Attachment A. Mitigation Measures

This attachment to the Record of Decision for the Kimball Junction Project summarizes the mitigation measures developed to avoid, minimize, rectify, reduce, or compensate impacts from the selected alternative (Alternative C: Intersection Improvements with Pedestrian Enhancements).

The mitigation items listed in this attachment are the same items that are listed in Sections 3.1 through 3.15 and summarized in Section 3.20, *Mitigation Summary*, of the Final Environmental Impact Statement (EIS) for the Kimball Junction Project. For consistency, the mitigation measures are listed in the same order as they are organized in Chapter 3, *Affected Environment, Environmental Consequences, and Mitigation Measures*, of the Final EIS.

The mitigation measures include standard Utah Department of Transportation (UDOT) best practices, expected permit conditions, legal requirements, and other measures specifically targeted to mitigate for unique impacts. UDOT does not typically propose mitigation for resources that are anticipated to experience negligible or beneficial impacts from the selected alternative.

The mitigation measures listed below include additional detail and commitment regarding mitigation measures based on permitting processes, public comments on the Draft EIS, and continued coordination with agencies, Summit County and Park City, and other stakeholders.

Funding for mitigation will be included in the cost of construction; UDOT will have the final responsibility for implementation.

UDOT or its designated contractor will implement a mitigation and monitoring tracking system to ensure that all mitigation identified in this attachment is performed and that appropriate monitoring for effectiveness takes place. If a mitigation measure is determined to not be effective, the contractor will consult with UDOT to develop other appropriate mitigation.

A.1 Mitigation Measures for Impacts to Land Use

Because the selected alternative would have no impacts to land use or zoning, no mitigation is proposed.

A.2 Mitigation Measures for Community and Property Impacts

As stated in the Final EIS, the social impacts of the selected alternative would be generally beneficial or would be temporary during construction. No mitigation is necessary because there would be no disproportionate impact to any particular social group. More information is provided below about UDOT's best practices for project development.

A.2.1 Community Cohesion

The selected alternative would benefit the communities and neighborhoods in the social environment evaluation area. No mitigation is proposed.

A.2.2 Quality of Life

The selected alternative would benefit the communities and neighborhoods in the social environment evaluation area. No mitigation is proposed.

A.2.3 Recreation Resources

Mitigation for impacts to recreation resources typically includes replacing or relocating impacted amenities, including trails, or providing other items that can enhance the recreation use of the recreation resource. With the selected alternative, removing east-west crosswalks across State Route 224 (SR-224) will be compensated for by adding a grade-separated pedestrian underpass south of Ute Boulevard. Reconstructing the multi-use paths that parallel SR-224 between Olympic Parkway and Ute Boulevard would have temporary impacts to active transportation users, and these impacts will be managed through public outreach and signed detours for nonmotorized users.

During the final design of the selected alternative, UDOT will work with Summit County and the Snyderville Basin Special Recreation District (Basin Recreation) to evaluate opportunities to further mitigate temporary impacts to trails.

A.2.4 Community Facilities

There would be no impacts to community facilities from the selected alternative. No mitigation is proposed.

A.2.5 Public Safety and Security

During the final design of the selected alternative, UDOT will evaluate the feasibility of adding wildlife exclusionary cattle guards at the Interstate 80 (I-80) interchange on- and off-ramps to connect the fencing along both sides of I-80.

A.2.6 Utilities

All impacts to utilities would be temporary. The UDOT document *Accommodation of Utilities and the Control and Protection of State Highway Rights-of-Way* (Utah Administrative Code Rule R930-6) would be followed. The construction contractor would contact local businesses and residences if any loss of utility service is required during construction. If utilities need to be relocated, UDOT would work with the utility companies during final design process for the selected alternative or during the design-build process.

UDOT would also identify and obtain all appropriate permits from state and local government agencies, as necessary, related to relocating and modifying utilities. UDOT would comply with all permit conditions.

A.2.7 Mitigation Measures for Property Impacts

No mitigation for property impacts is proposed beyond the requirements of federal and state relocation assistance acts.

During the final design process for the selected alternative, UDOT will look at measures that avoid or minimize property acquisition. Where property acquisition is necessary, UDOT will acquire all property according to the federal Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (as amended July 2008) and the Utah Relocation Assistance Act. These regulations require fair compensation for property owners to offset or eliminate any financial hardship that private individuals or entities could experience as a result of acquiring property for public purposes.

A.3 Mitigation Measures for Impacts to Economic Conditions

For impacts related to business strip takes, the impacts analysis assumed that any businesses that experience property impacts as a result of the Kimball Junction Project will receive assistance in accordance with UDOT's right-of-way acquisition practices. Property acquisitions will be completed according to the provisions of the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the Utah Relocation Assistance Act, Utah Code, Title 57, Chapter 12.

A.4 Mitigation Measures for Impacts to Traffic and Transportation

The selected alternative would improve travel times and level of traffic stress compared to the no-action conditions. No mitigation for traffic and transportation impacts is proposed.

A.5 Mitigation Measures for Pedestrian and Bicycle Facilities

The selected alternative would be an improvement over the no-action conditions. No mitigation for pedestrian and bicycle facility impacts is proposed.

A.6 Mitigation Measures for Impacts to Air Quality

Air quality impacts are expected to be negligible, and air quality is expected to improve over time. No mitigation for air quality impacts from implementing the selected alternative is proposed.

A.7 Mitigation Measures for Impacts to Noise

According to UDOT's noise-abatement policy, specific conditions must be met before traffic noise abatement is implemented. Noise abatement must be considered both feasible and reasonable.

Feasible. UDOT considers the following factors when determining whether abatement is feasible:

- **Engineering Considerations.** Engineering considerations such as safety, presence of cross streets, sight distance, access to adjacent properties, barrier height, topography, drainage, utilities, maintenance access, and maintenance of the abatement measure must be taken into account as part of establishing feasibility. Noise-abatement measures are not intended to serve as privacy fences or safety barriers. With the action alternatives, noise-abatement measures installed on structures would not exceed 10 feet in height measured from the top of the deck or roadway to the top of the noise barrier. Noise barriers would not be installed on structures that require retrofitting to accommodate the noise-abatement measure. Noise-abatement measures will be considered if the project meets the criteria established in UDOT's noise-abatement policy if replacing the structure is included as part of the project. Noise-abatement measures will be consistent with general design principles established by the American Association of State Highway and Transportation Officials (AASHTO).
- **Safety on Urban Non-access-controlled Roads.** To avoid a damaged barrier from becoming a safety hazard, in the event of a failure, barrier height must be no greater than the distance from the back-of-curb to the face of the proposed barrier. Because the distance from the back-of-curb to the face of a proposed barrier varies, barrier heights that meet this safety requirement might also vary.
- **Acoustic Feasibility.** Noise abatement must be considered acoustically feasible. Acoustically feasible is defined as achieving at least a 5-dBA (decibels on the A-weighted scale) highway traffic noise reduction for at least 50% of front-row receptors.

Reasonable. UDOT considers the following factors when determining whether abatement is reasonable:

- **Noise-abatement Design Goal.** Every reasonable effort should be made to obtain substantial noise reductions. UDOT defines the minimum noise reduction (design goal) from proposed abatement measures to be 7 dBA or greater for at least 35% of front-row receivers.
- **Cost-effectiveness.** The cost of a noise-abatement measure must be deemed reasonable for it to be included in a project. Noise-abatement costs are based on a fixed unit cost of $20 per square foot, multiplied by the height and length of the barrier, in addition to the cost of any other item associated with the abatement measure that is critical to safety. The fixed unit cost is based on the historical average cost of noise barriers installed on UDOT projects and is reviewed at regular intervals, not to exceed 5 years. The cost-effectiveness of abatement is determined by analyzing the cost of a barrier that would provide a noise reduction of 5 dBA or more for a benefited receptor.

A reasonable cost is considered to be a maximum of $30,000 per benefited receptor for activity category B and $360 per linear foot for activity categories A, C, D, or E. If the anticipated cost of the noise-abatement measure is less than the allowable cost, then the abatement is deemed reasonable.

The cost-effectiveness calculation also takes into account the cost of any items associated with the abatement measure that is critical to safety, such as snow storage and safety barriers, where applicable. Costs for additional items are not currently needed for the abatement measures evaluated in this Draft EIS. The cost of constructing items necessary for snow storage and safety barriers will be considered as part of the cost-effectiveness calculation during final design, if applicable.

- **Viewpoints of Property Owners and Residents.** As part of the final design phase for the selected alternative, balloting would be conducted if noise-abatement measures meet the feasible criteria, reasonable noise-abatement design goal, and cost-effectiveness criteria (listed above) in UDOT's noise-abatement policy.

  Section C.2(c)(1) of UDOT's noise-abatement policy requires balloting for all benefited receptors (property owners or tenants that would receive a 5-dBA or greater reduction in noise from the noise-abatement measure) or receptors whose property would abut the proposed noise-abatement measures. Balloting approval is contingent on at least 75% of the total ballots being returned and 75% of the returned ballots being in favor of the proposed noise-abatement measure.

Noise Barrier Design Considerations. For a noise barrier to be effective, it must be high enough and long enough to block the view of the noise source from the receptor's perspective. The Federal Highway Administration's (FHWA) *Highway Traffic Noise: Analysis and Abatement Guidance* (FHWA 2011) states that a good rule of thumb is that the noise barrier should extend 4 times as far in each direction as the distance from the receptor to the barrier. For instance, if the receptor is 50 feet from the proposed noise barrier, the barrier needs to extend at least 200 feet on either side of the receptor to shield the receptor from noise traveling past the ends of the barrier.

Openings in noise barriers for driveway and cross street access greatly reduce the effectiveness of noise barriers. For this reason, impacted receptors with direct access to local streets do not qualify for noise barriers.

For this analysis, UDOT considered barriers up to 17 feet, which is the current approved UDOT standard for noise barrier heights. The 17-foot height is considered a feasible engineering consideration. Barrier heights over 17 feet would require additional review and approval from UDOT's Structures Division.

Barrier heights over 17 feet could be considered in circumstances only where a 17-foot-tall noise barrier meets the acoustic feasibility criteria and does not meet the reasonable design goal or cost effectiveness criteria. In these circumstances, noise barriers over 17 feet tall would be evaluated to determine whether they would meet the reasonable design goal or cost-effectiveness criteria.

To provide an objective analysis of traffic noise reduction at impacted receptors, UDOT considered a variety of noise barrier heights in areas with noise impacts that do not have an existing noise barrier. If multiple barrier heights would meet noise-abatement requirements, UDOT considered the number of benefitted receptors and the cost per benefitted receptor to identify the noise barrier height recommended for balloting.

Six noise barriers were considered for the selected alternative. Two of these six barriers (Noise Barriers 1 and 2) were found to be both feasible and reasonable for the selected alternative and are recommended for balloting. The evaluation of the reasonableness factor for the "viewpoints of property owners and residents" would take place as part of the final design phase for the selected alternative.

A.7.1 Noise Barriers

For a noise barrier to be effective, it must be high enough and long enough to block the view of the noise source from the receiver's perspective. FHWA's *Highway Traffic Noise: Analysis and Abatement Guidance* states that a good "rule of thumb" is that the noise barrier should extend 4 times as far in each direction as the distance from the receiver to the barrier. For instance, if the receiver is 50 feet from the proposed noise barrier, the barrier needs to extend at least 200 feet on either side of the receiver in order to shield the receiver from noise traveling past the ends of the barrier.

Openings in noise barriers for driveway and cross street access greatly reduce the effectiveness of noise barriers. Therefore, impacted receivers with direct access onto local streets do not qualify for noise barriers.

The anticipated cost of each wall was calculated by multiplying the wall area and the wall cost per square foot ($20). The allowable cost was calculated using two variables: (1) activity category B allowable cost and (2) activity category C allowable cost. The category B allowable cost was calculated by multiplying the allowable cost per benefited receiver ($30,000) by the number of receivers benefited by the wall. The category C allowable cost was calculated by multiplying the length of the wall associated with category C land use by the allowable cost for category C land ($360 per linear foot). These two variables, activity category B allowable cost and activity category C allowable cost, were combined to produce the allowable cost for each wall (for detailed wall analyses, see Appendix 3B, *Noise Technical Report*, of the Final EIS).

For areas with noise impacts that do not have an existing noise wall, in an effort to provide an objective analysis of traffic noise reduction at impacted receivers, a variety of noise wall heights were considered. If multiple wall heights would meet noise-abatement requirements, the shortest wall height found to be both feasible and reasonable would be recommended for balloting.

A total of six noise barriers were considered for the selected alternative. See the noise wall maps in Appendix 3B, *Noise Technical Report*, of the Final EIS.

A.7.2 Noise-abatement Evaluation for the Selected Alternative

UDOT evaluated six noise barriers for the selected alternative, Alternative C, at locations where noise impacts would occur. Two of the six noise barriers met UDOT's feasibility and reasonableness acoustic and cost criteria. Maps showing the locations of the noise barriers evaluated for Alternative C and more detailed information are available for each barrier that was evaluated in Attachment D, *Noise Barrier Maps for Alternative A and Alternative C*, of Appendix 3B, *Noise Technical Report*, of the Final EIS.

Table 3.7-4, *Noise Barrier Analysis Summary,* of the Final EIS summarizes the analyzed noise barriers and the results of the noise barrier analysis for the selected alternative, Alternative C. The locations of the noise barriers are shown in Figure 3.7-2 through Figure 3.7-4 of the Final EIS and in Attachment D, *Noise Barrier Maps for Alternative A and Alternative C*, of Appendix 3B, *Noise Technical Report*, of the Final EIS.

The two noise barriers recommended in this analysis for the selected alternative would benefit (reduce noise levels by at least a 5-dBA reduction) 32 receptors.

Noise-abatement Consideration during Final Design. Recommended noise walls in the noise evaluation area that met the requirements of UDOT's noise-abatement policy are summarized in Table A-1 and shown in Figure A-1 and Figure A-2. A barrier identified as recommended for balloting is a barrier that has been shown to meet the feasible criteria and reasonable design goal and cost-effectiveness criteria as defined in UDOT's noise-abatement policy. However, that finding is not a commitment to build a barrier.

Noise barriers shown in this analysis include replacement noise barriers for areas with existing noise walls and new or extended noise walls for locations modeled to have noise impacts from the selected alternative. The final height for replacement noise barriers would be at least equal to the existing height. The new noise barriers are preliminary and must meet the feasibility and reasonableness requirements of the UDOT noise-abatement policy.

The final lengths and heights for any of the noise barriers identified in the environmental study phase are still subject to final design and the feasibility and reasonableness criteria as defined in the UDOT noise-abatement policy (and summarized in Section 3.7.4.5, *Mitigation Measures for Noise Impacts*, of the Final EIS). UDOT would not decide whether to construct the proposed noise barrier until the final design is completed and refined utility relocation and right-of-way costs are available. Reasonableness would be evaluated using updated costs based on the final design.

UDOT will conduct balloting for the proposed noise-abatement measures with the final design engineering considerations and costs that meet the feasibility criteria, the reasonable design goal, and the reasonable cost effectiveness criteria as defined in UDOT's noise-abatement policy. As described in Section 3.7.4.5.1, *Noise-abatement Feasibility and Reasonableness*, of the Final EIS, Section C.2(c)(1) of UDOT's noise-abatement policy requires balloting for all benefited receptors (property owners or tenants that would receive a 5 dBA or greater reduction in noise from the noise-abatement measure) or receptors whose property would abut the proposed noise-abatement measures. Balloting approval is contingent on at least 75% of the total ballots being returned and 75% of the returned ballots being in favor of the proposed noise-abatement measure.

Table A-1. Noise Barrier Analysis Summary for the Selected Alternative

Alternative and Evaluated Barrier	Is Barrier Feasible, Reasonable, and Recommended for Balloting?	Recommended Barrier Height, Length
Selected Alternative: Alternative C		
Noise Barrier 1 (NW01)	Yes	17 feet tall, 1,300 feet long
Noise Barrier 2 (NW02)	Yes	14 feet tall, 600 feet long
Noise Barrier 3 (NW03)	No	Not applicable
Noise Barrier 4 (NW04)	No	Not applicable
Noise Barrier 5 (NW05)	No	Not applicable
Noise Barrier 6 (NW06)	No	Not applicable

Figure A-1. Noise Wall Evaluation for the Selected Alternative (1 of 2)

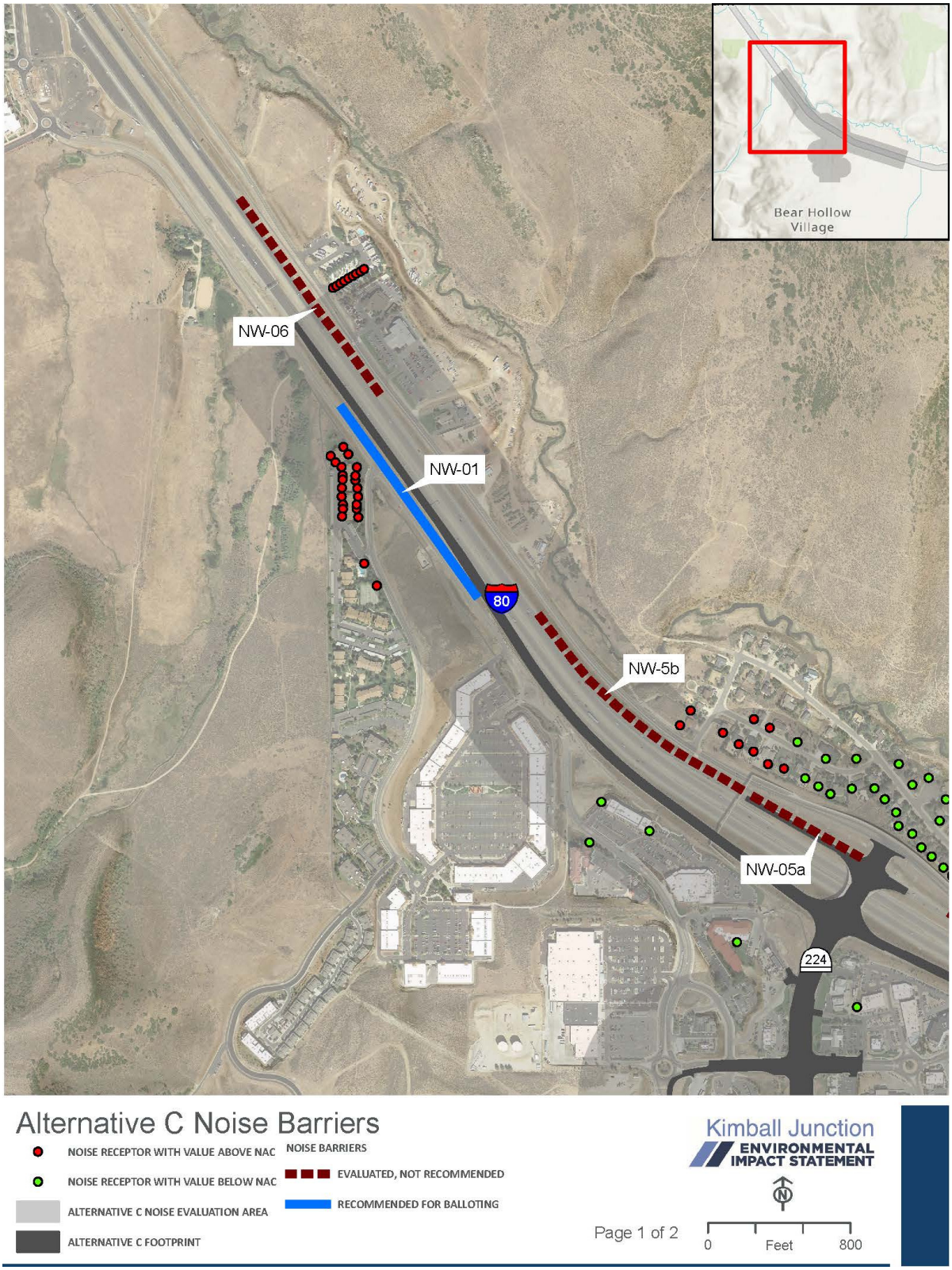

Figure A-2. Noise Wall Evaluation for the Selected Alternative (2 of 2)

A.8 Mitigation for Impacts to Water Quality and Water Resources

UDOT proposes the following mitigation measures to help ensure that water quality and water resources are maintained:

- UDOT or its design consultants will follow all applicable requirements of UDOT's *Stormwater Quality Design Manual* (UDOT 2021) to design best management practices (BMPs) that meet municipal separate storm sewer system (MS4) permit and groundwater permit-by-rule requirements.
- UDOT or its design consultants will follow UDOT's *Drainage Manual of Instruction* (UDOT 2024a) to design stream crossings and culverts.
- UDOT will visually inspect and maintain stormwater quality BMPs to ensure that they are functioning properly. These BMPs would likely include detention basins; however, other BMPs from UDOT's *Stormwater Quality Design Manual* might be chosen during the final design phase of the project.
    - During construction, inspectors for the project will certify that the BMPs are installed according to contract documents and UDOT standards.
    - After construction, UDOT will document and maintain records of inspections, any deficiencies identified during inspections, and the repairs performed on the BMPs.
- UDOT will comply with the Clean Water Act Section 404 permit, including any required Section 401 Water Quality Certifications and applicable Stream Alteration Permits for activities that place fill into waters of the United States and alter natural stream beds and banks.
- UDOT will maintain wetland hydrology and existing surface water conveyance patterns by installing culverts or other engineering alternatives through the roadway embankment.
- UDOT will collaborate with the public water system owners that have drinking water source protection zones in place that might be impacted by the project during final design and construction to mitigate any impacts to water distribution infrastructure.
- UDOT will coordinate with the owners of any impacted water right points of diversion during final design and construction to protect or replace the impacted points of diversion as necessary.
- UDOT will design and implement countermeasures to mitigate potential impacts to a stream's natural flow pattern, velocity, profile, channel stability, aquatic habitats, streambank vegetation, and riparian habitats that could result from replacing, lining, extending, or repairing conveyance structures for the project.

A.9 Mitigation Measures for Impacts to Ecosystem Resources

UDOT's best practices for project development include the following mitigation measures for impacts to ecosystem resources.

A.9.1 Mitigation Measures for Vegetation Impacts

The selected alternative would remove vegetation and could also introduce noxious species into the surrounding areas. To prevent further, permanent effects, UDOT would mitigate temporary impacts to vegetation once construction is complete and no further disturbance is anticipated. Mitigation would include the following measures:

- All fill materials brought onto the construction site would be required to be clean of any chemical contamination per UDOT's Standard Specifications, Section 02056, Embankment, Borrow, and Backfill. Topsoil used for roadside stabilization or landscaping must meet UDOT's Standard Specifications, Section 02912, Topsoil.
- Compacted soils will be ripped, stabilized, and reseeded.
- The contractor will be required to follow noxious weed mitigation and control measures identified in the most recent version of UDOT's Standard Specification Section 02924, Noxious Weed Control.
- Disturbed areas will be reseeded.

A.9.2 Mitigation Measures for Terrestrial and Aquatic Wildlife Impacts

UDOT would implement the following mitigation measures to conserve and minimize impacts to migratory birds and in furtherance of Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*:

- Trees and shrubs will be removed during the non-nesting season (July 15 to April 1). If removing trees and shrubs during this time is not possible, UDOT or its contractor will arrange for preconstruction nesting surveys of the area that would be disturbed. The preconstruction surveys will be conducted by a qualified wildlife biologist no more than 14 days before ground-disturbing activities. The surveys will determine whether active bird nests are present. If active nests are found, the construction contractor will coordinate with the UDOT Natural Resources Manager to minimize or avoid impacts to migratory birds.

A.9.3 Mitigation Measures for Aquatic Resources Impacts

To fill jurisdictional wetlands and other jurisdictional aquatic resources, the Kimball Junction Project must be authorized by the U.S. Army Corps of Engineers (USACE) as part of a Clean Water Act Section 404 permit before construction. Nationwide permits are a type of Clean Water Act Section 404 permit that authorize impacts to jurisdictional aquatic resources that are considered no more than minimal. Both of the action alternatives would qualify for authorization under a nationwide permit because permanent impacts to jurisdictional aquatic resources would be less than the nationwide permit threshold of 0.50 acre. This permit

authorization would not likely require compensatory mitigation because permanent wetland impacts would be less than 1/10th of an acre and no streams would be impacted.

Potential temporary construction impacts to aquatic resources would be minimized through considering construction methods and using BMPs such as silt fences and other erosion-control features in areas adjacent to wetlands and streams. Any necessary temporary construction impacts to aquatic resources that are authorized by a Clean Water Act Section 404 permit will be restored through regrading to natural contours and through revegetation measures.

Because more than 1 acre of ground would be disturbed, a Utah Pollutant Discharge Elimination System (UPDES) General Storm Water Discharge Permit and a stormwater pollution prevention plan (SWPPP), consistent with UDOT's Standard Specifications, Section 01355, will be required. The SWPPP will identify measures to reduce impacts to receiving waters from construction activities including site grading, materials handling and storage, fueling, and equipment maintenance. Restoration efforts will also be monitored to ensure successful revegetation as typically required by an SWPPP.

A.9.4 Mitigation Measures for Threatened and Endangered Species

UDOT will conduct 2 more years of clearance surveys for Ute ladies'-tresses (*Spiranthes diluvialis*) (1 more year of surveys will be conducted in 2025 in the potentially suitable habitat identified in the ecosystem resources evaluation area, and 2 more years of surveys will be conducted in 2025 and 2026 in the potentially suitable habitat identified in the action area for Alternative C). All surveys will be conducted according to the *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants* (USFWS 2011) and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017).

Potentially suitable Ute ladies'-tresses habitat identified adjacent to the roadway and project footprint will be flagged and protected. Construction crews will be provided information about the importance of containing all work activities to the project footprint and existing roadway and instructed that no disturbance can occur outside of that when adjacent to potentially suitable Ute ladies'-tresses habitat, nor in areas flagged for protection.

On January 7, 2025, USFWS issued a proposed rule (90 *Federal Register* 1054) to remove Ute ladies'-tresses from the Federal List of Endangered and Threatened Plants. If the species is delisted, the future planned surveys will not be required nor conducted, and the mitigation measures would not apply.

A.10 Mitigation Measures for Impacts to Floodplains

UDOT and/or its construction contractor would take measures to reduce floodplain impacts and to ensure that the selected alternative would comply with all applicable regulations (see Section 3.10.2.2, *Executive Order 11988, Floodplain Management*, of the Final EIS). These mitigation measures would include the following:

- Where new or rehabilitated bridges or culverts are included in the final design of the selected alternative, the design would follow the Federal Emergency Management Agency's requirements and the requirements of UDOT's *Drainage Manual of Instruction*, where applicable. Where no Special Flood Hazard Area is defined, culverts and bridges would be designed to accommodate a 50-year (2%-annual-chance) or greater-magnitude flood. Where regulatory floodplains are defined, hydraulic structures would be designed to accommodate at least a 100-year (1%-annual-chance) flood.

A.11 Mitigation Measures for Impacts to Historic and Archaeological Resources

Because no adverse effects would occur to historic properties (that is, resources included in or eligible for inclusion in the National Register of Historic Places), no mitigation measures are necessary under the National Historic Preservation Act.

A.12 Mitigation Measures for Impacts to and from Hazardous Materials and Waste Sites

During construction, UDOT will coordinate with the Utah Division of Environmental Response and Remediation (DERR), the construction contractor, and the appropriate property owners. This coordination will involve determining the status of the sites of concern, identifying newly created sites, and minimizing the risk to all parties involved. Environmental site assessments might be conducted at the sites of concern to further evaluate the nature and extent of contamination (if any) and to better identify the potential risks of encountering hazardous materials when constructing the selected alternative.

Previously unidentified sites or contamination could be encountered during construction. In such a case, all work will stop in the contamination area according to UDOT Standard Specifications, and the contractor will consult with UDOT and DERR to determine the appropriate remedial measures. Hazardous materials will be handled according to UDOT Standard Specifications and DERR's requirements and regulations. The construction contractor will implement measures to prevent spreading contamination and limit worker exposure. Engineering controls (such as dust mitigation, temporary soil covers, and groundwater extraction) and personal protective equipment for construction workers will be used to reduce the potential for public or worker exposure to hazardous materials, as determined necessary by UDOT.

A.13 Mitigation Measures for Impacts to Visual and Aesthetic Resources

UDOT proposes to implement the following mitigation measures for impacts to visual and aesthetic resources:

- All aesthetic treatments will be installed in accordance with UDOT Policy 08A-03, *Project Aesthetics and Landscaping Plan Development and Review* (UDOT 2014a), and UDOT's *Aesthetics Guidelines* (UDOT 2014b). UDOT's policy is to set a budget for aesthetics and landscape enhancements based on the aesthetics guidelines. The aesthetic features considered during the final design phase of the selected alternative could include vegetation and plantings (such as street trees); the color of bridges, structures, and retaining walls; and other architectural features, such as railings. Aesthetic treatments are typically evaluated during the final design phase. UDOT will coordinate with Summit County to determine whether any desired aesthetics could be implemented.
- Lighting treatments are typically evaluated during the final design phase. Lighting will be designed to meet current design standards. All lighting design and construction work will follow UDOT Policy 06C-06, *Highway Lighting* (UDOT 2016). In addition, the requirements in UDOT's latest *Lighting Design Manual* will be followed.

A.14 Mitigation Measures for Energy Impacts

No mitigation measures for energy impacts are proposed.

A.15 Mitigation Measures for Construction Impacts

The following mitigation measures are currently proposed to be implemented during construction.

A.15.1 Mitigation Measures for Construction Phasing

No specific mitigation has been identified for construction phasing. If a phased approach is taken, the project mitigation identified in the EIS is proposed to be implemented for the specific design for each phase. Future mitigation for subsequent construction phases would take into account the final design for that phase, and any changes in regulations or potential improvements to BMPs would be followed and implemented with each phase.

A.15.2 Mitigation Measures for Impacts to Community and Property from Construction

A.15.2.1 Mitigation Measures for Impacts to Public Safety and Security from Construction

A thorough public information program will be implemented to inform the public and businesses about construction activities and to minimize construction-related impacts. Information will include work hours and alternate routes. Construction signs will be used to notify drivers about work activities and changes in traffic

patterns. Construction sequencing and activities will be coordinated with emergency service providers to minimize delays and response times during construction.

A.15.2.2 Mitigation Measures for Impacts to Utilities from Construction

Utility agreements will be completed to coordinate utility relocations. The project specifications will require the contractor to coordinate with the utility companies to plan work so that utility disruptions to businesses occur when the businesses are closed or during off-peak times. UDOT's Accommodation of Utilities and the Control and Protection of State Highway Rights-of-Way (Utah Administrative Code R930-6) will be followed. If any loss of service is required during construction, the construction contractor will contact affected parties.

Before beginning work, the contractor will contact Blue Stakes to identify the locations of all utilities in the work area. The contractor will use care when excavating to avoid unplanned utility disruptions. If utilities are unintentionally disrupted, UDOT will work with the contractor and the utility companies to restore service as quickly as possible.

A.15.2.3 Mitigation Measures for Impacts to Property and Right-of-way from Construction

In locations of temporary easements, UDOT will compensate the property owners for the temporary use of their property, and the restored property will be returned to the owner when UDOT no longer needs to use the property.

Fencing could be altered during project construction. The contractor will maintain fences and gate operations to protect the property owner's resources during construction.

A.15.3 Mitigation Measures for Impacts to Economic Conditions from Construction

Access to businesses will be maintained during the construction and post construction phases of this project. For each phase of the project, UDOT will coordinate with property owners and businesses to evaluate ways to maintain access while still allowing efficient construction operations. This coordination could entail sharing a temporary access among businesses or identifying acceptable timeframes when access is not needed. Adequate signs will be placed in construction areas to direct drivers to businesses. Other potential mitigation measures for construction impacts could include the following:

- A traffic access management plan developed and implemented by the construction contractor that maintains the public's access to the business during normal business hours
- Frequent notifications provided to all businesses in the construction area describing the progress of the construction and upcoming construction events
- Business access signs that identify business access points in the construction limits
- Meetings with business representatives to inform them of upcoming construction activities and to provide a forum for the representatives to express their concerns about the project

A.15.4 Mitigation Measures for Impacts to Traffic and Transportation from Construction

The contractor will develop a maintenance of traffic plan that defines measures to reduce construction impacts to traffic. A general requirement of this plan is that, to the extent reasonably practical, safe access to businesses and residences must be maintained, and existing roads must be kept open to traffic unless alternate routes are provided.

Even with implementing the maintenance of traffic plan, short-term increases in traffic and congestion would increase in the construction area. Road closures will be limited to what is specified in the maintenance of traffic plan as approved by UDOT before the start of construction.

A.15.5 Mitigation Measures for Impacts to Pedestrian and Bicycle Facilities from Construction

Each existing pedestrian and bicycle facility that would be closed and removed during construction will be replaced with a similar facility near its current location. Trail closures would be limited in duration, and construction detours will accommodate pedestrians and bicyclists as well as vehicles. Detours for pedestrians and bicyclists will be as direct as possible to minimize lengthy route deviations. Project construction for pedestrian and bicycle facilities will be phased to minimize disruptions to the public to the extent feasible.

UDOT will coordinate with Summit County and Basin Recreation during the final design of the selected alternative to mitigate disruptions to trail users. Potential mitigation for disruption will include providing signed on-road detours where feasible, closing facilities during low-use seasons (winter), and providing information to the public about trail closures.

A.15.6 Mitigation Measures for Impacts to Air Quality from Construction

UDOT or its contractor will take measures to reduce fugitive dust generated by construction. Dust-suppression techniques such as watering or chemical stabilization of exposed soil, opacity observations and checks, washing vehicle tires, or other dust minimization techniques approved by the Utah Division of Air Quality will be applied by UDOT or its contractor during construction in accordance with UDOT's Standard Specifications for Road and Bridge Construction (UDOT's Standard Specifications), Section 01355, Environmental Protection, Part 1.10, Fugitive Dust (UDOT 2024b).

A.15.7 Mitigation Measures for Impacts to Noise from Construction

To reduce temporary noise impacts associated with construction, the contractor will comply with all state and local regulations relating to construction noise, including UDOT's Standard Specifications, Section 00555, Prosecution and Progress, for nighttime construction work to reduce the impacts of construction noise on the surrounding community (UDOT 2024b).

A.15.8 Mitigation Measures for Impacts to Water Quality and Water Resources from Construction

Because more than 1 acre of ground would be disturbed, a UPDES permit and an SWPPP, consistent with UDOT's Standard Specifications, Section 01355, Environmental Protection, Part 1.13, Stormwater Management Compliance, will be required (UDOT 2024b). The SWPPP will identify measures to reduce impacts to receiving waters from construction activities including site grading, materials handling and storage, fueling, and equipment maintenance. In addition, BMPs could include measures such as silt fences, erosion-control fabric, fiber mats, straw bales, silt drains, detention basins, mulching, and revegetation. Restoration efforts will also be monitored to ensure successful revegetation as typically required by an SWPPP.

If construction activities require dewatering that would discharge project water to surface waters, UDOT or its construction contractors will obtain a UPDES Construction Dewatering or Hydrostatic Testing General Permit.

A.15.9 Mitigation Measures for Impacts to Ecosystem Resources from Construction

A.15.9.1 Mitigation Measures for Impacts to Threatened and Endangered Species, Wildlife, and Utah Sensitive Species from Construction

Trees and shrubs will be removed during the non-nesting season (July 15 to April 1). If removing trees and shrubs during this time is not possible, UDOT or its contractor will arrange for preconstruction nesting surveys of the area that would be disturbed. The preconstruction surveys will be conducted by a qualified wildlife biologist no more than 14 days before ground-disturbing activities. The surveys will determine whether active bird nests are present. If active nests are found, the construction contractor will coordinate with the UDOT Natural Resources Manager to minimize or avoid impacts to migratory birds.

Constructing the selected alternative could impact habitat that is potentially suitable for Ute ladies'-tresses. UDOT prepared a biological assessment and determined that the selected alternative "may affect, but is not likely to adversely affect" Ute ladies'-tresses. UDOT requested USFWS concurrence with this determination in a letter sent on March 11, 2025. USFWS concurred with this determination on March 27, 2025, via a time/date stamp.

Potentially suitable Ute ladies'-tresses habitat identified adjacent to the roadway and project footprint will be flagged and protected. Construction crews will be provided information about the importance of containing all work activities to the project footprint and existing roadway and instructed that no disturbance can occur outside of that when adjacent to potentially suitable Ute ladies'-tresses habitat, nor in areas flagged for protection.

A.15.9.2 Mitigation Measures for Impacts to Aquatic Resources from Construction

The selected alternative would impact less than 0.1 acre of aquatic resources and might require a Stream Alteration Permit or Nationwide Permit.

In addition, BMPs such as silt fences and other erosion-control features will be used in areas adjacent to wetlands to mitigate potential temporary construction impacts to wetlands and other waters of the United

States. BMPs such as silt fences and other erosion-control features would be used in areas adjacent to aquatic resources. In addition, aquatic resources outside of but adjacent to the construction footprint would be fenced so that the area would be avoided.

A.15.9.3 Mitigation Measures for Impacts to Noxious Weeds from Construction

The contractor will follow UDOT's Standard Specifications 02924, Noxious Weed Control, to minimize construction impacts. To mitigate possibly introducing noxious and invasive weeds during construction, the contractor will:

- Follow the noxious weed mitigation and control measures identified in UDOT's Standard Specifications for Noxious Weed Control (UDOT 2024b).
- Follow the BMPs to reduce the potential for weed infestations.
- Reseed disturbed areas.

A.15.10 Mitigation Measures for Impacts to Historic and Archaeological Resources from Construction

In accordance with UDOT's Standard Specifications, Section 01355, Environmental Protection, Part 1.12, Discovery of Historical, Archaeological, or Paleontological Objects, Features, Sites or Human Remains, if cultural resources are discovered during construction, activities in the area of the discovery will immediately stop (UDOT 2024b). The construction contractor will notify UDOT of the nature and exact location of the finding and will not damage or remove the resource.

Work in the area of the discovery would be delayed until UDOT evaluates the extent and cultural significance of the site in consultation with the Utah State Historic Preservation Office. The course of action and the construction delay would vary depending on the nature and location of the discovery. Construction would not resume until the contractor receives written authorization from UDOT to continue.

A.15.11 Mitigation Measures for Impacts to Hazardous Materials and Waste Sites from Construction

If contamination is discovered during construction, mitigation measures will be coordinated according to UDOT Standard Specifications, Section 01355, Environmental Compliance, Part 1.7, Hazardous Waste, which directs the construction contractor to stop work and notify the construction engineer of the possible contamination (UDOT 2024b). Coordination with the Utah Department of Environmental Quality might be necessary if a discovery is made. Any hazardous materials will be disposed of according to applicable state and federal guidelines.

A.15.12 Mitigation Measures for Impacts to Visual and Aesthetic Resources from Construction

After the project is completed, the contractor will prepare and implement an appropriate seeding vegetation and/or landscaping plan to restore or enhance aesthetics.

A.15.13 Mitigation Measures for Construction Staging and Material Borrow Areas

Because the exact locations of staging areas and sources of fill material are not known, no mitigation is proposed at this time for construction staging and material borrow areas. Once those areas are identified, standard mitigation measures such as using existing roads and disturbed areas to the extent possible, minimizing ground disturbance, controlling dust and erosion, managing waste, and protecting vegetation will be used.

A.16 References

[FHWA] Federal Highway Administration

2011 Highway Traffic Noise: Analysis and Abatement Guidance. FHWA-HEP-10-025. https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf. December.

[UDOT] Utah Department of Transportation

2014a UDOT Policy 08A-03, Project Aesthetics and Landscaping Plan Development and Review. https://drive.google.com/file/d/1b-znhJDRozQpumoSYah89BMjRElyTEgA/view?usp=sharing. Effective May 26, 2009. Revised February 6, 2014.

2014b UDOT Aesthetics Guidelines. https://drive.google.com/file/d/1J4rzaTOO7TPo6ij3mxpvgtjAXL_T1hMa/view. November 5.

2016 UDOT Policy 06C-06, Highway Lighting. https://drive.google.com/file/d/15iZlgAErwufC8R3E458o_sT5nDbPVq5V/view. Effective August 17, 1998. Revised August 24, 2016.

2021 Stormwater Quality Design Manual. May.

2024a Drainage Manual of Instruction. February.

2024b Standard Specifications for Road and Bridge Construction. https://drive.google.com/drive/folders/10xhNJHZQ471tDxXg29cKT1BRu0TwrepD. Accessed July 3, 2025.

[USFWS] U.S. Fish and Wildlife Service

2011 U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed and Candidate Plants. August 31.

2017 Interim Survey Requirements for Ute Ladies-tresses Orchid (*Spiranthes diluvialis*) [revised]. Original date of publication November 23, 1992. https://www.fws.gov/sites/default/files/documents/SPDI_interimSurveyRequirements_1992_revised%202017.pdf.