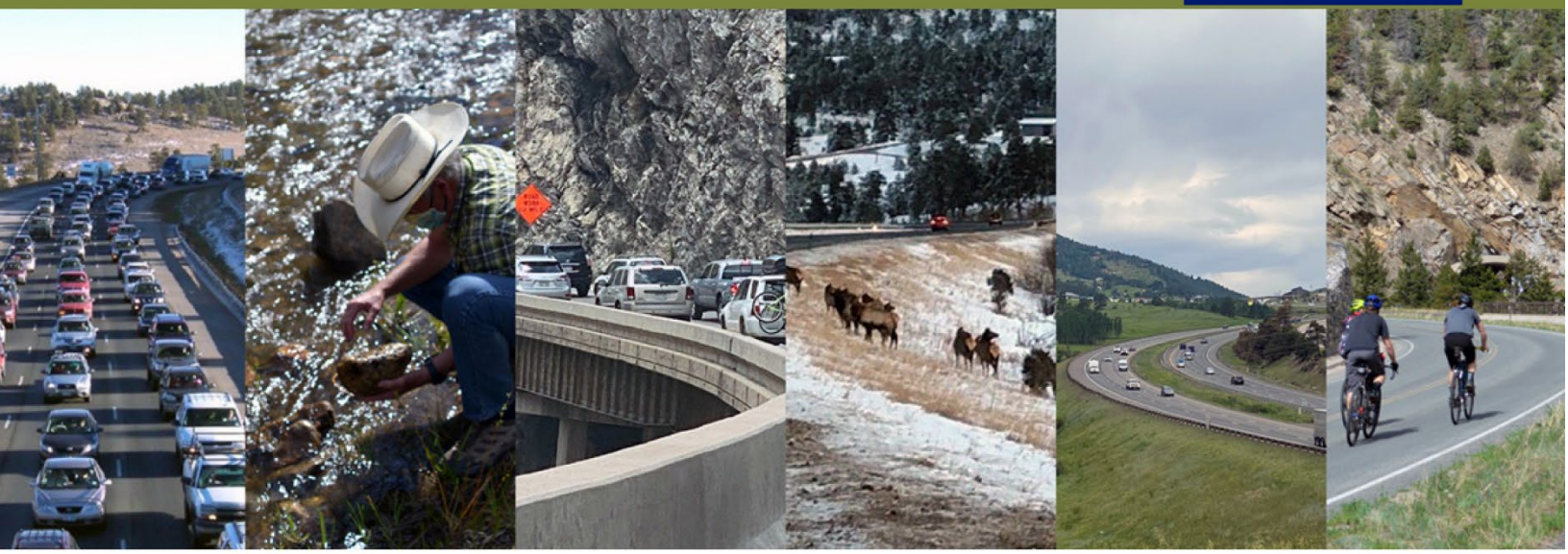
I-70 Floyd Hill to Veterans Memorial Tunnels

Finding of No Significant Impact

I-70 FLOYD HILL TO VETERANS MEMORIAL TUNNELS



Lead Agencies

January 2023

U.S. Department of Transportation
Federal Highway Administration

COLORADO
Department of Transportation

Project Number: NHPP 0703-445, Project Code: 21912
Jefferson and Clear Creek Counties, Colorado

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FHWA has determined that the Construction Manager/General Contractor (CMGC) Refined Preferred Alternative described in Chapter 2 of this document, which was refined from the Environmental Assessment (EA) Preferred Alternative, will have no significant impact on the human or natural environment. This FONSI is based on the EA, environmental reevaluation of the CMGC Refined Preferred Alternative in Chapter 4 of this document, and the proposed mitigation in Appendix B, which FHWA has independently evaluated and determined adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and include appropriate mitigation measures. These documents provide sufficient evidence and analysis to determine that an Environmental Impact Statement (EIS) is not required. FHWA takes full responsibility for the accuracy, scope, and content of the EA and FONSI.

Submitted by:

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1/12/23
Date

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12 Jan 2023
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1/12/23
Date

The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

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ACRONYMS

ACHP	Advisory Council on Historic Preservation
ALIVE	A Landscape Level Inventory of Valued Ecosystem Components
APCD	Air Pollution Control Division
APE	Area of Potential Effects
BFE	base flood elevation
CDPHE	Colorado Department of Public Health and Environment
CDOT	Colorado Department of Transportation
C-	Colorado State Highway
CLOMR	Conditional Letter of Map Revision
CM	control measure
CMGC	Construction Manager / General Contractor
CPW	Colorado Parks and Wildlife
CR	County Road
CRS	Colorado Revised Statutes
CSS	Context Sensitive Solutions
CSQT	Colorado Stream Quantification Tool
CY	cubic yards
dbA	A-weighted decibels
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
I-70	Interstate 70
IAR	Interchange Access Request
INFRA	Nationally Significant Multimodal Freight and Highway Projects Grant Program
ITF	Issue Task Force
LIZ	linkage interference zone
LOMR	Letter of Map Revision
LOS	level of service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding

MP	milepost
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PEIS	Programmatic Environmental Impact Statement
PLT	Project Leadership Team
PMJM	Preble's meadow jumping mouse
Project	I-70 Floyd Hill to Veterans Memorial Tunnels Project
ROD	Record of Decision
SB	Senate Bill
SCAP	Sediment Action Control Plan
SELDM	Stochastic Empirical Loading and Dilution Model
SHPO	State Historic Preservation Officer
SWEEP	Stream and Wetland Ecological Enhancement Program
TT	Technical Team
US 6	US Highway 6
US 40	US Highway 40
USACE	US Army Corps of Engineers
VIA	Visual Impact Assessment

1.0 INTRODUCTION

This Finding of No Significant Impact (FONSI) completes the National Environmental Policy Act (NEPA) process for the Interstate 70 (I-70) Floyd Hill to Veterans Memorial Tunnels Project (the Project). It conveys the Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT) decision to implement the Construction Manager/General Contractor (CMGC) Refined Preferred Alternative for the Project, provides updates to the Project since the release of the Environmental Assessment (EA), and describes and evaluates the innovations (design modifications and refinements) included in the Project after the EA was published. The FONSI is organized as follows.

Chapter 1: Introduction

- Describes the Project background, Project activities conducted after the release of the EA, and process to refine and select the CMGC Refined Preferred Alternative.

Chapter 2: Selected Alternative

- Describes the CMGC Refined Preferred Alternative recommended and endorsed through the innovations review process.

Chapter 3: Project Updates and Changes after the EA Release

- Provides updates on the Project design and construction, details progress on Early Projects, and describes changes in environmental conditions or requirements after the EA was published.

Chapter 4: Environmental Reevaluation

- Evaluates the environmental impacts of the CMGC Refined Preferred Alternative and compares impacts to the EA Preferred Alternative.

Chapter 5: Mitigation Commitments

- Outlines the Project's mitigation commitments.

Chapter 6: Public and Agency Involvement

- Describes the public and agency review process for the EA, comments received on the EA, and how CDOT responded to those comments. Also discusses public input to the Project during the CMGC innovation review after the EA comment period ended.

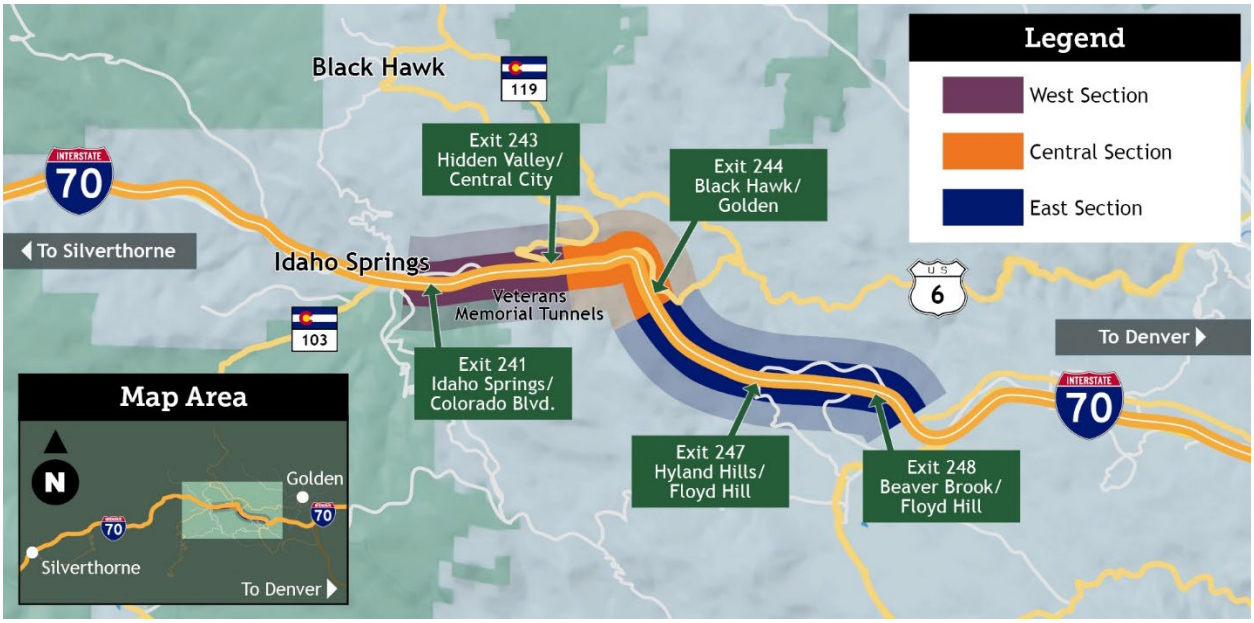
1.1 Project Description

CDOT and FHWA propose the I-70 Floyd Hill Project to address the deficient infrastructure and improve travel time reliability, safety, and mobility along 7 miles of I-70 from west of Evergreen in the Floyd Hill area through the Veterans Memorial Tunnels to the eastern edge of Idaho Springs (approximately milepost [MP] 248 to MP 241) (Figure 1). Major elements of the Project include adding a third westbound travel lane on I-70, constructing a missing frontage road connection, adding an eastbound

auxiliary lane to the uphill section of Floyd Hill, improving interchanges and intersections, improving design speeds and stopping sight distance on horizontal curves, improving the Clear Creek Greenway trail, and implementing environmental mitigation for wildlife connectivity, air and water quality, stream conditions, and recreation.

The Project addresses critical infrastructure deficiencies, including replacing one of the worst-rated bridges in the state, and would complete one of the "specific highway improvements" for a "six-lane component from Floyd Hill through the Twin Tunnels (now the Veterans Memorial Tunnels) including a bike trail and frontage roads from Idaho Springs to Hidden Valley and Hidden Valley to US 6" identified in the Tier 1 I-70 Mountain Corridor Programmatic Environmental Impact Statement (PEIS) (CDOT, 2011a) and Record of Decision (ROD) (CDOT, 2011b). The PEIS studied and documented decisions for transportation improvements across a 144-mile stretch of I-70 between Colorado State Highway 470 (C-470) in Golden, Colorado, and Glenwood Springs, Colorado (the I-70 Mountain Corridor). Since the ROD, CDOT has completed nearly $500 million of transportation improvements in the Project vicinity to address reliability, efficiency, and safety between Floyd Hill and Empire Junction, the most traveled portion of the I-70 Mountain Corridor. The Project complements these investments and, as such, is a high priority for CDOT, stakeholders, and area residents.

Figure 1. Project Location



The Project is located mostly within Clear Creek County, with the eastern two miles located within Jefferson County. Five interchanges are located within the Project limits: the Beaver Brook/Floyd Hill interchange (Exit 248) near the top of Floyd Hill; the Hyland Hills/Floyd Hill interchange (Exit 247) also near the top of Floyd Hill; the junction of I-70 with United States Highway 6 (US 6) (Exit 244) near the base of Floyd Hill; the Hidden Valley/Central City interchange (Exit 243); and the Idaho Springs/Colorado Boulevard interchange (Exit 241).

From just west of the Hyland Hills/Floyd Hill interchange, westbound I-70 narrows from three lanes to two lanes and continues as two lanes through the Project limits. West of the Project limits, the Mountain Express Lane provides three-lane capacity from Idaho Springs to Empire during peak travel periods. The bottleneck of two-lane capacity through the Project area results in extensive queuing and

travel delays of 30 minutes or more during peak holiday and weekend travel periods; delays are expected to increase to 90 minutes by 2045. The Project will provide a third travel lane through the bottleneck. The new lane will be a tolled Express Lane and will connect to the Mountain Express Lane in Idaho Springs.

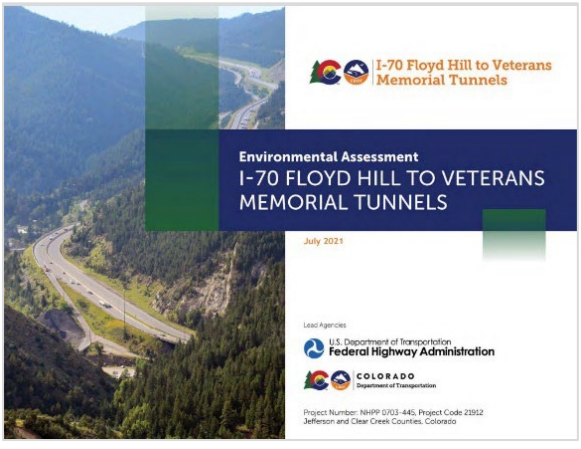
Between the US 6 and Hidden Valley/Central City interchanges, the I-70 frontage road is disconnected. East of US 6, United States Highway 40 (US 40) acts as a frontage road, and west of Hidden Valley/Central City, County Road (CR) 314 acts as a frontage road. The Project would construct the missing segment of the frontage road as included in the ROD. The Project would also reconstruct the segment of the Clear Creek Greenway trail in the Project area from US 6 to the Veterans Memorial Tunnels. The Clear Creek Greenway is a recreational system that when fully constructed will provide a bike trail that spans Clear Creek County from east to west and connects the Peak-to-Peak Trail in Jefferson County to the Continental Divide National Scenic Trail in Summit County.

The Project corridor was divided into three geographic sections, illustrated in Figure 1, to reflect differing roadway and environmental characteristics. Floyd Hill, an approximately two-mile-long, steep incline, averaging nearly 6 percent grade is included in the East and Central Sections of the Project. The top of Floyd Hill, with an elevation of approximately 7,900 feet, is located in the East Section just east of the Hyland Hills/Floyd Hill interchange where westbound I-70 narrows from three lanes to two lanes. The East Section ends midway down Floyd Hill at approximately Johnson's Gulch. The bottom of Floyd Hill, at an elevation of approximately 7,240 feet, is in the Central Section of the Project along a sharp horizontal curve near the US 6 westbound entrance to I-70.

The Central and West Sections of the Project include a series of horizontal curves that have design speeds of less than 55 miles per hour (CDOT, 2016). Through the Central Section from US 6 to the Hidden Valley/Central City interchange, I-70 parallels Clear Creek in the floor of the narrow Clear Creek Canyon surrounded both north and south by steep mountain faces. The West Section from the Hidden Valley/Central City interchange through the Veterans Memorial Tunnels to the Idaho Springs/Colorado Boulevard interchange has similar constraints to the Central Section with the additional consideration of tying into the expanded Veterans Memorial Tunnels and the Idaho Springs/Colorado Boulevard interchange.

1.2 Environmental Assessment

The NEPA process for the Project was initiated in 2017, and in August 2021, CDOT and FHWA released an EA for the Project. The EA evaluated two action alternatives, the Canyon Viaduct Alternative and the Tunnel Alternative, and a No Action Alternative. The EA identified the Canyon Viaduct Alternative as the Preferred Alternative, which is referred to as the EA Preferred Alternative in this FONSI.



The EA followed the I-70 Mountain Corridor Context Sensitive Solutions (CSS) process, which is a commitment of the ROD and used for all Tier 2 NEPA processes.[1] The CSS process brings together a multi-

[1] Tiering is a staged approach to NEPA that addresses broad programs and issues in initial (Tier 1) or systems level analyses and analyzes site-specific proposals and impacts in subsequent tier studies.

disciplined, multi-interest stakeholder group tasked with providing guidance for projects and ensuring that stakeholder values, such as preserving and maintaining scenic and environmental integrity, are incorporated into the project decision making process. Numerous stakeholder groups were represented on the Project Leadership Team (PLT), Technical Team (TT), and Issue Task Forces (ITFs); these teams and the CSS process were central to the Project development and are referenced throughout this document.

1.3 CMGC Innovations and Design Refinements

In late 2021 and early 2022, CDOT conducted a project delivery review and completed a Project Delivery Selection Matrix to determine the type of delivery (design and construction procurement) for the Project. Through this process, CDOT determined that a CMGC procurement process best fit the Project context and goals. CMGC project delivery allows an owner to engage a construction manager during the design process to provide constructability input. At approximately 60 percent and 90 percent design completion, the owner and construction manager negotiate a guaranteed maximum price for the project construction based on the defined scope and schedule. Project conditions that differentiated CMGC over other alternative delivery methods, like Design-Build, or traditional Design-Bid-Build delivery include:

- Specialized work for viaducts, rock blasting, maintenance of traffic, and phasing
- Need for contractor input on design concept, optimization, and constructability
- Better ability to identify, assign, and mitigate Project risks
- Compatibility with the CSS process and community participation in design and innovation review
- Ability to respond to potential incremental funding

CDOT conducted an extensive Request for Proposals process and held several industry informational events before the CMGC design and construction manager contracts were advertised in October 2021. In December 2021, three firms were shortlisted for final interview for each contract, and in January 2022, CDOT selected the CMGC team of Atkins Global for Design Engineering services and Kraemer North America for Construction Manager services.

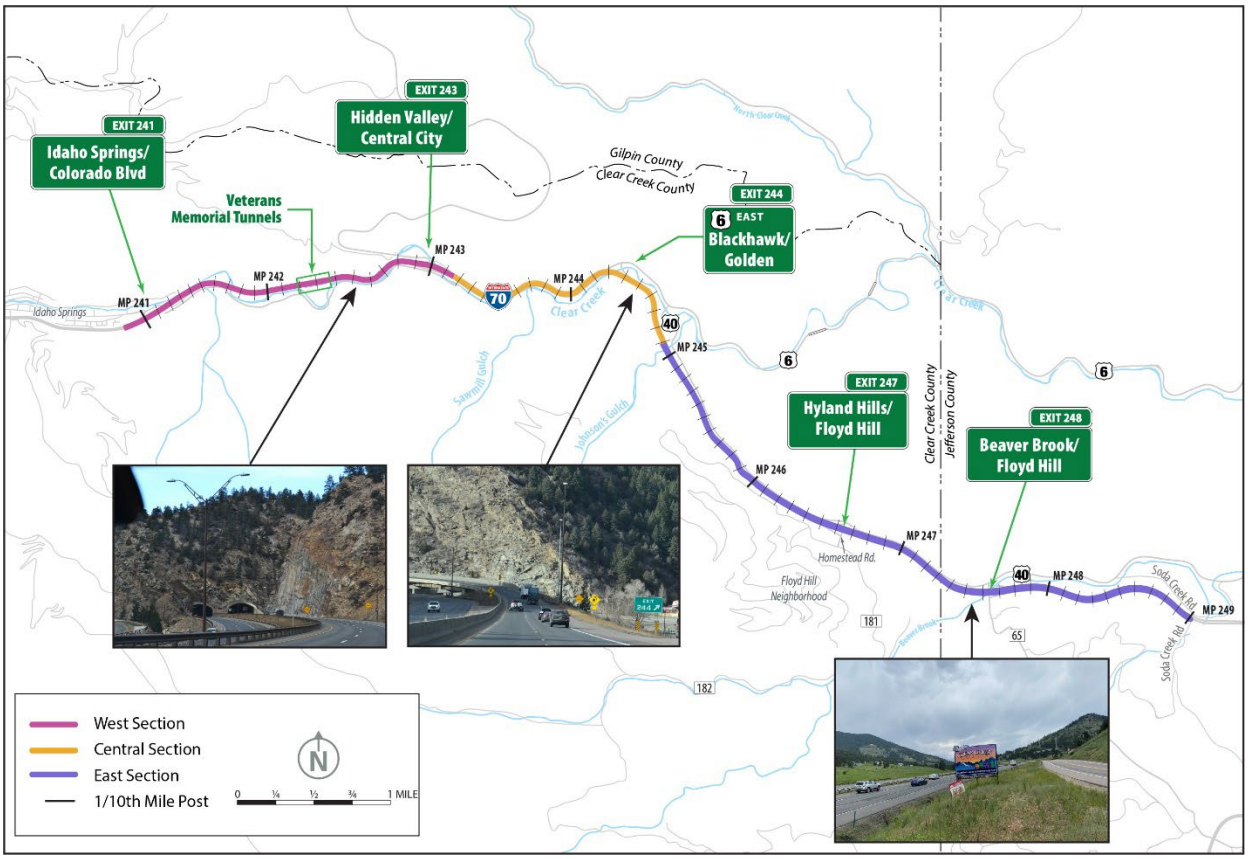
In April 2022, the CMGC team initiated a process to develop design and construction innovations for the EA Preferred Alternative. Between April and September 2022, CDOT, FHWA, and the CMGC consultants engaged the Project's TT to review the innovations. As a result, several design refinements or innovations were recommended and incorporated into the CMGC Refined Preferred Alternative, which was endorsed as the Project's Preferred Alternative selected in this FONSI, as described in Chapter 2.

2.0 SELECTED ALTERNATIVE

CDOT and FHWA have selected the CMGC Refined Preferred Alternative for the Project. The selected alternative is based on the EA Preferred Alternative (identified as the Canyon Viaduct Alternative in the EA), which has been refined through the CMGC process.[2] The CMGC Refined Preferred Alternative improved the EA Preferred Alternative by incorporating design innovations, which have reduced the Project's impacts and increased its benefits. It has been endorsed by the Project teams involved in the I-70 Mountain Corridor CSS process and is responsive to substantial input from the public.

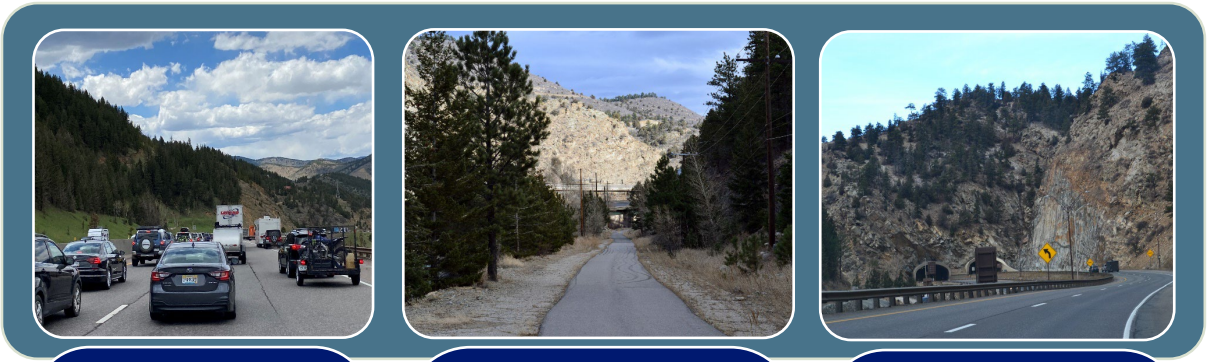
The Project has been designed and will be constructed in three distinct geographic packages (Figure 2 and Figure 3). Limits of the Project Sections differ slightly from what was presented in the EA, to support construction phasing and packaging: the Central Section has been extended east to encompass the full US 6 interchange and ramps, and the West Section has also been extended east to encompass the Hidden Valley/Central City interchange.

Figure 2. Project Limits and Sections



[2] CDOT also considered a Tunnel Alternative in the EA, but both the EA analysis and the subsequent design and construction review through the CMGC delivery process confirmed that the EA Preferred Alternative (the Canyon Viaduct Alternative) concept would best meet the Project's purpose and need and goals, fit the social and environmental context of the surrounding area, and support community and environmental values with the least environmental impacts and greatest opportunity for enhancements and should be the foundation for innovations.

Figure 3. Project Elements in the East, Central, and West Sections



EAST SECTION

The East Section extends from east of the Floyd Hill neighborhood to midway down Floyd Hill. In the East Section, a new westbound travel lane will be provided from the Hyland Hills/Floyd Hill interchange where westbound I70 narrows from three lanes to two lanes. East of the Hyland Hills/Floyd Hill exit, a transition area will be provided in the three-lane section for the new Express Lane, and wildlife fencing will be installed on both sides of I70 from the Hyland Hills/Floyd Hill exit east to Soda Creek Road. A new eastbound auxiliary lane will be provided in the uphill direction of Floyd HIll between the US 6 and Hyland Hills/Floyd Hill interchanges to reduce conflicts with slow moving vehicles on the steep grade.

CENTRAL SECTION

The Central Section extends west from midway down Floyd Hill including the US 6 interchange to just east of the Central City/Hidden Valley interchange. In this Section, the Project will continue the new westbound I70 Express Lane and will construct the missing frontage road connection between between the US 6 and Hidden Valley/Central City intechanges. The US 6 interchange movements will be modified: the westbound US 6 to I70 and eastbound I70 to US 6 accesses will be relocated to the Hidden Valley/Central City interchange via the new frontage road, a new US 6 to eastbound I70 ramp will be provided, and the existing I70 westbound off-ramp to US 6 will be realigned and rebuilt. The Clear Creek Greenway trail will be reconstructed. A portion of Clear Creek east of Hidden Valley/Central City interchange will be realigned, and Clear Creek riparian areas and river accesses will be restored or enhanced.

WEST SECTION

The West Section includes the Central City/Hidden Valley interchange at MP 243 and continues west through the Veterans Memorial Tunnels to the Idaho Springs/Colorado Boulevard interchange at MP 241. CR 314 runs on the south side of Clear Creek Canyon, acting as the I70 frontage road between Idaho Springs and Hidden Valley/Central City interchange and will not be affected by the Project. Through the West Section, the Project will continue the new westbound I70 Express Lane and improvements to the Clear Creek Greenway trail. The Hidden Valley/Central City Parkway interchange will be improved with roundabout intersections to accomodate the US 6/ I70 westbound on and eastbound off movements from the extended US 6 frontage road. A new noise wall will be provided in east Idaho Springs.

The CMGC team developed and then refined innovations in each of the Project sections to improve constructability, optimize the design, reduce impacts, support environmental and community values, and lower costs. The evaluation of innovations followed a structured and disciplined process where the CMGC design team identified innovations and presented initial concepts to the TT. The TT then determined if a proposed concept warranted further consideration and whether an ITF was needed to conduct an initial evaluation and provide a recommendation or additional information to the TT. The

CMGC design team then refined the concept, with ITF input if needed, and the TT considered the recommendation, asked for additional review or refinements, and either endorsed or rejected the innovation for inclusion in the CMGC Revised Preferred Alternative.

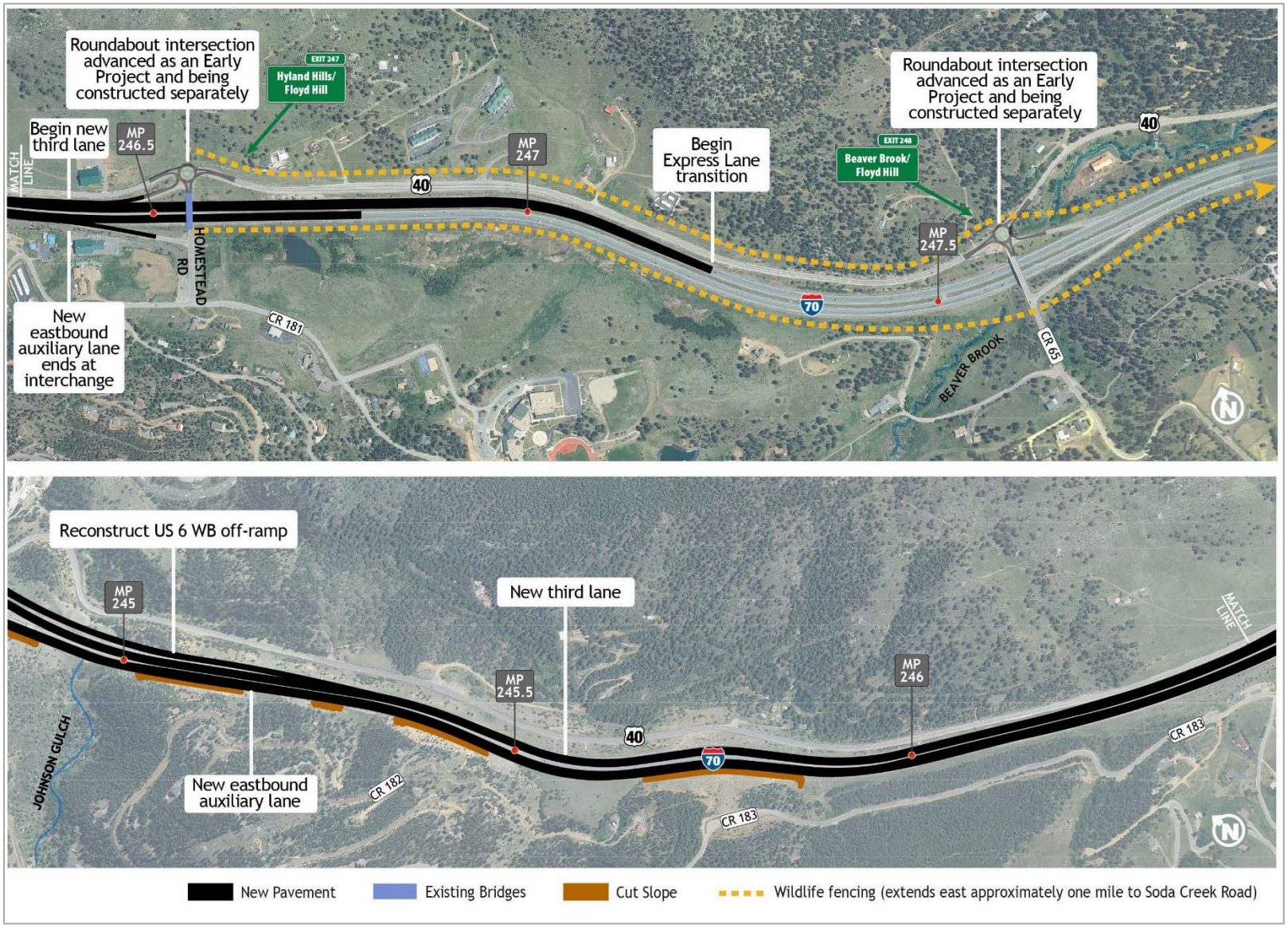
Ultimately, the CMGC Refined Preferred Alternative incorporated several innovations proposed by the CMGC team, which included substantial alignment modifications in the Central and West Sections and many smaller refinements recommended by the TT. The TT also identified areas where additional design or construction detail was needed to track issues or outstanding questions about impacts, mitigation, or tradeoffs as final design progresses. These issues were captured in a CSS tracking spreadsheet to be considered as the design progresses. The resulting CMGC Refined Preferred Alternative selected in this FONSI has been endorsed through the CSS process by the PLT based on the TT recommendations. Appendix A presents a detailed account of the innovations considered but included in the CMGC Refined Preferred Alternative, as well as those that were considered and rejected, including meeting summaries and supporting documents for the PLT, TT, and ITF meetings over the innovation evaluation period between April and November 2022.

2.1 East Section

The East Section of the Project includes the beginning of the new westbound Express Lane, a third travel lane from Floyd Hill through the Veterans Memorial Tunnels that will connect with the existing Westbound Mountain Express Lane from Idaho Springs to Empire. The East Section also includes an eastbound auxiliary lane from the bottom of Floyd Hill at US 6 to the Hyland Hills/Floyd Hill interchange. The eastbound auxiliary lane will connect to a new I-70 eastbound on-ramp from US 6; changes in the US 6 movements are described in the Central Section. Wildlife fencing is included throughout the East Section on both sides of I-70 from the Hyland Hills/Floyd Hill exit east to Soda Creek Road to address high wildlife-vehicle collisions throughout this area, which are particularly concentrated in the meadow just north of Clear Creek High School around MP 247.5. Figure 4 illustrates the Project features in the East Section.

The East Section alignment and Project elements between MP 249 and MP 245, midway down Floyd Hill at approximately Johnson's Gulch, are unchanged from the EA Preferred Alternative. West of Johnson's Gulch, the I-70 alignment and US 6 interchange movements have been modified through design innovations described in the Central Section.

Figure 4. East Section Project Components



2.2 Central Section

The Central Section is the most complex portion of the Project. It was the focus of most of the CMGC innovations and will be the last section to be constructed. The physical setting of the Central Section, with the narrow canyon and proximity of existing I-70 to Clear Creek and the Clear Creek Greenway, coupled with the need to provide a frontage road connection through this section, presents numerous constructability and design challenges. Some of the difficulties include construction access and maintenance of traffic, long bridge spans, skewed bridge alignments, bridge pier placement, work in and around Clear Creek, and recreational use and access to the Greenway and creek.

Despite the challenges, the Central Section design will be transformative for highway users, local travel, recreation, and the Greenway and creek. Elevating and removing the highway from the Canyon floor restores and improves recreational and environmental conditions for people and wildlife, and highway users on the elevated I-70 lanes will experience scenic vistas of the Floyd Hill ridgeline as travelers enter the quiet, clustered, mountain communities and natural ecosystems of Clear Creek County. The CMGC Refined Preferred Alternative is sensitive to this context and maintains the benefits of the viaduct concept, while also improving constructability by reducing traveler disruption, improving construction safety, minimizing risks, and increasing cost efficiency. Figure 5 illustrates the features of the CMGC Refined Preferred Alternative and summarizes the changes from the EA Preferred Alternative. The refinements considered are described in detail in Appendix A. The CMGC Refined Preferred Alternative includes several important modifications to the EA Preferred Alternative through the Central Section:

- Shifts I-70 westbound alignment north to bottom of existing slope (closer to US 40 and Clear Creek) to improve construction access (Figure 6).
- Realigns eastbound and westbound elevated portions of I-70 over Clear Creek Canyon to separate alignments with a terraced hillside cut, rather than parallel viaducts with a larger hillside cut. Eastbound I-70 is still elevated but lower than the EA concept and returns to existing grade near US 6 (Figure 7).
- Relocates US 6 access to westbound I-70 to Hidden Valley/Central City Parkway interchange, which is a change from the EA Preferred Alternative, which provided the movement at the existing US 6 intersection. Also relocates eastbound US 6 access from eastbound I-70 to the Hidden Valley/Central City Parkway interchange, reconstructs the westbound I-70 to US 6 off-ramp, and constructs a new US 6 to eastbound I-70 ramp that connects to the new uphill eastbound auxiliary lane that terminates near the Hyland Hills/Floyd Hill eastbound off-ramp. The addition of the frontage road/extension of US 6, removal of the lefthand exits, and addition of the new eastbound I-70 on-ramp from the bottom of Floyd Hill all improve safety and traffic flow for the I-70/US 6 accesses.
- Realigns an approximately 1,600-foot section of Clear Creek south near the Hidden Valley/Central City Parkway interchange (instead of a similar creek realignment in West Section) (see Figure 16 in Chapter 4.0).

The innovations recommended in the Central Section reduce geotechnical hazards, better adapt to the geometry of the canyon, optimize viaduct alignment angles, reduce disruption to existing lanes, and increase overall constructability compared to the EA Preferred Alternative.

Figure 5. CMGC Refined Preferred Alternative Central Section Design Refinements

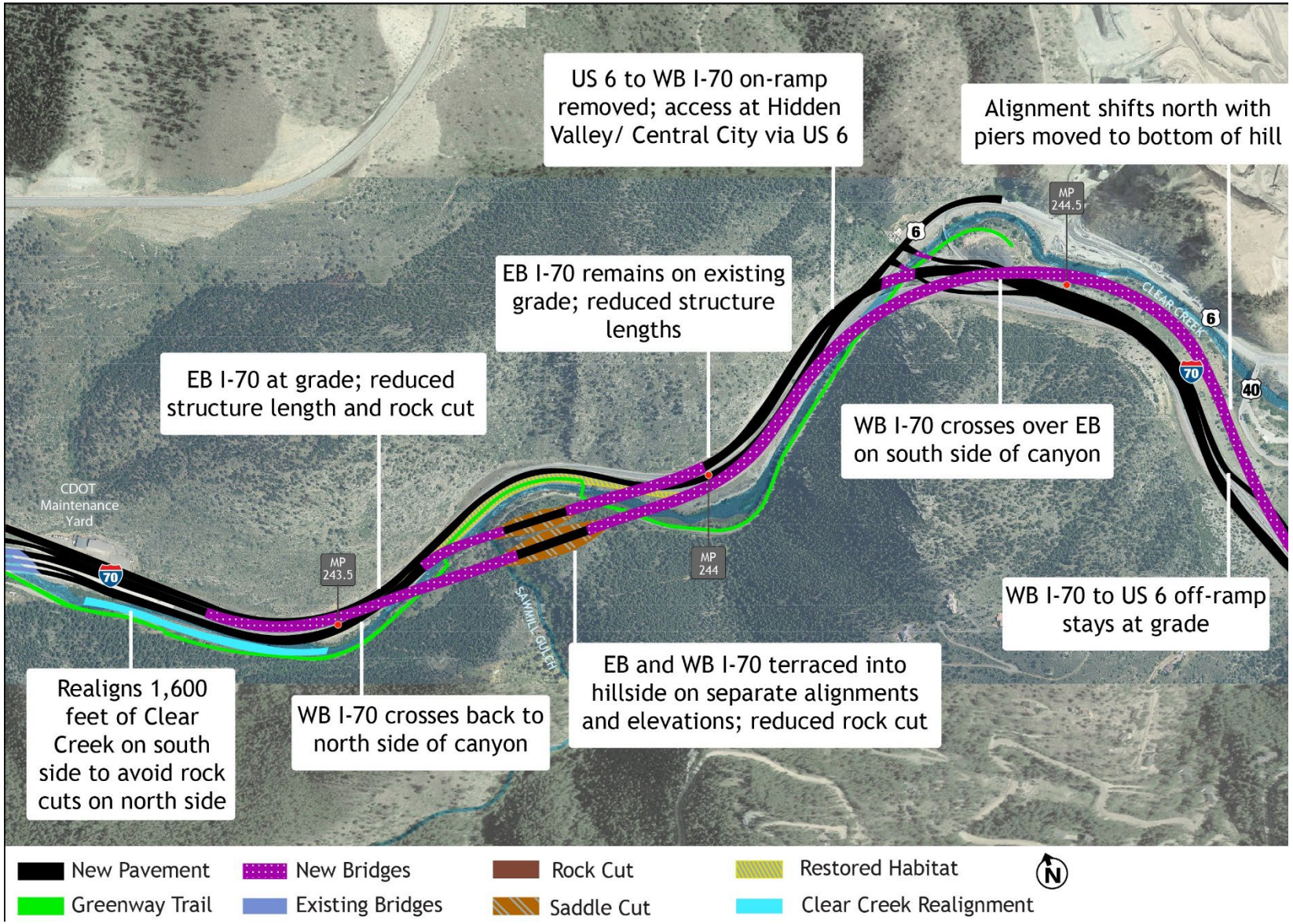
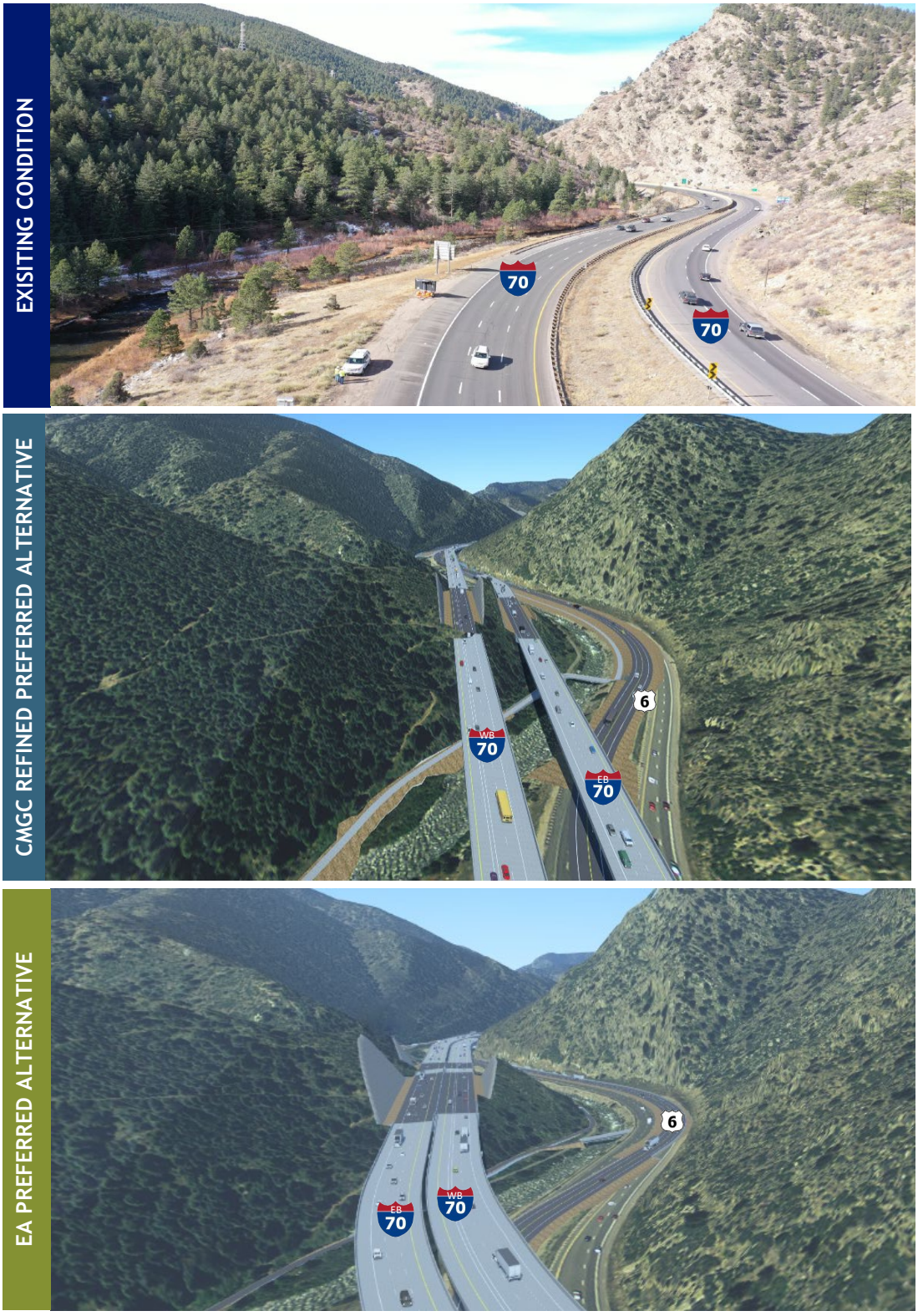


Figure 6. CMGC Refined Preferred Alternative, North Shift of Westbound I-70 from mid-way down Floyd Hill

Modeled simulation of Bottom of the Hill alignment shift, looking toward US 6 from mid-way down Floyd Hill

Figure 7. Comparison of Existing Conditions, the CMGC Refined Preferred Alternative, and the EA Preferred Alternative in the Sawmill Gulch area



2.3 West Section

Contractor innovations in the West Section, particularly related to rock excavation assumptions, significantly improved the design and constructability of this section and vastly reduced impacts of construction disruptions to local communities, recreationalists, emergency responders, and I-70 travelers. The EA Preferred Alternative design sought to minimize rock cuts while flattening the curves to improve design speed in this area. Rock cuts were included on both the north and south side of the canyon due to the constraints identified with flattening the curves.

The Construction Manager, in reviewing the EA Preferred Alternative, recommended concentrating rock cuts on the north side of the canyon, rather than balancing rock cuts on both sides of the canyon. This recommendation was based on their expertise and understanding of the rock structure in the area, concerns about the stability of rock cuts on the south side of the canyon, the desire to keep CR 314 open during construction, and avoiding impacts and costs of reconstructing recently constructed retaining walls and other infrastructure on CR 314. Additionally, the TT noted that shifting the I-70 alignment north opened a new area along the north bank of Clear Creek for riparian restoration and potential river access by grading steep embankments, as well as avoided the realignment of Clear Creek that would occur in this section under the EA Preferred Alternative.[3] Features of the West Section are illustrated in Figure 8, and simulations of the north rock cut and the riparian restoration areas are shown in Figure 9.

[3] As described in Section 2.4, the CMGC Refined Preferred Alternative requires realignment of a segment of Clear Creek in the Central Section.

Figure 8. CMGC Refined Preferred Alternative West Section Design Refinements

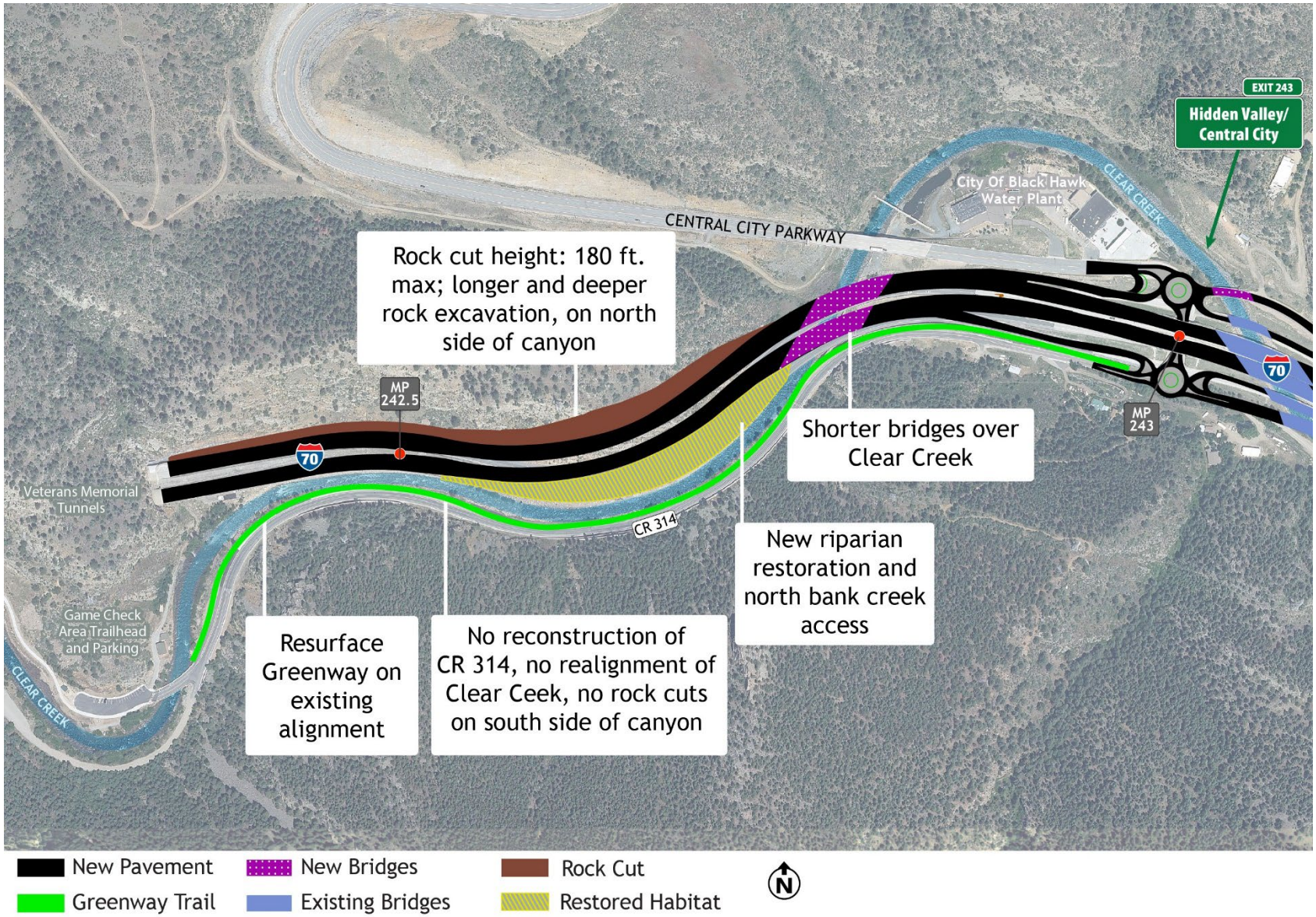


Figure 9. CMGC Refined Preferred Alternative Simulation

Simulation of the CMGC Refined Preferred Alternative (top) looking east from the Veterans Memorial Tunnels compared to the existing condition (bottom)

2.4 Frontage Road, Clear Creek Relocation, and Greenway Design

The CMGC Refined Preferred Alternative modifies the alignment of the frontage road and the location of the planned creek realignment, and advances the Greenway design. The refinements do not change the Project elements, impacts, or benefits described in the EA.

2.4.1.1 Frontage Road

The CMGC Refined Preferred Alternative provides a new frontage road connecting US 6 and CR 314 (at the Hidden Valley/Central City interchange) in the Central Section. In the West Section, the CMGC Refined Preferred Alternative shifts I-70 north into the rockface next to westbound I-70, which avoids

impacts to the existing CR 314 frontage road west of the Hidden Valley/Central City interchange on the north side of Clear Creek. Unlike the EA Preferred Alternative, the CMGC Refined Preferred Alternative does not require reconstruction of CR 314 through the Project area and allows the frontage road to remain open during construction.

2.4.1.2 Clear Creek Realignment

The CMGC Refined Preferred Alternative requires relocation of an approximately 1,600-foot section of Clear Creek and the Greenway near the intersection of CR 314 and Central City Parkway (south of the Hidden Valley/Central City interchange). It avoids the relocation of Clear Creek in the West Section of the Project required under the EA Preferred Alternative. The Project will design the creek realignment to maintain existing ecological and recreational functions on the relocated reach of the creek. This modification will require an Individual Permit under Section 404 of the Clean Water Act. The Project includes commitments for in-stream and riparian enhancements throughout the reaches of Clear Creek in the Project area. The U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), and the rest of the Stream and Wetland Ecological Enhancement Program (SWEEP) ITF have reviewed the creek realignment modification, proposed mitigation, and permitting approach and will continue to be involved as the design progresses. Section 4.17 describes the creek impacts in more detail, and Chapter 5 describes the mitigation.

2.4.1.3 Greenway

The elements and goals of the Clear Creek Greenway design are unchanged from the EA though more is now known about the opportunities and constraints. Once the roadway alignments were agreed upon, the TT began considering the Greenway design. Through a series of office meetings and site visits, the team inventoried existing features and identified areas of interest along the full stretch of the Greenway between the Veterans Memorial Tunnels and US 6 (approximately 2.5 miles). The Project is committed to integrating the Greenway design with creek improvements to expand and enhance recreational opportunities, wildlife and aquatic habitat, and water quality. The design will advance using the collaborative CSS process to balance priorities.

2.5 Future design and construction refinements

The TT will be involved throughout the design phase. The CMGC team has developed a schedule for design reviews and issue tracking, which will evolve as the Project progresses. It is anticipated that the TT will meet bi-weekly to monthly, on average, through the design phase in 2023 and into May 2024 as the design is refined. The TT is responsible for considering the core values, aesthetic guidelines, and CSS design criteria in the design. The TT will also track issues through design and construction and monitor the CSS considerations developed through the early planning and preliminary design phases of the Project development.

Some design elements of the CMGC Refined Preferred Alternative are less developed, such as the Greenway and creek design, or require more information to make decisions, such as geotechnical data that may affect rock cuts or structure design to inform pier placement. In these cases, CDOT will continue to review environmental impacts and mitigation requirements and conduct reevaluations of impacts as necessary.

3.0 Project Updates and Changes after the EA Release

The Project continued to advance and develop after the publication of the EA in August 2021.

3.1 Design and Construction Updates

As noted in Section 1.3, the Project is being advanced through a CMGC method of project delivery, and Design Engineering and Construction Manager services have been procured. Through the CMGC process, the design has been advanced, a design and construction schedule has been developed, and construction packages have been defined. The advanced design for the CMGC Refined Preferred Alternative is described in Chapter 2, changes to the design from the EA Preferred Alternative are summarized in Chapter 2 and described in detail in Appendix A, and the environmental impacts of the design refinements are evaluated in Chapter 4.

Construction packages have been developed for each of the Project sections, with work in the Central Section split between two packages with early work on the saddle cut beginning in Package 1. Construction is expected to begin in 2023 and be substantially complete in 2027, as shown in Figure 10.

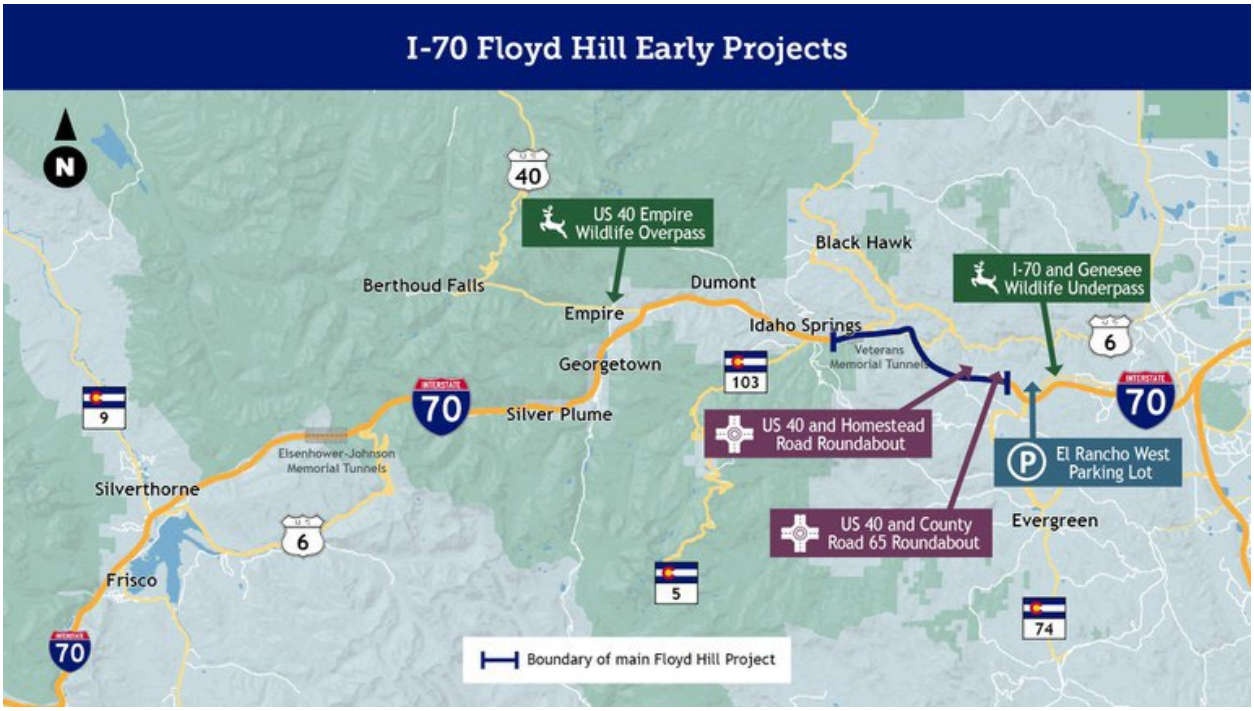
Figure 10. Roadmap of design and construction schedule

3.2 Early Projects

During the development of the EA, CDOT identified several Project elements that had independent utility and could be advanced for implementation ahead of other improvements, including US 40 intersection improvements at the Beaver Brook/Floyd Hill and Hyland Hills/Floyd Hill interchanges, wildlife crossings at Genesee and Empire, and a transit and electric vehicle charging parking area in Evergreen to support the Pegasus shuttle van transit service. These projects are collectively referred to as Early Projects (Figure 11). They are being designed and constructed through traditional design-bid-build delivery methods.

Since the EA, CDOT has completed design of the Genesee Wildlife Crossing Project, a contractor, Lawrence Construction, was awarded the project, and construction began in November 2022. CDOT also completed design of the US 40 Roundabouts Project, awarded construction to American Civil Constructors, and construction began in December 2022. Design of the Empire Wildlife Crossing has advanced and is expected to be advertised for construction in early 2023. The El Rancho Pegasus Parking Lot and Electric Vehicle Charging Project is being designed, and construction is expected to begin in mid-2023. All of the Early Projects are planned to be completed by mid to late 2024.

Figure 11. Location of Early Projects



CDOT completed separate Categorical Exclusions for the Early Projects, and they are separate from the EA and FONSI processes. While the Early Projects are not included in the FONSI Selected Alternative, they are important features or commitment of the overall Project and are included in CDOT's Project budget.

3.3 Changes to Regulations, Guidance, or Environmental Conditions

The following regulations or environmental conditions have changed after the EA was completed and are discussed as appropriate in Chapter 4:

- Senate Bill 21-260 (SB260), which was signed by Governor Polis June 17, 2021, included new environmental requirements in Section 30, which have been codified in the Colorado Revised Statute (CRS) 43-1-128. The CRS requires Regionally Significant Transportation Capacity projects to account for the impacts on statewide GHG pollution as part of the planning process and for the air quality impacts as part of the environmental study process. This Project has been designated as a Regionally Significant Transportation Capacity Project in CDOTs 10 Year Plan and is, therefore, subject to CRS requirements. The Project demonstrated compliance with the GHG Planning Standard through statewide GHG modeling conducted for the 10-Year Plan September 2022 update, which included the I-70 Floyd Hill Project. Additionally, CDOT committed to install air quality monitors and monitor air emissions before and during construction, as is now required by Part 4 of the CRS. Because the pollutants, duration, and number of monitors required may change, the CDOT Project Director and CDOT Construction Manager will coordinate closely with CDOT's Air Quality

team to ensure the monitoring meets the most current guidance. The mitigation commitments in Chapter 5 of this FONSI reflect the updated requirements.[4]

- In addition to the new air quality requirements, SB260 implements several new transportation fees and General Fund transfers and creates or modifies four state enterprises. It also created an Environmental Justice and Equity Branch in CDOT's engineering, design, and construction division to address technological, information, and language barriers of transportation projects in disproportionately impacted communities.
- Executive Order 14008 (2021) established the Justice40 initiative and directed the Council on Environmental Quality to create a Climate and Economic Justice Screening Tool.
- The US Fish and Wildlife Service has designated the monarch butterfly as a Candidate for listing as endangered or threatened under the Endangered Species Act (ESA).
- Wetlands and waters of the US were re-delineated in August of 2022 for the Central and West Sections of the Project to support the environmental reevaluation and future Section 404 permitting. The delineation indicated changes in existing conditions, with some wetlands no longer present and others decreasing or increasing in size. The 2022 delineation identified 33 wetlands and 5 other waters (Clear Creek, Johnson Gulch, Sawmill Gulch, an unnamed drainage, and a pond). The results of the wetland delineation are documented in the *I-70 Floyd Hill to Veterans Memorial Tunnels Wetlands and Aquatic Resources Delineation Report* (Appendix D).
- CDOT's MS4 permit expired in July 2020. The state has extended it from 2020 through an administrative extension; the renewal date is unknown but is expected to occur within the next couple of years.
- The Permanent Water Quality Section of CDOT's Drainage Design Manual was updated in June 2021.

3.4 Funding Updates

As noted in Section 3.9 of the EA, CDOT committed to fund the full Project construction but at the time of the EA release had not secured all the needed funds. Since the EA was released, CDOT identified the $700 million in funding to complete the Project, including $100 million from the federal INFRA (Nationally Significant Multimodal Freight and Highway Projects) Grant Program, which was announced in August 2022. In September 2022, the Transportation Commission approved the funding for Project as part of CDOT's updated 10 Year Plan budget.

The Denver Regional Council of Government's 2050 Metro Vision Regional Transportation Plan was also updated in September 2022; the Project is included in the fiscally constrained plan and reginal air quality conformity determination.

[4] Although requirements associated with CRS 43-1-128 were not in effect during the preparation of the EA, CDOT did include a quantitative analysis of GHG air emissions from on road vehicle tailpipe emission sources (e.g., passenger vehicles, heavy duty trucks) for existing conditions and future conditions for the Project. This analysis is documented in the *State Air Quality Technical Report*, July 2021, which is an appendix to the EA and was updated in an addendum to reflect CRS-43-1-128 interim guidance.

4.0 Environmental Reevaluation

The CMGC innovations described in Chapter 2 and detailed in Appendix A have resulted in changes to the Project design from the EA Preferred Alternative. This chapter includes an environmental reevaluation of the CMGC Refined Preferred Alternative to assess the effect of these changes on the environmental resources in the Project area. CDOT most often reevaluates its environmental findings when a project is proceeding to the next major approval or action (e.g., the purchase of right-of-way) or there have been changes to the design, regulations, or environmental conditions that may affect the project or have a bearing on its impact (categorized by CDOT as a Level 3 reevaluation).

CDOT determined that a Level 3 environmental reevaluation was warranted in this case based on the changes to the design from the CMGC process. Further, CDOT determined that updating the environmental impacts and mitigation of the CMGC Refined Preferred Alternative was needed to confirm that a FONSI is appropriate and ensure that all necessary mitigation measures have been considered and included in the Project.

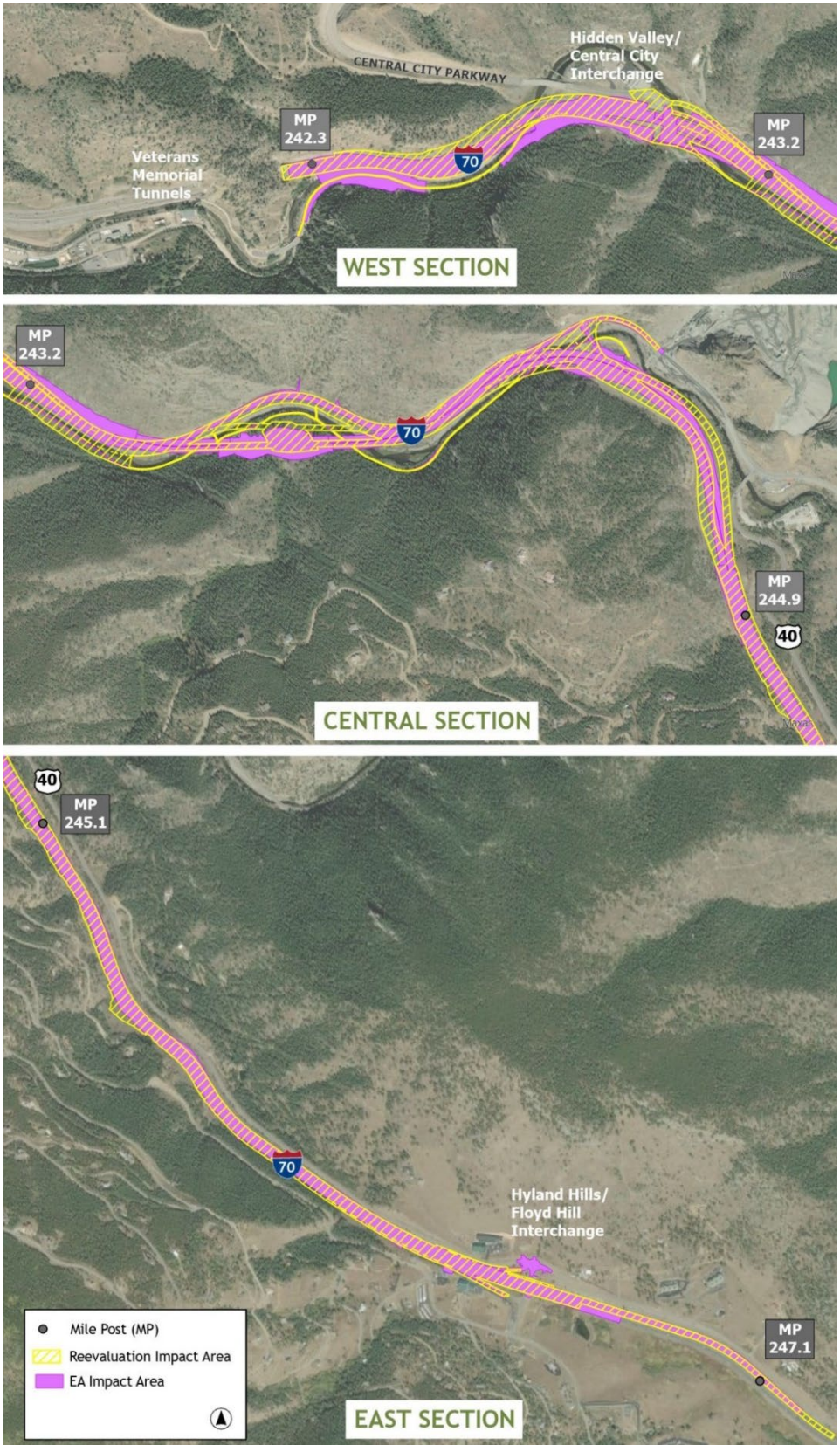
4.1 Methodology and Approach

The environmental reevaluation relies on the analysis presented in the EA and supporting technical memoranda, and comparison of the designs and footprints of the CMGC Refined Preferred Alternative and EA Preferred Alternative. The purpose of the reevaluation is to evaluate whether the design modifications included in the CMGC Refined Preferred Alternative affect environmental resources differently from what is presented in the EA. The approach to the reevaluation is as follows:

- Identify which resources need to be reevaluated. Resources are not reevaluated if they are not present in the Project area or if no impacts were identified in the EA and no new impacts are anticipated (refer to Section 4.2 for additional information).
- Evaluate each resource for changes in regulatory or environmental conditions. With few exceptions that are documented in Section 4.2, the context, or affected environment, for each resource was the same as what was presented in the EA and is, therefore, not documented again in this reevaluation.
- Establish an impact area for the CMGC Refined Preferred Alternative based on anticipated limits of disturbance and evaluate impacts.
  - For resources where impacts can be quantified, impacts are calculated by overlaying the impact area with the resource using geographic information systems (GIS); impacts are confirmed through coordination with the CMGC.
  - For resources where impacts are not quantifiable, impacts are evaluated using design files, 3D renderings, and coordination with resource specialists; information gathered from site visits with ITFs and CSS meetings is also considered.
- Compare impacts of the CMGC Revised Preferred Alternative to the EA Preferred Alternative. For any change in impacts, mitigation is evaluated to determine whether changes to mitigation measures are needed; where the CMGC Revised Preferred Alternative avoids impacts, mitigation measures have been removed.

The reevaluation follows the same approach to impact analysis that was used in the EA to allow for meaningful comparisons. As shown in Figure 12, because the CMGC Refined Preferred Alternative is derived from the EA Preferred Alternative and contains the same project components, the impact footprints are very similar, and the types of impacts expected are also similar. In most cases design innovations developed through the CMGC process have minimized the intensity of impacts from what was reported in the EA. However, in some cases, impacts occur in different locations or may appear greater due to a more refined understanding of environmental conditions, such as new wetland delineations, or because as the design has progressed and more is now known about specific Project elements, such as placement of bridge piers.

Figure 12. Comparison of EA and Reevaluation Impact Footprints



4.2 Environmental Resources not Reevaluated

The following resources are not discussed further in this document because either they are not present in the Project area or were documented in the EA to have no impacts, and design modifications would not result in any new impacts:

- **Environmental Justice:** The EA evaluated the presence of and potential for impacts to minority and low-income populations, as well as needs related to persons with Limited English Proficiency (LEP). The analysis did not identify disproportionately high and adverse effects on these populations, and mitigation measures were not required or recommended. The complete analysis can be found in the *I-70 Floyd Hill to Veterans Memorial Tunnels Environmental Justice Technical Report*, which is an Appendix to the EA. Although new Federal and State regulations related to Environmental Justice have been released in recent years, the methodology and conclusions from the EA remain valid.

  Except for recommended noise abatement (a noise wall), which will be constructed if affected residents determine it to be desirable, the Project does not involve construction in Idaho Springs, which is the only location where higher than average minority and low-income populations are present. The EA identified temporary construction related impacts as well as benefits associated with traffic noise abatement, safety improvements, and more reliable travel times. Equity considerations related to tolling were evaluated for the action alternatives and were found not create a meaningful financial burden for lower-income residents or commuters.

  The design modifications do not change the context or intensity of the effects identified in the EA, and the CMGC Refined Preferred Alternative would not result in disproportionately high and adverse effects to minority or low-income populations. Therefore, reevaluation of Environmental Justice is not required.

- **Farmlands:** Farmlands are not present in the Project area.

- **Paleontological Resources:** Paleontological resources are not present in the Project area.

- **Section 6(f):** No properties developed with funds from the Land and Water Conservation Fund are present in the Project area.

- **Cumulative Impacts:** Cumulative impact analysis focuses on a broad area, assessing how environmental resources of concern will be affected by the overall action when combined with other past, current, planned, and future actions or stressors. Other than the advancement of Early Projects described in Chapter 3, there have been no changes to land development activities within the Project area. Project elements remain the same and design modifications do not change the cumulative impacts analysis presented in the EA.

4.3 Environmental Resources Under Reevaluation

Resources with the potential for new or changed impacts from what was disclosed in the EA are presented in Table 1. Sections 4.4 through 4.19 detail the CMGC Refined Preferred Alternative impacts to these resources, compare impacts to the EA Preferred Alternative, and, if applicable, explain why they differ.

Table 1. Environmental Reevaluation Summary

Resource	Change in Affected Environment or Setting		Change in Environmental Impact	
	Yes	No	Yes	No
Air Quality		X		X
Cultural Resources		X	X	
Floodplains		X	X	
Geologic Resources		X	X	
Hazardous Materials		X		X
Land Use		X		X
Right-of-Way		X	X	
Noise		X		X
Recreational Resources		X	X	
Section 4(f)		X		X
Socioeconomic Resources		X	X	
Threatened and Endangered Species	X			X
Vegetation and Noxious Weeds		X	X	
Visual Resources		X	X	
Water Quality		X	X	
Wetlands and Aquatic Resources	X		X	
Wildlife and Aquatic Species		X	X	

4.4 Air Quality

4.4.1 What are the Impacts of the CMGC Refined Preferred Alternative?

During the EA, CDOT coordinated with the Colorado Department of Health and Environment (CDPHE) Air Pollution Control Division (APCD) and concluded that the Project would not affect regional or localized pollutants regulated by National Ambient Air Quality Standards. The design modifications for the CMGC Refined Preferred Alternative do not change this conclusion. The CMGC Refined Preferred Alternative would decrease congestion, improve speeds on I-70, improve level of service (LOS) at interchanges, and provide a multimodal, non-vehicular travel option through the Project area with the Greenway bike and pedestrian trail. The operation of the new travel lane as an Express Lane is also expected to improve traffic flow and air quality. Improvements in vehicle engines and fuels are expected to reduce criteria pollutants regionally. Additionally, to support statewide air quality goals, CDOT committed to install two permanent air quality monitors in the Floyd Hill and Idaho Springs areas to gather data and monitor local air quality to supplement other regional air quality data. This commitment continues with the CMGC Refined Preferred Alternative.

Due to the increased concern over GHG emissions and climate change, CDOT conducted quantitative analyses on GHG, mobile source toxics, and criteria pollutant emissions from onroad vehicle tailpipe emission sources (e.g., passenger vehicles, heavy duty trucks) for existing conditions and future conditions as a result of the Project, in addition to analyses that were required by State and Federal law and guidance in place at the time the EA analysis was completed. Additionally, CDOT conducted a qualitative assessment of construction (nonroad mobile) emissions.

The analysis shows reductions in emissions of criteria pollutants, mobile source air toxics, and GHGs in the Project area for conditions between 2018 and 2045. The reduction is attributed to older vehicles being taken off the road, more fuel-efficient vehicles entering the fleet, fewer vehicle miles traveled with reduced diversion from I-70 to frontage roads or less direct routes, and less congestion in some portions of the Project area, particularly areas that are currently heavily congested.

The CMGC Refined Preferred Alternative, like the EA Preferred Alternative, would result in temporary, intermittent increases in air emissions during construction related to reduced speeds through the Project area, rock blasting and excavation, and general construction activities, such as an increase of workers driving to the Project area and use and staging of diesel-emitting construction equipment. Impacts are expected to be minor. However, CDOT will conduct real-time monitoring of dust emissions to confirm and take appropriate action if air quality is diminished.

The Construction Manager has committed to specific measures to reduce GHG and pollutant emissions during construction. These additional measures, which are consistent with new requirements of CRS 43-1-128 (see Section 3.3), are described in Chapter 5.

4.4.2 How do the Impacts Compare to the EA Preferred Alternative?

The Project continues to involve all major elements and same types of construction activities and duration—a third westbound travel lane on I-70 (that will operate as an Express Lane), a new frontage road connection, a new US 6 on-ramp to eastbound I-70, improving interchanges and intersections, and elevated structures—in the same general location. In addition, future traffic volumes remain the same. Therefore, changes to the design do not result in any changes to the impacts reported in the EA.

Under the CMGC Refined Preferred Alternative, the US 6 accesses to westbound I-70 and eastbound I-70 to US 6 would be consolidated at the Hidden Valley/Central City interchange and removed from the I-70/US 6 interchange; the EA Preferred Alternative also consolidated eastbound I-70 to eastbound US 6 and Hidden Valley/Central City but maintained the westbound US 6 to westbound I-70 at US 6. Traffic analysis is ongoing but suggests that the design of the frontage road and Hidden Valley/Central City ramps and intersections with the relocated movements from US 6 will operate well. However, if modifications to these elements are indicated, impacts would be reevaluated, including effects on air quality, to determine if new mitigation measures would be required.

4.4.3 Are New Mitigation Commitments Required?

The following mitigation commitments have been revised or added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B, based on the requirements of CRS 43-1-128:

- Implement phased construction to bring disturbed areas to substantial completion, allowing for timely permanent stabilization, longer vegetation establishment periods, and a reduction of fugitive dust and potential water quality impacts. (FONSI Mitigation Commitment #4)
- Encourage construction workers to carpool to the Project site and consider implementing a carpooling program. (FONSI Mitigation Commitment #10)
- Use an existing gravel pit at the Project site to process excess rock cut material, reducing haul distance by 75 percent. (FONSI Mitigation Commitment #11)

- Monitor air quality monitoring before and during construction in compliance with CRS 43-1-128. The interim guidance indicates pre-construction monitoring will need to be conducted for a minimum of two weeks for a variety of pollutants that is likely to include CO, NO_2, PM_{10}, $PM_{2.5}$, and ozone in addition to meteorological data. For the duration of construction, PM_{10} and $PM_{2.5}$ in addition to the meteorological data will be required. Since this guidance has not been finalized and the pollutants, duration, and number of monitors required may change, CDOT Air Quality Specialists will coordinate monitoring requirements with the CDOT Project Manager and CDOT Construction Manager to ensure the most current SB 260 guidance is incorporated. (FONSI Mitigation Commitment #12)
- Modifications to the Hidden Valley/Central City interchange, if required, will be reevaluated for environmental impacts and the need for mitigation will be considered. (FONSI Mitigation Commitment #13)

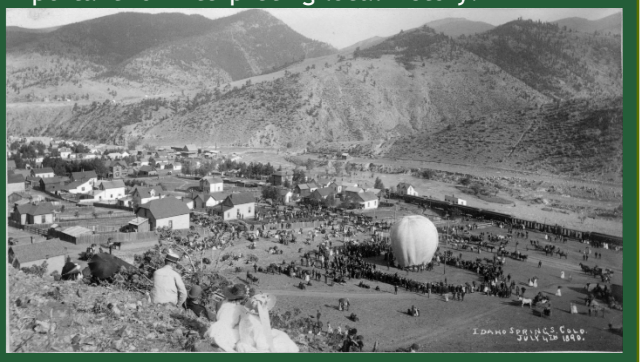
Mitigation commitments #1-3 and 5-9, initially identified in the EA, address air quality impacts during construction and have been carried forward in the mitigation tracking spreadsheet included in Appendix B.

4.5 Cultural Resources

4.5.1 What are the Impacts of the CMGC Refined Preferred Alternative?

Initial Section 106 consultation for eligibility and effects for historic built environment resources took place between May 2019 and September 2020 and for archaeological sites in December 2019 and January 2020. CDOT evaluated effects of the Project on historic and archaeological resources according to the requirements of Section 106 of the National Historic Preservation Act and the I-70 Mountain Corridor Section 106 Programmatic Agreement (PA). The following properties in the Area of Potential Effects (APE) for the Project were determined eligible for or treated as eligible for the National Register of Historic Places (NRHP):

The Colorado Central Railroad, shown here in 1890, was crucial to the development of Idaho Springs. While little physical evidence of the railroad remains in the Project area, extant remnants are important for interpreting local history.



Denver Public Library Archives, 1890

- One NRHP-eligible historic residential property (5JF.7445) along US 40 in the eastern portion of the APE.
- Two mountain subdivisions in the Floyd Hill area of the APE—Hyland Hills (5CC.2546) and Saddleback Ridge Estates (5CC.2547) treated as NRHP-eligible historic districts because not enough contextual data are available related to the construction of mountain subdivisions either regionally or nationally to evaluate their historic significance under NRHP criteria.
- Segments of NRHP-eligible linear resources traverse the APE: US Highway 6 (5CC.1184), US 6/US 40 Highway (5CC.2002), and the Colorado Central Railroad (5CC.427). These resources are eligible for the NRHP overall based on their association with important transportation history (Criterion A), but none of the segments within the APE retain sufficient integrity to convey the historic significance of

the overall resource. Therefore, changes to these segments would not adversely affect the overall resource.

- One NRHP-eligible archaeological site (5CC.389) is located within the APE. Its location is not disclosed to protect this resource from non-project related disturbance.

The CMGC Refined Preferred Alternative would encroach on a portion of the NRHP-eligible archaeological site in the Project area. Avoidance and protection of the site will be prioritized during final design. Unavoidable impacts to the site will be documented, and a treatment plan will be developed in consultation with SHPO and Tribes signatory to the PA to recover archaeological data from any impacted areas prior to construction. Portions of the site that can be avoided will be left in place and protected during construction.

The CMGC Refined Preferred Alternative would also affect a portion of the non-supporting segment of the historic railroad bed and associated retaining wall remnants of the former Colorado Central Railroad (5CC.427). East of the Hidden Valley/Central City interchange, the CMGC Refined Preferred Alternative would realign a portion of Clear Creek and the Greenway trail approximately 75 feet to the south of its existing location, which follows the historic railroad alignment and includes remnants of railroad retaining walls. The Colorado Central Railroad (5CC.427) is historically significant, but the segment through the Project area was determined to be non-supporting to the overall resource eligibility in consultation with SHPO. This segment is, however, important to Clear Creek County's local interpretation of its history. This realignment will likely affect the railroad and retaining walls, and impacts will continue to be considered through final design of the Greenway and creek restoration. Although effects to the walls are not adverse effects that require resolution under Section 106, CDOT will consider and include mitigation measures that could preserve or relocate the walls and/or assist with interpretive displays or materials to aid in local interpretation of the railroad history by the County.

Remnants of the Colorado Central Railroad retaining walls have local importance but are not supporting of the overall NRHP-eligible railroad property.

Kraemer North America, 2022

During construction, access to historic sites and tourism in Idaho Springs could be disrupted. Access to historic sites and districts would be maintained as with other potentially affected community sites.

4.5.2 How do the Impacts Compare to the EA Preferred Alternative?

No adverse effects to historic properties were identified for the EA Preferred Alternative. The EA Preferred Alternative avoided impacts to both the railroad retaining walls associated with 5CC.427 and the NRHP-eligible archaeological site. Because of the realignment of Clear Creek east of the Hidden Valley/Central City interchange, the CMGC Refined Preferred Alternative is now expected to impact the railroad retaining walls, which are non-supporting to the overall resource NRHP eligibility but area important locally. Additionally, complete avoidance of the NRHP-eligible archaeological site is also no longer possible as the design modifications bring the highway closer to this site.

4.5.3 Are New Mitigation Commitments Required?

The following mitigation commitments have been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- Although there is not an adverse effect under Section 106, CDOT will coordinate with Clear Creek County to identify mitigation for impacts to the remnants of the railroad retaining walls associated with 5CC.427. (FONSI Mitigation Commitment #14)
- CDOT will consult with SHPO to document effects to the NRHP-eligible archaeological site, and CDOT will develop and implement a treatment plan and prepare a supplement to the PA in consultation with the SHPO and Tribes signatory to the PA. All agreed-upon treatment outlined in the PA supplement will be completed prior to any activity affecting the site. (FONSI Mitigation Commitment #15)
- The mitigation commitment that addresses the potential for disturbance to the NRHP-eligible archaeological site (EA mitigation commitment #9) has been removed because avoidance of the site is not possible.

FONSI mitigation commitments #16-18, initially identified in the EA, include measures to protect cultural resources and have been carried forward in the mitigation tracking spreadsheet included in Appendix B.

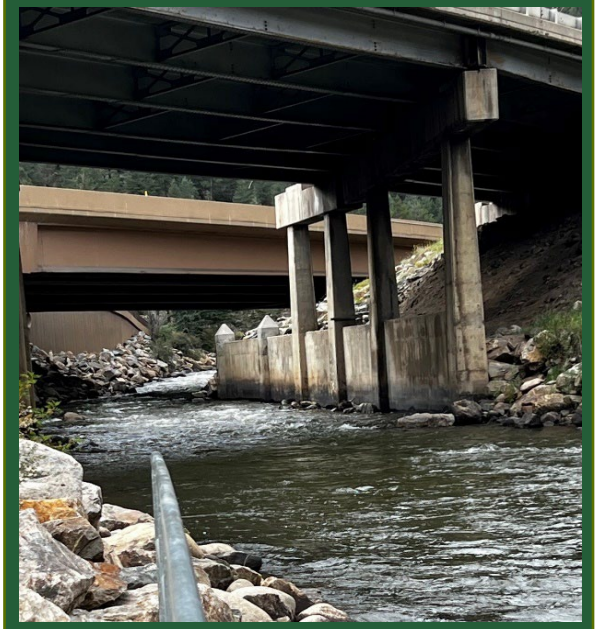
4.6 Floodplains

4.6.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would realign approximately 1,600 linear feet of Clear Creek to the south, east of the Hidden Valley/Central City interchange, which would be needed to accommodate westbound I-70 where it would touch back down to ground level. To accommodate this landing, the realignment would shift the centerline of the creek and boundary of the floodplain in this location; however, the design is expected to maintain the same floodplain and channel topography (elevation) as the existing condition and is not expected to change floodplain width, conditions, or flows. The Project has committed to no greater than a 0.5-foot rise in the floodplain elevation, and this requirement has been incorporated as a design standard to avoid the need for a Conditional Letter of Map Revision (CLOMR).

The CMGC Refined Preferred Alternative includes ten bridges with the potential to affect the Clear Creek floodplain. Although bridges are expected to span Clear Creek, piers may need to be placed within the floodplain in some locations. The exact locations of bridge piers are still being evaluated and will be determined during final design. Floodplain encroachments could occur in locations where Clear Creek or the roadway alignment may be shifted or modified. However, the Project design criteria requires that any changes to floodplains not result in more than a 0.5-foot rise in the base flood elevation (BFE). Project elements that have the potential to encroach upon the Clear Creek floodplain are subject to Federal Emergency Management Agency policy and regulations. In cases where the BFE is increased, modification to the regulatory floodplain mapping is required through a CLOMR, followed by a Letter of Map Revision (LOMR). Early coordination with Clear Creek County and Idaho Springs, the floodplain administrators for the Project with the authority to grant the floodplain development permit, has determined that a CLOMR will not be required if the Project does not result in more than 0.5-foot rise in BFE. Hydraulic modeling will be required to accurately determine the effects of the new construction on the existing regulatory BFE and confirm adherence to the 0.5-foot rise criterion. The revised floodplain boundaries will be documented in a LOMR.

Existing piers on bridges over Clear Creek will be removed, and new piers may be constructed within the Clear Creek floodplain.



Peak Consulting Group, 2022

4.6.2 How do the Impacts Compare to the EA Preferred Alternative?

The CMGC Refined Preferred Alternative shifts I-70 to the north near the east portal of the Veterans Memorial Tunnels. As a result of this change, the 1,400-foot realignment of Clear Creek proposed in the EA Preferred Alternative is no longer needed in the West Section. However, the CMGC Revised Preferred Alternative would require an approximately 1,600 feet of Clear Creek to be realigned the Central Section east of the Hidden Valley/Central City interchange. A graphic comparison of the relocation areas of Clear Creek for the EA Preferred Alternative and the CMGC Refined Preferred Alternative is provided in Figure 16, page 51.

Based on the preliminary design for the EA Preferred Alternative, the EA identified eight bridges with the potential to affect the Clear Creek floodplain, two fewer than the CMGC Refined Preferred Alternative, although two pedestrian bridges in the Central Section where the Greenway trail is shifted north for Americans with Disability Act (ADA) compliance had not yet been designed and were not included in the total reported in the EA. Bridges were expected to span the floodplain (with no piers in the floodplain) but the structure design was highly conceptual. As structure design has progressed, more constraints have been realized. While no piers are expected in Clear Creek, piers may need to be placed within its floodplain. These changes in impacts, although different than what was reported for the EA Preferred Alternative, are a result of the advancement of design and having more detailed information than what was available during the development of the EA.

4.6.3 Are New Mitigation Commitments Required?

FONSI mitigation commitment #19, initially identified in the EA, has been revised to reflect the 0.5-foot rise limit established for Project and the hydraulic modeling that will be required to confirm that the Project will remain within the 0.5-foot rise in BFE requirement. No additional mitigation is needed.

4.7 Geologic Resources

4.7.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would require a total of 522,000 cubic yards (CY) of rock excavation, including 106,000 CY in the Central Section and 416,000 CY in the West Section. Through the Central Section, most of the rock excavation would be on the south side of Clear Creek Canyon for the bench cut over Sawmill Gulch and would include cuts up to 90 feet high on the south side of the bench. Slope stabilization would be required on the north side of the bench, but rock excavation would not be required. Rock cuts, up to 62 feet high, also would be required in the Central Section along the rock faces on the north side of I-70 to flatten the I-70 horizontal curve near the CDOT maintenance facility, east of the Hidden Valley/Central City interchange. The highest rock cuts for the CMGC Refined Preferred Alternative—up to 200 feet high—would occur in the West Section of the Project to flatten the I-70 S-curve between the Hidden Valley/Central City interchange and the Veterans Memorial Tunnels. These cuts would occur exclusively on the north side of the canyon and would excavate farther into existing rock cuts. No rock excavation would be required on the south side of the canyon along CR 314.

Rock excavations and rock cuts in the I-70 Mountain Corridor need to be carefully designed, and rockfall mitigation measures need to be included to avoid long-term maintenance and safety issues. The design and review of rock cuts are being coordinated with the CMGC to minimize potential hazards. Construction activities would include blasting into the mountainside north of I-70. Blasting activities always involve some level of safety risk, and failures during construction could result in rockfall that causes road closures and maintenance. Excavated materials would be hauled offsite and disposed of outside the Project area.

Existing Rock Cut North of Westbound I-70, East of Veterans Memorial Tunnels

Peak Consulting Group, 2020

4.7.2 How do the Impacts Compare to the EA Preferred Alternative?

As presented in Table 2, the total volume of rock excavation required for the CMGC Refined Preferred Alternative is nearly the same as what was anticipated for the EA Preferred Alternative (522,000 CY for the CMGC Refined Preferred Alternative as compared to 520,000 CY for the EA Preferred Alternative). However, the locations now differ and under the CMGC Refined Preferred Alternative are concentrated into fewer locations, with the greatest excavation occurring north of I-70 in the West Section (an additional 176,000 CY). The CMGC Refined Preferred Alternative required no excavation on the south side of I-70 in the West Section, no rock cut on the north side of the highway in the Central Section,

and less overall excavation through the saddle cut/bench in the Central Section (a reduction of 174,000 CY). Figure 13 and Table 2 illustrate the differences in rock cut areas between the CMGC Refined Preferred Alternative and the EA Preferred Alternative.

Figure 13. Comparison of Rock Cut Locations and Areas for the EA Preferred Alternative and the CMGC Refined Preferred Alternative

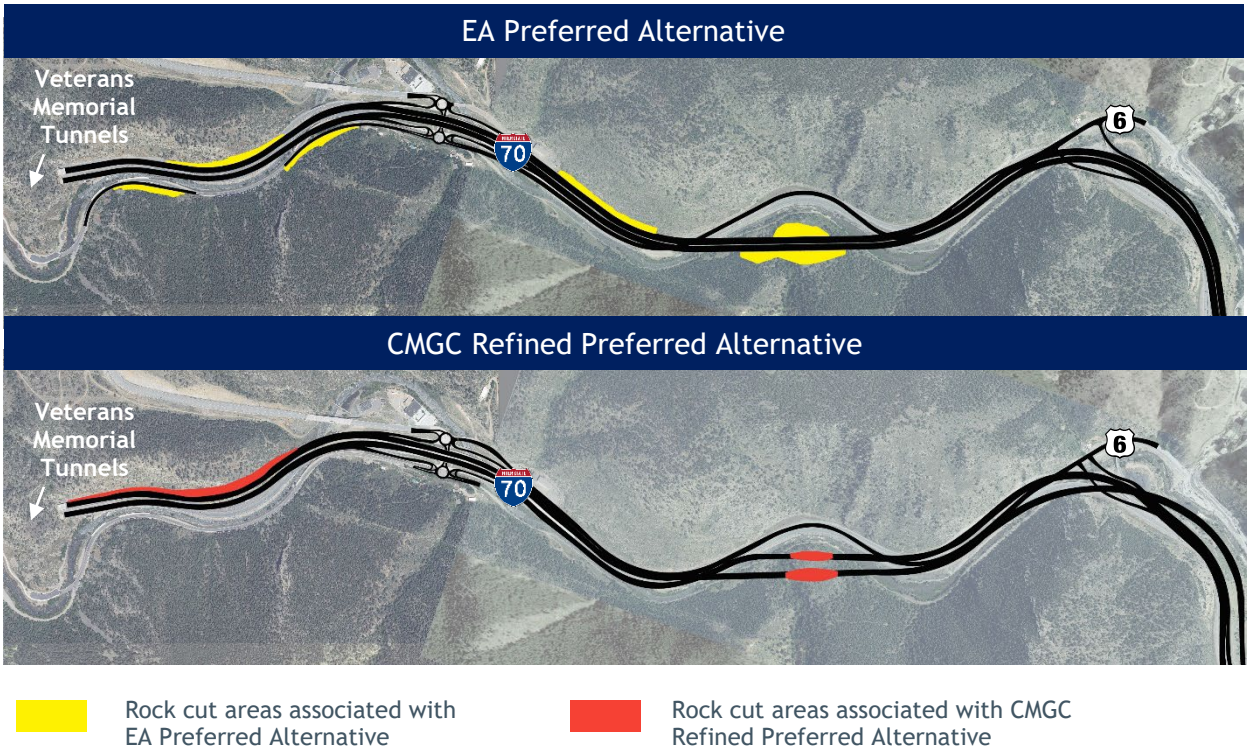


Table 2. Rock Excavation: EA Preferred Alternative and CMGC Refined Preferred Alternative

Location	EA Preferred Alternative Rock Excavation (CY)	CMGC Refined Preferred Alternative Rock Excavation (CY)
East Section	-------	-------
Central Section	280,000	106,000
West Section	240,000	416,000
Total	**520,000**	**522,000**

In the West Section of the Project, the EA Preferred Alternative was designed to balance rock cuts on both sides of I-70. However, the CMGC reviewed the alignment and available geotechnical information and determined that creating rock cuts on both sides of I-70 did not balance risks but rather compounded them by creating new rock cut areas that would need to managed and maintained. Additionally, the rock cuts because balanced alignment required substantial rock cuts (up to 100 feet high) were needed on the south side of the canyon and would require CR 314 and Clear Creek to be realigned in this area, necessitating closures of both the creek and the frontage road during construction. Figure 13 illustrates the differences in rock excavation areas and the I-70 and Clear Creek alignments in the West Section.

4.7.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #20-21, initially identified in the EA, address rock excavation during construction and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. The spreadsheet has been revised to remove CR 314 as a location that triggers mitigation, since the CMGC Refined Preferred Alternative no longer requires rock blasting in this area. No additional mitigation is needed.

4.8 Hazardous Materials

4.8.1 What are the Impacts of the CMGC Refined Preferred Alternative?

Two hazardous materials facilities that present a high risk for encountering hazardous materials during construction were identified near the bottom of Floyd Hill where the westbound I-70 bridge would be replaced: the Roscoe Placer. These include a suspected placer mine of moderate hazardous materials risk and Kermitts Roadhouse (now Two Bears Tap and Grill), a suspected historical gas station and location of a suspected historical placer mine. Because there would be a high degree of ground disturbance associated with the bridge replacement, and the presumed presence of hazardous materials at these nearby facilities, a moderate to high risk exists that hazardous materials would be encountered during the work to replace the westbound I-70 bridge at the bottom of Floyd Hill. It also is possible that hazardous materials, including asbestos and/or lead-based paint, are present on the existing bridge, which would be disturbed during demolition.

Transport of hazardous materials on the I-70 Mountain Corridor increases the potential for spills, which could contaminate surrounding soils and waters.

Peak Consulting Group, 2018

The CMGC Refined Preferred Alternative could also encounter hazardous materials sites that present a moderate to high risk of encountering hazardous materials in the soil and groundwater in the vicinity of the Hidden Valley/Central City interchange. Construction in these locations would result in. New bridge construction, which would occur in several locations, would likely result in disturbance of alluvial groundwater that may be impacted by regional historical mining activities. It also is possible that hazardous materials, including asbestos and/or lead-based paint, are present on bridges that would be reconstructed. Hazardous materials also may be present in the buildings and storage areas at the CDOT Maintenance Facility near Hidden Valley, which will be affected by the Project. The Maintenance Facility may be redeveloped on site or relocated, but in either case, CDOT will need to complete appropriate environmental clearances, permitting, and remediation associated with impacts to the facility.

Trucks carrying hazardous materials through the Project area would present ongoing risks, but the level of risk would be reduced compared to the No Action Alternative because the Project would address existing roadway deficiencies.

4.8.2 How do the Impacts Compare to the EA Preferred Alternative?

The potential for the Project to encounter hazardous materials is unchanged by the design modifications included in the CMGC Refined Preferred Alternative. The overall disturbance area, Project elements, and types of construction activities are the same as what was evaluated in the EA, and no new impacts are anticipated.

4.8.3 Are New Mitigation Commitments Required?

The following mitigation commitment has been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- Consult with CDOT Property Management prior to the development of the Health and Safety Plan and Materials Management Plan to determine if they have knowledge of highway spills in the project area or hazardous material impacts at the CDOT Maintenance Facility. (FONSI Mitigation Commitment #32)

Mitigation regarding the purchase of real estate (FONSI Mitigation Commitment #31), initially identified in the EA, has been revised to add consultation with CDOT Property Management to confirm whether prior hazardous materials surveys may have been completed for the property. FONSI mitigation commitments #22-30 and 33, initially identified in the EA, address the potential to encounter hazardous materials during construction and have been carried forward in the mitigation tracking spreadsheet included in Appendix B.

4.9 Land Use/Right-of-Way

4.9.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative is not expected to change land uses or land use patterns. However, transportation improvements included in the Project will support local land use planning goals and objectives by improving neighborhood, commercial, and recreational accesses, and improving traffic flow to reduce interstate traffic diversion on local and frontage roads in the Floyd Hill and Idaho Springs areas. The new frontage road connection between US 6 and Hidden Valley provides an important alternate route for accessing existing communities and for emergency response and interstate detours during closures of I-70.

The CMGC Refined Preferred Alternative would require acquisition of approximately 22.8 acres of public property and a minor amount of private property (0.1 acre). In September 2022, CDOT initiated the early acquisition of these properties and evaluated impacts through a separate environmental clearance (Categorical Exclusion).

One CDOT property—the maintenance facility in the northeast quadrant of the Central City/Hidden Valley interchange—is within the impact area for the CMGC Refined Preferred Alternative and will be affected by the Project. CDOT is evaluating options to maintain operations at this location with

CDOT's Maintenance Facility property is affected and will need to be relocated or redeveloped.

Peak Consulting Group, 2018

some modification or expansion or to relocate the facility. Relocation or redesign/reconfiguration of the maintenance facility on this parcel will be evaluated through final design of the Project. CDOT will evaluate impacts of either action (relocation or redevelopment) and complete appropriate environmental clearances and permitting.

Additionally, the CMGC Refined Preferred Alternative will likely impact two water wells, one owned by Clear Creek County and one owned by CDOT. The wells are located near the Greenway south of I-70 and Clear Creek just east of I-70 MP 243, where Clear Creek would be realigned to the south. Relocation of these wells if determined necessary during final design will be reevaluated, and CDOT will complete appropriate environmental clearances and permitting.

4.9.2 How do the Impacts Compare to the EA Preferred Alternative?

The CMGC Refined Preferred Alternative requires 1.1 acre less right-of-way than the EA Preferred Alternative. (The EA Preferred Alternative was expected to impact 22.4 acres of public property and 1.6 acres of private property.) This difference is largely due to the narrowing of highway infrastructure in the Central Section of the Project and the northward shift of the highway in the West Section, which no longer requires any improvements or property acquisitions to the south.

Design refinements have moved I-70 farther south near the CDOT maintenance facility and would impact less of the property though the property is still affected, and relocation or redevelopment will be required. The potential relocation of the two water wells is a new impact that results from shift south in this same area.

4.9.3 Are New Mitigation Commitments Required?

The following mitigation commitments have been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- CDOT will evaluate impacts for the redevelopment or relocation of the CDOT Maintenance Facility property and complete appropriate environmental clearances and/or permitting. (FONSI Mitigation Commitment #55)
- If during final design it is determined that the two water wells cannot be avoided, CDOT will evaluate the impacts of their relocation and complete appropriate environmental clearance(s). (FONSI Mitigation Commitment #56)

FONSI mitigation commitment #57, initially identified in the EA, addresses the acquisition of public and private land and has been carried forward in the mitigation tracking spreadsheet included in Appendix B. Although early property acquisition has been processed through a separate clearance, it remains an environmental commitment should additional right-of-way needs be identified during final design.

4.10 Noise

4.10.1 What are the Impacts of the CMGC Refined Preferred Alternative?

Traffic modeling suggests that the traffic noise levels with or without the Project would range from 57 A-weighted decibels (dBA) to 78 dBA in 2045 and are above noise abatement criteria for two-thirds of noise-sensitive receptors. Noise levels under the CMGC Refined Preferred Alternative would equal or exceed noise abatement criteria for 105 receptors, primarily residences. No receptors would experience a substantial noise increase of 10 dBA or more.

The CMGC Refined Preferred Alternative includes noise abatement (a noise wall) in eastern Idaho Springs. The wall is expected to be approximately 875 feet long and between 14 and 16 feet high 36 (Figure 14). The recommended wall would provide at least a 5 dBA reduction in noise for 28 affected receptors and will be included as part of the CMGC Refined Preferred Alternative if a majority of the benefited receptors support the wall; benefited receptors will be surveyed during final design according to CDOT noise procedures. The noise analysis conducted for the EA determined that noise abatement was not feasible for the remaining receptors because it would not achieve large enough reductions in noise levels. Additional information regarding the noise abatement analysis is available in the *I-70 Floyd Hill to Veterans Memorial Tunnels Project Traffic Noise Technical Report*, which is an Appendix to the EA.

The CMGC Refined Preferred Alternative would elevate the highway 30 to 80 feet above Clear Creek Canyon and the Greenway in the Central Section. Noise levels would be lower when compared to existing conditions, where the highway is much closer in elevation to Clear Creek and the Greenway. While there is limited information available to assess the effects of viaducts on noise, noise primarily reflects outwards and upwards, rather than downwards, so recreationalists immediately below the viaduct would likely experience less noise from the highway traffic above. Additionally, concrete barriers associated with the viaduct would act as a noise-reducing medium for receptors below, and the structure itself would capture some of the roadway noise.

Temporary, intermittent increases in noise would occur during construction both in the daytime and nighttime. Noise levels would vary, depending on the loudest piece of equipment in operation at the time; rock blasting would be the loudest construction activity that would occur over the longest period. Rock blasting would occur primarily during the daytime

Figure 14. Proposed Noise Wall

Proposed Noise Wall in eastern Idaho Springs (top) will benefit 28 residences that are impacted by traffic noise higher than FHWA noise abatement criteria (bottom picture is existing condition).

4.10.2 How do the Impacts Compare to the EA Preferred Alternative?

A 14-foot-high by 1,395-foot-long noise wall was included in the EA Preferred Alternative in the same location in east Idaho Springs as the CMGC Refined Preferred Alternative. The design has progressed, and updated modeling indicates that a shorter length (approximately 875 feet) and slightly higher wall would provide the same level of benefit with less cost.

The Project continues to involve all major elements and the same types of construction activities and duration in the same general location. While there are some differences in either the locations of impacts (for example, where rock cuts would be needed) or the intensity of impacts (for example, fewer rock blasts would be needed), these changes are still related to temporary construction activities and would not result in an appreciable difference in noise between the EA Preferred Alternative and the CMGC Refined Preferred Alternative. Therefore, the analysis and findings reported in the EA remain valid.

4.10.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #34-40, initially identified in the EA, address requirements related to the noise wall as well as the potential for construction related noise impacts and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. No additional mitigation is needed.

4.11 Recreational Resources

4.11.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would enhance the recreational experience of the Greenway. I-70 would be removed from the canyon floor and vertically separated from the Greenway and frontage road. In the area where I-70 is relocated and elevated above the canyon on a viaduct, the existing I-70 pavement would be removed and riparian areas would be restored, enhancing river recreation and the Greenway experience (Figure 15). Because I-70 traffic would be above the canyon, traffic noise along the Greenway would be notably reduced.

The Project includes resurfacing the Greenway and constructing 1,500 linear feet of additional trail that is ADA-compliant. The westernmost end of the Greenway (the Scott Lancaster Memorial Trail) would be repaved from asphalt to concrete in its existing location. Temporary closures of the trail would occur while resurfacing is taking place. The trail resurfacing would not impact the Game Check Area Park to the west.

Bridge piers would be visible from the Greenway, and the existing landscape would be visually affected by rock cuts, retaining walls, and slope and fill areas in the canyon. The viaduct structure would cross the Greenway and Clear Creek in four locations, which could result in increased snow and ice accumulation on the Greenway due to shading and winter maintenance activities on the viaduct such as snow plowing and snow removal, if not mitigated.

Figure 15. Improved Greenway Trail Simulation

Simulation of the improved Greenway trail near Sawmill Gulch (top) compared to existing condition (bottom)

The CMGC Refined Preferred Alternative would realign approximately 1,600 feet of Clear Creek east of the Central City/Hidden Valley interchange (see Section 4.17). This section of Clear Creek is characterized as having a deep channel, which is used by rafting companies for training and is also an important habitat for fish. The CMGC is evaluating this area with the goal of replicating existing conditions whenever feasible.

The CMGC Refined Preferred Alternative would not impact existing Clear Creek recreational access points; new recreational and emergency accesses along the Greenway and Clear Creek would be facilitated by the frontage road, removal of I-70 pavement, and regrading of steep river embankments. Although I-70 would shift south of Clear Creek (above the Greenway on a viaduct structure) for a portion of the alignment, the CMGC Refined Preferred Alternative would be compatible with Clear Creek County's plans for the Greenway because the highway would be elevated and moved out of the canyon floor.

The CMGC Refined Preferred Alternative would acquire about 15 acres of Hidden Valley Open Space for the saddle cut above Sawmill Gulch. The acquisition would not affect recreational use of Hidden Valley Open Space or the social trails in this area because the saddle cut is in an area that is too steep to support recreational activities. In adjacent areas, the vertical clearance under the viaduct would be high enough for recreational users to access the social trails below. However, the user experience and the recreational value of using these informal trails may be impacted due to the visual change and noise introduced by the new roadway, and these issues will be considered in final design.

Development of the Greenway alignment and trailheads, recreational pullouts, and Clear Creek access points will continue throughout final design. The CMGC Refined Preferred Alternative presents opportunities for recreational enhancements that will continue to be tracked and considered in final design.

Construction activities would result in visual disturbances due to the presence of large equipment, temporary signage, equipment for detours such as barriers and cones, dust and debris, temporary fencing, material stockpiles, staging areas, and barren landforms during earthwork activities such as grading and rock cutting. Increased noise levels and temporary delays or intermittent closures of Clear Creek recreational access points, the Scott Lancaster Memorial Trail, and an informal rock-climbing area during blasting activities would also be expected. Rock blasting could also result in temporary delays and/or closures of Clear Creek to rafting and fishing, if necessitated by safety concerns.

4.11.2 How do the Impacts Compare to the EA Preferred Alternative?

Near the saddle cut above Sawmill Gulch the CMGC Refined Preferred Alternative realigned I-70 and separated the eastbound and westbound alignments with smaller rock cuts rather than one large rock cut that was required for the parallel viaducts, reducing impacts to Hidden Valley Open Space by 2 acres (from the 17 acres reported in the EA to 15 acres under the CMGC Refined Preferred Alternative). As a result of the terraced design, the westbound I-70 viaduct is 10 feet to 20 feet higher than what was anticipated for the EA Preferred Alternative, and eastbound I-70 is lower. The benefits associated with vertically separating Clear Creek and the Greenway from I-70 traffic would be similar, with the recreational experience improving over existing conditions. However, the terraced design included in the CMGC Refined Preferred Alternative would be less imposing with the westbound and eastbound highway on separate alignments, which reduces the width of the structures and allows more light to pass through, reducing the amount of shading on the trail below as compared to the EA Preferred Alternative.

The EA Preferred Alternative was expected to realign Clear Creek, the Greenway, and CR 314 east of the Veterans Memorial Tunnels. Closures of CR 314, removal of one Clear Creek access point (identified as Clear Creek Access Point #5 in the EA), and disruptions to local traffic were expected because of the alignment. The CMGC Refined Preferred Alternative realigns I-70 to the north avoiding these impacts and reducing the overall intensity of construction related effects.

4.11.3 Are New Mitigation Commitments Required?

The following mitigation commitments have been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- Communicate trail closures within the Project limits to the public as well as to long-distance bikers that may connect from the broader trail network (e.g., Peaks to Plains). (FONSI Mitigation Commitment #45)
- When a trail is closed during construction, provide detours, flagging, or busing to maintain trail access during construction. (FONSI Mitigation Commitment #46)
- Include on-road detours on CR 314 when trail is closed. (FONSI Mitigation Commitment #47)

FONSI mitigation commitments #41-44 and #48-54, initially identified in the EA, address Project impacts to recreational resources and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. The mitigation commitment from the EA that addresses the elimination of Clear Creek Access Point #5 (identified as mitigation commitment #35 in the EA), has been removed from the tracking spreadsheet because the CMGC Refined Preferred Alternative now avoids this impact.

4.12 Section 4(f) Resources

4.12.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would impact the Scott Lancaster Memorial Trail within the Central and West Sections of the Project where the trail would be reconstructed and resurfaced. Most of the trail is classified for transportation use and is exempt from Section 4(f) approval under 23 CFR 774.13(f)(4) and agreement with Clear Creek County. The westernmost end of the trail (approximately 530 feet) in the Project area is located on public land owned by Clear Creek County for the Game Check Area Park, a recreational Section 4(f) resource.

The Project includes repaving the Greenway from asphalt to concrete in accordance with Clear Creek County standards.

Peak Consulting Group, 2020

Through the County property, the CMGC Refined Preferred Alternative would repave the trail from asphalt to concrete in its existing location, an improvement that originated from the PEIS Preferred Alternative commitment to provide a "bike trail and frontage roads from Idaho Springs to Hidden Valley and Hidden Valley to US 6." This component has been constructed in segments, and the Project will connect the final segment of the 'bike trail' (Greenway) from the Veterans Memorial Tunnels to US 6. Temporary closures of the trail would occur while resurfacing is taking place. The trail resurfacing would not impact the Game Check Area Park. Impacts to the trail in this location are solely to improve the existing condition and improve recreational opportunities for all users. For this reason, the CMGC Refined Preferred Alternative does not require Section 4(f) analysis and is excepted from Section 4(f) approval under 23 CFR 774.13(g). CDOT completed documentation of the Section 4(f) Enhancement Exception.

The Project would result in no adverse effects to historic properties. Effects to historic transportation facilities, including US 6 Highway (5CC.1184), US 6/US 40 Highway (5CC.2002), or the Colorado Central Railroad (5CC.427), are excepted from Section 4(f) approval as under 23 CFR 774.13(a)(3). The CMGC Refined Preferred Alternative would adversely affect the NRHP-eligible archaeological site. Archaeological sites are considered Section 4(f) resources if they are important mainly for their archaeological data and have minimal value for preservation in place. Because this resource is eligible for listing on the NRHP under Criterion D for its value to yield information important to history or prehistory, it is also excepted from Section 4(f) approval.

4.12.2 How do the Impacts Compare to the EA Preferred Alternative?

Reconstruction of the Scott Lancaster Memorial Trail and Game Check Area Park under the EA Preferred Alternative has been avoided but resurfacing of the trail is still planned for the CMGC Refined Preferred Alternative. In both cases, these impacts are for the sole purpose of improving the recreational resource and do not result in a Section 4(f) use.

4.12.3 Are New Mitigation Commitments Required?

Mitigation commitments for Section 4(f) Resources were not identified in the EA, and no new mitigation commitments are required.

4.13 Socioeconomic Resources

4.13.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would improve safety, reduce congestion, and improve traffic operations throughout the Project area by realigning curves, adding capacity, and improving intersection operations. This would result in safer conditions and more consistent travel speeds for area residents, commuters, and regional travelers who rely on I-70 to access area resources, businesses, and services in adjacent communities.

Improved traffic operations and reduced congestion on I-70 would reduce the amount of interstate traffic that currently diverts to US 40 during periods of congestion, benefiting the Floyd Hill neighborhood (generally located along I-70 west from the Jefferson County line to the I-70/US 6 interchange) by improving local access and mobility and helping realize the full benefits of improved traffic flow and reduced delays of the US 40 Roundabouts project, which was advanced separately as an Early Project and will be constructed in fall 2022 (see Section 3.2).

The CMGC Refined Preferred Alternative aligns I-70 to the north near the Veterans Memorial Tunnels to avoid impacts to Clear Creek and CR 314 in this area. CR 314 would remain open throughout the 5-year construction period. Traffic analysis indicates that traffic volumes on CR 314 would remain low under the CMGC Refined Preferred Alternative. When the frontage road is connected throughout the Project area, mobility would improve by providing an alternate route for local access and emergency response during congested periods or closures of I-70.

Elevating I-70 also would provide more space in the canyon for the frontage road, creek, and wildlife movement, and would open the land below for riparian restoration and enhanced recreation access. This would support community goals for improving recreation and creek access throughout the Project area.

Most businesses and community facilities in the Project area are concentrated in Idaho Springs, where construction would be limited. Recommended noise abatement (a noise wall), if determined by

affected residents to be desirable, would have a beneficial effect of reducing traffic noise for Idaho Springs residents, including minority and low-income populations in eastern Idaho Springs. Like other projects identified in the PEIS that have recently been constructed, construction would be expected to have a positive effect on sales tax revenue in Idaho Springs. Due to is prime location within the Project area, construction workers may provide a temporary boot to business at Two Bears Tap and Grille .

The relocation of the US6/I-70 accesses to the Hidden Valley/Central City interchange and the connection to the frontage road has several benefits for the businesses that are located within the Project area. Access to the Black Hawk Water Treatment Plant, Valero gas station, and Squatch convenience store would be improved, and traffic bound for US 6 would use this exit, which could result in an increase in patronage at both the gas station and convenience store.

The CMGC Refined Preferred Alternative would also improve operations associated with the Albert Frie & Sons/Walstrum Quarry, I-70, and local neighborhoods by reducing conflicts with trucks from the quarry. Currently trucks heading in the eastbound direction from the quarry access I-70 in one of two ways - they either drive west on I-70 and turn around at the Hidden Valley/Central City interchange or drive east on US 40 through the Floyd Hill neighborhood to access I-70 at the Hyland Hills/Floyd Hill interchange. The latter is the most common travel pattern for trucks leaving the quarry and the Floyd Hill neighborhood has identified this as a concern because of the conflicts it generates between local traffic and trucks on US 40 and at the Hyland Hills/Floyd Hill interchange. With the CMGC Refined Preferred Alternative, trucks from the quarry will now have direct access to I-70 via the new eastbound on-ramp from US 6.

Two Bears Tap and Grill is located immediately north of the US 6/I-70 interchange. Westbound drivers would continue to access Two Bears through the off-ramp to US 6. Eastbound drivers would access US 6 at the Hidden Valley/Central City Interchange and would drive by Two Bears on the frontage road. However, if eastbound drivers remain on I-70 and do not exit at the Hidden Valley/Central City interchange, they would pass Two Bears and would be unlikely to turn around, which could result in a reduction of highway-related patronage. CDOT has discussed the Project with the owners of the Two Bears Tap and Grill and will continue to coordinate with them on the design to mitigate impacts to their business, such as providing highway signage and construction marketing materials. The westbound I-70 off-ramp to US 6 would remain, and there would be no change in access for westbound travelers.

Highway access to Two Bears Tap and Grill would change as a result of the Project

Peak Consulting Group, 2020

River rafting and fishing outfitters also could be affected by modifications to access at US 6, where popular access points are located. River rafting and fishing outfitters from Idaho Springs would no longer be able to access US 6 directly from eastbound I-70 in its current location. However, unlike Two Bears Tap and Grill, whose sales are more dependent on highway visibility and more immediate access by customers, river rafting and fishing outfitters could drive or direct their customers to the correct locations.

The CMGC Refined Preferred Alternative would be a major construction project that would disrupt traffic and require periodic highway closures for activities such as bridge pier and girder placement or rock blasting during the approximately five-year-long construction period. This would increase travel times and emergency response between Clear Creek communities and medical services in Jefferson County. Where possible, closures would occur in off-peak travel periods to minimize impacts.

The Project, with an Express Lane provides an option for a congestion-free lane and also improves traffic operations in the existing General Purpose lanes by offering more reliable travel times and choices for all travelers. The EA considered potential impacts of tolling on low-income and minority populations and determined that the Project would not create a meaningful financial burden for lower-income residents or commuters and would provide the same mobility and safety benefits for all users in both General Purpose and Express Lanes.

4.13.2 How do the Impacts Compare to the EA Preferred Alternative?

The EA Preferred Alternative was expected to realign Clear Creek, the Greenway, and CR 314 east of the Veterans Memorial Tunnels. The realignment was expected to result in temporary closures of CR 314, removal of Clear Creek Access Point #5, and temporary disruptions to local traffic. The CMGC Refined Preferred Alternative realigns I-70 to the north avoiding these impacts and reducing the overall intensity of construction related effects. The relocation of the westbound I-70 access from US 6 to the Hidden Valley/Central City interchange and the connection to the frontage road from the east was not included in the EA Preferred Alternative and has several benefits for the businesses that are located within the Project area. Other than these changes, impacts to socioeconomic resources remain consistent with what was expected under the EA Preferred Alternative and the analysis and findings reported in the EA remain valid.

4.13.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #58-62, initially identified in the EA, address impacts to local businesses, provisions for emergency response, and coordination with the public throughout construction and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. No additional mitigation is needed.

4.14 Threatened and Endangered Species

4.14.1 What are the Impacts of the CMGC Refined Preferred Alternative?

Permanent impacts to potential Preble's meadow jumping mouse (PMJM) (*Zapus hudsonius preblei*) are unlikely. The Beaver Brook area, where suitable habitat is present, was surveyed in June 2020 and no PMJM were documented, and the Project does not affect Beaver Brook. Impacts to northern leopard frog (*Lithobates pipiens*) habitat could occur with vegetation removal and the associated potential introduction and spread of noxious weeds along Clear Creek and its riparian zone. However, suitable habitat for northern leopard frog is marginal in areas that would be directly impacted by the CMGC Refined Preferred Alternative.

Suitable habitat for PMJM is present along Beaver Brook, north and south of I-70, but no construction will occur in this area.

Peak Consulting Group, 2020

Impacts on Bald Eagles (*Haliaeetus leucocephalus*) would not be expected because their preferred habitat does not exist in the Project area. Bald Eagles may avoid winter use of the Project area during construction, but impacts would be minor and temporary.

The Monarch butterfly (*Danaus plexippus*) is a candidate for listing under the Endangered Species Act (ESA) and is therefore not currently protected under the ESA. The Project area is not located along a known Monarch migratory corridor or within an overwintering site due to its location in the intermountain west; however, the species is known to occur, seasonally, along Colorado's Front Range including the Denver Metro and surrounding areas. Some temporary and permanent loss to potential Monarch butterfly foraging habitat will result from the Project; however, the CMGC Refined Preferred Alternative includes approximately 8 acres of riparian habitat restoration, which will allow the inclusion of nectar species such as native milkweed (Asclepias spp). Because of the Project location, and the opportunity for habitat restoration and enhancement, it has been determined that the action Will Not Jeopardize the Continued Existence of the Monarch butterfly.

Indirect impacts to Townsend's big-eared bat (*Corynorhinus townsendii pallescens*) could occur from the removal of trees, shrubs, and herbaceous plants that constitute foraging habitat. Indirect impacts to PMJM cover and foraging habitat could occur from continued accumulation of chemicals used for deicing and winter maintenance; this habitat is marginal due to its location next to the roadway. The wider highway of the CMGC Refined Preferred Alternative could increase the quantity of chemicals.

Construction activities are unlikely to impact PMJM. As noted previously, no PMJM have been documented in areas where suitable habitat is present (i.e., Beaver Brook). Construction activities would potentially impact the northern leopard frog habitat and Townsend's big-eared bat foraging habitat. Activities with potential impacts include the installation of wildlife fencing on the south side of I-70 along the drainages for Beaver Brook and an unnamed tributary. Construction noise and

nighttime lighting could impact individual bats that occasionally travel through the area; however, individual bats would be able to fly around the construction area and avoid impacts.

4.14.2 How do the Impacts Compare to the EA Preferred Alternative?

The EA did not evaluate impacts to the Monarch butterfly since it was not a candidate for listing on the ESA at the time of the analysis. Design changes result in less vegetation removal and include additional opportunities for the restoration of riparian habitat, which would improve conditions for PMJM, northern leopard frog, and Townsend's big-eared bat habitat along Clear Creek. The overall disturbance area, Project elements, and types of construction activities are the same as what was evaluated in the EA and the analysis remains valid.

4.14.3 Are New Mitigation Commitments Required?

The following Mitigation Commitments have been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- To proactively minimize any impacts to potential Monarch butterfly habitat, disturbed areas will be reseeded with a mix of native plant species including two species of flowering forbs and milkweed where appropriate. (FONSI Mitigation Commitment #69)
- CDOT will use only native grasses, forbs, and shrubs in compliance with Procedural Directive 503.1 to protect pollinator habitat along certain state highway corridors through its Integrated Roadside Vegetation Management Program. (FONSI Mitigation Commitment #70)

FONSI mitigation commitments #63-68, initially identified in the EA, address potential impacts to Townsend's big eared bat, PMJM, and northern leopard frog habitat and have been carried forward in the mitigation tracking spreadsheet included in Appendix B.

4.15 Vegetation and Noxious Weeds

4.15.1 What are the Impacts of the CMGC Refined Preferred Alternative?

After accounting for land area reclaimed and revegetated due to removal of existing transportation facilities, the CMGC Refined Preferred Alternative would incorporate 19 acres of developed land and approximately 8 acres of vegetated land cover into the transportation facility. Approximately 3 acres of evergreen forest would be removed in the Sawmill Gulch area due to construction of I-70 on the southern hillside above Clear Creek.

Impacts would also occur just west of the saddle cut, where the viaduct would touch back down to ground level. To accommodate this landing, an approximately 1,600-foot realignment of Clear Creek is required, which would impact approximately 0.2 acres of shrub/scrub and 1 acre of evergreen and deciduous forest. In the West Section of the Project, the northward shift

CDOT performs ongoing maintenance to control the spread of noxious weeds.

CDOT, 2018

of I-70 would require a rock cut that would impact approximately 0.6 acres of vegetative cover classified as evergreen forest and 0.7 acres classified as shrub/scrub, though most of this area is rock face and not vegetated. Additional impacts to vegetation are expected from bridge and viaduct pier placement but are expected to be minor and are not included in these numbers because piers have not yet been designed or located.

The CMGC Refined Preferred Alternative would restore approximately 8 acres of riparian vegetation on the north bank of Clear Creek near MP 243.7 and an additional 2.5 acres on the north bank of Clear Creek east of the Veterans Memorial Tunnels near MP 242.5 where existing I-70 roadway facilities would be removed.

Construction of the CMGC Refined Preferred Alternative would temporarily impact an additional 4 acres of developed land and one additional acre of vegetation that would be revegetated after construction. These temporary vegetation impacts are primarily associated with loss of roadside vegetation.

Ground disturbance and clearing during construction would expose soils to erosion, disturb habitat, and have the potential to spread noxious weeds. Disturbed areas would be revegetated after construction was complete, and CDOT's ongoing highway maintenance activities include control of noxious weeds. Additional maintenance activities that could result in direct or indirect impacts to vegetation include mowing, winter plowing, use of deicer, and other minor improvements in the right-of-way, as needed.

4.15.2 How do the Impacts Compare to the EA Preferred Alternative?

The CMGC Refined Preferred Alternative reduces impacts to vegetation by approximately 5 acres. The difference results from modifications to the design that avoid areas with vegetated land cover, particularly around CR 314 where the EA Preferred Alternative was expected to impact land surrounding Clear Creek, the Greenway, and trees and roadside vegetation along CR 314. In addition, greater detail is now available on the design of the viaduct structures and the extent of the areas that can be avoided below.

The 8 acres of riparian restoration identified in the EA remain a part of the Project. Realignment of the highway to the north in the West Section has presented the opportunity for the restoration of an additional 2.5 acres of riparian habitat, which is now included in the CMGC Refined Preferred Alternative.

4.15.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #72-74, initially identified in the EA, address impacts associated with clearing and removal of vegetation, reclamation, and the potential to introduce noxious weeds and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. No additional mitigation is needed.

4.16 Visual Resources

4.16.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would have adverse visual impacts due to retaining walls, rock cuts, cut and fill slopes, associated vegetation removal, and viaduct piers and shading. The viaduct and other structures would be designed as unique structural elements to complement the landscape, following the *I-70 Mountain Corridor Aesthetics Guidance* and *I-70 Mountain Corridor Engineering Design Criteria*.

I-70 travelers would experience visual change as they travel on the viaduct and through the bench cut; the viaduct would be visually noticeable while traveling on it but minor in the context of surrounding landscape features. The grading of the bench cut surrounding I-70 in the Sawmill Gulch area south of Clear Creek would adhere to aesthetics guidance and engineering design criteria to create a naturalistic appearance. The visual experience for travelers on the viaduct would be more comfortable than the experience of travelers today: travelers on the viaduct would have open views of the natural landscape as opposed to limited views constrained by tight curves around tall rock cuts in the mountain side.

Shading of landforms and vegetation under the viaduct structure throughout the Central Section of the Project may affect visual quality. A shading study was conducted to better understand the location of shading impacts by season. The study indicated that the canyon walls create shade for much of the day during the winter, regardless of the roadway infrastructure.

Recreationalists using the Greenway would benefit from the restoration of riparian areas included in the CMGC Refined Preferred Alternative. As shown in Figure 15, roadway infrastructure, rock cuts, and cut/fill slopes in the bottom of the canyon would alter the existing landscape. Viaduct crossings of Clear Creek and the Greenway could block views for recreational users in some locations. The I-70 benches cut into the mountainside south of Clear Creek would not be visible to recreationalists using the Greenway.

The recommended noise wall in eastern Idaho Springs would impact residents' views by blocking the lower portion of their view of the south side of Clear Creek Canyon. However, the noise wall also would block their view of the I-70 roadway infrastructure, which would be a visual benefit, while leaving the view of mountain ridges to the south intact.

Construction impacts would include visual disorder due to the presence of large equipment, temporary signage, equipment for detours such as barriers and cones, dust and debris, temporary fencing, material stockpiles, staging areas, and barren landforms during earthwork activities such as grading and rock cutting.

A Visual Impact Assessment (VIA) was completed for the Project and is documented in the *I-70 Floyd Hill to Veterans Memorial Tunnels Visual Impact Assessment Technical Report*, which is an appendix to the EA. The technical report provides a detailed analysis of the Project's visual effects and visual simulations, including a comprehensive progression of recreationalists' views through the Greenway. The modifications to the design that have occurred throughout the CMGC process do not result in a change in the intensity of anticipated impacts but some of the views presented in the technical report are no longer accurate. The VIA has been updated with an addendum that describes the changes. The addendum is attached to the *I-70 Floyd Hill to Veterans Memorial Tunnels Visual Impact Assessment Technical Report* in Appendix A of the EA.

4.16.2 How do the Impacts Compare to the EA Preferred Alternative?

Impacts from the CMGC Refined Preferred Alternative are consistent with the EA Preferred Alternative. As described in Chapter 3, under the CMGC Refined Preferred Alternative, westbound and eastbound lanes would cross over each other on independent alignments, the westbound viaduct would be higher than what was reported in the EA to minimize rock cuts at Sawmill Gulch, and bridge piers would be placed in different locations. The eastbound viaduct would be lower, and overall rock cuts would be smaller. Where the viaduct returns to grade at the Hidden Valley/Central City interchange, eastbound lanes would be closer to the existing Greenway trail (12.5 feet away) but higher (30 feet) above the

new segment of trail. Although design modifications result in some differences in the location or elevation of structural elements, the context and intensity of visual impacts remain the same. The scale of Project elements would remain a strong visual contrast to the natural environment but with the application of engineering design criteria and aesthetic guidance, Project elements would be designed as unique structural elements to complement the landscape.

4.16.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #75-81, initially identified in the EA, address visual impacts associated with the introduction of additional built elements, changes to views along the Greenway, shading, and visual disorder during construction and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. No additional mitigation is needed.

4.17 Water Quality

4.17.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The increase in impervious surfaces from widening the highway and the new frontage road connection would contribute to an increase in highway stormwater runoff, which could adversely impact water quality if not treated. Water quality treatment facilities will be included in the Project, and details regarding their locations and specifications will be determined during final design and in coordination with the SWEEP ITF.

CDOT uses deicers exclusively for winter maintenance in the Project area. Chlorides included in deicers are water soluble and non-filterable, and therefore, can be discharged directly into streams and soils where snow is plowed and/or stored and left to melt. Water quality monitoring stations have recorded increased salinity in Clear Creek in recent years. Traditional structural CMs, like detention ponds, are generally not effective in treating chlorides. Chlorides are best addressed through a combination of operational control measures, vegetation and dilution strategies, and ongoing monitoring to determine efficacy.

CDOT uses a heavier deicer application to prevent icing on bridges compared to at-grade roadways, resulting in the potential for more pollutants to enter Clear Creek.

Winter maintenance and snow storage have the potential to discharge chlorides into Clear Creek. Impacts will be addressed through a multifaceted approach.

CDOT, 2011

Highway operations on the viaduct above Clear Creek, especially at crossings of the creek, would increase the risk of hazardous material spills entering Clear Creek directly. Shading from the viaduct also could limit vegetation growth below, potentially reducing the ability of vegetation to filter sediment and pollutants.

Temporary water quality impacts would occur because of construction activities and associated surface water discharge into Clear Creek. Exposed soils during construction would increase the potential for erosion and sediments to enter waters during the construction period. Additionally, rock in the area where rock cuts will be required has the potential to be highly mineralized and there is a potential for leaching of minerals in waste rock piles that could result in runoff and contamination to Clear Creek.

Managing water quality for the Project follows a pollutant-focused, tiered approach that incorporates formal water quality CMs, such as detention basins, to mitigate the majority of roadway runoff and informal water quality CMs, such as vegetated ditches, to mitigate roadway runoff with site constraints. Because Clear Creek is a 303(d)-listed impaired water body (for metals), CDOT used the Stochastic Empirical Loading and Dilution Model (SELDM) to inform water quality CMs that could be included in the Project to improve water quality in Clear Creek. The Sediment Control Action Plan (SCAP), which was developed as a commitment of the I-70 Mountain Corridor SWEEP MOU, recommends water quality CMs and locations where stream health affected by I-70 can be improved. The Project considered the SCAP recommendations and reviewed them with the SWEEP ITF to include recommended CMs, as appropriate. CDOT remains committed to improving overall stream health and to continued evaluation of impacts associated with chloride. Specific CMs will be located and included in the Project as the design progresses and in coordination with the SWEEP ITF to balance the site constraints within the pollutant-focused, tiered approach to protecting and improving water quality.

4.17.2 How do the Impacts Compare to the EA Preferred Alternative?

The CMGC Refined Preferred Alternative would require approximately 35 percent less bridge structure—700,000 square feet compared to 932,000 square feet for the EA Preferred Alternative. This would reduce the amount of deicer that would need to be applied to prevent icing and, in turn, decrease the quantity of associated chlorides that could be discharged into Clear Creek.

There are no other meaningful differences in impacts to water quality between the CMGC Refined Preferred Alternative and the EA Preferred Alternative. Water quality concerns remain focused on effective treatment of stormwater runoff, challenges associated with de-icing activities and chloride treatment, and impacts to adjacent surface waters during construction. The approach to water quality treatment is unchanged.

4.17.3 Are New Mitigation Commitments Required?

The following Mitigation Commitment has been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- Encapsulate mineralized rock generated during blasting activities beneath the roadway pavement, away from groundwater, to prevent the release of contaminants and migration of minerals into Clear Creek. If encapsulation is not feasible, remove mineralized rock from the Project area to an appropriate disposal site. (FONSI Mitigation Commitment #87)

FONSI mitigation commitments #82-86, initially identified in the EA, address impacts to water quality and the development of water quality CMs and have been carried forward in the mitigation tracking spreadsheet included in Appendix B.

4.18 Wetlands and Aquatic Resources

4.18.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would impact approximately 7,535 square feet (0.17 acre) of wetlands and would require realignment of approximately 1,600 linear feet of a channelized portion of Clear Creek near the Hidden Valley/Central City interchange. Temporary impacts to Clear Creek may occur in locations where bridges would be replaced or constructed.

The realignment of Clear Creek will require an Individual Section 404 Permit. CDOT is working with the USACE, EPA, Colorado Parks and Wildlife (CPW), and other members of the SWEEP ITF, including Trout Unlimited and Upper Clear Creek Watershed Association, to develop a compensatory mitigation plan to account for functional losses. CDOT has initiated a functional assessment of the reaches of Clear Creek that could be impacted or improved using the Colorado Stream Quantification Tool (CSQT) to confirm mitigation requirements and is coordinating with USACE and EPA on permitting requirements.

The CMGC Refined Preferred Alternative will restore and recreate riparian areas and implement stream and habitat improvements in areas where the highway is being removed from the canyon and creek edges to improve stream, floodplain, and riparian and fish habitat conditions along Clear Creek in the Project area. The enhancements will also require 404 permitting with USACE and Senate Bill 40 wildlife certification with CPW. The 404 permit is separate from the mitigation plan required for the individual permit and is expected to fall under a Nationwide Permit 27 for Aquatic Habitat Restoration, Enhancement, and Establishment Activities. The final mitigation and enhancement plans will be developed with the SWEEP ITF and will include participation with rafting companies.

The CMGC Refined Preferred Alternative has been designed to span Sawmill Gulch (a tributary of Clear Creek) to avoid impacts to this resource. It also avoids impacts to Johnson Gulch.

The CMGC Refined Preferred Alternative would not alter the local or regional hydrology of the area. The major surface water features in the Project area would continue to support aquatic habitat. The hydrologic connectivity across I-70 would be maintained. However, new bridge structures over Clear Creek could result in additional shading, thus affecting establishment and growth of wetland vegetation underneath.

Temporary impacts to wetlands or surface waters related to construction activities would result from vegetation removal, earthmoving, grading activities, and staging of equipment. In addition, the demolition of existing bridge structures near the I-70 and US 6 interchange could result in temporary impacts. Temporary impacts will be addressed in final design plans by implementing contractor best management practices and CDOT specifications.

Construction activities could indirectly affect surface waters or wetlands through ground disturbance, erosion, and stormwater runoff, but impacts are anticipated to be temporary and minor. Stormwater runoff during construction may temporarily impact nearby wetlands or surface waters. Construction activities also disturb the ground surface, which increases the likelihood of noxious weeds becoming established that may crowd out more desirable native wetland vegetation. Indirect impacts also include increased stormwater runoff from the additional impervious surface associated with the widened road. That runoff could be of lower water quality as it may contain pollutants, though CMs would be implemented to reduce the potential for these impacts.

4.18.2 How do the Impacts Compare to the EA Preferred Alternative?

The CMGC Refined Preferred Alternative would realign Clear Creek in the Central Section rather than in the West Section as was expected under the EA Preferred Alternative (Figure 16). The impacts to the creek are similar in terms of linear feet and functional quality, and permitting requirements are the same.

Figure 16. Comparison of Clear Creek realignment areas between the EA Preferred Alternative and the CMGC Refined Preferred Alternative

The CMGC Refined Preferred Alternative is expected to permanently impact 7,535 square feet (0.17 acre) of wetlands, a notable increase from the 44 square feet (0.001 acre) reported in the EA. Impacts to surface waters are also higher with an additional 778 linear feet of impact beyond the 1,522 linear feet reported in the EA. A numeric comparison of impacts may not accurately reflect the difference between the alternatives given the difficulty in distinguishing between the changed conditions of the wetland delineation in the Project area (see Section 3.3), modifications to the EA Preferred Alternative, and the advancement of the design. In some cases, impacts were lower in the EA because less was known about the design and in other cases, higher because wetlands boundaries have increased and/or the design has advanced. The overall disturbance area, Project elements, and types of construction activities are the same as what was evaluated in the EA and the Project would still need to be permitted by the USACE.

4.18.3 Are New Mitigation Commitments Required?

The following Mitigation Commitment has been added to CDOT's Mitigation Commitment Monitoring and Reporting Spreadsheet, included in Appendix B:

- Restore and recreate riparian areas and implement stream and habitat improvements in areas where the highway is being removed from the canyon and creek edges. The enhancements will require 404 permitting with USACE and Senate Bill 40 wildlife certification with CPW. The 404

permit is separate from the mitigation plan required for the individual permit and is expected to fall under a Nationwide Permit 27 for Aquatic Habitat Restoration, Enhancement, and Establishment Activities. (FONSI Mitigation Commitment #95)

FONSI mitigation commitments #88-94 and 96-98, initially identified in the EA, address impacts to wetlands and surface waters associated with construction activities and detail requirements associated with the Section 404 Individual Permit and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. No additional mitigation is needed.

4.19 Wildlife and Aquatic Species

4.19.1 What are the Impacts of the CMGC Refined Preferred Alternative?

The CMGC Refined Preferred Alternative would permanently incorporate approximately 8 acres of vegetated general wildlife habitat into the transportation facility, including forested/upland trees and vegetation, riparian habitat, and shrub/scrub habitat, which support a variety of wildlife species. Additional impacts to habitat are expected from bridge and viaduct pier construction but are expected to be minor and are not included in this number because piers have not yet been designed or located. No piers are anticipated in Clear Creek, and pier locations can generally be sited to avoid substantial impacts to wildlife or fish habitat.

The CMGC Refined Preferred Alternative would not impact mule deer (*Odocoileus hemionus*) winter concentration area or mule deer severe winter range. It would impact approximately 12 acres of elk (*Cervus canadensis*) winter range habitat. Approximately 6 acres of south-facing slope and big horn sheep (*Ovis canadensis*) summer and winter range, and 0.2 acres of bighorn sheep severe winter range would be lost due to rock cuts and removal. Bighorn sheep habitat also may be affected by rockfall mitigation materials, such as netting.

The CMGC Refined Preferred Alternative would improve riparian and stream habitat through stream restoration and enhancements, which would be implemented through a riparian restoration plan for 10.5 acres of reclaimed area where existing roadway infrastructure would be removed north of Clear Creek, and through the Section 404 mitigation plan to address the impacts of the Clear Creek channel realignment, discussed in Section 4.18.

The area between MP 243.0 and MP 244.9 falls within the Clear Creek Linkage Interference Zone (LIZ). A LIZ is defined as an area along the I-70 Mountain Corridor that is a barrier to wildlife movements. In the Clear Creek LIZ, the CMGC Refined Preferred Alternative would improve wildlife movement east-west along Clear Creek and decrease wildlife-vehicle collisions by removing the interstate from creek level. The existing deer ramp under I-70 would be maintained, and the bench at the US 6 interchange area would be improved for north-south passage, considerably reducing the existing barrier effect to north-south wildlife movement along Clear Creek and dispersal east-west across I-70 at the US 6 interchange.

Since the I-70 lanes would be moved overhead to the viaduct, wildlife attempting to travel north-south across the Project would only have to cross the US 6 frontage road, and east-west connectivity along the creek bed would be improved as well. The new bridges over Clear Creek at the US 6/I-70 interchange also would be improved and would have a wildlife bench installed to provide a suitable surface (substrate) for wildlife to cross under I-70 along Clear Creek in the Clear Creek LIZ. The ALIVE ITF expressed preference for elevating I-70 above Clear Creek because the high viaducts provide the ability of terrestrial wildlife to move freely next to the creek with less traffic conflict.

East and west of the viaduct, the construction of additional I-70 travel lanes, installation of guardrails, rock cuts, retaining walls, and increased traffic volumes would contribute to continued wildlife habitat fragmentation, loss of connectivity between wildlife populations, and a potential increase in wildlife-vehicle collisions.

In the Beaver Brook LIZ, the CMGC Refined Preferred Alternative would include approximately two miles of wildlife fencing on the north and south sides of I-70 from the Hyland Hills/Floyd Hill interchange east to Soda Creek Road to prevent animal-vehicle collisions (primarily elk) in this wildlife-vehicle collision hotspot location. While fencing is highly effective at reducing animal-vehicle collisions, the installation of fencing without a wildlife crossing of the highway will create a permanent barrier for the resident elk herd in the meadow between Clear Creek High School and the highway to access habitat on the north side I-70. As noted in Section 3.2, CDOT is constructing two new wildlife crossings as Early Projects near the communities of Genesee and Empire based on recommendations provided by the ALIVE ITF. Although they are not part of the CMGC Refined Preferred Alternative, the wildlife crossings are Project mitigation commitments and will benefit wildlife movements along the I-70 Mountain Corridor.

New bridges will be constructed with wildlife passage in mind, incorporating areas for wildlife movement like this deer ramp constructed as part of the Twin Tunnels Project.

Peak Consulting Group, 2022

The CMGC Refined Preferred Alternative would improve fish habitat and stream conditions through implementation of stream enhancements described in Section 4.18. CPW is working with CDOT and the SWEEP ITF to identify locations where stream enhancements could benefit trout habitat.

Wildlife habitat throughout the Project area could be indirectly affected in several ways. Habitat could be affected by introduction and spread of noxious weeds and the continued accumulation of chemicals used for deicing and winter maintenance. However, this habitat is marginal due to its location next to the roadway. The wider highway could increase the amount of chemicals used over the existing condition. Rock fall material installed over rock cuts could trap avian species and could interfere with bighorn sheep movement, indirectly causing mortality. Shading from bridges and the viaduct could affect both terrestrial and aquatic habitat by reducing sunlight reaching these habitats.

Terrestrial and fish species could be affected by construction activities and avoid the Project area during construction. Disturbance of habitat, introduction of noise and human activity that causes wildlife to avoid the area, and nighttime lighting may impact movement of species and birds. Construction activities could also cause mortality of small mammals and reptiles, and construction

disturbance during raptor and migratory bird nesting period (February 1 to August 31) could disturb nesting birds and cause abandonment and/or predation of nests if active nests are not identified in pre-construction surveys and avoided.

Construction in and over water bodies, including relocation of an approximately 1,600-foot section of Clear Creek east of the Hidden Valley/Central City interchange, could directly impact individual fish, spawning habitat, and macroinvertebrates during the construction period. The creek bottom and pools used for overwintering of aquatic species could be disturbed, and increased sedimentation and pollutants from stormwater runoff could adversely affect water quality and aquatic habitat if not properly managed.

4.19.2 How do the Impacts Compare to the EA Preferred Alternative?

Impacts from the CMGC Refined Preferred Alternative are consistent with the EA Preferred Alternative. Changes in the location of rock cuts reduces impacts to Bighorn Sheep habitat by 3.8 acres from what was reported in the EA. Impacts to elk winter range habitat would increase by 5 acres, primarily due to the realignment of the highway to the south, just east of the Hidden Valley/Central City interchange, where Clear Creek would be realigned. The CMGC Refined Preferred Alternative would realign the highway to the north in the West Section and present the opportunity to restore an additional 2.5 acres of riparian habitat.

Although design modifications result in some differences in the location and quantity of impacts, the context and intensity of impacts remain the same.

4.19.3 Are New Mitigation Commitments Required?

FONSI mitigation commitments #99-108, initially identified in the EA, address impacts to wildlife and have been carried forward in the mitigation tracking spreadsheet included in Appendix B. The mitigation commitment from the EA to provide new wildlife crossings along I-70 (identified as mitigation commitment #84 in the EA) has been removed from the tracking table, since this has been addressed through the advancement of the wildlife crossing projects at Genesee and Empire. The mitigation commitment from the EA to consider opportunities for wildlife passage for carnivores and medium-sized fauna at the Johnson Gulch culvert (identified as mitigation commitment #85 in the EA) has also been removed because the Project no longer impacts this culvert. No additional mitigation is needed.

5.0 Mitigation Commitments

Mitigation measures included in the Project are documented in CDOT's Mitigation Monitoring and Documentation Tracking Spreadsheet (Appendix B). The environmental commitments for the Project reflect an adaptive mitigation approach that provides for flexibility in responding to real time site and construction conditions and will continue to be reviewed for each of the design packages. The tracking spreadsheet summarizes the activities that trigger mitigation, along with the location where the activity occurs and the impact that the activity causes, allowing the contractor or CDOT to modify the activity and further avoid impacts. If the impact is avoided, mitigation would not be required.

5.1 Changes to Mitigation Commitments From the EA

Most of the mitigation measures developed to address impacts identified during the EA have been carried forward for the CMGC Refined Preferred Alternative. However, where design modifications have avoided impacts, mitigation is no longer needed and has been removed from the tracking spreadsheet. Additionally, new mitigation measures have been added to the tracking spreadsheet where impacts have been identified or new issues have been raised under the CMGC Refined Preferred Alternative. Changes to mitigation are summarized in Table 3.

Table 3. Changes to Mitigation Commitments

Resource	Change to Mitigation?	Summary
Air Quality	Yes	Five additional mitigation commitments have been added: FONSI Mitigation Commitment #4, which commits the Project to phased construction to bring disturbed areas to substantial completion, reducing fugitive dust and potential water quality impacts; FONSI Mitigation Commitment #10, which encourages carpooling to the job site; FONSI Mitigation Commitment #11, which requires the contractor to use an existing gravel pit at the Project site to process excess rock cut material, reducing haul distance by 75 percent; FONSI Mitigation Commitment #12, which addresses compliance with SB260 requirements; and FONSI Mitigation Commitment #13, which commits CDOT to evaluating air quality if modifications to the Hidden Valley/Central City interchange warrant. The Construction Manager has committed to additional measures to control and minimize air emissions and GHG emissions. These include implementing air quality monitoring stations within the jobsite that provide real-time notification regarding particulate matter (FONSI Mitigation Commitment #2); utilizing the latest heavy equipment technology to reduce diesel particulates (FONSI Mitigation Commitment #6); and performing early offline work to reduce emissions from idling vehicles in potential traffic slowdowns (FONSI Mitigation Commitment #8).
Cultural Resources	Yes	Two additional mitigation commitments have been added: FONSI Mitigation Commitment #14, which includes coordination with Clear Creek County regarding impacts to the remnants of the Colorado Central Railroad retaining walls and FONSI Mitigation Commitment #15, which reflects CDOT's commitment to consult with the SHPO regarding effects and mitigation for the NRHP-eligible archaeological site, develop a treatment plan, and develop and implement all stipulations in a supplement to the I-70 Mountain Corridor PA. Mitigation regarding the potential for disturbance to the NRHP-eligible archaeological site (EA Mitigation Commitment #9) has been removed because any remaining effects will be incorporated into the PA supplement.

Resource	Change to Mitigation?	Summary
Floodplains	Yes	Mitigation regarding changes to BFEs (FONSI Mitigation Commitment #19, previously EA Mitigation Commitment #13) has been revised to reflect the need for hydraulic modeling to confirm that the Project will remain within the 0.5-foot rise in BFE criteria established for Project based on coordination with local floodplain administrators following the release of the EA.
Geologic Resources	Yes	Mitigation regarding rock excavation (FONSI Mitigation Commitments #20 and #21, previously EA Mitigation Commitments #14 and #15) have been revised to remove CR 314 as a location that triggers mitigation, since the CMGC Refined Preferred Alternative no longer requires rock blasting in this area.
Hazardous Materials	No	An additional mitigation commitment (FONSI Mitigation Commitment #32) has been added that requires consultation with CDOT Property Management prior to the development of the Health and Safety Plan and Materials Management Plan, as they may have knowledge of highway spills or other hazardous materials impacts in the Project area. Mitigation regarding the purchase of real estate (FONSI Mitigation Commitment #31, previously EA Mitigation Commitment #25) has been revised to add consultation with CDOT Property Management to confirm whether prior hazardous materials surveys have been completed for the property.
Land Use	No	Not Applicable
Right-of-Way	Yes	Additional mitigation commitments (FONSI Mitigation Commitments #55 and #56) have been added to address the redevelopment or relocation of the CDOT Maintenance Facility and potential relocation of water wells in the Project area. CDOT will conduct appropriate environmental review and clearances for these actions.
Noise	No	Not Applicable
Recreational Resources	Yes	Additional mitigation commitments (FONSI Mitigation Commitments #45-47) relating to public information, detours, and traffic control have been added to address temporary closures of the Scott Lancaster Memorial Trail. The mitigation commitment regarding the elimination of Clear Creek Access Point #5 (EA mitigation commitment #35), has been removed from the tracking spreadsheet because the CMGC Refined Preferred Alternative avoids this impact.
Section 4(f) Resources	No	Not Applicable
Socioeconomic Resources	No	Not Applicable
Threatened and Endangered Species	Yes	Additional mitigation commitments (FONSI Mitigation Commitments #69-70) have been added to proactively minimize impacts to potential Monarch butterfly habitat and protect pollinator habitat, including requirements related to reseeding disturbed area with native plant species in accordance with Procedural Directive 503.1.
Vegetation and Noxious Weeds	No	Not Applicable
Visual Resources	No	Not Applicable
Water Quality	Yes	An additional mitigation commitment (FONSI Mitigation Commitment #87) has been added to address impacts to water resources that could result from the introduction of mineralized materials in rock cut areas. Mineralized rock materials will be encapsulated or removed from the Project area to an

Resource	Change to Mitigation?	Summary
		appropriate disposal site to prevent the release of contaminants and migration into Clear Creek.
Wetlands and Aquatic Resources	No	An additional mitigation commitment (FONSI Mitigation Commitment #95) has been added that commits CDOT to the restoration of riparian areas and stream habitat improvements in the West and Central Sections of the Project in areas where the highway would be removed. These enhancements will require 404 permitting with USACE and Senate Bill 40 wildlife certification with CPW.
Wildlife and Aquatic Species	Yes	The mitigation commitment to provide new wildlife crossings along I-70 (EA mitigation commitment #84) has been removed from the tracking table, since this has been addressed through the advancement of the wildlife crossing Early Projects at Genesee and Empire. The mitigation commitment to consider opportunities for wildlife passage for carnivores and medium-sized fauna at the Johnson Gulch culvert (EA mitigation commitment #85) has been removed because the Project no longer impacts this culvert.

In addition to environmental mitigation measures, the TT has identified issues related to the core values, such as salinity effects on water quality and vegetation, which will be tracked through design and construction. As these issues are further investigated, additional mitigation measures may be included.

5.2 Ongoing and Unresolved Issues

The CMGC delivery process incorporates phased design and construction packages, which allows more time for consideration and design of some of the more complex Project elements. As described in Chapters 1 and 2, the Central Section has numerous physical constraints that must be considered and are expected to continue to present design and construction challenges. As a result, design on this section is expected to continue throughout 2023, and construction of most of those features would not begin until mid-2024. As noted in Section 2.5, through the CSS process, the PLT and TT will continue to track issues, additional geotechnical, floodplain, and hydrological information will be collected, and the design will be progressed. The TT will be involved in reviewing the ongoing design throughout the approximately 1.5-year final design phases and will continue to track and resolve issues in the CSS issues tracking spreadsheet. As the design evolves and issues are tracked, new impacts may be identified, and new mitigation may be required. CDOT will continue to reevaluate design changes and conduct formal and informal NEPA environmental reevaluations to document impacts and consider mitigation measures. Three specific issues are known and ongoing, all in the Central Section:

- Impacts to an NRHP-eligible archaeological site are expected, and CDOT will evaluate and document the extent of effects, develop a treatment plan, and complete a PA Supplement and implement the PA stipulations before any construction activities are initiated that could affect the site.
- The CDOT Maintenance Facility at the Hidden Valley/Central City interchange will be affected by the interchange and new frontage road construction. CDOT is evaluating options for the maintenance facility to be relocated or redeveloped. CDOT's right-of-way staff will assist with evaluating these options, and CDOT will conduct any additional environmental clearances, such as a reevaluation or separate environmental clearance, needed.
- Similarly, the two water wells located southeast of the Hidden Valley/Central City interchange along the Greenway trail may be impacted. These wells are owned by CDOT and Clear Creek County, and if affected, will require evaluation of impacts and additional environmental clearances.

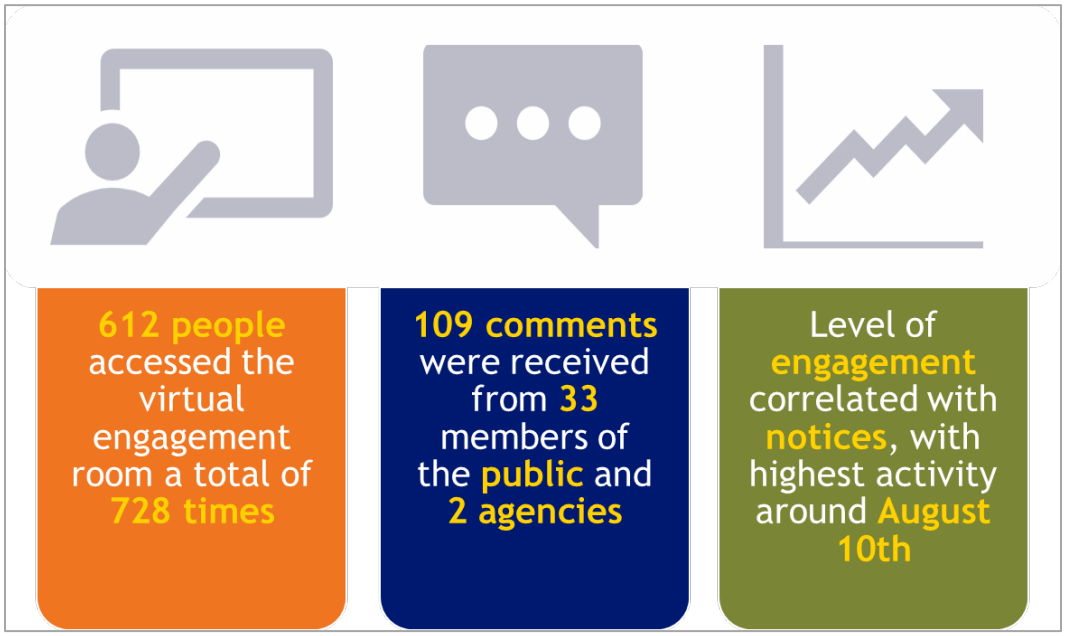
6.0 Public and Agency Involvement

Following the release of the EA, CDOT and FHWA invited agencies, community members, business owners, and stakeholders to a 60-day review and comment period. Virtual public engagement materials and a virtual meeting room were available to support the review of the EA and accept comments. Since the end of the comment period, the Project email and telephone hotline have been available, and CDOT has responded to many inquiries through both media.

6.1 EA Review

CDOT and FHWA announced the availability of the EA on August 2, 2021, and invited agencies, community members, business owners, and stakeholders to review the EA and submit feedback over a 60-day period, ending on October 1, 2021. To address health concerns surrounding the Covid-19 pandemic, CDOT developed virtual public engagement materials to support the review of the EA, Preferred Alternative, and other topics. As described in the *EA Virtual Engagement Summary Report* (February 2022) available on the Project website (https://www.codot.gov/projects/i70floydhill/public-outreach), the virtual engagement included a virtual meeting room with display boards, design layouts, videos, and opportunities to provide feedback. Emails and social media postings reminding the public about the EA review and comment period were sent to the distribution list on August 24, 2021, September 27, 2021, and October 1, 2021. Figure 17 summarizes key aspects of visitor participation throughout the 60-day comment period.

Figure 17. Overview of Visitor Participation in Virtual Meeting Room



6.2 EA Comments and Responses

Comments were received via email, US mail, and the online project comment form from the EPA, Clear Creek County, and 33 members of the public (Appendix C). As described in the *EA Virtual Engagement Summary Report*, public comments and questions focused on the Project alternatives and design elements, environmental and community impacts, traffic and operations, and safety. Comments from the EPA and Clear Creek County focused on alternatives development and environmental resources.

CDOT reviewed and considered all comments received and has worked with stakeholders, designers, and the CMGC to refine the Preferred Alternative to avoid environmental impacts, allow for easier construction, and provide cost-savings benefits. After the comment period, Project updates were sent out to all members on the email list, providing information on next steps and the start of the CMGC process.

6.2.1 Agency Comments

Both Clear Creek County and the EPA submitted written comment letters via email, included in Appendix C. Concerns or questions were raised about:

- Section 106 Eligibility for the segment of the Colorado Central Railroad in the Project area (5CC.427.1)
- Section 4(f) Eligibility for the Hidden Valley Open Space Area
- Air Quality
- Water Quality
- Mitigation Commitments
- Alternatives Development
- Express Lane operations

CDOT has worked closely with Clear Creek County throughout Project development, and Clear Creek County is a member of both the PLT and TT. The comments provided reflect this participation and reiterate concerns raised through the project development. CDOT met with Clear Creek County on December 17, 2021, to discuss their comments and how they would be resolved. Since this meeting, Clear Creek County has continued its active participation in the PLT, TT, and numerous ITFs. A county representative was an observer in the procurement process for the Construction Manager and Design Engineering services. Clear Creek County representatives have been important leaders in the CSS process, advocating for refinements and measures to address their concerns and represent the Project core values.

The EPA has also participated in CSS meetings and attended site visits in the corridor. A meeting was held with EPA on August 15, 2022, to discuss and resolve their comments ahead of the preparation of the FONSI. The EPA has also been engaged in Section 404 permitting discussions, which have progressed since the publication of the EA, as part of their responsibilities under the Clean Water Act.

Notes from the agency meetings are included in Appendix C. Section 6.3 describes the agency and public involvement during the CMGC process.

6.2.1.1 Clear Creek County Comments

Clear Creek County identified comments and concerns that needed to be addressed by the Project. Of primary concern to the county were disagreements about application of and compliance with Section 106 of the National Historic Preservation Act and Section 4(f) of the US Department of Transportation (DOT) Act. CDOT, FHWA, and Clear Creek met in December 2021 to discuss these overarching issues as summarized in the meeting notes included in Appendix C. The County has been an active participant in the CMGC design refinement process and raised other concerns outlined in their EA comments through this process.

Historic resources. Clear Creek County disagreed with CDOT's determination that the segment of the Colorado Central Railroad within the Project area is non-supporting to the overall resource. CDOT

stands by the finding of eligibility and effects for this segment of the railroad; the railroad is a historically significant resource overall, but the segment in the Project area is non-supporting to the overall resource, and the SHPO has concurred with the determination. While CDOT and the County disagree about the classifications and determinations, they agree that the EA Preferred Alternative did not affect these resources. Impacts of the CMGC Refined Preferred Alternative are described in Section 4.4.1.

Recreation Resources. Clear Creek County disagreed with the conclusion that the Hidden Valley Open Space is not a resource protected under Section 4(f) of the US DOT Act. FHWA clarified that under the Section 4(f) regulations, the open space is considered a multiple use property and is not protected as a Section 4(f) resource. The Project has assessed impacts to the Hidden Valley Open Space as a recreational resource, as described in Section 4.8 of the EA and Section 4.10 of this document. Throughout Project development, including in review of the CMGC design refinements, effects on Hidden Valley Open Space have been considered carefully to minimize impacts and support and integrate the recreational value of the property.

As with the disagreement over historic resource determinations, the County's comments are primarily directed toward the south frontage road option of the Tunnel Alternative, which was not selected for the Project. Regardless of the Section 4(f) designation, CDOT and the County have worked collaboratively through the CSS process to develop the Project in a manner that is compatible with and respectful of their collective project and land use goals and that would not restrict use of the Hidden Valley Open Space property. The CMGC Refined Preferred Alternative improves the recreational use of Clear Creek, Clear Creek Canyon, and surrounding open spaces by removing the highway from the floor of the canyon, reducing visual, noise, and safety conflicts, and improving creek and riparian areas. CDOT will continue to coordinate design of the Greenway and creek improvements through the CSS process to address recreational and other potential conflicts.

Air Quality. Clear Creek County is designated as "attainment/unclassifiable" for all National Ambient Air Quality Standards, which is EPA's standard designation for geographic areas that meet or are below standards for criteria air pollutants. Clear Creek County noted issues with lack of reliable air quality data in the corridor and with the EPA regulatory classification. The air quality analysis presented in the EA is based on the approved practices and guidance in accordance with the Clean Air Act requirements and procedures, which are based on regional air quality and standards.

CDOT acknowledges air quality is a concern locally and has worked with Clear Creek County to conduct additional monitoring and gather data more specific to the Project area. While the County indicated their understanding that the data from the existing monitors may provide limited value to regional modeling, they pointed out that the monitors have value in screening and communicating air quality conditions. In addition to these existing monitors, which have been in place less than 5 years, the Project includes additional air quality monitors and a process for reviewing and assessing data from those monitors within the regional context. CDOT has also prioritized reduction in air emissions and GHG emissions statewide and for the Project specifically. The contractor has committed to additional mitigation measures during construction to meet these goals as noted in Chapter 5 of this document.

Water Quality. The County noted concerns with increased salinity in both water and soil within the Project area attributed to the use of deicing agents for winter highway maintenance. Both the EA and the *Water Quality Technical Report* (CDOT, 2020) acknowledge these concerns and the relationship to highway maintenance. The County and CDOT also agree that the use of traction sand has adverse impacts to water quality, which were discussed extensively in the PEIS and SCAP, and return to this

practice is not recommended. As the Project design has evolved, effects of salinity and deicing practices continue to be important topics for discussion and will continue to be investigated throughout final design. The overall approach to water quality has not changed, though research suggests operational control measures, such as the rate, concentration, and methods of deicing application, are more effective than structural control measures, such as ponds. CDOT has committed to implementing mitigation measures outlined in Chapter 5 and will track this issue through the design as part of the overall CSS process and specifically with the SWEEP ITF.

Design Comments. The County questioned several issues with the conceptual design, noting that additional evaluation would be needed to consider impacts and design refinements. The CMGC evaluation process described in Chapter 2 has furthered the design and addressed some of these questions, including completely overhauling the design of the West Section to eliminate impacts to CR 314 and impacts of rock cuts and creek realignment through this section. The County has been heavily involved in the evaluation of design refinements and in the process of addressing ongoing issues in a collaborative and multidisciplinary way through the CSS process. The TT will continue to evaluate design refinements through final design and track issues through a CSS issue tracking matrix.

6.2.1.2 EPA Comments

Water Quality. EPA requested more detail on impacts to Clear Creek and requested CDOT follow the USACE Colorado Mitigation Procedures and use the CSQT to assess the functional loss from creek impacts and develop appropriate mitigation to offset the impacts.

During the comment resolution meeting, CDOT noted that Clear Creek impacts and restoration opportunities have changed due to design refinements identified during the CMGC process, although scope of impacts are similar, and the mitigation approach is the same as described in the EA. These impacts are described in more detail in Section 4.18. CDOT is conducting a CSQT analysis to quantify functional losses for Clear Creek and to support Clean Water Act Section 404 permitting. The SWEEP ITF has been involved in the review of revised stream impacts and restoration opportunities. Since the comment resolution meeting, EPA participated with the SWEEP ITF in a field review of Project stream and water quality impacts, mitigation opportunities, CSQT approach, and interdisciplinary discussions of the balance of recreation and environmental conditions.

Air Quality. EPA provided comments on the scope and timing of air quality monitoring in the project area, the relationship of Transportation Conformity to air quality impacts, and the need to use the current transportation plans to demonstrate Transportation Conformity. Most of the Project—all through Clear Creek County—is in an attainment area for national air quality standards. During the comment resolution meeting, CDOT provided information about the existing air quality monitors in the Corridor and the regulatory-grade monitors that will be installed prior to construction. Although non-regulatory instruments, the new monitors will provide regulatory-grade data on criteria pollutants and meteorological data in the Project area. These data will be provided to CDPHE for their analysis and use in understanding and communicating local air quality conditions.

Express Lanes. EPA asked questions regarding the performance of the proposed Express Lane in comparison to adding a new General Purpose Lane, the decision process for recommending an Express Lane, and the scope of eastbound I-70 improvements. During the comment resolution meeting, CDOT provided details about Express Lane performance and decision-making. As described in the meeting and in Section 3.3 of the EA, Express Lanes provide better trip reliability than General Purpose Lanes and implementing an Express Lane in the Project area provides continuity with the Mountain Express Lane

west of the Veterans Memorial Tunnels and is consistent with the I-70 Mountain Corridor ROD approved non-infrastructure improvements.

While the Express Lane would not likely be as used as a General Purpose Lane in off-peak periods, during peak periods, latent demand will continue to degrade General Purpose Lane operations. An Express Lane provides an opportunity for improved and consistent traffic flow as congestion increases in the future, improving both mobility and air quality. The Project team also explained that the Project Express Lane would be different than the Mountain Express Lanes, which operate on shoulders only during peak travel periods. The Project Express Lane will be a standard travel lane with a buffer between it and the adjacent General Purpose Lanes. A concept of operations plan will be developed during final design to refine design and operational details, such as the location of safety/enforcement pullouts and the location and length of transition areas from the existing General Purpose Lanes to the east and the Mountain Express Lanes to the west.

EPA expressed continued reservations regarding Express Lane operations compared to General Purpose Lane operations, citing several exhibits from the *Transportation and Traffic Technical Report* (CDOT, 2021) included with the EA. The report and analyses conclude that there is little difference between the volume of traffic processed, speeds, or congestion between the "3 General Purpose Lane" and "2 General Purpose plus Express Lane" alternatives, especially for the EA Preferred Alternative, the Canyon Viaduct Alternative. Additionally, the conclusions are based on the overall operation of the three highway lanes, either as three General Purpose Lanes or two General Purpose Lanes plus the Express Lane. In the Express Lane scenario, the two General Purpose Lanes would perform worse than the Express Lane, but the combined system would perform similarly to the three General Purpose Lanes and much better than the No Action. The Express Lane will always perform better than a General Purpose Lane because it is managed for travel time reliability.

Operations will not change for eastbound I-70. Between the Veterans Memorial Tunnels and US 6, the existing Express Lane constructed as part of the Twin Tunnels project will remain, and east of US 6, the three General Purpose Lanes will also remain. However, an approximately one-mile-long eastbound auxiliary lane between US 6 and approximately Homestead Road (the Hyland Hills/Floyd Hill interchange) will be constructed and connected to the new US 6 to eastbound I-70 movement to improve traffic operations and reduce conflicts with slow moving vehicles traveling uphill on Floyd Hill.

6.2.2 Public Comments

Most public comments recognized that improvements are needed on I-70. Some comments indicated general support for or opposition to the Project or to Project alternatives. These comments of general support or opposition are acknowledged but are not substantive comments that raise specific issues or concerns regarding the Project or EA process and thus do not require a specific response under NEPA. In responding to other comments, general themes were developed, and responses to those themes are provided below.

6.2.2.1 Theme: Project Design Elements

Some comments provided suggestions and questions about specific Project design elements and questions about the proposed design. Suggestions included widening the highway to four or five lanes in each direction, eliminating the tolled Express Lane from the Project, removing the curve in the highway at the bottom of Floyd Hill, including ramp metering (timed entry) at on-ramps to I-70, and constructing a runaway truck ramp at the bottom of Floyd Hill. Questions were received about the Project's ability to adequately address current and future traffic congestion.

6.2.2.2 Comment Responses

The Floyd Hill Project is a Tier 2 NEPA process that will complete the specific highway improvement commitment from the ROD for a six-lane highway between Floyd Hill and Veterans Memorial Tunnels. The Project addresses a specific location of congestion and safety needs but additional multimodal improvements, as outlined in the ROD, are needed to address travel issues along the I-70 Mountain Corridor. As described in Section 3 of the EA, the addition of a third westbound travel lane will address the bottleneck effect caused by three lanes of westbound traffic merging into two lanes of traffic at the top of Floyd Hill, a primary source of traffic congestion at this location, and will substantially reduce travel times and the duration of congestion on I-70 in comparison to the No Action Alternative. During the final design process, CDOT has continued to work with stakeholders, designers, and the CMGC to refine the design to avoid environmental impacts, allow for easier construction, and provide cost-savings benefits.

As described in Section 3.3 of the EA, the Colorado Transportation Commission's Policy Directive 1603.0 requires CDOT to strongly consider managed lanes (including tolled Express Lanes) during planning and development of highway capacity improvement projects. This policy is based upon the understanding that it is not possible to build enough capacity to meet peak demand with general purpose lanes and that we cannot build our way out of congestion issues. An Express Lane meets the Purpose and Need of this Project for travel time reliability, reducing traffic congestion, and improving traffic operations, while fitting with the larger context of the Corridor and tying in with the I-70 Mountain Express Lanes just west of the Project's boundaries. Data from the I-70 Mountain Express Lanes operations to date demonstrates that managed Express Lanes are a reliable option that improve travel times and maintain consistent speeds for all drivers and are not cost-prohibitive.

A curve at the bottom of Floyd Hill will remain. However, realigning the curve to meet current design standards for sight distance and a 55-mile-per-hour vehicle speed, will improve traffic operations and safety, as described in Section 3.5 of the EA.

Ramp metering (timed entry from on-ramps to I-70) is not part of the Project but can be implemented in the future if warranted.

The Project includes elements to reduce speed conflicts for trucks and other slow-moving vehicles, but a runaway truck ramp was not considered. Neither the PEIS nor safety analysis conducted for the Project suggested a need for a runaway truck ramp at this location. The *Safety Assessment Report* (CDOT, 2018) evaluated crashes in the corridor and concluded that the presence of trucks on the downgrade caused conflicts with faster moving vehicles, which contributed to crashes, but data do not indicate trucks are traveling at excessive speeds on the westbound downgrade or that brake failure is a concern.

6.2.2.3 Theme: Environmental Impacts

Most public comments received from the EA public engagement process concerned the Project's impacts to environmental and community resources. Nearby residents in the Floyd Hill neighborhood are concerned about construction impacts on their communities, including noise pollution, light pollution, and air quality and wanted more information about the mitigation commitments provided for local communities. Commenters also asked for more information about the construction start date, duration, and daily schedule.

Commenters are also concerned about how the Project will impact the Clear Creek watershed, the unique visual character of the I-70 Mountain Corridor, and regional air pollution.

6.2.2.4 Comment Responses

Construction of the Floyd Hill Project is expected to take place in four packages, beginning in 2023 and being substantially complete in 2027 (see Section 3.1). It is currently anticipated that construction will occur mostly during the day, with some work overnight as necessary. CDOT advanced several Early Projects to improve local mobility and safety that will be completed by 2024 (see Section 3.2).

CDOT is developing a communications plan and engaging a Public Information Leadership Team to provide information and communicate construction milestones. The communication will be tailored to residents and other travelers, and the Project email and hotline will be available for any questions or concerns about the construction schedule and activities.

In the long term, the Project is expected to have notable improvements to traffic congestion, safety, air quality, water quality, riparian habitat, recreation, and wildlife connectivity within the Project area. A review of the potential and expected impacts was included in Chapter 4 of the EA, and mitigation commitments are listed in Appendix B of the EA. The impacts and mitigation of the CMGC Refined Preferred Alternative are described in Chapters 4 and 5 of this document.

Noise Impacts and Mitigation. As described in Section 4.7 of the EA and Section 4.10 of the FONSI, traffic noise from the EA Preferred Alternative and CMGC Refined Preferred Alternative would remain below federal and state impact thresholds for commercial areas and most residences areas near Floyd Hill. In Idaho Springs, a noise wall west of the Veterans Memorial Tunnels is recommended to mitigate highway noise that exceeds noise abatement criteria. The Preferred Alternative will elevate I-70 from the canyon floor and away from Clear Creek and the Greenway Trail, which is expected to notably decrease highway traffic noise at these recreational areas in the long-term.

Temporary, intermittent increases in noise will take place during construction, and Mitigation Measures #27-33 in Appendix B of the EA address noise impacts during construction and after completion of the Project.

Air Quality Impacts and Mitigation. As described in Section 4.1 of the EA and Section 4.4 of the FONSI, CDOT has coordinated with CDPHE APCD, which has confirmed conclusions that the Project would not cause or contribute to any new violations or increases to any existing violations to state or federal air quality standards. The Project will install two new air monitors along I-70 that will provide regulatory-grade air quality data that will be published and monitored by CDPHE. The Project will comply with the requirements of CRS 43-1-128, which was enacted in 2021 as described in Section 3.3 of the FONSI.

Additional air quality analysis, described in the *I-70 Floyd Hill to Veterans Memorial Tunnels State Air Quality Analysis Report*, found that the EA Preferred Alternative would improve overall air quality in comparison to the No Action Alternative due to Project elements that will decrease congestion, improve speeds on I-70, improve service at interchanges, and provide a multimodal, non-vehicular travel option through the Project area with the Greenway bike and pedestrian trail.

Temporary increases in dust and particulate matter will occur during construction, and Mitigation Measures #1-8 in Appendix B of the EA address these impacts.

Visual Resources Impacts and Mitigation. As part of the Project's context sensitive design, the Preferred Alternative will facilitate safe and efficient local and regional travel while preserving the character of the natural and physical environment, small mountain-town aesthetics, and historical features that provide the unique beauty of the I-70 Mountain Corridor. The Project will adhere to the

I-70 Mountain Corridor Aesthetics Guidance (CDOT, 2015) and the *I-70 Mountain Corridor Engineering Design Criteria* (CDOT, undated). As described in Section 4.13 of the EA and Section 4.16 of the FONSI, visual impacts were carefully considered in Project development. The CMGC Refined Preferred Alternative was chosen largely because of its ability to fit within Clear Creek Canyon with the least environmental impact, the least physical alteration to the natural landscape, and the ability to preserve mountain views on I-70, as well as its ability to best meet the design and aesthetic guidelines for the I-70 Mountain Corridor. Elevation of I-70 from the canyon floor and removal of existing highway infrastructure and riparian enhancements would have positive visual impacts for users of Clear Creek and the Greenway trail by restoring the surrounding natural environment. Specific practices and mitigation commitments for visual resource impacts are outlined in Mitigation Measures #62-68 Appendix B of the EA.

Water Quality Impacts and Mitigation. As described in Section 4.14 of the EA and Section 4.17 of the FONSI, the primary concern for water quality in Clear Creek is runoff from sediment and chlorides used for winter roadway maintenance on I-70. The CMGC Refined Preferred Alternative includes numerous control measures, including water quality basins and ditches designed to filter out sediments and metals from highway runoff before they enter the Clear Creek watershed. CDOT, in coordination with the SWEEP ITF, has found that the Project would effectively capture and treat substantially more runoff than existing conditions along the interstate. Elevating I-70 would also provide space in the canyon for riparian restoration surrounding Clear Creek.

During final design, CDOT is using the Colorado Stream Quantification Tool (CSQT) to quantify anticipated stream impacts and determine permitting requirements under the Clean Water Act Section 404, as described in Section 4.18 of the FONSI. Mitigation Measures #69-73 in Appendix B of the EA concern actions to be taken to mitigate the Project's impact on water quality.

6.2.2.5 Theme: Local Traffic Operations

Several comments were received asking how the proposed Project will address traffic congestion and local traffic operations in the Floyd Hill area and how the Project’s construction will impact local access and regional travel.

6.2.2.6 Comment Responses

CDOT recognizes that local circulation in the Floyd Hill area is a major concern for residents. Traffic on US 6 and US 40 is often influenced by regional travelers who divert to US 40 or US 6 when there is delay on I-70. The Project will improve traffic operations and congestion on I-70 by removing the bottleneck on I-70 at Floyd Hill, increasing capacity on I-70, updating aging infrastructure, flattening curves, and improving sight lines for drivers. By improving traffic conditions on I-70, drivers will be less incentivized to travel on US 6 or US 40, improving local circulation at the primary point of access to the Floyd Hill neighborhood, which will also be improved by the Project with roundabout intersections on US 40 at CR 65 and Homestead Road, which were advanced as an Early Project to provide near-term improvement to local traffic flow in the early phases of construction. The new frontage road extension of US 6 will also improve connectivity in the Project area by providing an additional route for access and emergency egress.

During construction, CDOT commits to working with local jurisdictions and public information officers to develop a public information plan and traffic management plan to deliver important construction information to residents and businesses near the Project area, as well as the traveling public. Mitigation Measures #48-51 in Appendix B of the EA detail measures being taken to address traffic during construction.

6.2.2.7 Theme: Safety

Several comments questioned how the Preferred Alternative will address safety concerns such as winter maintenance for snow and ice on the viaduct and local access and emergency response.

6.2.2.8 Comment Responses

CDOT has considered winter roadway maintenance and the potential for ice accumulation on the viaduct structure. As noted in Section 4.14 of the EA and Section 4.17 of the FONSI, CDOT will use deicers as part of winter maintenance activities, which will address ice and snow accumulation on the viaduct. This is an issue that is included in the CSS issue tracking and will continue to be evaluated through the design, construction, and maintenance phases of the Project.

The Project will improve emergency egress conditions in the Floyd Hill neighborhood by removing congestion at the US 40 intersections with CR 65 and Homestead Road, making evacuation easier. In addition, the new frontage road in Clear Creek Canyon will improve connectivity in the Project area and provide an additional route for emergency access. The Greenway trail improvements are also being designed to maintain and improve access for fire and emergency response through the Hidden Valley Open Space property.

6.3 Public and Agency Involvement since the EA was Published

CDOT has updated the Project website with information on the design refinements, including interactive computer models (Lumen models) of the refined design, and a summary of the major innovations described in this report.

The Project website provided up-to-date information as the Project evolved, and the Project email and telephone hotline were available throughout the Project development and fielded numerous inquiries. Project updates were also sent to the Project email subscribers (more than 2,200) at milestones in the design refinement process. CDOT also briefed local organizations on the design refinements and other Project updates. Comprehensive updates to the Project website were initiated in March, September, November, and December 2022. More routine updates, including posting of meeting materials and monthly updates, were conducted throughout the CMGC design refinement process.

Table 4 summarizes the CSS meetings, project update presentations, email updates, and other outreach conducted after the EA release. Including outreach conducted during the EA, as summarized in Exhibit 5-1 of the EA, CDOT held more than 100 Project meetings and events, in addition to numerous notifications through email blasts, postcards, and website updates. The recent outreach focused on design modifications for the CMGC Refined Preferred Alternative and other Project updates, such as the CMGC procurement and funding updates. Table 4 summarizes these efforts after the release of the EA. Appendix A contains meeting notes from the PLT, TT, and ITF meetings referenced in Table 4.

Table 4. CSS, Public, and Agency Meetings and Outreach during the CMGC Process

Activity	Date	Topic
Email blast	8/2/2021	Notice of EA availability and virtual public engagement
Email blast	8/24/2021	Project update
Email blast	9/27/2021	EA comment period reminder
Email blast	10/1/2021	Notice to industry regarding contracting for the CMGC procurement

Activity	Date	Topic
Colroado Transportation Commission meeting	11/18/2021	Project status update
Colroado Transportation Commission meeting	1/19/2022	Project status update
Email blast	2/23/2022	Floyd Hill roundabouts and parking project update
PLT meeting	3/14/2022	Discussion of CSS Process, Context Statement, Core Values and Critical Success Factors, PLT and TT membership, potential ITFs, and draft schedule
PLT meeting	4/6/2022	PLT Charter, confirm TT and ITF representatives, Critical Success Factors, Project Information Leadership Team, and Early Projects
TT meeting	4/15/2022	TT Charter, TT roles and responsibilities, Innovation Evaluation process, evaluation criteria and Measures of Success
TT meeting	4/29/2022	Confirm ITFs, review of CSS flowchart, introduction of Major Alignment Innovations for Central and West segment, review Measures of Success, confirmation of section limits
Colorado Transportation Investment Office Board of Directors meeting	5/5/2022	Project update
Idaho Springs City Council presentation	5/9/2022	Project update
TT meeting	5/13/2022	Review of the Preferred Alternative and Major Alignment Innovations for the Central Section (recreation and emergency response) and Measures of Success, discussion of Hidden Valley Open Space Park, and review of Section Alignment Innovations and Stakeholder Perspectives
ITF meeting	5/24/2022	Central Section Innovations
TT meeting	5/27/2022	Review of West Section Alignment and Central Section evaluation matrix
ITF meeting	6/6/2022	West Section Innovations
Maintenance ITF meeting	6/8/2022	Review of design innovations and discussion of maintenance issues and concerns
TT meeting	6/10/2022	TT's recommendations for Central Section Alignment, review of West Section Major Alignment Innovations Middle Option and North Option) and ITF recommendations
Emergency Response ITF meeting	6/17/2022	Design innovations update and input on maintenance issues with design options, particularly related to snow plowing and deicing
TT meeting	6/24/2022	Central and West Section Major Alignment Updates, update on Emergency Response and Maintenance ITFs, and introduction of East End (of Central Section) Innovations
ITF meeting	7/1/2022	Evaluation of Hillside and On-Ramp Innovations
TT meeting	7/8/2022	Discussion of "Bottom of the Hill" Alignment (Central Section) and WB US 6 On-Ramp Options
I-70 Coalition quarterly meeting	7/14/2022	Project update, review of design refinements
TT meeting	7/22/2022	Review of "Narrows Section" Innovations (connect Bottom of the Hill and Terraced Bridges); evaluation of WB US 6 On-Ramp Innovations

Activity	Date	Topic
SWEEP ITF meeting	7/25/2022	Project updates, roles and responsibilities of SWEEP, and updates on impacts and mitigation approaches
Board of Clear Creek County Commissioners meeting	8/2/2022	Project update, review of design refinements
TT meeting	8/5/2022	Confirmation of innovations made to date, West Saddle Area refinement (to move EB I-70 to the south side of the creek and on grade through open space area), WB on-ramp discussion and discussion of Aesthetic Guidelines
ITF meeting	8/12/2022	Evaluation of Central Section West Saddle (Braid) Refinement
Greenway ITF meeting	8/18/2022	Site Visit
SWEEP ITF meeting	8/26/2022	Site Visit
TT meeting	9/2/2022	Evaluation of Creek and Greenway impacts to inform future design
PLT meeting	9/16/2022	Review TT recommendations for CMGC Refined Preferred Alternative, discuss public involvement process, and review next steps
National Public Lands Day booth	9/24/2022	Project information at Clear Creek Trail Cleanup event
I-70 Collaborative Effort meeting	9/28/2022	Project update, review of design refinements
PLT meeting	10/14/2022	Review post-NEPA design process, discuss and recommend public information practices
TT meeting	10/14/2022	Review aesthetic guidelines, discuss bridge and wall aesthetics, review inventory of Greenway and creek data
SWEEP member site visit	10/17/2022	Site visit to discuss potential recreational conflicts with creek access, particularly fishing and rafting
Groundbreaking	10/19/2022	Public and media event to commemorate the groundbreaking of the US 40 roundabouts and Genesee wildlife crossing Early Projects
TT meeting	10/28/2022	Continue review of structure and Greenway elements, introduce rock cut and retaining wall requirements in East Section
Email blast	11/08/2022	Project update and notice of additional website content describing the design innovations for the CMGC Refined Preferred Alternative
Mailed postcards	11/08/2022	Project update and notice of additional website content describing the design innovations for the CMGC Refined Preferred Alternative
TT meeting	11/11/2022	Continued discussion of aesthetics, including shade study and sound wall; East Section retaining wall, rock cut, drainage elements
Idaho Springs City Council	11/14/2022	Project update, review of design refinements
TT meeting	12/02/2022	Continued discussion of East Section retaining wall aesthetic treatments

Appendix A. Design Innovations Evaluation and CSS Decision Making Process for the CMGC Refined Preferred Alternative

Appendix B. MITIGATION TRACKING SPREADSHEET

Appendix C. Public and Agency Comments

Appendix D. I-70 Floyd Hill To Veterans Memorial Tunnels Environmental Assessment and Appendices

Provided Digitally: [Environmental Assessment — Colorado Department of Transportation (https://www.codot.gov/projects/i70floydhill)]