



Floyd Hill - ALIVE ITF Meeting #4 Summary
January 9, 2020, 9 AM to 11 AM
CDOT Golden - Lookout Mountain Conference Room

Welcome and Introductions

Vanessa Henderson, CDOT, welcomed the group and reviewed the agenda. Self-introductions followed. Attendees are listed at the end of the notes and on the attached sign-in. Meeting materials are also attached; suggested updates from the ALIVE ITF to the mitigation matrices discussed at this meeting have been included in attachments.

Project Status and Updates

Vanessa provided an overview of project status and the development of a second, non-tunnel alternative called the Canyon Viaduct Alternative, as well as the previously developed Tunnel Alternative that has two design options (North Frontage Road and South Frontage Road). CDOT has secured about half of the anticipated construction funding and is moving forward with NEPA. Impact analysis will be starting this month. A second public meeting is planned for Thursday, February 27, and the EA and public hearing are planned for the fall, with the NEPA process completed early in 2021 pending funding.

Meeting Objectives

Julia Kintsch with Eco-Resolutions reviewed the meeting objectives and noted that CDOT is looking for concurrence from the ALIVE committee on which mitigation options to move forward in the Beaver Brook Linkage Interference Zone (LIZ) and provide input for the Technical Team's CSS matrix on the wildlife considerations for each of the alternatives in the Clear Creek LIZ.

Beaver Brook LIZ

Option A: Crossing Structure west of County Road 65

Julia introduced the crossing option (Option A) for the Beaver Brook LIZ. She reviewed the map showing the refined crossing location and fencing and then reviewed the matrix comparison (attached) regarding the wildlife and biological considerations, political considerations, economic considerations, social support, and feasibility for this mitigation option.

Question: It seems like there are a lot of challenges with this location. Why was it selected and what else was considered?

Response: Previously, the ALIVE ITF conducted a site visit and explored all possible locations for a crossing within the LIZ. After much discussion, the group agreed that this location is the most suitable for a crossing based on land use, wildlife presence (direct access to the habitat that the elk herd uses the most adjacent to I-70), and wildlife-vehicle collisions (WVCs), among other factors.

Question: Can the number of animals using the crossing be predicted?

Response: The density of animals in this location is lower than other locations in Colorado where wildlife crossings have been implemented (such as State Highway 9) because it is not a wildlife migration corridor. As a result, wildlife numbers using this crossing are anticipated to be much lower than other crossings. However, the team is confident that animals will use a well-designed crossing provided that future development and human activity does not inhibit wildlife activity in this area.

Comment: The lower density description in the matrix is a neutral consideration and should be changed to black, not red, in the matrix. The group agreed and the matrix was revised accordingly.

Land Use Considerations: Adam Springer/Clear Creek County gave an update on the development plans for the commercially zoned property near the meadow. The property was recently purchased by the Frei Corporation but their plans are unknown. There is potential for development of single-family residential units; however, water supply is an issue in this area. Preserving habitat in this area would be important to ensuring long-term success of the crossing.

Political considerations: The recent Colorado executive order on wildlife crossings is another political consideration that should be added to the matrix. The group agreed, and this was added to the matrix.

Feasibility: It was decided that the word “unfavorable” should be changed to “less favorable.” The matrix was revised for this change in wording.

Question: Are there other examples of human impacted landscapes where wildlife crossings have been implemented?

Response: Generally, wildlife crossings are found in more “wild” areas, but it is not unprecedented. In Park City, there is a wildlife crossing in a residential area but it is a much smaller crossing and the buildings are farther away.

General comment about Option A Matrix: The matrix seems a little negative in tone. If this is going to be a public document and this option is selected, the wording should be rephrased.

Response: Agree. The team is confident that the wildlife crossing could be designed to be effective and that animals would use it. However, it is important to consider that the numbers for use would not be high and the costs would be very high. This reality was the primary reason for developing another option.

Option B: Onsite Mitigation and Mitigation Fund to Develop Wildlife Crossing(s) in a Different Location in the Mountain Corridor

After considering the challenges of Option A, the team began to question if there was a better mitigation option that would achieve the goals of improving wildlife passage across the Mountain Corridor. Julia reviewed the Option B components, which include habitat preservation, wildlife fencing to reduce WVCs, and contribution to a wildlife crossing mitigation fund used to develop wildlife crossing in another LIZ within the CDOT Region 1 section of the I-70 Mountain Corridor, particularly one where another transportation project is not planned. The approach of building mitigation and wildlife crossings in locations outside project boundaries is supported by FHWA’s Ecological guidance,

Question: Have we installed wildlife fencing without crossings before?

Response: This is generally not recommended but, yes, much of I-70 through Eagle County includes fencing with very limited crossing opportunities. However, there are some specific cases where fencing alone may be warranted to mitigate WVCs that occur in areas where connectivity for wildlife is not necessary. The matrix notes that this is generally not a best practice. Option B does provide some opportunity for animals to cross at the existing undercrossing at Soda Creek Road. Joe Walters/CPW said animals do and would likely use that crossing.

Question: How would the funding for the mitigation fund be determined?

Response: The contribution to the mitigation fund would be the same dollar amount as the cost of constructing the crossing (Option A), which has an early estimate of \$15 million. The money would be dedicated to constructing a crossing in a different LIZ within CDOT Region 1. Several potential locations have been identified that could be pursued with the funding. (Purchasing and conserving the habitat on the south side of I-70 at the Option A crossing location to the extent possible is included in both Option A and Option B.)

The group suggested that protecting land around or otherwise improving the Soda Creek crossing might also be another option.

The group noted some interest in Option B but identified some questions that need to be answered before they could provide concurrence on which option to pursue in NEPA. The group felt more information was needed about the on-site mitigation and the process for determining and implementing offsite mitigation. Some of the questions that need to be addressed:

- Are conservation easements possible at the meadow property?
- What additional improvements are needed/feasible at Soda Creek?
- How long would it take to get an agreement on a new crossing location? What would be the timeframe for implementing a new crossing, and how would CDOT manage that as a separate project?
- How would the mitigation fund be structured? How would it work? How do projects get triggered? How would CDOT spend the money?
- How does the ALIVE MOU need to be changed?
- How would mitigation commitments be addressed later (if not included as part of this project)?

Clear Creek LIZ

Julia provided a brief overview of the roadway alternatives in the Clear Creek LIZ, including visualizations of how the roadway infrastructure relates to Clear Creek and riparian habitat. She noted that the Clear Creek LIZ has some north-south connectivity issues, but the primary consideration is access to and movement along the riparian habitat east-west through the project area, with connectivity north at the US 6 junction.

Comment: Shading should be considered for all bridges.

Comment: The South Frontage Road option of the Tunnel Alternative seems like a lot of roadway infrastructure on both sides of the creek. The North Frontage Road option seems better because more of the roadway is away from the creek.

Comment: The Canyon Viaduct Alternative may provide more opportunity for riparian mitigation.

Comment: Clear Creek County has plans for a park on the north side of the knob cut with the Canyon Viaduct Alternative.

Comment: The South Frontage Road option may have some issues with flood resiliency.

Comment: The South Frontage Road option has lots of roadway where there could be habitat. It also cuts off wildlife access from the south.

Comment: Specify that the connectivity goal for this LIZ is east-west along the riparian corridor rather than north-south across I-70.

Next Steps

The group agreed that a follow up was needed to further discuss the Clear Creek LIZ and Option B for the Beaver Brook LIZ. The project team will work on gathering additional data requested by the ALIVE ITF and follow up in 6 to 8 weeks.

The following actions are needed:

- Mitigation Fund: Develop parameters for where and how money could be used.
 - Determine if a long-term fund is desirable or if a new crossing project should be developed concurrent with the Floyd Hill project.
 - Determine how the amount of the fund contribution is set and committed.
 - Determine if changes to the ALIVE MOU are needed.
 - Develop a preliminary list of alternative wildlife crossing locations that could be developed in the Region 1 portion of the I-70 Mountain Corridor to evaluate the benefits.
- On-site mitigation: Clarify possibilities for on-site mitigation for Option B.
 - Soda Creek improvements
 - Evaluate potential enhancements to the existing structure.
 - Consider costs and benefits of a bridge replacement spanning the creek/riparian area to provide a better wildlife pathway under the bridge.
 - Review wildlife habitat and movement in this area and relate to land use.
 - Get traffic info from Clear Creek County for Soda Creek Road.
 - Further information on habitat protection
 - Coordinate with CDOT right-of-way to initiate conversations with the four landowners to determine willingness to collaborate and costs associated with conservation easement/purchase.
 - If these parcels are not available, are there other potential properties available around Soda Creek or south towards Bergen Park where conservation protections would benefit wildlife?
 - Overpass location (Option A)

- Coordinate with Jefferson County regarding zoning for parcels north and east of the crossing location.
- Determine fence alignments, particularly fence ends and wildlife guards.

Attendees

Amy Saxton and Adam Springer (Clear Creek County); Chelsea Beebe (Jefferson County); Stephanie Gibson (FHWA); Vanessa Henderson, Neil Ogden and Francesca Tordonato (CDOT); Alison Deans Michael (USFWS); Joe Walter (CPW); Aurelia Denasha (USFS); Anthony Pisano and Carol Coates (Atkins); Julia Kintsch (ECO-resolutions); Mandy Whorton (Peak Consulting Group).

Agenda



I-70 Floyd Hill to Veterans Memorial Tunnels

Project: I-70 Floyd Hill to VMT
Meeting: ALIVE Meeting #4
Date: January 9, 2020, 9:00-11:00am
Location: CDOT Region 1, 425A Corporate Circle, Golden, CO, Lookout Mountain Room

Meeting Objectives:

- Review Mitigation Option A (Wildlife Overpass) design and considerations
- Present and discuss Mitigation Option B (Alternative) in the Beaver Brook LIZ
- Obtain consensus from the ALIVE Committee on which Option to pursue in the Beaver Brook LIZ
- Update the ALIVE Committee on the new Canyon Viaduct Alternative in the Clear Creek LIZ and obtain input for inclusion in the CSS Alternatives Matrix

Agenda:

- 1) Welcome / Introductions
- 2) Project Status Review
- 3) Beaver Brook LIZ
 - a) Mitigation Option A: Overpass
 - i) Preferred location, visualizations, and discussion of matrix
 - b) Mitigation Option B: Alternative Mitigation
 - i) Description, map exhibit, and discussion of matrix
- 4) Clear Creek LIZ
 - a) Present Tunnel Alternative: North and South Frontage Road Design Options
 - i) Alignment and visualizations
 - b) Canyon Viaduct Alternative
 - i) Alignment and visualizations
 - c) Discussion of alternatives
- 5) Next Steps / Action Items



I-70 Floyd Hill to Veterans Memorial Tunnels

ATKINS

Member of the SNC-Lavalin Group

ALIVE Meeting

January 9, 2020



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 - Review Mitigation Option A (Wildlife Overpass) design and considerations
 - Present and discuss Mitigation Option B (Alternative)
 - Obtain consensus from the ALIVE Committee
- Clear Creek LIZ
 - Update the ALIVE Committee on the new Canyon Viaduct Alternative
 - Obtain input for inclusion in the CSS Alternatives Matrix



I-70 Floyd Hill to Veterans Memorial Tunnels

Introductions

- Name
- Position
- Agency/Company



I-70 Floyd Hill to Veterans Memorial Tunnels

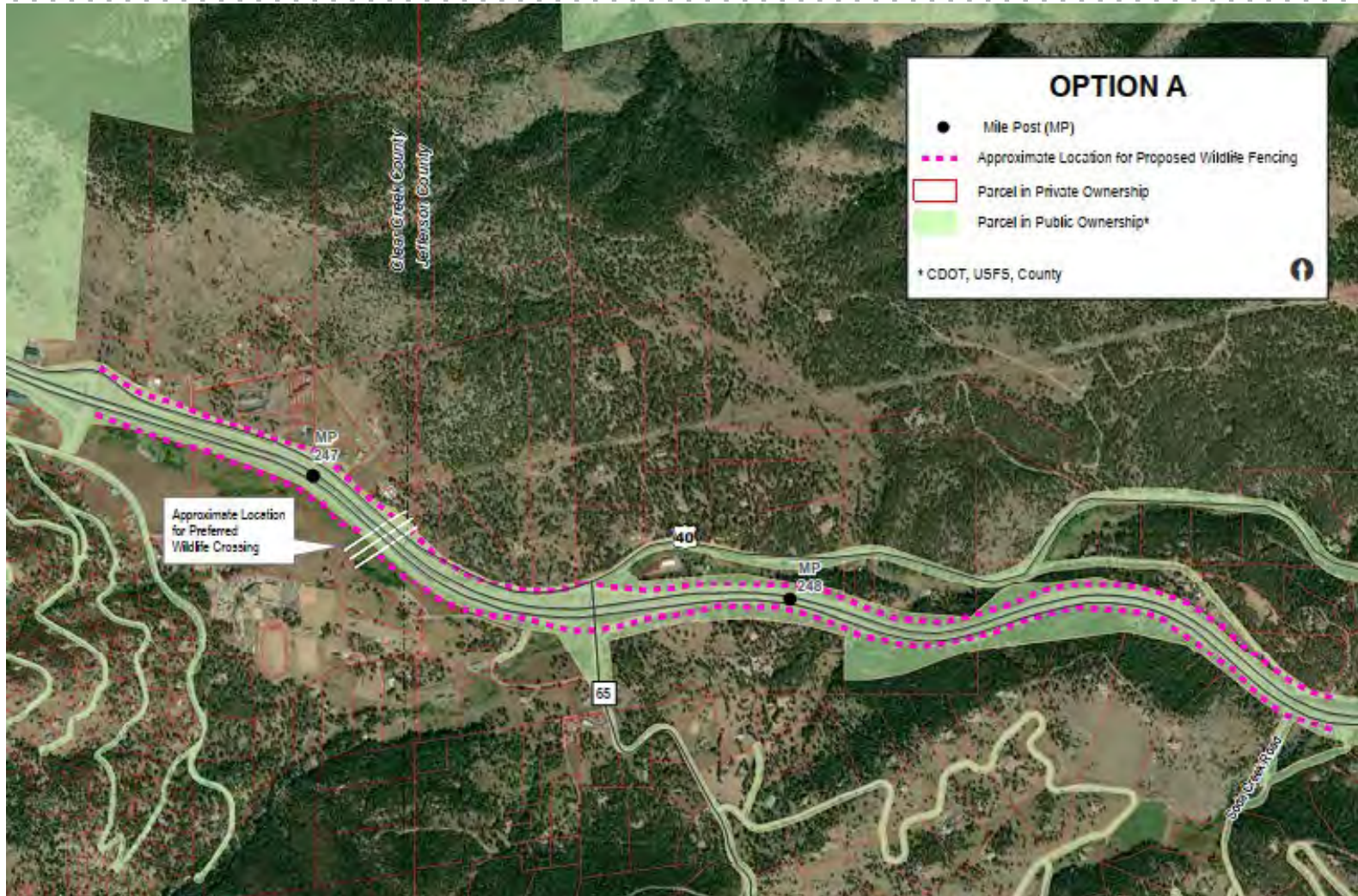
Project Status Review





I-70 Floyd Hill to Veterans Memorial Tunnels

Beaver Brook LIZ Mitigation Option A – Overpass





I-70 Floyd Hill to Veterans Memorial Tunnels

Beaver Brook LIZ Mitigation Option A – Overpass

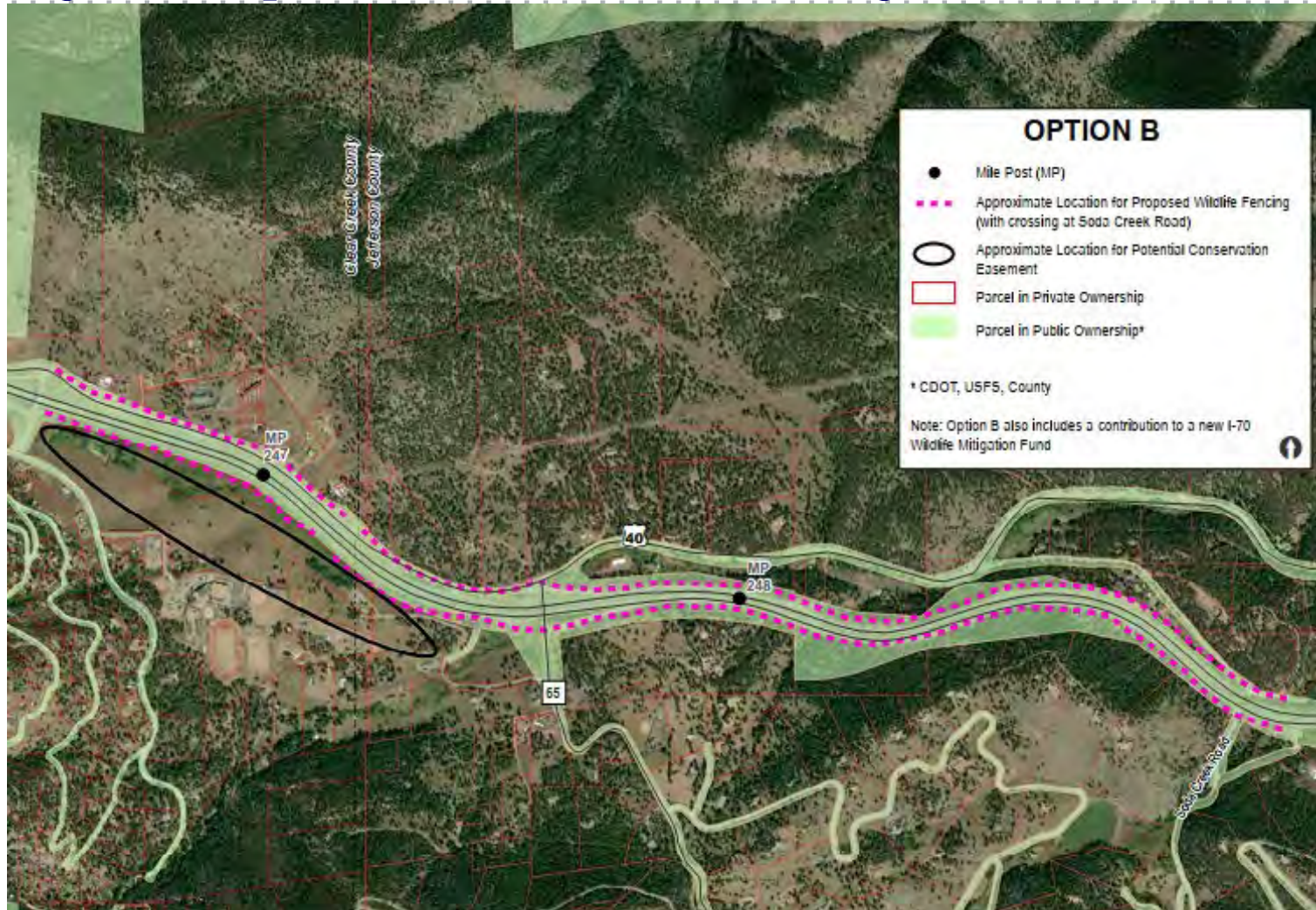




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Beaver Brook LIZ

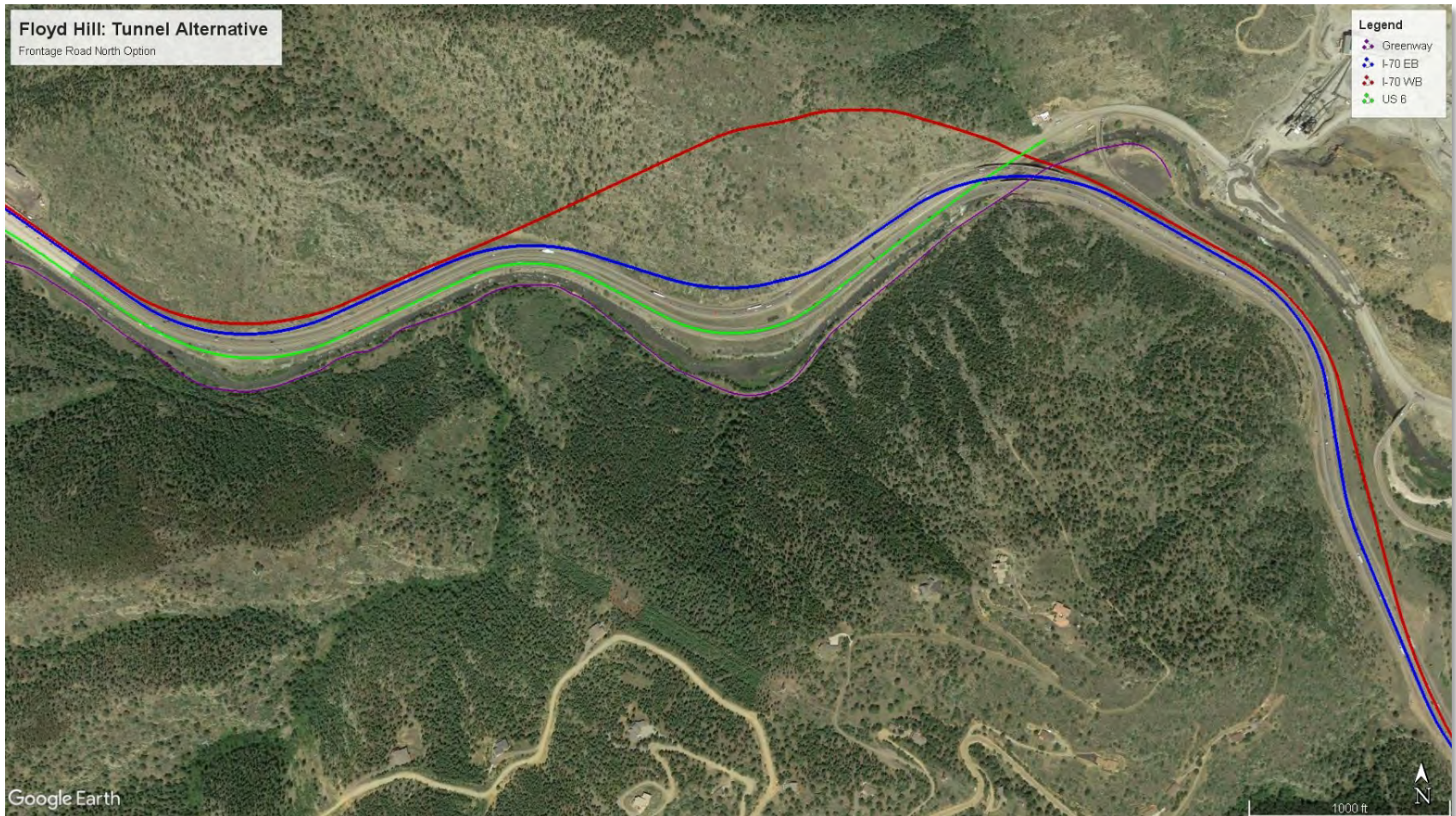
Mitigation Option B – Alternative Mitigation





I-70 Floyd Hill to Veterans Memorial Tunnels

Clear Creek LIZ Tunnel Alternative – North Frontage Road Design Option





I-70 Floyd Hill to Veterans Memorial Tunnels

Clear Creek LIZ

Tunnel Alternative – North Frontage Road Design Option



East Portal – Looking West (Figure 1)

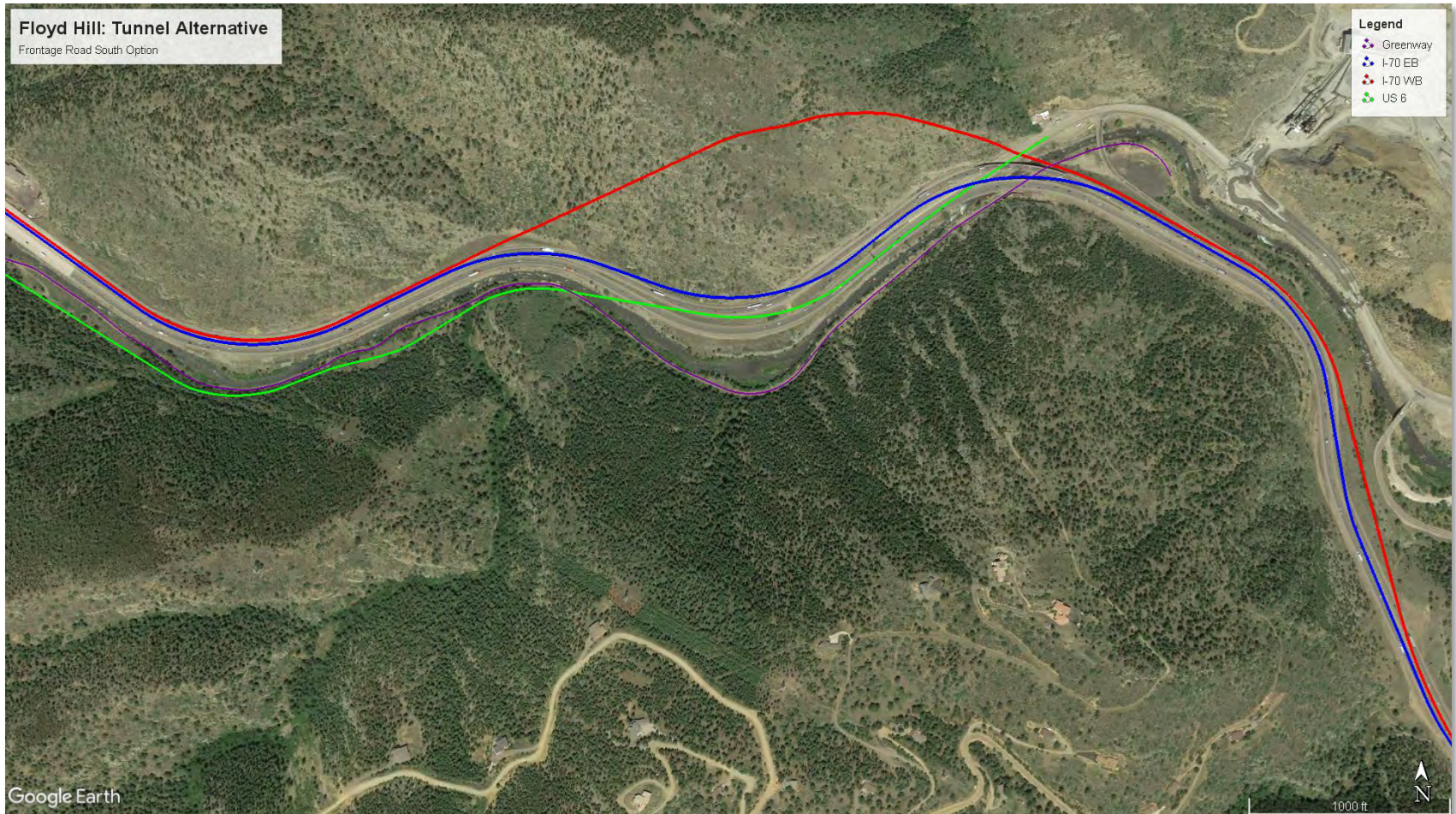


West Portal – Looking East (Figure 2)



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Clear Creek LIZ Tunnel Alternative – South Frontage Road Design Option





I-70 Floyd Hill to Veterans Memorial Tunnels

Clear Creek LIZ

Tunnel Alternative – South Frontage Road Design Option



East Portal – Looking West (Figure 1)

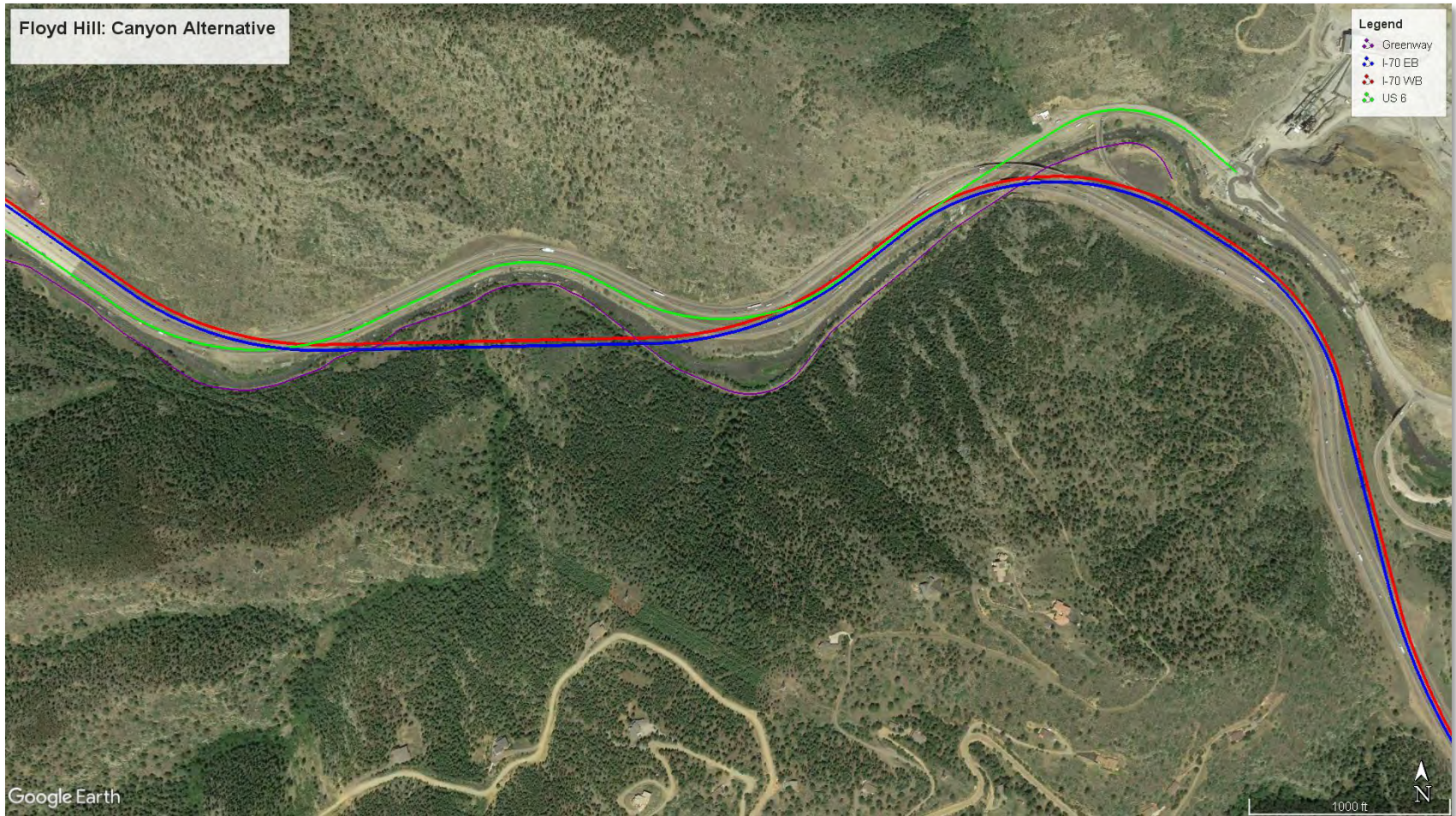


West Portal – Looking East (Figure 3)



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Clear Creek LIZ Canyon Viaduct Alternative





I-70 Floyd Hill to Veterans Memorial Tunnels

Clear Creek LIZ Canyon Viaduct Alternative



East Portal – Looking West (Figure 4)



West Portal – Looking East (Figure 5)



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Comparison of Alternatives East Portal



Canyon Viaduct Alternative (Figure 4)

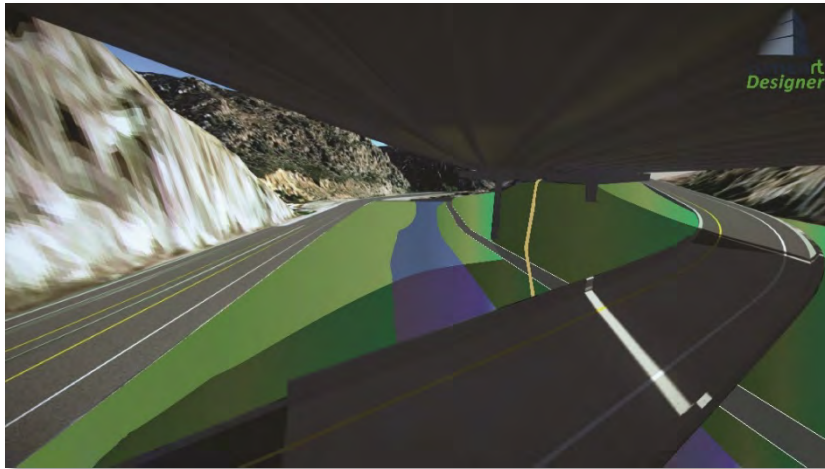


Tunnel Alt. – North and South Frontage Road Options (Figure 1)

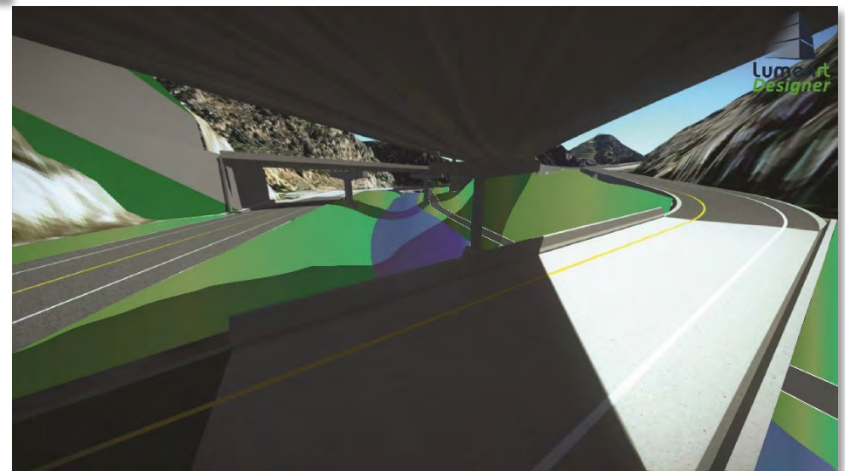


I-70 Floyd Hill to Veterans Memorial Tunnels

Comparison of Alternatives East Portal - Riparian



Canyon Viaduct Alternative (Figure 6)



Tunnel Alt. – North & South Frontage Road Options (Figure 7)



I-70 Floyd Hill to Veterans Memorial Tunnels

Comparison of Alternatives West Portal



Canyon Viaduct Alternative (Figure 5)



Tunnel Alt. – North Frontage Road Option (Figure 2)

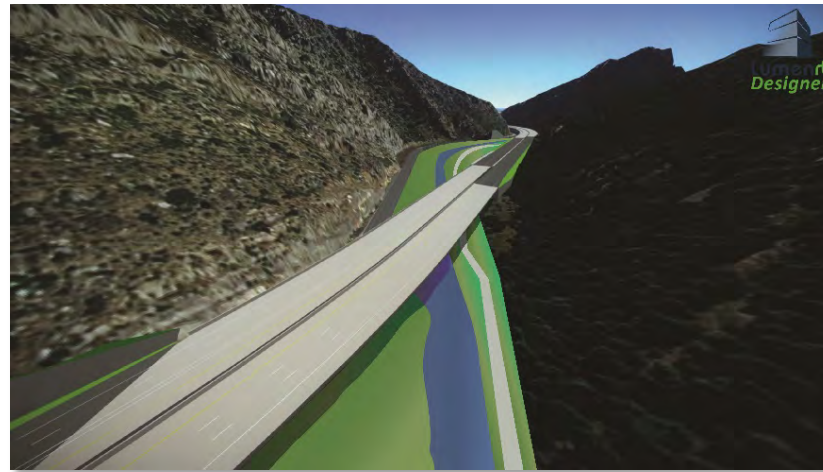


Tunnel Alt. – South Frontage Road Option (Figure 3) ¹⁶

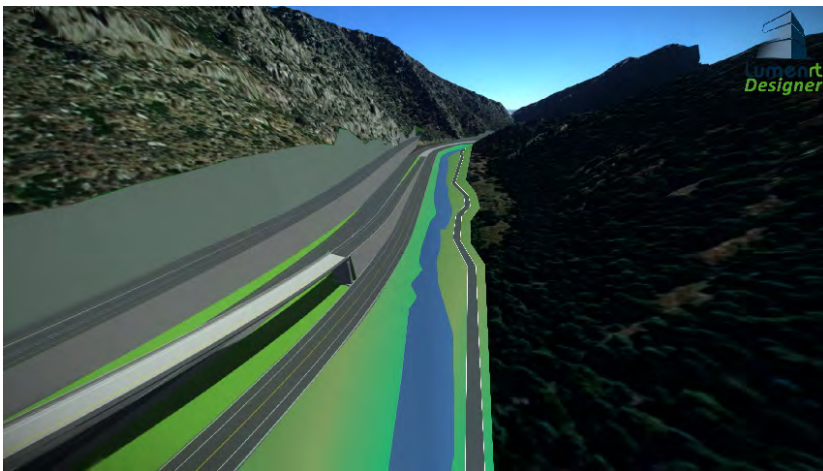


I-70 Floyd Hill to Veterans Memorial Tunnels

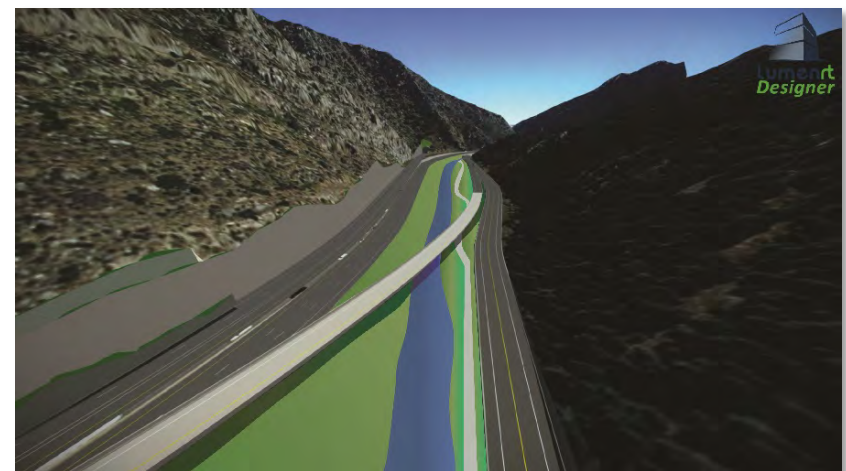
Comparison of Alternatives West Portal - Riparian



Canyon Viaduct Alternative (Figure 8)



Tunnel Alt. - North Frontage Road Option (Figure 9)



Tunnel Alt. - South Frontage Road Option (Figure 10)¹⁷



I-70 Floyd Hill to Veterans Memorial Tunnels

Next Steps

- If pursuing Option A:
 - Refine preliminary design for Overpass
- If pursuing Option B:
 - Approach County and property owners regarding conservation easement/purchase
 - Identify whether there are other large parcels available for conservation easement/purchase
 - Refine cost estimate for Option A to inform funding available for Option B
 - Develop Mitigation Fund
- Follow up with ALIVE ITF in Spring 2020



I-70 Floyd Hill to Veterans Memorial Tunnels

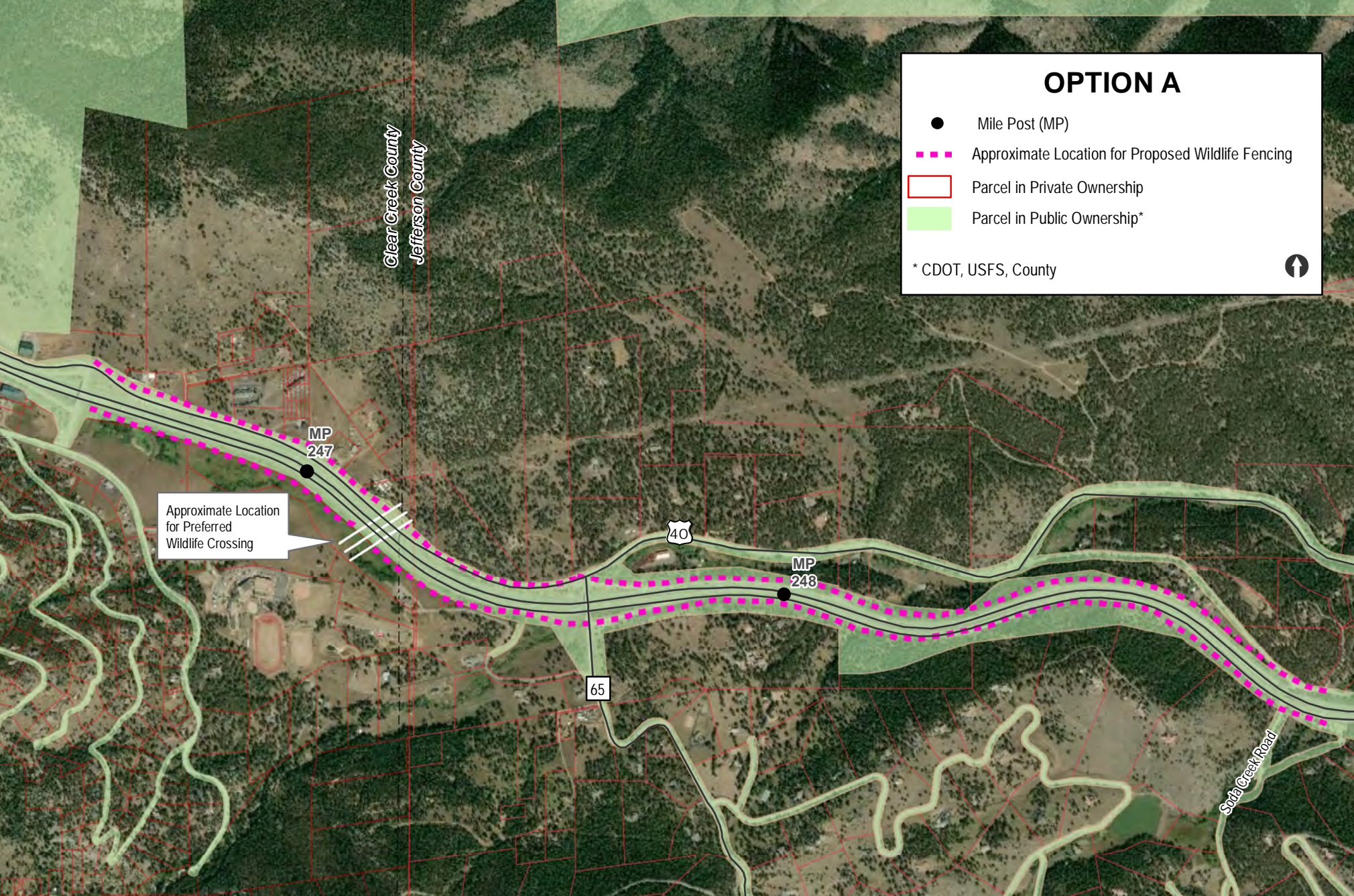
Questions



OPTION A

- Mile Post (MP)
- Approximate Location for Proposed Wildlife Fencing
- Parcel in Private Ownership
- Parcel in Public Ownership*

* CDOT, USFS, County



Clear Creek County
Jefferson County

MP
247

Approximate Location
for Preferred
Wildlife Crossing

40

MP
248

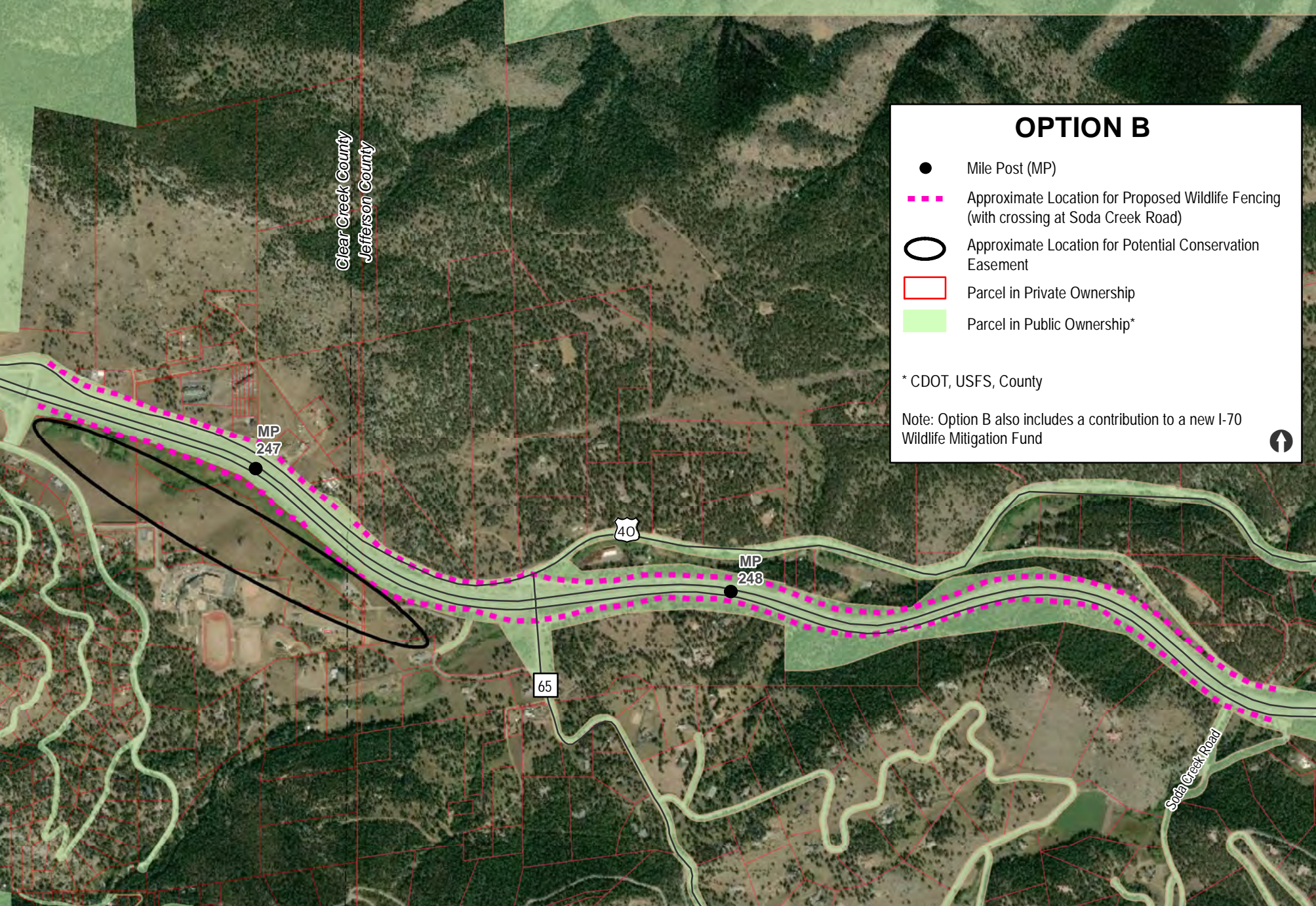
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Soda Creek Road

I-70 Floyd Hill Mitigation Alternatives Summary for the Beaver Brook Linkage Interference Zone (LIZ)

Mitigation Option	Mitigation Description	Wildlife & Biological Considerations	Political Considerations	Economic Considerations	Social Support	Feasibility	Next Steps to Advance
A. Wildlife Crossing Mitigation	Construct a wildlife overpass over I-70 & US 40 at MP 247.2 (Storage Units location). Mitigation includes wildlife exclusion fencing, escape ramps and wildlife guards along I-70 from west of the Floyd Hill exit to east of Soda Creek Road to prevent wildlife-vehicle collisions (WVC)	<ul style="list-style-type: none"> Restores landscape connectivity over I-70 & US 40, and provides greater wildlife access for resident elk south of I-70 in the Beaver Brook area to open space and undeveloped parcels north of I-70 at both the overpass location and Soda Creek Fencing mitigation along I-70 will reduce incidence of WVC and encourage safe wildlife passage under I-70 at Soda Creek Road bridge Beaver Brook LIZ is a lower connectivity priority (2003 LIZ assessment) on the Mountain Corridor; it is not a migration corridor, winter range or genetic corridor Chronic wasting disease is present in elk and deer herds in Game Management Units (GMUs) 38 & 39 Narrow, unprotected wildlife corridor due to extensive dispersed residential development and a proposed 400 unit development immediately on south side. Concern that wildlife use of the overpass will become restricted by potential future development and recreation north and south of I-70 Due to lower density wildlife populations the crossing will not have usage rates as high as other successful crossing structures (e.g., SH 9, US 160) 	<ul style="list-style-type: none"> Record of Decision (ROD) commits CDOT to wildlife crossings mitigation Governor's Executive Order in Sept 2019 supports wildlife crossings Wildlife crossing awareness is high due to other successful projects (e.g., SH 9) Highly visible and very costly mitigation project in human impacted landscape would be subject to extensive scrutiny; May impact future wildlife crossing projects in the state 	<ul style="list-style-type: none"> Overpasses will be very costly (bridge spanning eastbound and westbound I-70 and US 40) 	<ul style="list-style-type: none"> Public not clamoring for a wildlife crossing in this area (perception of costly solution to a small or non-existent problem) 	<ul style="list-style-type: none"> Very complex human landscape renders this area less favorable for a large investment in wildlife crossings infrastructure Wildlife crossings with fencing are the most effective mitigation method for reducing WVC Construction is complicated by multiple factors: Bridge over eastbound and westbound I-70 and US 40; Bridge must be 'oversized' to maintain flexibility for future operations; and will likely require short-term closures on I-70 & US 40 	<ul style="list-style-type: none"> Refine preliminary design: <ul style="list-style-type: none"> a) approaches b) geometry/roadway criteria c) right of way needs d) refined cost estimate Follow up with ALIVE ITF in Spring

LEGEND: Green = Potential Benefit
 Red = Potential Challenge
 Black = Neutral



OPTION B

- Mile Post (MP)
- ■ ■ Approximate Location for Proposed Wildlife Fencing (with crossing at Soda Creek Road)
- Approximate Location for Potential Conservation Easement
- Parcel in Private Ownership
- Parcel in Public Ownership*

* CDOT, USFS, County

Note: Option B also includes a contribution to a new I-70 Wildlife Mitigation Fund



I-70 Floyd Hill Mitigation Alternatives Summary for the Beaver Brook Linkage Interference Zone (LIZ)

Mitigation Option	Mitigation Description	Wildlife & Biological Considerations	Political Considerations	Economic Considerations	Social Support	Feasibility	Next Steps to Advance
B. Alternative Mitigation Plan	<p>In lieu of constructing a wildlife crossing in the Beaver Brook LIZ, pursue a multi-part mitigation strategy consisting of:</p> <ol style="list-style-type: none"> 1. Contribute to an I-70 Mountain Corridor Connectivity Mitigation Fund to construct a wildlife crossing elsewhere in the Region 1 portion of the Mountain Corridor [e.g., the Mt. Vernon Creek LIZ (MP 252.8-257.6) - according to the 2011 EcoLogical Report this area had the highest WVC rate in the Mountain Corridor; or around Soda Creek (~MP 250) in the Beaver Brook LIZ, which had the highest WVC from 2012 to 2016] 2. Pursue a conservation purchase or easement in the meadow/wetland complex area on the south side of I-70 at the top of Floyd Hill 3. Install wildlife exclusion fencing and associated wildlife guards, escape ramps, and pedestrian access gates along I-70 west of the Floyd Hill exit to east of Soda Creek Road to prevent WVC 	<ul style="list-style-type: none"> •Connectivity value of LIZ is more historical than current - habitat protection is a greater need for this herd than connectivity across I-70 •Potential to permanently protect high quality wetlands and meadow habitat, one of the last vestiges in this landscape; these parcels are important for this elk herd, whose habitat has already been severely restricted and fragmented by development and roads •Fencing mitigation along I-70 will reduce incidence of WVC and encourage safe wildlife passage under I-70 at Soda Creek Road bridge •Direct mitigation funding towards higher priority LIZs in the Mountain Corridor •This option does not include a wildlife crossing structure and no connectivity improvements will be made in this portion of the LIZ across I-70 & US 40 at the top of Floyd Hill •Land use will only become more complex and challenging in the futures 	<ul style="list-style-type: none"> •This is the first opportunity to comply with the ALIVE MOU and restore connectivity with a new wildlife crossing in the I-70 Mountain Corridor •May require future ALIVE MOU revisions to address alternative mitigation options and priorities, if needed, for future projects. Must keep the intent of the ALIVE MOU intact •FHWA EcoLogical approach supports mitigation in the best place even if it's outside of project boundaries 	<ul style="list-style-type: none"> •May leverage wildlife mitigation funding to offer greater conservation benefits on the Mountain Corridor for similar costs 	<ul style="list-style-type: none"> •Option requires agreement by the project ALIVE ITF •Local community support anticipated as this option could conserve the meadow/wetland complex area 	<ul style="list-style-type: none"> •Setting up a connectivity mitigation fund is new for CDOT and will require planning among R1, R3, ALIVE and FHWA •CDOT may not be able to protect the meadow & wetland properties •Minimal design and construction (only for fencing, wildlife guards, and escape ramps) •Wildlife fencing mitigation is very feasible and effective for reducing WVC 	<ul style="list-style-type: none"> •Assess property ownership; approach County and property owners regarding conservation easement/purchase •Identify whether there are other large parcels available for a conservation purchase that would benefit connectivity to the south (Mt Evans, Bergen Peak) •Refine cost estimate for Option A (to inform funding available for Option B) •Develop Mitigation Fund •Follow up with ALIVE ITF in Spring

LEGEND: Green = Potential Benefit
 Red = Potential Challenge
 Black = Neutral