



Floyd Hill - Early Projects
ALIVE ITF Site Visit
September 2, 2021, 9:00 AM to 12:00 PM
Empire/Genesee

Welcome and Introduction

Julia Kintsch, ECO-resolutions, welcomed the group and reviewed the agenda and maps. The purpose of this meeting is to review wildlife crossings and discuss fencing options for each of the crossing locations. Self-introductions followed. Attendees are listed at the end of the notes. Meeting materials are also attached.

Empire Overpass

STOP 1: Empire Overpass Structure

Julia reviewed the Empire overpass location. The current design concept is an 80-foot by 100-foot long bridge overpass. This changed from the original concept for a pre-fabricated arch structure, which was changed due to the large span and concerns about sight distance for drivers. North of US 40, around the overpass, rockfall fencing will be needed and will serve as wildlife fencing in this area. The preferred configuration is for the fence to run west to Empire and east to tie into the cliffs along CR 308, east of CR 255. Fencing northeast along US 40 will transition from rockfall to traditional wildlife fencing at the edge of the cliff outcropping. At the overpass, the roadway will shift a little to the south to accommodate guardrail and fencing.

Traditional wildlife fencing will be installed south of US 40. West of the overpass presents some challenges related to the steepness of the slope behind the guard rail and land ownership. Because of the lack of space adjacent to the highway, the fence would likely need to run along Mountain Avenue. Mountain Avenue is unimproved, and some improvements would likely need for CDOT maintenance to make this work - this will need to be fleshed out as design progresses.

Southeast of the overpass, the current plan is for fencing to run along CR 257. This leaves an open triangle on the north side of I-70, but the wildlife fence will also prevent wildlife from accessing habitat and the creek in this area. While the road salts and creek are attractants to wildlife, the habitat area is small and the highway itself acts as a barrier for wildlife moving from south to north.

The preferred configuration for fencing north of US 40 and to the west will cross Miller Gulch and extend into Empire.

Wildlife guards will be required across Mountain Ave and at several driveways.

Question: What is the difference between a Bridge and Arch design?

Answer: Primarily span lengths and sight distance. The bridge is more open and less visually intrusive for drivers.



Question: Are you aware of the land ownership in the area?

Answer: Last year, CPW received funding to purchase a large parcel of land south of US 40, which would become part of an existing State Wildlife Area. Colorado Parks and Wildlife (CPW) noted that the purchase is moving forward, but has not yet been completed. The residence up on the bench north of US 40 closest to the overpass is reportedly supportive of the project. Landowners have not been contacted at this stage of the project. A small parcel on the south side along Mountain Ave is also owned by the same property owner, and the town of Empire owns some of the property to the south. The wildlife crossing seems to be a supported land use.

Question: What will the impact to traffic on US 40 be? Could adding a new infrastructure element create a bottleneck? Have any studies been done?

Answer: No studies have been done but is not expected to be an area of concern. It will be a small structure and most people are focused on their destinations. The crossings on SH 9 have not slowed traffic in that area, and they are more noticeable for drivers.

Question: How does this relate to intersection improvements and other projects that are planned in this location?

Answer: Matthew Smith (CDOT) said that CDOT is in the process of designing intersection improvements to the east; this effort is a bit ahead of the wildlife crossings and the designs will be coordinated. Both projects will have PLTs, and Amy Saxton (Clear Creek County) noted that the CSS process has been effective in coordinating projects. The PEIS identified the need to replace the Empire Junction interchange, but this project is not funded and only conceptually identified in the PEIS; the location of the crossing on US 40 is far enough west of the interchange to be outside the likely limits of the reconstruction.

Mandy Whorton (Peak Consulting Group) noted that we are at a preliminary design phase for the wildlife crossings. Many of the questions being asked today will likely be addressed during the more detailed phases of design. Input from ALIVE will be passed forward into final design. At that point, much more will be known and available - visualizations, geotechnical studies, details regarding land use compatibility.

Mandy also noted that the costs of the crossings is a consideration, as the Floyd Hill project committed an equivalent funding to crossings in the corridor to the original overpass at the top of Floyd Hill. Cost savings under the equivalent commitment may be able to be used elsewhere for wildlife mitigation.

STOP 2: Fencing Options for CR 257

Fencing is planned along the western side of CR 257. The group discussed two options for ending the fence in this area:

- Tie the fence end into the cliffs above the bridge over I-70 at the top of the westbound on-ramp.



- Continue the fence along the on-ramp. End the fence after the merge point in the straight-away. The group agreed that this was the preferred configuration to address the WVC problem on the on-ramp.

CDOT recognizes that there are multiple problems in this area, but the early projects can only do so much at once. The interchange and highway itself are problems for wildlife in this location. Additional issues can be addressed through other future projects. Any information regarding issues that cannot be addressed at this time can be shared with these projects if/when they develop.

Question: Are there any wildlife crossing signs?

Answer: There is one diamond wildlife crossing sign that we passed further north on CR 257. This was installed as part of the westbound PPSL project. Signs are typically not that effective given the speeds on this roadway and the fact that drivers are accelerating to enter I-70.

Question: How does wildlife fencing look at a location like this this? Can a traditional wildlife fence work?

Answer: The type of fencing will depend on the geotechnical studies. We may need rockfall fencing in this location because the slopes are steep. Rockfall fencing does need to be maintained (rockfall removed) for the longevity of the fence and ensure that rocks don't pile up, allowing Bighorn Sheep to climb over.

Genesee Underpass

STOP 3: Genesee interchange (fencing end, south side)

Julia reviewed issues at the Genesee exit. Elk currently use the existing road overpass to cross over I-70, typically during the night hours. A question to the group is whether we should continue to allow this crossing or incorporate fencing. CPW would like to confirm the number of collisions that occur on the bridge. It may be better to continue to allow them to cross at this location given low traffic speeds. From a design standpoint it makes it easier to leave the existing bridge unfenced.

To the west and south of I-70, the preferred option is to open up the bison enclosure fencing in front of the bison culvert under I-70 to allow elk and other wildlife to move east-west along the south side of I-70. Gates could be installed between the bison enclosure and the culvert so that they can be closed when bison need to move through the culvert but left open the rest of the time to allow elk to travel in the east/west direction unimpeded. Elk would not likely use the culvert but other wildlife could use it so the gate across the culvert entrance should be removed.

STOP 4: Genesee undercrossing, south side

The crossing considered for this location is a bridge underpass; it could potentially be constructed entirely within CDOT right-of-way. Land use is favorable for a crossing in this location as the land on the south side is designated and maintained as open space by the Homeowner Association (HOA). The current design concept specifies an 80-foot-



wide and 138-foot-long bridges. The existing 32-foot median would be maintained. Approximately 2.5 miles of fencing would be included from the adjacent interchanges (Genesee Exit at MP 253.5 and Lookout Mountain Exit at MP 256).

STOP 5: Genesee undercrossing, north side

There are opportunities to purchase the parcel north of and adjacent to I-70 is this location, although coordination with the landowner has not occurred. To the north, wildlife that use the underpass are likely to cross US 40 and there is concern about creating a new wildlife-vehicle collision problem on US 40. The underpass is major hotspot for collisions on I-70. Along US 40, collisions are dispersed and infrequent making it difficult to determine how and where mitigation may be needed.

Question: If we acquire this parcel what would happen to the existing right-of-way fencing?

Answer: It would be replaced with wildlife fencing. The wildlife fencing would be closer to the interstate, not along the right-of way line.

STOP 6: Fencing end at Genesee exit, north side

Julia summarized the issues on the north side of the Genesee exit. Per the earlier discussion, the group agreed that leaving the road overpass accessible to wildlife was the best option. One question in this location is how best to tie into Bison enclosure to the north. CPW has noted that Elk get caught in the enclosure fencing; however, these fencing concerns are outside the scope of this project. CPW would like to prevent elk from walking down the bike path between the bison enclosure and I-70. The group determined that the best option would be to fence from the corner of the enclosure to the northwest bridge abutment with wildlife guards across the bike path and the I-70 westbound on-ramp.

Another issue in this area is the HOA fence along the north side of US 40, on the east side of the interchange. If the wildlife fence on the north side of I-70 were to extend all the way to the top of the on-ramp, this would create a tunnel of fencing on either side of US 40 through this section. Julia suggested that to avoid creating a tunnel here, that the fence could end at the east end of the HOA fence, which is adjacent to Katherine Craig Park, which is owned by Denver Mountain Parks. A wildlife guard would be needed over US 40 at this location. Julia noted that it may be difficult to install a guard at this location given the speeds on US 40 (35-55 mph) and the proximity to the neighborhood. A guard with a grate pattern may be quieter than a flat-bar guard and is easier to walk/ride/drive over. Chuck Attardo is also addressing the issue of placing a wildlife a guard on a roadway with higher speeds and we should also follow up with him.

Amy noted that surrounding land uses are primarily residential and traveling over guards could be an ongoing area of complaint. They knowingly live near the noise of the highway but adding guards/grates could be something they would take issue with. She also noted that not having a solution for animals crossing US 40 is a problem and



we need to consider more explicit solutions and have those ready for the public. CDOT noted that US 40 is historic which may be a consideration for any structural options/solutions in this area. Julia reiterated that the major challenge is that it involves a large area along US 40 with no discrete crossing location, making it difficult to come up with reasonable solutions.

STOP 7

Farther east of the Genesee Park area, along US 40, fencing would be on the south side of US 40/north side of I-70. The limits of the HOA property (residences north of US 40) begin at the crest of the hill looking in the westward direction.

Next Steps and Summary

Julia encouraged participants to reach out with additional comments or questions if any came up after digesting the materials.

ACTION: Coordinate with Chuck Attardo regarding use of wildlife guards where traffic is traveling at 55 mph. (Matthew).

Attendees

Matthew Smith, Tamara Burke (CDOT); Aurelia DeNasha (US Forest Service); Kristin Salamak (USFWS); Scott Haas, Joe Walter (CPW); Adam Springer, Amy Saxton (Clear Creek County); Julia Kintsch (Eco-Resolutions); Tyler Brady (Atkins); Mandy Whorton, Shonna Sam (Peak Consulting Group).

Agenda



Project: I-70 Floyd Hill to VMT, Early Projects
Meeting: ALIVE Meeting #8 – Site Visit
Date: September 2, 2021, 9:00am – 12:00pm
Location: Meet at Empire Overpass location, i.e., pullout on US 40 due west of the CR 257 interchange: From I-70, take the US 40/Empire exit. We will meet at the pullout on the south side of US 40 immediately west of the CR 308/CR 257/US 40 interchange. (see map; time gaps indicate travel time between stops)

Meeting Objective:

- Site visit to review the Empire overpass and the Genesee underpass wildlife crossings and to discuss structure types, site logistics, fencing and receive ALIVE input for 30% design.
- Note that the final design has been awarded under a separate contract (with wood, plc), and ALIVE participation will continue through that process.

Agenda (see map; time gaps indicate travel time between stops)

9:00 – 9:40am

- Stop 1: Empire Overpass

9:45 – 10:00am

- Stop 2: Empire southeast fence end

10:30 – 10:45am

- Stop 3: Genesee interchange (south side)

10:50 – 11:10am

- Stop 4: Genesee underpass (south side)

11:20 – 11:30am

- Stop 5: Genesee underpass (north side)

11:35am – 12:00pm

- Stop 6: US 40 at Katherine Craig Park

Empire Overpass

ALIVE Site Visit - September 2, 2021

Legend

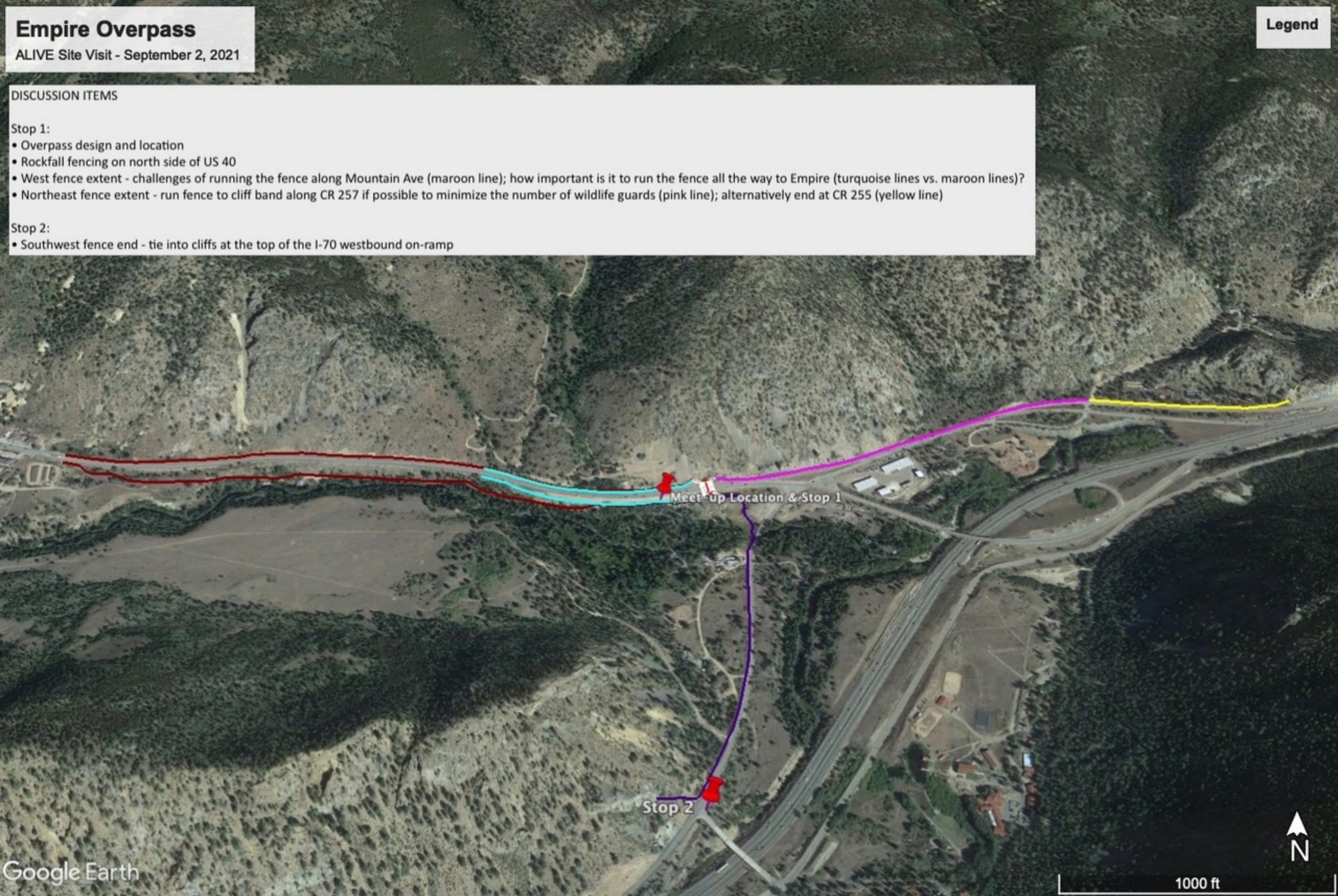
DISCUSSION ITEMS

Stop 1:

- Overpass design and location
- Rockfall fencing on north side of US 40
- West fence extent - challenges of running the fence along Mountain Ave (maroon line); how important is it to run the fence all the way to Empire (turquoise lines vs. maroon lines)?
- Northeast fence extent - run fence to cliff band along CR 257 if possible to minimize the number of wildlife guards (pink line); alternatively end at CR 255 (yellow line)

Stop 2:

- Southwest fence end - tie into cliffs at the top of the I-70 westbound on-ramp



Genesee Underpass

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Legend

DISCUSSION ITEMS

Stop 3:

- South fence alignment (blue line)
- Allow or restrict elk use of the Genesee interchange bridge? How does this decision affect the placement of wildlife guards at the interchange?
- Wildlife fence connection to the bison enclosure (see close-up map)

Stop 4:

- Wildlife underpass design and location considerations

Stop 5:

- Proposed property purchase on the north side of I-70

Stop 6:

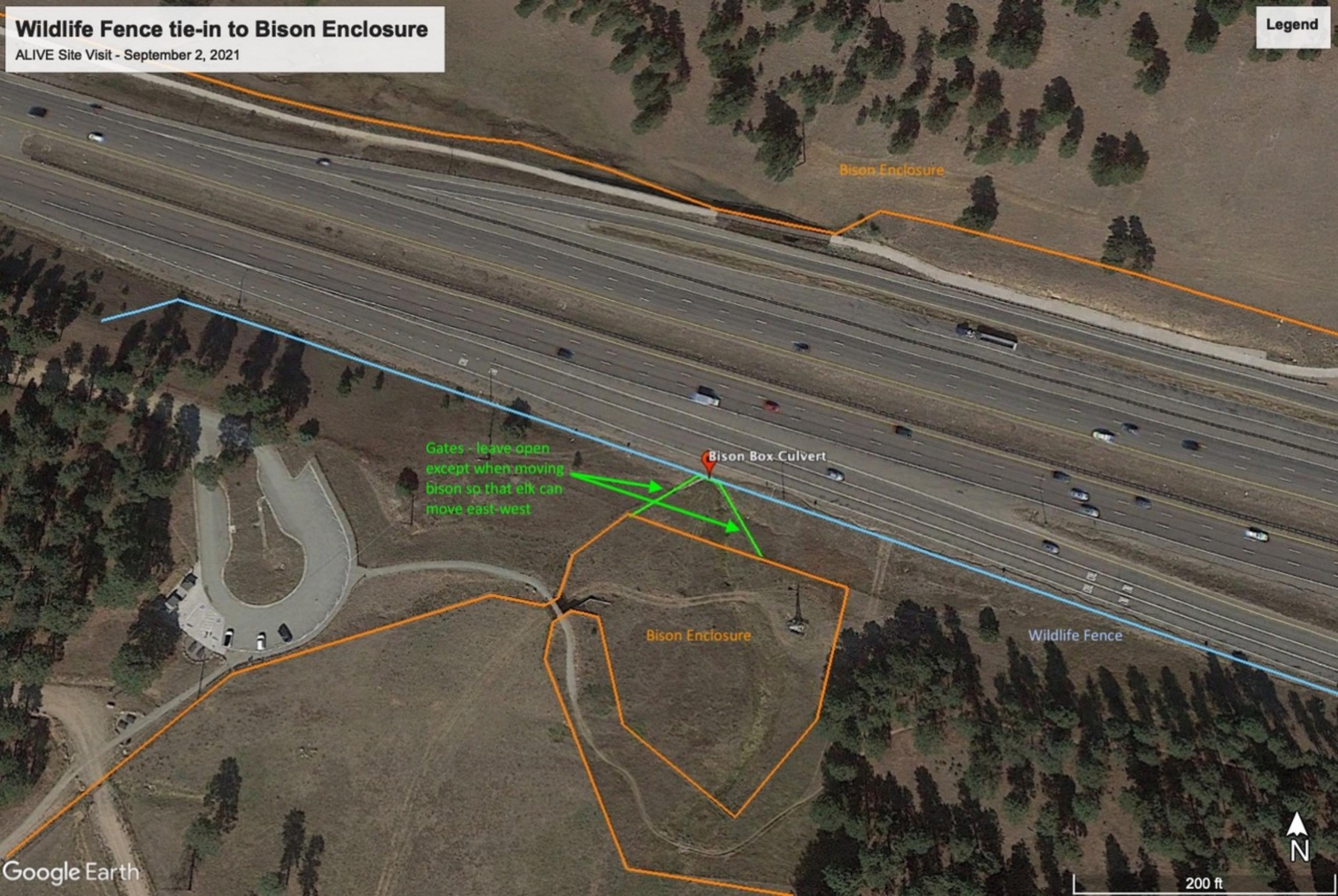
- HOA fence (maroon line) and north fence alignment; proposed fence end to guide elk into Katherine Craig Park (pale yellow line)



Wildlife Fence tie-in to Bison Enclosure

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Legend



Bison Enclosure

Gates - leave open
except when moving
bison so that elk can
move east-west

Bison Box Culvert

Bison Enclosure

Wildlife Fence

