarily a non federal responsibility” in which, “based on current federal authorities, the Federal Government should participate and cooperate with states and local interests in developing such water supplies in connection with multi-purpose projects.” AR036126. As with the regional traffic needs FHWA sought to address in *City of Alexandria*, here, the Corps is the sole federal agency with responsibility for assisting in addressing water supply issues in the Denver metropolitan area. Accordingly, it makes little sense to require the Corps to consider alternative solutions to this discrete, regional problem that are outside its jurisdiction.

III. The Corps' Thorough Analysis and Evaluation of the Possible Environmental Effects of the Chatfield Reallocation Satisfied NEPA.

In reviewing the adequacy of the Corps' Final Report and EIS, the Court's "only role . . . is to insure that the agency has considered the environmental consequences" of the challenged decision. *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223, 227–28 (1980); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1522 (10th Cir. 1983) ("A court reviewing the adequacy of an EIS merely examines 'whether there is a reasonable, good faith, objective presentation of' the topics NEPA requires an EIS to cover.") (quoting *Johnston v. Davis*, 698 F.2d 1088, 1091 (10th Cir. 1983)). Accordingly, as the Tenth Circuit has held, the court's objective in reviewing an EIS "is not to 'fly speck' the environmental impact statement, but rather, to make a 'pragmatic judgment whether [its'] form, content and preparation foster both informed decision-making and informed public participation.'" *Custer Cty. Action Ass'n*., 256 F.3d at 1035 (quoting *Or. Envtl. Council v. Kunzman*, 817 F.2d 484, 492 (9th Cir. 1987)). Thus in deciding whether the alleged deficiencies in the Corps' Final Report and EIS about which Petitioner complains "are merely flyspecks, or are significant enough to defeat [NEPA's] goals of informed decision making and informed public comment, the Court should apply [the] 'rule of reason standard.'" *Fuel Safe Washington v. F.E.R.C.*, 389 F.3d 1313, 1323 (10th Cir. 2004) (internal quotation and citation omitted)). *See also Rags Over the Arkansas River*, 77 F. Supp. 3d at 1048 ("The Court reviews an agency's NEPA process under the deferential abuse of discretion standard of review.") (citation omitted)).

Petitioner argues that the Corps violated NEPA by providing incomplete or insufficient information to the agency's decisionmakers and to the public, and by using confusing terminology concerning the water storage made available by the Chatfield Reallocation and the resulting water yield. Petitioner's arguments fail for several reasons.

A. The Final Report and EIS Provided Sufficient Information Concerning the Uncertainty about Participating Water Providers.

Petitioner first contends that the Corps did not provide adequate information about the environmental effects of the project “because for over 20% of the water storage . . . ,” Pet’r’s Br. 38, “[n]o one— not the Corps, nor the public—knows what water rights will be stored” there. *Id.* at 40. Petitioner therefore argues that “the Corps should have analyzed the potential impacts based on the “range of reasonable variation in seniority of the water rights” rather than relying on the information available to it at the time it made its recommendation. *Id.* at 44-45. Contrary to this argument, however, the Corps did not, as Petitioner suggests, rely on outdated assumptions about the identity of the water providers participating in the proposed reallocation or the seniority of their water rights. Indeed, in the first chapter of the Final Report and EIS (Purpose and Need for the Action), the Corps disclosed that, at the time of its recommendation, there was unassigned space in Chatfield Reservoir because certain providers were “in the process of withdrawing from the Project.” AR036150-036151, (Table 1-1), & n.1.

Petitioner also ignores the effect of the “rule of reason,” which governs both the Corps’ NEPA analysis and the Court’s review. An agency is entitled to rely on the best information available at the time it makes a decision and is not required to speculate or hypothesize about possible project participants or to conjure up every reasonable variation of the possible seniority rights of every possible unknown party or any potentially resulting environmental impacts.

Rather, as the Tenth Circuit has held,

the test that agencies must meet is anchored to the ‘rule of reason’ which broadly stated . . . may be said to be this: If the environmental aspects of proposed actions are easily identifiable, they should be related in such detail that the consequences of the action are apparent. If, however, the effects cannot be readily ascertained and if the alternatives are deemed remote and only speculative possibilities, detailed discussion of environmental effects is not contemplated under NEPA.

Env'tl. Def. Fund v. Andrus, 619 F.2d 1368, 1375 (10th Cir. 1980) (internal citation omitted). *See also Johnston v. Davis*, 698 F.2d 1088 ((10th Cir. 1983) (“The EIS need not discuss every nuance of a proposed action, nor need it give various questionable effects the weight demanded by various proponents or opponents.” (citation omitted)).

Here, as Petitioner acknowledges, in the Final Report and EIS discussing the Chatfield Reallocation as the preferred alternative, the Corps disclosed the uncertainty about the identity of water providers who would ultimately use the water storage space. *See* Pet’r’s Br. 41 (citing AR036371, 036372-036376). Petitioner complains, however, that this disclosure is not adequate and that changes in the identity of the water providers are “only listed with respect to operations of the reservoir and not with respect to the direct environmental impacts.” Pet’r’s Br. 41 (citing AR036376). This argument is a classic example of “flyspecking” the Final Report and EIS and elevating form over substance, and, moreover, it misreads the Corps’ analysis and conclusions. The Corps did, in fact, recognize that the identity of the water providers could change and that this could affect the environmental impacts of any of the alternative proposals. AR036376. The Corps did not ignore this issue; to the contrary, it disclosed this uncertainty in its NEPA document.

In the section of the Final Report Petitioner references—Chapter 4 “address[ing] the environmental consequences of flood storage from the flood control pool to the conservation pool in Chatfield Reservoir” (AR036369)—the Corps discussed potential strategies for adaptive management “framed within the context of structured decision making with an emphasis on uncertainty about resource responses to management actions and the value of reducing that uncertainty to improve management.” AR036370. Within that framework, the Corps disclosed “potential impacts to many resources based on the best available information,”

AR036371, including the fact that the possible impacts “depend on the timing and duration of pool level fluctuation under the two alternatives involving reallocation of storage space,”²³ *id.*, and that “[s]everal factors . . . *including reservoir operations*” could contribute to pool level fluctuations at Chatfield Reservoir. *Id.* (emphasis added). Consistent with this disclosure, the Corps proceeded to consider and disclose a number of uncertainties concerning reservoir operations, including “[c]hanges in the Chatfield water providers [and] [c]hanges in the Chatfield water providers’ needs or relative allocations of storage,” AR036376, that could “affect the environmental and recreation resources,” and require adaptive management. *Id.*²⁴

In sum, in this case, certain water providers requested reallocation of storage space in Chatfield Reservoir based on the need to “increase the availability and reliability of water supply by providing a potential additional average year yield . . . of up to approximately 8,539 acre-feet of [municipal and industrial] water sustainable over a 50-year period.” AR 036174. The Corps gave detailed consideration to four alternatives, including the Chatfield Reallocation, that could satisfy this purpose and need and, in the alternatives analysis, it evaluated the identifiable environmental impacts of each of the alternatives and also disclosed uncertainties that could affect the potential environmental impacts. Accordingly, in both form and substance, the Final Report and EIS fostered informed decision-making and informed public participation.

²³ Thus, the identity and relative seniority of the participating providers’ water rights makes no difference to the decision that was before the Corps concerning the proposed project in that the uncertainty concerning water providers and resulting pool level fluctuations was common to the two alternatives that involved reallocation of storage space and the other alternatives considered were determined to be less desirable based on dependence on the requirement for new infrastructure (Alternative 1), and dependence on NTGW as a water source (Alternative 2).

²⁴ In Table 4-1, the Corps also discussed the fact that the potential changes in pool fluctuations resulting from either of the alternatives involving reallocation could have environmental impacts in terms of target environmental resources, tree clearing, weed control, water quality, and aquatic life and fisheries, and discussed adaptive management strategies to reduce the effects on those resources. AR036372-036376.

B. The Terminology in the Final Report and EIS Concerning Water Storage and Water Yield Satisfies NEPA's Goals of Fostering Informed Decision Making and Informed Public Comment.

Finally, Petitioner contends that the Corps violated NEPA by using nonstandard terminology, and that it thus misled the public concerning the possible environmental effects of the Chatfield Reallocation. Pet'r's Br. 42. In this argument, too, Petitioner is wrong.

First, the term "average year yield" is expressly defined in the Final Report and EIS, in Chapter 2, which constitutes the Corps' detailed analysis of four alternatives and their capability of satisfying the proposed project's purpose and need. There, the term is defined as "the average annual amount of water expected to result from the storage of available water rights with the largest Chatfield reallocation alternative" AR036174. The term is also defined in the Chapter 5 of the Final Report and EIS, which contains the Corps' economic analysis of the four alternatives for the project, as "as the average annual amount of water expected to result from the storage of available rights." AR036553. Petitioner contends that the term is used, but not defined in the executive summary, which is the opening chapter of the Final Report and EIS and that this, together with the reference to the Chatfield reallocation in the definition in the alternatives analysis, somehow shows that the term was "made up especially for the Chatfield Reallocation." Pet'r's Br. 43. These arguments obviously seek to elevate form over substance. The alternatives analysis in the body of the Final Report and EIS sets forth the Corps' detailed analysis of reasonable alternatives that satisfy the project's purpose and need and is "at the heart of the environmental impact statement," *City of Alexandria*, 198 F.3d at 866 (quoting 40 C.F.R. § 1502.14). Thus, information defining and clarifying the purpose and need is appropriately included there, and the placement provides sufficient information to the public. Moreover, the reference to the size of the Chatfield reallocation in that definition also makes sense because, as reflected in the executive summary, the Corps quantified the additional water supply required to

meet the purpose and need of the project, in part, by reference to an existing opportunity, i.e., the storage space available at Chatfield Reservoir. *See* AR036128-036129. It then proceeded, however, to analyze three other alternatives to satisfy the purpose and need, including two non-reallocation alternatives, before it determined the Chatfield Reallocation to be the preferred alternative. This does not show that the term “average year yield” was “made up” or intended to mislead the public about the amount of water storage at, or water yield from, the Chatfield Reallocation.

Second, in contrast to “average year yield,” the terms “dependable” yield or “reliable” yield are not employed in the context of the Corps’ NEPA analysis, but rather in the context of the determination of economic justification and feasibility that is required pursuant to the WRDA and the Omnibus Appropriations Act of 2009.²⁵ Thus, the facts concerning the lack of a reliable water yield from the Chatfield Reallocation do not relate to the Corps’ analysis of environmental effects under NEPA, but are included as part of a request for a policy exception to allow a cost adjustment for the storage space at Chatfield Reservoir. *See* AR036924-036927. They are not, as Petitioner claims, “buried” in an appendix to the EIS; rather, like “average year yield,” these terms are included in an appendix to the portion of the Final Report to which they are relevant.

Additionally, as the Corps explained in the Final Report and EIS, the purpose and need for the proposed project was for water storage space that could potentially generate a defined, approximate annual yield of “*up to approximately 8,539 acre feet.*” AR036174 (emphasis added). The alternatives the Corps considered in detail were designed to meet that purpose and

²⁵ Notably, in the latter statute, Congress directed the Secretary to collaborate with the CDNR and other local interests to determine a method of calculating storage costs where necessary to “reflect[] *the limited reliability of the resources* and the capability of non-Federal interests to make use of the reallocated storage space” Pub. L. No. 111-8, § 116, 123 Stat. at 608 (emphasis added).

need, not a “dependable” or “reliable” yield. Thus, the fact that neither the storage space available through the Chatfield Reallocation nor any of the other alternatives may provide a dependable yield in any given year does not mean that they would not provide an annual average yield that is consistent with the purpose and need of the project.

Finally, it is Petitioner, not the Corps, who confuses the terms used in the Final Report and EIS concerning water supply and water yield. The terms “dependable” or “reliable” yield as used in the request for a policy exemption, AR036924-036927, represent an entirely different measure than average annual yield. Petitioner misreads the term “dependable yield” as a measure of the amount of *space* to be provided by the reallocation, *see* Pet’r’s Br. 43; however, as reflected in the policy exemption request, it is, instead, a measure of the amount of *water* that can reliably be withdrawn from a given amount of storage. *See* AR036926 (“Due to water rights in the existing conservation pool and generally low rainfall and run-off, *the reliability of water as measured by dependable yield* is very low.” (emphasis added)). The calculation of dependable yield is, in turn, generally used to “determine[] how much storage a water user would desire to purchase.” *Id.* Thus, contrary to Petitioner’s argument, the Corps did not conclude that the Chatfield Reallocation project “would reliably increase water storage by 0 acre feet,” Pet’r’s Br. 43 (emphasis omitted),²⁶ nor did the Corps bury or “obscure” the fact that the reallocation would provide an annual average yield, as opposed to a dependable yield. Rather, the Corps properly concluded that the proposed reallocation would satisfy the purpose and need for additional water

²⁶ Moreover, although the Corps found that all of the “common measurements of dependable yield . . . drought of record, 50-yr low flow; 2% chance; 98% reliability; 7 day-10 year flow. . . are 0,” it also indicated that some of the water providers requesting space at Chatfield actually had reusable sources of water that would “be captured on a yearly basis” and generated through the Chatfield Reallocation. AR036926. Thus, Petitioner’s conclusion that the dependable yield generated by the Chatfield Reallocation is “nonexistent or zero,” Pet’r’s Br. 44, is also not correct.

supply for the Denver metropolitan area by making available 20,600 acre-feet of additional storage with a potential average annual yield of up to 8,539 acre-feet of water, as requested by the water providers. It separately determined that, because “[a]t Chatfield all [common] measures of dependable yield are 0,” the costs for reallocated storage space in Chatfield Reservoir, which will be borne by the water providers, were high and should be adjusted. AR036926. The latter determination thus does not mean, as Petitioner claims, that the Chatfield reallocation will “reliably increase water storage by . . . 0 acre feet,” Pet’r’s Br. 43 (emphasis omitted), or that it does not provide an annual average yield consistent with the purpose and need of the project.

In sum, Petitioner’s complaint that the Corps relied on the annual average yield of the reallocated storage, rather than reallocating storage to provide a “dependable” or “reliable” yield does not show the Corps misled the public or that the Corps failed to provide information sufficient to satisfy the purposes of NEPA.

CONCLUSION

For the foregoing reasons, Audubon Society’s Petition for Review of Agency Action should be denied.

ORAL ARGUMENT STATEMENT

The United States requests oral argument. Oral argument will be useful in clarifying the scope of the relevant statutes and regulations and explaining how the actions of the Corps complied with those statutes and regulations.

Dated: May 25, 2016

Respectfully Submitted,

JOHN C. CRUDEN
Assistant Attorney General
Environment & Natural Resources Division

s/ Phillip R. Dupré

Phillip R. Dupré

U.S. Department of Justice
Environment & Natural Resources Division
Environmental Defense Section
P.O. Box 7611
Washington, D.C. 20044
Tel: (202) 616-7501
Fax: (202) 514-8865
E-mail: Phillip.R.Dupre@usdoj.gov

Barbara M.R. Marvin

United States Department of Justice
Environment & Natural Resources Division
Natural Resources Section
601 D Street, N.W.
Washington, D.C. 20004
Tel: (202) 305-0240
E-mail: Barbara.Marvin@usdoj.gov

Jacob Licht-Steenfat

Assistant United States Attorney
U.S. Attorney's Office
1225 Seventeenth St., Suite 700
Denver, CO 80202
Tel: (303) 454-0100
E-mail: Jacob.Licht-Steenfat@usdoj.gov

Attorneys for Respondent

U.S. Army Corps of Engineers

CERTIFICATE OF SERVICE

I hereby certify that on May 25, 2016, I electronically filed the foregoing Response Brief for Respondent with the Clerk of Court using the ECF system which will send notification of such filing to the following e-mail address:

Kevin J. Lynch, klynch@law.du.edu
Timothy Michael Estep, testep@law.du.edu
Brad Arthur Bartlett, IV, bbartlett@law.du.edu
Attorneys for Petitioner Audubon Society of Greater Denver

Bennett W. Raley, bwraley@mac.com
Deborah Lynn Freeman, Dfreeman@troutlaw.com
Michael Allan Kopp, mkopp@troutlaw.Com
Attorneys for Defendant-Intervenors Castle Pines Metropolitan District, Castle Pines North Metropolitan District, Centennial Water and Sanitation District, Center of Colorado Water Conservancy District, Central Colorado Water Conservancy District, and Town of Castle Rock.

Casey Ann Shpall, Casey.Shpall@state.co.us
Attorney for Defendant-Intervenor Colorado Department of Natural Resources

s/ Phillip R. Dupré
U.S. Department of Justice
Environment & Natural Resources Division

Exhibit E

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

Civil Action No. 1:14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,

Petitioner;

v.

UNITED STATES ARMY CORPS OF ENGINEERS,

Respondent;

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
CENTRAL COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK,

Intervenors-Respondents; and

COLORADO DEPARTMENT OF NATURAL RESOURCES,

Intervenor-Respondent.

INTERVENORS-RESPONDENTS' JOINT RESPONSE BRIEF

CYNTHIA H. COFFMAN
Attorney General
Casey Shpall, # 11538
Deputy Attorney General
Scott Steinbrecher, # 36957
Assistant Solicitor General
Ralph L. Carr Colorado Judicial Center
1300 Broadway, 7th Floor
Denver, Colorado 80203
Telephone: 720-508-6295

Attorneys for Colorado Department
of Natural Resources

TROUT RALEY
Bennett W. Raley, #13429
Deborah L. Freeman, # 12278
Michael A. Kopp, #43204
1120 Lincoln Street, Suite 1600
Denver, CO 80203
Telephone: 303-861-1963

Attorneys for the Chatfield
Participating Entities

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INTRODUCTION

The Colorado Department of Natural Resources (“State”) and Castle Pines Metropolitan District, Castle Pines North Metropolitan District, Centennial Water and Sanitation District, Center of Colorado Water Conservancy District, Central Colorado Water Conservancy District, and Town of Castle Rock (“Chatfield Participating Entities” or “Project Participants”) submit this Joint Response Brief on behalf of the collective Intervenor-Respondents, in the interest of efficiency and to avoid duplication among the Intervenor in this case. Pursuant to the Court’s Orders of January 22, 2015 and February 6, 2015, the undersigned counsel certify they conferred with counsel for Respondent United States to determine whether their positions could be set forth in a consolidated fashion. This Joint Response Brief addresses matters not covered in Respondent United States’ Response Brief or supplements points made by the United States with additional record citations.

Colorado faces the reality of a significant water supply shortfall within the next few decades, even with aggressive conservation, reservoir reallocations, and new water projects. The Chatfield Reservoir Reallocation Project (“Project”) is one of many pieces needed to fill that gap. *See Statewide Water Supply Initiative*, AR002494- AR003031. It was undertaken by Intervenor to meet the current and future needs of the State for the benefit and enjoyment of its citizens and visitors. The State and Project Participants are responsible to ensure an adequate water

supply for Colorado's present and future growth. The seriousness with which Intervenor-Respondents embrace this responsibility is evidenced by the decades' long effort we have invested to make this Project a reality. The planning and investigation stage of this Project began with the Metropolitan Water Supply Investigation in 1993 to explore cooperative approaches to meeting future water supply needs of the Denver Metro area. After more than a decade of information gathering and collaboration, the second phase of the Project was initiated in 2004 with the scoping process under the National Environmental Policy Act ("NEPA") to identify reasonable alternatives and evaluate their impacts. After nearly ten more years of cooperative planning and study, in 2013 the U.S. Army Corps of Engineers ("Corps") released the final Feasibility Report and Environmental Impact Statement ("FR/EIS") selecting the Project for implementation. The Record of Decision ("ROD") was approved in 2014.

Intervenor-Respondents respectfully request the Court find the Corps properly complied with the requirements of the Clean Water Act and NEPA so that this Project can now proceed.

I. The Corps Properly Approved the Discharges into Waters of the United States under the Clean Water Act.

Intervenor-Respondents endorse the United States' position that the Corps reasonably determined the Project was in compliance with Section 404 of the Clean Water Act based on its evaluation of alternatives to the activities requiring a discharge into waters of the United States. AR038983- AR038984. The two federal

agencies with jurisdiction and regulatory authority to interpret and implement the Clean Water Act – the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency – have concurred in the approach taken by the Corps in its Section 404(b)(1) analysis for this Project. AR038701.

II. The Corps Analyzed a Reasonable Range of Alternatives for the Proposed Reallocation Project.

NEPA requires the federal agency to “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” 40 CFR § 1502.14(a). Petitioner alleges the Corps violated these requirements by failing to consider Project alternatives for enhanced water conservation, upstream gravel pit storage, and Rueter-Hess Reservoir storage. Br. at 30. Contrary to Petitioner’s argument, the Corps explored 38 alternative concepts in the FR/EIS, including the three alternatives Petitioner identified. Table 2-2, AR036181-AR036185. The alternative concepts were identified by their ability to meet a substantial portion of the Project purpose and need; namely, increasing the availability of water supply by providing an additional average year yield. AR036126, AR036174, AR036177.

The 38 alternative concepts identified as meeting this general criterion were then subjected to two screening processes as described in Chapter 2 of the FR/EIS. AR036171-AR036254. First, the Corps applied preliminary screening criteria to all

38 alternative concepts. *See* Table 2-1, AR036180-AR36185. The screening criteria included: 1) ability to meet purpose and need; 2) cost; 3) logistics and technology, including water rights/water availability, land availability, permitting and mitigation feasibility, design and construction feasibility, and operational feasibility; and 4) environmental impacts, their significance, and ability to mitigate them. AR036131-AR036132. The Corps' thorough evaluation explained the rationale for eliminating an alternative or screening it forward. *See* Table 2-4, AR036200-AR36202.

The three alternatives the Petitioner identifies were each independently and objectively evaluated and the reasons for eliminating them were stated clearly in the FR/EIS. AR036181, AR036187-AR036193 (enhanced water conservation); AR036183, AR036197 (upstream gravel pit storage); AR036184, AR036197-AR036198 (Rueter-Hess Reservoir storage). Further explanation for eliminating these alternatives and not carrying them forward for additional evaluation was stated in the Corps' response to comments on the draft FR/EIS. AR037182 (general); AR037183-AR037184 (enhanced water conservation); AR037195 (upstream gravel pit storage); AR037196-AR037197 (Rueter-Hess Reservoir storage).

The Corps did not eliminate an alternative solely because it failed to meet the entire purpose and need of the Project, as alleged by Petitioner. Br. at 30. Instead, the Corps considered partial alternatives in combination with other actions so long

as the alternatives provided a reasonably sufficient portion of the total requested average year yield. AR036180. Three of the four alternatives considered in detail utilize just such a strategy by combining gravel pit storage with other actions. *See* AR036203 (Alternative 1 – No Action, Penley Reservoir combined with Gravel Pit Storage; Alternative 2 – Non-Tributary Ground Water (“NTGW”) combined with Gravel Pit Storage; Alternative 4 – Reallocation of 7,700 acre-feet to Storage, use of NTGW, and Gravel Pit Storage).

Nor did the Corps reject an alternative because it required action by a third party, or because it required additional infrastructure. Br. at 30-31. The Rueter-Hess Reservoir was eliminated as an alternative based on current storage commitments and the unavailability of additional capacity. AR036202. *See also* AR036184, AR037196-AR037197. Upstream gravel pits were eliminated due to limited storage capacity and the logistics of combining that alternative with the other small capacity reservoirs in the area. AR036201. Since alternatives requiring additional infrastructure – Penley Reservoir (Alternative 1) and downstream gravel pits (Alternatives 1, 2 and 4) – were not eliminated but instead received detailed analyses, the Petitioner’s assertion to the contrary is baseless. AR036203-AR036231. *See also* AR037195 (downstream gravel pits were “screened forward for detailed analysis because of their relative proximity, sufficient storage and reasonable cost and logistics for piping and related appurtenances.”).

Finally, Petitioner's claim that the Corps did not consider the use of enhanced water conservation is unsupportable. Br. at 32. The Corps committed an entire appendix to summarizing conservation plans, analyzing current and future plans, and determining their role in increasing water supplies. AR0036844-AR036861; AR036187-AR036193. Following that analysis, the Corps concluded that although conservation can reduce future demands, "further conservation measures alone will not be adequate to make up for the shortfall in water needed by the water providers to meet current and future water needs over the next 50-year period." AR036193. The Corps did not further analyze enhanced water conservation in combination with other alternatives because "[w]ater conservation and reuse practices of the water providers constitute an independent parallel action and therefore were not explicitly included as components of all alternatives selected for detailed evaluation." AR036203. And even more importantly, water conservation measures "do not result in the elimination or lessening of the dependence on the groundwater supplies," AR036187, which is a major goal of the Project. AR036172.

Thus contrary to Petitioner's argument, other potential alternatives, including the three identified by Petitioner, were rigorously explored and objectively evaluated prior to selecting the four main alternatives for more detailed evaluation in the FR/EIS.

III. The Corps Promoted Informed Decision Making and Enhanced Public Participation during the Reallocation Study and Draft FR/EIS Process.

Early in the process, the Corps engaged in robust outreach and garnered extensive stakeholder participation in the Chatfield Reservoir Reallocation Study and Draft FR/EIS. During the Reallocation Study a Work Group was formed. It included representatives from the Colorado Water Conservation Board (“CWCB”), Colorado State Parks, State Division of Wildlife, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers Omaha District, consultants, water users, environmental groups, and the Petitioner. AR003041, AR003044. *See also* AR001984-002007 (Work Group Meeting Minutes, August 7, 2003). The goal of the Work Group was to keep open communication and coordination among these governmental agencies and interested parties. AR003041.

In 2006-07, the Corps invited various federal, state, and local government agencies, and special interest groups to participate in the Chatfield Reservoir Storage Reallocation Study (“Reallocation Study”) as cooperating agencies or special technical advisors. AR009633-AR009635, AR0036127. The Corps invited the Petitioner to participate as a Special Technical Advisor on March 1, 2006. AR004324-AR004325. The Petitioner accepted the invitation on July 30, 2007. AR006932.

In all, 26 cooperating agencies and 11 special technical advisors participated in Reallocation Study, attended Project meetings, and engaged in early review and comment on draft documents, including preliminary chapters of the FR/EIS.

AR036127, AR036596-AR03697. Between 2003 and 2013, the Corps and the State held over 100 meetings at which information was exchanged, comments were taken, and questions answered.¹ AR001984, AR032054. The Corps' efforts to involve stakeholders in the process were unassailably inclusive. Issues raised throughout the NEPA process were fully vetted. The Corps, with full appreciation of the positions taken by all stakeholders, made reasoned decisions throughout the process to arrive at a defensible FR/EIS and ROD.

A. The FR/EIS supports a ROD that provides flexibility in the use of reallocated storage space by existing and future Project Participants and water rights.

The "Purpose and Need" for the Project "is to increase availability of water...in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met." AR036153. The purpose and need are *not* to increase the availability of water for specific water providers or water rights. While

¹ "The Corps solicited and welcomed collaboration with 26 Cooperating Agencies and 11 Special Technical Advisors as well as several contractors due to the complexity of this project and the many issues involved. Seamless and transparent communication and integration was provided by holding project progress meetings in the Denver area so all collaborators had the opportunity to attend and having these collaborators and their attorneys review and comment on chapters of the Preliminary Draft FR/EIS as they were completed by the Corps and its contractors." AR036248. *See also* AR036561-AR036562. The Administrative Record reveals the stakeholder meeting dates and contains minutes from most of the meetings. *See* AR Index.

the Corps disclosed detailed information on existing Project Participants and water rights, its analysis of the environmental impacts of the alternatives was structured to recognize that individual Project Participants and water rights could change over time. This approach was required by the very nature of the Project.

Petitioner was fully aware from the outset of the Reallocation Study that Project Participants could change over time. That issue was discussed at the Work Group Meeting on December 7, 2004. AR003042 (“There was discussion about water users not wanting the storage space at some point in the future but before final agreements are executed with the state and Corps. The resolution was the storage amount would be turned into the CWCB and the CWCB will maintain list of interested parties.”). AR003042 (“In discussions it was agreed . . . that when storage space is transferred or changes hands it will be consistent with the New Corps Water Control Plan.”). AR003043 (“Water Users discussed the idea of sub leasing agreements needing to go through CWCB Board Member approval.”). In addition, the law authorizing the Project in Colorado contemplated the CWCB would hold any shares in the Project not held by participating water providers for future allocation. House Bill 08-1346, enacted by the General Assembly, states “[t]he board has the express authority, in equitable partnership with the participants, to undertake such action as is necessary, including the award of contracts to public and private entities, to undertake mitigation construction and long-term operation and maintenance and related activities; *to lease, sublease, or*

assign storage space rights; and to otherwise effectuate the storage of water in the reservoir.” AR009623 (emphasis added). AR009621-AR009625 (§ 37-60-120.1(2), C.R.S. (2015)).

B. The FR/EIS disclosed and appropriately analyzed the possibility of changes in the identity of Project Participants and water rights that might be stored in the Project.

The FR/EIS was carefully designed to inform the public and support decision making by: (1) identifying the known Project Participants and water rights and disclosing that those were anticipated to change over time; (2) limiting the scope of approval to a defined range of reservoir operations that might occur under the scope of approval by the Corps; and (3) evaluating effects and basing mitigation requirements on the maximum impact to environmental resources. This analysis fully complies with the Council on Environmental Quality regulations that apply to the analysis of federal actions anticipating future changes in a Project. NEPA requires no more.

1. The FR/EIS identified known Participants and water rights and disclosed that they could change.

The FR/EIS expressly disclosed the known Project Participants and their water rights. It also disclosed that both the identity of individual Project Participants and that the water rights to be stored in Chatfield Reservoir could change in the future. The FR/EIS explained the process used to allocate Project capacity between the CWCB and individual Project Participants, and disclosed the

process, later set forth in binding agreements, which included a mechanism to transfer allocation ownership. AR036151-AR036152. The table of Project Participants in the FR/EIS showed approximately 20% of the reallocated storage space was unassigned and would be allocated to entities to be determined in the future. Table 1.1, AR036150-AR036151. The FR/EIS recognized portions of the Project capacity had previously been reallocated based on a change in Project participation, and some of the capacity would be “reassigned to one or more of the water providers or others at a future date.” AR036152. The FR/EIS disclosed “Water Providers would need to hold existing or newly acquired water rights...” AR036130. *See* AR038875 (“the reallocated storage space in Chatfield Reservoir would be filled using existing or new water rights, including wastewater return flows and other decreed water rights, belonging to a consortium of water providers.”). *See also* AR036153, AR036176, AR036257. The FR/EIS included a list of the existing water rights then planned to be used in the Chatfield Reservoir Reallocation. *See* AR038939-AR038940. That list also recognized some of the water rights to be used in the Project were “TBD [to be determined].” *Id.*

2. The Corps’ impact analysis and scope of approval were not dependent on the specific Project Participants or water rights within the allowable range of reservoir operations for the Project.

A review of the Corps’ analysis of the alternatives considered in the FR/EIS reveals it considered the environmental impacts of storing water in and releasing

water from Chatfield Reservoir regardless of the identity of specific Project Participants or water rights. The FR/EIS disclosed that “key risks and uncertainties include modeling of elevations and downstream flows, mitigation and modification plans, and impacts of flood control benefits.” AR036134. The Corps’ analysis also disclosed “[t]he operation of the reservoir and the resulting water levels is based on a number of factors including the water elevation at the time, flow conditions downstream, the priority of water rights of downstream water providers, requests for release of stored water, precipitation, and evaporation.” AR36231-AR36232. Due to these complexities, the Corps utilized historical data which “will reflect any impacts to the river flows over time, including changes in available water rights, water supply needs, timing of runoff, or additional reservoirs constructed upstream.”² AR036391.

The Corps then used a computer model to “describe the behavior of water levels in the reservoir” and to “determine how the reservoir would behave” under the action alternatives....”³ AR036232. The Corps estimated that the annual impact of Alternative 3 on downstream flows would be 19 acre feet at critical low flow periods. AR036417. The Corps explained, in response to comments, that “from

² The Corps concluded that “[t]he simplest way of looking at water levels in the reservoir under the different alternatives, as well as outflows from the reservoir and flow conditions downstream, is to look at how these factors would appear when considered against historical flow data.” AR036232.

³ Table 2-8 portrays modeled “Monthly Pool Fluctuations (High, Average, Low) within Chatfield Reservoir over the Period of Record (1942-2000) for each Alternative.” AR036232.

an ecological standpoint, the differences [in downstream flows] were considered insignificant.” AR037210-AR037212.

The Corps took two specific measures to ensure the impacts on environmental and recreational resources were fully disclosed and analyzed in the FR/EIS given the unpredictable fluctuations in water levels and operational impacts of storage under Alternatives 3 and 4. AR036134, AR036376. The Corps first imposed specific operational constraints on the Project by limiting the range of reservoir elevation levels within which the Reallocation operations could occur. *Id.* For Alternative 3, which was selected by the Corps and incorporated in its ROD, the FR/EIS states that “the reallocation of storage for this project only involves the volume between 5,432 and 5,444 feet msl [mean sea level].” AR036405. Hence, the ROD does not authorize storage of additional water in Chatfield Reservoir or authorize storage of water at an elevation above 5,444 feet msl. AR041875-041876.

Second, the Corps elected to take “a conservative approach to the impact analysis ... to reflect the maximum potential impacts that might be associated with the inundation of environmental resources” and to “ensure adequate mitigation could be planned and subsequently reasonably attained for any potential impacts that may develop.” AR036134. The analysis in the FR/EIS of environmental impacts associated with storage of the Project Participants’ water rights in the reallocated space addressed the entire potential range of operations by using a maximum effects scenario. Regardless of the ultimate mix of water rights and

operations in the reallocated storage space, water would not be stored by the Participants above 5,444 feet msl.

If future changes in the Participants or their water rights threaten to cause significant impacts beyond or different from the range of impacts analyzed in the FR/EIS, the Corps acknowledged a supplemental FR/EIS could be required to analyze these impacts: “A change in water rights does not in itself require a supplement; however, if water rights changes lead to significant effects not originally identified in the EIS, a supplement would be warranted.” AR037202. *See also* AR037201 (“The providers...are aware that ultimately, if the agency makes substantial changes in the proposed action that are relevant to environmental concerns or there are substantial new circumstances or information relevant to environmental concerns...a supplemental FR/EIS may be necessary”). That future scenario is speculative at this stage and need not be covered by this EIS.⁴

3. The FR/EIS addressed future uncertainties by portraying impacts and imposing mitigation requirements based on the maximum possible environmental effects of the Project.

The regulations addressing unavailable information, 40 CFR § 1502.22, do not require analysis of a “range of reasonable variation” as the Petitioner alleges,

⁴ The Corps is not required to speculate as to all future possible combinations of Project Participants and water rights. “In general, we have not required agencies to consider ‘speculative’ impacts or actions in an EIS, whether it be in the context of the reasonable alternatives analysis or the reasonably foreseeable impacts of the proposed project or other projects.” *Wyoming v. U.S. Dep’t of Agriculture*, 661 F.3d 1209, 1253 (10th Cir. 2011).

but rather require the agency to “follow four specific steps” if the costs of obtaining the information are exorbitant or the means to obtain it are not known. *Lee v. U.S. Air Force*, 354 F.3d 1229, 1241 (10th Cir. 2004). These steps include: (1) disclosing “that such information is incomplete or unavailable;” (2) discussing its relevance; (3) summarizing existing credible evidence relevant to “reasonably foreseeable significant adverse impacts on the human environment;” and (4) evaluating these impacts using generally accepted methods. 40 CFR § 1502.22(b). Each of these elements was addressed by the FR/EIS.

The description of the Alternatives (FR/EIS Ch. 2), analyses of the Affected Environment (FR/EIS Ch. 3), and Environmental Consequences (FR/EIS Ch. 4) all incorporated this information. The Corps specifically discussed the relevance of this information, and assessed and evaluated the reasonably foreseeable adverse impacts of the hydrology on a wide range of resources. Chapter 4.3 of the FR/EIS discussed in great detail “the impacts of implementing the alternatives on the hydrological conditions of Chatfield Reservoir and the South Platte River downstream of the reservoir.” AR036388. Additional discussions of the relevance of hydrology and the reasonably foreseeable adverse impacts of the Alternatives on the human environment are found throughout the 165 page discussion of “Environmental Consequences” contained in Chapter 4.

Particularly relevant here is the fact the Corps ensured that the FR/EIS captured the maximum effect of the Reallocation Project on environmental

resources by assuming the total loss of vegetation and other environmental assets below 5,444 feet above msl. AR037227-AR037228, AR37247-AR037248, AR037377. The Corps further explained “[s]ubstantial uncertainty with regard to water level fluctuations is handled via a worst case analysis. *The worst case at a minimum ensures that sufficient mitigation is provided for impacts that would occur under the worst condition.*” AR037259 (emphasis added). This approach is explained in more detail in Appendix K to the FR/EIS, which sets out the compensatory mitigation plan (“CMP”) for the Project. “The CMP is based on the following conservative assumptions: [a]ll of the existing target environmental resources will be lost below 5,444 feet in elevation (Alternative 3); [n]one of the target environmental resources will reestablish below 5,444 feet in elevation ...” AR037924.

The Corps’ approach here is consistent with other EISs that have been upheld as covering adjustments to proposed actions occurring within the breadth of the impacts analyses. *Wyoming v. U.S. Dep’t of Agriculture*, 661 F.3d 1209, 1262 (10th Cir. 2011). The Tenth Circuit has approved other NEPA analyses with uncertain impacts where the agency in question analyzed reasonable worst-case impacts and then imposed monitoring and mitigation requirements on those impacts. For example, in *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1276 (10th Cir. 2004), the court considered an Environmental Assessment (“EA”) for a proposed construction project adjacent to the Snake River in Wyoming, which was a “well known and extensively studied bald eagle habitat area.” Neither the Corps

nor the U.S. Fish and Wildlife Service, which provided a Biological Opinion for the EA, could “predict with certainty how the resident bald eagles would react to the [proposed] development” because “[r]esponses of eagles to human disturbances vary depending on the eagle individual/pair.” *Id.* For this reason, the court found “further assessment of impacts in an FR/EIS before the project’s implementation is unlikely to be productive.” *Id.* But because the Corps conservatively estimated the loss (of up to 6 adult bald eagles and 12 juveniles) and then imposed terms and conditions designed to mitigate this loss (including prohibiting construction within 400 meters of eagle nests, close daily monitoring of eagle activity for signs of disturbance, and immediate modification of construction activities if eagle disturbance was observed), the Court upheld the adequacy of the Corps’ analysis. *Id.* at 1276.

Similarly, in *Hillsdale Environmental Loss Prevention, Inc. v. U.S. Army Corps of Eng’rs*, 702 F.3d 1156, 1172 (10th Cir. 2012), the Corps’ analysis of the construction of a facility designed to transfer cargo between freight trains and trucks revealed that the construction and operation of the facility would produce dust emissions. Although the exact amount of dust emissions was uncertain, particularly during the construction phase of the project, the Corps relied on worst-case estimates by the EPA showing dust emissions had the potential to locally exceed Clean Air Act limits by “four to ten times.” *Id.* at 1173. In response to this uncertainty, the Corps required the facility’s proponent to enter into a monitoring

and mitigation agreement with the Kansas Department of Health and the Environment, with binding mitigation requirements if dust emissions exceeded specified levels. *Id.* Again, the court declined to order additional analysis, finding the monitoring and mitigation requirements were sufficient to support the Corps' conclusion. *Id.* at 1173-74.

Petitioner requests this Court to vacate the ROD and instruct the Corps to "supplement the EIS to assess how the environmental impacts might vary based on the water rights eventually stored, or to place limitations on what water rights can actually be stored in the Project." Br. at 42. A supplement is not required here in light of the extensive disclosure and analysis of the environmental impacts of the Chatfield Reallocation Project and the requirements of the mitigation plan based on the maximum impacts to environmental resources. *See Friends of Marolt Park v. U.S. Dep't of Trans.*, 382 F.3d 1088, 1097 (10th Cir. 2004) (holding that a supplemental EIS is not required if "the relevant environmental impacts have already been considered" during the NEPA process).

The Corps' FR/EIS analysis for Chatfield – scoped to accommodate future changes in the makeup of Project Participants and water rights – is consistent with the mandates of NEPA to disclose and analyze the spectrum of impacts associated with a proposed action and its alternatives. Future variation in Project participation and water rights is qualitatively within that spectrum. *See New Mexico ex rel. Richardson*, 565 F.3d 683, 705 (10th Cir. 2009) (quoting CEQs Forty

Questions, 46 Fed. Reg. at 18,035); *see also Operation of Miss. River Sys. Litig.*, 516 F.3d 688, 693 (8th Cir. 2008); *Dubois v. U.S. Dep't of Agriculture*, 102 F.3d 1273, 1292 (1st Cir. 1996).

In summary, the Corps fulfilled its obligation to take a “hard look” at the environmental consequences of the Project because it disclosed that not all of the Project Participants and water rights that would be stored in the Project were known, acknowledged the impact this could have on reservoir operations, specified elevational constraints within which the reallocation could operate, analyzed the most significant possible environmental impacts from those operations, and imposed monitoring and binding mitigation requirements,. *See Silverton Snowmobile Club v. U.S. Forest Service*, 433 F.3d 772, 780 (10th Cir. 2006). Once the “environmental concerns [of an action] are adequately identified and evaluated by the agency, NEPA places no further constraint on agency actions.” *Id.*

IV. The Terminology Employed in the FR/EIS was Appropriate because it was Tailored to the Purpose and Need of the Project and was within the Corps' Discretion.

Part III of Petitioner’s Opening Brief asserts “[t]he Corps violated NEPA’s requirement to foster informed decision making and public participation when they ... used misleading, non-standard terms regarding water yield during the creation of the FR/EIS.” Br. at 38. Petitioner asserts this violation occurred because the Corps arbitrarily substituted standard terms for terms of their own creation – specifically using “average year yield” instead of “firm yield” or “safe yield.” Br. at

43. It is difficult to understand how the use of the term “average year yield” is incorrect or misleading when the purpose of the Project is to provide average year water supplies. AR036126.

Petitioner’s assertions ignore the identified purpose and need for the proposed action, which is the fundamental underpinning for NEPA’s impacts and alternatives analysis. The purpose and need for the Chatfield Project is “to increase the availability of water, providing an additional *average year yield* of up to approximately 8,539 AF... so that a larger proportion of existing and future water needs can be met.” AR036126 (emphasis added). Petitioner is not free to substitute its preferred purpose and need of a “dependable water supply.” An agency has considerable discretion to define the purpose and need of the proposed action. *Utah Environmental Cong. v. Bosworth*, 439 F.3d 1184, 1195 (10th Cir. 2006); *see also Friends of Southeast's Future v. Morrison*, 153 F.3d 1059, 1066 (9th Cir. 1998) (stating that agencies have “considerable discretion to define the purpose and need of a project,” as long as it is reasonable).

Moreover, as is the case with the present Project, where the purpose and need is based on a non-federal objective, an action agency may “give substantial weight to the goals and objectives” of the non-federal project sponsors. *Citizens' Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1030 (10th Cir. 2002). Here, the non-federal objective included increasing the water supply in the greater Denver Metro area by providing an average year yield that could be used

when available for the purpose of reducing reliance on non-renewable groundwater resources. AR036195.

The standard of review by this Court is whether the Corps had a rational basis for the terms it chose to use. As stated in *Prairie Band Pottawatomie Nation v. Federal Highway Admin.*, 684 F.3d 1002, 1013-14 (10th Cir. 2012), “[w]e are not in a position to decide the propriety of competing methodologies in the transportation analysis context, but instead, should determine simply whether the challenged method had a rational basis and took into consideration the relevant factors.” *Id.* (citing *Comm. to Pres. Boomer Lake Park v. Dep’t of Transp.*, 4 F.3d 1543, 1553 (10th Cir. 1993)) (“We find the EIS’s use of accidents per year instead of accidents per million vehicle miles was not arbitrary and capricious.”). Nor does the Corps have the obligation to use precise phrasing.⁵ AR000505 (“NEPA imposes no obligation to use precise phrasing”). By including this language in the final EIS, USFS put the public on notice this project, and its attendant truck traffic, would have negative consequences); *Forest Guardians v. U.S. Forest Serv.*, 495 F.3d 1162, 1172-73 (10th Cir. 2007).

As the United States explains in its Response Brief, the term “average year yield” is clearly defined in the EIS. AR036174. The term “average year yield” was

⁵ Further, contrary to Petitioner’s argument, the Corps Handbook on Water Supply Planning and Resource Management does not establish any policy or practice nor does it require use of particular terminology. AR000505 (“Information in this handbook is intended for easy access and reference purposes only, and is not intended as a substitute for Headquarters U.S. Army Corps of Engineers policy or implementation guidance.”).

used consistently throughout the EIS and each alternative was designed to provide the same average year yield. This allowed the Corps and members of the public to easily compare the environmental impacts for each alternative. “For consistent comparison purposes each alternative was designed to provide an average year yield of 8,539 acre-feet which corresponds with the yield under the maximum 20,600 acre-feet reallocation alternative (Alternative 3).” AR036133.

There is also a rational basis for the use of the term “average year yield” by the Corps in the FR/EIS. Most of the Project Participants rely on a combination of junior surface water rights and rights to non-tributary groundwater. One of the objectives of the Project is to reduce reliance of municipal water providers on nonrenewable Denver Basin groundwater and secure augmentation water for alluvial wells. AR036128. The “average year yield” approach is consistent with this. In average and above average surface water supply years many Chatfield Participants will store or use the available surface water supplies, but rely on groundwater when the average year surface water supply sources are not available. Average year surface water supplies are valuable to these water providers because they use surface water when available and groundwater when surface water is not available. *See* AR036126, AR036128, AR036166, AR036172, AR036187, AR036193, AR036195, AR037198, AR037294. As the Corps explained in its response to a number of comments, “[t]he value of storage is to capture water during times of plenty so that it can be used during times of scarcity.” AR037288.

CONCLUSION

The Chatfield Reservoir Reallocation Project has been objectively vetted through a lengthy and rigorous FR/EIS process. The Corps, cognizant of the issues that are the bases of Petitioner's claims, made reasoned choices about what was needed to support meaningful public disclosure and provide a sound basis for its substantive decision making. The Corps fulfilled its obligation to take a "hard look" at alternatives to the Project and the environmental consequences of the Project. The FR/EIS and ROD are defensible and should be sustained by this Court.

ORAL ARGUMENT REQUESTED

Dated this 2nd day of June 2016.

Respectfully submitted,

CYNTHIA H. COFFMAN
Attorney General

s/Casey Shpall

Casey Shpall, #11538
Deputy Attorney General
Scott Steinbrecher, #36957
Assistant Solicitor General
Ralph L. Carr Colorado Judicial Center
1300 Broadway, 7th Floor
Denver, Colorado 80203
Telephone: 720-508-6295
E-Mail: casey.shpall@coag.gov
scott.steinbrecher@coag.gov
Attorneys for Colorado Department of
Natural Resources

TROUT RALEY

s/ Bennett W. Raley

Bennett W. Raley, #13429

Deborah L. Freeman, #12278

Michael A. Kopp, #43204

1120 Lincoln Street, Suite 1600

Denver, CO 80203

Telephone: 303-861-1963

E-Mail: braley@troutlaw.com,

dfreeman@troutlaw.com,

mkopp@troutlaw.com

Attorneys for the Chatfield Participating
Entities:

Castle Pines Metropolitan District

Castle Pines North Metropolitan
District

Centennial Water and Sanitation
District

Center of Colorado Water

Conservancy District

Central Colorado Water Conservancy
District

Town of Castle Rock

CERTIFICATE OF SERVICE

I hereby certify that on June 2, 2016, I electronically filed the foregoing INTERVENORS-RESPONDENTS' RESPONSE BRIEF with the Clerk of Court using the CM/ECF system, which will send notification of such filing to the following e-mail addresses:

Phillip Dupre, Phillip.R.Dupre@usdoj.gov
Barbara M. R. Marvin, Barbara.Marvin@usdoj.gov
Jacob Licht-Steenfat, Jacob.licht-steenfat@usdoj.gov
Kevin J. Lynch, Klynch@law.du.edu
Brad Bartlett, bbartlett@law.du.edu
Scott Steinbrecher, scott.steinbrecher@coag.gov
Casey Shpall, casey.shpall@coag.gov
Bennet W. Raley, braley@troutlaw.com,
Deborah L. Freeman, dfreeman@troutlaw.com,
Michael A. Kopp, mkopp@troutlaw.com

s/Suzanne Burdick

Exhibit F

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No.: 1:14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS,
Respondent;

CASTLE PINES METROPOLITAN DISTRICT, ET AL.,
Intervenors-Respondents.

Petitioner's Motion for Preliminary Injunction

Certification of Compliance with Duty to Confer

Pursuant to D.C.COLO.LCivR 7.1, the Audubon Society of Greater Denver conferred with counsel for Respondent and Intervenors by email and telephone, who indicated that their clients oppose this motion.

Introduction

The Audubon Society of Greater Denver ("Denver Audubon") respectfully moves for this court to enjoin the United States Army Corps of Engineers ("Corps") from approving any further plans to implement the Chatfield Reallocation Project ("Project"). Furthermore, Denver Audubon asks this court to enjoin the Intervenors from starting or continuing the construction work at Chatfield State Park ("Park").¹ This includes commencing any construction on the new recreational facilities and any clearing of vegetation associated

¹ The Intervenors formed the Chatfield Reservoir Mitigation Company ("CRMC") to implement the Chatfield Reallocation Project and control the CRMC.

with that construction or otherwise because the implementation of the project will irreparably harm Denver Audubon and its members.

Despite the fact that this Project was approved based on the Corps' faulty Clean Water Act ("CWA") analysis and its arbitrary and capricious decisionmaking, the Intervenor is assuming that this court will rule in their favor and plan to implement the beginning stages of the Project. This implementation will cause irreparable harm to Denver Audubon by eliminating the ability of its members to utilize and enjoy the natural and diverse environment throughout the Park. Denver Audubon has continuously monitored the Park and hoped that a decision on the merits of its claims would be made prior to any detrimental action taking place. However, as soon as Denver Audubon became aware of the Intervenor's concrete plans to begin implementing the Project, it has worked to prepare this motion enjoining such actions as quickly as possible. (Ex. 4, Gene Reetz Decl. ¶ 4-7.)²

Legal Background

Preliminary injunctions are an appropriate remedy if: (1) the movant is likely to suffer irreparable harm absent the injunction; (2) the movant is likely to succeed on the merits of the case; (3) the harm the movant is likely to suffer absent the injunction outweighs any harm the injunction will impose on the defendant; and (4) the injunction is

² Although review of Administrative Procedure Act ("APA") claims is limited to the evidence contained in the administrative record, when a party to an APA suit is seeking an injunction, the court may look to evidence outside of the record for non-merits issues. *See Art Smart*, 843 F.3d at 898 (three-day evidentiary hearing held for preliminary injunction.)

not adverse to the public interest. *RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1208 (10th Cir. 2009).³

A movant suffers irreparable harm if: (1) its environmental interests are injured because “environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration i.e., irreparable,” and (2) the harm demonstrated is not merely speculative, but is both certain and imminent. *Amoco Prod. Co. v. Village of Gambell*, 480 U.S. 531, 545 (1987); *N.M. Dep’t of Game & Fish v. U.S. Dep’t of Interior*, 854 F.3d 1236, 1249-50 (10th Cir. 2017). In the Tenth Circuit, harm is imminent if it is likely to occur prior to a decision on the merits. *N.M. Game & Fish*, 854 F.3d at 1250.

The second factor the court weighs is the likelihood of the movant succeeding on the merits. In order to establish a substantial likelihood of success on the merits the movant must present a prima facie case, but need not show a certainty of winning. *Coal. of Concerned Citizens to Make Art Smart v. Fed. Transit Admin. US Dept. of Transp.*, 843 F.3d 886, 901 (10th Cir. 2016).

The third factor the court weighs is the balance of harms. The balance of harms weighs in favor of the movant if it can demonstrate that the harm it is likely to suffer absent

³ The Tenth Circuit has historically disfavored injunctions that disturb the status quo, injunctions that are mandatory as opposed to prohibitory, and injunctions that afford the movant all the relief it may recover at the conclusion of a full trial on the merits. *SCFC ILC, Inc. v. Visa USA, Inc.*, 936 F.2d 1096, 1098-99 (10th Cir. 1994). However, Denver Audubon is not seeking a disfavored injunction. This injunction would maintain the status quo, is prohibitory, and would not afford Denver Audubon all of the relief it seeks because it would simply prevent the CRMC from altering the status quo of the park for a limited duration.

the injunction outweighs any harm the injunction will impose on the defendant. *Valley Cmty. Pres. Comm'n v. Mineta*, 373 F.3d 1078, 1083 (10th Cir. 2004). When the harms that an enjoined party is likely to suffer are minimal due to an injunction that will not serve to enjoin a party for a long duration, those harms should be diminished. *See League of Wilderness Defenders/Blue Mountains Biodiversity Project v. Connaughton*, 752 F.3d 755, 765 (9th Cir. 2014). Furthermore, the court also discounts harms that are “self-inflicted.” *Valley Cmty.*, 373 F. 3d 1078 at 1086-87.

Lastly, the court will weigh the public’s interest in the injunction. The Tenth Circuit recognizes a movant’s right to equitable relief so long as the injunction would not be adverse to the public interest. *Resolution Trust Corp. v. Cruce*, 972 F.2d 1195, 1201 (10th Cir. 1992). The public has an “undeniable interest” in an agency’s compliance with the National Environmental Policy Act (“NEPA”) and the CWA; therefore, injunctions that would ensure that an agency is complying with the NEPA prior to implementing a project would not be adverse to the public interest. *Colorado Wild Inc. v. U.S. Forest Service*, 523 F.Supp.2d 1213, 1223 (D. Colo. 2007); *Sierra Club v. City of Colo. Springs*, No. 05-cv-01994-WDM-BNB, 2009 U.S. Dist. LEXIS 73922, at *51 (D. Colo. Aug. 20, 2009).

Factual Background

In 1999, the Audubon Society for Greater Denver established its office and nature center in the Park because it is one of the best birding destinations in Colorado, is very close to Denver, and has the unique benefit of having developed infrastructure. (Ex. 1, Norm Lewis Decl. ¶ 11.) Since then, Denver Audubon has been providing park visitors with

educational and recreational opportunities to view the variety of rare bird species that live in and migrate throughout the Park. (Hugh Kingery Decl. ¶10, ECF 49-5.)

In 2013, the Project was approved and has since presented a substantial threat to the diverse environment within the Park that the members of Denver Audubon use and enjoy. AR040957. The Project will allow water providers to store additional water in the reservoir by raising the maximum water level for storage of municipal water from 5,332 feet above sea level to 5,444 feet. AR036150.

As a result of this elevated high-water level, many of the Park's recreational facilities in their current locations would be submerged when the water is at its highest. AR041040. To implement the Project, the Intervenor was forced to agree to relocate all of these facilities. AR041043. They intend to relocate some of the facilities to where the new shoreline will be or raise the plots that some of the facilities are on using fill material to accommodate that new water level. AR044448. However, the new shoreline will rarely be at the new high water level, making it likely that in most years the new facilities will be far away from the shoreline of the reservoir. *See* AR038272.

In each of these areas the first step prior to beginning construction is what is known as "clear and grub." AR038320-42. Furthermore, the CRMC's Tree Management Plan describes that in the interest of safety to boaters, it will remove "wood debris," which is defined as vegetation on the ground greater than two inches in diameter, in any area that will be submerged by the reallocation. (Ex. 4, Gene Reetz Decl., Attach. E.)⁴

⁴ Respondent and Intervenor stipulate that the Chatfield Construction Schedule and Tree Management Plan attached are accurate copies of portions of the CRMC's website.

Due to a concern that it would suffer irreparable harm if the Project was implemented, Denver Audubon, unsuccessfully, sought information about the Corps and the Intervenor's plans for implementing this Project numerous times. (Ex. 4, Gene Reetz Decl., Attach. A-C.) Finally, in late November 2017, the CRMC released a schedule of construction activities and associated closures of various areas of the Park on its website. (Ex. 4, Gene Reetz Decl., Attach. D.) According to the schedule, construction on the Balloon Launch Area, Catfish Flats Day Use Area, Deer Creek Day Use Area, Fox Run Day Use Area, Jamison Day Use Area, Massey Draw Day Use Area, North Boat Ramp, and Swim Beach, began on December 4, 2017. *Id.* All of these areas will be closed to the public during construction. *Id.* Furthermore, the West Perimeter Road will be closed at various times to accommodate construction vehicle traffic. *Id.* Construction on these areas and the associated closures have already begun throughout the Park. (Ex. 4, Gene Reetz Decl. ¶ 7.)

Argument

The implementation that has already begun, specifically, the effects of operating construction machinery, and the habitat removal along with the eventual flooding of the Park is irreparably harming the individual members of Denver Audubon and the organization itself. Furthermore, Denver Audubon has shown that it is substantially likely to succeed on the merits, that any environmental injuries it would suffer absent this injunction outweigh any harms the defendants are likely to suffer, and that the injunction would not be adverse to the public interest.

- I. Denver Audubon will suffer irreparable harm that is imminent absent this injunction because the implementation of this Project will disrupt the peaceful and diverse environment of the Park.**

The implementation of the Project will negatively impact the wild and natural areas of the Park that Denver Audubon and its members use and enjoy in a variety of ways. Because these impacts negatively affect the environmental, recreational, educational, and aesthetic interests of the organization and its members, they constitute irreparable harm that cannot be compensated through monetary damages. Furthermore, because the implementation is currently underway, these harms are imminent.

A. The implementation of the Project will have significant negative impacts on the interests of Denver Audubon.

The implementation of this Project will irreparably harm Denver Audubon and its members because the noise and other impacts associated with construction, the removal and destruction of habitat, and the eventual flooding of the Park will render specific areas of the Park either unenjoyable or unusable for the organization and its members. Additionally, each of these harms will hinder the ability of Denver Audubon to carry out its organizational mission.

Construction activities will harm Denver Audubon and its members as soon as they begin. Construction of this magnitude will involve the use of machinery and will force the Corps to close areas of the park while construction is ongoing. (Ex. 4, Gene Reetz Decl., Attach. D.) Many members of Denver Audubon recreate and lead birding field trips in the densely vegetated areas surrounding the Swim Beach and Plum Creek, two areas that are currently closed or will be in December 2017. (Ex. 1, Norm Lewis Decl. ¶ 5.) The noise from machinery and these closures will diminish or eliminate the ability of Denver Audubon's members to use and enjoy these areas peacefully. (Ex. 1, Norm Lewis Decl. ¶ 8.) For

example, due to the limited access to certain areas of the park, Denver Audubon will not be able to perform its yearly Christmas Bird Count, eliminating one year of scientific data that has been collected since 1974. (Ex. 5, Polly Reetz Decl. ¶ 3-6.) Further, it will likely scare off the more skittish species of bird, and reduce the recreational value of the Park for members of the organization that enjoy birding in these areas. (Ex. 1, Norm Lewis Decl. ¶ 7.)

The clearing and grubbing of vegetation and the removal of underbrush, which the Corps dismissively refers to as “removing debris,” will cause further irreparable harm to Denver Audubon and its members. The vegetation and underbrush is essential habitat for a variety of animals including the various species of bird found throughout the Park. (Ann Bonnell Decl. ¶ 11, ECF 49-4.) It provides several important ecological functions including food, water, and cover for resident and migratory bird and wildlife species. (Ex. 1, Norm Lewis Decl. ¶ 7.) And, although it is difficult to ascertain the exact quantity of harm that will result to these species, the harm is certain, not theoretical. *Id.* The removal of this habitat will, at a minimum, make the areas inhospitable to animals and force the birds to relocate. *Id.* This reduction in bird habitat and wildlife in the Park will force the members of Denver Audubon, many of whom live very close to the Park, to have to travel a potentially great distance to view what they previously could in their own backyard. (Ex. 1, Norm Lewis Decl. ¶ 10.)

Lastly, the flooding of the Park and its associated impacts will lead to a less attractive, and therefore, less utilized state park by Denver Audubon and its members as well as the general public. Because the high water level will only occur three out of every ten years, most years there will be an unsightly mud ring around the edge of the reservoir.

This will diminish the aesthetic appeal of the Park. This diminishment in appeal will reduce Colorado Parks and Wildlife revenue generated by the Park by \$3.4 million and reduce the Park's recreation economic development value by \$15.6 million over a 50 year period.

AR036242. The reduction in the park's value will negatively impact the ability of Denver Audubon to carry out its organizational mission. (Ex. 1, Norm Lewis Decl. ¶ 11.)

In pursuit of its mission to educate the Denver Community, Denver Audubon provides wildlife education trips to schools, birders, corporate groups and others who want to experience and learn about birds and their environment. (Ann Bonnell Decl. ¶ 5, ECF 49-4.) These programs are so successful because of the Park's infrastructure, its incredibly diverse environment, and its proximity to Denver. (Ex. 1, Norm Lewis Decl. ¶ 11.)

Removing it would diminish, or prohibit altogether, Denver Audubon's ability to offer these services that are the core of its organizational mission. (Ann Bonnell Decl. ¶ 5, ECF 49-4.)

The Corps may argue, as it did in the EIS, that the environmental harms caused by this project will be fully mitigated. However, as the Supreme Court stated in *Amoco*, environmental injury is often permanent or long lasting. *Amoco*, 480 U.S. at 545. Even if the Corps does mitigate these impacts by replacing vegetation in the Park and elsewhere, it will take decades for that vegetation to mature to the point where it is able to support the diverse wildlife that the existing vegetation can. (Ex. 1, Norm Lewis Decl. ¶ 7.) Much of this replacement will not mitigate the harm suffered by Denver Audubon because the majority of it will occur outside the Park, some of it on private land inaccessible to Denver Audubon's members. AR036570.

The harm that will occur to Denver Audubon should the implementation of the Project be allowed is irreparable in the sense that it is permanent or long lasting and cannot be compensated by monetary damages. The loss of habitat that will occur should the underbrush and vegetation be removed cannot be adequately replaced. As a result, Denver Audubon members will no longer be able to bird or peacefully enjoy the serenity of the Park, and the organization will no longer be able to fulfill its mission to connect people with nature through conservation, education, and research.” (Ex. 1, Norm Lewis Decl. ¶ 11.)

B. Because this Project has begun and will continue to expand, these harms are likely to occur prior to the Court making a decision on the merits.

While the Court has reviewed its claims, Denver Audubon has refrained from attempting to enjoin the implementation of this project. However, as the CRMC began construction activities on December 4, 2017, Denver Audubon faces the threat of continuing and imminent irreparable harm. Because it would appear that the opposing parties are proceeding with implementing the Project before the Court can make a decision on the merits, Denver Audubon respectfully requests that the Court enjoin the CRMC and the Corps from continuing to move forward with the Project until it makes a decision, which according to opposing counsel is expected to be soon.

The schedule indicates that construction on the recreational facilities along with the mitigation at Plum Creek are the first steps of the Project. The irreparable harm from this construction will begin immediately. The noise from the construction machinery will hinder the organization’s members’ ability to quietly enjoy the peaceful environment of the Park, and it will scare away any birds in the area eliminating the ability for private and

educational birding. (Ex. 1, Norm Lewis Decl. ¶ 8.) This will occur even before the contractor breaks ground because staging these elaborate construction projects will require it to close the areas in order to move in machinery. (Ex. 4, Gene Reetz Decl., Attach. D.) Therefore, the harm is likely to occur prior to a decision on the merits of Denver Audubon's claims.

One of the first stages of the modifications to recreational facilities is the removal of any underbrush and "wood debris" that the Corps believes will pose safety hazards to boaters. (Ex. 4, Gene Reetz Decl., Attach. E.) This will destroy essential habitat for birds and other animals, irreparably harming Denver Audubon's members and the organization itself. Because this is one of the first steps of the construction that began on December 4, 2017, it is likely that the irreparable harm it will cause to Denver Audubon will occur prior to a decision on the merits.

If the Corps continues to approve various portions of the implementation of this Project, and the Intervenor is allowed to continue construction, Denver Audubon will suffer irreparable harm. The environmental interests of Denver Audubon will be significantly impacted because its members will no longer be able to peacefully enjoy the Park and engage in any birding. Because construction has already begun throughout the areas of the Park that the members use, this harm is imminent. Therefore, the further implementation of the Project should be enjoined until the Court makes a decision on the merits of this case.

II. Denver Audubon is substantially likely to succeed on the merits because the Corps' approval of the Project was arbitrary and capricious and not in accordance with the law.

As shown in Denver Audubon's briefs, this Project was approved based on a faulty CWA analysis and is the result of arbitrary and capricious decisionmaking. (Pet'r Opening Br. at 16) (ECF 49). The Corps failed to select the Least Environmentally Damaging Practicable Alternative ("LEDPA") as required by the CWA, failed to perform an adequate alternatives analysis in the EIS, and it did not foster informed decisionmaking. *Id.* Therefore, Denver Audubon is substantially likely to succeed on the merits.

- A. The Corps violated the CWA by segmenting the Project in order to avoid having to compare all four NEPA alternatives in its 404 analysis, and as a result it did not choose the LEDPA.*

The Corps not only failed to abide by its own regulations, but it also departed from established precedent without a reasoned explanation by failing to use the NEPA alternatives as a basis for its 404(b)(1) analysis. (ECF 49 at 17.) Instead the Corps unlawfully segmented the Project and only analyzed alternatives to the proposed recreational modifications. *Id.* at 23. This meant that the Corps chose Alternative 3 to the Project, which is the **most** environmentally damaging alternative. *Id.* at 21. Because the administrative record shows that the Corps failed to abide by its own regulations and departed from precedent by arbitrarily segmenting this project under its 404(b)(1) analysis, it is likely that Denver Audubon will succeed on the merits of its CWA claim.

- B. The Corps failed to comply with NEPA, which requires an agency to evaluate all reasonable alternatives and foster informed decisionmaking and public participation.*

As discussed in Denver Audubon's opening brief, the Corps' approval of this project was not in accordance with the law because it eliminated some alternatives due to the fact that they would not solely accomplish the purpose and need and another alternative

because it required action by a third party. (ECF 49 at 30.) In addition, the Corps made incorrect assumptions regarding future water rights holders and used misleading, non-standard terms regarding water yield when conducting the EIS. *Id.* at 42. Therefore, Denver Audubon has shown that it is substantially likely to succeed on the merits of its NEPA claims.

III. Because the harms suffered by Denver Audubon are irreparable and any harm suffered by the opposing parties as a result of this injunction would be minimal, the balance of the harms weighs in favor of Denver Audubon.

Any harm from a temporary delay to the start of construction on the Project caused by this injunction would be outweighed by the environmental harm suffered by Denver Audubon and its members absent this injunction. The Corps will likely not suffer any harms as a result of this delay because it is not responsible for funding or completing any of the construction associated with the recreational modification. AR041043. Any harms suffered by the Intervenor as a result of a short term injunction would be extremely minimal. The injunction would only enjoin the parties from continuing with the implementation of the project until the Court issues a decision on the merits, which the Court has indicated will be soon. Furthermore, any harms the opposing parties would suffer would be “self-inflicted” because they have “jumped the gun” by starting the construction before the completion of ongoing litigation. *Valley Cmty.*, 373 F. 3d 1078 at 1086-87.

The Intervenor may claim that this injunction harms their ability to provide increased water storage for public use. However, similar to the harm in *League of Wilderness*, the harm imposed by this injunction would be de minimis when diminished to reflect the limited amount of time the injunction will be in place. Any delay would be minor

when compared to the amount of time this project will take to complete and would not likely impact the date that the Intervenor could start storing water. Therefore, the irreparable harm Denver Audubon is likely to suffer absent this injunction outweighs any minimal and self-inflicted harm it would impose on the opposing parties.

IV. This injunction would not be adverse to the public interest because it would maintain the status quo and vindicate the public interest served by the CWA and NEPA.

The public has an undeniable interest in compliance with NEPA and the enforcement of the CWA. *Colorado Wild*, 523 F.Supp.2d at 1223; *Sierra Club* 2009 U.S. Dist. LEXIS 73922, at *51. Because Denver Audubon is seeking this injunction to prevent the implementation of a federal project that does not comply with either NEPA or the CWA, it is actually in the public interest.

V. Because this Court has discretion when deciding whether to require security, and Denver Audubon is seeking to vindicate the public interest served by NEPA, this Court should waive the surety bond.

A surety bond, in the context of a preliminary injunction, is used to pay the “costs and damages” affecting an enjoined party when it is determined upon appeal that it has been wrongfully enjoined. Fed. R. Civ. P. 65(c). However, Rule 65(c) does not mandate that a surety bond always be posted by the moving party. *RoDa Drilling*, 552 F.3d at 1215. Furthermore, in cases where a party is seeking to vindicate the public interest served by NEPA, a minimal bond amount should be considered. *Davis v. Mineta*, 302 F.3d 1104, 1126 (10th Cir. 2002).

This court should exercise its discretion to waive a security bond because: (1) the Corps is attempting to commence construction on a project that is the result of a faulty

CWA analysis and arbitrary and capricious decisionmaking, making it unlikely that the Corps will be wrongfully enjoined; (2) Denver Audubon is seeking to vindicate the public interest served by the CWA and NEPA; and (3) Denver Audubon is a public interest organization with limited ability to secure a bond. (Ex. 7, Karl Brummert Decl. ¶ 3.)

Conclusion

For the foregoing reasons, this Court should grant Denver Audubon's Motion for Preliminary Injunction. Denver Audubon has been made aware that this Court plans to make a decision "relatively soon". If the Court plans to make its decision prior to issuing an order on this motion, and that decision is in Denver Audubon's favor, Denver Audubon requests a permanent injunction. Conversely, if the decision is not in its favor, it requests an injunction pending appeal.

Dated: December 8, 2017

Respectfully submitted,

/s/ Kevin J. Lynch

Kevin J. Lynch

Tim Estep

Sameh Afifi (Student appearance pending)

Macklin Henderson (Student appearance pending)

Environmental Law Clinic

University of Denver Sturm College of Law

2255 E. Evans Ave., Denver, Colorado 80208

Phone: 303-871-6140 klynch@law.du.edu

For Petitioner Audubon Society of Greater Denver

Certificate of Service

I certify that on December 8, 2017 I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to all Counsel of Record.

/s/ Kevin J. Lynch

Movant's List of Exhibits

Exhibit 1	Declaration of Norm Lewis
Exhibit 2	Declaration of Mary Keithler
Exhibit 3	Declaration of Karl Brummert
Exhibit 4	Declaration of Gene Reetz
Exhibit 5	Declaration of Polly Reetz

Exhibit G

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenors-Respondents.

EXHIBIT 1 — DECLARATION OF NORM LEWIS

I, Norm Lewis, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge and experience. If called as a witness, I could and would testify to these facts. As to those matters that reflect an opinion, they reflect my personal opinion and judgment on the matter.
2. I have been a member of the Audubon Society of Greater Denver (“Denver Audubon”) for 20 years.
3. I have been birding for 33 years, and I am an experienced field ornithologist.
4. I am the past president of Denver Ornithologists, and I lead all of the birding trips for the Denver Museum of Nature and Science.

5. In both my personal capacity and in my capacity as an educator, I frequently bird and lead birding expeditions throughout Chatfield State Park (“the Park”). On these expeditions I often visit the densely vegetated areas surrounding the Swim Beach, the Marina, the Plum Creek Delta and the Southwest day use areas.

6. Based on the specialized knowledge I have acquired through my 33 years of experience as a field ornithologist, I can confidently say that Chatfield is one of the most important birding areas in the state of Colorado. This is because, through the maturation of vegetation, the Park has developed a diverse ecosystem consisting of multiple different types of habitats.

7. The removal of this habitat will destroy the recreational value of the park in terms of birding. The bird habitat located in the woodlands around the shore, including the Swim Beach and Southwest day use areas, contains all three necessities for bird life: food, water, and shelter. If this habitat is destroyed it will likely take decades for a similar ecosystem to develop forcing the birds that currently live in this area to move elsewhere.

8. Furthermore, aside from the removal of habitat, the noise, vibrations, and dust created from construction related activities in these areas would likely clear the area of any wildlife. Birds are creatures of habit that do not tolerate disturbance, and the effects of this construction will likely cause a disturbance that forces them out of the area. This would make these areas useless from a birding perspective and would eliminate my ability to peacefully use and enjoy them.

9. Lastly, the eventual flooding of the park and the mud ring that would surround the reservoir in dry years will cause further damage to the birding habitat throughout the Park.

10. In my opinion as an individual, birding is my life, and all three of the major consequences of this Project will diminish my ability to bird at Chatfield in the name of urban sprawl. This is likely to keep me from returning to the Park in the future.

11. In my opinion as a member of Denver Audubon, the implementation of this project would be a major setback for the organization. The organization established its headquarters in the Park because it is one of the best birding destinations in Colorado, is very close to the Denver Metro Area, and has the unique benefit of having the infrastructure of one of the State's most utilized parks. The degradation of the birding environment that this project would cause through construction disturbance, removal of habitat, and ultimately, the flooding of the park will have significant negative impacts on the organizations ability to fulfill its mission of "connecting people with nature through conservation, education, and research."

/s/ Norm Lewis

Exhibit H

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenors-Respondents.

EXHIBIT 3 — DECLARATION OF KARL BRUMMERT

I, Karl Brummert, declare as follows:

1. The facts set forth in this declaration are based on my job position, personal knowledge, and experience. If called as a witness, I could and would testify to these facts.
2. I am the Executive Director of Audubon Society of Greater Denver (Denver Audubon).
3. Denver Audubon is a public interest organization with limited ability to secure a bond.

I declare under the penalty of perjury that the foregoing is true and correct and was executed this 6th day of December, 2017.

/s/ Karl Brummert
Karl Brummert

Exhibit I

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenors-Respondents.

EXHIBIT 4 — DECLARATION OF GENE REETZ

I, Gene Reetz, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge and experience. If called as a witness, I could and would testify to these facts. As to those matters that reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. In reference to my interest in birding and my concern over the unmitigatable impacts of the Chatfield Reallocation Project (Project), as explained in my earlier declaration, (Gene Reetz Decl. ¶6, ECF 49-2), I have become very concerned about the irreparable harm that the construction work of the Project will cause.

3. I have looked at the Chatfield Reallocation project website and attended the two public meetings sponsored by the project proponents in order to be informed on construction activities.

4. Given that the available information was limited, I contacted Mr. Tim Feehan, Construction Manager of the Chatfield Mitigation Company (“CRMC”) via e-mail on November 7, 2017 (Attachment A) with specific questions about what was occurring and what was planned regarding on-site construction activities.

5. Mr Feehan responded back, via e-mail on November 8, 2017 (Attachment B), that they were developing a response to my e-mail and would get back to me.

6. On November 20, 2017, Mr. Tom Browning (Project Manager, CRMC) sent me an e-mail (Attachment C) which referred me to the project website (which I was already familiar with), but did not answer any of my specific questions. Mr. Browning specifically stated that: “Our main source of information moving forward will be on the web at www.chatfieldreallocation.org,” and that the source of the tree management plan can be found at <https://chatfieldreallocation.org/environment/#treemanagement>.

7. I visited the Park on Thursday, December 7, and noticed that construction work has already started at the Park. I took the photos below of the construction equipment at the site and the closed access roads because of construction. I have visited the Park many times and am familiar with the Park. I took the below photos myself. The photos show a fair and accurate representation of the site as of December 7, 2017.



8. I am aware of the Construction Schedule and have read the Tree Management Plan (Attachments D and E) that I downloaded from the Project's website that Mr. Browning from CRMC referred me to, and I am concerned about the adverse impacts to Chatfield State Park. Consequently I hope that we can have the construction work at Chatfield State Park stopped to avoid irreparable harm, until the court respectfully decides on the merits.

9. I declare under the penalty of perjury that the foregoing is true and correct and was executed this 7th day of December, 2017.

/s/ Gene Reetz

Gene Reetz

Attachment – A

Mr. Gene Reetz's email message to Mr. Tim Feehan, Construction Manager of the Chatfield Mitigation Company (CRMC) on November 7, 2017

Mr. Feehan,

The original FEIS and associated documents for the Chatfield Reallocation Project basically called for cutting & clearing all vegetation below the 5,444 ft elevation. This would have been disastrous for Chatfield State Park, particularly all the wildlife for which the cottonwood gallery forest and under-story vegetation are crucial. Fortunately, the subsequent adaptive management and tree management plan seem to indicate a more responsive approach.

Some of the information on the project website, as well as the two "open houses" partially clarify what is currently envisioned. However, I would appreciate further clarification so that I fully understand what is intended.

< It is my understanding the the Colorado State Forest Service has, or will be, developing the "tree management plan". When will this be available for public review?

< The blue marked trees and debris are scheduled to be removed. Regardless of the location, if there is no blue flagging that vegetation will remain, correct?

< Aluminum tags indicate tree that are to be monitored over time. Who will actually do the monitoring and what will they be looking for?

< What exactly does the pink, yellow, and orange flagging on trees/vegetation indicate ?

< Will all the trees and other vegetation remain as is in the Deer Creek area?

< Apparently there will be different "prescriptions" for tree/vegetation management for different elevations. What are those prescriptions and for what elevations?

On a separate issue, during a recent visit to the Park, I notice extensive flagging (red, blue, and yellow) on the ground at various locations. What do the various colors indicate?

If meeting in person would be a better way of responding to my questions, I would be pleased to come to your office at some mutually convenient time.

Lastly, I know that questions regarding project impacts and mitigation are shared by many other folks and I would encourage the mitigation company to consider hosting a half-day, on-site, at key locations session to discuss tree management plans and other on-the-ground activities associated with the reallocation. While the off-site "open houses" were somewhat useful, an on-site/on-the-ground perspective would be much more informative.

Thanks for your consideration.

Gene R. Reetz, Ph.D.
470 Clayton Street
Denver, CO 80206

Phone: 303-333-2164
E-mail: greetz470@comcast.net

Attachment – B

Mr. Tim Feehan's reply to Mr. Gene Reetz on November 8, 2017

Re: Chatfield Reallocation Project: Tree management & recent flagging

Tim Feehan

Sent Tim Feehan On: Nov 11/08/17 4:37

By: PM

To: Gene

Cc: Rick McLoud; Scott Roush; Rob Harris; Bill Ruzzo; David Howlett; polly reetz; Ann Bonnell; Tom Browning

Message

Hi Gene:

Thanks for your e-mail. We are currently working on developing a response to your e-mail. We should have a response back to you by next week.

On Tue, Nov 7, 2017 at 2:58 PM, Gene Reetz <grreetz470@comcast.net> wrote:
Mr. Feehan,

The original FEIS and associated documents for the Chatfield Reallocation Project basically called for cutting & clearing all vegetation below the 5,444 ft elevation. This would have been disastrous for Chatfield State Park, particularly all the wildlife for which the cottonwood gallery forest and under-story vegetation are crucial. Fortunately, the subsequent adaptive management and tree management plan seem to indicate a more responsive approach.

Some of the information on the project website, as well as the two "open houses" partially clarify what is currently envisioned. However, I would appreciate further clarification so that I fully understand what is intended.

< It is my understanding the the Colorado State Forest Service has, or will be, developing the "tree management plan".
When will this be available for public review?

< The blue marked trees and debris are scheduled to be removed. Regardless of the location, if there is no blue flagging that vegetation will remain, correct?

< Aluminum tags indicate tree that are to be monitored over time. Who will actually do the monitoring and what will they be looking for?

< What exactly does the pink, yellow, and orange flagging on trees/vegetation indicate ?

Appendix – C

. Tom Browning's reply (Project Manager, CRMC) to Mr. Gene Reetz on November 20, 2017

Chatfield Reallocation - Tree Management

Tom Browning

Sent Tom Browning On: Nov 11/20/17 9:08

By: AM

To: grreetz470@comcast.net

Cc: Tim Feehan; Rick McLoud; Roush -
DNR, Scott; rob harris; Bill; david; polly
reetz48; abonnell@juno.com

Message

Good morning, Gene-

I'm responding to an earlier message you had sent to Tim regarding questions about tree management for the reallocation project. Our team has been spending a significant amount of time updating the project website in order to keep the public informed about current and planned activities.

We invite you to view the following web information to help answer your specific questions:

<https://chatfieldreallocation.org/environment/#treemanagement>

Thanks for your suggestion about additional open house events. We don't have any planned at this time. Our main source of information moving forward will be on the web at www.chatfieldreallocation.org along with social media postings, small cards and fact sheets at the park entrance stations (coming soon), and e-newsletters.

I hope you and Polly are doing well. Feel free to stop by the office sometime for a cup of coffee. It would be great to catch up with Ann too.

Take care, and Happy Thanksgiving!

Regards,
Tom Browning

email: tombrowning.crmc@gmail.com
mobile: 720-289-1264

Appendix – D

Chatfield Construction Schedule



Chatfield Storage Reallocation Project (CSRP)

The CSRP is a partnership between federal and state entities and eight water providers in the Denver Metro area and northeast Colorado.

The project stakeholders have been working for more than two decades to prepare for this project and want the mitigation work to be done with as little impact on visitors as possible. Project benefits include:

- Increased sustainable water supply for present and future generations
- Enhanced valuable ecological resources such as:
 - Planting of over 100,000 plants, trees, and shrubs
 - Stream restoration and stabilization
 - Extensive erosion and sediment control

Existing recreational amenities and facilities will again be offered upon completion of the project.

- New ADA compliant structures and facilities in reallocated areas
- Improved road surfaces; trails replaced in-kind

About 10% of the added water storage is dedicated to the Environmental Pool, increasing the flow of the South Platte River, enhancing the river's health, increasing recreational activities and supporting agricultural operations downstream.

The Adaptive Tree Management Plan will protect visitors and dam operations by removing debris and unhealthy trees from the fluctuation zone while also conserving healthy trees and maintaining important bird and wildlife habitat.

CONSTRUCTION

The project participants have formed the Chatfield Reservoir Mitigation Company, Inc. (CRMC) to implement the CSRP. The CRMC is committed to minimizing the impact to park visitors and has scheduled construction activities for the fall, winter and spring months. Please refer to the reverse side of this handout for 2017 / 2018 construction activities. For the most current updates on construction, please visit our website chatfieldreallocation.org/construction.

Chatfield State Park

While the Corps owns and operates the dam and reservoir, it leases land and the reservoir to Colorado Parks and Wildlife (CPW) to operate Chatfield State Park, Colorado's most visited state park with more than 1.6 million visitors annually.

History

Chatfield Reservoir, built in 1975 by the U.S. Army Corp of Engineers (Corps) as flood control, also provides storage space for multipurpose water including municipal, industrial, agricultural, and recreational uses, as well as maintenance of fisheries and wildlife habitat. Since 1986, the Corps and stakeholders studied the water supply benefits of additional water storage in Chatfield Reservoir and determined that up to 20,600 acre-feet could be reallocated for additional water storage, raising the water level by 12 feet, with no impact to the reservoir's flood control function.

On May 29, 2014, the Corps approved the final Feasibility Report/Environmental Impact Statement for the Chatfield Storage Reallocation Project (CSRP) that allowed the recreation and environmental mitigation efforts to move forward.

Colorado's population is projected to nearly double by 2050, according to Colorado's Water Plan. The additional water storage at Chatfield Reservoir will serve as an integral part of storing surface water and reducing dependency on non-renewable groundwater.

CONTACT US

Website: chatfieldreallocation.org/construction
Phone: 1-855-387-4660

Facebook: facebook.com/ChatfieldReallocation/
Twitter: twitter.com/ChatfieldWater
Instagram: instagram.com/chatfieldreallocation/

FALL 2017 — SPRING 2018 PARK CLOSURES

NORTH BOAT RAMP

CLOSED December 1, 2017
Anticipated to reopen April 1, 2018

MASSEY DAY USE AREA

CLOSED December 4, 2017
Anticipated to reopen May 1, 2018

EAGLE COVE DAY USE AREA

CLOSED January 15, 2018
Anticipated to reopen May 1, 2018

DEER CREEK DAY USE AREA / BALLOON LAUNCH

CLOSED December 4, 2017
Anticipated to reopen May 25, 2018

SWIM BEACH

CLOSED December 4, 2017
Anticipated to reopen May 25, 2018

JAMISON DAY USE AREA

CLOSED December 4, 2017
Anticipated to reopen May 25, 2018

CATFISH FLATS DAY USE AREA

CLOSED December 4, 2017
Anticipated to reopen July 1, 2018

FOX RUN DAY USE AREA

CLOSED December 4, 2017
Anticipated to reopen July 1, 2018

PLUM CREEK DAY USE AREA

CLOSED November 20, 2017
Anticipated to reopen Spring 2018

PLUM CREEK NATURE AREA

CLOSED November 13, 2017
Anticipated to reopen Fall 2018

FALL 2017 — SPRING 2018 ROAD CLOSURES

WEST PERIMETER ROAD

Swim Beach to west of King Fisher

CLOSED 24/7
December 4, 2017 - May 25, 2018

North of Swim Beach to Dog Off Leash Area

Open Daily: 5:00 am - 10:00 pm
CLOSED NIGHTLY: 10:00 pm - 5:00 am

Construction Traffic Begins at 6:00 pm
December 4, 2017 - March 1, 2018

PERIMETER ROAD

King Fisher to south of Heron Viewing Area

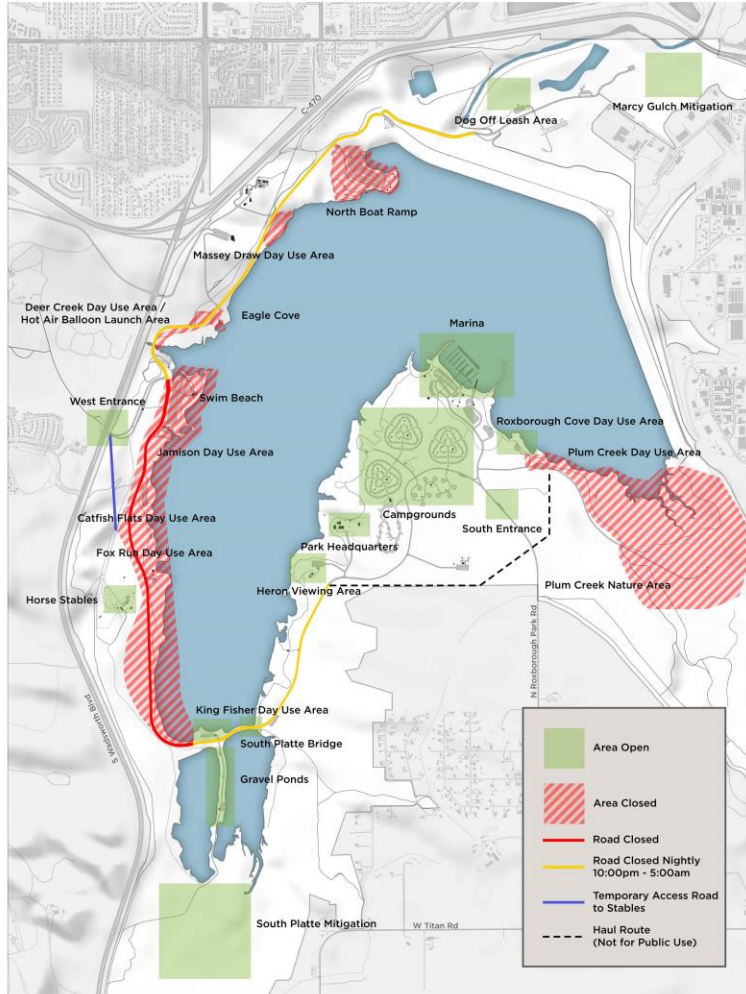
Open Daily: 5:00 am - 10:00 pm
CLOSED NIGHTLY 10:00 pm - 5:00 am

Construction Traffic Begins at 6:00 pm
December 4, 2017 - March 1, 2018

PEDESTRIAN AND BIKE TRAILS

All pedestrian and bike trails along the west side of the park from North Boat Ramp to King Fisher Day Use Area

CLOSED December 4, 2017
Anticipated to reopen May 25, 2018



FALL 2017 — SPRING 2018 OPEN AMENITIES

DOG OFF LEASH AREA

Access via West Park Entrance only

MARINA

Access via South Park Entrance only

CAMPGROUNDS

Access via South Park Entrance only

ROXBOROUGH COVE DAY USE AREA

Access via South Park Entrance only

MODEL AIRPLANE RUNWAY

Access via South Park Entrance only

HERON VIEWING AREA

Access via South Park Entrance only

KING FISHER DAY USE AREA

Access via South Park Entrance only

GRAVEL PONDS

Access via South Park Entrance only

HORSE STABLES

Access via temporary access road from West Park Entrance only

PARK HEADQUARTERS & ENTRANCES

Park Headquarters and the West and South Entrances will remain open during normal park hours



For a quick overview, watch the [Chatfield Storage Reallocation Project Video](#)

Call us toll free at: **1-855-387-4660**
or contact us at: info@chatfieldreallocation.org

Attachment – E

Tree Management Plan

CHATFIELD STORAGE REALLOCATION PROJECT

TREE MANAGEMENT

OBJECTIVES: Protect safety of Park visitors by removing dead trees and debris that will be below the higher lake level and keep healthy trees along the new shoreline



ASSESSMENT

Summer 2017

- Blue paint markings on dead/dying trees and invasive trees
- Map location and tag healthy trees and wildlife areas
- Establish 3 tree monitoring plots (5 year monitoring)



DEMONSTRATION

Summer 2018

- Establish a demonstration plot (10 to 15 acres)
- Remove blue marked trees and wood debris
- Tag healthy trees and wildlife habitat to stay
- Evaluate best methods and cost basis for tree management



MANAGEMENT

Fall 2018

- Remove blue marked trees and wood debris in the fluctuation zone around the lake
- Leave important wildlife, bird and endangered species habitat intact
- Monitor the health of trees for 5 years

What can you do to help us improve the health of trees in the Park? Leave flagging and aluminum tags in place.

TO LEARN MORE, VISIT OUR WEBSITE, EMAIL OR CALL OUR HOTLINE AT:
www.chatfieldreallocation.org | info@chatfieldreallocation.org | 1-855-387-4660



**Chatfield Storage
Reallocation Project**

Exhibit J

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,
Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, Omaha District,
Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,
Intervenors-Respondents.

EXHIBIT 5 — DECLARATION OF POLLY REETZ

I, Polly Reetz, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge and experience. If called as a witness, I could and would testify to these facts. As to those matters that reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. In reference to my interest in birding and my concern over the unmitigatable impacts of the Chatfield Reallocation Project (Project), I have become very concerned about the irreparable harm that the construction work of the Project will cause.

3. As a long-time birder, I can see one very pressing problem for Audubon members that we will soon have to face because of the construction work. This problem is related to the impact of construction on the Christmas Bird Counts.

4. The Denver Count will occur on Dec. 16, and it includes both the West side of the reservoir and the Plum Creek drainage within the Park. The closures in the park because of construction, as depicted on the Chatfield Reallocation website, will severely handicap the Audubon members who are conducting the Count in those areas.

5. The Denver Christmas Bird Counts at Chatfield have been conducted since 1974, usually in mid-December, and the information collected on the Counts is sent to the Cornell Laboratory of Ornithology, where it is compiled with Christmas Bird Counts across the nation and later published. All of this data can be made available for scientific study and interpretation, so they are an important resource.

6. The gap in the record of accurate annual Christmas bird counts, caused by closures related to construction work at the Park this year, will irreparably harm the scientific research data and information that Denver Audubon members depend on.

I declare under the penalty of perjury that the foregoing is true and correct and was executed this 7th day of December, 2017.

/s/ Polly Reetz

Polly Reetz

Exhibit K

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge Philip A. Brimmer

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,

Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS,

Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
CENTRAL COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,

Intervenor Respondents.

ORDER

This matter is before the Court on petitioner's Petition for Review of Agency Action [Docket No. 1] and Petitioner's Opening Brief for Review of Agency Action [Docket No. 49] challenging respondent's actions in approving the Chatfield Reallocation Project. Petitioner's claims arise under the federal Administrative Procedures Act ("APA"), the National Environmental Policy Act ("NEPA"), and the Clean Water Act ("CWA"). The Court has subject matter jurisdiction under 28 U.S.C. § 1331 and 5 U.S.C. § 702.

I. BACKGROUND

Petitioner Audubon Society of Greater Denver (“the Audubon Society”) challenges respondent United States Army Corps of Engineers’ (“the Corps”) plan to reallocate 20,600 acre-feet of water in Chatfield Reservoir from flood control to storage for municipal and industrial use. Docket No. 1.

Chatfield Reservoir is a reservoir located in Chatfield State Park along the South Platte River southwest of Denver, Colorado. The reservoir was constructed as part of the Chatfield Dam and Lake Project, which Congress authorized in 1950. See Flood Control Act of 1950, Pub. L. No. 81-516, 64 Stat. 163, 175; R. at 036125. The Corps began construction of the dam used to create the reservoir in 1967. R. at 036141. In 1974, the Corps leased the area to the State of Colorado to form Chatfield State Park. R. at 036142. The reservoir is surrounded by open space containing forests and rolling plains that are home to a variety of plants and wildlife. R. at 036154. Chatfield State Park has numerous recreation facilities including hiking trails, picnic areas, and boating facilities. *Id.*; R. at 036142.

In 1986, Congress legislated modifications to the reservoir that authorized the Secretary of the Army (“the Secretary”), “in coordination with the Colorado Department of Natural Resources [(“CDNR”)] and upon the Chief of Engineers’ finding of feasibility and economic justification, to reassign a portion of the storage space in the Chatfield Lake.” Water Resources Development Act of 1986 (“WRDA”), Pub. L. No. 99-662, § 808, 100 Stat. 4082, 4168.2. Under the WRDA, the storage space is to be reassigned “to joint flood control-conservation purposes, including storage for municipal and industrial water supply, agriculture, and recreation and fishery habitat protection

and enhancement.” *Id.* Congress conditioned the reassignment on the non-federal participants’ agreement to reimburse the Corps for the associated costs. *Id.* The non-federal participants are the water providers, who would supply the water to be stored in the added storage capacity and who include intervenor-respondents. See Docket No. 17; Docket No. 17-2 at 5-9; R. at 035125. In 2009, Congress authorized the CDNR to perform mitigation and modifications of the reservoir to reallocate reservoir capacity to storage space provided that the Secretary and the CDNR “determine costs to be repaid for storage that reflects the limited reliability of the resources and the capability of non-Federal interests to make use of the reallocated storage space in Chatfield Reservoir, Colorado.” Omnibus Appropriations Act of 2009, Pub. L. No. 111-8, § 116, 123 Stat. 524, 608.

The Corps and the Colorado Water Conservation Board (“CWCB”) formed the Chatfield Reservoir storage reallocation study (“the study group”) to research possibilities for the reallocation project. R. at 036127. Beginning in 2007, the Audubon Society participated in the study group as a special technical advisor. R. at 006932.

The study group developed objectives for the project in light of “the main problem being defined as increasing water demand in the Denver Metro area.” R. at 036153. “The purpose and need” of the project was determined to be “to increase availability of water, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial (M&I) water, sustainable over the 50-year period of analysis, in the greater Denver Metro area so that larger proportion of existing and future water needs can be met.” *Id.* The “average year yield” was defined as the “the average amount of water per year that the water providers (not including Hock Hocking or Parker

WSD) would have been able to store in Chatfield during the 1942-2000 period of record (POR) if Chatfield Dam had existed during the entire POR.” *Id.* The project was not intended to be a comprehensive solution, but a “component in the overall effort to meet the water supply needs of the greater Denver Metro area and . . . contribute to meeting portion of those needs.” *Id.* Some constraints on the project were the need to avoid compromising the reservoir’s original flood protection purpose, to maintain the park’s recreation facilities, and to maintain the “diverse array of habitats that are important to many fish and wildlife species, including the federally-protected Preble’s meadow jumping mouse.” R. at 036154; *see also* R. at 036176-77 (identifying various constraints “unique to the project that alternative plans should avoid”).

The study group performed an “initial screening” of an “initial set of concepts [that] was identified based on problems and opportunities . . . to increase the water supplies for the South Platte River Basin.” R. at 036179. Applying criteria based on the purpose, need, and identified constraints, the study group narrowed a group of thirty-eight initial concepts to a set of four alternative plans (“the Alternatives”) that would be evaluated in detail. R. at 036181. The four Alternatives were:

1. No Action—Penley Reservoir combined with Gravel Pit Storage. Under the No Action Alternative flood control storage space within Chatfield Reservoir would not be reallocated to joint flood control-conservation storage (hereafter referred to as conservation or water supply storage/pool), and the operation of the reservoir would remain the same. For this alternative it was assumed the water providers would use Penley Reservoir and gravel pit storage to meet their future water needs. The water providers would newly construct Penley Reservoir and would install the infrastructure needed to convert existing gravel pits for water storage.

2. Least Cost Alternative to Chatfield Reservoir storage

reallocation—NTGW¹ combined with Gravel Pit Storage. Normally the No Action Alternative is also the Least Cost Alternative. However, the water providers participating in the Chatfield Reservoir reallocation study are opposed to long-term use of NTGW due to water supply management strategies of becoming less dependent on non-renewable water supplies. For this study, it is assumed that NTGW could provide water to a significant part of upstream water providers through the 50-year planning period, and downstream water providers would be served by the development of gravel pits for water storage.

3. Reallocation to allow an additional 20,600 acre-feet of Water Supply Storage. The 20,600 Acre-Foot Reallocation Alternative would reallocate storage from the flood control pool to the conservation pool. The additional storage would be used for M&I water supply, agriculture, recreation, and fishery habitat protection and enhancement purposes. Under this alternative, the base elevation of the flood control pool would be raised from 5,432 to 5,444 feet msl² but the reallocation of storage for this proposal involves only the volume between 5,432 and 5,444 feet msl.

4. Reallocation to allow an additional 7,700 acre-feet of Water Supply Storage combined with NTGW and Gravel Pit Storage. The 7,700 Acre-Foot Reallocation Alternative, like Alternative 3, would reallocate storage from the flood control pool to the conservation pool for multiple purposes. Again the additional storage would be used for M&I water supply, agriculture, recreation and fishery habitat protection and enhancement purposes. Because the average year yield from Chatfield Reservoir storage reallocation for Alternative 4 is less than the average year yield for Alternative 3, additional water supply sources (NTGW and downstream gravel pit storage) are also included in Alternative 4 so that the total average year yield equals 8,539 acre feet, but the reallocation of storage for this proposal involves only the volume between 5,432 and 5,437 feet msl.

R. at 036132-036133.

In July 2013, the Corps issued its Final Integrated Feasibility

¹ The abbreviation “NTGW” refers to non-tributary ground water, R. at 036104, which is “groundwater that is essentially unconnected to surface streams and is an exhaustible resource.” R. at 36166.

² The abbreviation “feet msl” refers to the elevation, i.e., feet above mean sea level. R. at 36104.

Report/Environmental Impact Statement (“FR/EIS”) and invited public comment. R. at 036105. The Corps selected Alternative 3, reallocation of 20,600 acre-feet of reservoir capacity to storage, “because it is the alternative that minimizes the cost of supplying water,” R. at 036557, and because it “would fully meet the purpose of and need for the project, which is to increase the availability of water sustainable over the 50-year period of analysis, in the greater Denver Metro area so that larger proportion of existing and future water needs can be met.” R. at 036567.³

Because Alternative 3 raises the maximum water level of the reservoir by twelve feet, areas along the previous shoreline will be submerged. R. at 036567. Trees and large plants in the newly flooded areas would be removed before the water level is increased because they would pose a hazard to boats if they were left behind. R. at 036374, 036429. Additionally, recreation facilities set to be submerged would be removed and rebuilt at higher elevations. R. at 036568. This relocation of recreational facilities would require some dredging and result in a discharge of fill material into the reservoir. R. at 036569. The increase in water levels is expected to “primarily result in greater and more frequent reservoir pool fluctuations at Chatfield Reservoir,” i.e., that

³ See *also* R. at 036153:

The primary objective of the reallocation is to help enable water providers to supply water to local constituents, mainly for municipal, industrial, and agricultural needs, in response to rapidly increasing demand. Chatfield Reservoir is well placed to help meet this objective, because the reservoir provides relatively immediate opportunity to increase water supply storage without the development of significant amounts of new infrastructure, it lies directly on the South Platte River (efficient capture of runoff), and it provides an opportunity to gain additional use of an existing federal resource.

the elevation of the reservoir's surface will vary more widely than before. R. at 036105. This is expected to lead to a reduced recreational enjoyment of the park because the "unvegetated shoreline," as it is called in the FR/EIS, or "unappealing and unusable mudflats," as it referred to by petitioner, will be visible more often. R. at 036549; Docket No. 49 at 16.

Alternative 3 includes a compensatory mitigation plan that provides for environmental mitigation within the park and at off-site locations by, for example, protecting additional habitat and planting trees. R. at 036570, 036573-84. The Corps found that the impacts to environmental resources will be "fully compensated" by the proposed mitigation. R. at 036573. In a separate analysis, contained in Appendix W to the FR/EIS, the Corps determined that Alternative 3 complied with Section 404 of the CWA. R. at 038956-86. The Corps found that the "discharges and impacts to waters of the U.S. including wetlands of these reasonably foreseeable actions are minor and when combined with discharge of dredge and fill material for the relocation of recreation facilities and environmental mitigation would have minor cumulative effects on the aquatic ecosystem of Chatfield Reservoir and its watershed." R. at 038978

On May 24, 2014, the Corps issued a Record of Decision ("ROD") formally approving its selection of Alternative 3 as the plan for the project going forward. R. at 041875-76.

II. STANDARD OF REVIEW

Pursuant to the Administrative Procedure Act ("APA"), 5 U.S.C. § 701 *et seq.*, the Court must determine whether an agency action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

The scope of this review is narrow. See *Colo. Wild, Heartwood v. U.S. Forest Service*, 435 F.3d 1204, 1213 (10th Cir. 2006) (citing *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). “An agency’s decision is arbitrary and capricious if the agency (1) ‘entirely failed to consider an important aspect of the problem,’ (2) ‘offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise,’ (3) ‘failed to base its decision on consideration of the relevant factors,’ or (4) made ‘a clear error of judgment.’” *New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 704 (10th Cir. 2009) (citation omitted). When reviewing an agency’s factual determinations, the Court “ask[s] only whether the agency took a ‘hard look’ at information relevant to the decision.” *Id.*

“In addition to requiring a reasoned basis for agency action, the ‘arbitrary or capricious’ standard requires an agency’s action to be supported by the facts in the record.” *Olenhouse v. Commodity Credit Corp.*, 42 F.3d 1560, 1575 (10th Cir. 1994). An agency’s decision, therefore, is arbitrary if not supported by “substantial evidence.” *Id.* “Evidence is substantial in the APA sense if it is ‘enough to justify, if the trial were to a jury, a refusal to direct a verdict when the conclusion to be drawn is one of fact.’” *Id.* (citation omitted).

A presumption of validity attaches to the agency action and the burden of proof rests with the appellants who challenge such action. *Citizens’ Comm. to Save Our Canyons v. Krueger*, 513 F.3d 1169, 1176 (10th Cir. 2008). The deference given to an

agency action “is especially strong where the challenged decisions involve technical or scientific matters within the agency’s area of expertise.” *Utah Envtl. Cong. v. Bosworth*, 443 F.3d 732, 739 (10th Cir. 2006).

III. DISCUSSION

A. Standing

Neither respondent nor intervenors challenge the standing of petitioner to bring this appeal. However, even when standing is uncontested, the party seeking redress bears the burden of establishing standing. *Colorado Outfitters Ass’n v. Hickenlooper*, 823 F.3d 537, 544 (10th Cir. 2016) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)). To carry this burden, petitioner must show “(1) an injury in fact, (2) a sufficient causal connection between the injury and the conduct complained of, and (3) a likelihood that the injury will be redressed by a favorable decision.” *Id.* at 543 (internal quotation marks and alteration marks omitted); *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). As an organization with members, petitioner can establish standing either in its own right or on behalf of its members. *Sierra Club v. Morton*, 405 U.S. 727, 739 (1972). The Court finds that petitioner has established standing at least with respect to member Ann Bonnell, who specifically identifies how her recreational and aesthetic interests would be harmed by the proposed alterations to Chatfield State Park. Docket No. 49-4 at 5, ¶ 11; *see also Summers v. Earth Island Inst.*, 555 U.S. 488, 494 (2009) (“While generalized harm to the forest or the environment will not alone support standing, if that harm in fact affects the recreational or even the mere esthetic interests of the plaintiff, that will suffice.” (citing *Morton*, 405 U.S. at 734-36)).

B. National Environmental Policy Act

1. Statutory Framework

NEPA declares the federal government's policy to "use all practicable means and measures, including financial and technical assistance . . . to create and maintain conditions under which man and nature can exist in productive harmony." 42 U.S.C. § 4331(a). To that end, NEPA imposes a requirement on federal entities to take a "hard look" at the environmental impact of a proposed action. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). NEPA was intended to ensure that agencies "consider environmentally significant aspects of a proposed action, and, in so doing, let the public know that the agency's decisionmaking process includes environmental concerns." *Utahns for Better Transp. v. United States Dep't of Transp.*, 305 F.3d 1152, 1162 (10th Cir. 2002).

Before an agency may take a "major Federal action[] significantly affecting the quality of the human environment," it must prepare an in-depth environmental impact statement ("EIS"). 42 U.S.C. § 4332(C); *see also Silverton Snowmobile Club v. U.S. Forest Serv.*, 433 F.3d 772, 780 (10th Cir. 2006).⁴ Agencies must begin the NEPA evaluation process as early as possible so that the EIS serves to ensure incorporation of environmental values into the decisionmaking process, instead of rationalizing it after

⁴ If a proposed federal action will not have a "significant" environmental impact, an agency may satisfy NEPA by preparing an environmental assessment, which is a "concise public document" that provides "sufficient evidence and analysis" for the agency to determine whether it needs to prepare an EIS or, instead, can issue a finding of no significant impact ("FONSI") for the action in question. 40 C.F.R. § 1508.9(a). An environmental assessment need only include "brief discussions" of the need for the proposal, alternatives, and environmental impacts of both the proposed action and its alternatives. 40 C.F.R. § 1508.9(b).

the fact, and to avoid downstream delays. 40 C.F.R. §§ 1501.2, 1502.5. An EIS is an “action-forcing” device with two primary purposes: (1) to ensure that the decisionmaker “will have available, and will carefully consider, detailed information concerning significant environmental impacts,” and (2) to make information available to the public, which “may also play a role in both the decisionmaking process and the implementation of that decision.” *Robertson*, 490 U.S. at 349. An EIS must address the environmental impact of the proposed action; adverse effects that cannot be avoided; mitigation measures; alternatives to the proposed action, including a no-action alternative; direct, indirect, and cumulative impacts of the proposed action; and any “irreversible and irretrievable commitments of resources” entailed in implementing the proposed action. 42 U.S.C. § 4332; *see also* 40 C.F.R. § 1508.25; 40 C.F.R. § 1502.14 (the discussion of alternatives “is the heart of the environmental impact statement” and it “should present the environmental impacts of the proposal and the alternatives,” including the “alternative of no action,” and the agency must identify its “preferred alternative”).

Although NEPA imposes procedural requirements on federal agencies, NEPA does not dictate the substantive results of an agency’s analysis, and “[s]o long as the record demonstrates that the agencies in question followed the NEPA procedures, which require agencies to take a ‘hard look’ at the environmental consequences of the proposed action, the court will not second-guess the wisdom of the ultimate decision.” *Utahns for Better Transp.*, 305 F.3d at 1163 (quoting *Robertson*, 490 U.S. at 350).

2. Alleged NEPA Violations

Petitioner alleges that the Corps violated NEPA by (1) using the term “average year yield” as the measure of water that would become available due to the project; (2)

relying on water rights assumptions that were outdated when the FR/EIS was issued; and (3) failing to evaluate reasonable alternatives to the chosen project. Docket No. 49 at 7.

a. “Average Year Yield”

Petitioner argues that the Corps’ use of the term “average year yield” in the FR/EIS to discuss the project’s goals “violated NEPA’s requirement for informed public participation” because it is an “arbitrarily creation” that the Corps “made up.” Docket No. 49 at 48-49. Instead, petitioner claims that the Corps should have used the “standard industry” term “safe yield” to describe how much water the project would reliably provide. *Id.* at 48. In petitioner’s view, the use of novel terminology was deceptive to the public because use of the standard terminology “would have made plain that the project would reliably increase water storage in the region by 0 acre feet.” *Id.* at 48-49 (emphasis removed).

The Corps’ *Handbook on Water Supply Planning and Resource Management* (“Handbook”) does not use the term “average year yield.”⁵ R. at 00849. The Handbook defines the term “yield” as the “quantity of water which can be taken, continuously, for

⁵ Petitioner also argues that the Corps should have used the term “firm yield,” which it likewise characterizes as standard. Docket No. 49 at 48. Petitioner, however, does not explain the meaning of “firm yield” or other terminology that it references, such as “dependable yield” or “dependable yield mitigation water.” *Id.* at 48-52. “Firm yield” is used in the Handbook, but is not defined in the Handbook. Petitioner does reference an internal Corps presentation stating: “Yield - also known as firm yield and dependable yield is the maximum sustainable flow at some point in time during the most adverse sequence of stream flow (critical period).” R. at 010741. Because this indicates the definition of “firm yield” and “dependable yield” is the same as that of “yield,” which is defined in the Handbook in a manner very similar to its definition in the presentation, the Court will confine its discussion to the terms “yield” and “safe yield.”

any particular economic use. For municipal and industrial water supply purposes, this is normally taken as the flow which can be guaranteed during the 50-year drought on 98% dependability.” R. at 00883. The Handbook defines the term “safe yield” as the “maximum quantity of water which can be reliably available throughout the most severe drought of record, or some other specified criterion.” *Id.* The term “average year yield” does not appear to be a term regularly used by the Corps, but is defined in the documents related to the project.

The term “average year yield” is defined in the Purpose and Need Statement of the FR/EIS Executive Summary as the “average amount of water per year that the water providers (not including Hock Hocking or Parker WSD) would have been able to store in Chatfield during the 1942-2000 period of record [(“POR”)] if Chatfield Dam had existed during the entire POR.” R. at 036153. The FR/EIS further explains how the value was calculated “for each water provider . . . based on inflows during each year of the POR, the effective date of each water provider’s water rights, a maximum total storage for all water providers of 20,600 acre-feet, and whether water providers had effluents (non-natural flows) from water rights upstream that could be recaptured in Chatfield for later re-use.” *Id.* The FR/EIS states that, because of “relatively low inflows in most years and the relatively low seniority of water rights held by the water providers, 20,600 acre-feet would have been able to be stored in Chatfield Reservoir in only 16 of the 59 years in the POR.” *Id.*

It is apparent that there is a discrepancy between the definition of the term “yield” in the Handbook and how the term is used in the FR/EIS within the term “average year yield.” Under the Handbook definition, “yield” refers to the amount of water that can be

taken for a particular use. In the industrial and water supply context – water from the project is intended for such purposes, see R. at 036104 – yield is determined based on availability in a 50-year drought. “Safe yield” similarly refers to water available in a record drought. By contrast, the term “average year yield” refers to the amount of water that would be available to be stored at Chatfield Reservoir in an average year, rather than water that can be taken to be put to use during a drought. But, the issue is not whether these terms are used as one might expect without the definitions contained in the FR/EIS, but rather whether the Corps’ use of “average year yield” prevented meaningful public participation.

Courts apply a “rule of reason standard (essentially an abuse of discretion standard) in deciding whether claimed deficiencies in a [FR/EIS] are merely flyspecks, or are significant enough to defeat the goals of informed decisionmaking and informed public comment.” *Lee v. U.S. Air Force*, 354 F.3d 1229, 1237 (10th Cir. 2004) (citing *Utahns for Better Transp.*, 305 F.3d at 1163). In the context of the overall project purpose, i.e. storage, and the definitions provided, there is little reason to believe that the Corps’ chosen terminology hindered public participation. In particular, the difference between storing the water for later use, as contemplated by the project, and taking water for immediate use, as the term “yield” is used in the Handbook, is a distinction that is readily understood. Average year yield as defined provides an understandable and relevant measure in context – it is the amount of water that could be stored in an average year. By contrast, petitioner’s preferred “safe yield” terminology would provide little information in the storage context. Petitioner’s emphasis that the safe yield of the project is zero is simply a restatement of the truism

that there would not be water to store during a record drought. This fact is hardly surprising. The use of the challenged terminology does nothing to detract from the FR/EIS presenting “a reasonable, good faith, objective presentation of the topics [NEPA] requires” it to address in order to allow for public participation. *Custer Cty. Action Ass’n v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001) (internal quotation marks omitted).

b. Outdated Water Rights Assumptions

Petitioner argues that the Corps improperly relied on water rights assumptions that were outdated at the time the ROD issued. Docket No. 49 at 44. In particular, petitioner notes that the average year yield calculations in the FR/EIS, i.e., the amount of water that would be stored in the reservoir in an average year, were based on the water rights held by the fifteen initial participants in the project. *Id.* at 45 (citing R. at 036929). By the time the ROD was issued, several of the participant water providers were no longer involved in the project or were in the process of withdrawing. *Id.* (citing R. at 036150). The project includes a mechanism to reassign the storage capacity of such former participants through the CWCB, and petitioner does not argue that the storage capacity would go unclaimed. *Id.* at 46; see *also* R. at 036152 (discussing the “mechanism to transfer allocation ownership” and disclosing various changes in water providers). Rather, petitioner argues that it is possible that the new water providers who claim the storage capacity will have less-senior water rights than the former participants, leading to less water being stored in the reservoir. Docket No. 49 at 46-

47.⁶ Petitioner argues that such potential changes in the seniority of the participants' water rights could have unknown environmental impacts and the FR/EIS "needs to be remanded to the Corps to fully analyze the range of future impacts." *Id.* at 45.

Respondent argues that it disclosed that participants were withdrawing from the project and the under the "rule of reason" it was "entitled to rely on the best information available at the time it makes a decision and [was] not required to speculate or hypothesize about possible project participants or . . . seniority rights of every possible unknown party or any potentially resulting environmental impacts." Docket No. 54 at 51. The Corps notes that the FR/EIS states that changes in the water providers could alter the environmental impacts of any of the project proposals, and it discusses how management of reservoir operations could impact the water level. *Id.* at 52-53 (citing R. at 036369; R. at 036371; R. at 036376). The Corps claims that fluctuating water levels were an environmental risk common to all alternatives and, therefore, the issue would have made no difference in the selection of the preferred alternative. *Id.* at 53 n.23.

The Tenth Circuit has clarified that an agency needs to do more than merely "disclose the presence of uncertainty as to environmental consequences in order to comply with NEPA." *Lee*, 354 F.3d at 1241 n.7. Rather, even if there is "incomplete or unavailable information," an agency must evaluate "information relevant to reasonably foreseeable significant adverse impacts" unless such information "cannot be obtained

⁶ As explained in the FR/EIS, water rights are based on a "prior appropriation" seniority system whereby more senior rights holders have first claim on available water over more junior participants. R. at 036257. The FR/EIS explains that the "water rights of the sponsoring water providers are relatively junior in seniority, and the sponsors would be able to store water only when their water rights were 'in priority,' or during 'run of the river' high river flows." R. at 036176.

because the overall costs of obtaining it are exorbitant or the means to obtain it are not known.” 40 C.F.R. § 1502.22(b). In such cases, the agency must include in the EIS:

(1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

40 C.F.R. § 1502.22(b)(1). “Again, however, these steps are only required in regard to ‘reasonably foreseeable significant adverse impacts.’” *Lee*, 354 F.3d at 1241 (quoting 40 C.F.R. § 1502.22(b)).

The record reflects that the Corps expected that no reasonably foreseeable significant adverse environmental impacts would result specifically from changes to the water rights held by the water suppliers. Rather, the Corps’ analysis shows that it did not believe that potential changes in the water suppliers’ rights would have a significant impact on pool elevation, or any corresponding environmental impact, in light of the other factors involved in determining flows and the planned active management of the pool elevation. *See, e.g.*, R. at 036376, 036406. The FR/EIS contains the results of the Corps’ attempts to model future flows based on historical data from the POR, but acknowledges the limits of that data in predicting the future. *See* R. at 036391. The FR/EIS acknowledges that the chosen alternative would have the greatest expected “magnitude of pool elevation fluctuations,” with fluctuations of “up to 21 feet (from the historical low elevation of 5,423 feet msl to the maximum elevation under Alternative 3 of 5,444 feet msl).” R. at 036406. The maximum pool elevation, i.e., a reservoir filled

to the non-flood limit, is acknowledged to be the exception rather than the rule because, based on historical data, it would be achieved on only 18% of days.⁷ *Id.*; see also R. at 36235, 36435 (reporting various expected pool elevations during the growing season based on historical data). The FR/EIS extensively discusses the potential impacts of such pool fluctuations on the environment. See, e.g., R. at 036407, 036418-20, 036435-40. The report also discusses how many different factors, beyond the water and storage rights held by the water providers, alter inflow and outflow from the reservoir and, therefore, pool elevation. Additional factors expected to alter the flows include climate change,⁸ changes in demand for water,⁹ evaporation,¹⁰ availability of

⁷ Increased pool elevation is, in relation to flood control, a double-edged sword – the increased volume of stored water at higher pool elevations decreases the ability of the reservoir to be used to hold excess water during a flood and thereby prevent downstream flooding. See R. at 036135. The Corps concluded, however, that the risk of such increased flooding was minimal at the levels proposed. See R. at 036176. Even with the reallocation, the maximum pool elevation of 5,444 ft. msl remains well below the spillway crest elevation of 5,500 ft. msl with a remaining flood control pool capacity of approximately 186,179 acre-feet capacity. See R. at 039074.

⁸ See, e.g., R. at 036164 (“More mid-winter precipitation throughout the state is predicted, and in some areas, a decrease in late spring and summer precipitation. Regardless of precipitation, the timing of spring runoff is projected to shift earlier in the spring, and late-summer flows may be reduced. . . . Furthermore, there is potential for increased drought severity in the region due to higher temperatures alone.”); R. at 036391 (“Although the historical data represent wide range of possible future flow conditions, it is possible that future flows may include periods of wet or dry conditions that are outside the range observed in the historical record, particularly as a result of climate change and increased hydrologic variability.”).

⁹ See, e.g., R. at 036165 (“Drought conditions, especially since 2002, have caused concern among residents and political leaders. Calls on senior water rights that had previously never been called out occurred in 2002, and reservoir surface elevations reached unprecedented low levels, bringing about mandatory water use restrictions.”).

¹⁰ Among other factors, evaporation varies with temperature and the reservoir’s surface area. R. at 36397. The Corps’ projections do not account for other factors

return flows, drier periods (drought),¹¹ wetter periods (including flooding), groundwater levels,¹² and construction of additional upstream reservoirs.¹³

The reservoir acts as a waystation in the broader hydrological system. The reservoir's inflows principally depend on environmental factors and its outflows depend on water demands by downstream, senior water rights holders. R. at 036388 ("Under any of the alternatives, when flows enter the reservoir, the first commitment would be to meet senior water rights needs. Once those needs were met, any excess flow would be retained in the available storage of the reservoir."). But the plan includes a framework for water supply management to determine when and how to store additional water at the reservoir, referred to as adaptive management. R. at 036416; *see also* R. at 036388. Adaptive management takes into consideration pool elevation and anticipated inflow as well as environmental factors such as water quality and maintaining minimum flows downstream. R. at 036416-17, 036426-27; *see also* R. at 037522-63. Additionally, it uses streamflow regulation in upstream reservoirs to make better use of high-flow periods.¹⁴ The process is meant to be iterative, with study and

affecting evaporation. R. at 36392.

¹¹ *See, e.g.*, R. at 036264 ("Drought is a regular feature in Colorado.").

¹² *See, e.g.*, R. at 036266 ("Water discharged to alluvial aquifers can contribute to the flow in the aquifers or streams adjacent to them or can be lost to evapotranspiration.").

¹³ *See, e.g.*, R. at 036391.

¹⁴ *See, e.g.*, R. at 036265 ("Mean flow for the entire period of record is 231 cfs. Flows provided by streamflow regulation via Antero and Spinney Reservoirs are sustained throughout the year. These base flows allow Chatfield Reservoir operators to minimize potential impacts to the reservoir caused by rapid spring runoff or large storm

analysis used to alter future management decisions. R. at 037527.

In sum, the FR/EIS shows that the water rights held by the water providers are only one factor among many that affect the pool elevation, discusses a plan for adaptive reservoir management to compensate for the various factors affecting pool elevation, and discusses the environmental impact of the fluctuations in pool elevation. Petitioner does not dispute any of this background, but nonetheless argues that the FR/EIS should have included a specific analysis of the potential environmental impact of changes in water rights' seniority. Docket No. 49 at 45. The Court disagrees.

It is unclear what, if any, benefit to public participation would have resulted or could result from further such analysis by the Corps. The FR/EIS explains that water rights will impact pool elevation and that there are various expected environmental impacts depending on the amount of such fluctuation. But pool elevation is based on multiple factors and it is not apparent that one of those factors can, or should, be looked at in isolation. Moreover, there is substantial evidence in the FR/EIS that potential changes in water rights in isolation will have minimal impact. In particular, the FR/EIS discloses that the "water rights of the sponsoring water providers are relatively junior in seniority," meaning that there is little likelihood that potential water providers will have materially more junior rights. R. at 036130; *see also* R. at 36208 ("The water rights of the 12 water providers that would allow them to store water in Chatfield Reservoir are, in general, very junior in their relative priority and therefore they are expected to be in priority relatively infrequently."). The FR/EIS also provides

events.")

information on the limited impact that the withdrawal of particular water providers had on the water rights to be stored and the relevant flows impacting pool elevation. See, e.g., R. at 036152 (discussing acquisition of storage rights of water providers by new participants). The FR/EIS discloses that:

Following the review of the draft FR/EIS, the city of Brighton, a downstream user, withdrew from the project. Brighton had an allocated storage amount of 1,425 acre-feet. Its shares were picked up by upstream users in the following amounts: Centennial (1,181 acre-feet), Castle Pines Metro (125 acre-feet), and Castle Pines North (119 acre-feet). Brighton's withdrawal from the project will change the with-project flows presented in the FR/EIS slightly but *would be a small change to an insignificant impact*. It should be noted that 1425 acre-feet of storage would yield less than 500 acre-feet per year or less than one cfs spread over the year. *This amount of change would not have a measurable impact on streamflow along the South Platte River.*

R. at 036406 (emphasis added). Thus, the FR/EIS does not focus in particular on the potential environmental impact of potential changes in water rights, but it contains substantial evidence that any changes will have a limited impact and also discloses the Corps' plans for adaptive management of the reservoir based on the relevant factors. By providing an extensive discussion of the potential environmental impact of fluctuations in pool elevation, the Corps has shown that it took the requisite "hard look" at the environmental impacts of its chosen alternative and provided the public with the information necessary to understand and participate in the selection process. Accordingly, the Court finds that the FR/EIS's lack of a specific discussion of the environmental impact of potential water rights changes is not "significant enough to defeat the goals of informed decisionmaking and informed public comment." *Lee*, 354 F.3d at 1237 (10th Cir. 2004) (citing *Utahns for Better Transp.*, 305 F.3d at 1163).

c. Consideration of Alternatives

The Corps was required to “[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” 40 C.F.R. § 1502.14(a). As part of this analysis, the Corps, in addition to any other reasonable alternatives, needed to “identify and analyze its preferred alternative, as well as a null or ‘no action’ alternative that would occur if the agency elected to maintain the current state of affairs unchanged.” *Colorado Env’tl. Coal. v. Salazar*, 875 F. Supp. 2d 1233, 1245 (D. Colo. 2012) (citing 40 C.F.R. § 1502.14). When assessing an agency consideration of alternatives, the Court must apply a “rule of reason.” *New Mexico ex rel. Richardson*, 565 F.3d at 709.

The reasonableness of the alternatives considered is measured against two guideposts. First, when considering agency actions taken pursuant to a statute, an alternative is reasonable only if it falls within the agency’s statutory mandate. Second, reasonableness is judged with reference to an agency’s objectives for a particular project.

Id. (citations omitted).

Petitioner argues that the Corps failed to consider certain reasonable alternatives to the preferred alternative. Specifically, petitioner argues that the Corps should have considered “enhanced water conservation, upstream gravel pits for water storage, and the already-existing Rueter-Hess Reservoir for water storage.” Docket No. 49 at 36. Petitioner argues that the Corps’ basis for rejecting these possibilities was impermissible under the NEPA and should be rejected. *Id.*

i. Enhanced Water Conservation

Petitioner claims that the Corps improperly rejected water conservation as an incomplete alternative. Docket No. 49 at 37. In particular, petitioner faults the Corps for failing to “actually analyze how much water supplies could be increased through more aggressive conservation.” *Id.* at 38.

The Corps responds that it devoted significant analysis to water conservation and did not reject conservation as merely incomplete. Rather, the Corps argues that the goal of the project is increasing supply, a goal that cannot be accomplished through conservation. Docket No. 54 at 47.¹⁵

The record shows that the Corps addressed water conservation during the administrative process, but did not consider it as part of the Alternatives. See R. at 036844-61. In addition to several pages in the main text of the FR/EIS, one appendix of the FR/EIS is dedicated to discussing the actions water providers plan to take to increase water conservation regardless of the project. R. at 036166 (“Some examples of conservation efforts that have been used in the Denver Metro area include education, rebates for low-flush toilets and high efficiency washing machines, water use audits, landscape and irrigation system audits, and tiered water rate structures.”); R. at 036844-61 (Appendix AA, *Summaries of Water Provider’s [sic] Water Conservation Programs*); see also R. at 036187 (“All 12 water providers recognize the importance of incorporating aggressive and meaningful water conservation efforts in their

¹⁵ Similarly, the intervenors argue that the Corps correctly treated water conservation as an “independent parallel action” that would be undertaken by the water providers along with any of the project alternatives. Docket No. 56 at 9 (quoting R. at 036203).

operations.”). Water conservation is discussed as a means of reducing future increases in demand for water, but, in contrast to increased storage, it is not seen as a means to increase the amount of available water. R. at 036187 (“Each of these entities is part of the reallocation project because they need additional water, which is ever increasingly costly and difficult to acquire.”). Ultimately, the FR/EIS concludes that further conservation measures would not “result in the elimination or lessening of the dependence on the groundwater supplies,” R. at 036187, or be “adequate to make up for the shortfall in water needed by the water providers to meet current and future water needs over the next 50-year period.” R. at 036193; see *also* R. at 036167. Essentially, the FR/EIS acknowledges the importance of the water providers’ conservation plans, discusses the role of water conservation, and concludes that conservation does not meet the project’s goal of increasing water storage and availability.

With this background, it is apparent that petitioner’s argument that the Corps improperly failed to discuss how water conservation could increase water supply is a non-sequitur. As stated in the FR/EIS, “[c]onservation helps to stretch existing resources, but does not solidify additional needed water supplies.” R. at 036187. Thus, conservation may allow the water providers to slow the increasing demand for water, but there is no indication that water conservation could help accomplish the project’s main goal, i.e., increasing greater Denver’s water supply. The FR/EIS clearly contemplates the role of increased conservation efforts in overall water planning, but does not consider water conservation as a component of any specific Alternative. The Court finds this approach reasonable. See *City of Alexandria, Va. v. Slater*, 198 F.3d 862, 867 (D.C. Cir. 1999) (“[A]n alternative is properly excluded from consideration in

an environmental impact statement only if it would be reasonable for the agency to conclude that the alternative does not ‘bring about the ends of the federal action.’” (quoting *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (D.C. Cir. 1991)).¹⁶ Including enhanced water conservation as part of an Alternative, as petitioner proposes, would not have altered the Corps’ task under NEPA – to determine which Alternative would best meet the project’s goals, i.e., increasing storage capacity and water availability – while disclosing and evaluating environmental impacts of the Alternatives. *Citizens’ Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1032 (10th Cir. 2002). The Court will not second-guess the Corps’ well-supported determination not to include water conservation as a means to achieve the project’s goals as part of an Alternative, instead of as a separate consideration. See *Colorado Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999) (upholding an agency’s decision to dismiss from consideration certain opportunities that did not advance the objectives of the project).

ii. Upstream Gravel Pits

Petitioner argues that the Corps improperly failed to consider using upstream

¹⁶ Petitioner does not ask the Court to review whether the goals of the project themselves were reasonable, see Docket No. 49 at 38; therefore, the separate question of whether enhanced water conservation could have alleviated the need for increased storage is not before the Court. *Cf. City of Alexandria*, 198 F.3d at 867 (“We engage in both of these inquiries—whether an agency’s objectives are reasonable, and whether a particular alternative is reasonable in light of these objectives—with considerable deference to the agency’s expertise and policy-making role.”) (citation omitted); see *also* R. at 036167 (“Estimated demand met by identified projects and processes, as well as additional water conservation, totals 319,100 acre-feet per year (about 78 percent of future needs), leaving a 90,600 acre-foot gap (or 22 percent) in the South Platte River Basin.”).

gravel pits for water storage when it did consider using downstream gravel pits as part of certain Alternatives. Docket No. 49 at 39, 43. Petitioner focuses in particular on the upstream Titan ARS gravel pit, which was found to be able to store 4,500 acre-feet of water.¹⁷ *Id.* at 39.

The Corps argues that its explanation in the FR/EIS that “[r]eallocation of storage less than 7,700 acre-feet was considered by the water providers to provide too little water supply benefits for the costs involved” is sufficient. R. at 036176; *see also* Docket No. 54 at 48. The FR/EIS also states that the use of upstream gravel pits was eliminated due to the “logistical difficulties of combining reservoirs to meet the storage requirements of the project.” R. at 036197.

The FR/EIS lists the numerous possibilities the Corps considered during its preliminary review as well as the criteria used to determine the alternatives that would be given detailed consideration. R. at 036179-85. Among the criteria used were “[l]ogistics and technology,” including “[d]esign and construction feasibility” and “[o]perational feasibility.” R. at 036179-80. The Corps is not required to consider an unlimited number of alternatives and has broad discretion in defining the goals of the project. *See Colorado Env'tl. Coal.*, 875 F. Supp. 2d at 1245 (“[T]he phrase ‘all other reasonable alternatives’ is not entirely open-ended. To define the boundaries of the range of alternatives that must be considered, the agency must first define the objectives of the proposed action, a task in which the agency enjoys considerable

¹⁷ Petitioner claims there is record evidence that the Titan ARS pit could potentially store up to 11,000 acre-feet of water, Docket No. 49 at 39, but the only evidence cited is a letter offering to provide a separate report allegedly indicating that the pit could store that amount “when expanded.” R. at 039473.

discretion.”) (citation omitted). An agency “may also reject alternatives that are not ‘significantly distinguishable from the alternatives already considered’ or under consideration.” *Id.* (quoting *New Mexico ex rel. Richardson*, 565 F.3d at 708-09). Here, petitioner faults the Corps for not analyzing an alternative using upstream pit storage, but does not explain how such an alternative would differ materially from Alternative 2, which included downstream pit storage. Nor does petitioner argue that the logistical difficulties of combining multiple storage options and a minimum of 7,700 acre-feet of added storage referred to in the FR/EIS are not a reasonable, good-faith criteria for determining whether a possibility is practical or effective in achieving the project’s goals. *See Wyoming v. U.S. Dep’t of Agric.*, 661 F.3d 1209, 1244 (10th Cir. 2011) (“NEPA does not require agencies to analyze the environmental consequences of alternatives it has in good faith rejected as too remote, speculative, or . . . impractical or ineffective.” (quoting *Citizens’ Comm. to Save Our Canyons*, 297 F.3d at 1030)). The Corps was only required to “‘briefly discuss’” the reasons that possible options were eliminated from detailed study as plan alternatives. *Utahns for Better Transp.*, 305 F.3d at 1166 (quoting 40 C.F.R. § 1502.14(a)). The Court finds that it did so. The FR/EIS satisfied NEPA by explaining that the upstream pits did not meet the project’s storage requirements and referring to the logistical difficulties of combining storage options. *See All Indian Pueblo Council v. United States*, 975 F.2d 1437, 1445 (10th Cir. 1992) (holding that a reviewing court’s “job is not to ‘second-guess the experts’ in policy matters but rather it is to determine ‘whether the statement is a good faith, objective, and reasonable presentation of the subject areas mandated by NEPA.’” (quoting

Manygoats v. Kleppe, 558 F.2d 556, 560 (10th Cir. 1977)).

iii. Rueter-Hess Reservoir

Petitioner argues that the Corps improperly failed to give detailed consideration to using the Rueter-Hess Reservoir as an alternative to the chosen project. Docket No. 49 at 40-43. Petitioner claims that the rationales provided in the FR/EIS and in response to public comments are too conclusory and not supported by the record. *Id.* at 42. In particular, petitioner argues the Corps could not reject using the Rueter-Hess Reservoir based on needing action by a third party because the project is an integral part of addressing a broader water problem. *Id.* at 41 (citing *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 835 (D.C. Cir. 1972)).

The Corps responds that its explanation was sufficient and that it reasonably limited the alternatives considered in detail to those within its jurisdiction that could address the “discrete, regional problem” that the project targeted. Docket No. 54 at 49.

Rueter-Hess Reservoir is located approximately 9.5 miles south of Chatfield Reservoir and is owned and operated by the Parker Water and Sanitation District (“PWSD”), one of the project’s original participants. R. at 036184. It was expanded from 2008-2012. R. at 036516. The Rueter-Hess Reservoir is not located along the South Platte River and its water allocation is subscribed and permitted by a separate authority. R. at 036198. The FR/EIS explained that:

The reservoir . . . is anticipated to primarily meet the needs of PWSD in serving its customers. Since completion of the expansion in 2012, PWSD has not made any additional capacity available for sale. . . . Therefore, [it was] eliminated from further consideration.

Id. The Court finds this discussion is sufficient to satisfy the Corps’ obligation to “briefly

discuss” why the option was eliminated from detailed consideration in the FR/EIS. 40 C.F.R. § 1502.14(a).¹⁸

Further, the situation here contrasts with the situation at issue in *Morton*, 458 F.2d 827, where the court held that the EIS should have evaluated a broad range of alternatives outside the agency’s authority. In *Morton*, the court faulted the EIS for only discussing alternatives that were within a single agency’s authority where multiple agencies were tasked by the President with responding to a national crisis. *Id.* at 835. Here, by statute, the Corps was given responsibility (in coordination with CDNR) for evaluating changes to the allocation of water storage in the Chatfield Reservoir. See WRDA, § 808. Accordingly, because what constitutes a “reasonable alternative” is determined with reference to the project’s objectives, the NEPA did not require the Corps to discuss a broad range of alternatives beyond those within the Corps’ authority. See *City of Alexandria*, 198 F.3d at 869 (holding that *Morton*’s broad scope of reasonable alternatives would “make little sense for a discrete project within the jurisdiction of one federal agency”). Moreover, the Rueter-Hess Reservoir expansion had already been completed when the FR/EIS and ROD were issued, and there is no suggestion it could be further expanded to increase future water availability. See R. at 036516. Petitioner argues, in effect, that, after the expansion of the Rueter-Hess Reservoir, the project’s participants should have simply bought storage capacity in the

¹⁸ Petitioner also argues the Corps’ response to public comments that, for many project participants, using the Rueter-Hess Reservoir would require additional infrastructure was “factually incorrect,” but goes on to state that the Corps was still “working on permitting” some related infrastructure as part of another project. Docket No. 49 at 40 n.6; see also R. at 037197. Petitioner does not point to any record evidence that undercuts the Corps’ stated rationales.

Rueter-Hess Reservoir, rather than increasing storage elsewhere. See Docket No. 49 at 42. Had the participants done so, it would have done nothing to accomplish the project's goal of increasing water availability, but instead would have simply transferred pre-existing storage capacity to different water providers. R. at 036167 (discussing how existing projects and anticipated conservation will not satisfy expected future demand). Accordingly, the Court finds that petitioner has not shown that the Corps violated the NEPA.

C. Clean Water Act

1. Statutory Framework

The CWA is intended to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” 33 U.S.C. § 1251(a). Dredged and fill materials are defined as pollutants under the CWA. 33 U.S.C. § 1362(6). In certain circumstances, however, Section 404 of the CWA authorizes the Corps to issue permits “for the discharge of dredged or fill material into the navigable waters.” 33 U.S.C. § 1344. The waters of the United States at issue in this case are the reservoir and the wetlands in Chatfield State Park. R. at 038958. Where, as here, the discharge in question is caused by the Corps itself, the Corps must apply the same analysis it would before issuing a permit for a discharge to another entity. 33 C.F.R. § 336.1(a).

The Corps must not issue a permit for a discharge of dredged or fill material (or allow its own such discharge) “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.”

40 C.F.R. § 230.10(a). Such a favored alternative is referred to as the least environmentally damaging practicable alternative or “LEDPA.” “An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2).¹⁹ Where no less damaging, practicable alternative is available, the applicant must show that all “appropriate and practicable steps” will be taken to “minimize potential adverse impacts of the discharge on the aquatic ecosystem.” 40 C.F.R. § 230.10(d). The Corps is required to balance “benefits which reasonably may be expected to accrue from the proposal” against the proposal’s “reasonably foreseeable detriments.” 33 C.F.R. § 320.4(a)(1).

The Section 404 Guidelines require the Corps to consider “both individual and cumulative impacts” of the proposed project, as well as practicable alternatives that would have less adverse impact on aquatic systems. 40 C.F.R. §§ 230.6, 230.10(a). Where multiple sites in an “interrelated wetland area” are potentially affected, the impacts on the whole area will be evaluated together because “the cumulative effect of numerous piecemeal changes can result in a major impairment of wetland resources.” 33 C.F.R. § 320.4(b)(3).

¹⁹ Although not at issue here, there is a presumption that practicable alternatives exist that do not involve special aquatic sites when the proposal is not water dependent. 40 C.F.R. § 230.10(a)(3); *see also Del. Riverkeeper Network v. Sec’y of Pa. Dep’t Env’tl. Prot.*, 870 F.3d 171, 180 (3d Cir. 2017) (“If a project is water dependent, like a dam, it is impossible to construct without impacting an aquatic site.”). Thus, when performing the Section 404 analysis, the Corps must first evaluate whether the project’s purpose is water dependent. *See Sierra Club v. Van Antwerp*, 709 F. Supp. 2d 1254, 1260 (S.D. Fla. 2009), *aff’d*, 362 F. App’x 100 (11th Cir. 2010) (citations omitted) (“*Van Antwerp*”).

2. *Alleged CWA Violations*

Petitioner argues that the Corps violated the CWA by failing to select the least environmentally damaging practicable alternative. Docket No. 49 at 22. First, petitioner argues that the Corps' CWA analysis was improper because it failed to use the same alternatives used for the NEPA analysis to determine the LEDPA. *Id.* at 24 (citing 40 C.F.R. § 230.10(a)). Had the Corps used the NEPA alternatives, petitioner claims that the selected project could not have been selected because "Alternative 3 is the most damaging alternative and therefore could not be chosen as the LEDPA." *Id.* at 25. Second, petitioner argues that, by considering only the recreational facility modifications when considering alternatives under the CWA, the Corps improperly segmented the project. *Id.* at 29. Under NEPA, it is improper for an agency to segment and separately analyze actions that are "connected" because such actions are "closely related and therefore should be discussed in the same impact statement." 40 C.F.R. § 1508.25. Petitioner argues that this so-called "anti-segmentation rule" should apply under the CWA as well. Docket No. 49 at 33. Specifically, petitioner claims that the relocation of the recreational facilities is connected to the project as a whole and, therefore, it was improper for the Corps not to consider the whole project when evaluating alternatives under the CWA. *Id.*²⁰ In both of its arguments, petitioner challenges the scope of the

²⁰ Petitioner also argues that communications within the Corps, and the Corps' discussions with the EPA, show that the Corps incorrectly applied the law. Docket No. 49 at 31-32; Docket No. 58 at 8-10. The Corps acknowledges that some agency employees and the EPA initially disagreed that the Section 404 analysis should be performed only in reference to the portion of the project that would lead to a discharge, but it ultimately agreed that the Corps' analysis was proper. Docket No. 54 at 32. But, as the Corps correctly points out, only the agency's ultimate decision is reviewed. *Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 659 (2007); *Ctr. for Biological*

Corps' LEDPA analysis, not the substance of the analysis the Corps performed. See Docket No. 58 at 4.

The Corps responds that it properly developed and evaluated alternatives based on the "overall project purpose for the activity requiring a discharge into waters of the United States." Docket No. 54 at 25 (citing 40 C.F.R. § 230.10(a)). Specifically, the Corps focused on the purpose of relocating the recreational facilities, which would lead to discharge, as "maintain[ing] the recreation experience following the reallocation of storage at Chatfield Reservoir." R. at 038978-79. The Corps argues that there is no requirement that it evaluate the same alternatives under the NEPA and the CWA. Docket No. 54 at 35. The Corps also argues that the anti-segmentation rules applicable under NEPA have never been applied under the CWA and should not be here. *Id.* at 39-42.

a. Use of NEPA Alternatives for CWA Section 404 Analysis

Petitioner relies, Docket No. 49 at 7, on the following portion of the implementing regulation for Section 404 of the CWA to argue that alternatives considered under NEPA provide the basis for evaluating alternatives to the LEDPA:

For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, *will in most cases* provide the information for the evaluation of alternatives under these Guidelines. On occasion, *these NEPA documents may address a broader range of alternatives than required to be considered under this paragraph* or may not have considered the

Diversity v. Fed. Highway Admin., 290 F. Supp. 2d 1175, 1194 (S.D. Cal. 2003) ("[A]n effective deliberative process, by its very nature, requires the expression of open, frank and often contradictory opinions."). Accordingly, the Court confines its analysis to the propriety of the analysis contained in the FR/EIS.

alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

40 C.F.R. § 230.10(a)(4) (emphasis added). The regulation notes that the same underlying information is often appropriate for both NEPA and CWA purposes. The regulation also states that the range of alternatives addressed under NEPA will, on occasion, differ from those that must be addressed under the CWA. *Id.* (“[T]hese NEPA documents may address a broader range of alternatives than required to be considered under” the LEDPA analysis.). However, by its terms, 40 C.F.R. § 230.10(a)(4) does not require that NEPA alternatives be evaluated in determining LEDPA.

Petitioner cites two cases to support the proposition that the Corps should have evaluated the NEPA alternatives as part of its LEDPA analysis. *Van Antwerp*, 709 F. Supp. 2d 1254; *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152 (10th Cir. 2002), *as modified on reh’g*, 319 F.3d 1207 (10th Cir. 2003). Neither case supports petitioner’s proposition. In *Van Antwerp*, the court determined both that the Corps incorrectly determined that the limestone mining project was water dependent and that the agency improperly failed to evaluate any alternatives based on a conclusory statement that no practicable alternatives existed. *Van Antwerp*, 709 F. Supp. 2d at 1268 (“By not applying the presumption that environmentally preferable and practicable alternatives to this limestone mining were available, the permit applicants were excused from ‘clearly’ demonstrating the absence of practicable alternatives.”). In *Utahns for Better Transp.*, the court rejected the agency’s LEDPA analysis for, among other things,

failing to explain why the identified alternatives were not practicable, not for failing to evaluate all NEPA alternatives. *Utahns for Better Transp.*, 305 F.3d at 1189-90.

Neither case addresses whether the Corps must evaluate NEPA alternatives in its LEDPA analysis. Accordingly, the Court rejects petitioner's argument that the Corps was required to evaluate the NEPA alternatives under the CWA to determine if any was the LEDPA.

b. Applicability of Anti-Segmentation Under the CWA

Regulations implementing the NEPA "require that 'connected' or 'closely related' actions be discussed in the same impact statement." *Citizens' Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1028 (10th Cir. 2002) (quoting 40 C.F.R. § 1508.25(a)(1)). "One of the primary reasons for requiring an agency to evaluate 'connected actions' in a single EIS is to prevent agencies from minimizing the potential environmental consequences of a proposed action (and thus short-circuiting NEPA review) by segmenting or isolating an individual action that, by itself, may not have a significant environmental impact." *Id.* (citations omitted). The anti-segmentation rule prevents agencies from issuing multiple EAs finding no significant environmental impact for specific actions where the integrated project would have a significant environmental impact and require the issuance of a detailed EIS. Actions must be considered together if: "1) the action automatically triggers another action requiring an environmental impact statement; 2) the action 'cannot or will not proceed unless other actions are taken previously or simultaneously;' or 3) the action is an 'interdependent part[]' of a larger action and depends on that larger action for its justification." *Id.* at

1029 (quoting 40 C.F.R. § 1508.25(a)(1)(i)-(iii)) (alterations in original).

Petitioner asks the Court to apply the NEPA anti-segmentation rule to the Corps' CWA Section 404 analysis and hold that the Corps' analysis was not in accordance with law. Petitioner acknowledges whether the anti-segmentation rule applies to the LEDPA analysis is an issue of first impression. Docket No. 49 at 9. The Court finds that the anti-segmentation rule does not apply here.

First, the policy underlying the anti-segmentation rule is not implicated. The bulk of the discharge that requires Section 404 analysis results from the relocation of the recreational facilities and associated mitigation. R. at 038983 ("Modifications to the recreation facilities comprise the vast majority of actions involving dredge and fill activities."). The Corps' analysis, however, does not segment the various actions involved in relocating the recreational facilities or their associated discharges to minimize their impact, but instead considers all such actions and the resulting discharge as a whole. R. at 038973-78; R. at 038978 ("Cumulative impacts of the proposed dredge and fill activities associated with the Recreation Facility Modification Plan are expected to be small. These proposed activities, in total, would have little effect on the aquatic ecosystem due to limited dredge and fill footprints of the respective sites."). Thus, the Section 404 analysis does not minimize the impact of the total discharge by artificially dividing it among connected actions.²¹ Indeed, despite separately discussing

²¹ Likewise, contrary to petitioner's argument, Docket No. 49 at 28-29, the Corps does not rely on mitigation as a justification for determining that Alternative 3 is the LEDPA in alleged violation of the *Memorandum of Agreement between the EPA and the Department of the Army Concerning the Determination of Mitigation Under the CWA Section 404(b)(1) Guidelines* (Feb. 6, 1990), Docket No. 33-2. Rather, the Corps considered mitigation as a *cause* of the discharge of dredge and fill materials, R. at

alternatives to the relocation of the recreation facilities and the environmental mitigation, the Corps considered the cumulative impact of all discharges required by the project as a whole in performing its LEDPA analysis. R. at 038978 (“The discharges . . . of dredge and fill material for the relocation of recreation facilities and environmental mitigation would have minor cumulative effects on the aquatic ecosystem of Chatfield Reservoir and its watershed.”). Such consideration of the cumulative impact of connected actions is what the anti-segmentation rule is intended to require.²²

Second, there is no legal basis for applying the NEPA anti-segmentation rule to analysis under the CWA. See *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 92 (1983) (reaffirming the holding of *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519 (1978), that “courts generally lack the authority to impose ‘hybrid’ procedures greater than those contemplated by the governing statutes.”). The regulations implementing Section 404 require the Corps to consider “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant

038961, and evaluated whether there were LEDPA to the proposed mitigation that would not require a discharge. R. at 038981-82. The Corps concluded that, “[w]hile these approaches are a feasible alternative to avoid the discharge of dredge or fill material into waters of the U.S., including wetlands, it would result in greater area of net disturbance and environmental impact; and would complicate the construction, maintenance, and reliability of the mitigation.” R. at 038982. Petitioner does not challenge this conclusion.

²² For the same reason, the concern that an applicant or the Corps would “define a project [narrowly] in order to preclude the existence of any alternative sites and thus make what is practicable appear impracticable” is not implicated here. *Nat’l Wildlife Fed’n v. Whistler*, 27 F.3d 1341, 1346 (8th Cir. 1994) (quoting *Sylvester v. United States Army Corps of Eng’rs*, 882 F.2d 407, 409 (9th Cir. 1989)).

adverse environmental consequences.” 40 C.F.R. § 230.10(a). In applying this regulation, the Corps interpreted it to require consideration of alternatives to the proposed discharge, not alternatives to related actions that will not result in discharge. See R. at 038978-81. “[S]ubstantial deference is given to an agency’s interpretation and application of governing statutes, and particularly its own regulations. *Whistler*, 27 F.3d at 1344 (internal citations omitted).²³ Although petitioner may read the regulation differently, “this court cannot ignore the Corps’ interpretation of the Clean Water Act and its accompanying regulations.” *Id.* at 1345-46 (citing *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 844 (1984), and *Ford Motor Credit Co. v. Milhollin*, 444 U.S. 555, 566 (1980)). The Corps’ application is based on a rational reading of the regulation and, therefore, the Court will not disturb it. *Ford Motor Credit Co.*, 444 U.S. at 568 (“[J]udges ought to refrain from substituting their own interstitial lawmaking for that of the Federal Reserve, so long as the latter’s lawmaking is not irrational.”). Further, nothing about the regulatory scheme compels a contrary conclusion. There is no provision in the CWA implementing regulations that parallels the anti-segmentation rule under the NEPA requiring that “connected” or “closely related” actions, 40 C.F.R. § 1508.25(a)(1), be discussed together with those actions

²³ The Court finds that the Corps’ interpretative choice, as reflected in the FR/EIS, is entitled to deference because the FR/EIS was subjected to a formal, public comment process and the Corps’ reasoning is persuasive. See *United States v. Mead Corp.*, 533 U.S. 218, 228 (2001). The record reflects that the agency gave thorough consideration to its interpretation. R. at 038701, 038695, 044692, 044652; see also *Mead Corp.*, 533 U.S. at 228 (“The weight [accorded to an administrative] judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.” (quoting *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) (alterations in original))).

that cause the proposed discharge. Accordingly, the Court finds that petitioner has not shown that the Corps' focus on alternatives to the recreational facilities' relocation in its LEDPA analysis, instead of alternatives to the project as a whole, is contrary to law.

Because petitioner has not shown that the Corps acted arbitrarily, capriciously, or contrary to law in selecting Alternative 3 as the plan for the reallocation project under either the NEPA or the CWA, the Court will affirm the Corps' decision.

IV. CONCLUSION

For the above-stated reasons, it is

ORDERED that the agency decision is **AFFIRMED**, judgment shall enter in favor of respondent, and this case shall be closed in its entirety.

DATED December 12, 2017.

BY THE COURT:

s/Philip A. Brimmer
PHILIP A. BRIMMER
United States District Judge

Exhibit L

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge Philip A. Brimmer

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,

Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS,

Respondent,

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
CENTRAL COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,

Intervenor Respondents.

ORDER

This matter is before the Court on Petitioner's Motion for Preliminary Injunction [Docket No. 75] and respondent's Unopposed Motion for Extension of Time [Docket No. 76].

The background of this case is contained in the Court's order on the merits. Docket No. 77. On December 8, 2017, petitioner filed its motion for a preliminary injunction. Docket No. 75. Petitioner claims that construction work related to the reallocation project began on December 4, 2017. *Id.* at 6. Petitioner requests that the Court enter a preliminary injunction or, in the alternative, an injunction pending appeal.

Docket No. 75 at 15.

The Court has resolved the merits of petitioner's appeal. Docket No. 77. Therefore, the Court only considers whether to issue an injunction pending appeal pursuant to Fed. R. Civ. P. 62(c).¹ To succeed on a motion for an injunction under Rule 62(c), the moving party must show (1) a likelihood of success on the merits, (2) a likelihood that the movant will suffer irreparable harm in the absence of preliminary relief, (3) that the balance of equities tips in the movant's favor, and (4) that the injunction is in the public interest. *Hilton v. Braunskill*, 481 U.S. 770, 776 (1987) (citation omitted); *see also Winter v. Natural Resources Defense Council, Inc.*, 555 U.S. 7, 20 (2008)); *Little v. Jones*, 607 F.3d 1245, 1251 (10th Cir. 2010). Petitioner argues that it is likely to succeed on the merits for the same reasons raised in its merits briefing. See Docket No. 75 at 12-13 (citing Docket No. 49). Because the Court has analyzed and rejected each of these arguments, the Court finds that petitioner has not demonstrated it is likely to succeed on the merits. *See Hillsdale Env'tl. Loss Prevention, Inc. v. U.S. Army Corps of Engineers*, 2011 WL 3847383, at *2 (D. Kan. Aug. 26, 2011) ("Because each of the arguments raised by plaintiffs in the current motion was evaluated and rejected in the Memorandum and Order, the court determines that plaintiffs have not demonstrated a likelihood of success on the merits."). Therefore, the Court will deny petitioner's motion. *U.S. Ling Inst., LLC v. United States Dep't of*

¹ Petitioner has yet to file an appeal, but there is good reason to believe that an appeal will be taken, so the Court need not await the perfection of petitioner's appeal before deciding whether to enter an injunction pending appeal. See 11 Charles Alan Wright & Arthur R. Miller, *Fed. Prac. & Proc. Civ.* § 2904 (3d ed. 1998); *United States v. El-O-Pathic Pharmacy*, 192 F.2d 62, 79 (9th Cir. 1951).

Homeland Sec., 2013 WL 12110069, at *2 (D. Utah Apr. 16, 2013) (“Because Plaintiff fails to meet one of the essential elements for a preliminary injunctive relief, the court must deny the motion for a preliminary injunction.” (citing *Winter*, 555 U.S. at 20)). The Court will also deny respondent’s related motion for an extension of time as moot.

Accordingly, it is

ORDERED that Petitioner’s Motion for Preliminary Injunction [Docket No. 75] is **DENIED**. It is further

ORDERED that respondent’s Unopposed Motion for Extension of Time [Docket No. 76] is **DENIED** as moot.

DATED December 12, 2017.

BY THE COURT:

s/Philip A. Brimmer
PHILIP A. BRIMMER
United States District Judge

Exhibit M

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 14-cv-02749-PAB

AUDUBON SOCIETY OF GREATER DENVER,

Petitioner,

v.

UNITED STATES ARMY CORPS OF ENGINEERS,

Respondent,

v.

CASTLE PINES METROPOLITAN DISTRICT,
CASTLE PINES NORTH METROPOLITAN DISTRICT,
CENTENNIAL WATER AND SANITATION DISTRICT,
CENTER OF COLORADO WATER CONSERVANCY DISTRICT,
CENTRAL COLORADO WATER CONSERVANCY DISTRICT,
TOWN OF CASTLE ROCK, and
COLORADO DEPARTMENT OF NATURAL RESOURCES,

Intervenor Respondents.

FINAL JUDGMENT

In accordance with the orders filed during the pendency of this case, and pursuant to Fed. R. Civ. P. 58(a), the following Final Judgment is hereby entered.

Pursuant to the Orders [Docket Nos. 77 and 78] of United States District Judge Philip A. Brimmer entered on December 12, 2017, it is

ORDERED that Petitioner's Motion for Preliminary Injunction [Docket No. 75] is **DENIED**. It is further

ORDERED that the agency decision is **AFFIRMED**. It is further

ORDERED that judgment is hereby entered in favor of respondent UNITED STATES ARMY CORPS OF ENGINEERS and intervenor respondents CASTLE PINES METROPOLITAN DISTRICT, CASTLE PINES NORTH METROPOLITAN DISTRICT, CENTENNIAL WATER AND SANITATION DISTRICT, CENTER OF COLORADO WATER CONSERVANCY DISTRICT, CENTRAL COLORADO WATER CONSERVANCY DISTRICT, TOWN OF CASTLE ROCK, and COLORADO DEPARTMENT OF NATURAL RESOURCES and against petitioner AUDUBON SOCIETY OF GREATER DENVER. It is further

ORDERED that respondent is **AWARDED** its costs, to be taxed by the Clerk of the Court pursuant to Fed. R. Civ. P. 54(d)(1) and D.C.COLO.LCivR 54.1.

Dated at Denver, Colorado this 15th day of December, 2017.

FOR THE COURT:
JEFFREY P. COLWELL, CLERK

By: s/ Kathy Preuitt-Parks
Kathy Preuitt-Parks
Deputy Clerk

Exhibit N

**FINAL INTEGRATED FEASIBILITY REPORT/ENVIRONMENTAL IMPACT STATEMENT
(FR/EIS)
FOR THE
CHATFIELD RESERVOIR STORAGE REALLOCATION STUDY**

Lead Agency: U.S. Army Corps of Engineers, Northwestern Division, Omaha District

Abstract: The U.S. Army Corps of Engineers proposes to reallocate 20,600 acre-feet of storage from the exclusive flood control pool to the conservation pool at Chatfield Reservoir. Chatfield Reservoir is well placed to help meet this objective for the following reasons: the reservoir provides a relatively immediate opportunity to increase water supply storage without the development of significant amounts of new infrastructure; it lies directly on the South Platte River (efficient capture of runoff); and it provides an opportunity to gain additional use of an existing federal resource.

The additional storage would be used for municipal and industrial water supply, agriculture, recreation, and fishery habitat protection and enhancement purposes. In addition to the no action plan, Penley Reservoir combined with gravel pit storage, three other alternatives were evaluated: non-tributary ground water (NTGW) combined with gravel pit storage, reallocation of 20,600 acre-feet and 7,700 acre-feet combined with NTGW and gravel pit storage. The Selected Plan, reallocation to allow an additional 20,600 acre-feet of water supply storage; would reallocate storage from the flood control pool to the conservation pool. Under this alternative, the base elevation of the flood control pool would be raised from 5,432 to 5,444 feet above mean sea level (msl), but the reallocation of storage for this project only involves the volume between 5,432 and 5,444 feet msl. This alternative would provide storage to help meet part of the growing demand for water in the Denver Metro by using existing federal infrastructure, and lessening the dependence on NTGW.

The Selected Plan meets all federal National Economic Development (NED) goals providing \$8.42 million in annual NED benefits to total annual NED project costs of \$7.92 million. It provides an average year yield of 8,539 acre-feet at less cost than other alternatives for water supply. Mitigation will be required to offset impacts to terrestrial based effects (wetland and riparian habitats, including Preble's meadow jumping mouse critical habitat). Positive environmental effects to the fisheries supported by the reservoir include the inundation of terrestrial habitats which will result in increased habitat structure for use by fish and other aquatic life. Additionally, increased shoreline inundation will enhance productivity at virtually every trophic level in the aquatic food web. The Colorado Department of Natural Resources (CDNR), through its agencies and non-federal project partners, will complete 100 percent of the integral work at no cost to the federal government per the 1958 Water Supply Act and Section 103(c)(2) of the Water Resources Development Act of 1986. Cost of the project is estimated to be \$179,000,000. The Omaha District Corps of Engineers may decide to perform the work related to modification or instrumentation of the dam or other Chatfield Project safety features, as well as modifications to project operating documents and processes. The district would also retain responsibility for oversight of the CDNR work and inherent government responsibilities, including agency approvals and decisions. The Corps work is estimated to cost \$1,730,000 and will be funded 100 percent non-federal. The proposed CDNR work is integral to the reallocation project, because 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 Land, Easements, Rights-Of-Way, Relocation, and Disposal Areas). All the work is eligible to be performed by CDNR, because it is within the non-federal cost-share, which for water supply is 100

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project. In addition, Section 116 directed the Secretary to collaborate with the CDNR and local interests to determine costs to be repaid for reallocated storage (as determined under Section 808, as amended) that reflect the limited reliability of the resource and the capability of non-federal interests to make use of the reallocated storage space.

This report presents the integrated Feasibility Study and EIS and economic justification required by Section 808, as amended, which the Secretary will consider prior to deciding whether to reassign a portion of the flood control storage space to joint flood control-conservation purposes.

1.1.2 Background

The CWCB requested that the Corps consider reallocating space within Chatfield Reservoir for water supply purposes, on behalf of a group of 12 water users (or water providers) in the Denver metropolitan area. While water supply remains primarily a non-federal responsibility, based on current federal authorities (described in Section 1.4), the Federal Government should participate and cooperate with states and local interests in developing such water supplies in connection with multi-purpose projects. The federally-owned Chatfield Reservoir provides an opportunity to help local communities in the Denver metropolitan (Metro) area to meet a growing demand for water. Therefore, it is the purpose of this study to identify alternatives, compare those alternatives, and select the best alternative for meeting the needs based on solid planning principles.

With the main problem being defined as increasing water demand in the Denver Metro area that exceeds available water supplies, the purpose and need statement is as follows:

The purpose and need is to increase availability of water, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial (M&I) water, sustainable over the 50-year period of analysis, in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met.

The primary objective of the reallocation is to help enable water providers to supply water to local users, mainly for municipal, industrial, and agricultural needs, in response to rapidly increasing demand. Chatfield Reservoir is well placed to help meet this objective for the following reasons: the reservoir provides a relatively immediate opportunity to increase water supply storage without the development of significant amounts of new infrastructure; it lies directly on the South Platte River (efficient capture of runoff); and it provides an opportunity to gain additional use of an existing federal resource.

Three reservoirs, consisting of Chatfield Reservoir, in conjunction with Cherry Creek and Bear Creek reservoirs (i.e., Tri-Lakes), are managed as a system by the Corps to provide flood protection to the Denver Metro area. This flood protection function is still critically important today and cannot be compromised.

With approximately 1.5 million visitor days annually, Chatfield State Park is one of the most heavily utilized parks, and one of the most vital components, of the Colorado State Parks system. Given its close proximity to both the Denver Metro area and the foothills, Chatfield State Park provides a valuable and unique opportunity for the public to connect to the natural world through camping.

aquatic life. In addition, increased primary productivity as a result of increased shoreline inundation will increase productivity at virtually every trophic level in the aquatic food web.

Finally, a payment for the cost of storage estimated to be \$16,046,300 at FY2013 price levels will be made to the U.S. Treasury over 30 years at the applicable federal water supply interest rates.

1.3.4.6 Implementation

The Colorado Department of Natural Resources, through its agencies and non-federal project partners will complete 100 percent of the integral work at no cost to the Federal Government per the 1958 Water Supply Act for this reallocation. Said work will involve every phase of design and construction 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

The work tasks identified above are further described in Chapter 6, and Appendices K and M. This work is integral in order to ensure in-kind replacement of facilities and to mitigate environmental impacts.

Agreements between the Federal Government, the state of Colorado and the water providers will be executed prior to the reallocation of storage at Chatfield. The water providers would also construct the infrastructure needed to deliver their water for final use. The water providers would be responsible for any specific construction and/or operational costs associated with the reallocation action, environmental mitigation costs, and recreational modification costs. Prior to entering into storage agreements with the Federal Government, the water providers may need to reach separate agreements with the Colorado State Parks Board and/or the Colorado Wildlife Commission related to the Chatfield project, in accordance with Colorado State Law. The Corps continues to have discussions with the state and the water providers to further refine the legal relationship between the entities.

1.3.5 Public Involvement, Review, and Consultation

As the lead agency for the project, USACE developed a public involvement plan to ensure open communications from the beginning of the NEPA process. Specifically, the public involvement program objectives were to:

redefined as an integrated pool with other water providers. The reallocation will only occur between 5,432 feet msl and 5,444 feet msl.

The reallocated storage space in the conservation pool would be filled using water rights belonging to a consortium of 12 water providers listed in Table 1-1. This reallocation would enable the providers to better manage existing and future water supplies to be used for municipal, industrial, agricultural, recreational, and fish and wildlife needs in response to population growth in the Denver Metro area. The maximum reallocation under consideration for this Chatfield Reservoir storage reallocation study is 20,600 acre-feet, representing an increase in the permanent pool to 5,444 feet msl, an increase of 12 feet. The Corps will not assure refill of joint use space released downstream for flood control purposes. Flooding and damages caused by flooding, will not be the responsibility of the Corps.

Table 1-1
Colorado Water Providers Requesting Storage Space in Chatfield Reservoir

Entity Requesting Storage	Nature of Entity	Purpose of Use of Storage	Maximum Storage Reallocation (acre-feet)	Percent of Costs and Storage Reallocation
Downstream Water Providers				
Unassigned ¹	TBD	Unassigned	3,561	17.3
Central Colorado Water Conservancy District (WCD)	Agricultural	Agricultural ⁵	2,849	13.8
Colorado Parks and Wildlife ^{6,7}	Governmental: State Agency	Recreation	1,000	4.9
Denver Botanic Gardens at Chatfield	Governmental: City and County of Denver	Recreation and Agriculture ⁸	40	0.2
Western Mutual Ditch Company	Agricultural	Agricultural ⁵	1,425	6.9
Upstream Water Providers				
Unassigned ¹	TBD	Unassigned	564	2.7
Castle Pines Metropolitan District (MD) ³	Local government serving Denver suburban area	Municipal and Industrial ²	785.6	3.8
Castle Pines North Metropolitan District (MD) ³	Local government serving Denver suburban area	Municipal and Industrial ²	941.5	4.6
Town of Castle Rock ³	Municipality	Municipal and Industrial ²	1013.1	4.9
Centennial Water and Sanitation District (WSD) ³	Local government serving Denver suburban area	Municipal and Industrial ²	6434.9	31.2
Center of Colorado Water Conservancy District (WCD)	Governmental: Park County	Municipal and Industrial ²	131.3	0.6
Colorado Water Conservation Board	Governmental: State Agency	Recreation	100	0.49
Mount Carbon Metropolitan District (MD)	Local government serving Denver suburban area	Municipal and Industrial ²	400	1.9
South Metro Water Supply Authority (SMWSA) ³	Local governments providing water supplies to Denver suburbs	Municipal and Industrial ²	1354.3	6.6
Includes storage for the following entities ⁴ :				
Arapahoe County Water and Wastewater Authority			121.6	0.59
Castle Pines North MD			64.3	0.31

project authorization to develop the plan and conduct the analyses required for the Chief of Engineers to determine whether the reallocation is feasible and economically justified.

1.6 Purpose and Need Statement

With the main problem being defined as increasing water demand in the Denver Metro area, the next task is to define the project planning objectives, which go hand in hand with a specifically defined purpose and need statement. The statement of purpose and need is important in determining the range of alternatives to be evaluated in this combined FR/EIS as required by NEPA. The purpose and need statement is as follows:

The purpose and need is to increase availability of water, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial (M&I) water, sustainable over the 50-year period of analysis, in the greater Denver Metro area so that a larger proportion of existing and future water needs can be met. The average year yield is the average amount of water per year that the water providers (not including Hock Hocking or Parker WSD) would have been able to store in Chatfield during the 1942-2000 period of record (POR) if Chatfield Dam had existed during the entire POR. Calculations for each water provider were based on inflows during each year of the POR, the effective date of each water provider's water rights, a maximum total storage for all water providers of 20,600 acre-feet, and whether water providers had effluents (non-natural flows) from water rights upstream that could be recaptured in Chatfield for later re-use. Due to a combination of relatively low inflows in most years and the relatively low seniority of water rights held by the water providers, 20,600 acre-feet would have been able to be stored in Chatfield Reservoir in only 16 of the 59 years in the POR.

The action is a component in the overall effort to meet the water supply needs of the greater Denver Metro area, and it would contribute to meeting a portion of those needs. One alternative considered the reallocated storage space in Chatfield Reservoir would be filled using existing or new water rights, including wastewater return flows and other decreed water rights, belonging to a consortium of water providers. The primary objective of the reallocation is to help enable water providers to supply water to local constituents, mainly for municipal, industrial, and agricultural needs, in response to rapidly increasing demand. Chatfield Reservoir is well placed to help meet this objective, because the reservoir provides a relatively immediate opportunity to increase water supply storage without the development of significant amounts of new infrastructure, it lies directly on the South Platte River (efficient capture of runoff), and it provides an opportunity to gain additional use of an existing federal resource.

As Colorado's population is projected to approximately double by 2050 (CWCB, 2011), there is a significant impact on water planning and management strategies in the Denver Metro area. Some of the water providers in the Denver Metro area (mainly downstream of Chatfield Reservoir) rely mainly on junior surface water rights, surface water exchanges and agricultural transfers, and existing/new gravel lake storage, while others (South Metro providers mainly upstream of Chatfield Reservoir) rely most heavily on nonrenewable, nontributary groundwater (NTGW). Increased reliance on nonrenewable NTGW for permanent water supply brings serious reliability and sustainability concerns. As the NTGW source becomes less reliable, it will become more expensive to obtain. Because its availability is not reliant on weather patterns, NTGW provides a very important supply of water during drought. Because the Chatfield Reservoir storage reallocation

**Table 2-9
Summary Comparison of Environmental Impacts of Alternatives**

Resource Area	Alternative			
	Alternative 1: No Action Penley Reservoir	Alternative 2: NTGW/Downstream Gravel Pits ¹	Alternative 3: 20,600 Acre-Foot Reallocation	Alternative 4: 7,700 Acre-Foot Reallocation/NTGW/ Downstream Gravel Pits
	development of gravel pit storage and Penley Reservoir.	construction at Penley. Noise levels reduced at gravel pits. Short-term construction noise.	On-site construction noise may periodically exceed EPA noise threshold (70 decibel level (dBA)), but public would not be exposed continuously. Noise predicted at less than 50 feet from source. Noise from off-site construction traffic would increase background noise levels, but within normal variation in the area. Construction traffic noise would comply with county ordinances. No exceedances of standards or guidelines.	construction period. Noise levels reduced at gravel pits. Short-term construction noise, but less than under Alternatives 1 or 2 because gravel pits would be fewer or smaller.
Aesthetics	Aesthetics at Penley and gravel pits could be impaired during construction due to views of equipment, but would have positive viewsheds after construction completed. Pipelines would not adversely impact views.	Aesthetics at gravel pits would be affected the same as for Alternative 1.	Water fluctuation could produce more visible mudflats and shoreline rings. During construction, short-term impacts from bare ground and construction vehicles. Planting trees and shrubbery could mitigate impacts on aesthetics.	Same effects at Chatfield as Alternative 3 except with smaller water fluctuations and a shorter construction period. Aesthetic impacts at gravel pits would be of the same type but less in extent than under Alternatives 1 or 2 because gravel pits would be fewer or smaller.
Socioeconomic Resources	Gravel pit conversion would employ approximately 19 workers/day for 2 years for construction. Employment benefits estimated at approximately 4,376 person-years of employment over 50-year period in the study area. Project financial costs estimated at \$283.4 million. \$623.1 million in economic output estimated in the region. Environmental Justice – No impacts anticipated.	Similar to Alternative 1 except there would be fewer construction jobs since Penley and the associated pipelines would not be constructed. There would, however, be additional NTGW well-drilling jobs. Employment benefits estimated at approximately 2,742 person-years of employment over 50-year period in the study area. Project financial costs estimated at \$186.1 million. \$391.5 million in economic output estimated in the region. Environmental Justice – No impacts anticipated.	Construction in the marina area would occur during the off-season to minimize impacts. Colorado Parks and Wildlife expected to lose \$3.4 million over 50-year analysis period, including revenue associated with concessionaire agreements. Reduction in NED recreation benefits of approximately \$15.6 million over 50 years. The water providers would ensure Colorado Parks and Wildlife is compensated for any lost revenue or increased costs incurred as a result of this project.	Same impacts related to reallocation as Alternative 3 except with a shorter construction period, resulting in lower revenue losses but fewer worker-years. Fewer impacts related to downstream gravel pits and NTGW as Alternative 2. Colorado Parks and Wildlife is expected to lose about \$2.7 million over 50-year analysis period, including revenue associated with concessionaire agreements. Reduction in NED recreation benefits of approximately \$13.2 million over

Final

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July 2013

Table 4-11
Estimate of Acres of Wetlands Impacted by Each Alternative

Wetland Type	Alternative 1 (a)	Alternative 2 (a)	Alternative 3 (c)	Alternative 4 (c)
Submergent (Palustrine Aquatic Bed)	NA	NA	9.0	5.9
Emergent (Palustrine Emergent)	NA	NA	26.3	15.2
Seasonal (Lacustrine Emergent – nonpersistent)	NA	NA	14.7	14.7
Scrub/Shrub (Palustrine Scrub/Shrub)	NA	NA	73.0	59.2
Forested (Palustrine Forested)	NA	NA	34.2	24.8
Total	21.26	9.0	157.2 (b)	119.8

(a) "Wetland Type" is not available (NA) for Alternatives 1 and 2.

(b) Of 157.2 wetland acres for Alternative 3, 157.2 acres are also bird habitat and 137.3 acres are also habitat for Preble's meadow jumping mouse.

(c) The values in this column are based on the number of acres inundated (see text for explanation).

Table 4-12
Estimate of Acres of Wetlands Impacted by Each Alternative, Total by Drainage

Wetland Type	South Platte River Drainage				Plum Creek Drainage			
	Alternative 1(a)	Alternative 2(a)	Alternative 3(c)	Alternative 4(c)	Alternative 1(a)	Alternative 2(a)	Alternative 3(c)	Alternative 4(c)
Submergent (Palustrine Aquatic Bed)	NA	NA	3.8	1.6	NA	NA	5.2	4.3
Emergent (Palustrine Emergent)	NA	NA	11.1	7.8	NA	NA	15.2	7.4
Seasonal (Lacustrine Emergent – nonpersistent)	NA	NA	10.5	10.5	NA	NA	4.2	4.2
Scrub/Shrub (Palustrine Scrub/Shrub)	NA	NA	33.7	28.0	NA	NA	39.3	31.2
Forested (Palustrine Forested)	NA	NA	4.3	3.8	NA	NA	29.9	21.0
Total	15.0 (b)	9.0	63.4	51.7	6.26 (b)	0.0	93.8	68.1

(a) "Wetland Type" is not available (NA) for Alternatives 1 and 2.

(b) The total acres for Alternative 1 assumes half of the Panley Reservoir pipeline impacts are in the South Platte Drainage (i.e., 6 acres) and half are in the Plum Creek Drainage (i.e., 6 acres).

(c) The values in this column are based on the number of acres inundated (see text for explanation).

4.7.3 Alternative 3—20,600 Acre-Foot Reallocation

Under this alternative, the infrastructure of the pool containing conservation storage would be changed to target 20,600 acre-feet of reallocated storage by allowing the water level to rise to a target pool elevation of 5,444 feet msl. This level of inundation represents a maximum level or in terms of impacts, an upper bound scenario. Based on hydrologic modeling, this maximum pool elevation would not be reached every year (see Section 4.6). Based on elevation contours generated using field survey data of the area immediately surrounding the reservoir, when reached this maximum increase in water level would inundate additional acres of land area as shown in Table 4-2 and Figure 4-1.

Under Alternative 3, approximately 587 acres of additional land area would be inundated at a water level of 5,444 feet msl. Because the maximum pool elevation would not be reached every year not all acres would be inundated all years, and some acres would be inundated for only a short period.

5.5.2.2 Section 116

Section 116 of Division C of the Omnibus Appropriations Act of 2009 authorizes the CDNR to perform the work for design and implementation of modifications for Chatfield Reservoir and any required mitigation for the project. It also requires the Secretary to determine a cost of storage that reflects the limited reliability of the resource and user's capability to use the storage space.

The Implementation Guidance for Section 116, dated May 12, 2010, requires that this FR/EIS identify the work items to be performed by CDNR and that the ASA(CW) approval of the report includes the determination of whether the proposed work items are integral to the project. In a letter, dated February 10, 2012 (see end of Section 5.5.2.3), CWCB proposes to accomplish through its agencies and non-federal project partners, the water providers, all the modification and mitigation work for the project. Of the overall total project implementation cost estimated to be \$179,000,000, the cost of the CDNR work is estimated to be \$123,200,000. The work will consist of design, construction, project management and coordination for all project features, including on-site and off-site environmental mitigation; modification/re-construction of all impacted recreation facilities; utility relocations; earthwork and shoreline contouring; road, bridge and parking lot construction; demolition, clearing, and grubbing; and vegetation management. The Omaha District Corps of Engineers may decide to perform the work related to modification or instrumentation of the dam or other Chatfield Project safety features, as well as modifications to project operating documents and processes. The district would also retain responsibility for oversight of the CDNR work and inherent government responsibilities, including agency approvals and decisions. The Corps work is estimated to cost \$1,730,000 and will be funded 100 percent non-federal. The proposed CDNR work is integral to the reallocation project, because 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 work is eligible to be performed by CDNR, because it is within the non-Federal cost-share, which for water supply is 100 percent non-federal. Design and construction of environmental mitigation features and recreation modifications will follow Corps standards and regulations, as well as applicable federal laws governing non-federal construction. All plans will be approved by the Corps. The ASA(CW) approval of this FR/EIS and determination of whether the proposed CDNR work items are integral will identify what CDNR work might be eligible for Section 116 credit. The acceptance of the work and the affording of credit towards the non-federal share will be determined by the Omaha District inspection and certification in accordance with the terms of the WSA. The Corps continues to have discussions with the state and the water providers to further refine the legal relationship between the entities.

The second provision of Section 116 regarding the cost of storage was addressed in the ASA(CW) letter, dated January 22, 2009, which approved a modified method, supported by CDNR, for determining the costs to be repaid by CDNR for storage in Chatfield Lake. This exemption of the policy for determining the updated cost of storage is described in Section 5.3.1.2.

5.5.2.3 Land and Water Conservation Fund Act

Chatfield State Park must remain in outdoor recreation uses pursuant to Section 6(f) of the Land and Water Conservation Fund Act (LWCF), because LWCF assistance was used by the Colorado Division of Parks and Outdoor Recreation to construct the existing recreation facilities at Chatfield Lake. If facilities purchased with LWCF grants are inundated, they will be replaced elsewhere in the

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

1389 Logan Street, Suite 280
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 894-2873
www.cwcb.state.co.us



John W. Hickenlooper
Governor

Mike King
DNR Executive Director

Jennifer L. Girard
CWCB Director

February 10, 2012
Gwyn M. Jarrett, PMP
CENWO-PM-AA
1616 Capitol Ave
Omaha, NE 68102

Dear Ms. Jarrett,

On behalf of the Colorado Department of Natural Resources (CDNR), the Colorado Water Conservation Board (CWCB) is the formal non-Federal sponsor of the Chatfield Reservoir Reallocation project. The CWCB executed a Feasibility Cost Share Agreement with the U.S. Army Corps of Engineers, and has been working with a large group of stakeholders to investigate the feasibility for storage reallocation at Chatfield.

CDNR has requested the reallocation project. Proposed implementation will be 100% completed through State and local partner funding, at no cost to the Federal government pursuant to the 1958 Water Supply Act. Implementation work will involve all phases of design and construction such as: 1) on-site and off-site environmental mitigation; 2) modification of 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. All of the identified implementation work is integral to the project.

Feel free to call me at (303) 866-3441 ext. 3208 if you have any questions about this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas W. Browning".

Thomas W. Browning, Assistant Director
Colorado Water Conservation Board

Interstate & Federal • Watershed & Flood Protection • Stream & Lake Protection • Financ
Water Information • Water Conservation & Drought Planning • Water Supply Planning

effects (wetland and riparian habitats, including Preble's mouse critical habitat). The CDNR is the non-federal signatory to the WSA. The water providers seeking storage space in Chatfield Reservoir are the Penley Reservoir User Group, the Lower South Platte Gravel Pit User Group, and Denver Botanic Gardens at Chatfield. The Penley Reservoir User Group includes Mount Carbon Metropolitan District, the eight SMWSA members that are participants in the study, Colorado Parks and Wildlife, Center of Colorado Water Conservancy District, and CWCB. The Lower South Platte Gravel Pit User Group is composed of Central Colorado WCD and Western Mutual Ditch Company.

6.2.3 Recreation

The Recreation Facilities Modification Plan is considered to be an integral component of the Selected Plan, as it is required to address the adverse impacts caused by operating the reservoir under the new system, which involves a significant change in how water levels fluctuate within the reservoir. The recreation modifications can be fully accomplished within the current boundaries of Chatfield State Park and are considered sufficient for maintaining recreational purposes of the Corps project.

To offset adverse impacts to the existing recreation facilities, the Selected Plan includes relocations and modifications of recreation facilities. In developing the Recreation Facilities Modification Plan for Chatfield State Park, operating conditions, including the relationship between water levels and existing facilities and how visitors use the park, were considered. Below is a list of impacted areas, modifications to occur, and estimated cost for modifications as shown in Appendix I of the Recreation Facilities Modification Plan (Appendix M). The cost price level is fiscal year (FY) 2010.

The Recreation Facilities Modification Plan would include the on-site actions listed below. Appendices M and N should be consulted for additional details about the recreation modifications.

- *North Boat Ramp:* Construction of new boat ramps, changes in ramp gradients, and facility relocation. Parking areas, concrete boat ramp, trails, day use shelter, picnic tables, trash receptacles, bollards, grills, regulatory signs, and water hydrants. Estimated cost: \$636,228.
- *Massey Draw:* Relocation of facilities. Asphalt trails, picnic tables, benches, trash receptacles, grills, beach volleyball court, and horse shoe pit. Estimated cost: \$357,851.
- *Eagle Cove:* Reconstruction of facilities and parking. Parking area, portable restroom, dumpsters, trash receptacles, regulatory signs, and fencing. Estimated cost: \$222,432.
- *Deer Creek Day Use and Balloon Launch Area:* Reconstruction of facilities and parking and road relocation. Parking area, trails, picnic tables, trash receptacles, grills, and regulatory sign. Estimated cost: \$779,343.
- *Swim Beach:* Reconstruction of beach, facility and parking and road relocation. Parking area, shower/restroom building, concession, first aid station, information kiosk, picnic tables, benches, water fountain, dumpsters, trash receptacles, bollards, grills, regulatory signs, fencing, beach volleyball court, horse shoe pits, sand, and utilities. Estimated cost: \$5,109,500.

replacement of lost riparian areas and wetlands will occur, not only helping to replace ecological values, but also will eventually provide some replacement value for shade and aesthetics.

6.2.4 Environmental Mitigation

To off-set the adverse impacts to environmental resources, the Selected Plan includes the CMP which consists of on-site and off-site mitigation measures.

On-site mitigation would occur within Chatfield Reservoir project lands. Twenty-nine potential on-site mitigation sites are being evaluated for their mitigation potential. The mitigation sites occur within four general areas of the Chatfield Reservoir project lands: Lower Marcy Gulch, Deer Creek, West Plum Creek, and South Platte River. The on-site mitigation site locations are shown in Appendix K (CMP Figures 7 through 15). Two potential mitigation sites totaling 17.4 acres are located in Lower Marcy Gulch, four potential mitigation sites totaling 13.6 acres are located in the Deer Creek area, 10 potential mitigation sites totaling 54.1 acres are located in the West Plum Creek arm of Chatfield Reservoir, and 13 potential mitigation sites totaling 80.2 acres are located in the South Platte River arm of Chatfield Reservoir. All of the on-site mitigation sites are designed to provide gains in EFUs for the target environmental resources (Preble's, wetlands, and birds). Similar to how the target environmental resources overlap within the Chatfield Reservoir project lands, the on-site mitigation areas will provide overlapping and combined resources for the target environmental resources. Detailed information for each potential mitigation site, including the existing conditions and proposed habitat gains can be found in Appendix K.

Off-site mitigation would occur outside the boundaries of Chatfield Lake project and would include:

- Permanent protection of habitat associated with the target environmental resources (Preble's, wetlands, and birds) for an estimated 888 acres (of the 5,917 acres identified) by conservation easements put in place on property purchased in fee from willing sellers or through conservation easement agreements with willing property owners. This habitat protection will be acquired from willing sellers only and the non-federal sponsor (CDNR) will not subject any owner to condemnation;
- Off-site habitat conversion and enhancement activities associated with protection of the estimated 888 acres of protected habitat described above; and
- Protection of up to 22.5 acres of off-site existing mature cottonwood habitat and designation of up to 10 acres for cottonwood regeneration associated with protection of the estimated 888 acres of protected habitat described above.

As part of the on-site and off-site mitigation actions discussed above, mitigation for impacts to Preble's designated critical habitat would include:

- On-site mitigation of approximately 17 acres in the Upper South Platte CHU and 6 acres in the West Plum Creek CHU as described in Section 6.3.1 of Appendix K; and
- Off-site mitigation in the form of sediment control and riparian habitat extension along 4.5 stream miles of Sugar Creek in the Upper South Platte CHU on U.S. Forest Service land,

and up to 65 Preble's EFUs in the West Plum Creek CHU through permanent protection, management, and enhancement on private lands, included in the estimated 888 acres of off-site mitigation discussed above.

6.2.5 Other Modifications to the Chatfield Reservoir Project

The raising of the lake and the changes to Chatfield operating procedures will require modification to some Corps project facilities and operational documents, including: dam safety instrumentation, Master Plan supplement, review and real estate activities, update capacity tables, water release and calculations, and update project operation manual. Additional Corps operation and maintenance activities will also be required to accommodate the water providers' use of the reservoir storage for water supply.

The State Engineer determines the releases needed to satisfy water rights in the conservation zone (5,385–5,432 feet msl) and the joint-use pool (5,432–5,444 feet msl). If the pool elevation is forecast to rise above the top of the joint use zone (5,444 feet msl), the Corps will have the option to take control of the reservoir releases. When the pool is in the flood control zone (5,444–5,500 feet msl), the Corps determines the releases needed to safely evacuate flood storage and reduce flood risk downstream. In the event of an emergency the Corps will determine the necessary releases to ensure safety of the dam. See Appendix B, Water Control Plan, for further details. Allowing water providers downstream of Chatfield Reservoir to use existing infrastructure to divert their portion of the stored water into their water systems, the number of water providers with storage rights within the reservoir would increase from one (Denver Water) to 12.

6.3 CDNR/Water Providers Additional Measures Beyond the Federal Project

The following measures were developed by the water providers, Colorado State Parks, and Colorado Division of Wildlife (CDOW)¹ to provide additional assurances of a like recreational experience, to compensate Colorado Parks and Wildlife for lost revenue or increased costs, and to provide ecological benefits above and beyond where the CMP has planned to replace lost ecological functions. 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. Recreation plans that are being developed include: re-contouring the south shore, portions of the west shoreline, and potentially other select sites to minimize the appearance of a "bathtub ring;" maximizing buffer areas, reforesting areas for aesthetics and shade; and reimbursing Colorado Parks and Wildlife and the marina operator on an annual basis for documented lost revenue. Environmental discussions include: funding up to 0.7 miles of the mainstem of the South Platte River above Chatfield Reservoir and up to 0.5 miles of the mainstem of the South Platte River downstream of Chatfield Reservoir for stream habitat improvements, work closely with CDOW on reservoir operations to address potential impacts to walleye and the brood rearing facility below Chatfield Reservoir, and use monitoring and adaptive management to address potential water quality issues.

Table 6-1, Appendix N and Appendix CC provide more information on these additional measures. The measures are conceptual and intended to provide the public with information for review and

¹ On July 1, 2011, Colorado State Parks and the Colorado Division of Wildlife merged to form Colorado Parks and Wildlife.

This FR/EIS documents that Alternative 3 meets the requirements of the legislative authorizations for the reallocation and the existing Chatfield Lake project. Regarding the requirements of Section 808 of WRDA 1986, as amended, Alternative 3 is feasible and economically justified, and CDNR has requested the reallocation to water supply. Under Section 116 of the Omnibus Appropriations Act of 2009, the work tasks that CDNR proposes to perform for the recreation modifications and environmental mitigation are integral to the project, and the ASA(CW) policy exemption for the cost of storage reflects the limited reliability of the resource. Alternative 3, the Selected Plan, is in compliance with the Land and Water Conservation Fund Act, because the recreation facilities will be relocated and replace in-kind, and recreational use of Chatfield Lake will continue.

The proposed project would supply water to meet the growing demand while avoiding significant adverse impacts to the environment.

The recommendations contained herein reflect the information available at this time and current Departmental policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the formulation of a national Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to higher authority for approval.

JOEL R. CROSS
Colonel, Corps of Engineers
District Engineer

voir has been managed to maintain water levels within a 9-ft range (elevation 5425' to 5434') (USACE 2000). From 1976 to 1996, the change in water level was within this 9-ft range approximately 80 percent of the time. The average range of mean monthly elevations is small, less than 3-ft from low to high lake periods.

An important element of the Chatfield Reservoir Storage Reallocation Project studies was the modeling of various potential operation scenarios (Chatfield Reallocation Study Storage Use Patterns, Brown and Caldwell, 2003). A key conclusion of this study states: "... there is additional storage space available in Chatfield Reservoir, and ... there are sufficient water rights and demand to utilize this additional storage." Although several scenarios were modeled in the Brown and Caldwell study, the recreation relocation study described in this report is based on the highest water elevation scenario, which would result in raising the reservoir to an elevation of 5444', or approximately 12-ft above the existing normal maximum operating level of 5432'. Updated model results are described later in this section.

Map 2.2 is an aerial photo of the reservoir with a colored line that depicts a water elevation of 5444'. A general sense of what recreation use areas would be affected by this elevation can be derived from this map.

Key areas that would be affected include the following:

- North Boat Ramp
- Massey Draw
- Swim Beach Area
- Catfish Flats/Fox Run Group Use Areas
- Kingfisher/Gravel Ponds/Platte River Trailhead Areas
- Marina Area
- Plum Creek Area

The operating regime associated with a reservoir elevation at 5444' results in an increased frequency of larger, seasonal water surface fluctuations. Table 2.1 summarizes the increase in magnitude of seasonal water surface elevation fluctuation over the 59-year period of record that was modeled. The average recreational season (June through September) water surface elevation fluctuation with historic operations and the existing normal high water elevation of 5432' is 6.7-ft. The raised water surface alternative (5444') increases the average recreational season fluctuation to 11.9-ft – an increase of 5.2-ft.

Table 2.1. June through September Water Surface Fluctuation

Reservoir Water Surface	Average Water Surface Fluctuation (ft)	Years with more than 15-Ft Fluctuation (out of 59-year record)
5432' (historic operations)	6.7	5
5444' (modeled results for Chatfield Reallocation Projects)	11.9	20

Source: USACE Model Results

A more significant operations challenge may be presented by larger fluctuations that occur infrequently but regularly. Over the 59-year historic period of record (1942 to 2000) that was modeled, historic operations (5432') had 5 years with more than 15-ft of fluctuation. In contrast, the 5444' alternative has 20 years when the water surface elevation fluctuation is greater than 15-ft.

Figures 2.1 and 2.2 (page 2-5) show the yearly difference between the seasonal maximum (red dash) and seasonal minimum (blue dash) water surface elevations.

Some key conclusions are noted below:

- Raising the reservoir elevation from 5432' to 5444' results in higher water surface elevations throughout the recreational season. With the new operating regime modeled for a reservoir at 5444', the surface area of the reservoir would increase and the amount of area available for boating, fishing and other activities would be larger at all times of the year as well as under all hydrological conditions that were modeled over the 59-year period of record.
- By modifying the reservoir storage and management practices, operations of park facilities and use areas will need to deal with potential water surface elevations regularly ranging from 5444' to 5426'. This creates a need to relocate major facilities above the 5444' water level. Facilities such as the parking lots, restrooms, and other buildings would need to be relocated above the normal high water line.

Another consideration is the frequency that lower water conditions would occur during the primary recreation season. As shown in Figure 2.2, a level of approximately 5428' or less would be reached 15 times over the 59 year period of record, which equates to a frequency of approximately once every 4 years. The 5426' elevation was used as a low level

CHATFIELD RESERVOIR

NORTH RAMP					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	3	\$3,000.00	\$9,000	Strip site and remove grasses, shrubs and trees
Remove Existing Asphalt Trail	SF	8,592	\$1.00	\$8,592	Asphalt trail to picnic shelters
Remove Existing Concrete trails	SF	0	\$1.00	\$0	
Remove Existing Asphalt Pavement	SF	80,345	\$1.00	\$80,345	Rotomill, stockpile and reuse as base course
Remove Existing Traffic Signs	Allow	1	\$1,500.00	\$1,500	Store and reinstall at future locations
Remove Existing Shade Structure	EA	4	\$5,000.00	\$20,000	
Remove and relocate Information Kiosk Signage	EA	2	\$1,500.00	\$3,000	
Remove & Relocate Existing Light Poles	EA	2	\$3,500.00	\$7,000	
CATEGORY SUBTOTAL				\$109,437	
EARTHWORK					
Bulk Embankment	CY	5,592	\$2.00	\$11,184	
Excavation	CY	5,592	\$2.00	\$11,184	Includes excavation and short haul distance
Hauling	CY	1,617	\$4.00	\$6,468	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$12,000.00	\$12,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	2,888	\$3.00	\$8,604	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	279,870	\$0.05	\$13,994	Assumes 120% of all paved and landscape areas
CATEGORY SUBTOTAL				\$63,434	
ROADS AND PARKING					
Asphalt	TON	2,250	\$60.00	\$135,000	Includes new asphalt for regraded area; 6" depth
Striping	ALLOW	1	\$5,000.00	\$5,000	
Curb and gutter	LF	3,700	\$10.00	\$37,000	
CATEGORY SUBTOTAL				\$177,000	
BOAT RAMPS					
Concrete	SF	16,000	\$8.00	\$128,000	Includes all launch lanes (2), plus extension for operations at 5417. 6-inch with stamped groove surface on ramp
Rip Rap Erosion Protection	Allow	1	\$16,000.00	\$16,000	At Boat ramp
Docks	Item	4	\$1,200.00	\$4,800	Assume reuse of docks. Salvage, store & relocate.
CATEGORY SUBTOTAL				\$148,800	
ARCHITECTURE					
New Shade Structures	SF	640	\$115.00	\$73,600	4 shelters @ 160 SF each
CATEGORY SUBTOTAL				\$73,600	
TRAILS					
Concrete Trails	SF	4,500	\$4.00	\$18,000	Assumes 8' wide path
Asphalt Trail	SF	0	\$2.50	\$0	Assumes 8' wide path
CATEGORY SUBTOTAL				\$18,000	
FURNISHINGS					
Picnic Tables	EA	0	\$200.00	\$0	Store and relocate picnic tables under relocated shelters
Benches	Item	0	\$100.00	\$0	not affected
Water fountain	Item	0	\$4,000.00	\$0	2 attached per restroom building - Not affected
Dumpsters	Item	0	\$795.00	\$0	Store and reinstall at future locations
Trash Receptacles	Item	0	\$50.00	\$0	Store and reinstall at future locations
Bollards	Item	0	\$160.00	\$0	gate posts of launch ramps - store and relocate in existing location
Grills	Item	0	\$75.00	\$0	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$0	
UTILITIES					
Water Line	LF	400	\$10.00	\$4,000	1" diameter water distribution line. Assumed length for relocated hydrants
Sanitary Sewer Lateral Line	LF	0	\$20.00	\$0	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	0	\$3,700.00	\$0	
Water Hydrants	EA	0	\$4,000.00	\$0	Frost Free Hydrant Includes connection to local piping and trenching costs

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
Lift Station	Item	0	\$15,900.00	\$0	not affected
Storm Water Inlets	EA	0	\$3,710.00	\$0	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	0	\$10,600.00	\$0	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	0	\$36.00	\$0	Storm Water pipe - 12" diameter
CATEGORY SUBTOTAL				\$4,000	
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	200	\$16.00	\$3,200	Underground electric distribution in conduit. Allow for lighting and misc. electric.
Telephone Line	EA	0	\$2,800.00	\$0	Underground telephone wire in conduit
Transformers	Item	0	\$0.00	\$0	75 KVA
Light poles	Item	2	\$1,000.00	\$2,000	
CATEGORY SUBTOTAL				\$5,200	
LANDSCAPE					
Seeding Dryland Grasses	SF	154,880	\$0.10	\$15,488	Drilled seeding disturbed areas.
Straw Mulch	SF	154,880	\$0.05	\$7,744	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	15	\$375.00	\$5,625	Allowance. 2.5" Caliper
Evergreen Trees	EA	4	\$350.00	\$1,400	Allowance. 8' Average Height
Shrubs	EA	30	\$25.00	\$750	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$31,007	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker.
Spray irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler irrigation	Per Plant	50	\$75.00	\$3,750	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$5,750	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$636,228	

CHATFIELD RESERVOIR

MASSEY DRAW					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	2	\$3,000.00	\$6,000	Strip site and remove grasses, shrubs and trees
Remove Existing Asphalt Trail	SF	0	\$1.00	\$0	Asphalt trail to picnic shelters
Remove Existing Asphalt Pavement	SF	26,098	\$1.00	\$26,098	
Remove horse shoe boards and store	EA	4	\$208.00	\$832	
Remove volleyball court posts and store	EA	2	\$208.00	\$416	
CATEGORY SUBTOTAL				\$33,346	
EARTHWORK					
Bulk Embankment	CY	2,230	\$2.00	\$4,460	
Excavation	CY	2,230	\$2.00	\$4,460	Includes excavation and short haul distances
Hauling	CY	1,617	\$4.00	\$6,468	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$6,000.00	\$6,000	Allowance for undisturbed rock removal
Topsoil - Strip, Stockpile and Spread	CY	2,269	\$3.00	\$6,807	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	93,680	\$0.05	\$4,684	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$32,879	
PARKING AREA					
Asphalt	TON	575	\$60.00	\$58,500	Includes new asphalt for regraded area, 6" depth
Wheel Slope	Item	34	\$20.00	\$680	
CATEGORY SUBTOTAL				\$59,180	
TRAILS					
Concrete Trails	SF	0	\$3.50	\$0	
Asphalt Trail	SF	3,180	\$2.00	\$6,360	Assumes 6' wide path
CATEGORY SUBTOTAL				\$6,360	
ARCHITECTURE					
Restroom Building	SF	250	\$125.00	\$31,250	Relocate storage tanks and building above 5444'
CATEGORY SUBTOTAL				\$31,250	
FURNITURE					
Picnic Tables	Item	8	\$200.00	\$1,600	Remove, store and relocate tables
Benches	Item	2	\$100.00	\$200	Remove, store and relocate 2 timber benches
Dumpsters	Item	0	\$750.00	\$0	not affected
Trash Receptacles	Item	3	\$50.00	\$150	Remove, store and relocate
Grills	Item	0	\$75.00	\$0	not affected
Regulatory Signs	Item	0	\$200.00	\$0	not affected
Fencing	LF	0	\$15.00	\$0	not affected
CATEGORY SUBTOTAL				\$1,950	
RECREATIONAL FACILITIES					
Beach Volleyball Court	Item	1	\$10,000.00	\$10,000	Includes court edge, new sand, reinstalled posts
Horse Shoe Pits	Item	2	\$2,500.00	\$5,000	
CATEGORY SUBTOTAL				\$15,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	122,572	\$0.10	\$12,257	Allowance - 9 acres dry use area. Drilled seeding
Straw Mulch	SF	122,572	\$0.05	\$6,129	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	200	\$375.00	\$75,000	Allowance: 2.5" Caliper
Evergreen Trees	EA	100	\$350.00	\$35,000	Allowance: 8' Average Height
Shrubs	EA	250	\$25.00	\$6,250	Allowance: 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$134,636	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker,
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	550	\$75.00	\$41,250	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$43,250	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$367,891	

EAGLE COVE					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	4	\$2,500.00	\$10,000	Strip site and remove grasses and shrubs
Remove Existing Asphalt Trail	SF	11,792	\$1.00	\$11,792	Park asphalt trail
Remove and relocate post and cable barrier	LF	64	\$16.00	\$840	
Remove and relocate dumpster	EA	1	\$100.00	\$100	
CATEGORY SUBTOTAL				\$22,732	
EARTHWORK					
Bulk Embankment	CY	850	\$2.00	\$1,700	
Excavation and Hauling	CY	850	\$2.00	\$1,700	Includes excavation and short haul distance
Hauling	CY	0	\$4.00	\$0	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$5,000.00	\$5,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	1,014	\$3.00	\$3,042	Assumes 8" depth removal at surfaced areas, stockpile, and spread at new landscape areas
Fine Grading	SF	54,802	\$0.05	\$2,740	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$15,182	
PARKING AREA AND TRAILS					
Asphalt Trail	SF	11,084	\$2.00	\$22,168	Assumes 8' wide path
Wheel Stops	ITEM	29	\$20.00	\$580	Relocated 8"x6"x6' CCA timber
Gravel	SF	21,100	\$0.75	\$15,825	Assume 8" depth base course = 40 SF/CY
CATEGORY SUBTOTAL				\$38,573	
ARCHITECTURE					
Portable restroom	ITEM	1	\$750.00	\$750	Relocation to new location
CATEGORY SUBTOTAL				\$750	
FURNITURE					
Dumpsters	ITEM	0	\$750.00	\$0	Cost accounted for in demolition division
Trash Receptacles	ITEM	1	\$50.00	\$50	Remove and relocate
Regulatory Signs	EA	2	\$200.00	\$400	Traffic signs, warning signs, direction signs etc
Fencing	LF	64	\$35.00	\$2,240	
CATEGORY SUBTOTAL				\$3,390	
UTILITIES					
Sanitary Sewer Lateral Line	LF	1,800	\$20.00	\$36,000	4" diameter sewer lateral, northwest of the area
CATEGORY SUBTOTAL				\$36,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	33,700	\$0.10	\$3,370	Drilled seeding
Straw Mulch	SF	33,700	\$0.05	\$1,685	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	150	\$375.00	\$56,250	2.5" Caliper
Evergreen Trees	EA	50	\$369.00	\$17,500	8' Average Height
Shrubs	EA	100	\$25.00	\$2,500	5 Gallon Shrubs
CATEGORY SUBTOTAL				\$81,305	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	300	\$75.00	\$22,500	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$24,500	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$222,432	

CHATFIELD RESERVOIR

DEER CREEK DAY USE & BALLOON LAUNCH AREA					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	17	\$2,500.00	\$42,500	Strip site and remove grasses and shrubs
Remove Existing Concrete Trails	SF	17,720	\$1.00	\$17,720	
Remove Existing Asphalt Pavement	SF	34,732	\$1.00	\$34,732	
Remove Gravel Balloon Staging Road	SF	20,706	\$0.20	\$4,141	
Remove & Store Deer Creek footbridge	Allow	1	\$5,200.00	\$5,200	
Remove Existing Traffic Signs	Allow	1	\$1,040.00	\$1,040	Store and reinstall at future locations
Demolish & Remove Existing Restroom	Allow	1	\$5,000.00	\$5,000	
Remove and relocate Information Kiosk Signage	EA	1	\$1,000.00	\$1,000	
Remove and relocate wheel stops	EA	54	\$10.00	\$540	Remove, store and relocate
Remove and relocate Balloon Garden, sign & retaining wall	Allow	1	\$31,200.00	\$31,200	Remove and transplant to new Balloon Launch location
Remove and relocate Wind Sock	EA	1	\$520.00	\$520	
CATEGORY SUBTOTAL				\$143,593	
EARTHWORK					
Bulk Embankment	CY	13,750	\$2.00	\$27,500	
Excavation	CY	13,750	\$2.00	\$27,500	Includes excavation and short haul distance
Hauling	CY	0	\$4.00	\$0	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$6,000.00	\$6,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	6,988	\$3.00	\$20,964	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	377,344	\$0.05	\$19,622	Assumes all paved and landscape areas + 20%
CATEGORY SUBTOTAL				\$101,586	
ROADS AND PARKING					
Asphalt	TON	1,200	\$60.00	\$72,000	
Striping	Allow	1	\$1,000.00	\$1,000	
CATEGORY SUBTOTAL				\$73,000	
TRAILS					
Asphalt Trail	SF	0	\$2.00	\$0	Assumes 6' wide path
Concrete Trails	SF	16,046	\$4.00	\$64,192	Assumes 8' wide path
CATEGORY SUBTOTAL				\$64,192	
STRUCTURES					
Restroom Building	SF	650	\$225.00	\$146,250	new restroom - four fixtures total
Information kiosk	EA	0	\$1,500.00	\$0	Cost to relocate accounted for in demolition division
CATEGORY SUBTOTAL				\$146,250	
FURNISHINGS					
Picnic Tables	EA	8	\$200.00	\$1,600	Store and relocate picnic tables at future locations
Benches	Item	1	\$100.00	\$100	Store and relocate
Water fountain	Item	1	\$520.00	\$520	Provide replacement service at restroom
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future location
Trash Receptacles	Item	1	\$50.00	\$50	Store and reinstall at future locations
Grills	Item	8	\$75.00	\$600	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$3,620	
UTILITIES					
Water Line	LF	500	\$10.00	\$5,000	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	500	\$20.00	\$10,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	2	\$3,640.00	\$7,280	
Water Hydrants	EA	2	\$1,560.00	\$3,120	Frost Free Hydrant Includes connection to local piping and trenching costs
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water Inlets	EA	2	\$3,640.00	\$7,280	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	1	\$10,400.00	\$10,400	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	500	\$24.96	\$12,480	Storm Water pipe - 12" diameter
CATEGORY SUBTOTAL				\$66,660	

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	500	\$16.00	\$8,000	Underground electric distribution in conduit
Telephone Line	EA	0	\$2,800.00	\$0	Underground telephone wire in conduit
Transformers	Item	0	\$0.00	\$0	75 KVA
Light poles	Item	0	\$0.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$8,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	669,500	\$0.10	\$69,528	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	669,500	\$0.05	\$34,814	Crimped over seeded areas.
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas.
Deciduous Trees	EA	100	\$375.00	\$37,500	Allowance, 2.5 " Caliper
Evergreen Trees	EA	50	\$350.00	\$17,500	Allowance, 8' Average Height
Shrubs	EA	100	\$25.00	\$2,500	Allowance, 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$162,042	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	250	\$78.00	\$19,500	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$21,500	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$779,543	

CHATFIELD RESERVOIR

SWIM BEACH					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	25	\$2,500.00	\$62,500	Strip site and remove grasses and shrubs
Remove Existing Concrete trails	SF	21,096	\$1.00	\$21,096	
Remove Existing Asphalt Pavement	SF	221,640	\$1.00	\$221,640	
Remove Existing Turf	SF	80,000	\$0.10	\$8,000	
Remove Existing Traffic Signs	Allow	1	\$2,000.00	\$2,000	Store and reinstall at future locations
Remove and Relocate Information Kiosks	EA	2	\$1,000.00	\$2,000	
Demolish Existing Buildings	Allow	3	\$20,000.00	\$60,000	
Remove and relocate wheel stops	EA	310	\$20.00	\$6,200	Remove, store and relocate
Remove and store Chain Mesh Fence	LF	929	\$5.00	\$4,645	
Remove and relocate post and rail fence	LF	44	\$20.00	\$880	
CATEGORY SUBTOTAL				\$385,961	
EARTHWORK					
Bank Embankment	CY	331,330	\$2.00	\$662,660	
Excavation	CY	331,330	\$2.00	\$662,660	Includes excavation and short haul distance
Hauling	CY	295,568	\$4.00	\$1,182,272	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$12,000.00	\$12,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	13,243	\$3.00	\$39,729	Assumes 6" depth removal of surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	943,198	\$0.05	\$47,159	Assumes all paved and landscape areas + 20%
CATEGORY SUBTOTAL				\$2,568,849	
ROADS AND PARKING					
Asphalt	TON	8,000	\$90.00	\$720,000	
Striping	Allow	2	\$5,000.00	\$10,000	
CATEGORY SUBTOTAL				\$730,000	
TRAILS					
Concrete Trails	SF	21,700	\$4.00	\$86,800	Assumes 8' wide path
CATEGORY SUBTOTAL				\$86,800	
STRUCTURES					
Shower/Restroom Building	SF	1,600	\$250.00	\$400,000	
Concession Building	SF	650	\$250.00	\$162,500	
First Aid Station	SF	510	\$250.00	\$127,500	
Information Kiosk	SF	2	\$0.00	\$0	Cost to relocate accounted for in demolition division
Concrete Plaza	SF	15,000	\$5.00	\$75,000	
CATEGORY SUBTOTAL				\$765,000	
FURNISHINGS					
Picnic Tables	EA	12	\$200.00	\$2,400	Store and relocate picnic tables at future locations
Benches	Item	7	\$100.00	\$700	Store and relocate benches at future locations
Water fountain	Item	0	\$100.00	\$0	Part of building cost
Dumpsters	Item	4	\$750.00	\$3,000	Store and reinstall at future locations
Trash Receptacles	Item	10	\$50.00	\$500	Store and reinstall at future locations
Benches	Item	6	\$150.00	\$900	Store and relocate in existing location
Grills	Item	8	\$75.00	\$600	Store and reinstall at future locations
Regulatory Signs	Allow	12	\$200.00	\$2,400	
Fencing - Chain Mesh	LF	929	\$10.00	\$9,290	
Fencing - Post and Rail	LF	44	\$0.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$19,790	
RECREATIONAL FACILITIES					
Beach Sand	CY	19,240	\$15.00	\$288,600	Assumed 3' depth
CATEGORY SUBTOTAL				\$288,600	
UTILITIES					
Water Line	LF	2,000	\$10.00	\$20,000	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	2,000	\$20.00	\$40,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	4	\$3,000.00	\$12,000	40" dia. Manhole
Water Hydrants	EA	2	\$1,500.00	\$3,000	First Fire Hydrant includes connection to local piping and trenching costs not affected
Lib Station	Item	2	\$0.00	\$0	
Storm Water Inlets	EA	3	\$3,500.00	\$10,500	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator inlets	EA	2	\$10,000.00	\$20,000	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	1,000	\$32.00	\$32,000	Storm Water pipe - 12" diameter
Gas Main	LF	2,000	\$30.00	\$60,000	
CATEGORY SUBTOTAL				\$137,500	

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	2,000	\$16.00	\$32,000	Underground electric distribution in conduit
Telephone	EA	1	\$2,800.00	\$2,800	Underground telephone wire in conduit
Transformers	EA	1	\$10,000.00	\$10,000	75 KVA
Light poles	Item	0	\$2,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$44,800	
LANDSCAPE					
Seeding Dryland Grasses	SF	758,127	\$0.10	\$70,813	Allowance: Drilled seeding disturbed areas.
Seeding Irrigated Turf Grasses	SF	65,000	\$0.15	\$9,750	Allowance: Drilled seeding disturbed areas.
Straw Mulch	SF	758,127	\$0.05	\$35,406	Comped over seeded areas.
Hydro Mulch	SF	330,000	\$0.05	\$16,500	Spray mulch over seeded areas.
Deciduous Trees	EA	300	\$375.00	\$112,500	Allowance: 7.5" Caliper
Evergreen Trees	EA	100	\$350.00	\$35,000	Allowance: 8' Average Height
Shrubs	EA	500	\$25.00	\$12,500	Allowance: 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$292,469	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	60,000	\$1.00	\$60,000	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	600	\$75.00	\$45,000	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$149,500	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$5,169,500	

CHATFIELD RESERVOIR

JAMISON					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	16	\$2,500.00	\$40,000	Strip site and remove grasses and shrubs
Remove Existing Concrete trails	SF	16,576	\$1.00	\$16,576	See Overall Trails Cost Division at end of document
Remove Existing Asphalt Pavement	SF	43,431	\$1.00	\$43,431	
Remove Existing Traffic Signs	Allow	1	\$1,000.00	\$1,000	Store and reinstall at future locations
Remove and relocate wheel stops	EA	61	\$10.00	\$610	Remove, store and relocate
Demolish & Remove Existing Restroom	Allow	1	\$5,000.00	\$5,000	
CATEGORY SUBTOTAL				\$106,617	
EARTHWORK					
Bank Embankment	CY	1,000	\$2.00	\$2,000	Included in Swim Beach
Excavation	CY	1,000	\$2.00	\$2,000	Includes excavation and short haul distance
Hauling	CY	880	\$4.00	\$3,520	Excavation and hauling for material above 544'
Rock Removal	Allow	1	\$5,000.00	\$5,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	7,962	\$3.00	\$23,886	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	453,887	\$0.05	\$24,199	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$60,606	
ROADS AND PARKING					
Asphalt	TON	1,376	\$60.00	\$82,560	new parking area and roadway, 6" depth
Striping	Allow	1	\$1,000.00	\$1,000	
CATEGORY SUBTOTAL				\$83,560	
TRAILS					
Concrete Trails	SF	12,528	\$3.00	\$37,584	Assumes 8' wide trail
CATEGORY SUBTOTAL				\$37,584	
STRUCTURES					
Restroom Building	SF	1,100	\$250.00	\$275,000	new restroom - four fixtures total
CATEGORY SUBTOTAL				\$275,000	
FURNISHINGS					
Picnic Tables	EA	4	\$200.00	\$800	Store and relocate picnic tables under relocated shelters
Benches	Item	1	\$100.00	\$100	Store and relocate at future location
Water fountain	Item	2	\$0.00	\$0	2 attached per restroom building, part of Restroom cost.
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Trash Receptacles	Item	1	\$50.00	\$50	Store and reinstall at future locations
Grills	Item	4	\$75.00	\$300	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$2,000	
UTILITIES					
Water Line	LF	500	\$10.00	\$5,000	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	500	\$20.00	\$10,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	1	\$3,500.00	\$3,500	
Water Hydrants	EA	0	\$1,500.00	\$0	Frost Free Hydrant includes connection to local piping and trenching costs
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water Inlets	EA	0	\$3,500.00	\$0	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	0	\$10,000.00	\$0	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	0	\$24.00	\$0	Storm Water pipe - 12" diameter
Gas Main	LF	500	\$30.00	\$15,000	
CATEGORY SUBTOTAL				\$18,500	
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	500	\$16.00	\$8,000	Underground electric distribution in conduit
Telephone	EA	0	\$2,800.00	\$0	Underground telephone wire in conduit
Transformers	EA	0	\$2,500.00	\$0	75 KVA
Light poles	Item	0	\$3,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$8,000	

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
LANDSCAPE					
Seeding Dryland Grasses	SF	440,157	\$0.10	\$44,016	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	440,157	\$0.05	\$22,008	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	500	\$375.00	\$187,500	Allowance. 2.5" Caliper
Evergreen Trees	EA	200	\$350.00	\$70,000	Allowance. 8' Average Height
Shrubs	EA	300	\$25.00	\$7,500	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$331,024	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	1,000	\$75.00	\$75,000	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$77,000	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$999,890	

CHATFIELD RESERVOIR

CATFISH FLATS - GROUP AREA 1 & 2					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	35	\$2,500.00	\$87,500	Strip site and remove grasses and shrubs
Remove Existing Concrete Trails	SF	15,072	\$1.00	\$15,072	
Remove Existing Asphalt Pavement	SF	61,361	\$1.00	\$61,361	
Remove and relocate wheel stops	EA	79	\$10.00	\$790	Remove, store and relocate
Demolish & Remove Existing Restroom	Allow	1	\$0,000.00	\$0,000	
Remove Existing shelter structures, store, demolish walls	EA	2	\$10,000.00	\$20,000	
CATEGORY SUBTOTAL				\$188,723	
EARTHWORK					
Bulk Embankment	CY	7,513	\$2.00	\$15,025	
Excavation	CY	7,513	\$2.00	\$15,025	Includes excavation and short haul distance
Hauling	CY	1,000	\$4.00	\$4,000	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$10,000.00	\$10,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	6,476	\$3.00	\$19,428	Assumes 5" depth removal at surfaced areas, stockpiles, and spread all new landscape areas
Fine Grading	SF	411,110	\$0.05	\$20,555	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$84,036	
ROADS AND PARKING					
Asphalt	TON	2,032	\$60.00	\$121,620	
Striping	Allow	1	\$1,000.00	\$1,000	
Curb and gutter	LF	0	\$8.00	\$0	
CATEGORY SUBTOTAL				\$122,920	
TRAILS					
Concrete Trails	SF	21,264	\$3.00	\$63,792	
CATEGORY SUBTOTAL				\$63,792	
STRUCTURES					
Restroom Building	SF	1,100	\$250.00	\$275,000	new restroom - four fixtures total
Group Picnic Area 1					
Wells	FF	135	\$35.00	\$4,725	75 person capacity
Reinstall Group Shelters	EA	1	\$7,500.00	\$7,500	135 LF, 56" h
Day Use Shelter Concrete Pad	SF	0	\$3.50	\$0	Dimensions of canopies approx 18x21' ea. - 4
Gravel Pavement	SF	3,450	\$0.75	\$2,588	Assume 1000 S.F. per Shelter
Picnic Tables	Item	10	\$100.00	\$1,000	shelters
Grills	Item	1	\$100.00	\$100	Group grill - remove, store and reinstall at future
CATEGORY SUBTOTAL				\$290,913	
Group Picnic Area 2					
Wells	FF	135	\$35.00	\$4,725	75 person capacity
Group Shelters	EA	1	\$7,500.00	\$7,500	135 LF, 56" height
Gravel Pavement	SF	3,000	\$0.75	\$2,250	Dimensions of canopies approx: 18x21' - 2 canopies
Picnic Tables	Item	10	\$100.00	\$1,000	shelters
Grills	Item	1	\$100.00	\$100	Group grill - remove, store and reinstall at future
CATEGORY SUBTOTAL				\$15,575	
FURNISHINGS					
Picnic Tables	EA	5	\$200.00	\$1,000	Store and relocate picnic tables under relocated shelters
Benches	Item	1	\$100.00	\$100	Store and relocate at future location
Water fountain	Item	2	\$0.00	\$0	2 attached per restroom building, part of Restroom
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Trash Recyclestacks	Item	1	\$50.00	\$50	Store and reinstall at future locations
Grills	Item	0	\$75.00	\$0	Store and reinstall at future locations
Regulatory Signs	Allow	9	\$0.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$1,900	

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
UTILITIES					
Water Line	LF	1,200	\$8.00	\$9,600	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	1,200	\$20.00	\$24,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	0	\$3,500.00	\$0	
Water Hydrants	EA	0	\$1,500.00	\$0	Frost Free Hydrant. Includes connection to local piping and trenching costs.
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water Inlets	EA	0	\$3,500.00	\$0	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	0	\$10,000.00	\$0	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	0	\$24.00	\$0	Storm Water pipe - 12" diameter
Gas Main	LF	1,200	\$30.00	\$36,000	
CATEGORY SUBTOTAL				\$33,600	
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	1,200	\$16.00	\$19,200	Underground electric distribution in conduit
Telephone	LF	0	\$2,800.00	\$0	Underground telephone wire in conduit
Transformers	EA	1	\$2,500.00	\$2,500	75 KVA
Light poles	Item	0	\$3,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$21,700	
LANDSCAPE					
Seeding Dryland Grasses	SF	238,843	\$0.10	\$23,884	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	238,843	\$0.25	\$11,942	Cramped over seeded areas
Hydro Mulch	SF	0	\$0.25	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	50	\$375.00	\$18,750	Allowance. 2.5" Caliper
Evergreen Trees	EA	25	\$350.00	\$8,750	Allowance. 8' Average Height
Shrubs	EA	75	\$25.00	\$1,875	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$65,201	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	150	\$75.00	\$11,250	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$13,250	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$902,609	

CHATFIELD RESERVOIR

FOX RUN					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	8	\$2,500.00	\$12,500	Strip site and remove grasses and shrubs -
Remove Gravel parking area	SF	0	\$0.25	\$0	
Remove Existing Concrete trails	SF	2,664	\$1.00	\$2,664	
Remove Existing shelter structures, store, demolish walls	Allow	1	\$10,000.00	\$10,000	
Remove horse shoe boards and store	EA	4	\$200.00	\$800	
Remove volleyball court posts and store	EA	2	\$200.00	\$400	
CATEGORY SUBTOTAL				\$26,364	
EARTHWORK					
Bulk Embankment	CY	500	\$2.00	\$1,000	Includes excavation and short haul distance Excavation and hauling for material above 5444' Allowance for unclassified rock removal Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas Assumes all paved and landscape areas
Excavation	CY	500	\$2.00	\$1,000	
Hauling	CY	100	\$4.00	\$400	
Rock Removal	Allow	1	\$5,000.00	\$5,000	
Topsoil - Strip, Stockpile and Spread	CY	200	\$3.00	\$600	
Fine Grading	SF	5,250	\$0.05	\$263	
CATEGORY SUBTOTAL				\$8,263	
ROADS AND PARKING					
Asphalt	TCN	0	\$80.00	\$0	
Striping	Allow	0	\$1,000.00	\$0	
CATEGORY SUBTOTAL				\$0	
TRAILS					
Concrete Trails	SF	1,200	\$3.00	\$3,600	
CATEGORY SUBTOTAL				\$3,600	
STRUCTURES					
Portable Restrooms	EA	1	\$750.00	\$750	Relocate to future location
Group Picnic Area					
Walls	FF	135	\$35.00	\$4,725	75 person capacity
Reinstall Group Shelters	EA	1	\$10,000.00	\$10,000	136 LF, 56th
Gravel Pavement	SF	3,450	\$0.75	\$2,588	Dimensions of canopies approx 18x21' ea - canopies
Picnic Tables	Item	8	\$100.00	\$800	Store and relocate picnic tables under relocated shelters
Grills	Item	1	\$100.00	\$100	Group grill - remove, store and reinstall at future
CATEGORY SUBTOTAL				\$18,963	
FURNISHINGS					
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Trash Receptacles	Item	2	\$50.00	\$100	Store and reinstall at future locations
Regulatory Signs	Allow	5	\$200.00	\$1,000	Remove and relocate to future location
Fencing	LF	716	\$10.00	\$7,160	Remove and relocate to future location
CATEGORY SUBTOTAL				\$8,910	
RECREATIONAL FACILITIES					
Beach Volleyball Court	Item	1	\$10,000.00	\$10,000	Includes court edge, new sand, reinstalled posts.
Horse Shoe Pits	Item	2	\$2,500.00	\$5,000	
CATEGORY SUBTOTAL				\$15,000	
UTILITIES					
Water Line	LF	0	\$8.00	\$0	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	0	\$20.00	\$0	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	0	\$3,500.00	\$0	
Water Hydrants	EA	0	\$1,500.00	\$0	Frost Free Hydrant Includes connection to local piping and trenching costs
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water inlets	EA	0	\$3,500.00	\$0	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	0	\$10,000.00	\$0	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	0	\$24.00	\$0	Storm Water pipe - 12" diameter
Gas Main	LF	2,100	\$30.00	\$63,000	
CATEGORY SUBTOTAL				\$63,000	

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	0	\$16.00	\$0	Underground electric distribution in conduit
Telephone	EA	0	\$2,800.00	\$0	Underground telephone wire in conduit
Transformers	EA	0	\$2,500.00	\$0	75 KVA
Light poles	Item	0	\$3,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$0	
LANDSCAPE					
Seeding Dryland Grasses	SF	5,000	\$0.10	\$500	Allowance. Grilled seeding disturbed areas.
Straw Mulch	SF	5,000	\$0.05	\$250	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas.
Deciduous Trees	EA	20	\$375.00	\$7,500	Allowance. 2.5" Caliper
Evergreen Trees	EA	5	\$350.00	\$1,750	Allowance. 8' Average Height
Shrubs	EA	25	\$25.00	\$625	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$10,825	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	50	\$75.00	\$3,750	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$5,750	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$160,574	

CHATFIELD RESERVOIR

KINGFISHER AREA					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	1	\$2,500.00	\$2,500	Strip site and remove grasses and shrubs
Remove Existing Concrete Trails	SF	24,000	\$1.00	\$24,000	Existing 8' wide trail on north side of roadway
Remove Existing Traffic Signs	Allow	1	\$500.00	\$500	Store and reinstall at future locations
Remove & Relocate Post and cable fencing	LF	375	\$10.00	\$3,750	
Remove and relocate wheel stops	EA	28	\$10.00	\$280	Remove existing and relocate to future location
CATEGORY SUBTOTAL				\$31,030	
EARTHWORK					
Bulk Embankment	CY	2,590	\$2.00	\$5,180	
Excavation	CY	2,590	\$2.00	\$5,180	Includes excavation and short haul distance
Hauling	CY	5,185	\$4.00	\$20,740	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$2,500.00	\$2,500	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	1,100	\$3.00	\$3,300	Assumes 8" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	60,000	\$0.05	\$3,000	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$39,900	
ROADS AND PARKING					
Gravel	SF	60,000	\$0.75	\$45,000	
CATEGORY SUBTOTAL				\$45,000	
FURNISHINGS					
Portable Restrooms	EA	1	\$750.00	\$750	Relocate to future location
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Trash Receptacles	Item	1	\$50.00	\$50	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$1,550	
LANDSCAPE					
Seeding Dryland Grasses	SF	157,000	\$0.10	\$15,700	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	157,000	\$0.05	\$7,850	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	10	\$375.00	\$3,750	Allowance. 2.5" Caliper
Evergreen Trees	EA	10	\$350.00	\$3,500	Allowance. 8' Average Height
Shrubs	EA	25	\$25.00	\$625	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$31,425	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	45	\$75.00	\$3,375	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$5,375	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$154,280	

RECREATION FACILITIES MODIFICATION PLAN

GRAVEL POND AREA					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	8	\$2,500.00	\$20,000	Strip site and remove grasses and shrubs
Remove Existing Regulatory Signs	Allow	1	\$200.00	\$200	Remove, store and reinstall at future locations
Remove and relocate wheel stops	EA	38	\$10.00	\$380	Remove, store and relocate
Remove & Relocate Post and cable fencing	LF	596	\$10.00	\$5,960	
CATEGORY SUBTOTAL				\$26,540	
EARTHWORK					
Bulk Embankment	CY	200	\$2.00	\$400	
Excavation	CY	200	\$2.00	\$400	Includes excavation and short haul distance
Hauling	CY	100	\$4.00	\$400	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$1,000.00	\$1,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	300	\$3.00	\$900	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	52,500	\$0.05	\$2,625	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$6,725	
ROADS AND PARKING					
Gravel	SF	40,500	\$0.75	\$30,375	Includes new asphalt for regraded area
Bridge	EA	0	\$0.00	\$0	Included in Bear Brown Cost Estimate
CATEGORY SUBTOTAL				\$30,375	
STRUCTURES					
Portable Restrooms	EA	0	\$750.00	\$0	Relocate to future location
CATEGORY SUBTOTAL				\$0	
TRAILS					
Concrete Trails	SF	16,000	\$3.00	\$48,000	8' wide trail
CATEGORY SUBTOTAL				\$48,000	
FURNISHINGS					
Picnic Tables	EA	4	\$100.00	\$400	shelters
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Trash Receptacles	Item	1	\$50.00	\$50	Store and reinstall at future locations
Grills	Item	0	\$75.00	\$0	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$1,200	
UTILITIES					
Water Line	LF	2,800	\$10.00	\$28,000	1" diameter water distribution line
CATEGORY SUBTOTAL				\$28,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	12,000	\$0.10	\$1,200	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	12,000	\$0.05	\$600	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	0	\$375.00	\$0	Allowance. 2.5" Caliper
Evergreen Trees	EA	0	\$350.00	\$0	Allowance. 6' Average Height
Shrubs	EA	0	\$25.00	\$0	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$1,800	
IRRIGATION					
Point of Connection	EA	0	\$2,000.00	\$0	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	0	\$75.00	\$0	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$0	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$113,640	

CHATFIELD RESERVOIR

PLATTE RIVER					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	1	\$2,500.00	\$2,500	Strip site and remove grasses and shrubs
Remove Existing Concrete Trails	SF	2,120	\$1.00	\$2,120	
Remove Existing Asphalt Pavement	SF	18,622	\$1.00	\$18,622	
CATEGORY SUBTOTAL				\$23,242	
EARTHWORK					
Bulk Embankment	CY	150	\$2.00	\$300	Includes excavation and short haul distance Excavation and hauling for material above 5444' Allowance for unclassified rock removal Assumes 8" depth removal at surfaced areas, stockpile, and spread all new landscape areas Assumes all paved and landscape areas
Excavation	CY	150	\$2.00	\$300	
Hauling	CY	100	\$4.00	\$400	
Rock Removal	Allow	1	\$1,000.00	\$1,000	
Topsoil - Strip, Stockpile and Spread	CY	1,000	\$3.00	\$3,000	
Fine Grading	SF	28,160	\$0.05	\$1,408	
CATEGORY SUBTOTAL				\$6,408	
TRAILS					
Concrete Trails	SF	2,120	\$3.00	\$6,360	
CATEGORY SUBTOTAL				\$6,360	
LANDSCAPE					
Seeding Dryland Grasses	SF	15,525	\$0.10	\$1,553	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	15,252	\$0.05	\$763	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	20	\$375.00	\$7,500	Allowance. 2.5" Caliper
Evergreen Trees	EA	10	\$350.00	\$3,500	Allowance. 8' Average Height
Shrubs	EA	50	\$25.00	\$1,250	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$14,666	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	80	\$75.00	\$6,000	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$8,000	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$58,575	

RECREATION FACILITIES MODIFICATION PLAN

ROXBOROUGH COVE					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	8	\$2,500.00	\$15,000	Strip site and remove grasses and shrubs
Remove Existing Vault Restroom	Allow	1	\$2,500.00	\$2,500	
Remove Existing Regulatory Signs	Allow	1	\$200.00	\$200	Remove, store and reinstall at future locations
CATEGORY SUBTOTAL				\$17,700	
EARTHWORK					
Bulk Embankment	CY	500	\$2.00	\$1,000	(Fill = 500 CY, Cut = 500 CY)
Rock Removal	Allow	1	\$1,000.00	\$1,000	Allowance for unclassified rock removal
Excavation	CY	500	\$3.00	\$1,500	Includes excavation and 1 mile haul to construction site
Topsoil - Strip, Stockpile and Spread	CY	1,000	\$4.00	\$4,000	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	50,000	\$0.05	\$2,500	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$10,000	
PARKING AREA					
Gravel	SF	0	\$0.75	\$0	not affected
CATEGORY SUBTOTAL				\$0	
ARCHITECTURE					
Vault Restroom Building	SF	250	\$125.00	\$31,250	Relocated
CATEGORY SUBTOTAL				\$31,250	
FURNISHINGS					
Picnic Tables	EA	5	\$100.00	\$500	Store and relocate picnic tables under relocated shelters
Trash Receptacles	Item	3	\$50.00	\$150	Store and reinstall at future locations
Grills	Item	5	\$75.00	\$375	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$1,025	
RECREATIONAL FACILITIES					
Beach Sand	CY	7,333	\$15.00	\$109,995	Assumed depth of 3'
CATEGORY SUBTOTAL				\$109,995	
LANDSCAPE					
Seeding Dryland Grasses	SF	129,026	\$0.10	\$12,903	Allowance, Drilled seeding disturbed areas.
Straw Mulch	SF	129,026	\$0.05	\$6,451	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	25	\$375.00	\$9,375	Allowance, 2.5" Caliper
Evergreen Trees	EA	15	\$350.00	\$5,250	Allowance, 8' Average Height
Shrubs	EA	50	\$25.00	\$1,250	Allowance, 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$35,229	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	90	\$75.00	\$6,750	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$8,750	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$213,949	

CHATFIELD RESERVOIR

MARINA POINT					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	16	\$2,500.00	\$40,000	Strip site and remove grasses and shrubs
Remove Existing shelter structures, store	Allow	2	\$20,000.00	\$40,000	5 canopies
Remove Existing Concrete Plaza at group area	SF	5,088	\$1.00	\$5,088	
Remove Existing Concrete trails	SF	31,864	\$1.00	\$31,864	Includes Riverside South Ramp trails
Remove Existing Asphalt Pavement	SF	152,383	\$1.00	\$152,383	
Remove Existing Regulatory Signs	Allow	1	\$200.00	\$200	
Remove and relocate wheel stops	EA	200	\$10.00	\$2,000	Remove, store and relocate
Remove & relocate timber fencing	LF	138	\$10.00	\$1,380	
Demolish & Remove Existing Restroom	Allow	1	\$5,000.00	\$5,000	
Remove & Relocate Existing Light Poles	EA	3	\$3,000.00	\$9,000	
Remove horse show boards and store	EA	4	\$200.00	\$800	
Remove volleyball court posts and store	EA	2	\$200.00	\$400	
CATEGORY SUBTOTAL				\$288,115	
EARTHWORK					
Bank Embankment	CY	1,000	\$2.00	\$2,000	Earthwork numbers included in South Ramp
Excavation	CY	1,000	\$2.00	\$2,000	Embankment numbers included in South Ramp
Hauling	CY	1,000	\$4.00	\$4,000	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$1,000.00	\$1,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	8,128	\$3.00	\$24,384	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Gravel	SF	440,000	\$0.05	\$22,000	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$55,384	
ROADS AND PARKING					
Asphalt	TON	5,353	\$60.00	\$321,180	Includes new asphalt for regraded area
Striping	Allow	1	\$7,500.00	\$7,500	
CATEGORY SUBTOTAL				\$328,680	
TRAILS					
Concrete Trails	SF	28,320	\$3.00	\$84,960	Assumes 8' wide path
CATEGORY SUBTOTAL				\$84,960	
STRUCTURES					
Group Picnic - Marina Point					125 person capacity
Walls	FF	630	\$35.00	\$22,050	135 LF, 50'h
Reinstall Group Shelters	Allow	1	\$20,000.00	\$20,000	Dimensions of canopies approx:18'x21' ea. - 6
Day Use Shelter Concrete Pad	SF	1,000	\$3.50	\$3,500	Assume 1000 S.F. per Shelter
Concrete Pavement	SF	5,068	\$3.00	\$15,264	
Picnic Tables	Item	10	\$100.00	\$1,000	Store and relocate picnic tables under relocated shelters
Electric hookups	Allow	1	\$500.00	\$500	Provision of conduit and outlets, not connection to power
Grills	Item	1	\$100.00	\$100	Group grill - remove, store and reinstall at future
CATEGORY SUBTOTAL				\$62,414	
ADA Fishing Pier	Allow	1	\$5,000.00	\$5,000	Remove and relocate to future location
Portable Restrooms	EA	1	\$750.00	\$750	Relocate to future location
Restroom Building	SF	1,100	\$250.00	\$275,000	
CATEGORY SUBTOTAL				\$280,750	
FURNISHINGS					
Picnic Tables	EA	0	\$100.00	\$0	Qty allowed for in group structure
Benches	Item	1	\$100.00	\$100	Store and reinstall at future locations
Water fountain	Item	2	\$0.00	\$0	2 attached per restroom building - in restroom cost
Dumpsters	Item	2	\$750.00	\$1,500	Store and reinstall at future locations
Trash Receptacles	Item	1	\$50.00	\$50	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$1,650	
RECREATIONAL FACILITIES					
Beach Volleyball Court	Item	1	\$10,000.00	\$10,000	Includes court edge, new sand, reinstalled posts.

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
Horse Shoe Pits	Item	2	\$2,500.00	\$5,000	
CATEGORY SUBTOTAL				\$15,000	
UTILITIES					
Water Line	LF	0	\$10.00	\$0	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	0	\$20.00	\$0	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	0	\$3,500.00	\$0	
Water Hydrants	EA	0	\$1,500.00	\$0	Freeze Free Hydrant includes connection to local piping and trenching costs
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water Inlets	EA	1	\$3,500.00	\$3,500	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	1	\$10,000.00	\$10,000	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	500	\$24.00	\$12,000	Storm Water pipe - 12" diameter
CATEGORY SUBTOTAL				\$26,500	
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	0	\$16.00	\$0	Underground electric distribution in conduit
Telephone	LF	250	\$16.00	\$4,000	Underground telephone wire in conduit
Transformers	EA	0	\$2,800.00	\$0	75 KVA
Outlet Waterproofing	EA	2	\$1,000.00	\$2,000	in picnic shelters
Light poles	Item	0	\$3,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$6,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	440,620	\$0.10	\$44,062	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	440,620	\$0.05	\$22,031	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	100	\$375.00	\$37,500	Allowance. 2.5" Caliper
Evergreen Trees	EA	50	\$350.00	\$17,500	Allowance. 8' Average Height
Shrubs	EA	100	\$25.00	\$2,500	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$123,593	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	250	\$75.00	\$18,750	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$20,750	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$1,292,796	

CHATFIELD RESERVOIR

SOUTH RAMP including RIVERSIDE MARINA					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	15	\$2,500.00	\$37,500	Strip site and remove grasses and shrubs.
Remove Existing Concrete trails	SF	0	\$1.00	\$0	Cost accounted for in Marina Point costs.
Remove Existing Asphalt Pavement	SF	108,610	\$1.00	\$108,610	
Remove Existing Traffic Signs	Allow	1	\$1,000.00	\$1,000	Store and reinstall at future locations
Demolish Existing Buildings	Allow	1	\$15,000.00	\$15,000	
Remove & Relocate Existing Shade Structures	EA	3	\$10,000.00	\$30,000	
Remove and relocate wheel stops	EA	124	\$10.00	\$1,240	Remove, store and relocate
Remove and relocate Information Kiosk Signage	EA	1	\$1,000.00	\$1,000	
Remove & Relocate Existing Light Poles	EA	1	\$3,000.00	\$3,000	
Remove horse show boards and store	EA	4	\$200.00	\$800	
Remove volleyball court posts and store	EA	2	\$200.00	\$400	
CATEGORY SUBTOTAL				\$258,550	
EARTHWORK					
Marina excavation	allow	1	\$550,000.00	\$550,000	Allows for excavating reservoir floor to operate at 5717, relocation of marina docks and shoring during construction and relocating at present location after construction.
Bulk Embankment	CY	143,818	\$2.00	\$287,636	
Excavation	CY	287,636	\$2.00	\$575,272	Includes excavation and short haul distance
Hauling	CY	224,372	\$4.00	\$897,488	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$25,000.00	\$25,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	8,128	\$3.00	\$24,384	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	500,000	\$0.05	\$25,000	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$2,304,700	
ROADS AND PARKING					
Asphalt	TON	6,562	\$60.00	\$393,720	Includes new asphalt for regraded area
Striping	Allow	1	\$7,500.00	\$7,500	
CATEGORY SUBTOTAL				\$401,220	
BOAT RAMPS & MARINA					
Concrete	SF	5,000	\$8.00	\$40,000	Includes all launch lanes (2)
Rip Rap Erosion	SY	10,000	\$50.00	\$500,000	Boat Ramp and breakwaters up to 5432'
Upgrade of marina cables and winches	Allow	1	\$310,000.00	\$310,000	See Aramark memo for cost breakdown
CATEGORY SUBTOTAL				\$850,000	
TRAILS					
Concrete Trails	SF	16,000	\$3.00	\$48,000	Assumes 8' wide path
CATEGORY SUBTOTAL				\$48,000	
STRUCTURES					
Group Picnic - Riverside					125 person capacity
Walls	PF	630	\$35.00	\$22,050	135 LF, 56" h
Reinstall Group Shelters	Allow	1	\$10,000.00	\$10,000	Dimensions of canopies: approx:18'x21' ea.- 6 canopies
Day Use Shelter Concrete Pad	SF	1,000	\$3.50	\$3,500	Assume 1000 S.F. per Shelter
Concrete Pavement	SF	5,088	\$3.00	\$15,264	
Picnic Tables	Item	10	\$100.00	\$1,000	Store and relocate picnic tables under relocated shelters
Electric hookups	Allow	1	\$500.00	\$500	Provision of conduit and outlets, not connection to power
Grills	Item	1	\$100.00	\$100	Group grill - remove, store and reinstall at future
CATEGORY SUBTOTAL				\$52,414	
Restroom and Shower Building	SF	1,800	\$250.00	\$400,000	Replace restroom and shower building
Day Use Shelter	EA	3	\$0.00	\$0	Cost to relocate accounted for in demolition division
Information kiosk	EA	1	\$0.00	\$0	Cost to relocate accounted for in demolition division
CATEGORY SUBTOTAL				\$400,000	

RECREATION FACILITIES MODIFICATION PLAN

ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
FURNISHINGS					
Picnic Tables	EA	3	\$200.00	\$600	Store and relocate picnic tables under relocated shelters
Benches	Item	4	\$100.00	\$400	Store and relocate at future location
Water fountain	Item	1	\$0.00	\$0	Attached per restroom building - in restroom cost
Dumpsters	Item	4	\$750.00	\$3,000	Store and reinstall at future locations
Trash Receptacles	Item	4	\$50.00	\$200	Store and reinstall at future locations
Bollards	Item	4	\$150.00	\$600	gate posts at launch ramps - store and relocate in existing location
Grills	Item	3	\$75.00	\$225	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$5,025	
RECREATIONAL FACILITIES					
Beach Volleyball Court	Item	1	\$10,000.00	\$10,000	Includes court edge, new sand, reinstalled posts.
Horse Shoe Pits	Item	2	\$2,500.00	\$5,000	
CATEGORY SUBTOTAL				\$15,000	
UTILITIES					
Water Line	LF	1,000	\$10.00	\$10,000	1" diameter water distribution line
Sanitary Sewer Lateral Line	LF	3,300	\$20.00	\$66,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	4	\$3,500.00	\$14,000	
Water Hydrants	EA	3	\$1,500.00	\$4,500	Frost Free Hydrant includes connection to local piping and trenching costs
Lift Station	Item	0	\$0.00	\$0	not affected
Storm Water Inlets	EA	2	\$3,500.00	\$7,000	Storm Water inlet includes new piping and trenching
Storm Water Oil Separator Inlets	EA	2	\$10,000.00	\$20,000	Storm Water inlet for oil separation includes new piping and trenching
Storm Water Pipe	LF	1,000	\$32.00	\$32,000	Storm Water pipe - 12" diameter
CATEGORY SUBTOTAL				\$153,500	
ELECTRICAL and TELECOMMUNICATIONS					
Electric Distribution Line	LF	1,800	\$16.00	\$28,800	Underground electric distribution in conduit
Telephone	LF	1	\$2,800.00	\$2,800	Underground telephone wire in conduit
Transformers	EA	1	\$2,500.00	\$2,500	75 KVA
Outlet Waterproofing	EA	2	\$1,000.00	\$2,000	in picnic shelters
Light poles	Item	0	\$3,000.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$36,100	
LANDSCAPE					
Seeding Dryland Grasses	SF	430,620	\$0.10	\$43,062	Allowance. Drilled seeding disturbed areas.
Straw Mulch	SF	430,620	\$0.05	\$21,531	Crimped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	75	\$375.00	\$28,125	Allowance. 2.5" Caliper
Evergreen Trees	EA	25	\$350.00	\$8,750	Allowance. 8' Average Height
Shrubs	EA	100	\$25.00	\$2,500	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$103,968	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	5,000	\$1.00	\$5,000	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	200	\$75.00	\$15,000	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$22,000	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$4,730,567	

CHATFIELD RESERVOIR

PLUM CREEK PICNIC AREA					
ITEM	UNIT	UNIT QTY	UNIT COST	TOTAL COST	NOTES
DEMOLITION					
Clear and Grub	AC	13	\$2,500.00	\$32,500	Strip site and remove grasses and shrubs
Remove Gravel parking area	SF	31,000	\$0.15	\$4,650	
Remove Existing Concrete trails	SF	15,000	\$1.00	\$15,000	
Demolish & Remove Existing Restroom	Allow	1	\$5,000.00	\$5,000	
Remove Existing Regulatory Signs	Allow	1	\$200.00	\$200	Remove, store and reinstall at future locations
Remove & Relocate Post and cable fencing	LF	697	\$10.00	\$6,970	
Remove volleyball court posts and stone	EA	2	\$200.00	\$400	
CATEGORY SUBTOTAL				\$67,720	
EARTHWORK					
Bulk Embankment	CY	500	\$2.00	\$1,000	
Excavation	CY	500	\$2.00	\$1,000	Includes excavation and short haul distance
Hauling	CY	100	\$4.00	\$400	Excavation and hauling for material above 5444'
Rock Removal	Allow	1	\$1,000.00	\$1,000	Allowance for unclassified rock removal
Topsoil - Strip, Stockpile and Spread	CY	185	\$4.00	\$740	Assumes 6" depth removal at surfaced areas, stockpile, and spread all new landscape areas
Fine Grading	SF	10,000	\$0.05	\$500	Assumes all paved and landscape areas
CATEGORY SUBTOTAL				\$4,640	
ROADS AND PARKING					
Gravel Parking	SF	31,000	\$0.80	\$24,800	
Gravel entry road	SF	14,400	\$0.80	\$11,520	
CATEGORY SUBTOTAL				\$36,320	
TRAILS					
Concrete Trails	SF	15,600	\$3.00	\$46,800	
CATEGORY SUBTOTAL				\$46,800	
STRUCTURES					
Vault Restroom	SF	485	\$125.00	\$60,625	
CATEGORY SUBTOTAL				\$60,625	
FURNISHINGS					
Picnic Tables	EA	11	\$200.00	\$2,200	shelters
Benches	Item	1	\$100.00	\$100	Store and relocate at future location
Dumpsters	Item	1	\$750.00	\$750	Store and reinstall at future locations
Grills	Item	5	\$75.00	\$375	Store and reinstall at future locations
Regulatory Signs	Allow	0	\$200.00	\$0	Cost accounted for in demolition division
CATEGORY SUBTOTAL				\$3,425	
UTILITIES					
Sanitary Sewer Lateral Line	LF	5,500	\$20.00	\$110,000	4" diameter sewer lateral
Sanitary Sewer Manhole	EA	6	\$3,500.00	\$21,000	
CATEGORY SUBTOTAL				\$131,000	
RECREATIONAL FACILITIES					
Beach Volleyball Court	Item	1	\$5,000.00	\$5,000	Includes new sand, reinstated posts
CATEGORY SUBTOTAL				\$5,000	
LANDSCAPE					
Seeding Dryland Grasses	SF	5,250	\$0.10	\$525	Allowance. Drilled seeding disturbed areas
Straw Mulch	SF	5,250	\$0.05	\$263	Cramped over seeded areas
Hydro Mulch	SF	0	\$0.05	\$0	Spray mulch over seeded areas
Deciduous Trees	EA	25	\$375.00	\$9,375	Allowance. 2.5" Caliper
Evergreen Trees	EA	15	\$350.00	\$5,250	Allowance. 8' Average Height
Shrubs	EA	50	\$25.00	\$1,250	Allowance. 5 Gallon Shrubs
CATEGORY SUBTOTAL				\$16,663	
IRRIGATION					
Point of Connection	EA	1	\$2,000.00	\$2,000	Connection to water main, vacuum breaker, controller
Spray Irrigation	SF	0	\$1.00	\$0	Large Radius Pop Up Heads
Bubbler Irrigation	Per Plant	50	\$5.75	\$287.50	Bubbler at Trees and Shrubs
CATEGORY SUBTOTAL				\$8,750	
GRAND TOTAL (Refer to Summary for Estimate Markups)				\$249,943	

Mount Carbon Metropolitan District

Mount Carbon Metropolitan District (Mount Carbon) is located primarily within the Town of Morrison, with additional portions of the district within the City of Lakewood and unincorporated Jefferson County. Mount Carbon is largely undeveloped at this time, but future development is expected to be commercial, mixed use, and residential. Commercial development will be focused near the C-470 and Morrison Road interchange (an area known as Red Rocks Centre), north and east to the proposed McIntyre Street alignment. Residential development will be in the northeast portion of Red Rocks Centre (north and east of the proposed McIntyre Street).

Water Supply

Mount Carbon currently has an infiltration gallery, pump, and gas chlorination facility adjacent to Bear Creek. All of Mount Carbon's water rights are surface water rights on Bear Creek or the South Platte River. The current raw water storage is 21.6 acre-feet in the Soda Lakes Reservoir.

An evaluation of Mount Carbon's water rights indicate that to fully utilize their capacity, Mount Carbon would need to have an upgraded diversion system, 400-450 acre-feet of raw water storage, a new surface water treatment plant, and reuse the return flows to Bear Creek. With these improvements, Mount Carbon could have an estimated yield of 1,000 acre-feet per year.

Growth and Population Trend

Mount Carbon currently has only one residential customer. The area has been re-zoned and the build out populations (in 2036) for employees and residents are estimated to be 6,949 and 2,256, respectively. At this time, service to additional areas outside the district is not anticipated.

Current Water Demand

The current water demand in Mount Carbon is approximately 15 acre-feet per year. The water use is associated with the one residential customer and contracted water agreements for construction purposes.

Projected Water Demand

The projected water demand in Mount Carbon is approximately 1,036 acre-feet per year at build out.

Renewable Water Supplies

Mount Carbon will rely solely on surface water diversion for their water supply. In addition, the district anticipates the use of return flows to Bear Creek to further extend their water service capacity.

Chatfield Storage

Mount Carbon seeks to obtain the required raw water storage in Chatfield Reservoir. The 400 acre-feet of storage would satisfy the requirements of their water rights portfolio and help to meet the needs of future development within the district.

Centennial Water and Sanitation District

The Centennial Water and Sanitation District (WSD) provides water and wastewater services to the Highlands Ranch community in northern Douglas County along C-470 from Santa Fe Drive to

The Recommended Plan would reallocate 20,600 acre-feet of Chatfield's flood control storage to water supply storage. The Providers would be responsible for the operation, maintenance, and repair of infrastructure, treatment, and distribution facilities associated with their water. They would also provide their share of the Chatfield Reservoir project operation, maintenance, repair, rehabilitation, and replacement costs. Environmental mitigation and recreation modifications would be required to mitigate the impacts of operating the reservoir under the storage reallocation. The Providers would fully fund environmental mitigation and recreation modifications. The USACE, U.S. Fish and Wildlife Service (USFWS), and State of Colorado would continue to be involved in the design and overview of environmental mitigation and recreation modification measures.

2.2 General Description of Dredge and Fill Activities

The discharge of dredge and fill material into waters of the U.S. will occur with the following proposed activities that are incidental to the proposed reallocation:

- Relocation of recreation facilities and associated infrastructure
- On-site environmental mitigation
- Off-site mitigation for impacts to Preble's meadow jumping mouse (Preble's) designated critical habitat

The following describes each of these activities and the associated discharge of dredge and fill material into waters of the U.S. Alternatives to these discharges and measures taken to avoid and minimize the discharge of dredge and fill material into waters of the U.S. are discussed in Section 4.2.

2.2.1 Dredge and Fill Activities Associated with the Recreation Facilities Modification Plan

The proposed Recreation Facilities Modification Plan (EDAW/AECOM 2010) identified 10 areas where fill material (in uplands, wetlands, or waters) would be required for site preparation, such as slope adjustment and general grading. A summary of disturbance area size, cut and fill requirements, and anticipated wetland disturbance area is presented in Table 1. Each area is described in detail below with locations shown in Figure 2. Upland borrow areas that would be used to provide the fill material are described in Section 2.3.

RECORD OF DECISION

CHATFIELD RESERVOIR, DENVER COLORADO STORAGE REALLOCATION STUDY

The Final integrated Feasibility Report and Environmental Impact Statement (FR/EIS), dated July, 2013, for the Chatfield Reservoir Storage Reallocation Study (Project) addresses the increasing water demand in the Denver Metro area that exceeds available water supplies by increasing the availability of water, providing an additional average year yield of up to approximately 8,539 acre-feet of municipal and industrial (M&I) water, sustainable over the 50-year period of analysis in the greater Denver Metro area so that a large proportion of existing and future water needs can be met. The primary objective of the reallocation is to help enable water providers to supply water to local users, mainly for municipal, industrial, and agricultural needs, in response to rapidly increasing demand. Based on the report, the reviews of other Federal, State, and local agencies, input from the public, and the review by my staff, I find that the plan recommended by the Chief of Engineers to be technically feasible, economically and environmentally justified, cost effective, in accordance with environmental statutes, and in the public interest.

The Final FR/EIS, incorporated herein by reference, evaluated various alternatives to address the need to increase availability of water in the greater Denver Colorado area so that a larger proportion of existing and future water needs can be met. The recommended plan will reallocate a portion of the Chatfield Reservoir's flood control storage to water supply storage with mitigation for recreation and aquatic habitat with adaptive management. Specific reallocation features include:

- the reallocation of 20,600 acre-feet of Chatfield Reservoir's flood control storage to water supply storage to provide an average year yield of 8,539 acre-feet of water at less cost than other alternatives for water supply.

Mitigation features include:

- modification of existing recreational facilities to offset impacts of the reallocation, the replacement of roads and facilities;
- compensatory mitigation plan to address environmental impacts associated with the recommend plan; and
- an adaptive management plan to serve as a framework for how uncertainties regarding impacts and/or mitigation will be addressed for selected resources that may be affected by the recommend plan.

AR040957

The proposed reallocation of storage at Chatfield Reservoir requires the Corps to make decisions regarding feasibility and economic justification of the proposed reallocation and appropriate contract terms and conditions if the reallocation is approved. The proposed reallocation of storage and use of the reallocated storage will not require the discharge of dredge or fill material into waters of the U.S. The reallocation of storage space and the subsequent filling of that space will only involve the inundation of environmental and recreational resources. As such, as required in its planning guidance, the Corps must consider modifying the affected recreational facilities to maintain recreation, as well as identify mitigation for affected environmental resources. The proposed reallocation will increase water elevations at Chatfield Reservoir, and the increased water levels will inundate recreation infrastructure and environmental resources. The proposed mitigation of environmental resources and modification of recreation facilities will involve the discharge of dredge or fill material into waters of the U.S.

The Section 404(b)(1) Guidelines (Guidelines) are the substantive criteria used to evaluate discharges of dredge or fill material into waters of the U.S. under Section 404 of the Clean Water Act. This analysis addresses how the activities that involve a discharge of dredge or fill material into waters of the U.S. comply with the Guidelines. As used in this analysis, the discharge of dredge and fill material into waters of the U.S. refers to the following:

- Fill material placed below the existing ordinary high water mark (OHWM) of Chatfield Reservoir of 5,432 feet above mean sea level (msl);
- Dredging (discharge of dredged material) below the existing OHWM; dredging will typically involve the scraping and pushing of soil with earthmoving equipment (dredging is also referred to as "cuts"); and
- The discharge of dredged or fill material into wetlands (above or below the existing OHWM).

2. PROJECT DESCRIPTION

2.1 Location and General Description

Chatfield Reservoir is southwest of Denver at the confluence of the South Platte River and Plum Creek within the South Platte River Basin (Figure 1). The reservoir is owned and operated by the USACE. The reservoir was completed in 1976 for purposes of flood protection for the metropolitan Denver area following the disastrous South Platte River flood of 1965. The U.S. Forest Service (USFS) manages most of the lands along the mainstem of the South Platte River upstream of the reservoir. Plum Creek flows through a mixture of rangelands and suburban areas. The overall EIS study area encompasses the area in the immediate vicinity of Chatfield Reservoir and extends downstream to where the river intersects the Adams/Weld county line. The Chatfield Reservoir has a maximum depth of about 45 feet and an average depth of 24 feet. Water levels in the reservoir vary in response to climatic conditions and other factors, but in general the reservoir has been managed to maintain water levels within a 9-foot range (elevation 5,425 to 5,434 feet above msl) (USACE 2000). From 1976 to 1996, the change in water level was within this 9-foot range approximately 80 percent of the time. The average range of mean monthly elevations is small, less than 3 feet from low to high reservoir periods. The current OHWM elevation is 5,432 feet above msl.

The Recommended Plan would reallocate 20,600 acre-feet of Chatfield's flood control storage to water supply storage. The Providers would be responsible for the operation, maintenance, and repair of infrastructure, treatment, and distribution facilities associated with their water. They would also provide their share of the Chatfield Reservoir project operation, maintenance, repair, rehabilitation, and replacement costs. Environmental mitigation and recreation modifications would be required to mitigate the impacts of operating the reservoir under the storage reallocation. The Providers would fully fund environmental mitigation and recreation modifications. The USACE, U.S. Fish and Wildlife Service (USFWS), and State of Colorado would continue to be involved in the design and overview of environmental mitigation and recreation modification measures.

2.2 General Description of Dredge and Fill Activities

The discharge of dredge and fill material into waters of the U.S. will occur with the following proposed activities that are incidental to the proposed reallocation:

- Relocation of recreation facilities and associated infrastructure
- On-site environmental mitigation
- Off-site mitigation for impacts to Preble's meadow jumping mouse (Preble's) designated critical habitat

The following describes each of these activities and the associated discharge of dredge and fill material into waters of the U.S. Alternatives to these discharges and measures taken to avoid and minimize the discharge of dredge and fill material into waters of the U.S. are discussed in Section 4.2.

2.2.1 Dredge and Fill Activities Associated with the Recreation Facilities Modification Plan

The proposed Recreation Facilities Modification Plan (EDAW/AECOM 2010) identified 10 areas where fill material (in uplands, wetlands, or waters) would be required for site preparation, such as slope adjustment and general grading. A summary of disturbance area size, cut and fill requirements, and anticipated wetland disturbance area is presented in Table 1. Each area is described in detail below with locations shown in Figure 2. Upland borrow areas that would be used to provide the fill material are described in Section 2.3.

Table 1. Summary of Cuts and Fills in Waters and Wetlands for Each Recreational Facility Modification Area (EDAW 2009)

Area	Fill Area below 5,432 feet msl (Acres)	Cut Area below 5,432 feet msl (Acres)	Wetlands Above OHWM (5,432)		Wetlands Below OHWM (5,432)		Wetland Fill (CY)
			Cut	Fill	Cut	Fill	
North Boat Ramp	2.105	0.841					
Massey Draw							
Eagle Cove Day Use Area			2.02		0.83		
Swim Beach Area, & Jamison Area	0.26	7.63		0.24		1.13	1820
Catfish Flats & Fox Run		13.50					
Kingfisher & Gravel Pond Area				0.17		0.01	11
Platte River Trailhead							
Riverside Marina & Roxborough Day Use Area	3.41	4.68	0.01	0.02	0.09	0.27	443
Campground Area		0.13					
Plum Creek		0.2		0.78			

The CWCB and Providers received a waiver from the Corps allowing floodable, wet floodproofed recreation facilities to be located within the 10-year floodpool at an elevation of 5,447 feet msl (see Section 4.2.1). This waiver allows the recreation facilities to be relocated closer to the new OHWM. The discharge of dredge and fill material into wetlands associated with relocation of recreation facilities will be used to elevate the relocated facilities above the new OHWM of 5,444 feet msl and transition grades (cut and fill) between the new recreation facilities and the new OHWM. The recreation facilities would be relocated prior to use of the reallocated storage by the Providers. This sequencing will facilitate relocation of the facilities and dredging activities below the existing OHWM by maintaining lowered reservoir levels during construction. The wetlands that will be filled by the relocation of the recreation facilities occur below 5,444 feet msl and would be inundated, at least periodically, by the new reservoir levels associated with reallocation. Therefore, the wetland losses associated with the discharge of fill implementing the Recreation Facilities Modification Plan also would occur with reallocation.

North Boat Ramp. This is the only formal boat launch area on the west side of the reservoir, and includes two ramps, paved parking and circulation areas, and a variety of support facilities. The two existing boat ramps would largely be inundated and several of the picnic shelters would also be affected. Remaining areas, including most of the parking and circulation roads, would remain above the proposed high water elevation (5,444 feet msl).

Chapter 3 – Mitigation Plan

This section presents conceptual designs for the relocation and redevelopment of park facilities that would be impacted by raising the water level of Chatfield Reservoir. As previously discussed, impacts to park facilities and programs were based on a future normal high water elevation of 5444 feet. Major facilities, such as buildings and main roadways, which had to be relocated or redeveloped, were located above the 5444 elevation and provided with an additional buffer of two vertical feet, i.e. a base elevation of 5446.

Based on prior modeling (Brown and Caldwell, 2003), the reservoir was assumed to be drawn down to an elevation of 5435 during a normal year. The water elevation could also drop below 5435 in extreme drought conditions, which could result in the temporary closure of some facilities.

Any facilities or use areas that fell below, or close to, elevation 5444 were evaluated for replacement or adjustment. In some cases, an existing parking area or boat ramp would only need to be partially modified to accommodate the future water level.

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 mitigation plan provides for in-kind replacement of facilities affected by higher water levels. Design and development of replaced facilities would be completed under current building codes, Colorado State Parks building requirements, and to meet American Disability Act (ADA) requirements for public facilities.

It must be emphasized that the mitigation plan reflects a conceptual level of design. More detailed design will be required to address site-specific conditions and other design factors. Among these, is the need to base the design on final reservoir operations modeling so that facility locations and features reflect the actual drawdown conditions that are anticipated after the reallocation project is further refined.

Costs for implementing the recreation mitigation plan are presented in Chapter 4. A key assumption in developing the mitigation plan is that fill material will be available from on-site sources and that this material can be obtained from locations below the high water line.

During preliminary stages of this study, design alternatives were considered at varying levels of detail. Following review and discussion with Colorado State Parks and other study participants, a preferred concept was identified for each major use area. Only the preferred concept is presented in this report.

North Boat Ramp

- Elevation 5444 results in partial inundation of this facility, with ramps becoming inoperable.
- Facilities affected include boat ramps, parking area, day use shelters, and trails.
- Boat ramps would be constructed to extend to the elevation of the existing ramps in order to operate at low water levels. The gradient (slope) on the new ramps would be reduced.
- Day use shelters and furniture would be relocated as would trails.

This alternative requires a substantial amount of fill to raise the parking area. The resulting concept is illustrated in Map 3.1.

Mossey Draw Day Use Area

- Raising the water level to 5444 severely reduces the recreation capacity of this area but does not inundate the existing parking area and restroom.
- Mitigation to this area would include importing fill material to raise the elevation above 5444 and create a usable recreational area in the same location with a similar amount of usable area that currently exists. Existing beach volleyball, and horseshoe pits would be rebuilt. Furniture can be stored and relocated to future area.

The resulting mitigation concept is illustrated in Map 3.1.