



Montana Department of Transportation

PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Distribution

Prepared By: Lucas J. Osborne, P.E., HydroSolutions Inc., Corey Baker and Pete Christensen, WESTECH Environmental Services

Date: February 9, 2022

Subject: MDT Wildlife Accommodation Recommendation Memo (WARM)
NHPB 90-1(239)65
I-90 Structures – West of Alberton Bridge Replacements: Old Hwy 10,
Clark Fork River, and Cyr
UPN 9786000
Work Type 221 - Bridge Replacement with no added capacit

Approved: _____
Tom Martin, P.E.
Environmental Services Bureau Chief

Date: _____

This memo reflects the Project-specific wildlife accommodations that are being recommended by Environmental Services for further consideration by the Design Team. During preparation of the Biological Resources Report/ Preliminary Biological Assessment (BRR/PBA) for this Project, an initial wildlife needs analysis identified various wildlife needs and presented general recommendations for consideration.

Proposed Scope of Work

The Montana Department of Transportation (MDT) is proposing the removal and replacement of three existing bridge structures on westbound Interstate 90 (I-90) in Mineral County, west of the Town of Alberton (Alberton Bridges Replacement Project or Project). The names of the existing structures to be replaced and the Reference Post (RP) identifications include Old Highway 10 Bridge (RP 65.5), Clark Fork River Bridge (RP 66.3), and Cyr Bridge (RP 70.1).

Project Location and Limits

The Project locations include three separate bridge structures on the westbound lane of I-90 in Mineral County, west of the Town of Alberton. From west to east, the structures to be replaced include Old Highway 10 Bridge (RP 65.5), Clark Fork River Bridge (RP 66.3), and Cyr Bridge (RP 70.1). The Project location and study limits are shown on Figures 1-3 in Attachment A.

Wildlife Needs Analysis Summary

The wildlife needs analysis is built upon findings and recommendations provided in the BRR/PBA for both terrestrial and aquatic resources. The primary species considered for wildlife accommodation analysis are white-tailed deer, mule deer, and elk, based on MDT carcass data recorded near the Project (MDT 2021). However, accommodations were also considered for reducing impacts to listed endangered species including grizzly bear and bull trout.

The Project is within the general range for grizzly bears as identified in the BRR/PBA. This habitat designation indicates that while bears could be present and could use the Clark Fork River as a travel corridor. However, the Project area does not contain favorable grizzly bear foraging, denning, or secure habitat.

The Clark Fork River is designated by the USFWS as critical habitat for bull trout. The bridge sites are located within potential foraging and migration habitats of bull trout. The wildlife needs for aquatic resources are focused on protection of bull trout and maintaining the critical habitat characteristics of the Clark Fork River. The primary considerations include sediment and chemical contamination from runoff or construction and construction-related effects from barotraumas and impediments to fish movement within the river.

All three bridge locations currently provide corridors for terrestrial wildlife passage beneath the bridges. The Clark Fork River and Cyr Bridge sites provide corridors for aquatic passage. There are no existing wildlife-specific accommodations or structures on or along the existing bridges. Based on available data and observations made during surveys, deer and several species of small to medium-sized mammals regularly utilize the bridges as a travel corridor. Elk and black bear have also been documented within the vicinity of the Project areas.

The BRR/PBA anticipated that no permanent impacts to terrestrial resources would result from completion of the Project. A wildlife needs analysis was conducted and recommended continued accommodation for wildlife passage for terrestrial resources both during and after Project construction. Wing fencing tied into the grade separation of the structures could be used to direct animals towards the area underlying the bridge spans, thereby enabling wildlife to cross under the Interstate and reducing the potential for wildlife-vehicle collisions. An analysis of potential wildlife accommodations identified the continuation of carcass removal and installation of wildlife exclusion and wing fencing as feasible options. As a result of recent design changes a mid-slope bench has been added to the east embankment at the Old Highway 10 site. This bench is designed to accommodate wildlife use away from the designed reroute of Elizabeth Lane under this structure.

Wildlife Needs Verification and Supporting Documentation

This section provides an overview of planning, coordination, data review and collaboration to verify relevant data to evaluate collision mitigation solutions and applicability of wildlife accommodations for the Project area.

Preliminary consultation with the USFWS was initiated by MDT on June 10, 2021. The USFWS provided a written response to the data request on July 1, 2021, that provides descriptions of the listed species and habitats that could occur within the Project area (Attachment B). Montana Natural Heritage Program (MTNHP) databases were queried to identify any state-listed species of concern or their habitats that may occur within the Project areas. The MDT regional biologist was consulted on July 19, 2021, to discuss potential species impacts and mitigation measures for consideration in the BRR and the PBA. Additional consultation and coordination between the Design Team and the MDT regional biologist was conducted after completion of the BRR/PBA to further analyze the need for wildlife accommodation for the Project.

Geographically referenced, statewide carcass data from 2016 to 2020 provided by MDT were used to compare wildlife-vehicle collision data for the portion of I-90 within the Project areas to the entire I-90 corridor in Montana. The mean wildlife collision rate for the entire I-90 corridor in Montana is 1.4 carcasses per mile per year. The Project area has a slightly lower collision rate of 1.2 carcasses per mile per year.

The locations of the wildlife collisions and the recommended areas for wildlife accommodations are provided in Attachments A-1 – A-3. A summary of carcasses from wildlife collisions from the MDT dataset for the Project area is provided in Table 1.

Table 1 Summary of MDT Wildlife Carcass Data for the Project Area

Year	Species	Sex	Reference Point
2018	White-tailed deer	Female	65.5
2018	White-tailed deer	Female	65.9
2018	White-tailed deer	Female	70
2018	White-tailed deer	Female	70.3
2019	White-tailed deer	Female	66.4
2020	White-tailed deer	Male	65.4
2020	White-tailed deer	Female	66.0
2020	Elk	Female	66.0

Wildlife Accommodation Recommendations

There are two primary types of wildlife accommodations recommended for the Project: 1) wildlife management features to reduce the potential for vehicle/wildlife collisions (i.e., terrestrial

accommodations), and 2) construction and design features to reduce the potential for impacts to bull trout and their habitats in the Clark Fork River (i.e., aquatic accommodations).

1. Accommodation Types and Focal Species

Terrestrial Accommodations

Focal species for terrestrial wildlife accommodation at all three sites include grizzly bear, white-tailed deer, mule deer, and elk. Recommended wildlife accommodations for the Project area include carcass removal, fencing (wing and exclusion), and mid-slope benches.

Carcass removal is an accommodation that is currently utilized on I-90 and will continue to reduce the potential for grizzly bears and other carnivores to congregate near the highway.

Both wing and exclusion fencing should meet MDT specifications for wildlife fencing, as shown in Drawing 607-50, Section 607 of the MDT Standard Specifications (MDT 2021). Installation of exclusion and wing fencing is an accommodation option that would work in conjunction with the bridges at all three Project sites. Fencing would reduce the number of animal related crashes and benefit both wildlife and public safety. The replacement bridges would continue to provide sufficient space underneath to allow wildlife passage. Fencing could be tied into the bridges at the grade separation and would reduce the potential for wildlife-vehicle collisions by directing wildlife to cross under the bridges. The wing fences would extend for a relatively short distance from the bridges to discourage animals from walking up grade towards the Interstate.

In addition to fencing, a three foot wide mid-slope bench on the east embankment of the Old Highway 10 structure is recommended to encourage wildlife use of the corridor under the bridge and away from existing roads. The Federal Highway Administration (FHWA) recommends a bench width of at least six feet and an overhead clearance of at least 10 feet for large species such as deer or bear for underpass accommodations (FHWA 2011). However, this width recommendation is based on total underpass structure width. The proposed Old Highway 10 structure replacement will have approximately 150 feet of open space below the bridge deck. Studies by other Departments of Transportation have shown that large wildlife species will readily use a three foot-wide bench below structures with sufficient overhead clearance (MnDOT 2006).

Aquatic Accommodations

Aquatic accommodations involve design considerations to reduce impacts or restrictions to the stream channel as well as construction timing, methods, and monitoring to reduce impacts to fish species, specifically bull trout. Aquatic accommodations are applicable at the Clark Fork River and Cyr Bridge sites. The following list provides construction and design considerations for bull trout:

- Using drilled shafts for installation rather than impact driving to reduce the risk of barotrauma to bull trout.

- The typical timing window for construction using impact driving is from July 15 to August 31. If impact driving activities occur outside of this six-week window, the USFWS could require limiting construction to 12 hours per day or hydroacoustic monitoring of sound pressure levels. Monitoring would be used to ensure that the physical harm threshold (206dB) and the daily cumulative sound exposure level (185dB) are not exceeded by impact driving activities.
- If impact driving is used, using vibratory hammers to drive piles to such a point that impact hammers are required to finish driving the pile. Vibratory hammers present a much lower risk of causing barotrauma to bull trout.
- Using a “soft start” to driving piles, which may encourage fish to leave and avoid the construction area during driving.
- Monitoring all dewatering activities to visually detect if bull trout have become trapped in the dewatered area. Material excavated from the dewatered areas should not be placed in the active channel.
- If blasting is used for demolition of the bridge, containment systems should be employed to mitigate the pressure wave caused by the blast and to catch debris and prevent it from entering the active channel. Any blast activity must meet the MDT Standard Specification section on blasting.
- During removal of existing structures, debris should not be allowed to fall into the river channel. If bridge debris does fall into the river during demolition, USFWS requires that material to be removed from the river within two days, without dragging it along the streambed during removal.
- Implementing BMPs to keep stormwater and sediment out of the river. Fuels, lubricating fluids, herbicides, and any other chemicals should be stored in specified areas to prevent leaking into the river. During construction, equipment should not be operated in river channel and must be inspected daily for leaks.
- Replace channel features such as large wood debris or boulders if they are displaced during construction.

The following paragraphs describe site-specific considerations for each project site.

OLD HIGHWAY 10 BRIDGE

The Old Highway 10 site is the only bridge on the Project without an aquatic component. There is evidence of use below the bridge from both species of deer and small to medium sized mammals such as coyote and fox. The fencing described below should be installed on both the east and west side bridge support structures.

Wing fencing at this site should extend out from the point where the bridge departs from the slope. Exclusion fencing should also be installed between the east and westbound lanes of I-90 as required to prevent wildlife from entering the Interstate right-of-way between the lanes. Exclusion fencing could replace existing fencing between the Interstate lanes or be placed closer to the Elizabeth Lane realignment (Figure 1).

A recent proposed design feature at this site includes extending the fill on the east side of the bridge to reduce the overall span length. This design would result in spacing between the bridge fill and Elizabeth Lane that is reduced from the current alignments. In consideration of these reduced spaces an additional recommended wildlife accommodation for the site includes the construction of a mid-slope bench along the east embankment to facilitate wildlife passage upslope and away from Elizabeth Lane.

Approximately 250 feet of wing fencing, and 880 feet of exclusion fencing would be required to exclude wildlife from the Interstate and encourage wildlife movement under the structures. The width of the mid-slope bench would be 3 feet wide and the length across the fill slope is anticipated to be 100 feet long.

CLARK FORK RIVER BRIDGE

The area below the Clark Fork River Bridge is comprised of fairly steep bedrock adjacent to the river, with a flat bench on either bank above the ordinary high-water mark. Wing fencing is the recommended accommodation option for the Clark Fork River Bridge. There is substantial recreational use at this site and pedestrian access for recreational use should be considered in the design.

Wing fencing should be tied in at grade separation below the bridge. A fence should also be installed between the east and westbound lanes of I-90 as required to prevent wildlife from entering the Interstate right-of-way between the lanes. Approximately 270 feet of wing fencing and 80 feet of exclusion fencing would be required to encourage wildlife movement under the bridges.

The river is confined to a single channel between steep walls at this bridge site. The Aquatic Accommodations described above will be applicable to construction and design at this site.

CYR BRIDGE

The area below the Cyr Bridge is a mix of sandbars, cobble, and bedrock below the ordinary highwater mark, and sandy soils with rock outcrops above. Wing fencing is the recommended accommodation for this site. The Cyr site receives high-intensity recreational use due to the presence of an FWP fishing access site as well as a raft launch, large parking lot, and a private rafting company headquarters. These sites will need to be considered when preparing wildlife accommodation designs.

Wing fencing should be tied in at grade separation below the bridge. Fencing between the eastbound and westbound lanes is also recommended to prevent wildlife from entering the Interstate right-of-way between the lanes.

Approximately 350 feet of wing fencing and 65 feet of exclusion fencing would be required to exclude wildlife from nearby segments of the Interstate and encourage wildlife movement under the structures.

The Aquatic Accommodations described above will be applicable to construction and design at this site.

2. Land Use

Land use within the Project area is predominantly related to transportation, including Interstate highways, railroads, and other roads. The study area for the Old Highway 10 structure contains a small low-intensity residential area. The study areas for the Clark Fork River and Cyr structures include open water of the Clark Fork River, which is

associated with recreational and aquatic uses. Other land uses in the Project area include MDT right-of-way, undeveloped floodplain, forest land, and rangeland.

3. Cost Estimate

A preliminary cost estimate for recommended wildlife accommodations for each site is attached in Attachment C. The cost estimates are provided for recommended terrestrial accommodations. The aquatic accommodations are tied to structure design and construction methods, which are still being determined.

The total cost estimate for wildlife accommodations at the three bridge sites, starting at RP 65.5 and ending at RP 70.1, is \$110,502. The cost estimates include engineering, construction, and materials. They do not include any indirect costs. If permanent interchanges are included as part of the Project decision document, cattle guards should be considered to tie into existing fencing and/or new wildlife exclusion structures where appropriate. The cost estimates use the same unit cost for wing fencing and exclusion fencing.

OLD HIGHWAY 10 BRIDGE

Total estimated cost for this site is \$94,155 and includes:

- 1,130 linear feet of wildlife fence
- 1 - 100-linear foot, 3-foot wide mid-slope wildlife bench (Note the cost of this accommodation is based on the length of the new bridge needed to incorporate the bench, \$9,500 per foot of width)

CLARK FORK RIVER BRIDGE

Total estimated cost for this site is \$7,479 and includes:

- 350 linear feet of wildlife fence

CYR BRIDGE

Total estimated cost for this site is \$8,868 and includes:

- 415 linear feet of wildlife fence

4. Potentially Affected Design Elements

There are a number of potentially affected design elements of the recommended wildlife accommodations that should be further considered during the design phase. These include:

- For the Old Highway 10 site, the width and slope placement of the mid-slope bench
- For the Clark Fork River and Cyr sites:
 - design of exclusion fencing between Interstate lanes should consider access for recreational use
 - design considerations to reduce construction and bridge support structures within active river channel

- For all sites, coordinate with individual landowners during the design phase so that existing private fence lines are maintained and tied into proposed fencing if/where applicable

5. Further Coordination and Consultation

Resource agencies have been consulted, their documents noted above, and understand there is opportunity for further consultation if additional information is needed or is revealed. At this time no additional analysis or pre-construction research is recommended prior to issuance of the Wildlife Accommodation Decision Report (WADR).

Continued monitoring and agency coordination is recommended to support the BA and identify improved safety measures. Post-construction monitoring of the fence and fence ends can be employed to assess how accommodations are functioning in regard to deterring wildlife from the Interstate lanes. Further landowner coordination is recommended to address any landowner operational or land use concerns.

6. Literature Cited

Federal Highway Administration (FHWA). 2011. Wildlife Crossing Structure Handbook Design and Evaluation in North America. Publication No. FHWA-CFL/TD-11-003.

Minnesota Department of Transportation (MnDOT). 2006. Best Practices for Meeting DNR General Public Waters Work Permit GP2004-0001.

Montana Department of Transportation (MDT). 2021. Montana Statewide Carcass Data 2016-2020. Available at [https://www.mdt.mt.gov/publications/datastats/crashdata.aspx#:~:text=The%20MDT%20Carcass%20Database%20contains,or%20on%20a%20regular%20schedule.&text=MDT%20also%20has%20access%20to,Montana%20Highway%20Patrol%20\(MHP\)](https://www.mdt.mt.gov/publications/datastats/crashdata.aspx#:~:text=The%20MDT%20Carcass%20Database%20contains,or%20on%20a%20regular%20schedule.&text=MDT%20also%20has%20access%20to,Montana%20Highway%20Patrol%20(MHP)). Accessed January 2022.

Montana Department of Transportation (MDT). 2021. Standard Specifications and Supplemental Specifications for Road and Bridge Construction. 2020 Edition V2.3.

Attachments

Attachment A Wildlife Accommodation Locations Figures 1-3

Attachment B USFWS July 1, 2021, Letter MDT

Attachment C Wildlife Accommodation Cost Estimates

Distribution:

Ed Toavs, Missoula District Administrator
Stephanie Brandenberger, Bridge Bureau Chief
Damian Krings, Highways Engineer
Gabe Priebe, Traffic and Safety Engineer
Robert Stapley, Right-of-Way Bureau Chief
Ryan Dahlke, Construction Engineer
Carol Strizich, Rail, Transit, & Planning Division Administrator

Jeff Jackson, Geotech & Pavement Bureau Chief

Jon Swartz, Maintenance Division Administrator

Jason Senn, EPS Project Manager

"Click here and type name" , District Preconstruction Engineer

"Click here and type name" , District Projects Engineer

"Click here and type name" , District Construction Engineer

"Click here and type name" , District Construction Operations Engineer

"Click here and type name" , Maintenance Chief

"Click here and type name" , District Hydraulics Engineer

"Click here and type name" , District Bridge Engineer

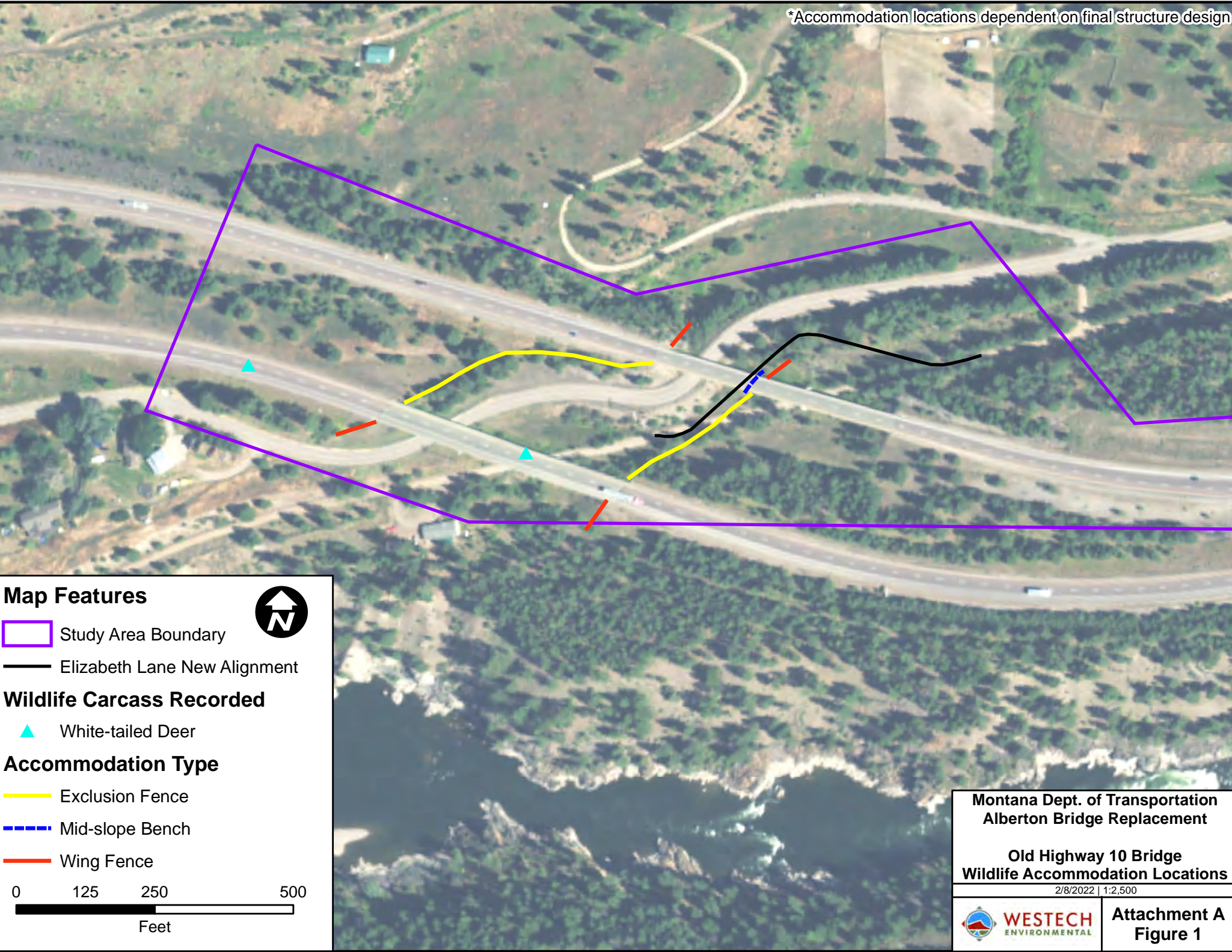
"Click here and type name" , District Geotech Engineer

"Click here and type name" , District Project Development Engineer



Link to MDT's Wildlife Accommodations Process Research Study Final Report and Desk Guide:

<https://www.mdt.mt.gov/research/Projects/env/wap.shtml>

*Accommodation locations dependent on final structure design



Map Features




-  Study Area Boundary
-  Elizabeth Lane New Alignment

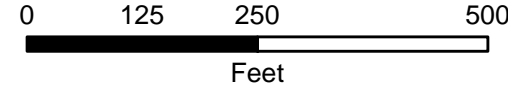


Wildlife Carcass Recorded

-  White-tailed Deer

Accommodation Type

-  Exclusion Fence
-  Mid-slope Bench
-  Wing Fence



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Alberton Bridge Replacement

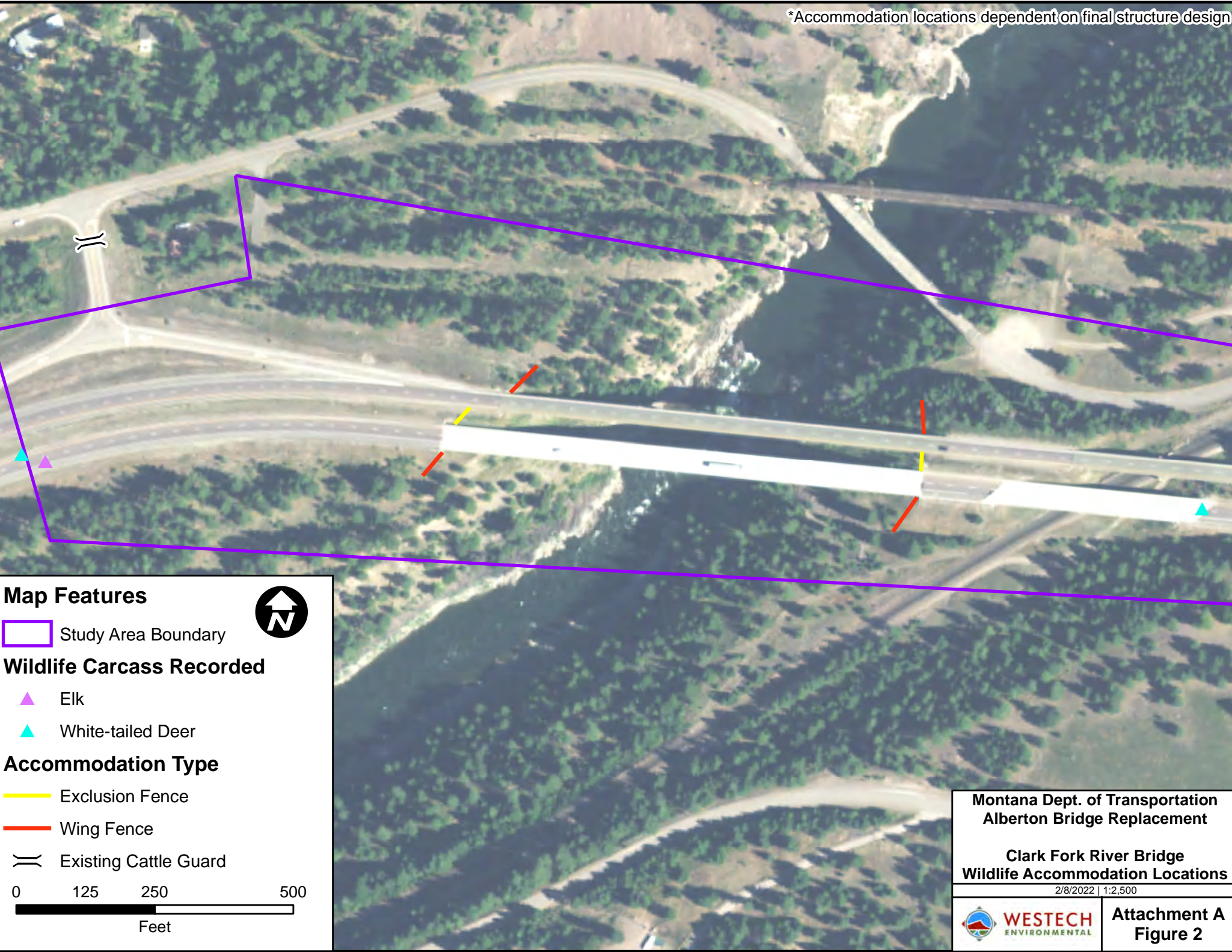
Old Highway 10 Bridge
Wildlife Accommodation Locations

2/8/2022 | 1:2,500



Attachment A
Figure 1

*Accommodation locations dependent on final structure design




Map Features

 Study Area Boundary



Wildlife Carcass Recorded


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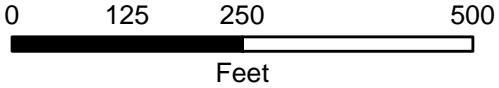
 White-tailed Deer

Accommodation Type

 Exclusion Fence

 Wing Fence

 Existing Cattle Guard



Montana Dept. of Transportation
Alberton Bridge Replacement

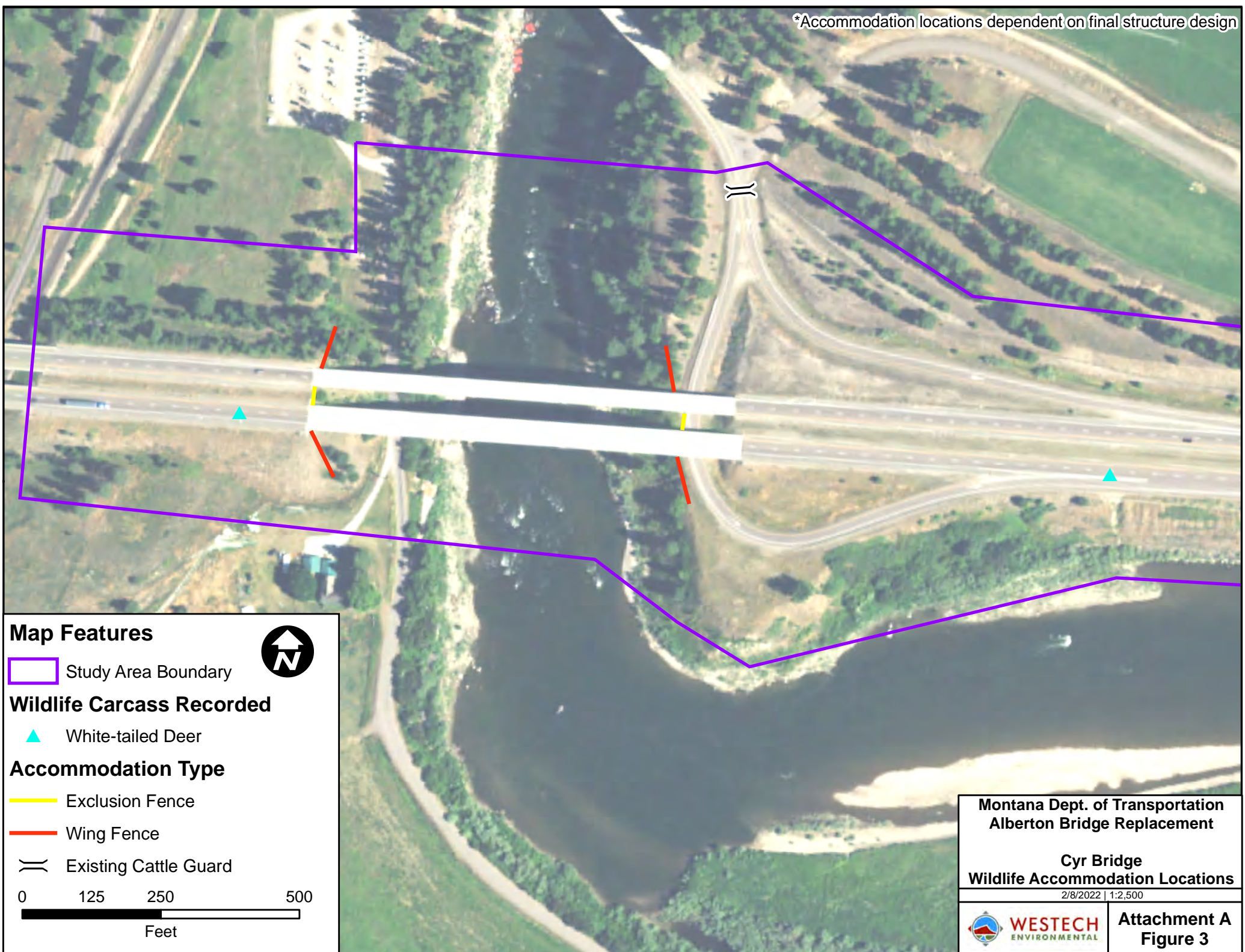
Clark Fork River Bridge
Wildlife Accommodation Locations

2/8/2022 | 1:2,500



Attachment A
Figure 2

*Accommodation locations dependent on final structure design



Map Features

- Study Area Boundary

Wildlife Carcass Recorded

- White-tailed Deer

Accommodation Type

- Exclusion Fence
- Wing Fence
- Existing Cattle Guard

0 125 250 500
Feet

Montana Dept. of Transportation
Alberton Bridge Replacement

Cyr Bridge
Wildlife Accommodation Locations

2/8/2022 | 1:2,500

Attachment A
Figure 3



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Office
585 Shepard Way, Suite 1
Helena, Montana 59601-6287



In Reply Refer to:
FWS/IR05/IR07
M.17 FHWA;
06E11000-2021-TA-0552

July 1, 2021

Joe Weigand
Montana Department of Transportation
2701 Prospect
PO Box 201001
Helena, Montana 59620-1001

Dear Mr. Weigand:

This responds to your June 10, 2021 letter requesting comments on the proposed I-90 Structures—W of Alberton (NHPB 90-1(239)65; UPN 9786000) project. The purpose of this project would be to replace three westbound bridges along I-90 at Old Highway 10 (route post [RP] 65.5), Clark Fork River (RP 66.3), and Cyr (RP 70.1). The latter two bridges cross the Clark Fork River. The project is located west of Alberton, Montana, in Mineral County. The Service received your letter, a location map, and the Preliminary Field Review Report for the project on June 10, 2021.

Our comments are prepared under the authority of, and in accordance with, the provisions of the Endangered Species Act (ESA; 16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703 et seq.), and Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668d, 54 Stat. 250). We offer the following comments for your consideration.

Threatened and Endangered Species

The current list of candidate, proposed, threatened or endangered species, and designated critical habitat occurring in Mineral County, Montana is as follows:

<i>Scientific Name</i>	<i>Common Name</i>	<i>Status*</i>
<i>Salvelinus confluentus</i>	Bull Trout	LT, CH
<i>Lynx canadensis</i>	Canada Lynx	LT
<i>Ursus arctos horribilis</i>	Grizzly Bear	LT
<i>Pinus albicaulis</i>	Whitebark Pine	P

*LE=Listed as Endangered, LT=Listed Threatened, P = Proposed, C = Candidate

INTERIOR REGION 5 MISSOURI BASIN

KANSAS, MONTANA*, NEBRASKA, NORTH DAKOTA,
SOUTH DAKOTA

*PARTIAL

INTERIOR REGION 7 UPPER COLORADO RIVER BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

Additional information may be obtained using the Service Information for Planning and Consultation (IPaC) project-planning tool, at <https://ecos.fws.gov/ipac/>.

Under the ESA, a Federal agency that authorizes, funds, or carries out a proposed action is required to evaluate the action with respect to effects to threatened or endangered species and critical habitat. If the Federal agency, or its delegated agent, determines that the action “may affect” listed species and/or designated critical habitat, the Federal agency is required to enter into section 7 consultation with the Service. It is the responsibility of the Federal agency to ensure that its actions are in compliance with the ESA. Further technical assistance can be provided if you have additional questions regarding project impacts to listed species, or future ESA responsibilities.

From the species listed above, the proposed bridge replacements crossing the Clark Fork River at route posts 66.3 and 70.1 have the greatest potential to adversely affect the threatened bull trout and designated bull trout critical habitat. Bull trout local populations in this Middle Clark Fork River Core Area are at dangerously low population levels, with many bordering on extirpation. For these reasons, the Service respectfully requests that the Department and Federal Highway Administration employ highly effective conservation measures in order to minimize adverse effects to these populations. As such, these bridge replacements are most likely to adversely affect bull trout and their designated critical habitat through: (1) long-term sediment and chemical contaminant inputs if bridge stormwater runoff is discharged directly into the Clark Fork River; (2) short-term adverse effects from barotraumas and temporary barriers to movement through the project area if there is impact pile driving; (3) short-term effects from potential sediment and chemical contaminant inputs during the construction process; and (4) short-term barriers to movement if the existing bridges are demolished by dropping them into the river below and dragging them out. In order to minimize the potential for these short- and long-term effects, the Service recommends the following conservation measures in the design and implementation of the proposed project:

1. If possible, use drilled shafts for installation of the foundation systems or utilize the foundations of the existing structures.
2. If impact pile driving must be used for the construction of temporary and permanent facilities, it may occur between July 15 and August 31. This includes dry land and in-water impact pile driving, and is intended to reduce the risk of barotraumas for bull trout.
3. Should piles be driven outside of the above work window:
 - a. Limit the periods of driving pile to no more than 12 hours/day, except in rare circumstances, when safety issues require completion of work begun that day. The project manager must be notified and approve driving pile in excess of 12 hours/day.
 - b. Conduct hydroacoustic monitoring. Through hydroacoustic monitoring, it is possible that the physical harm thresholds of the peak sound pressure level (SPL) of 206 dB (re: 1 μ Pa) or the cumulative sound exposure level (SEL) of 187 dB (re: 1 μ Pa) may be attained or exceeded during the calibration exercise. The calibration period will be limited in duration with the purpose of obtaining a

representative sample of piles (e.g., size and materials) and locations to ensure that the appropriate sound information is collected for use in the National Marine Fisheries Service Calculator Tool. In combination with hydroacoustic monitoring, use one of the following measures:

- i. Use a vibratory hammer to drive piles to such a point when an impact hammer will be required to drive the pile to the point of completion. Use of drilled shafts or vibratory hammers is preferable to impact pile driving because the risk of barotraumas is extremely low for these two methods. OR;
 - ii. For production pile driving, use a “soft start” or “ramp up” pile driving (e.g., driving does not begin at 100% energy) to encourage fish to vacate the surrounding area and use the information collected during hydroacoustic monitoring calibration and the National Marine Fisheries Service Calculator Tool to determine how many pile strikes can occur during a day, based on pile type and size, prior to reaching the cumulative sound exposure level (SEL) threshold of 187 dB. Once the number of strikes has been attained, impact pile driving must be stopped for the day. If driving pile with an impact hammer over consecutive days outside the work windows in 1) above, do not drive piling between the hours of 9:00 PM and 6:00 AM OR;
 - iii. Use Department-approved noise reduction methods, such as those offered in Leslie and Schwertner (2013) (e.g., bubble curtain, cofferdams).
4. Monitor all dewatering activities visually to ensure bull trout are not trapped. In the unlikely event a live bull trout is found within a dewatering area, immediately return it to the river.
 5. Instream removal of bridge piers should occur during low water (July 15 through October 15).
 6. No construction equipment is allowed to operate within the active channel unless permitted to do so.
 7. Materials excavated from inside any coffer dams shall not enter any waterbody, and if so, will be removed.
 8. To the maximum extent practicable, disassemble and remove the existing bridges without pieces being allowed to fall into the river. If debris or portions of the existing bridge enter the river during demolition, within two (2) days completely remove them from the river without dragging the material along the streambed.
 9. Any blasting required during demolition will be contained to the maximum extent practicable using some type of containment shielding device to attenuate the blast’s pressure wave within the water and to prevent debris from entering the river. Meet all applicable requirements contained within Department’s Standard Specifications Section 204 – Blasting.

10. Upon locating dead or injured bull trout, notify the Department's Project Manager and contact the USFWS Field Office at (406) 449-5225 within 24 hours. Record information relative to the date, time, and location of dead or injured bull trout when/if found. Include any activities that were occurring at the location and time of injury and/or death of each fish and provide this information to the USFWS.
11. Conduct project-related activities outside of construction limits in a manner which will not adversely affect species and/or designated critical habitat listed under the Endangered Species Act.
12. Stormwater facilities for the proposed I-90 bridges should be designed such that direct discharges to the Clark Fork River are eliminated or minimized through buffers and/or appropriate sloping.
13. Ensure best management practices (BMPs) are applied to this project, including, but not limited to:
 - a. installing and maintaining appropriate structural BMPs to prevent erosion and sediment transport from entering state waters;
 - b. reseeding and revegetating all disturbed areas with desirable vegetation excluding areas below the ordinary high water mark
 - c. stabilizing disturbed channel banks using appropriate structural BMPs; and
 - d. conducting work to minimize disturbance to riparian vegetation.
14. Collect and dispose of all waste fuels, lubricating fluids, herbicides, and other chemicals in accordance with all applicable laws, rules, and regulations to ensure no adverse environmental impacts will occur.
15. During active construction periods, inspect equipment daily to ensure hydraulic, fuel, and lubrication systems are in good condition and free of leaks to prevent these materials from entering any water body.
16. Locate vehicle servicing and refueling areas, fuel storage areas, and construction staging and materials storage areas to ensure that spilled fluids or stored materials do not enter any water body.
17. Monitor structures designed to minimize sediment and pollutant discharges such as settling ponds, vehicle and fuel storage areas, hazardous materials storage sites, erosion control structures, and coffer dams each workday and immediately following precipitation events to ensure these structures are functioning properly. These structures should be sized appropriately to handle foreseeable precipitation events and stream flow conditions.
18. Any detention basin outlets will be designed such that they are stabilized to prevent streambank erosion and will not otherwise impact the stream channel bank.

19. Keep in-water work within the river channel to the minimum amount necessary. This includes, but is not limited to, construction and removal of any temporary support structures that may be necessary and riprap placement below the ordinary high-water mark. In-water construction work shall be completed in the shortest amount of time practicable.
20. Do not operate construction equipment within the active channel of any water body unless allowed by temporary facilities permits and approved by the Department's Project Manager. Schedule construction activities to ensure as much of the work as practicable is completed during periods of low water levels.
21. Should in-water activities displace channel features (e.g., large woody debris, boulders, etc.), restore the channel to the conditions that existed prior to project commencement, unless included in the contract.
22. Span channel such that piers are located outside the ordinary high water mark to the extent practicable.

Migratory Birds

The MBTA prohibits the purposeful taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted. If work is proposed to take place in migratory bird habitats that may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service has developed, and continues to revise and develop, general and industry-specific conservation measures for avoiding and minimizing impacts to birds (<https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>). We recommend that the proposed project consider and incorporate these measures into project design, construction, and documentation as appropriate.

Bald and Golden Eagles

The Service is aware of several active golden eagle territories within the project area. However, only one nest is approximately 0.1 mile away from the I-90 bridge crossing at Old Highway 10 (RP 65.5), and is a cause for concern. We highly recommend that you contact Montana Fish, Wildlife and Parks for the most recent information regarding the territory and nest locations, and begin to explore options pursuing a disturbance take permit for bald eagles under the BGEPA.

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are protected from a variety of harmful actions via take prohibitions in both the MBTA¹ (16 U.S.C. 703-712)

¹ On December 22, 2017, the Department of the Interior's (DOI) Office of the Solicitor Memorandum M-37050 titled The Migratory Bird Treaty Act Does Not Prohibit Incidental Take (<https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>) concludes that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their

and the BGEPA. The BGEPA, enacted in 1940 and amended several times, prohibits take of bald eagles and golden eagles, including their parts, nests, young or eggs, except where otherwise permitted pursuant to Federal regulations. Incidental take of eagles from actions such as electrocutions from power lines or wind turbine strikes are prohibited unless specifically authorized via an eagle incidental take permit from the Service. BGEPA provides penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The BGEPA defines take to include the following actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Service expanded this definition by regulation to include the term "destroy" to ensure that "take" also encompasses destruction of eagle nests. Also the Service defined the term disturb which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Service has developed guidance for the public regarding means to avoid take of bald and golden eagles:

- The 2007 National Bald Eagle Management Guidelines serve to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of BGEPA may apply. They provide conservation recommendations to help people avoid and/or minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the BGEPA.
<https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>
- The 2013 Eagle Conservation Plan Guidance, Module 1- Land-based Wind Energy, Version 2 is specific to wind energy development and provides in-depth guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. Development of an Eagle Conservation Plan per these guidelines may serve as the basis for applying for an eagle incidental take permit for wind energy facilities. Applications for such eagle incidental take permits must include an Eagle Conservation Plan.
<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

The Service also has promulgated new permit regulations under BGEPA:

purpose the taking or killing of migratory birds, their nests, or their eggs. The MBTA list of protected species includes bald and golden eagles, and the law has been an effective tool to pursue incidental take cases involving eagles. However, the primary law protecting eagles is the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S. Code § 668), since the bald eagle was delisted under the Endangered Species Act in 2007. Memorandum-37050 does not affect the ability of the Service to refer entities for prosecution that have violated the take prohibitions for eagles established by the BGEPA.

- New eagle permit regulations, as allowed under BGEPA, were promulgated by the Service in 2009 (74 FR 46836; Sept. 11, 2009) and revised in 2016 (81 FR 91494; Dec. 16, 2016). The regulations authorize the limited take of bald and golden eagles where the take to be authorized is associated with otherwise lawful activities. These regulations also establish permit provisions for intentional take of eagle nests where necessary to ensure public health and safety, in addition to other limited circumstances. The revisions in 2016 included changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees in order to clarify, improve implementation and increase compliance while still protecting eagles.
<https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf>

The Service's Office of Law Enforcement carries out its mission to protect eagles through investigations and enforcement, as well as by fostering relationships with individuals, companies, industries and agencies that have taken effective steps to avoid take, including incidental take of these species, and encouraging others to implement measures to avoid take. The Office of Law Enforcement focuses its resources on investigating individuals and entities that take eagles without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Those individuals and entities are encouraged to work closely with Service biologists to identify available protective measures, and to implement those measures during all activities or situations where their action or inaction may result in the take of an eagle(s).

In addition to the above guidance, the 2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994) developed by Montana Fish, Wildlife and Parks (FWP) also provides guidance for avoiding and minimizing the risk for bald eagle take (<http://fwp.mt.gov/fwpDoc.html?id=44181>).

Additional Comments

If wetlands will be affected by the project, the Service recommends keeping wetland disturbances to the minimum extent and duration possible, with as much occurring "in the dry" as possible. This would reduce impacts to aquatic species relative to disturbance and sediment inputs. We also recommend that appropriate erosion and sediment control efforts and measures be implemented during and following construction to avoid introducing sediments or other contaminants to adjacent waters.

In addition to coordination with the Service, we recommend coordination with FWP and the Montana Natural Heritage Program. These agencies may be able to provide updated, site-specific information regarding fish, wildlife, and sensitive plant resources occurring in the proposed project area. Contact information for these two agencies is below:

Montana Fish, Wildlife and Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701
Phone: (406) 444-2535

Montana Natural Heritage Program
1515 East 6th Avenue, Box 201800
Helena, Montana 59620-1800
Phone: (406) 444-5354

Thank you for the opportunity to comment on the proposed project. The Service appreciates your efforts to incorporate fish and wildlife resource concerns into your project planning. If you have further questions related to this letter, please do not hesitate to contact Mike McGrath at mike_mcgrath@fws.gov, or 406-430-9009.

Sincerely,



for Jodi L. Bush
Office Supervisor

cc: Bill Semmens, Montana Department of Transportation, Helena, Montana

BID PRICES
July 2018

Preliminary Estimate

Project Number: NHPB 90-1(239)65
 Project Name: I-90 Structures - West of Alberton Old Highway 10 (Elizabeth Lane)
 UPN Number: 9786000
 Project Length: _____ Miles
 Design Stage: _____

Prepared By: HydroSolutions/WESTECH
 Date: February 1, 2022
 County: MINERAL COUNTY
 District: Missoula
 Type of Work: Wildlife Accomodations

Item Number	Quantity	Description	Unit	G-Match	Average Bid Prices		Adjusted Unit Prices	
					Unit Price	Amount	Unit Price	Amount
					Dollars	Dollars	Dollars	Dollars
607100013	1130	FENCE - WILDLIFE	LNFT	No	\$6.75	\$7,628.00	\$11.60	\$13,108.00
999999999	4	MID-SLOPE WILDLIFE BENCH UNDER BRIDGE, WIDTH	LNFT	No		\$0.00	\$9,500.00	\$38,000.00
						\$7,628.00		\$51,108.00
	20%	Mobilization				\$1,525.60		\$10,221.60
		Subtotal				\$9,153.60		\$61,329.60
	25%	Contingency				\$2,288.40		\$15,332.40
		Construction Total				\$11,442.00		\$76,662.00
	12%	Construction Engineering						\$9,199.44
		Total						\$85,861.44
	9.66%	Indirect Cost (IDC)-Construction						\$7,405.55
		Total Construction w/IDC						\$84,067.55
	9.66%	Indirect Cost (IDC) - Construction Engineering						\$888.67
		Total Construction Engineering w/IDC						\$10,088.11
		Total w/IDC						\$94,155.66

Project Length	Miles					
Project Average Finish Top Width	Feet					
Cost per Mile (Uses Construction Total)						#DIV/0!
Cost per Sq. Yard (Uses Construction Total)						#DIV/0!

BID PRICES
July 2018

Preliminary Estimate

Project Number: NHPB 90-1(239)65
 Project Name: I-90 Structures - West of Alberton Clark Fork River Bridge
 UPN Number: 9786000
 Project Length: _____ Miles
 Design Stage: _____

Prepared By: HydroSolutions/WESTECH
 Date: February 1, 2022
 County: MINERAL COUNTY
 District: Missoula
 Type of Work: Wildlife Accomodations

Item Number	Quantity	Description	Unit	G-Match	Average Bid Prices		Adjusted Unit Prices	
					Unit Price	Amount	Unit Price	Amount
					Dollars	Dollars	Dollars	Dollars
607100013	350	FENCE - WILDLIFE	LNFT	No	\$6.75	\$2,363.00	\$11.60	\$4,060.00
						\$2,363.00		\$4,060.00
	20%	Mobilization				\$472.60		\$812.00
		Subtotal				\$2,835.60		\$4,872.00
	25%	Contingency				\$708.90		\$1,218.00
		Construction Total				\$3,544.50		\$6,090.00
	12%	Construction Engineering						\$730.80
		Total						\$6,820.80
	9.66%	Indirect Cost (IDC)-Construction						\$588.29
		Total Construction w/IDC						\$6,678.29
	9.66%	Indirect Cost (IDC) - Construction Engineering						\$70.60
		Total Construction Engineering w/IDC						\$801.40
		Total w/IDC						\$7,479.69

Project Length	Miles					
Project Average Finish Top Width	Feet					
Cost per Mile (Uses Construction Total)						#DIV/0!
Cost per Sq. Yard (Uses Construction Total)						#DIV/0!

BID PRICES
July 2018

Preliminary Estimate

Project Number: NHPB 90-1(239)65
 Project Name: I-90 Structures - West of Alberton Cyr
 UPN Number: 9786000
 Project Length: _____ Miles
 Design Stage: _____

Prepared By: HydroSolutions/WESTECH
 Date: February 1, 2022
 County: MINERAL COUNTY
 District: Missoula
 Type of Work: Wildlife Accomodations

Item Number	Quantity	Description	Unit	G-Match	Average Bid Prices		Adjusted Unit Prices	
					Unit Price	Amount	Unit Price	Amount
					Dollars	Dollars	Dollars	Dollars
607100013	415	FENCE - WILDLIFE	LNFT	No	\$6.75	\$2,801.00	\$11.60	\$4,814.00
						\$2,801.00		\$4,814.00
	20%	Mobilization				\$560.20		\$962.80
		Subtotal				\$3,361.20		\$5,776.80
	25%	Contingency				\$840.30		\$1,444.20
		Construction Total				\$4,201.50		\$7,221.00
	12%	Construction Engineering						\$866.52
		Total						\$8,087.52
	9.66%	Indirect Cost (IDC)-Construction						\$697.55
		Total Construction w/IDC						\$7,918.55
	9.66%	Indirect Cost (IDC) - Construction Engineering						\$83.71
		Total Construction Engineering w/IDC						\$950.23
		Total w/IDC						\$8,868.77

Project Length	Miles					
Project Average Finish Top Width	Feet					
Cost per Mile (Uses Construction Total)						#DIV/0!
Cost per Sq. Yard (Uses Construction Total)						#DIV/0!