US 36 CORRIDOR

RECORD OF DECISION 2

SEPTEMBER 2012

RECORD OF DECISION 2

FOR THE

US 36 CORRIDOR

COLORADO

CHOOSE YOUR MOVE

US 36 EXPRESS LANES PROJECT

FEDERAL HIGHWAY ADMINISTRATION

SEPTEMBER 2012

STATUTE OF LIMITATIONS

This Record of Decision 2 (ROD 2) will be published in the *Federal Register,* pursuant to 23 United States Code §139(1), indicating that the Federal Highway Administration (FHWA) has taken the final action to approve additional elements of United States Highway 36 (US 36) Corridor Preferred Alternative, evaluated in the 2009 US 36 Corridor Final Environmental Impact Statement. Claims seeking judicial review of this Federal action must be filed within 180 days after the date of the notice.

INFORMATION AVAILABILITY

The following individuals may be contacted for further information regarding the US 36 Corridor ROD 2.

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ACRONYMS AND ABBREVIATIONS

BNSF	BNSF Railway Company
BRT	Bus Rapid Transit
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
DEIS	Draft Environmental Impact Statement
DRCOG	Denver Regional Council of Governments
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-25	Interstate 25
ITS	Intelligent Transportation Systems
LEDPA	Least Environmentally Damaging Practicable Alternative
LOMR	Letter of Map Revision
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PAC	Preferred Alternative Committee
ROD	Record of Decision
RTD	Regional Transportation District
SHPO	State Historic Preservation Officer
TDM	Transportation Demand Management
US 36	United States Highway 36
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service

1.0 DECISION

The purpose of this second Record of Decision (ROD 2) is to document the Federal Highway Administration's (FHWA) decision on four elements of the United States Highway 36 (US 36) Corridor Project and to document that the project is included in the *Fiscally-constrained 2035 Regional Transportation Plan*, as amended (Denver Regional Council of Governments (DRCOG) 2011) (*Fiscally-constrained element)*. The four elements include:

- Replacing the US 36 Bridge over the BNSF Railway Company (BNSF) track;
- Replacing the Sheridan Boulevard Bridge over US 36;
- Widening the US 36 Bridge over Promenade Drive; and
- Widening the US 36 Bridge over West Flatiron Crossing Drive.

These elements are consistent with the Preferred Alternative as described in the *US 36 Corridor Final Environmental Impact Statement and Final Section 4(f) Evaluation* (*US 36 Corridor FEIS*) (US 36 Mobility Partnership, 2009). This ROD 2 has been prepared in compliance with 23 Code of Federal Regulations (CFR) 771 and 774, Council on Environmental Quality (CEQ) Regulations 40 CFR 1500-1508, and the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended.

Multiple documents are incorporated by reference into this ROD 2 in accordance with 40 CFR 1502.21, including:

- *US 36 Corridor Final Environmental Impact Statement and Final Section 4(f) Evaluation* (*US 36 Corridor FEIS*) (US 36 Mobility Partnership, 2009);
- *US 36 Corridor Record of Decision* (*2009 ROD*) (FHWA, 2009); and
- *US 36 Corridor Phase 1 NEPA Reevaluation* (Colorado Department of Transportation (CDOT), February 2012).

The *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) documented that the purpose of improvements in the corridor is to improve mobility along the US 36 Corridor from Interstate 25 (I-25) in Adams County to Foothills Parkway/Table Mesa Drive in Boulder, and among intermediate destinations. The transportation needs of the project are:

- Transportation Need #1: Increase trip capacity;
- Transportation Need #2: Expand access;
- Transportation Need #3: Provide congestion relief;
- Transportation Need #4: Expand mode of travel options;
- Transportation Need #5: Increase efficiency of transit service; and,
- Transportation Need #6: Update outdated highway facilities.

1.1 PREFERRED ALTERNATIVE

The following is a summary of the Preferred Alternative as identified in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009). Maps of the Preferred Alternative (Combined Alternative Package) are included in Appendix A. In general, the entire Preferred Alternative would:

- Add one managed lane in each direction on US 36. The managed lanes would connect to, and be an extension of, the existing I-25 express lanes that go to and from downtown Denver. The reversible managed lane between I-25 and Pecos Street would remain and traffic would continue to use the existing I-25/US 36 managed lane ramp. The managed lanes from Pecos Street to west of Cherryvale Road in Boulder would become a single dedicated lane in each direction (not reversible), located in the median of US 36, and separated from the general-purpose lanes by a painted buffer;
- Access to this new managed lane will be provided at separate ingress and egress points located between each interchange;
- Separate the managed lane by a four-foot wide painted stripe (known as buffer separation);
- Add auxiliary lanes between most interchanges;
- Provide for buses to exit US 36 to pick up and drop off passengers at stations located on ramps and adjacent park-n-Rides;
- Provide for bus bypass lanes at most on-ramps, with the exception of Foothills Parkway eastbound, Federal Boulevard, Pecos Street, and Broadway;
- Include improvements to cross-street intersections and interchanges. These improvements will include upgrading lane transitions of ramp terminals, widening cross streets at the intersections, lengthening turn-lanes and adding turn-lanes;
- Provide a bikeway facility adjacent to US 36 connecting Boulder and Denver. The bikeway is an off-highway separated multi-use path adjacent to US 36. Where appropriate, the bikeway connects to and makes use of existing on-street and off-street facilities. Maintenance of the US 36 bikeway will be the responsibility of the local jurisdictions through an Intergovernmental Agreement with CDOT;
- Provide Transportation Demand Management (TDM) improvements throughout the corridor, such as strategies designed to make the most efficient use of existing transportation facilities by reducing the actual demand placed on these facilities. Examples include coordinating flexible work schedules to help decrease demand at peak periods, carpooling/vanpooling, encouraging telecommuting, providing employer and community-based EcoPass (bus passes), creating an incident management plan and courtesy patrol, and coordinating land use and transportation planning that increases the convenience of using transit. Additionally, the Preferred Alternative will offer the ability to use Intelligent Transportation System (ITS) messaging to alert drivers to roadway conditions. These ideas are listed in more detail in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009); and
- Provide new and more frequent bus service in the US 36 corridor. The Preferred Alternative proposed service changes listed in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) reflect improvements to operations based on existing service at this time. Bus service plans for Bus Rapid Transit (BRT) will be merged with bus service plans for the Northwest Rail Corridor Project. Bus operations will be phased-in commensurate with service standards and ridership growth. The Regional Transportation District (RTD) makes schedule changes and adjustments several times a year to respond to demand and improve productivity.

For a full description of the Preferred Alternative elements, please see the *US 36 Corridor FEIS* (US 36 Mobility Partnership 2009).

Due to current funding limitations and federal requirements that necessitate financing to be identified prior to approval of a decision document, the *2009 ROD* (FHWA, 2009) documented FHWA's and the Federal Transit Administration (FTA)'s decision to move forward with Phase 1 of the Preferred Alternative for the US 36 project, which provides transportation improvements to incrementally meet the Purpose and Need within the fiscally constrained plan. The 2009 ROD documents that subsequent project phases will be selected and implemented as additional funding becomes available and included in the Fiscally-constrained Regional Transportation Plan, enabling FHWA, FTA, RTD, and CDOT to work toward implementation of the entire Preferred Alternative. Each additional phase must be included in the *Fiscally-constrained 2035 Regional Transportation Plan* and a ROD will be required to document the decision. Details regarding the elements of Phase 1 of the Preferred Alternative are included in Table 1-1 of the *2009 ROD* and Chapter 8 of the *US 36 Corridor FEIS*. They include:

- Constructing a managed lane in each direction from Federal Boulevard to east of Foothills Parkway/Table Mesa Drive;
- Building improvements to the Sheridan Boulevard and Wadsworth Parkway interchanges (Wadsworth Parkway is the street that crosses at the interchange also known as the Broomfield interchange);
- Replacing the Lowell Boulevard and Wadsworth Boulevard bridges (Wadsworth Boulevard crosses US 36 south or east of the interchange and is sometimes called "Old Wadsworth." The Old Wadsworth bridge will be replaced in a new location at 112th Avenue);
- Constructing a bikeway throughout the entire corridor;
- Rehabilitating pavement;
- Lowering the profile to enhance clearances under bridges;
- Widening shoulders to 12 feet;
- Enhancing BRT stations; and
- Installing ITS elements related to the managed lane and BRT operations.

The *US 36 Corridor Phase 1 NEPA Reevaluation* (CDOT, February 2012) documented changes in design elements for the first major construction project (between Pecos and 88th Street) since the signature of the *2009 ROD*. Design changes included a variety of horizontal and vertical refinements as a result of additional design and design modifications to various project elements, including:

- Removal of the existing Old Wadsworth Bridge and construction of a new bridge at 112th;
- Refinements to the types of drainage structures/irrigation crossings and water quality ponds;
- Refinements to the location of the bikeway;
- Refinements to the ingress and egress for the managed lanes;
- Refinements to the locations of noise walls;
- Change from a four-foot wide concrete median to a standard CDOT two-foot barrier;
- Use of shoulders for bus operations during congested periods; and
- Use of Advanced Traffic Management measures.

1.2 SELECTED ACTIONS

This ROD 2 provides final NEPA approval for four additional elements that are to be included in the first major construction project. These items were included as elements of the Preferred Alternative in the *US 36 Corridor FEIS*, but were excluded in the *2009 ROD*. These four elements complement Phase 1 of the Preferred Alternative as described in the *2009 ROD* and contribute to incrementally meeting the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) Purpose and Need. They do not add any additional capacity beyond the design that was approved in the *2009 ROD*. The elements of ROD 2 are discrete improvements to replace and widen bridges and eliminate design exceptions. Including the bridges in the first major construction project reduces future impacts to highway users and complements the actions approved in the *2009 ROD*. With this approval, these improvements continue to incrementally meet the *US 36 Corridor FEIS* Purpose and Need. These four project elements are described in more detail below and are depicted on Figure 1.

- **Replace US 36 Bridge over the BNSF** – The existing US 36 bridge over the BNSF will be removed and replaced as part of the project improvements. The new bridge will be wider than the existing four lane structure (two lanes in each direction) to include the following:
    - 12-foot inside and outside shoulders in each direction;
    - New Bus Rapid Transit (BRT) lane/managed lane and buffer in each direction;
    - Two general purpose lanes in each direction;
    - Auxiliary lanes for the Church Ranch Boulevard Interchange ramp acceleration and deceleration; and
    - A barrier separated 12-foot bikeway on the eastbound side.

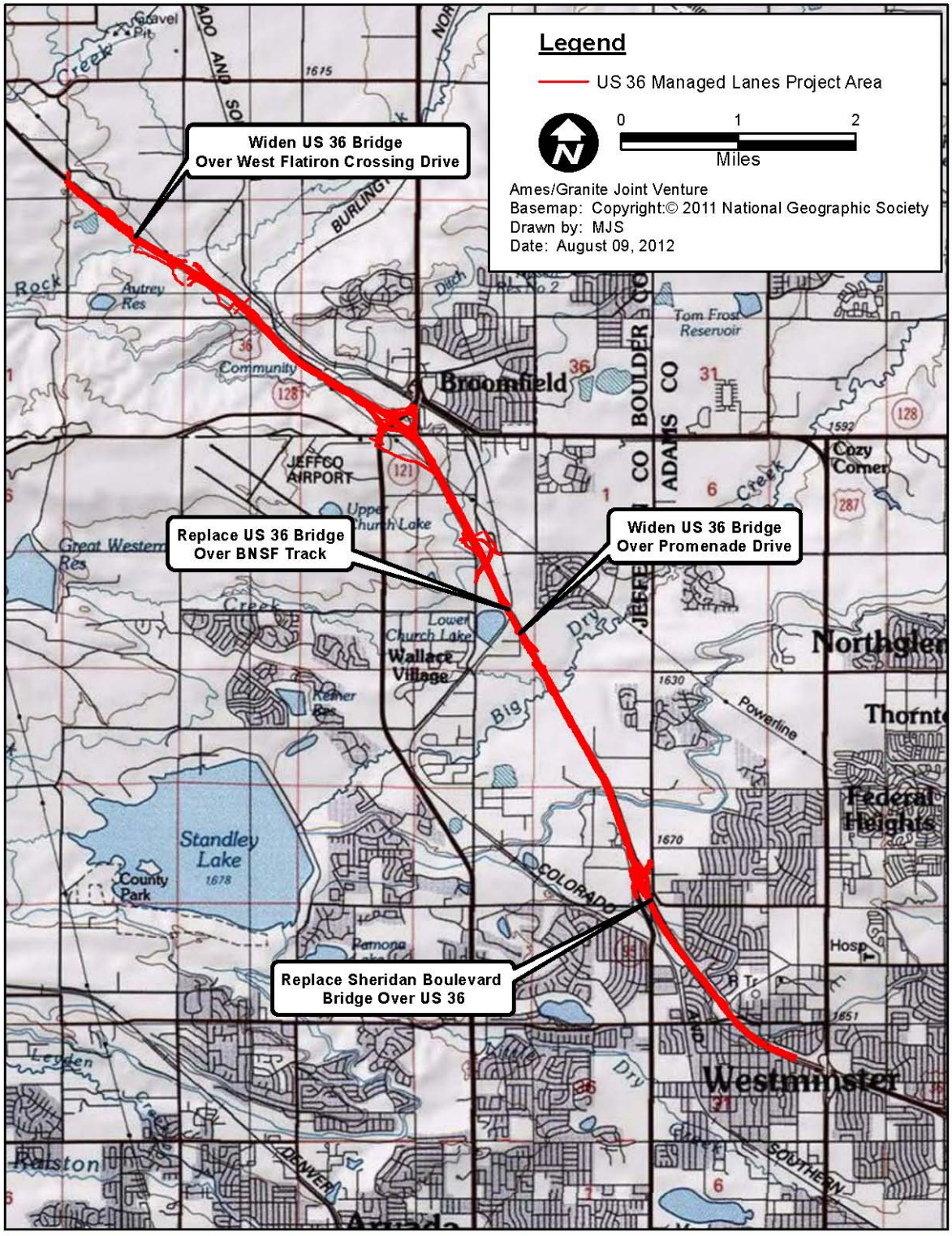
  The new structure will be raised to provide for the required vertical clearance above the existing and future BNSF tracks. The new structure will also be sufficiently long to not preclude future rail options. This improvement was included in the Preferred Alternative that was documented in the *US 36 Corridor FEIS*, but it was not included in the *2009 ROD* due to funding constraints. This bridge replacement meets the *US 36 Corridor FEIS* Purpose and Need by replacing outdated highway facilities and accommodating the Preferred Alternative cross section.
- **Replace the Sheridan Boulevard Bridge over US 36** – The new Sheridan Boulevard Bridge will be partially realigned to the west and parallel to the existing structure. It will be constructed to accommodate the ultimate width defined in the FEIS and will accommodate three through-lanes and two left turn lanes in each direction. The new bridge will accommodate the reconstructed US 36 mainline and future interchange ramps with the required minimum 16.5 feet of vertical clearance. The roadway to the south of the bridge will be aligned in a temporary condition to match the existing Sheridan Boulevard. As part of the new construction, a section of Benton Drive will be realigned at the toe of the fill. This improvement was included in the Preferred Alternative that was documented in the *US 36 Corridor FEIS*, but it was not included in the *2009 ROD* due to funding constraints. This bridge replacement meets the *US 36 Corridor FEIS* Purpose and Need by replacing outdated highway facilities and accommodating the Preferred Alternative cross section.
- **Widen US 36 Bridge over Promenade Drive** – The existing Promenade Drive bridge will be widened in both the eastbound and westbound directions. The structure will be widened by 28

feet in the eastbound direction to accommodate the deceleration lane for the eastbound off ramp to Church Ranch Boulevard/104th Avenue and a new 12-foot bikeway. The bikeway was originally designed to cross Promenade Drive at an at-grade crossing, but the design was shifted to a grade-separated crossing to improve safety at the crossing (grade separated versus at-grade) and to minimize the grade for bikeway users (between four and five percent with the grade separated option versus seven to nine percent with an at-grade crossing). The structure will be widened in the westbound direction with a variable-width widening to accommodate the realigned Church Ranch Boulevard/104th Avenue westbound on-ramp transition. This improvement was included in the Preferred Alternative that was documented in the *US 36 Corridor FEIS*, but it was not included in the *2009 ROD* due to funding constraints. This bridge widening meets the *US 36 Corridor FEIS* Purpose and Need by providing the width necessary to accommodate the Preferred Alternative cross section.

- **Widen US 36 Bridge over West Flatiron Crossing Drive** – The existing West Flatiron Bridge will be widened 20 feet in both the eastbound and westbound directions to accommodate the proposed mainline section of 12-foot inside and outside shoulders, a managed lane and four-foot buffer and two general purpose lanes. This improvement was included in the Preferred Alternative that was documented in the *US 36 Corridor FEIS*, but it was not included in the *2009 ROD* due to funding constraints. This bridge widening meets the *US 36 Corridor FEIS* Purpose and Need by providing the width necessary to accommodate the Preferred Alternative cross section.

These elements incrementally work towards meeting the *US 36 Corridor FEIS* Purpose and Need since the replacement and widening of these structures will minimize pinch points and improve safety and operations that would be provided from *2009 ROD* Phase 1 project elements (Transportation Needs #3, and #6). The addition of auxiliary acceleration and deceleration lanes on the BNSF and Promenade Drive bridges provides access meeting acceptable design standards on and off of the US 36 Corridor (Transportation Need #2) providing access to the variety of employment, residential and community facility centers throughout the corridor. The bikeway will provide an alternative travel mode choice for travelers (Transportation Need #4).

Figure 1: Four Project Elements



2.0 PROJECT FUNDING AND FISCAL CONSTRAINT

CDOT and RTD completed a procurement process for construction of a portion of the *2009 ROD* (CDOT, 2009). In coordination with FHWA and local jurisdictions, the procurement was designed to identify a guaranteed maximum price for a basic configuration and any additional requested elements. The selected contractor was able to commit to building the basic configuration and some additional requested elements (including the replacement of the BNSF and Sheridan Boulevard bridges) within the guaranteed maximum price. These four project elements include replacement and widening of existing bridges and would not add additional capacity compared to the Phase I of the Preferred Alternative approved in the *2009 ROD*. In addition, these elements are now included in the *Fiscally-constrained 2035 Regional Transportation Plan* (DRCOG, 2011). Utilizing the Design-Build process and competitive private industry bids allowed for additional project elements to be constructed above those included in the base configuration while still meeting the guiding principles of safety, operations and maximizing the investment. Finally, the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) and the *2009 ROD* (FHWA, 2009) documented that at both the project and regional levels Phase 1 of the Preferred Alternative is in air quality conformity.

3.0 ALTERNATIVES CONSIDERED

3.1 ALTERNATIVES PREVIOUSLY EVALUATED

After determining the project's Purpose and Need, development and evaluation of alternatives were conducted in several phases with more detail used to develop and evaluate alternatives. To respond to public and agency comments, a Preferred Alternative Committee (PAC) comprised of agency representatives, elected officials, and technical staff from local jurisdictions, was convened in January 2008. The PAC reviewed and addressed Draft Environmental Impact Statement (DEIS) public comments, evaluated corridor elements, identified a Preferred Alternative, and outlined implementation phases.

In July 2008, the PAC recommended a multi-modal transportation solution known as the Preferred Alternative (Combined Alternative Package). The Preferred Alternative includes both transit and highway improvements that are responsive to the public and provide long-term transportation benefits. For more detail on these packages, see Chapter 2, Alternatives Considered, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).

As part of the Final Section 4(f) analysis, a Least Harm Analysis was completed in accordance with 23 CFR 774.3(c)(1) to determine which alternative resulted in the least overall harm in light of the preservationist purpose of Section 4(f) (US 36 Mobility Partnership, 2009). This analysis concluded that, while there are differences among the packages in the intensity and value of the uses of the resources, the Preferred Alternative (Combined Alternative Package) is the least harm alternative.

3.2 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The *2009 ROD* (FHWA, 2009) documented that the Preferred Alternative avoided and minimized environmental impacts more than the other alternatives evaluated in the 2009 FEIS and therefore was the environmentally Preferred Alternative. Phase 1 of the Preferred Alternative is a subset of the

Preferred Alternative, provides corridor-wide multi-modal transportation improvements with lesser impacts than the other packages, incrementally meets the Purpose and Need with the funding available, and was approved in the 2009 ROD. The four project elements described above would not result in additional environmental impacts than those described in the *2009 ROD* for Phase I of the Preferred Alternative improvements. Impacts associated with the elements were documented in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) as part of the Preferred Alternative and in Chapter 8, Phased Project Implementation, of the *US 36 Corridor FEIS* for Phase I of the Preferred Alternative.

3.3 LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE

These four project elements will not result in any additional impacts to wetlands or threatened and endangered species as compared to those impacts described in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) for the Preferred Alternative. Therefore, the conclusion documented in the *2009 ROD* (FHWA, 2009), that the Preferred Alternative has avoided and minimized impacts and that the Preferred Alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA), is still valid, and since these elements are a subset of the Preferred Alternative they are also part of the LEDPA. In addition, these elements are consistent with the United States Army Corps of Engineers (USACE) Section 404 Permit (USACE permit number 200380602).

4.0 FEDERAL AND STATE APPROVALS

The sections below discuss key federal and state approvals required for implementation of these four project elements. In general, the implementation of these four projects elements do not result in any additional impacts compared to those described in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) and do not require any additional permits or approvals.

4.1 SECTION 4(f) PROPERTIES

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (49 United States Code [USC] Section 303 and 23 USC Section 774) mandates that the Secretary of Transportation shall not approve any transportation project requiring the use of publicly owned parks, recreation areas, wildlife or waterfowl refuges, or significant historic sites, unless:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the public park, recreation area, wildlife or waterfowl refuge, or significant historic site, resulting from that use.

A final Section 4(f) Evaluation was included in the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) issued by FHWA, FTA, CDOT, and RTD in October 2009 and the *2009 ROD* documented all required Section 4(f) approvals in accordance with 23 USC Section 771.127 and 771.135. In addition, the *US 36 Corridor NEPA Reevaluation* (CDOT, 2012) documented a *de minimis* impact to the BNSF (5JF519.5[1]) as a result of a bikeway underpass under the BNSF railroad.

[1] Described in the FEIS as 5JF519.7, but clarified in the *US 36 Corridor NEPA Reevaluation* (CDOT, 2012) as 5JF519.5.

In the FEIS, the bikeway was included on the same structure as the US 36 bridge over the BNSF railroad. This design did not result in a Section 4(f) use. Based on input received during a series of Bikeway Workshops, and as a result of coordination with the BNSF, the design was refined to include a separate bikeway underpass under the BNSF railroad, approximately 175 feet southwest of where US 36 currently crosses the BNSF. During final design, constructability and coordination challenges with BNSF related to working under the live freight railroad were identified, and as a result the bikeway was placed back on the US 36 replacement bridge as was shown in the *US 36 Corridor FEIS*. Therefore, the bikeway crossing of the BNSF would not result in a Section 4(f) use as documented in the *US 36 Corridor FEIS.* The State Historic Preservation Officer (SHPO) was notified on August 10, 2012 that a *de minimis* impact will no longer result from the bikeway crossing under the BNSF since the bikeway will be on the mainline structure (Appendix B).

4.2 AIR QUALITY

As noted above, these four project elements will not add any additional capacity compared to the project elements approved as part of Phase 1 of the Preferred Alternative in the *2009 ROD* (FHWA, 2009). Air quality impacts from transportation projects generally are considered on both a regional and project level basis. Regional impacts are examined by the responsible metropolitan planning organization (DRCOG) through transportation planning activities such as Regional Transportation Plans and Transportation Improvement Programs. The *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) and the *2009 ROD* (FHWA, 2009) documented that at both the project and regional levels Phase 1 of the Preferred Alternative is in conformity. In addition, as noted in the *2009 ROD*, analysis completed by DRCOG and the Colorado Department of Public Health and Environment (CDPHE) indicated that "…construction of future phases of the Preferred Alternative will unlikely create problems with regard to regional air quality conformity" (FHWA 2009). Furthermore, these project elements are included in the *Fiscally-constrained 2035 Regional Transportation Plan*, as amended (DRCOG, 2011); therefore, the project meets the transportation conformity rule and the regional air quality conformity requirements. These four project elements include replacement and widening of existing bridges and would not add additional capacity compared to the design approved as part of the *2009 ROD*; therefore, these elements are exempt from being required to determine conformity in accordance with 40 CFR 93.126.

4.3 SECTION 106 CONSULTATION PROCESS

As described in Section 3.1, the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) documented that the bikeway was included on the replacement US 36 bridge over the BNSF railroad (5JF519.5[2]) and SHPO concurred on a Section 106 determination of *No Adverse Effect* as part of the FEIS process. During the *US 36 Corridor NEPA Reevaluation*, the impacts of a bikeway underpass under the BNSF railroad were documented as a No Adverse Effect and SHPO concurred with this determination. The current design is similar to the FEIS design (the bridge is narrower since it is not designed for the ultimate configuration). SHPO was notified on August 10, 2012 that the effects to the BNSF (5JF519.5) will match the *US 36 Corridor FEIS* design and not the *US 36 Corridor NEPA Reevaluation* design (Appendix B).

[2] Described in the FEIS as 5JF519.7, but clarified in the *US 36 Corridor NEPA Reevaluation* (CDOT, 2012) as 5JF519.5.

The US 36 Bridges over Promenade Drive, BNSF, and West Flatiron Crossing Drive were built within the last 50 years and therefore are not eligible to the National Register of Historic Places (NRHP) (construction dates of 2004, 1985 and 2001, respectively). The Sheridan Boulevard Bridge over US 36 was built in 1951 (updated in 1973) and was officially determined not eligible as part of the 2000 Colorado Historic Bridge Inventory and documentation regarding this bridge was included in the 2006 letter to SHPO (SHPO, 2006).

All mitigation requirements documented as part of Phase 1 of the Preferred Alternative in the *2009 ROD* (FHWA, 2009), including the requirements of the Programmatic Agreement, will continue to be adhered to.

4.4 CDOT 1601 PROCESS

The 1601 for seven interchanges along US 36 has been signed by the CDOT Chief Engineer and was approved by the CDOT Transportation Commission on January 21, 2010.

4.5 ISSUANCE OF A SECTION 404 PERMIT

The USACE has issued a Section 404 Individual Permit (USACE permit number 200380602) for the Preferred Alternative of US 36. Wetland impacts resulting from the Preferred Alternative were documented in the FEIS, and further refined for the areas in the first major construction project in *US 36 Corridor NEPA Reevaluation* (CDOT, 2012). The four project elements documented by this Record of Decision (ROD 2) are located within the Preferred Alternative footprint. The reconstruction of the Sheridan Boulevard bridge would result in impacts to an additional 470 square feet of wetlands compared to the impacts previously documented in the *US 36 Corridor NEPA Reevaluation;* however, the impacts are within the footprint of the Preferred Alternative of US 36 and were included in the Section 404 Individual Permit.

4.6 ISSUANCE OF A PROGRAMMATIC BIOLOGICAL OPINION

A Biological Opinion was received from the United States Fish and Wildlife Service (USFWS) on December 9, 2009 (included in the *2009 ROD* [FHWA, 2009]). The four project elements are not located in areas that contain habitat for federally threatened or endangered species. These four elements would have no effect on Preble's Meadow Jumping Mouse and Ute Ladies'-Tresses Orchid. However, known populations of Colorado butterfly plant are within ¼ mile of the BNSF crossing therefore they may affect but not likely to adversely affect the Colorado butterfly plant. Water depletions are likely to occur on this project affecting the South Platter River species. This consultation is handled programmatically under a different programmatic agreement. Consultation with the USFWS is documented in Appendix B.

4.7 FLOODPLAIN REQUIREMENTS

The four project elements do not require Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision (LOMR) for 100-year floodplain encroachment.

5.0 MITIGATION

Since the four project elements documented in this ROD complement elements of the approved Phase 1 of the Preferred Alternative improvements, the mitigation measures and associated monitoring requirements from Phase 1 of the Preferred Alternative, as documented in the *2009 ROD* (FHWA, 2009) are similar. The specific mitigation measures for the actions associated with ROD 2 are included in Appendix C. Commitments will be implemented through the inclusion of the measures into the project construction and management plans and no additional permits and approvals, beyond those identified in the *2009 ROD*, are required.

6.0 CONCLUSION

Based on the information contained in the *US 36 Corridor FEIS and Final Section 4(f) Evaluation, the 2009 ROD, and the US 36 Corridor NEPA Reevaluation,* which have been incorporated by reference into this ROD, and information contained in this ROD 2, we conclude that the decision reached on the US 36 Corridor Project is in the best overall public interest, uses all practicable means to restore and enhance the quality of the human environment and avoids or minimizes any possible adverse effects. In addition, based on the discussion above, these four project elements would not result in a use of a Section 4(f) resource.

John M. Cater
Division Administrator, Colorado Division
Federal Highway Administration

9/24/12
Date

7.0 REFERENCES

CDOT, 2012. *US 36 Corridor NEPA Reevaluation*, Colorado Department of Transportation, February 13, 2012.

DRCOG, 2011. Fiscally-constrained 2035 Regional Transportation Plan 2011 Cycle 1 Amendments, Denver Regional Council of Governments, August 17, 2011

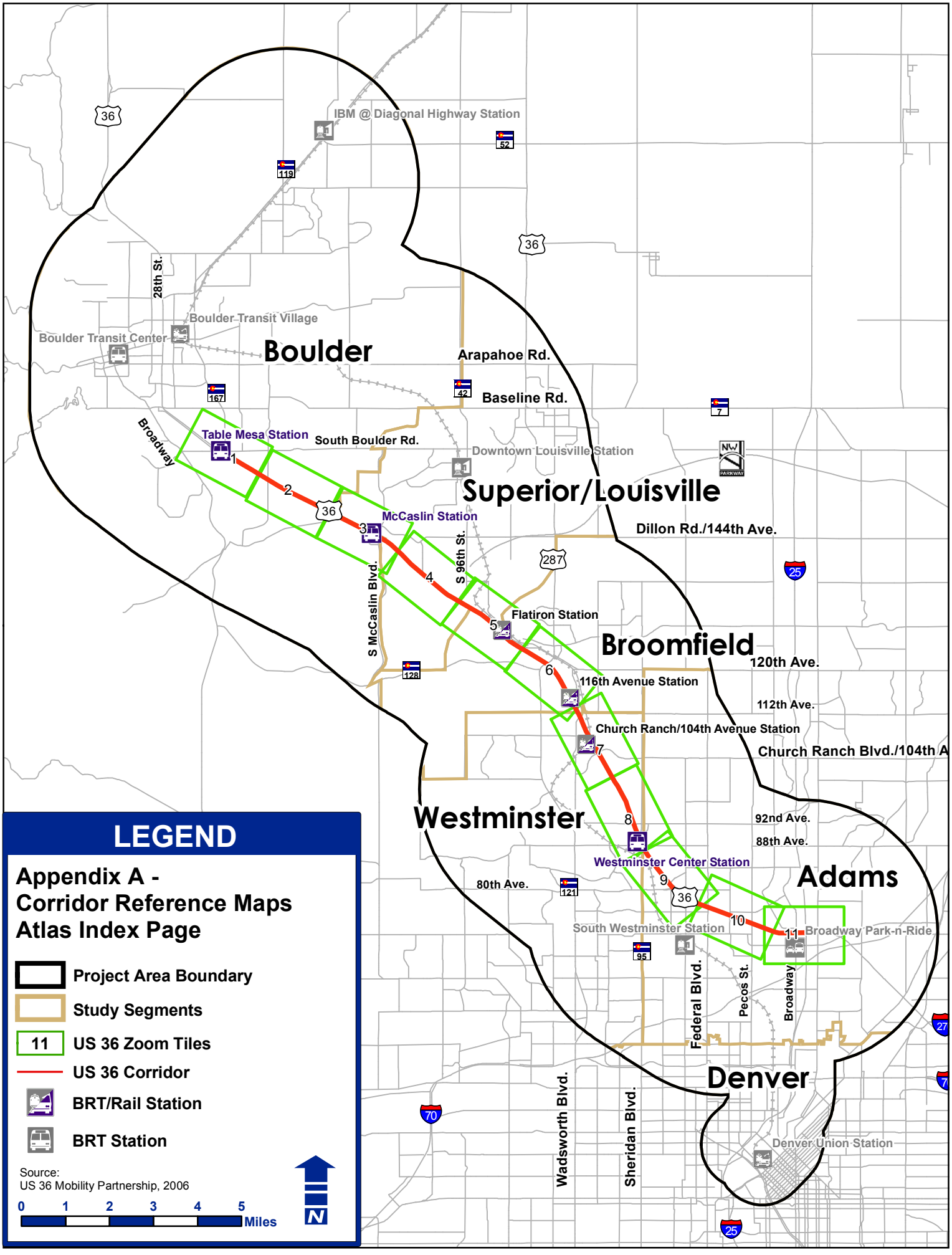
FHWA, 2009. *Record of Decision for the US 36 Corridor*, Federal Highway Administration, December 2009.

SHPO, 2006. CDOT Project NH 0361-070, US 36 Corridor Environmental Impact Statement, Adams, Denver, Boulder, Broomfield and Jefferson Counties; Eligibility Determinations and Additional Information (CHS #42345). Letter from Brad Beckham (CDOT) to Georgianna Contiguglia (Colorado Historical Society).

US 36 Mobility Partnership, 2009. *US 36 Corridor Final Environmental Impact Statement and Final Section 4(f) Evaluation*, October 2009.

Appendix A

Corridor Reference Maps


IBM @ Diagonal Highway Station
Boulder Transit Village
Boulder Transit Center
Boulder
Arapahoe Rd.
Baseline Rd.
28th St.
Broadway
Table Mesa Station
South Boulder Rd.
Downtown Louisville Station
Superior/Louisville
McCaslin Station
Dillon Rd./144th Ave.
S McCaslin Blvd.
S 96th St.
Flatiron Station
Broomfield
120th Ave.
116th Avenue Station
112th Ave.
Church Ranch/104th Avenue Station
Church Ranch Blvd./104th A
Westminster
92nd Ave.
88th Ave.
Westminster Center Station
80th Ave.
Adams
South Westminster Station
Broadway Park-n-Ride
Federal Blvd.
Pecos St.
Broadway
Denver
Wadsworth Blvd.
Sheridan Blvd.
Denver Union Station
1
2
3
4
5
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7
8
9
10
11
LEGEND
Appendix A -
Corridor Reference Maps
Atlas Index Page
Project Area Boundary
Study Segments
11 US 36 Zoom Tiles
US 36 Corridor
BRT/Rail Station
BRT Station
Source:
US 36 Mobility Partnership, 2006
0 1 2 3 4 5 Miles
N

1

BASELINE RD

157

BOULDER RD

Table Mesa Station

36

MOOREHEAD AV

TABLE MESA DR

93

TABLE MESA DR

LOCAL STREETS OPTION

Table Mesa Station

Segments
- Adams
- Boulder
- Broomfield
- Denver
- Superior/Louisville
- Westminster

Legend
Appendix A -
Corridor Reference Maps
Combined Alternative Package (Preferred Alternative)

- US 36 Combined Alternative Package Footprint
- Arterial Improvements
- Bridges
- Bikeways
- Managed Lanes and Transit Stations
- General-purpose Lanes
- Work by Others
- Partial Property Acquisition
- Full Property Acquisition
- Parcel Boundary
- BRT/Rail Station
- BRT Station

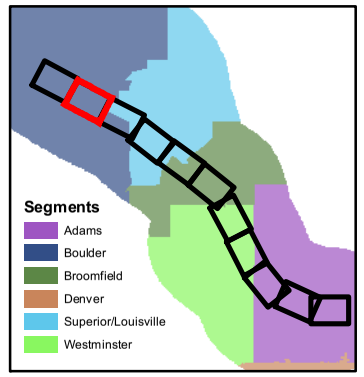
0 250 500
Scale in Feet

US 36 CORRIDOR
Environmental Impact Statement

DOT DEPARTMENT OF TRANSPORTATION

RTD

2



Legend
Appendix A -
Corridor Reference Maps
Combined Alternative Package
(Preferred Alternative)

- US 36 Combined Alternative Package Footprint
- Arterial Improvements
- Bridges
- Bikeways
- Managed Lanes and Transit Stations
- General-purpose Lanes
- Work by Others
- Partial Property Acquisition
- Full Property Acquisition
- Parcel Boundary
- BRT/Rail Station
- BRT Station

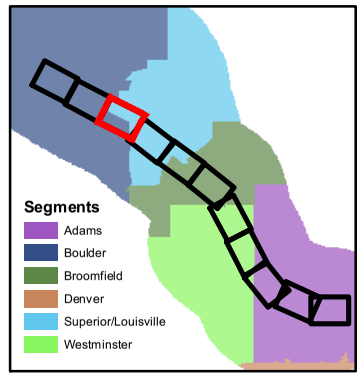
0 250 500
Scale in Feet

US 36 Corridor
Environmental Impact Statement

DOT Department of Transportation

RTD

3



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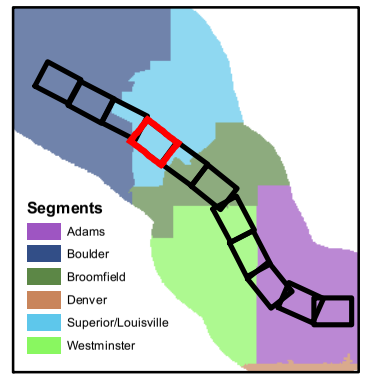
Scale in Feet

US 36 Corridor
Environmental Impact Statement

DOT DEPARTMENT OF TRANSPORTATION

RTD

4



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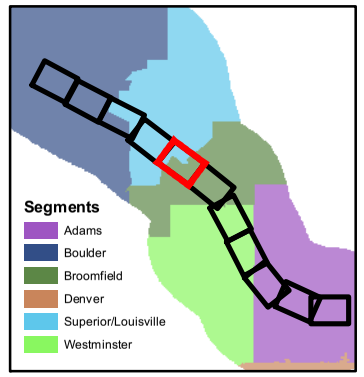
Scale in Feet

US 36 Corridor
Environmental Impact Statement

CDOT Department of Transportation

RTD

5



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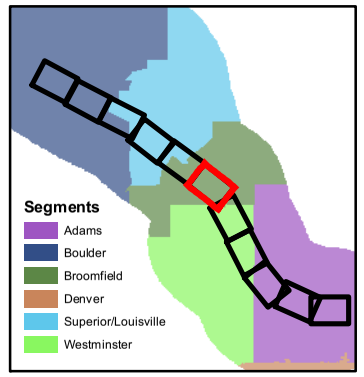
US 36 Corridor
Environmental Impact Statement

DOT Department of Transportation

RTD

6



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0 250 500
Scale in Feet

US 36 Corridor
Environmental Impact Statement

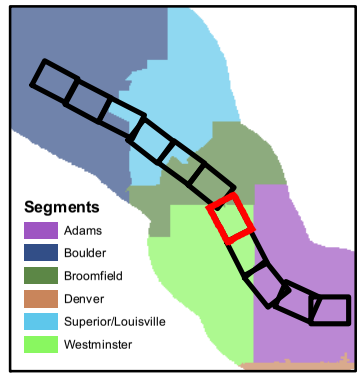
DOT DEPARTMENT OF TRANSPORTATION

RTD

MIDWAY BD
NICKEL ST
MAIN ST
287
120TH AV
INDUSTRIAL LN
121
WADSWORTH BD
36
128
116th Avenue Station

Note: The 116th Avenue Rail Station is not a part of the 2004 FasTracks Program. Additional stations were added in the early planning stages of the US 36 Environmental Impact Statement. Exact rail station locations and additional stations may be reconsidered in the U.S. Army Corps of Engineers/Regional Transportation District Northwest Rail Environmental Assessment/Environmental Evaluation.

7



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0 250 500
Scale in Feet

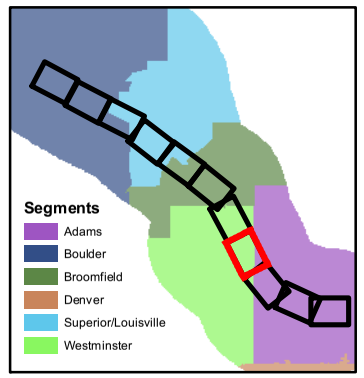
US 36 Corridor
Environmental Impact Statement

DOT DEPARTMENT OF TRANSPORTATION

RTD

MAIN ST
112TH AV
104TH AV
36
Church Ranch/104th Avenue Station
WADSWORTH BD
W 108TH AV
121
WADSWORTH BD
CHURCHRANCH RD
WESTCLIFF PY

8



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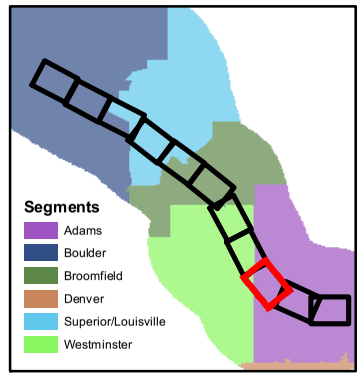
Scale in Feet

US 36 Corridor
Environmental Impact Statement

CDOT Department of Transportation
RTD

SHERIDAN BD
YATES ST
88TH
88TH AV
36
WESTMINSTER BD
92ND AV
95
WESTCLIFF PY
Westminster Center Station
HARLAN ST
88TH AV

9



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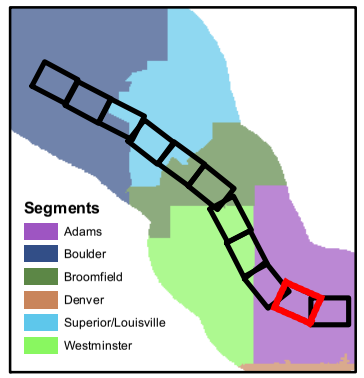
Scale in Feet

US 36 Corridor
Environmental Impact Statement

DOT Department of Transportation

RTD

10



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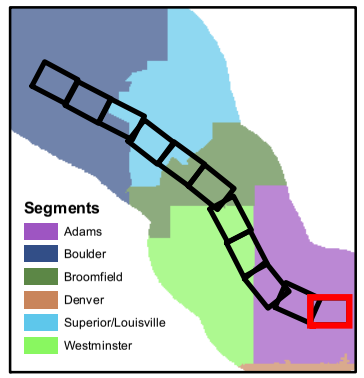
US 36 Corridor
Environmental Impact Statement

CDOT Department of Transportation

RTD

11



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Scale in Feet

US 36 Corridor
Environmental Impact Statement

DOT Department of Transportation

RTD

Appendix B

Agency Correspondence

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

Region 6, Planning and Environmental
2000 South Holly Street
Denver, CO 80222
(303) 757-9929
(303) 757-9036 FAX

August 10, 2012

Mr. Edward C. Nichols
State Historic Preservation Officer
History Colorado
1200 Broadway
Denver, CO 80203

SUBJECT: US 36 Highway Corridor Managed Lane Project, Update of Section 106 Determination of Effect, (CHS Project # 41960)

Dear Mr. Nichols:

The purpose of this letter is to provide updated information concerning the above-referenced project and a revised Section 106 determination of effect as a result of changes in design for the proposed bridge that carries US 36 and a bicycle/pedestrian crossing over the Burlington Northern Santa Fe (BNSF) Railroad (5JF.519.5) just northwest of the Church Ranch Boulevard interchange. The bridge (E-16-LY) was built in 1985.

Section 106 effect determinations for historic properties either listed in or eligible for the National Register of Historic Places (NRHP) were submitted for consultation as part of a document substitution in the Final Environmental Impact Statement (FEIS) in October 2009. The segment (which was incorrectly referred to as 5JF.519.7 in the FEIS document) was officially determined to support the integrity of the overall linear resource in 2004 and 2011, according to Compass. The FEIS analyzed impacts to the BNSF railway segment for the US 36 ultimate configuration, which included a bicycle/ pedestrian crossing as part of the proposed bridge structure. The proposed bridge was described as 310 feet long and 270 feet wide with an approximate vertical clearance of 23 feet from the railroad tracks. The structure would include the expanded highway and an adjacent bikeway/pedestrian trail. All of the bridge piers and abutments would be placed outside the BNSF Railroad ROW limits, which were also the historical boundary of the railroad.

The visual setting of the railroad would change with a new structure over the BNSF due to the widening and lengthening of the highway bridge. However, the Colorado Department of Transportation (CDOT) determined this change would not alter the qualities that make the railroad eligible to the NRHP and would not change the ability of the rail segment to convey its significance. CDOT determined this would result in the Section 106 determination of *No Adverse Effect* to the BNSF railroad resource (5JF.519) and presented this finding in the FEIS on page 4.7-27. The State Historic Preservation Office (SHPO) concurred with that finding in correspondence dated December 3, 2009.

During the National Environmental Policy Act Re-evaluation process for the US 36 Managed Lane Project (referred to as Phase I in the ROD, but the project is being constructed under two separate construction

projects referred to as Phase 1 and Phase 2), the project team decided to redesign the bicycle/ pedestrian crossing of the railroad as a box culvert underneath the railroad grade (CDOT, 2012). CDOT and the Federal Highway Administration (FHWA) consulted with SHPO in a letter dated August 18, 2011 regarding this change and determined that the box culvert approach would result in the Section 106 determination of *No Adverse Effect* to 5JF.519. SHPO was also notified of FHWA's intention to make a Section 4(f) *de minimis* finding for the resource. SHPO concurred with this determination and acknowledged the *de minimis* finding in their response dated August 29, 2011.

Recently, based on input received during a series of Bikeway Workshops and as a result of constructability challenges related to working under a live freight railroad, the team reverted to the original design for the bicycle/pedestrian crossing on the US 36 replacement bridge as described in the FEIS. The dimensions of the new structure are smaller than what was initially consulted upon in the FEIS, since this design only accommodates Phase 1 of the US 36 project and not the ultimate configuration. The new structure will be 307 feet long and 172 feet wide, with an approximate vertical clearance of 23.5 feet from the tracks.

As was previously determined and concurred upon in the letter from SHPO on December 3, 2009, CDOT still finds that that placing the bicycle/pedestrian crossing on the US 36 replacement bridge structure will result in *No Adverse Effect* to the BNSF Railroad (5JF.519). The new BNSF structure will not alter the qualities that make the railroad eligible to the NRHP, nor change the ability of the rail segment to convey its significance. In addition, the new bridge does not constitute a use of the railroad under Section 4(f) and therefore, a *de minimis* finding is not necessary.

This information is submitted to provide you with the most recent project information. If you require additional information, please contact CDOT Region 6 Senior Historian Dianna Litvak at (303) 757-9461.

Sincerely,

for Elizabeth Kemp-Herrera
Region 6 Planning and Environmental Manager

cc: Tim Buntrock, CDOT US 36 Environmental Lead

References:

CDOT, 2012. *US 36 Corridor NEPA Reevaluation*, Colorado Department of Transportation, February 13, 2012.

US 36 Mobility Partnership, 2009. *US 36 Corridor Final Environmental Impact Statement and Final Section 4(f) Evaluation*, October 2009

U.S. Department of Transportation
Federal Highway Administration

Colorado Division

12300 W. Dakota Ave., Ste. 180
Lakewood, Colorado 80228
720-963-3000
720-963-3001

September 10, 2012

Ms. Susan Linner
United States Fish and Wildlife Service
Colorado Field Office
P.O. Box 25486, DFC (65412)
Denver, Colorado 80225
Attn: Ms. Alison Michael

Subject: United States Fish and Wildlife Concurrence for the Second Record of Decision Based on the US 36 Final EIS Programmatic Biological Opinion December 9, 2009

Dear Ms. Linner:

The purpose of this letter is to describe the additional elements that will be incorporated into a second Record of Decision (ROD 2) and to provide information to document FHWA's determination of no effects to federally-listed species as a result of the construction of these additional project elements that were evaluated as part of the Preferred Alternative in the Final Environmental Impact Statement (FEIS) and the Programmatic Biological Assessment (PBA) from 2009. In addition there is no new candidate or listed species in the project area.

Project Description

The current US 36 construction project between Pecos and 88th Street will include the reconstruction of the US 36 mainline pavement; widening to accommodate a new buffer-separated Managed Lane in each direction of US 36; replacement and reconstruction of multiple bridges; construction of retaining walls and sound walls; installation of Intelligent Transportation Systems (ITS); and construction of portions of a commuter bikeway. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) signed a ROD for Phase 1 of the Preferred Alternative in 2009 (FHWA, 2009). This consultation addresses four additional elements that were added to the current construction contract by the winning proposers of the design-build RFP process that were not included in the 2009 ROD; therefore, FHWA is preparing a ROD 2 to approve these elements.

These elements include (Figure 1):

- Replacing the US 36 Bridge over the BNSF Railway Company (BNSF) track;
- Replacing the Sheridan Boulevard Bridge over US 36;
- Widening the US 36 Bridge over Promenade Drive; and
- Widening the US 36 Bridge over West Flatiron Crossing Drive.

Threatened and Endangered Species

During the FEIS process, the United States Fish and Wildlife Service (USFWS) issued a programmatic BO on December 9, 2009, based on the findings of the FEIS (FHWA, 2009) and the PBA. The BO based on the whole Preferred Alternative concurred that the project would likely adversely affect Preble's meadow jumping mouse (*Zapus hudsonius preblei*) (PMJM) and the Ute ladies'-tresses orchid (*Spiranthes diluvialis*) (ULTO); however, adverse impacts would occur only in the Boulder Segment of the project, which is west of any of these elements included in the ROD 2. In addition, although habitat exists in the project area evaluated in the FEIS, the BO concurred that the FEIS Preferred Alternative is not likely to adversely affect the Colorado butterfly plant (*Guara neomexicana ssp. Coloradensis*) (CBP) because the plant is not known to occur in this area.

Based on the information in the PBA, the BO, the work done for the ROD 2, and the location of the four elements in the ROD 2 which are east of the Boulder Segment, the additional four project elements may affect, but are unlikely to adversely affect the CBP and will have no effect to any other threatened and endangered species with the exception of five species which may be affected by depletions to the South Platte River. In order to address the effects these depletions may have on federally listed species downstream that depend on the river for their survival, the Colorado Department of Transportation (CDOT), as a state agency, is participating in the South Platte Water Related Activities Program (SPWRAP). CDOT is cooperating with FHWA which provides a federal nexus for the project. In response to the need for formal consultation for the water used from the South Platte basin, FHWA has prepared a Programmatic Biological Assessment (SPPBA) dated 02/22/2012 that estimates total water usage until 2019. The PBA addresses the following species: Least Tern (interior population) (*Sternula antillarum*), pallid sturgeon (*Scaphirhynchus albus*), Piping Plover (*Charadrius melodus*), western prairie fringed orchid (*Platanthera praeclara*), and the Whooping Crane (*Grus americana*). On 04/04/2012, the USFWS signed a Biological Opinion which concurs with this approach and requires a yearly reporting of water usage. The water used for this project will be reported to the USFWS at the year's end after the completion of the project as per the aforementioned consultation. Pre-construction surveys and best management practices (BMPs) as defined in the BO have been incorporated into the design/build process of this phase to avoid and minimize impacts to biological resources.

The FHWA is fulfilling the consultation as agreed in the PBA and BO with the USFWS that these additional elements included in the ROD 2 will not affect the PBJM or the ULTO. These four elements may affect but not likely to adversely affect the CBP. The FHWA is requesting concurrence from the USFWS for the determination for the CBP. The water depletions are address in the South Platte programmatic agreement, SPPBA. If the USFWS has any questions or concerns, please contact Ms. Monica Pavlik at 720-963-3012.

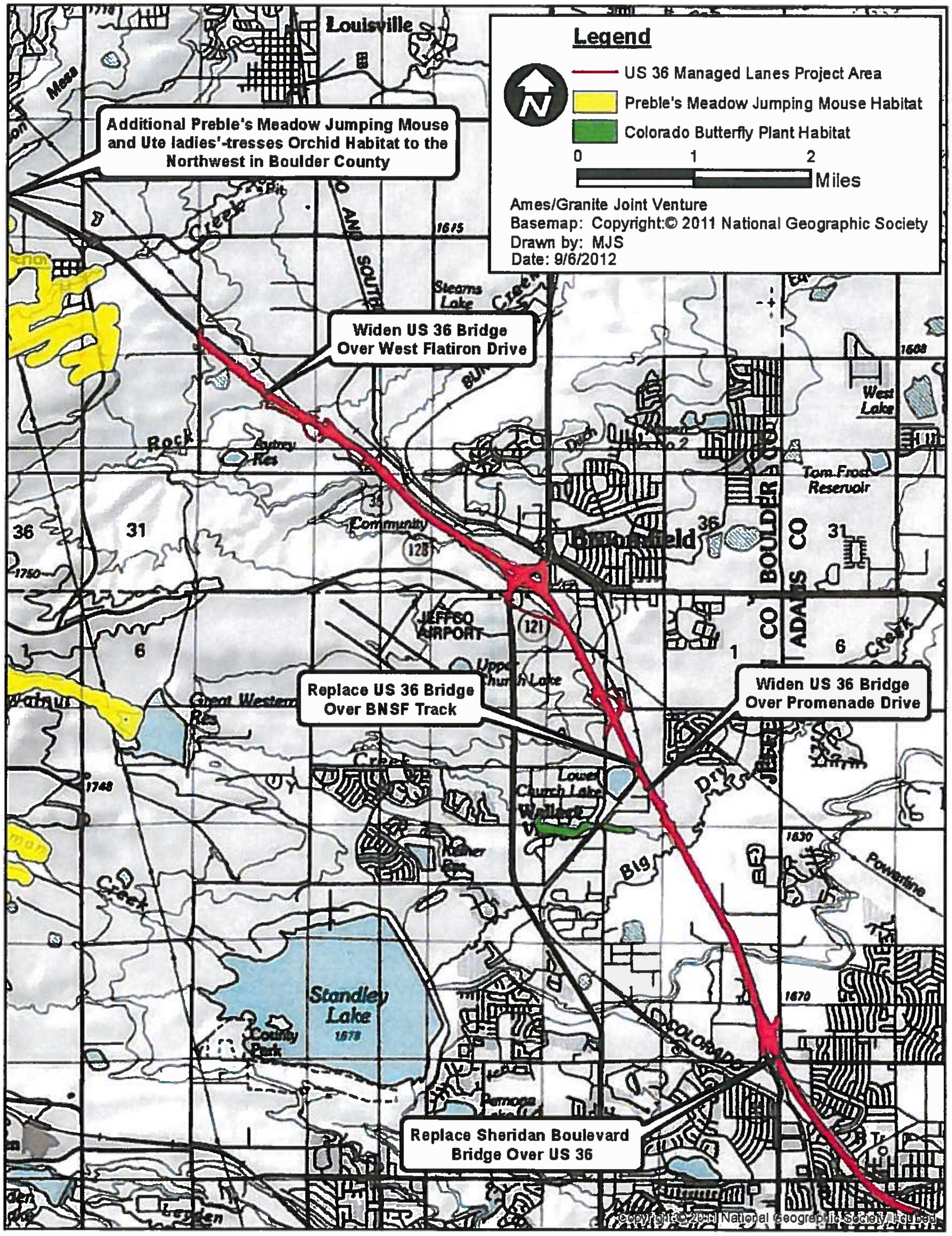
Sincerely,

Monica A Pavlik

for John M. Cater
Division Administrator

Cc: Mr. John Schwab
Mr. Jeff Peterson
Mr. Mark Gosselin
Mr. Tim Buntrock

Enclosure:
Figure 1: ROD 2 Project Element


Legend
US 36 Managed Lanes Project Area
Preble's Meadow Jumping Mouse Habitat
Colorado Butterfly Plant Habitat
0 1 2
Miles
Ames/Granite Joint Venture
Basemap: Copyright:© 2011 National Geographic Society
Drawn by: MJS
Date: 9/6/2012
Additional Preble's Meadow Jumping Mouse and Ute ladies'-tresses Orchid Habitat to the Northwest in Boulder County
Widen US 36 Bridge Over West Flatiron Drive
Replace US 36 Bridge Over BNSF Track
Widen US 36 Bridge Over Promenade Drive
Replace Sheridan Boulevard Bridge Over US 36
Louisville
Broomfield
JEFFCO AIRPORT
Standley Lake
Great Western Res
Tom Frost Reservoir
West Lake
BOULDER CO
ADAMS CO
Copyright:© 2011 National Geographic Society, i-cubed

United States Department of the Interior

FISH AND WILDLIFE SERVICE
COLORADO FIELD OFFICE/LAKEWOOD
P.O. BOX 25486, DENVER FEDERAL CENTER
DENVER, COLORADO 80225-0486

IN REPLY REFER TO:
ES/CO: ES/LK-6-CO-10-F-003
TAILS: 06E24000-2012-I-0734

SEP 17 2012

Monica Pavlik
Federal Highway Administration
12300 West Dakota Avenue, Suite 180
Denver, Colorado 80228

Dear Ms. Pavlik:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed your September 10, 2012, letter describing additional elements that will be incorporated into a second Record of Decision (ROD2) for improvements to US36 between Pecos and 88th Avenue in Adams County, Colorado. Impacts to the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), the Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) due to proposed improvements to US36 were evaluated as part of the Preferred Alternative in the Programmatic Environmental Impact Statement (FEIS) as well as in the subsequent Programmatic Biological Opinion (ES/LK-6-CO-10-F-003) in 2009.

Our 2009 biological opinion addressed your determination that the project as described in your biological assessment and FEIS is likely to adversely affect the Preble's meadow jumping mouse and Ute ladies'-tresses orchid; however, these adverse effects would occur only in the Boulder segment, which is west of any of the new elements occurring in the ROD2. Habitat for the Colorado butterfly plant occurs in the area of the new elements; however, surveys did not detect the plant. These new elements are: replacement of the US36 bridge over the BNSF Railway track, replacement of the Sheridan Boulevard bridge over US36, widening of the US36 bridge over Promenade Drive, and widening of the US 36 bridge over West Flatiron Crossing.

Given the information in the 2009 biological opinion, and the location of the four additional elements, the Service finds your determination acceptable and agrees that the project will not likely adversely affect the Colorado butterfly plant, and will have no effect on any other threatened or endangered species. Effects to the Platte River species will be addressed through implementation of FHWA's 2012 programmatic biological opinion (ES/LK-6-CO-12-F-020).

Please note that should project plans change or if additional information regarding listed or proposed species becomes available, this determination may be reconsidered under the ESA.

We appreciate your submitting this report to our office for review and comment. If the Service can be of further assistance, please contact Alison Deans Michael of my staff at (303) 236-4758.

Sincerely,

Susan C. Linner
Colorado Field Supervisor

ec: CDOT, HQ (Jeff Peterson)
Michael

Ref: AlisonH:\My Documents\CDOT 2004\Region 6\US36\phase I managed lanes\phase_I_ROD2_NLTAA_concur.docx

Appendix C

Mitigation Measures

APPENDIX C
US-36 RECORD OF DECISION 2 MITIGATION MEASURES

Impact	Mitigation Measure	Status/Resolution
Transportation Impacts and Mitigation		
Delay at the Federal Boulevard and 80th Avenue and 74th Avenue intersections	West 80th Avenue at Federal Boulevard: • A southbound lane from West 80th Avenue to the westbound US 36 on-ramp will be added. West 74th Avenue at Federal Boulevard: • The eastbound approach to left-turn, left-/through-, and right-turn lanes will be re-striped. • Signal phasing will be adjusted.	Not within project limits
Delay at the Wadsworth Parkway and Midway Boulevard intersection	Wadsworth Parkway at Midway Boulevard: • The westbound approach to two left-turn lanes, two through-lanes, and a separate right-turn lane will be re-striped. • Signal phasing will be adjusted.	Not within project limits
Delay at Dillon Road and McCaslin Boulevard	• Dillon Road east of McCaslin Boulevard will be widened to add one westbound lane. This lane will not extend through the McCaslin Boulevard intersection.	Not within project limits
Closure of local access to West 88th Place	• Directional signage and traveler information will be provided to guide users to Yates Street and West 88th Avenue by alternate routes.	Not within project limits
Transit Priority	• Analysis of, and if appropriate, implementation of signal priority at key intersections. The intent is to move buses quickly through intersections. The analysis that will be done will include current and projected delay at key intersections, capital and operating costs, and effects to other signals in the vicinity.	Not applicable for Record of Decision 2 (ROD 2) project elements
Land Use		
Compatibility and acquisitions	• Continued coordination with local jurisdictions will occur to ensure compatibility with land use plans and to address any incompatibilities. • Property acquisitions will be reimbursed at fair market value, and if possible and desired, comparable land will be provided to compensate for open space acquisition.	Not applicable for ROD 2 project elements
Economic Considerations		
Loss of customers to businesses in activity centers due to access restrictions during construction	• The contractor will be required to maintain access to businesses during construction. • The local jurisdiction or project sponsor will provide additional signage to enable customers to access businesses during construction.	Applicable requirements included in Design Build (D/B) Request for Proposal (RFP) in Book 2, Sec 4.1, 4.6.1, and 16.1.1.6 and Standard Colorado Department of Transportation (CDOT) Specs. Minimal business impacts anticipated.
Loss of property tax	• Design will be refined at preliminary and final engineering to reduce right-of-way (ROW) requirements. • The contractor will consider a variety of ways of structuring ROW/acquisition needs, including securing easements and license agreements.	Not applicable for ROD 2 project elements
Modifications to access	• A cooperative process will be employed during design to avoid or minimize access changes. • Directional signage and traveler information, where access is substantially changed, will be provided.	Not applicable for ROD 2 project elements
Modifications to parking	• A cooperative process will be employed during design to avoid or minimize disruption or displacement of business parking.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Right-of-way and Relocations		
Acquisition of private and public property, and in some circumstances, displacement of occupants	**Acquisition** — For any person(s) whose real property interests may be impacted by this project, the acquisition of those property interests will comply fully with the Uniform Act. The Uniform Act …	Not applicable for ROD 2 project elements
	Relocation — In certain situations, it may also be necessary to acquire structures/improvements that are located within a proposed acquisition parcel. In those instances where the structures/improvements are occupied, it becomes necessary to "relocate" those individuals from the subject property (residential or business) to a replacement site. The Uniform Act provides… Benefits under the Uniform Act, to which each eligible owner or tenant may be entitled, will be determined on an individual basis and explained to them in detail by an assigned ROW specialist.	Not applicable for ROD 2 project elements
National Oceanic and Atmospheric Administration (NOAA) Geodetic Control Monuments	• CDOT will provide the required 90-day notice for Geodetic Control Monuments impacted by this project.	CDOT will provide notice if needed once Contractor design and impacts are known.
Social Impacts and Community Facilities		
Reduced mobility in neighborhoods around transit stations	• A Construction Management Plan (CMP) will be developed during final engineering, in conjunction with local jurisdictions, school districts, emergency services, and affected parties.	Not applicable for ROD 2 project elements
Environmental Justice		
Residential and commercial private property acquisitions	• Refer to Section 4.4, Right-of-Way and Relocations, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009). • All acquisitions and relocations will fully comply with the Uniform Act (42 United States Code [USC] 4601 et seq. and 49 Code of Federal Regulations [CFR} 24 et seq.) and other statutes. • Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits which eligible owners or tenants may be entitled to will be determined on an individual basis and explained in detail by an assigned ROW specialist. • Design in engineering phases will be refined to reduce ROW requirements. • A variety of ways to structure ROW acquisition needs will be considered, including easements and license agreements. • All residential units that are being displaced will be considered for an Regional Transportation District (RTD) program to provide ECO passes for a year.	Not applicable for ROD 2 project elements
Loss of parkland and open space	• CDOT and RTD will coordinate with local jurisdictions to evaluate appropriate replacements or other acceptable mitigation measures. • Compensation for parkland acquisition will be negotiated with the public land's representatives. At a minimum, compensation shall include comparable replacement of parkland and facilities within approximately 2 miles of the affected parkland or adequate compensation, based on fair market appraisals. • All acquisition mitigation measures must conform to the Uniform Act.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Visual impacts related to larger interchanges, wider pavements, sound walls, and retaining walls	• Design meetings will be held with the community during final design to determine the most context-sensitive solutions.	D/B RFP Book 2, 15.2.2.5 requires contractor to develop aesthetic treatment plan consistent with other corridor elements and CDOT Urban Design Manual.
Noise	• Existing and new mitigation sound walls will be reconstructed early in the construction schedule, where possible, to mitigate for construction noise. • Local noise ordinances will be followed or a noise variance will be obtained.	Not applicable for ROD 2 project elements
General construction impacts to the community	• Refer to the construction mitigation outlined in Section 4.22**,** Construction-Related Impacts, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009). • During the construction contracting process, goals will be established for the use of small and disadvantaged businesses. • Access to local businesses will be maintained during construction, and signs will be used to enable customers to access businesses during construction. • CDOT and RTD will coordinate to minimize impacts to local and regional bus routes.	Disadvantaged Business Enterprise (DBE) Goals included in RFP Instruction to Proposers (ITP). CDOT and RTD have coordinated on RFP and with proposers to minimize impacts to local and regional bus routes
Financial equity of managed lanes on low-income populations	• Tolling costs will be set to give consideration to not exclude low-income drivers from participating. Transponders are free, but an account must be set up with a reserve balance to pay for each use. In addition, technology changes, such as License Plate Tolling being implemented on E-470, would provide options for low-income drivers that would not require setting up an account. Details of the tolling program are included in Chapter 5, Financial Analysis, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009). • During design and after implementation of the project, CDOT and RTD will conduct meetings with low-income and minority communities to assess the operations and equity of the tolling program and managed lanes.	Not applicable for ROD 2 project elements
Historic and Archaeological Preservation		
Removal or impact to a resource causing an adverse effect	• Avoidance and minimization will be addressed first. • A Programmatic Agreement with all parties has been established for mitigation. • Office of Archaeology and Historic Preservation Level I Documentation will be prepared. • Relocation of structure, if possible, will take place.	Not applicable for ROD 2 project elements
Impact to a portion of a parcel	• Avoidance and minimization will be addressed first. • A Programmatic Agreement with all parties has been established for mitigation.	Not applicable for ROD 2 project elements
Impact to a linear feature	• Avoidance and minimization will be addressed first. • Data recovery and excavation will be provided. • Office of Archaeology and Historic Preservation Re-Evaluation Form #1405 will be prepared to record changes to the resource. • Construction monitoring will be provided, as necessary, in areas with archaeological resources.	Not applicable for ROD 2 project elements
Impact to archaeological resource	• Avoidance and minimization will be addressed first. • Data recovery and excavation will be provided. • Construction monitoring will be provided, as necessary, in areas with archaeological resources.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Direct effects to some or all sites: dust and debris	• Precautionary measures, such as temporary shields to reduce the impact of dust, will be implemented. • Contractor training to prevent flying debris effects will take place.	Not applicable for ROD 2 project elements
Indirect effects to some or all sites: visual, auditory, and decreased access	• Planned construction staging will be provided to avoid these effects, wherever possible. • Signage and well-marked alternate routes for access will be provided.	Not applicable for ROD 2 project elements
Indirect impact to remaining sites: visual and noise	• Case-by-case consultation will be performed. • Sound walls or visual barriers will be constructed.	Not applicable for ROD 2 project elements
Paleontology		
Disturbance of paleontological resources during construction	• Construction monitoring by a qualified paleontologist may be necessary for excavation into potentially fossiliferous Laramie, Arapahoe, and Denver Formation outcrops. A final profile check by a specialist will be conducted in final design to determine if and when a paleontological monitor may be required.	CDOT will determine need during D/B final design and implement required monitoring
Parks and Open Space		
Trail crossings	• Adequate trail detours (if the trail requires closure) and advanced notice and signing prior to beginning construction will be provided.	Not applicable for ROD 2 project elements
Trail relocations	• Trails will be returned to their existing or comparable state following construction.	Not applicable for ROD 2 project elements
Temporary occupancy of parkland during construction	In coordination with local jurisdictions, plans will be prepared and implemented defining the best management practices (BMPs) for the following: • Public safety and security for the project site will be planned. This plan will include all appropriate access, signing, and public information BMPs. • A traffic, pedestrian, and bicycle access management plan will be provided for the project area during construction.	Not applicable for ROD 2 project elements
Loss of vegetation	• Parklands will be revegetated to mimic existing conditions prior to construction. Disturbed areas in open space will be seeded with native grasses and forbs. Native shrubs will be added to the mix as appropriate. Trees will be replaced at a 1:1 ratio in locations where soils support the highest probability for re-establishment of vegetation. New trees will be planted near areas that naturally receive adequate water, such as near drainage areas or wetlands. Sapling trees may require initial watering for establishment.	Not applicable for ROD 2 project elements
Spread of noxious weeds	• Weed control will use the principles of integrated pest management to treat target weed species efficiently and effectively by using a combination of two or more management techniques (biological, chemical, mechanical, and/or cultural) where possible. Weed control methods will be selected based on the management goal for the species, the nature of the existing environment, and conditions of the project construction, including seasonal timing and the length of construction. The presence of important wildlife habitat or threatened and endangered (T&E) species will be considered when choosing control methods.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Erosion control	• The following activities will take place: provision of BMPs, in accordance with the CDOT Drainage Design Manual will be used during construction to control erosion in accordance with the Colorado Discharge Permit System (CDPS)/Municipal Separate Storm Sewer System (MS4) permit requirements; protect cultural/paleontological resources; minimize visual degradation; and assure prompt revegetation for protection of surrounding habitats and vegetation.	Not applicable for ROD 2 project elements
Future planned park, trail, and open space projects	• During final design, coordination will occur with public land's representatives to reasonably address future park, trail, and open space projects included in adopted plans.	Not applicable for ROD 2 project elements
Parkland acquisition	• Compensation for parkland acquisition will be negotiated with the public land's representatives. At minimum, compensation will include comparable replacement of parkland and facilities within approximately 2 miles of the affected parkland or adequate compensation, based on fair market appraisals. All acquisition mitigation measures must conform to the Uniform Act.	Not applicable for ROD 2 project elements
Open space acquisition	• Open space acquisition will be reimbursed at fair market value to the owner of the public lands. All acquisition mitigation measures must conform to the Uniform Act.	Not applicable for ROD 2 project elements
Impacts to wildlife habitat	• See Section 4.14, Biological Resources: Wildlife, Vegetation, and Threatened and Endangered Species, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).	Not applicable for ROD 2 project elements
Trail crossings	• Pedestrian underpasses more than 20 feet in length will be lighted to standards for safety and security.	Not applicable for ROD 2 project elements
Trail relocations	• Trailhead and trail connections to residential and commercial developments will be preserved as much as possible. Alternate trail routes accomplishing a similar connection will be provided when possible, where trails must be adjusted. • Trails that must be relocated to a public street due to property acquisition will be enhanced with signs and additional plantings, where possible, commensurate with the impact. Vegetation selection will be determined by the owner of the public land's Parks and Recreation Department.	Not applicable for ROD 2 project elements
Visual impacts to parkland and open spaces	• Disturbed parkland and open space areas due to construction will be returned to their previous condition. Options include seeding with native grasses and forbs. Native shrubs will be added to the mix, as appropriate. Trees will be replaced at a 1:1 ratio in locations where soils support the highest probability for re-establishment of vegetation, such as near riparian resources. Opportunities for minimizing visual impacts during final design will be investigated.	Not applicable for ROD 2 project elements
Public Safety and Security		
Crime at transit stations	• RTD will hire additional transit security personnel to inspect transit station areas as needed.	Not applicable for ROD 2 project elements
Fire at transit stations	• RTD will coordinate with local fire departments to address the special needs of transit fires as needed.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Crime at the Westminster Center and 116th Avenue transit stations	• RTD will monitor these transit stations and implement more aggressive security measures as needed. • Closed-circuit Television (CCTV)/video surveillance will be incorporated into the plans at all transit stations if conduit and fiber is available. Surveillance will include both personal and video surveillance. Video surveillance systems will be capable of transmitting real-time video to RTD via a fiber optic transmission backbone or other suitable transmission network. Personal surveillance will include uniformed officers who sporadically inspect transit stations. Crime Prevention through Environmental Design (CPTED) strategies have been incorporated in the corridor. The purpose of CPTED is to minimize potential threats and vulnerabilities to the transit system, facilities, and patrons, and maximize safety and security through engineering and design. CPTED strategies that will be included are: • Maximizing the visibility of people, parking areas, patron flow areas, and building/structure areas. • Providing adequate lighting to minimize shadows. • Maintaining maintenance programs that provide for the repair of broken windows, the pick up of litter, and the management streetscapes and public spaces.	Not applicable for ROD 2 project elements
Safety issues at transit platforms	• For Phase 1 platform to be moved or reconstructed, design elements and electronic technology may be used to ensure the transit platform area is safe and free of hazards. A representative measure may include passive warning devices that alert persons of risks and hazards.	Not applicable for ROD 2 project elements
Decrease in emergency response times due to roadway closures and detours	• RTD will coordinate with emergency response groups regarding local closures, changes in circulation, and detour routes, both during and after construction for those projects that are led by RTD. See Section 4.22, Construction-Related Impacts, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009), for more information.	Not applicable for ROD 2 project elements
Visual and Aesthetic Resources		
Construction staging materials	• Staging areas along US 36 will be fenced and/or screened.	Not applicable for ROD 2 project elements
Construction staging areas	• Staging areas will be rehabilitated to enhance the surrounding setting; vegetation will be replaced with native grass, forbs, shrubs, or trees, as appropriate. Staging area rehabilitation will reflect the original setting. For example, if native grass field areas are disturbed for staging, they will be replaced with similar native vegetation.	Not applicable for ROD 2 project elements
Construction lighting and illumination	• Lighting will be limited to that required for safety and security. Lighting will be shielded and directed at working areas to minimize glare and ambient light conditions in nearby areas, including adjacent travel lanes.	Applicable requirements included in D/B RFP Book 2, 5.1.7 and Standard CDOT Specs.
Removal of residences and business	• Structure removal and area improvements will be expedited to reduce the impact on remaining neighbors. The contractor will be required to adhere to the agreed-upon schedule.	Not applicable for ROD 2 project elements
Freeway and transit station visual nuisance to adjacent property owners	• In coordination with local government entities, visual buffers (such as stamped patterns in sound walls, Boston ivy, trees, or other landscaping) will be provided, whenever possible. Coordination will determine which entity will maintain the improvements.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Retaining walls	• Retaining walls will reflect natural appearance in textures and colors and be graffiti-resistant. Walls will be tiered, where feasible.	Not applicable for ROD 2 project elements
Sound walls	• Aesthetics of sound walls will be coordinated with local jurisdictions and will be graffiti-resistant.	Not applicable for ROD 2 project elements
Landscaping removal	• All landscaping, such as trees, shrubs, lawn, and perennials, and in some cases, native grasses, will be replaced where removed or where the property owner/public entity selects. • Where tree diameters are greater than 10 inches measured breast height off the ground, the replacement ratio will be two trees, unless tree ordinances direct otherwise. Typical replacement materials will include 4- to 6-foot evergreens, 1.5- to 2-inch deciduous trees, or 5-gallon shrubs. CDOT Region 6 tree replacement policy will be followed in Region 6.	Applicable requirements included in D/B RFP Book 2 Sec 17, in accordance with CDOT policy.
Replacing or adding a new bridge structure	• Corridor design guidelines will be applied using materials and colors similar to existing structures in the area. It is recommended that the design elements from existing bridge designs located at Interlocken Loop and other similar examples be used. When possible, widenings will match existing aesthetic materials and design elements.	Aesthetic enhancements at bridges being developed and paid for by jurisdictions. Applicable requirements for matching aesthetics of existing enhanced structures included in D/B RFP Book 2, 1.2.2, 15.2.2.5.
Transit stations	• Although BRT station designs will be reviewed and approved by the local jurisdictions, it is recommended these sites be integrated into the landscape. Parking at transit stations will adhere to local parking ordinances regarding shading, landscaping, lighting, and visibility. Entries to parking and transit stations will be designed using local materials and colors.	Not applicable for ROD 2 project elements
Lighting	• Lights will be directional and shielded, and timers and sensors will be used to minimize the time that lights are on in areas where lighting is not normally needed for safety, security, or operation. Lights at the transit stations will be directional and shielded to reduce off-site light scatter and glare.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Air Quality		
Criteria Pollutants	• Air Pollution Emission Notice (APEN) and an air permit is required for projects over 25 acres and that last more than 6 months in length. APEN will cover Air Pollution Control Division (APCD)-required mitigation measures for active construction. • CDOT will include language in the construction specifications requiring all construction equipment to be equipped to burn ultra-low sulfur diesel fuel. • Water or wetting agents will be used to manage dust. • Wind barriers and wind screens will be used to minimize the spread of dust in areas where large amounts of materials are stored. • A wheel wash station and/or large-diameter cobble apron at egress/ingress areas will be used to minimize dirt being tracked onto public streets. • Street sweepers to control dirt tracked onto streets will be used. • All dump trucks leaving the site will be covered. • Temporary excavated materials will be watered or covered. • A binding agent for long-term excavated materials will be used. • For winter time construction, engine pre-heater devices will be installed to eliminate unnecessary idling. • Tampering with equipment to increase horsepower or to defeat emissions control device effectiveness will be prohibited. • Construction vehicle engines will be required to be properly tuned and maintained. • Construction vehicles and equipment with the minimum practical engine size for the intended jobs will be used. • Active grading and parking areas will be watered as required. • BMPs will be used for stockpiles. • All trucks hauling dirt, sand, or other loose material will be covered or maintain freeboard in accordance with local jurisdiction requirements. CDOT promotes all of the above air quality reduction measures and will apply these mitigations as appropriate.	APEN Permit required by D/B RFP Book 2, 5.1.1. Other applicable requirements included in D/B RFP Book 2, Sec 5.
Visibility/Opacity	• Refer to the CMP in Section 4.22, Construction-Related Impacts, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).	Requirement included in D/B RFP Book 2, Sec 5.0
Ozone	• Commitment to any appropriate Regional Air Quality Council adopted mitigation measures for ozone.	This mitigation is no longer applicable because of the delay in receiving a revised ozone standard.
MSATs	• Truck routes will be restricted to minimize impacts to sensitive receptor populations. • Pavement durability will be improved to reduce the frequency of repaving. • Ultra-low sulfur diesel will be used in non-road equipment.	Concrete pavement is specified for US 36. Requirement for ultra-low sulfur diesel included in D/B RFP Book 2, Sec 5.1.1

Impact	Mitigation Measure	Status/Resolution
Noise		
Noise impacts to local communities during construction	The following noise control measures will be implemented during construction: • Permanent sound walls will be constructed at the beginning of the project, when feasible. • The contractor will be required to prepare a noise control plan that outlines allowable daytime and nighttime uses, projected noise levels, and locations and types of noise abatement measures that may be required to meet specified noise limits. • The contractor will comply with all applicable local sound control and noise ordinances and regulations, including the use of variances, when appropriate. • The following is a list of construction noise mitigation measures that will be employed where the noise control plan specifies (note that these measures will be implemented only where feasible and needed): − Use low-noise equipment with mufflers, intake silencers, engine enclosures, and acoustically-attenuating shields or shrouds. – Use hydraulically- or electrically-powered equipment. – Stage construction timing or sequencing to avoid sensitive times of the day. Combine noisy operations so they occur in the same time period. The total noise level produced will not be substantially greater than the level produced if the operations were performed separately. – Locate stationary noise sources as far from sensitive receptors as possible. – Use natural and artificial barriers, such as ground elevation and existing buildings, to shield construction noise. Staging areas should be kept as far from sensitive noise receptors as possible. – Limit pile driving and blasting to daytime working hours near land uses with sensitive receptors. – Use sonic or vibratory pile drivers instead of impact pile drivers. – Avoid placing haul routes through residential areas. • Use quieter demolition methods where possible, such as sawing bridge decks into sections that can be loaded onto trucks, resulting in lower cumulative noise levels than impact demolition by pavement breakers.	Applicable requirements for construction noise included in D/B RFP Book 2, Sec 5.1.2.3.
When noise levels exceed NAC due to traffic and buses	• Sound walls are the only feasible noise mitigation measure, and will be provided in the following locations (subject to refinement as part of final design): − Locations where existing sound walls will need to be removed to accommodate the proposed improvements. – Madison Hill homes. – Tuscany Trails. – Rock Creek Apartments.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Biological Resources: Wildlife, Vegetation, and Threatened and Endangered Species		
Loss of vegetation, including sensitive habitats	• During final design, the grading plan will be developed to minimize the removal of riparian vegetation, where possible. • During construction, vehicle operation will be limited to the designated construction area, and the limits of the construction area will be fenced to exclude and protect sensitive habitats, including prairie dog towns, riparian areas, wetlands, and upland trees and shrubs. • Silt fencing, erosion logs, temporary berms, and other BMPs may be used to prevent degradation of habitats adjacent to the construction area by transport of eroded sediment. • Graded areas within the ROW will be seeded with an appropriate mixture of native grasses and forbs; shrubs will be planted, where appropriate. • Restoration of disturbed riparian habitat will include planting of native trees and shrubs, as well as seeding and regrading native grasses, forbs, and shrubs will also be seeded in riparian areas. Senate Bill (SB) 40 requires replacement of riparian trees at a 1:1 ratio, and shrubs on a square-foot basis. • To compensate for the effects of riparian habitat loss, CDOT will follow its SB 40 Programmatic Agreement with the Colorado Parks and Wildlife (CPW) (formally Colorado Division of Wildlife [CDOW]) or comply with the non-programmatic SB 40 clearance process, which ever is appropriate. • All landscaping, such as trees, shrubs, lawn, perennials, and in some cases, native grasses, will be replaced in the vicinity where it was removed (as appropriate) or compensated for in the ROW process. CDOT Region 6 tree replacement policy will be followed in Region 6. • See also landscaping removal mitigation in Section 4.11, Visual and Aesthetic Resources, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009). • Impacts to sensitive areas will be avoided or minimized during final design, including the South Boulder Creek Natural Area, and the Colorado Tallgrass Prairie Potential Conservation Area (PCA).	Applicable requirements included in D/B RFP Book 2, 5.1.6 , Sec 17, and Standard CDOT Specs.
Loss of prairie dog colonies	CDOT has a state-wide policy on black-tailed prairie dog mitigation that will be implemented for prairie dogs located within the US 36 corridor. This policy identifies a four-step process to be used when black-tailed prairie dogs may be affected by a project: • Avoidance of impacts. • Minimization of impacts. • Relocation. • If relocation is impossible or impractical, impacted black-tailed prairie dogs will be humanely removed from burrows that will be directly affected by the project, and donated for feeding of captive black-footed ferrets or raptors. The remaining individuals to be affected will be humanely euthanized. Additionally, each of the county or city municipalities within the study area has policies for the management of prairie dogs on their property. These policies are generally similar to CDOT's policy in the steps required, and include avoidance, relocation, live-trapping, or lethal control.	Applicable requirements for prairie dog impacts included in D/B RFP Book 2, 5.3.1.

Impact	Mitigation Measure	Status/Resolution
Disturbance to nesting raptors that could result in nest failure	• Trees in the construction footprint will be cleared prior to December 1 or after August 31 to prevent raptors (and other birds) from nesting (including courtship) on site and to avoid the take of or disturbance to active nests during the breeding and courtship season. If construction is planned to begin after December 1 or prior to August 31, nest surveys will be conducted by a qualified biologist prior to construction to determine the absence or presence of nesting migratory birds. The United States Fish and Wildlife Service (USFWS) Colorado Field Office will be contacted for further guidance if the field surveys identify the existence of active bird nests that cannot be avoided by construction activities. • Raptor nest surveys will be conducted annually during an appropriate season (generally May 1 through June 1) to determine the presence of active raptor nests. If an active nest is located, monitoring or seasonal buffers may be established and coordinated with CPW to prevent disturbance to nesting birds during construction. • Protective buffer zones may be established around active nests during construction to avoid disturbance while nesting, if deemed necessary. • Individual trees important for raptor perching that are to be removed in the ROW will be replaced at a 1:1 ratio, or as specified by state and federal wildlife agencies to ensure raptor perch trees are replaced for future use. New trees may be planted near areas that naturally receive adequate water, such as near drainage areas or wetlands, or as determined by CDOT to ensure survival (if irrigation is available, that would be sufficient as well). Sapling trees planted as mitigation may require initial watering for establishment. • Artificial perches may be erected where important large perch trees are removed to provide perches until newly planted trees have matured.	Applicable requirements for raptors and migratory birds included in D/B RFP Book 2, 5.3.3, 5.5.
Potential loss of eggs or young of nesting migratory birds	• Destruction or disturbance of nests that results in loss of eggs or young is a violation of the Migratory Bird Treaty Act (MBTA). To comply with the MBTA, land-clearing activities will be timed to avoid the breeding season (primarily April 1 through August 31, but differs according to species) to avoid impacts to active bird nests, as described for raptors (see the first bullet above). In addition, some reconstruction of bridge structures may destroy or disturb swallows nesting on the underside of the bridge. Bridge reconstruction and demolition may be scheduled to avoid impacts to these birds, or actions to discourage nesting activities will be taken prior to the nesting season and will be continued through demolition. Birds that establish a nest in an active construction zone do so at their own risk and are not subject to this protection – a final determination of this status would be made by the CDOT wildlife biologist.	Applicable requirements for raptors and migratory birds included in D/B RFP Book 2, 5.3.3, 5.5.
Disruption/blockage of existing wildlife corridors and habitat fragmentation	**Specific Recommendations —** • Big Dry Creek: the City of Westminster/ Urban Drainage Flood Control District (UDFCD) agreement that does not allow modification of the hydraulic capacity of the existing structures should be revisited to allow either a separate dry crossing for wildlife (preferred), or modification of the existing stream culvert to facilitate wildlife movement. • Rock Creek: replace triple box culvert with a bridge in the Preferred Alternative. The bridge will have an opening large enough to facilitate wildlife movement. • Davidson, Goodhue, and Marshallville ditches: the culvert openings may be enlarged	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
	to compensate for increased length, and should be modified to facilitate wildlife crossing, or a separate dry crossing provided. • Box culverts will be installed where feasible for small- to medium-sized animal crossings between the unnamed ditch on Davidson Mesa and Davidson Ditch; between South Boulder Creek and Upper Dry Creek Ditch; and west of 88th Street. • Oversized culverts and/or modified culverts or dry culverts will be installed, where feasible, to facilitate wildlife crossing at Allen Ditch, Niver Canal, Farmers Highline Canal, Equity Ditch, Community Ditch, the unnamed tributary of Rock Creek, and the unnamed ditch on Davidson Mesa. **General Guidelines for Wildlife Crossings —** • Promote the improvement of wildlife corridors and connectivity to the extent practicable. • Where feasible, box culverts will be replaced with bottomless box culverts or bridges with natural substrate to promote animal usage. Where new culverts will be installed, bottomless box culverts or bridges will be used. Culverts will be installed in proximity to tree/shrub cover if possible, and will protect existing trees and shrubs near culverts and bridges from unnecessary encroachment and loss of habitat. Detailed final design will address protection from stormwater scour and sedimentation within proposed bottomless box culverts. • Bridge structures should span the largest amount of riparian habitat possible under a constructed bridge to limit the amount of disturbance to vegetation and to allow for dry passage along the water's edge. Riparian areas with dense vegetation are favored by many species for travel corridors. • Where feasible, large animal underpasses could be utilized to promote connectivity and movement. In general, riparian areas within the corridor would provide the most practical locations for large animal underpasses. Minimum dimensions for a large animal underpass should be 8-feet tall by 24-feet wide, with an openness ratio calculated in meters of 0.9 to 2.0 (height x width/length [meters]). As the width of the roadway increases, the height and width of the underpass structure should be increased proportionately. This openness will prevent a tunneling effect that would discourage animal use. Bridges and culverts will meet an openness ratio greater than 0.9 where it makes engineering sense. • Where feasible, if a stream or ditch conveys water, animals will be provided a shelf or a raised dry ledge on the side of the channel above ordinary high water to use as a dry walkway under the structure under normal flows. Shelves will be at least 1 foot higher than the normal water level and at least 1.3-feet wide to be effective.	

Impact	Mitigation Measure	Status/Resolution
Disruption/blockage of existing wildlife corridors and habitat fragmentation (continued)	• Where feasible, vegetative debris, such as old stumps, logs, and small brush will be placed along one edge of the bottom of an underpass (approximately 1-foot wide) as cover for small mammals and amphibians when crossing. Vegetative debris will be anchored in place. • Crossing structures (i.e., culverts) should have natural bottom substrates, such as coarse sand, to facilitate wildlife use. Materials such as riprap and concrete should be avoided at culvert entrances and floors, if feasible. **Recommendations for Small Animal Crossings** — • Small animals will use small-diameter culverts (less than 3 feet in diameter) more than large culverts. Reptiles prefer circular pipes, while amphibians, rabbits, and domestic animals prefer rectangular vessels. Therefore, a variety of types of small animal crossings would be most effective. • Small animal culvert size would be less than 5 feet in diameter or height. • Where feasible, vegetative debris, such as old stumps, logs, and small brush will be placed along one edge of the bottom of an underpass (approximately 1-foot wide) as cover for small mammals and amphibians when crossing. Vegetative debris will be anchored in place.	Not applicable for ROD 2 project elements
Spread of noxious weeds	An integrated Noxious Weed Management Plan may be developed during final design and in consultation with appropriate land management agencies where designated sensitive habitats occur and project work will extend over several years, or be handled in the plans and specifications as directed by CDOT biologists in consultation with these agencies. This plan will be implemented during construction and may include identification of noxious weeds in the area, weed management goals and objectives, and preventive and control methods. Upon completion of project construction, the area would fall under the control of a local or CDOT maintenance plan. Preventive measures may include, but are not limited to, the following: • Contractor vehicles may be inspected before they are used for construction to ensure that they are free of soil and debris capable of transporting noxious weed seeds or roots. Heavy construction equipment may be cleaned. • Noxious weeds observed in and near the construction area at the start of construction will be treated with herbicides or physically removed to prevent seeds blowing into disturbed areas during construction. • Periodic surveys should occur during the construction period to identify and treat noxious weeds that have developed, depending on how long the project is under construction. • Potential areas of topsoil salvage will be assessed for presence and abundance of noxious weeds prior to salvage. Topsoil from heavily infested areas will either be treated by spraying, taking it off site, or burying it during construction. • Disturbed areas will be reclaimed in phases throughout the project construction and seeded using a permanent native seed mixture. If areas are completed and permanent seeding cannot occur due to the time of year, mulch and mulch tackifier will be used for temporary erosion control until seeding can occur. • Fertilizer will not be used in seeded areas because it can enhance the growth of noxious weeds at the expense of desired vegetation.	Applicable requirements for noxious weeds included in D/B RFP Book 2, 5.6, 17.1.1 and 17.1.3.

Impact	Mitigation Measure	Status/Resolution
Spread of noxious weeds (continued)	• Only certified weed-free mulch and bales will be used on the project (Title 35, Article 27.5, Forage Crop Certification 35-27.5-101). • Weed control may use the principles of integrated pest management to treat target weed species efficiently and effectively by using a combination of two or more management techniques (biological, chemical, mechanical, and/or cultural). Weed control methods may be selected based on the management goal for the species, the nature of the existing environment, and methods recommended by Colorado State University, county weed boards, and other weed experts, but will keep in mind the applicability of these methods during construction. The presence of important wildlife habitat or T&E species will be considered when choosing control methods.	Applicable requirements for noxious weeds included in D/B RFP Book 2, 5.6, 17.1.1 and 17.1.3.
Potential loss of fisheries and aquatic habitat	• BMPs will be used to control erosion and sedimentation during construction and to protect water quality in streams. BMPs may include berms, brush barriers, check dams, erosion control blankets, filter strips, sandbag barriers, sediment basins, sheet mulching, silt fences, straw-bale barriers, surface roughening, and/or diversion channels. A spill prevention and emergency response plan will be prepared and used during construction for storage, handling, and use of chemicals, fuels, and similar products. • Under Colorado SB 40, any project affecting SB 40 jurisdictional streams, their banks, or tributaries is required to consult with CPW. Following final design, an application for SB 40 Wildlife Certification may be required if the project does not fall within CDOT's Programmatic Agreement with CPW, including detailed plans and specifications. CPW will review the plans to ensure that they are technically adequate to protect and preserve fish and wildlife resources, and provide recommendations or alternative plans if the project would adversely affect a stream. • Streams requiring channelization, realignment, or diversion will be restored equal to or better than pre-construction conditions, and restoration will be addressed in the Section 404 Permit. Stream restoration should create a meandering channel with varying side slopes rather than a straight, trapezoidal channel, and should include pools and other habitat features. To control erosion, bioengineering or the use of plants to control erosion may be used instead of riprap or other unnatural bank stabilization techniques. Banks will be planted with native plant species. • Also refer to Section 4.20, Water Resources: Water Quality and Floodplains, and Section 4.22, Construction-Related Impacts, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Loss of listed FT and FE species or their habitat	Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have initiated consultation with the USFWS. A Programmatic Biological Agreement (PBA) was released with the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009) for public comment. The USFWS has granted a Section 106 Programmatic Agreement for this project (see Appendix E of the 2009 ROD [FHWA, 2009], Section 106 Programmatic Agreement) that must be followed. Conservation measures for impacts to federally-listed species were developed as part of the PBA. During final design, detailed mitigation measures related to T&E species will be developed in consultation with the USFWS for the impacts associated with each construction stage. The following mitigation measures are proposed: **Preble's meadow jumping mouse** — • Direct impacts (death) will be avoided or minimized by use of silt fencing or similar visible barriers, restrictions in the area of disturbance, and construction limited to the non-active season (November 1 through April 30) in occupied habitat. • Occupied habitat removed for project construction will be replaced through creation or enhancement of suitable habitat. Mitigation areas should link fragmented habitat patches by restoring areas of non-habitat between zones of occupied habitat. Mitigation for the Preble's meadow jumping mouse could be coordinated with wetlands and riparian mitigation, where possible. A complete list of conservation measures will be developed through formal consultation with the USFWS. • Small mammal ledges should be used in culverts to enhance mouse mobility. **Ute ladies'- tresses orchid** — • Surveys will be conducted to identify and map Ute ladies'-tresses orchid habitat within and adjacent to the construction footprint in the area from Davidson Ditch to the west edge of Van Vleet Open Space. Surveys should be conducted for 3 years, when feasible, because the number of flowering plants varies widely from year to year, and would be done prior to final design. Surveys will be done during the flowering season by qualified botanists. • Impacts will be avoided or minimized, where possible, by relocation of project components, such as detention ponds, by use of roadside ditches instead of ponds for water quality control, and/or by narrowing of the construction footprint. • Project components within Ute ladies'-tresses orchid habitat will be designed to not adversely effect the hydrology of adjacent Ute ladies'-tresses orchid habitat. Monitoring wells may be needed to assess pre-construction water levels and to monitor changes during and after construction. • In Colorado, the primary mitigation for unavoidable impacts to plants and habitat will be protection or enhancement of other existing populations. The conservation requirements will be commensurate with the level of impact, and will be determined in consultation with the USFWS. • Ute ladies'-tresses orchids that cannot be avoided will be transplanted to a mitigation site or to a botanical garden. Removal and transplant of Ute ladies'-tresses orchids or the topsoil of their habitat will be conducted by botanists after tubers have formed in the fall. Detention ponds may be designed to provide suitable habitat for Ute ladies'-tresses orchids and may serve as transplant sites. Selection of a mitigation site will be coordinated with the mitigation for the Preble's meadow jumping mouse and wetlands, and will consider habitat suitability, benefits to the species, and provisions for long-term management and protection.	No impacts to federally listed species are anticipated as a result of construction of ROD 2 elements.

Impact	Mitigation Measure	Status/Resolution
Loss of listed FT and FE species or their habitat (continued)	**Colorado Butterfly Plant** — • Surveys will be conducted within and adjacent to the construction footprint at Dry Creek and Walnut Creek. If Colorado butterfly plants are found, CDOT will consult with the USFWS regarding appropriate conservation measures.	Not applicable for ROD 2 project elements
Potential loss of state-listed threatened or endangered species and other sensitive species	**Burrowing Owl** — • Surveys will be conducted between March 15 and October 31 of the construction year to determine the presence of burrowing owls and the locations of occupied nests. • If nests are identified, construction will be avoided within 50 yards (150 feet) of an active nest site from March 15 to October 31, or as determined necessary by a CDOT wildlife biologist. • If a nest becomes occupied after the start of active construction, a seasonal buffer zone will be required to prevent violation of the MBTA. **Other Sensitive Animal Species** — • Mitigation for nesting ospreys will be the same as for raptors (see above). • Pre-construction nest surveys will be conducted for barn owls in dirt cutbanks in suitable riparian habitat (such as Walnut Creek) prior to construction if land clearing occurs between April 1 and September 30. • Land-clearing activities will be avoided in known bobolink nesting habitat in the Boulder Segment during their nesting season (May 15 through July 30) unless the habitat has been surveyed by a qualified biologist and no nests were found to be present. • To mitigate for impacts to common garter snakes in areas where BMPs will control erosion, coconut-straw erosion blankets with a biodegradable thread will be used rather than TRMs, which can harm snakes. The framework will be manufactured with openings of sufficient size and "give" to allow for safe passage of snakes through the blanket. Use of a netless excelsior blanket (Curlex NetFree brand) combined with a heavy woven coir mat has been found successful (install the coir mat on top of the netless excelsior and anchor down). **Other Sensitive Plant Species** — • Prior to construction, presence/absence surveys will be conducted for all areas that would be affected by project activities within designated sensitive habitats, including the South Boulder Creek Natural Area, Colorado Tallgrass Prairie Natural Area, and Colorado Tallgrass Prairie PCA. The survey(s) will be conducted by qualified botanists during an appropriate season for best observation and identification of the sensitive species. If found, mitigation for impacts to these sensitive habitats (which includes mesic and xeric tallgrass communities) will be developed based on the relative numbers of plants that would be affected, the potential for avoidance or minimization of impacts, and the potential for transplanting of individuals and seedbeds to suitable habitat on adjoining property. Mitigation measures will be developed in consultation with the land management agencies where the impacts will occur.	Applicable requirements for burrowing owls included in D/B RFP Book 2, 5.3.5.2. Applicable requirements for barn owls included in D/B RFP Book 2, 5.3.5.3. ROD 2 project elements does not include Boulder Segment work.
Mineral Resources, Geology, and Soils		
Expansive soils	• Engineering measures, such as installation of deep foundation systems, raft foundations, and floating floor slabs will be considered during final design.	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.

Impact	Mitigation Measure	Status/Resolution
Unstable slopes	• Engineering measures, such as cantilevered retaining walls, soil nail walls, ground anchors, and mechanically stabilized earth (MSE) walls will be considered during final design.	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.
Expansive subgrade soils	• Engineering measures, such as soil stabilization with lime treatment, removal and recompaction, or removal and replacement with imported fill material will all be considered during final design.	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.
Collapsible subgrade soils	• Engineering measures, such as stabilization by flooding, deep dynamic compaction, over-excavation, and pre-loading prior to construction will be considered during final design.	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.
Steeply dipping bedrock	• Engineering measures, such as stabilization by over-excavation and replacement with imported fill materials will be considered during final design.	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.
Soil erosion	• Refer to Section 4.20, Water Resources: Water Quality and Floodplains, and the CMP discussion in Section 4.22, Construction-Related Impacts, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).	D/B RFP Book 2 Sections 10, 11, and 15 require Contractor to design for soil conditions.
Farmlands		
Impacts to irrigation pipes and ditches	• All irrigation pipes and ditches will be replaced in-kind. • Irrigation will not be interrupted during construction.	Applicable requirements for replacing irrigation features included in D/B RFP Book 2 Sections 7 and 12.
New ROW required	• Mitigation will be provided to agricultural properties, consistent with the ROW policies described in Section 4.4, Right-of-Way and Relocations, of the *US 36 Corridor FEIS* (US 36 Mobility Partnership, 2009).	Not applicable for ROD 2 project elements
Access to property	• Existing, legal access to farm properties will remain available during and after construction. Typically, access rights are demonstrated by easements, license agreements, other legal permits, etc.	Not applicable for ROD 2 project elements

Impact	Mitigation Measure	Status/Resolution
Hazardous Materials		
Existing hazardous material sites adjacent to or within the corridor and acquisition of additional ROW or new property	• An individual site-specific Phase I Environmental Site Assessment (ESA) will be conducted on properties before acquiring any ROW. • Site-specific Phase II ESAs will be conducted with subsurface investigation (soil and groundwater) for sites that may affect final design. • A Materials Handling Plan will be prepared to address contaminated soil and groundwater, and a Health and Safety Plan will be developed as required by Section 250.03 of the *CDOT Standard Specifications for Road and Bridge Construction* (CDOT 2005). • Engineering controls will be determined to minimize the quantity of contaminated materials. • Responsible parties will be identified for design, build, and operation of remediation systems. • Cost recovery of hazardous material sites where removal actions and long-term maintenance is required will be determined. • A heavy-metal-based paint survey will be prepared for bridges in the project area that will be affected by construction. • An asbestos survey will be prepared in the event of building and/or bridge acquisition or demolition, or if asbestos is known to be present. • Soil Characterization and Management Plans will be prepared according to Colorado Department of Public Health and Environment (CDPHE) Hazardous Materials Waste Management Division (HMWMD) if construction debris is encountered during construction activities and is suspected to contain asbestos.	Phase 1 ESAs have been conducted. 2011 Modified Phase I ESA Addendum performed for Re-Eval and D/B RFP. CDOT has performed paint and asbestos surveys of bridges.
Utilities		
Adjustment or relocation of irrigation ditches	• Construction will be scheduled during periods of non-use (November through March), wherever possible. • Design will be modified to avoid/minimize conflict, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Sections 7 and 12.
Relocation of electric transmission towers	• Construction will be scheduled during periods of low demand (October through April), wherever possible. • Design will be modified to avoid/minimize conflict, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Section 7.
Adjustment or relocation of high-pressure gas lines	• Construction will be scheduled during periods of low demand (May through September), wherever possible. • Design will be modified to avoid/minimize conflict, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Section 7.
Adjustment or relocation of buried fiber optic	• Early coordination with utility owners will take place, wherever possible. • Design will be modified to avoid/minimize conflict, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Section 7.

Impact	Mitigation Measure	Status/Resolution
Adjustment or relocation of water lines and sanitary sewers	• Design will be modified to avoid conflict, wherever possible. • Disruption of service for low-use period will be scheduled. • Disruption of service will be minimized with wet tie-in, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Section 7.
Relocation of storm sewers	• Design will be modified to avoid conflict, wherever possible.	Preliminary design minimized impacts where possible. Applicable requirements included in D/B RFP Book 2 Sections 7 and 12.
New roadway or reduced cover on buried utilities	• Encasement or protective covers over utilities will be added as appropriate.	Applicable requirements included in D/B RFP Book 2 Section 7.
Energy		
Increases in bus VMT	• RTD's policy on sustainability will be implemented.	Not applicable for ROD 2 project elements
Use of energy resources during construction	• CDOT and RTD sustainable practices will be incorporated into the project planning, construction, and maintenance to minimize impacts.	D/B ITP encourages sustainable practices. Sustainability is an element of a project goal.
Water Resources: Water Quality and Floodplains		
Destruction of riparian vegetation	• Temporary BMPs for construction, including re-establishment of native vegetation, will be installed and implemented.	Applicable requirements included in D/B RFP Book 2 Sections 5, 12, 17.

Impact	Mitigation Measure	Status/Resolution
Untreated stormwater runoff entering surface waterway during construction	• National Pollution Discharge Elimination System (NPDES) guidelines for stormwater quality, including obtaining a CDPS stormwater construction permit, will be followed. • All work performed on the project within CDOT ROW will conform to Section 107.25 (Water Quality), and Section 208 (Erosion Control) of the CDOT *Standard Specifications for Road and Bridge Construction* (CDOT 2005). • A Stormwater Management Plan will be developed that will detail the BMPs to be used for construction. Practices from the *Erosion Control and Stormwater Guide* (*ECSQG)* (CDOT 2002 or most current volume) will be followed. • Park-n-Ride areas for transit stations will follow local water quality ordinances of the local jurisdiction where the transit stations are located. Local requirements will require the permanent BMPs to treat runoff from developed areas. • Adequate storm drainage systems for the existing and proposed improvements near the interchanges will be developed to prevent high levels of sediment and pollutants from being carried into the wetlands, natural drainageways, and irrigation ditches. Non-structural BMPs, such as pesticide and fertilizer application guidelines and anti-icing and de-icing guidelines, will be employed to improve water quality in conjunction with BMP implementation. Other non-structural BMPs, such as water quality signage adjacent to the receiving streams and irrigation ditches, are examples of other tools that will be considered for implementation. A construction dewatering discharge permit may be required for groundwater dewatering activities. • A Section 404 Permit will be obtained for in-stream work performed to retrofit any bridge and channel improvements, and 401 certification will be required to ensure that water quality standards will not be violated.	Applicable requirements included in D/B RFP Book 2 Section 5 and 12. 404 Permit obtained, D/B contractor is required to comply with requirements.
Control of storm runoff from new and existing impervious surfaces within CDOT ROW	• Permanent BMPs will be constructed in compliance with the *Urban Drainage Criteria Manual* (UDFCD 2004) and the CDOT New Development and Redevelopment Program, where practical, for use during the construction phase to improve the water quality control at the site. • In the tributary to Big Dry Creek, operational BMPs such as alternative de-icing measures that minimize the use of salts or operational guidelines that more closely manage the application of salts, will be considered. • Permanent BMPs will be designed and constructed in compliance with the CDOT New Development and Redevelopment Program for all highway improvements. – All highway runoff will be collected and treated to the level required by the CDOT New Development and Redevelopment Program. The US 36 corridor improvements fall into Tier 1 BMP requirements under this program. BMPs within the project corridor will need to provide 100% of the required water quality capture volume, or the project needs to provide BMPs designed to remove at least 80% of the average annual total suspended solids loading from the average storm event.	Applicable requirements for compliance with current CDOT policies for stormwater runoff included in D/B RFP Book 2 Section 5 and 12.
Control of industrial wastes	• All proposed new connections to CDOT's storm sewer system will be inspected and verified during the construction phase to ensure the connections are constructed as designed and improper connections are avoided.	Applicable requirements for inspections included in D/B RFP Book 2 Section 3.

Impact	Mitigation Measure	Status/Resolution
Floodplain encroachment	• If a Conditional Letter of Map Revision (CLOMR) is required for Big Dry Creek, a Letter of Map Revision (LOMR) will be prepared by the project sponsors at the completion of project construction.	Not applicable for ROD 2 project elements
Wetlands and Other Waters		
Loss of wetlands due to the placement of dredged or fill material	• Wetland mitigation to include banking, establishment, restoration, enhancement, and/or preservation. Banking, establishment, and restoration is typically at a 1:1 ratio.	Not applicable for ROD 2 project elements
Sedimentation and erosion of wetlands and other water features	• BMPs will be implemented during all phases of construction to reduce impacts from sedimentation and erosion, including the use of berms, brush barriers, check dams, erosion control blankets, filter strips, sandbag barriers, sediment basins, silt fences, straw-bale barriers, surface roughening, and/or diversion channels. • When practicable, construction in waterways will be performed during low-flow or dry periods. • Flowing water will be diverted around active construction areas. • No fill material will be stored in wetlands or other water features. • No unpermitted discharges will be allowed.	Applicable requirements wetland protection included in D/B RFP Book 2 Section 5 and 12.
Construction-related Impacts		
Direct construction impacts on all resources	A CMP will be developed during final design as the key mitigation measure for offsetting the construction impacts. The plan will be developed in cooperation with the affected communities, CDOT, and RTD. The CMP will include the following key elements: **Communications Plan** — to address: • Construction safety issues. • Road closures. • Operating protocols. • Disruption of utility service. • Signage plan to inform the public of lane changes, temporary interchange closures, etc. **Community Impact Plan** — to address: • Reduction of construction dust, noise, visual degradation, and traffic impacts. • Maintenance of access to local businesses during construction. • Reduction of the duration of construction in residential areas. **Visual Protection** — to address: • Screening construction staging and storage areas. • Replacement of ground cover over exposed areas in a timely manner. • Removal of unused detour pavements or signage.	D/B RFP Book 2 Section 5.0 requires Contractor to submit an Environmental Compliance Work Plan addressing these and other elements.

Impact	Mitigation Measure	Status/Resolution
Direct construction impacts on all resources (continued)	**Air Quality Protection** — to address: • Control of dust through watering or dust palliatives. • Revegetation of exposed soils where appropriate. • Stabilization of stockpiles. • Control of off-site tracking of mud and debris. • Usage of ultra-low sulfur diesel and bio fuels in equipment, where appropriate, to reduce emissions. CDOT endorses the above air quality mitigations and will apply these air quality reduction strategies where appropriate **Noise Control** — to address: • Construction of sound walls prior to construction. • Use of noise-reducing equipment, where it is appropriate and where it can be applied. • Minimization of the duration of construction in residential areas to the extent possible. • Minimization of night construction in residential areas to the extent possible, and adherence to all local noise variance terms if night work is required. • Re-routing construction traffic away from residential areas, where possible. • Usage of alternative construction methods, such as sonic or vibratory pile driving. • Performance of high-noise activities during daytime hours when possible (e.g., pile driving). **Biological Resource Protection** — BMPs and other practices will be reviewed and adopted to address: • Reduction of loss of vegetation in sensitive habitats. • Reduction of loss of prairie dog colonies. • Minimization of disturbances to nesting raptors and songbirds. • Reduction of disruption of wildlife corridors. • Reduction of the amount of road kill. • Minimization and avoidance of habitat fragmentation. • Reduction of the loss of fisheries and aquatic habitat. • Reduction of the loss of T&E habitat and species. • Reduction of the spread of noxious weeds. **Hazardous Waste Control** — to address: • Identification of hazardous wastes prior to construction through conducting Phase II ESAs. • Preparation of a Hazardous Materials Management Plan prior to construction. • Compliance with Occupational, Safety, and Health Administration requirements, including preparation of Health and Safety Plans prior to construction (if not included above).	D/B RFP Book 2 Section 5.0 requires Contractor to submit an Environmental Compliance Work Plan addressing these and other elements.
Direct construction impacts on all resources (continued)	**Utilities Relocation** — to address: • Notification of citizens of possible utility outages. • Scheduling of construction to reduce outages. • Coordination with local utilities. **Water Quality and Wetlands Protection** — to address: • Implementation of BMPs for erosion control. • Treatment of contaminated dewatering effluents. • Fulfilling MS4 requirements. • Minimization of impacts to wetlands and riparian areas. • Identification of locations for replacement wetlands. • Usage of wetland replacement to help mitigate wildlife habitat fragmentation. **Traffic Control** — to address: • Minimization of impacts to emergency services. • Reduction of congestion through development of traffic management plans. • Coordination of bridge demolition and detour routes to avoid overloading local streets with detour traffic. • Limiting ramp closures to low-volume ramps. • Limiting high-volume ramp closures to nights and weekends. • Maintenance of access to local businesses and residences. The detailed elements of the CMP will be developed as a part of the final engineering design for Phase 1 of the Preferred Alternative.	D/B RFP Book 2 Section 5.0 requires Contractor to submit an Environmental Compliance Work Plan addressing these and other elements.

Notes:
CDOT, 2005 is superseded by CDOT, 2011b. “2011 Specifications Book,” Colorado Department of Transportation, 2011.
CDOT, 2002. “Erosion Control and Stormwater Quality Guide,” Colorado Department of Transportation, 2002.
FHWA, 2009. *Record of Decision for the US 36 Corridor*, Federal Highway Administration, December 2009.
UDFCD, 2004. "Urban Drainage Criterial Manual." Urban Drainage and Flood Control District, 2004.
US 36 Mobility Partnership, 2009. *US 36 Corridor Final Environmental Impact Statement and Final Section 4(f) Evaluation*, October 2009.

APCD	Air Pollution Control Division
APEN	Air Pollution Emission Notice
BMP	Best Management Practices
CCTV	Closed-circuit Television
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife
CDPS	Colorado Discharge Permit System
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
CMP	Construction Management Plan
CPTED	Crime Prevention through Environmental Design
CPW	Colorado Parks and Wildlife
D/B	Design Build
DBE	Disadvantaged Business Enterprise
ECSQG	Erosion Control Stormwater Quality Guide
ESA	Environmental Site Assessment
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HMWMD	Hazardous Materials Waste Management Division
ITP	Instructions to Proposers
LOMR	Letter of Map Revision
MBTA	Migratory Bird Treaty Act
MS4	Municipal Separate Storm Sewer System
MSE	Mechanically Stabilized Earth
NOAA	National Oceanic and Atmospheric Administration

NPDES	National Pollution Discharge Elimination System
PBA	Programmatic Biological Agreement
PCA	Potential Conservation Area
RFP	Request for Proposal
ROD	Record of Decision
ROW	Right-of-Way
RTD	Regional Transportation District
SB	Senate Bill
T&E	Threatened and Endangered
UDFCD	Urban Drainage Flood Control District
USC	United States Code
USFWS	United States Fish and Wildlife Service