

ENVIRONMENTAL ASSESSMENT

US 50 West

Wills Blvd. to McCulloch Blvd. (Milepost 313 to Milepost 307)

Pueblo, Colorado

Project Number: STA 0503-088 Project Code: 20448

Lead Agencies

Federal Highway Administration



Colorado Department of Transportation
Region 2



COLORADO
Department of Transportation

May 2016

ENVIRONMENTAL ASSESSMENT SIGNATURES

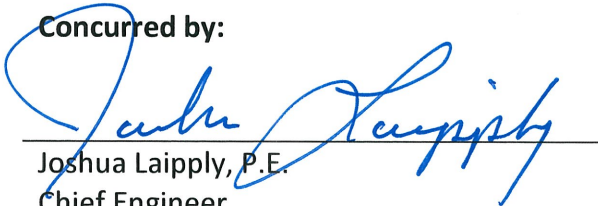
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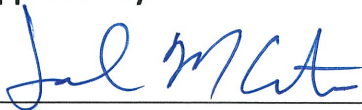
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PUBLIC COMMENT PERIOD

The public comment period for this document begins May 9, 2016, and ends June 7, 2016. Written comments on this document can be submitted through the project website at www.codot.gov/library/studies/us50ea or by mail or email to Laurel Phillips, Project Manager, as noted above.

A public meeting for this project will be held at the Pueblo West Library (298 S. Joe Martinez Blvd, Pueblo West, CO 81007) on May 31, 2016, from 5:00 PM to 7:00 PM.

TABLE OF CONTENTS

Introduction 1

What is the Purpose of the Project?..... 3

Where would the Project begin and end? (Logical Termini and Independent Utility)..... 4

What are the Needs for the Project?..... 5

What is the Proposed Action? 5

How does the Proposed Action fit into the PEL Recommended Preferred Alternative? 17

What will happen if the Proposed Action is not implemented? 17

How well do the No Action Alternative and the Proposed Action meet the Purpose and Need?..... 19

What are the impacts associated with the No Action Alternative and the Proposed Action? 22

What mitigation commitments will be made for the Proposed Action? 47

What additional clearances and permits are required for this project? 59

What outreach and opportunities for stakeholder participation were provided? 61

What additional opportunities for stakeholder participation will be provided? 61

Next Steps 62

References 62

LIST OF TABLES

Table 1. Existing and Future Traffic Congestion – No Action Alternative 18

Table 2. Purpose and Need Summary for the No Action Alternative and the Proposed Action..... 20

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action..... 22

Table 4. Summary of Impacts and Mitigation for the Proposed Action..... 47

LIST OF FIGURES

Figure 1. Proposed Action and PEL Study Corridor..... 2

Figure 2. Existing Cross Section Between Swallows Rd and Pueblo Blvd 3

Figure 3. Proposed Action..... 8

Figure 3a. Proposed Action – Map Sheet 1 9

Figure 3b. Proposed Action – Map Sheet 2 10

Figure 3c. Proposed Action – Map Sheet 3 11

Figure 3d. Proposed Action – Map Sheet 4 12

Figure 3e. Proposed Action – Map Sheet 5 13

Figure 3f. Proposed Action – Map Sheet 6 14

Figure 3g. Proposed Action – Map Sheet 7 15

Figure 4. Regional Pond 16

Figure 5. Typical Section of the Proposed Action between McCulloch Blvd and Purcell Blvd 17

LIST OF APPENDICES – PROVIDED ON CD AND ON CDOT WEBSITE (WWW.CODOT.GOV/LIBRARY/STUDIES/US50EA)

APPENDIX A – SUPPORTING TECHNICAL DOCUMENTS BY SUBJECT

- | | |
|--|---|
| A01 PROJECT DRAWINGS AND PLANS | A08 BIOLOGICAL RESOURCES REPORT |
| A02 US 50 WEST PLANNING AND ENVIRONMENTAL LINKAGES (PEL) STUDY | A09 HISTORIC AND ARCHAEOLOGY RESOURCES |
| A03 US 50 PEL IMPLEMENTATION PLAN | A10 PALEONTOLOGY |
| A04 AIR QUALITY | A11 ENVIRONMENTAL JUSTICE |
| A05 SOILS INVESTIGATION | A12 PARKS AND RECREATION |
| A06 WATER QUALITY AND FLOODPLAINS | A13 TRAFFIC NOISE AND VIBRATION IMPACT ASSESSMENT |
| A07 WETLANDS | A14 HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT |

APPENDIX B – AGENCY AND STAKEHOLDER COORDINATION

APPENDIX C – INTERCHANGE VISIBILITY

LIST OF ACRONYMS AND ABBREVIATIONS

Ave	Avenue	MS4	Municipal Separate Storm Sewer Systems
BFE	base flood elevation	MSAT	Mobile Source Air Toxics
Blvd	Boulevard	MUE	Multi-Use Easement
BMPs	best management practices	NAC	National Abatement Criteria
CBC	concrete box culvert	NEPA	National Environmental Policy Act
CDOT	Colorado Department of Transportation	PACOG	Pueblo Area Council of Governments
CDPHE	Colorado Department of Public Health and Environment	PEL	Planning and Environmental Linkages Study
CPW	Colorado Parks and Wildlife	PWMD	Pueblo West Metropolitan District
Dr	Drive	Rd	Road
EA	Environmental Assessment	ROW	right-of-way
EB	eastbound	sq. ft.	square feet
EDB	extended detention basin	SWMP	stormwater management plan
EPA	United States Environmental Protection Agency	US 50	United States Highway 50
FEMA	Federal Emergency Management Agency	USACE	United States Army Corps of Engineers
FHWA	Federal Highway Administration	USFWS	United States Fish and Wildlife Service
I-25	Interstate Highway 25	vph	vehicles per hour
LOS	Level of Service	WB	westbound
MBTA	Migratory Bird Treaty Act	WSE	water surface elevation
MMP	materials management plan		

INTRODUCTION

This environmental assessment (EA) is for safety and capacity improvements to US Highway 50 (US 50) between Wills Boulevard (Blvd) and McCulloch Blvd that the Colorado Department of Transportation (CDOT) is proposing, in consultation with Federal Highway Administration (FHWA), within the City of Pueblo, Pueblo County, and Pueblo West Metropolitan District (PWMD). This project is the third in a sequence of improvements that CDOT is making to US 50, under the framework of the *US 50 West Planning and Environmental Linkages (PEL) Study* (CDOT, 2012a). The US 50 West PEL established the purpose and need, evaluated a full range of alternatives, and developed the *US 50 West PEL Implementation Plan* (CDOT, 2012b) for the PEL recommended Preferred Alternative within a 12-mile corridor from Swallows Road to Baltimore Avenue. Safety and capacity improvements included in the PEL recommended Preferred Alternative generally consist of widening US 50 from four lanes to six lanes from McCulloch Blvd to Wills Blvd and establishing grade-separated interchanges at McCulloch Blvd, Purcell Blvd, and Pueblo Blvd. US 50 would remain a four-lane highway west of McCulloch Blvd.

At the completion of the PEL Study, funds were not available to construct the recommended improvements for the entire PEL Corridor, leading CDOT to implement a sequence of improvement projects in coordination with FHWA. The following summarizes the completed National Environmental Policy Act (NEPA) studies and recent improvements for US 50 that have led to this *US 50 West Wills Blvd to McCulloch Blvd EA*, as shown in **Figure 1**:

- The *US 50 West Purcell Blvd to Wills Blvd EA* (CDOT, 2014) provides widening 3.4 miles of eastbound US 50 from two lanes to three lanes from Purcell Blvd to Wills Blvd to establish five lanes (three eastbound and two westbound), as shown on **Figure 2**. Safety improvements include adding northbound right turns onto US 50 at McCulloch Blvd and Purcell Blvd and establishing two water quality ponds on the east and west sides of Wild Horse Dry Creek. In addition, widening the eastbound bridge at Wild Horse Dry Creek accommodates a future pedestrian/bicycle path. Construction of these improvements is scheduled for completion in 2016.
- The *US 50 West Wills Blvd to BNSF Acceleration Lane Categorical Exclusion* (CDOT, 2015), recently approved by CDOT, establishes a westbound acceleration lane on US 50 from Wills Blvd to the BNSF right-of-way (ROW), east of the BNSF bridge, shown on **Figure 1**. Construction of the acceleration lane is scheduled for 2016.
- CDOT and FHWA are currently undertaking the *US 50 West Wills Blvd to McCulloch Blvd EA* to provide additional safety and capacity improvements to US 50. Improvements include widening 3.4 miles of westbound US 50 between Wills Blvd and Purcell Blvd, from two lanes to three lanes; and widening 2.4 miles of westbound and eastbound US 50 between Purcell Blvd and McCulloch Blvd, from two lanes to three lanes in each direction. Grade-separated interchanges would be established within the US 50 ROW at Purcell Blvd and Pueblo Blvd. A future pedestrian/bicycle path would be accommodated between Wills Blvd and Pueblo Blvd. A regional water quality pond is proposed to treat US 50 runoff and PWMD municipal runoff.

The Proposed Action, in combination with the improvements under construction from Purcell Blvd to Wills Blvd, would establish six-lane capacity (three lanes in each direction) in the most congested portion of the PEL Corridor, between Wills Blvd and McCulloch Blvd.

Figure 1. Proposed Action and PEL Study Corridor

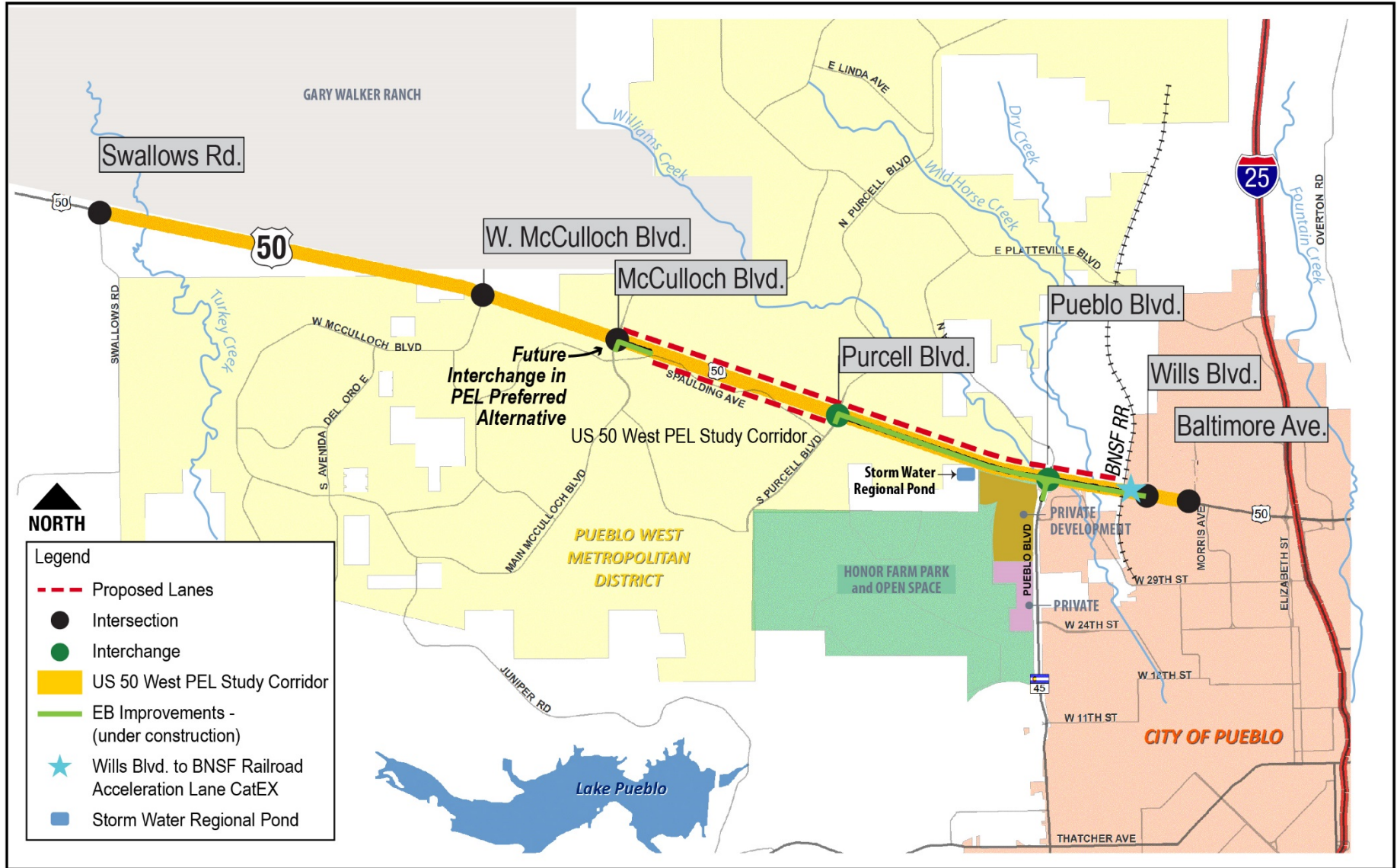
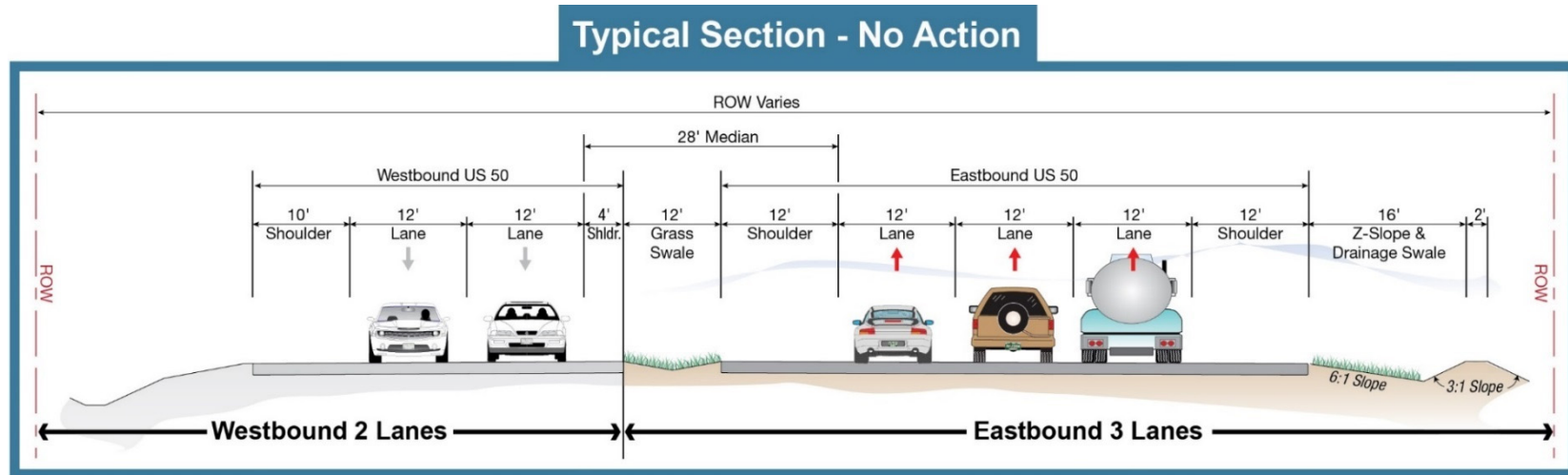


Figure 2. Existing Cross Section Between Swallows Rd and Pueblo Blvd



For this EA, the existing features of US 50, including the improvements approved through the *US 50 West Purcell Blvd to Wills Blvd EA* (CDOT, 2014) and the *US 50 West Wills Blvd to BNSF Acceleration Lane Categorical Exclusion*, represent the No Action Alternative. The No Action Alternative assumes that no other major capacity improvements would be made to US 50. The No Action Alternative also includes routine maintenance to keep the existing transportation network in good operating condition.

CDOT and FHWA prepared this EA to evaluate the Proposed Action benefits and environmental impacts, relevant to the No Action Alternative. This EA will also ensure that the Proposed Action would have logical termini and independent utility and would not restrict other reasonably foreseeable transportation improvements identified in the PEL recommended Preferred Alternative.

Future elements of the PEL recommended Preferred Alternative will undergo NEPA analysis as funding for design, ROW, and construction becomes available.

WHAT IS THE PURPOSE OF THE PROJECT?

The purpose of the Proposed Action is consistent with the US 50 West PEL purpose and need:

- Improve safety
- Increase mobility, such as reducing travel time, and relieve traffic congestion for a.m. and p.m. commuters traveling between PWMD and the City of Pueblo, and other regional destinations
- Improve level of service (LOS) to the connecting road network, when improving US 50

The PEL Study presents LOS at intersections as thresholds from A to F, based on the average delay of all vehicles using the intersection. LOS A is the best or the least congested grade, with minimal or no vehicle delay; while LOS F indicates failure because the demand for a road is more than its capacity. See Figure 1-4 on page 1-5 of **Appendix A02**, US 50 West PEL.

WHERE WOULD THE PROJECT BEGIN AND END? (LOGICAL TERMINI AND INDEPENDENT UTILITY)

CDOT is following the policies and procedures for implementing NEPA prescribed in 23 Code of Federal Regulations 771, including criteria for project development in Part 771.111(f), to ensure that the Proposed Action would:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Have independent utility or independent significance; that is, be usable and be a reasonable expenditure of funds even if no additional transportation improvements are made in the area; and
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The termini for the proposed capacity improvements from Wills Blvd to McCulloch Blvd are “logical” because they would allow construction of a complete project that would address safety, mobility, and congestion issues. This section of US 50 experiences the highest a.m. and p.m. peak hour traffic volumes in the PEL Corridor, which are projected to continue to 2035. In addition, the highest number of crashes occur at the Pueblo Blvd and Purcell Blvd intersections. The project area for the proposed capacity improvements is within the limits of the Williams Creek and Wild Horse Dry Creek watersheds, allowing comprehensive evaluation of environmental resources. As such, environmental resources associated with the watershed included water quality and Municipal Separate Storm Sewer Systems (MS4), floodplains and wetlands, and wildlife habitat. The project area also allows mitigation planning and permit requirements associated with the resource evaluations.

Even if CDOT never builds anything beyond a third westbound lane from Wills Blvd to McCulloch Blvd, and a third eastbound lane from McCulloch Blvd to Purcell Blvd for the next 20 years, both a.m. eastbound and p.m. westbound commuters on US 50 would still benefit. When combined with the eastbound third lane under construction from Purcell Blvd to Wills Blvd, these proposed capacity improvements would establish the six-lane component of the *US 50 West PEL Implementation Plan* (CDOT, 2012b) east of McCulloch Blvd, and would not restrict the reasonably foreseeable transportation improvements associated with the PEL recommended Preferred Alternative. The proposed grade-separated interchange improvements at Pueblo Blvd and Purcell Blvd would improve mobility and safety for both a.m. eastbound and p.m. westbound commuters from PWMD, even if no other intersection improvements identified within the *US 50 West PEL Implementation Plan* (CDOT, 2012b) are made.

WHAT ARE THE NEEDS FOR THE PROJECT?

The needs for improvements identified in the *US 50 West PEL* (2012a) are demonstrated by high accident rates concentrated around intersections; high levels of future vehicular demand; congested intersections; and a lack of pedestrian, bicycle, and transit connectivity. Consistent with the *US 50 West PEL* (2012a), the Proposed Action would address the following needs for improvements from Wills Blvd to McCulloch Blvd:

- **High accident rates concentrated around intersections** – The highest number of crashes on US 50 is concentrated at the Pueblo Blvd and Purcell Blvd intersections, which both exhibit a higher rate of crashes than similar intersections in Colorado. The US 50/Pueblo Blvd intersection, in particular, exhibits a rate of crashes more than double the expected rate based on similar intersections in the state. The main type of crash of concern in the project area is the rear-end crash, with a systematic increase on US 50 from west to east, indicating that crashes correspond to the buildup in congestion associated with eastbound a.m. commuter traffic volumes. The percentage of rear-end crashes at intersections in the project area ranges from 67 percent to 73 percent (CDOT, 2012b), which is considered disproportionate to the expected rate (45 percent) of rear-end crashes for a typical Urban 4-Lane Divided Signalized 4-leg intersection, based on statewide data collected by CDOT in Colorado. Crashes representing the remaining 32 percent include fixed objects, broadsides, sideswipes, overturning, approach turns, and animals.
- **High levels of future vehicular demand** – Some of the highest growth increases in the Pueblo Area Council of Governments (PACOG) region are anticipated along the PEL Corridor in north Pueblo and PWMD, where population is projected to grow nearly 10 percent by 2035. In addition, US 50 traffic volumes west of I-25 are anticipated to roughly double their current volumes by 2035. The highest increase in traffic volumes is projected in the section of US 50 from Purcell Blvd to Wills Blvd.
- **Congested intersections** – The *US 50 West PEL Implementation Plan* (2012b) identifies locations and elements of the PEL Corridor where LOS failure would occur, in two-year increments, starting at 2011. By 2035, commuter traffic volumes at the US 50 intersections of McCulloch Blvd, Purcell Blvd, and Pueblo Blvd would operate at LOS F during both a.m. and p.m. peak hour traffic without improvements.
- **Emergency vehicle delays** – The existing narrow shoulders on US 50 do not accommodate emergency vehicle movement, and emergency vehicles will experience worsening delays during peak travel periods as traffic increases over time.

WHAT IS THE PROPOSED ACTION?

The Proposed Action involves widening 3.4 miles of westbound US 50 from two lanes to three lanes, to include a third westbound lane from Wills Blvd (Milepost 313.15) to Purcell Blvd (Milepost 309.78), and widening 2.4 miles of both westbound and eastbound US 50 from two lanes to three lanes in both directions from Purcell Blvd (Milepost 309.78) to McCulloch Blvd (Milepost 307.34). Grade-separated interchanges would be established at Pueblo Blvd and at Purcell Blvd. The Proposed Action from Wills Blvd to McCulloch Blvd, in combination with the eastbound improvements under construction from Purcell Blvd to Wills Blvd, would establish a six lane facility, with three eastbound and three westbound lanes, for 5.8 miles of US 50, consistent with the *US 50 West PEL Implementation Plan* (CDOT, 2012b).

CDOT is proposing the following transportation improvements between Wills Blvd and McCulloch Blvd:

- **Wills Blvd Intersection to BNSF Railroad Bridge (Milepost 313.15 to Milepost 312.87)** – A third westbound lane will be established by restriping the Wills Blvd to BNSF acceleration lane (*US 50 West Wills Blvd. to BNSF Acceleration Lane Categorical Exclusion*; CDOT 2015), and extending the westbound lane through the BNSF railroad bridge underpass to Pueblo Blvd. The slope paving at the BNSF underpass will be modified to accommodate the additional westbound through lane. With the completion of the eastbound third lane in 2016, the Proposed Action would complete the improvements identified in the *US 50 West PEL Implementation Plan* (CDOT, 2012b) for the Wills Blvd intersection. US 50 at Wills Blvd would remain an at-grade signalized intersection, with three through eastbound and westbound lanes and dedicated left turn and right turn lanes in each direction.
- **BNSF Railroad Bridge through Pueblo Blvd Intersection (Milepost 312.87 to Milepost 312.65)** – The westbound lanes of US 50 in the vicinity of Pueblo Blvd would be realigned to be parallel to the eastbound lanes from Milepost 311.45 to Milepost 312.65, and the existing westbound bridge over Wild Horse Dry Creek would be replaced. A grade-separated interchange would be established, with Pueblo Blvd crossing over US 50. The Williams Creek concrete box culvert (CBC) under the eastbound US 50 lanes would be extended 160 ft. to accommodate the realigned westbound lanes, including the westbound third-lane widening. Pueblo Blvd would be widened to accommodate two additional left turn lanes onto westbound US 50 via a right-side exit ramp. The existing westbound US 50 lanes would be retained and modified to provide access from US 50 onto southbound Pueblo Blvd. The *US 50 West PEL Implementation Plan* (CDOT, 2012b) identifies the Proposed Action at US 50 at Pueblo Blvd to be implemented as phased improvements over time. The Proposed Action would implement a diamond-type interchange at Pueblo Blvd. The PEL recommends a Diverging Diamond Interchange configuration, which would be implemented at some time in the future when the Pueblo Blvd Extension is developed as an expressway between US 50 and I-25 (CDOT, 2012a).
- **Pueblo Blvd to Purcell Blvd Intersection (Milepost 312.65 to Milepost 309.78)** – The westbound third lane would extend from Pueblo Blvd to Purcell Blvd, and a full six-lane grade-separated interchange would be developed, with US 50 crossing over Purcell Blvd. The Proposed Action would maintain business access from Purcell Blvd at each quadrant of the interchange. A CBC under Purcell Blvd would be extended to accommodate a future pedestrian/bicycle trail, as well as future widening of Purcell Blvd. The Proposed Action would complete the US 50 improvements identified in the *US 50 West PEL Implementation Plan* (CDOT, 2012b) and accommodate future widening of Purcell Blvd. In addition, an eastbound acceleration lane will be added to the intersection improvements.

- **Purcell Blvd to McCulloch Blvd (Milepost 309.78 to Milepost 307.34)** – The Proposed Action would include a third westbound lane extending from Purcell Blvd and terminating at a right turn onto northbound McCulloch Blvd; and a third eastbound lane extending from the newly established northbound right turn from McCulloch Blvd and terminating at Purcell Blvd. The ultimate configuration for US 50 and McCulloch Blvd, although not part of this EA, is a grade-separated interchange as identified in the *US 50 West PEL Implementation Plan* (CDOT, 2012b).
- **Pedestrian/Bicycle Path** – The Proposed Action would accommodate a future pedestrian/bicycle path within CDOT ROW along the south side of US 50 from Wills Blvd to Pueblo Blvd, which is an element of the PEL recommended Preferred Alternative (CDOT, 2012a).

Figure 3 provides a map index of the Proposed Action, and **Figures 3a through Figure 3g** show the Proposed Action footprint and concept design features from Wills Blvd to McCulloch Blvd.

The Proposed Action would include water quality improvements and a regional pond. Stormwater runoff for the westbound lane widening and interchange improvements between Wills Blvd and Pueblo Blvd (Milepost 313.15 to Milepost 311.5) will be directed to the two extended detention basins (EDBs) under construction on the east and west sides of Wild Horse Dry Creek. Stormwater runoff for the westbound and eastbound lane widening between Pueblo Blvd and McCulloch Blvd (Milepost 311.5 to Milepost 307.34) will be directed to a proposed regional pond site west of Pueblo Blvd and south of US 50, as shown on **Figure 4**. The sections of US 50 to be constructed within the existing CDOT ROW will include grass-lined swales adjacent to the roadway and within PWMD multiple-use easements (MUE) adjacent to the ROW.

Figure 5 shows a typical section of the Proposed Action between McCulloch Blvd and Purcell Blvd with six lanes. This EA provides additional detail about the Proposed Action, with project drawings provided in **Appendix A01**. **Figure 3** includes US 50 mile markers, as well as horizontal control line stationing, that provide location references to the design drawings in **Appendix A01**.

Figure 3. Proposed Action

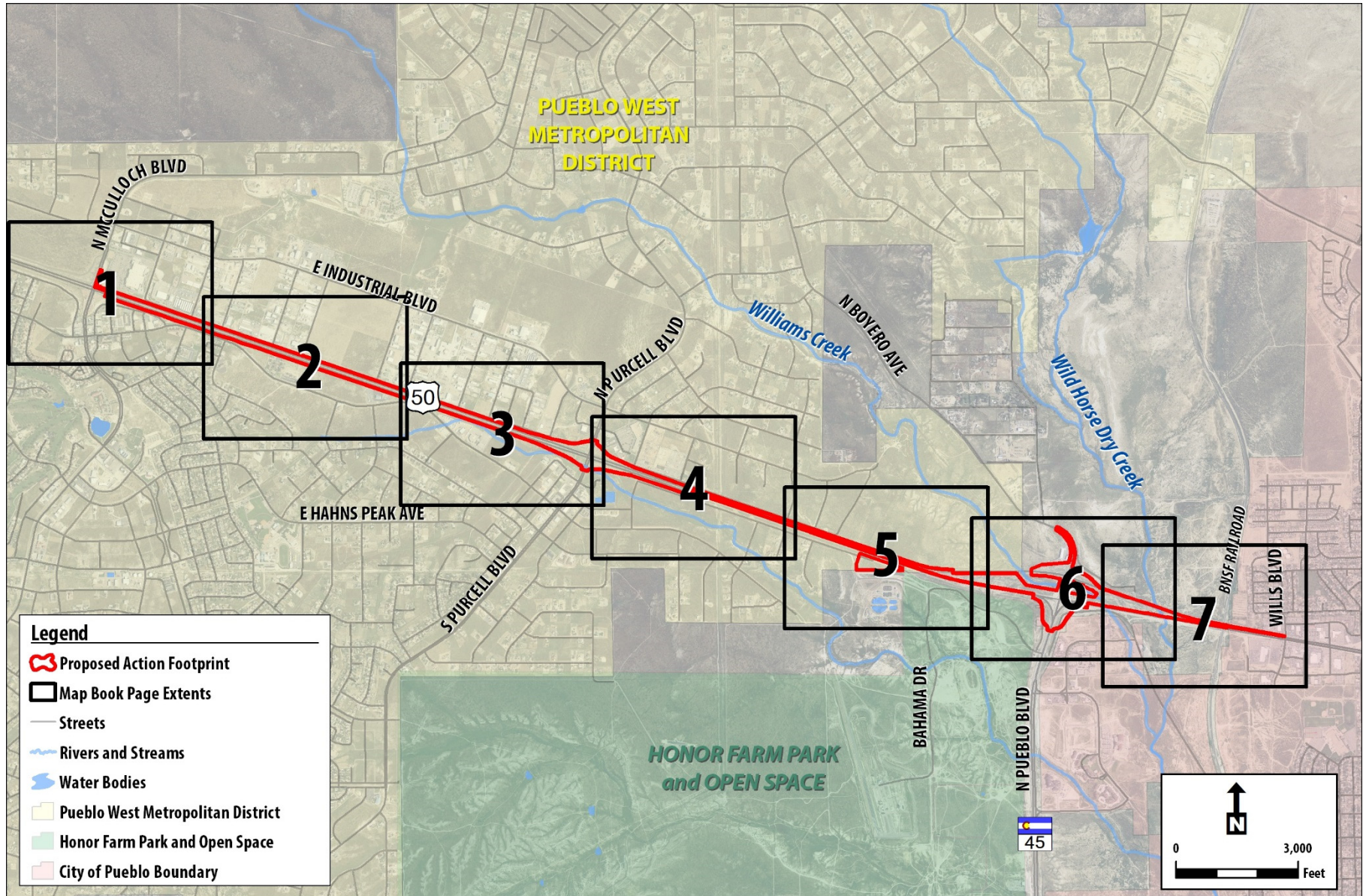


Figure 3a. Proposed Action – Map Sheet 1

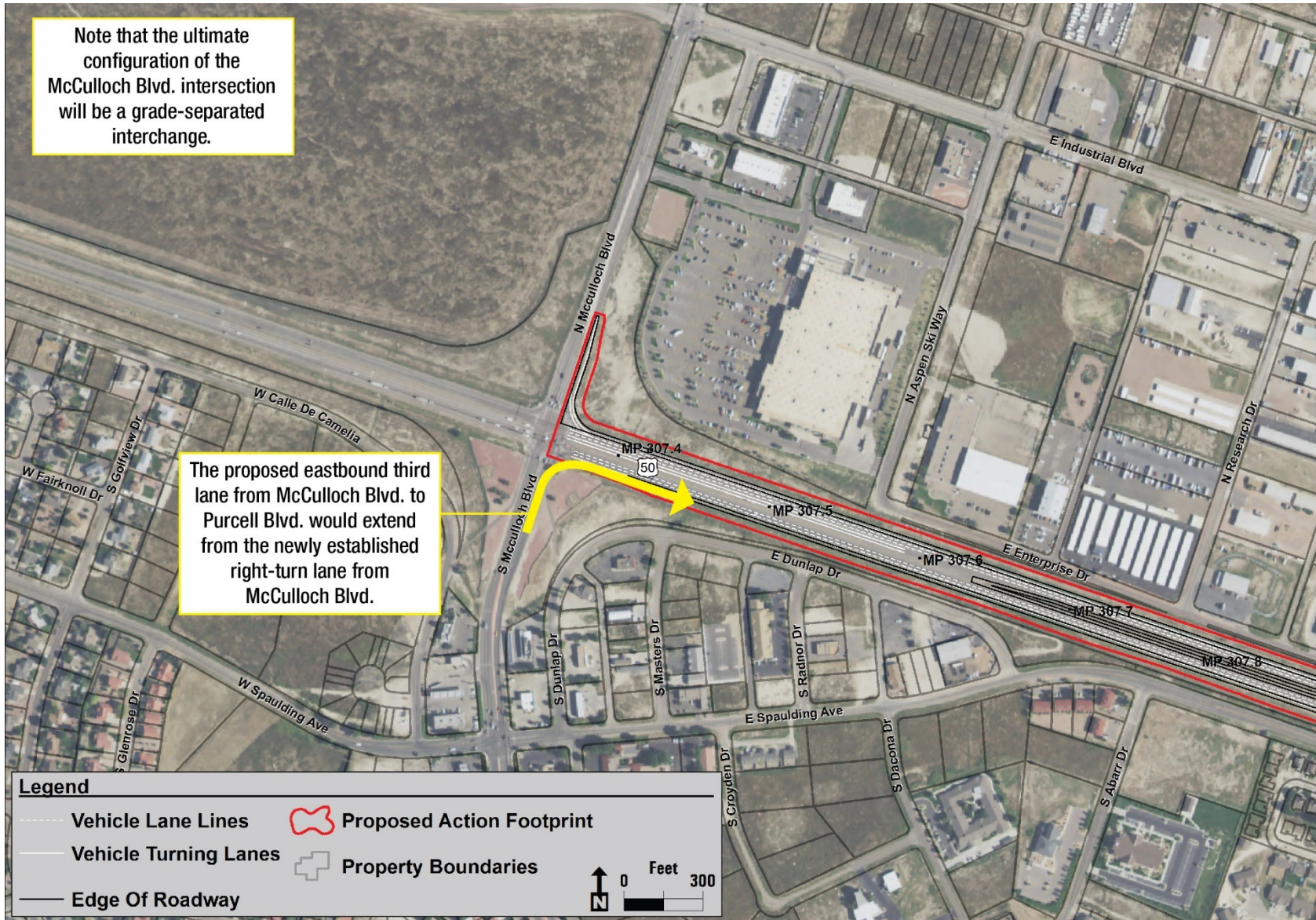


Figure 3b. Proposed Action – Map Sheet 2

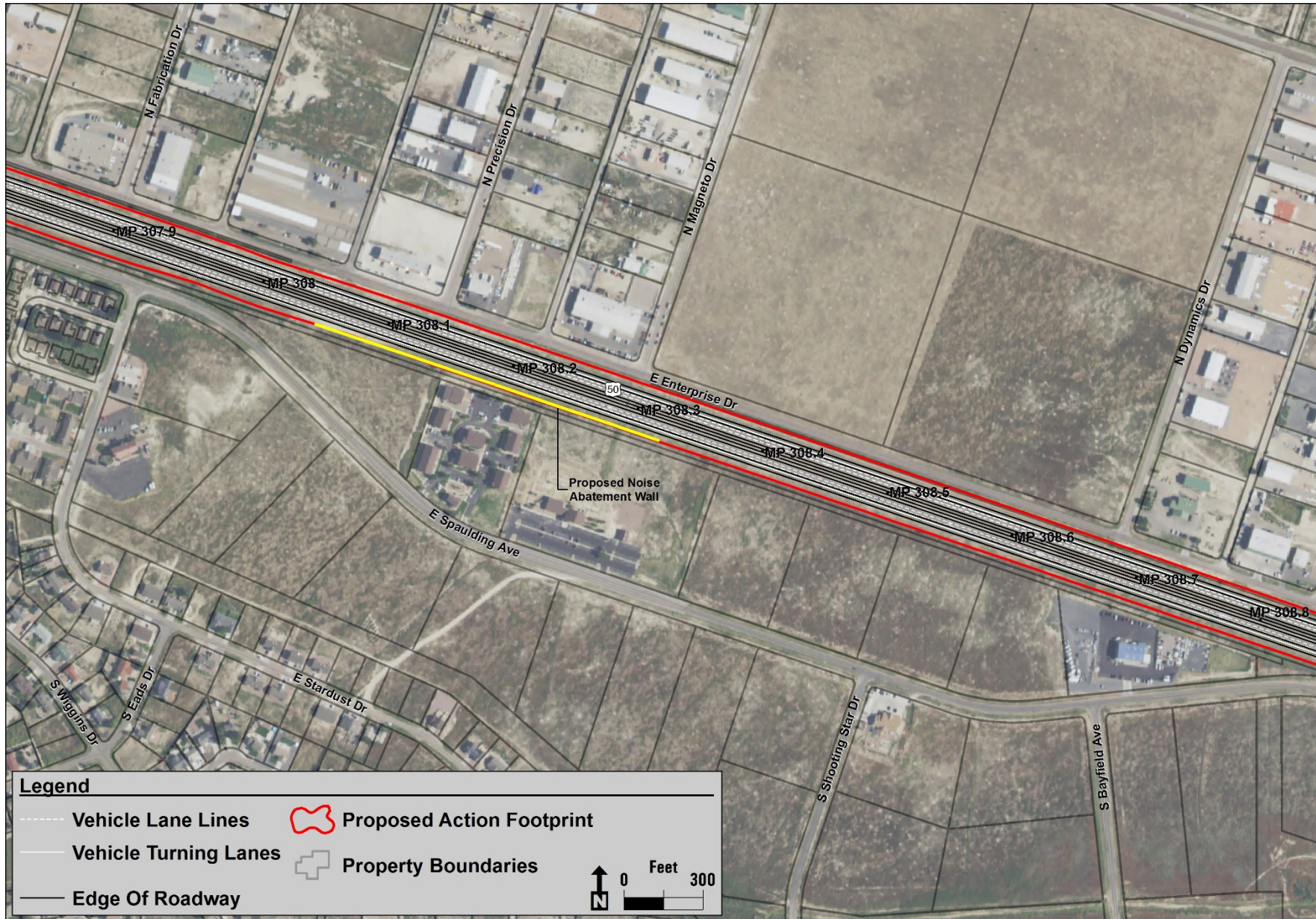


Figure 3c. Proposed Action – Map Sheet 3

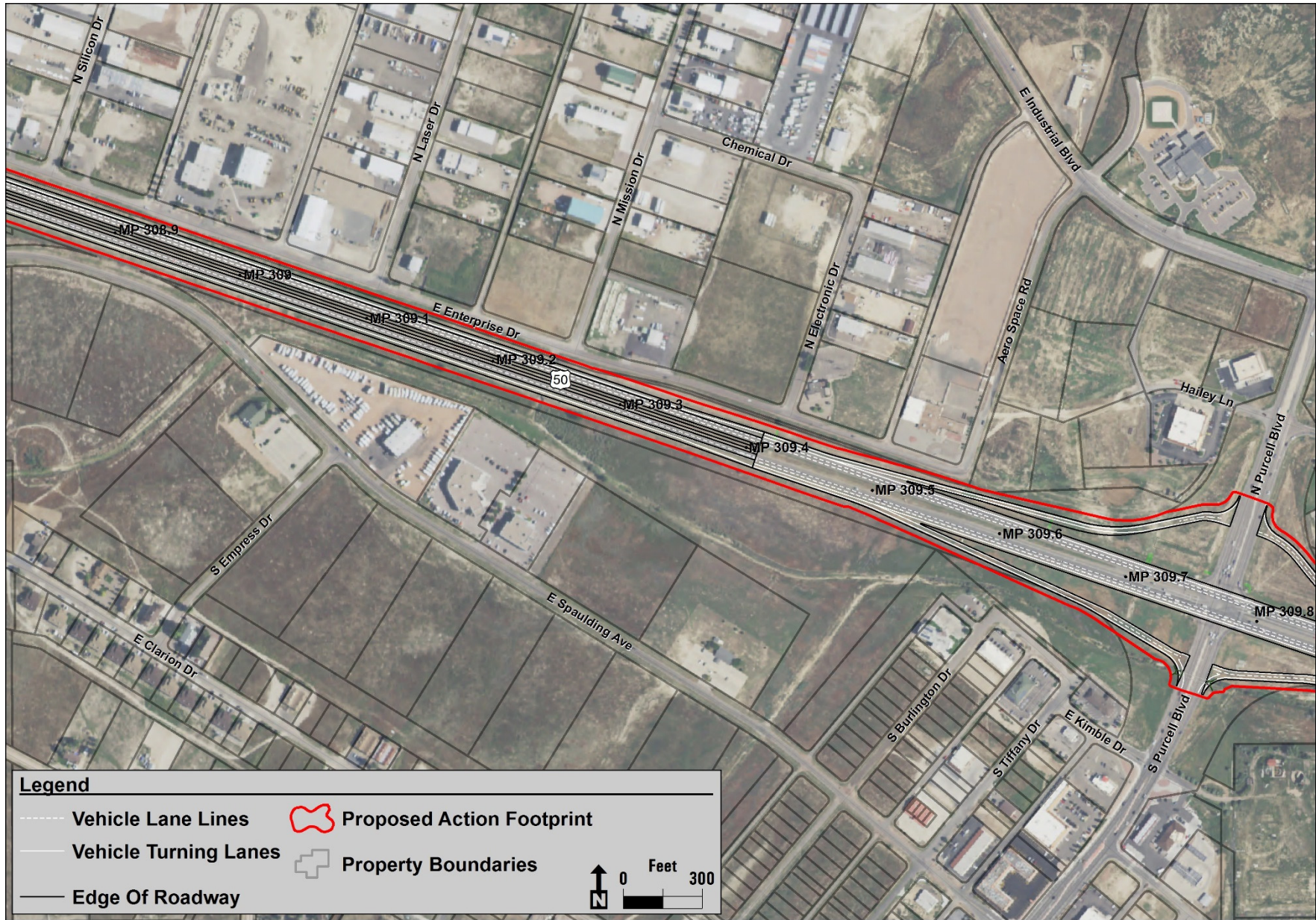


Figure 3d. Proposed Action – Map Sheet 4

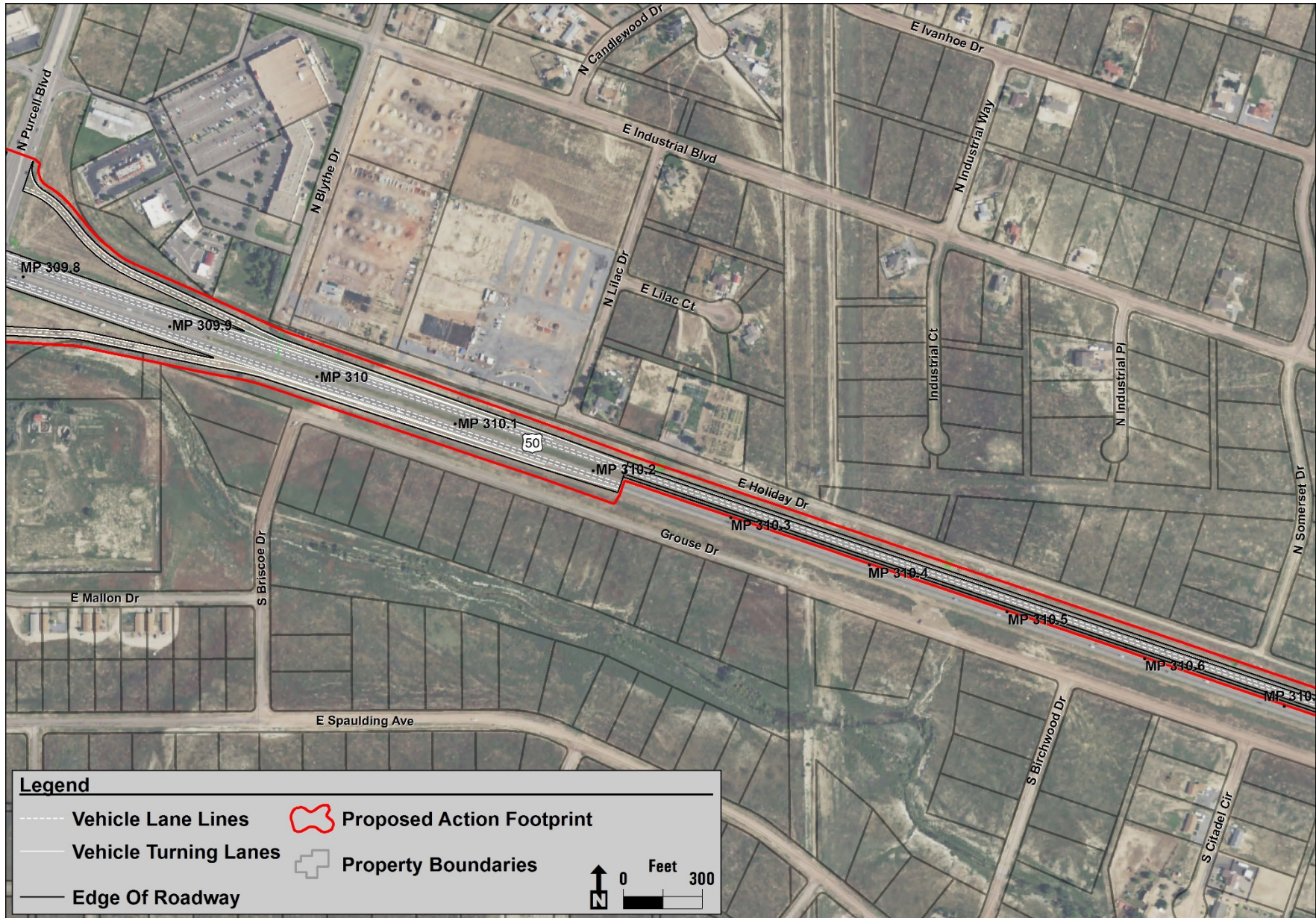


Figure 3e. Proposed Action – Map Sheet 5

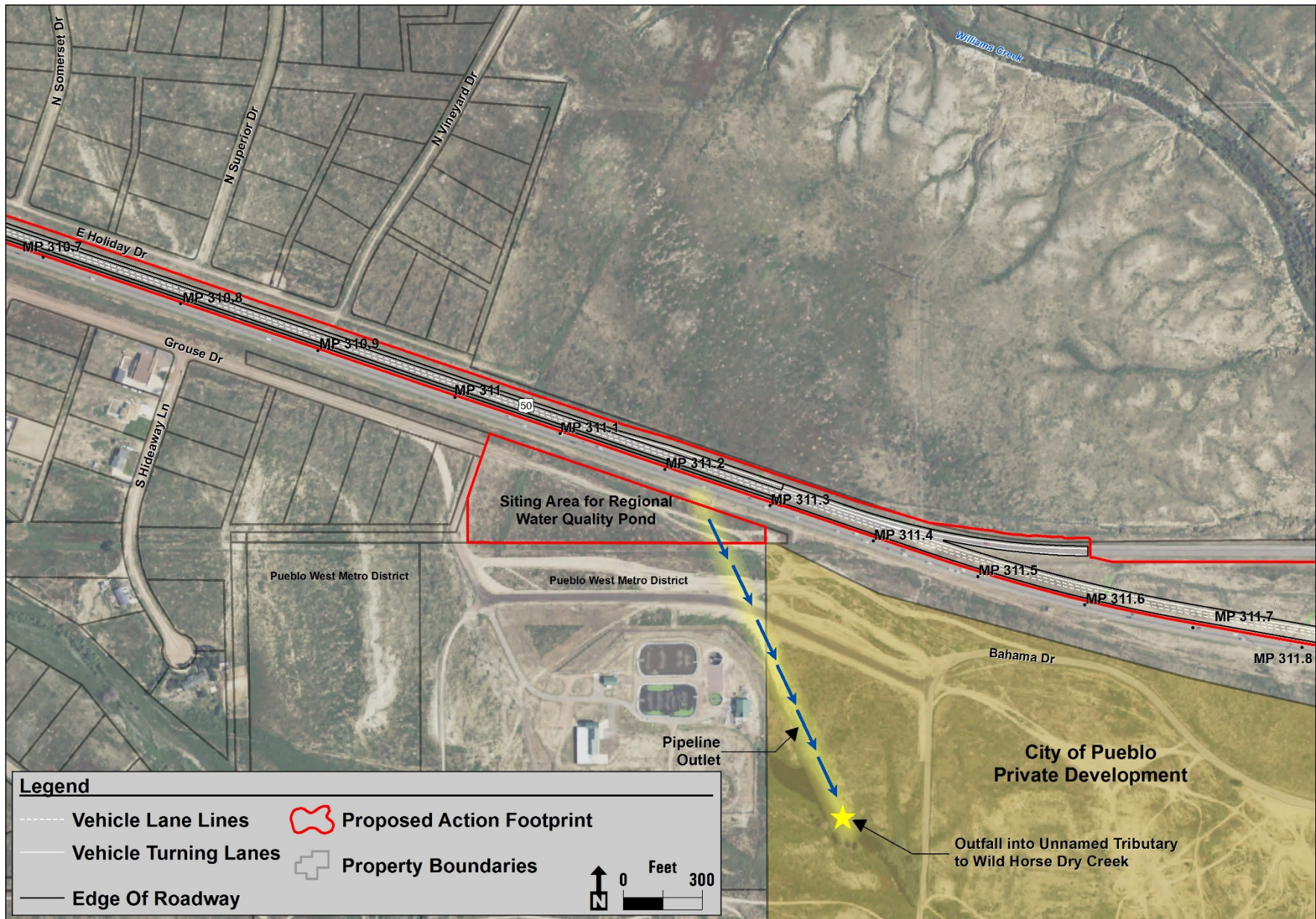


Figure 3f. Proposed Action – Map Sheet 6

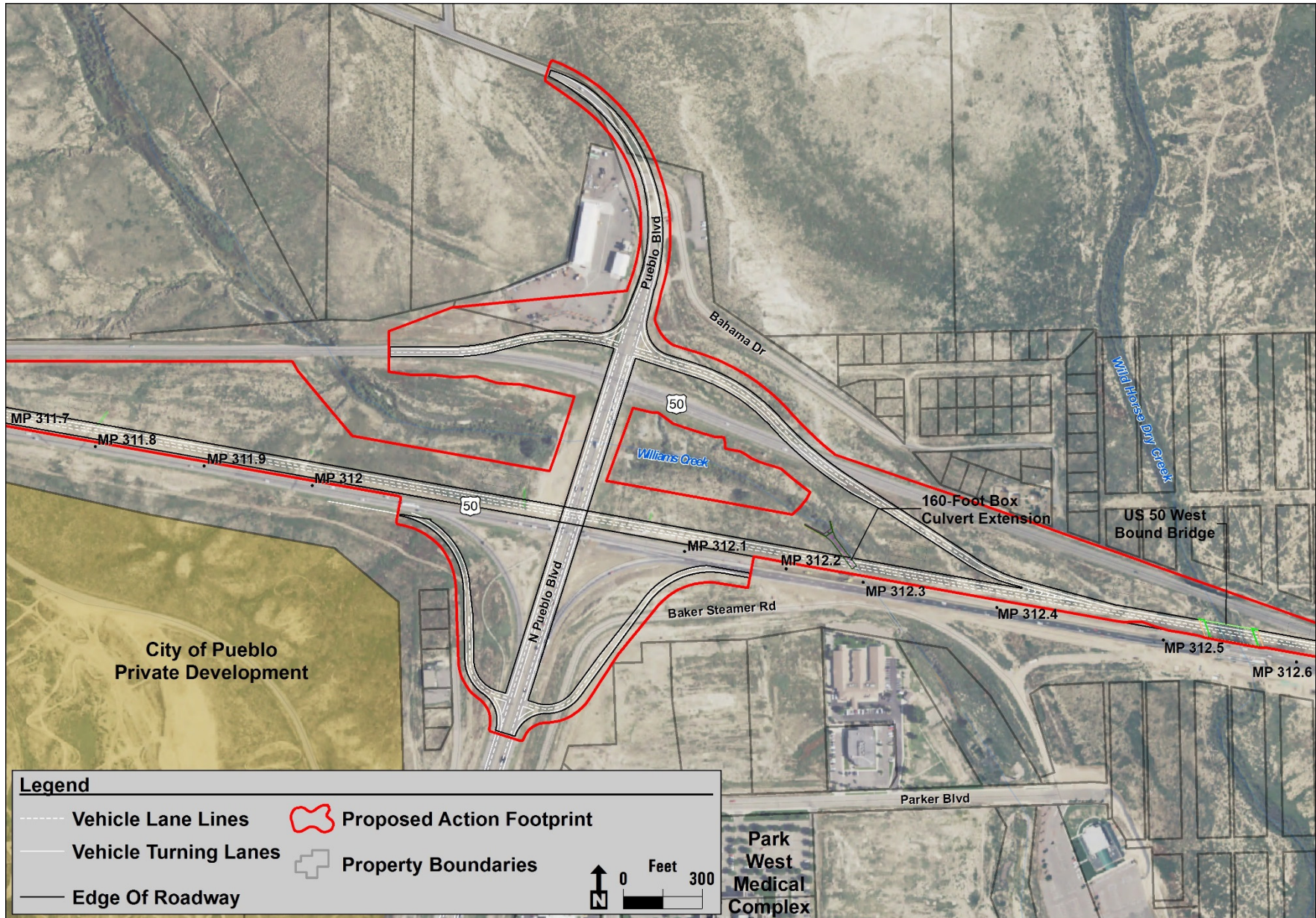


Figure 3g. Proposed Action – Map Sheet 7

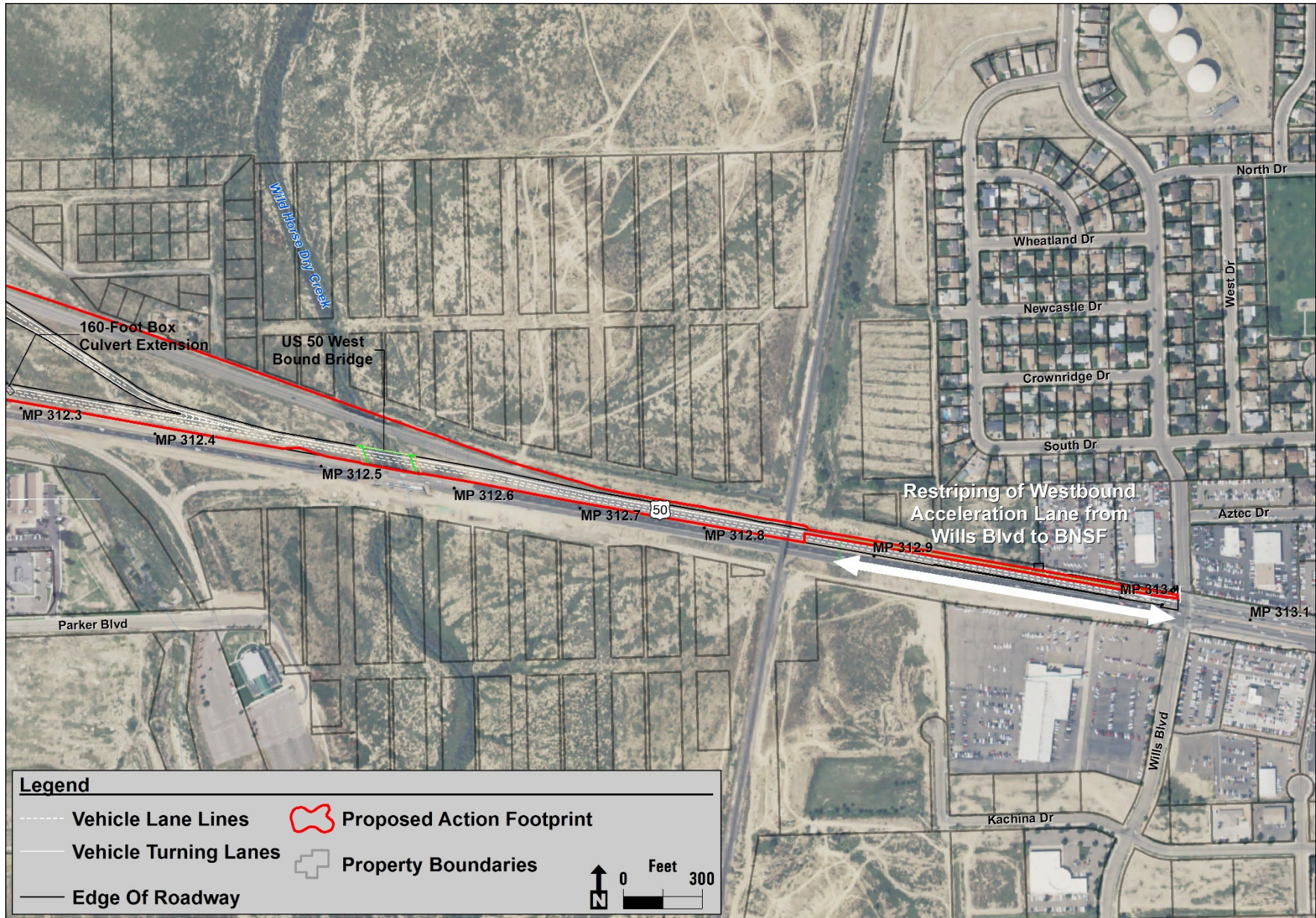


Figure 4. Regional Pond

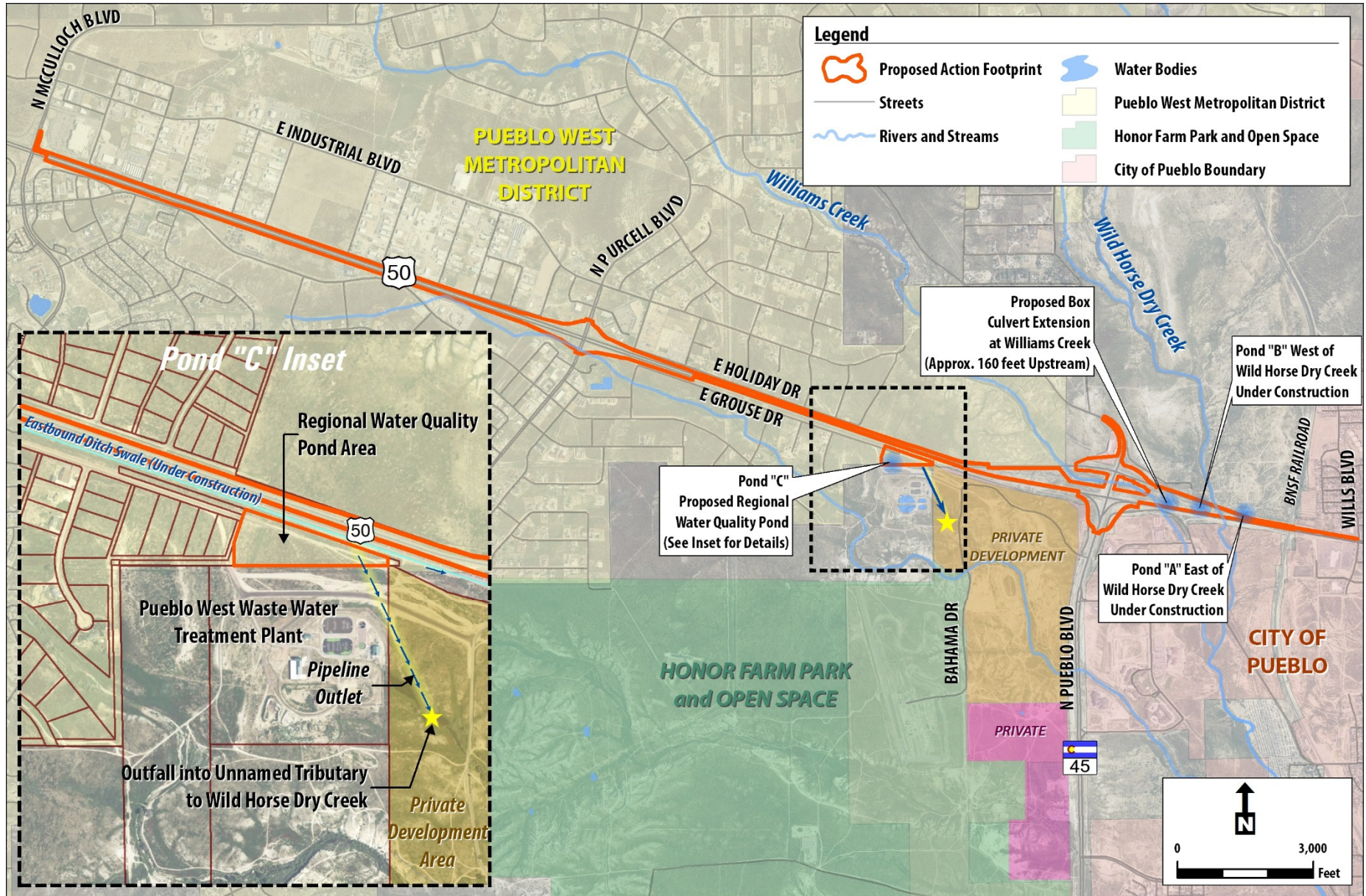
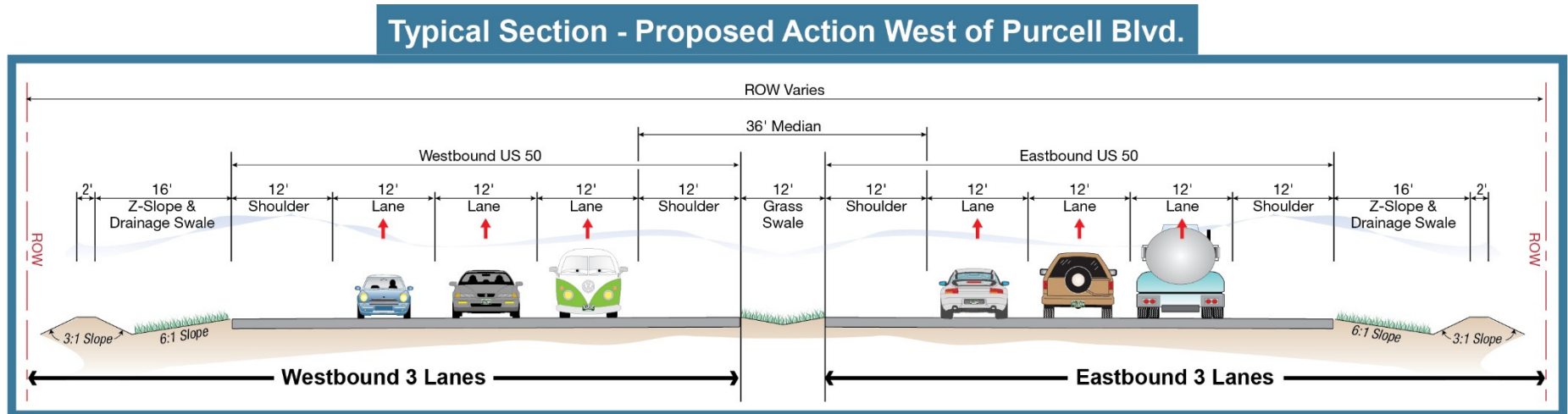


Figure 5. Typical Section of the Proposed Action between McCulloch Blvd and Purcell Blvd



HOW DOES THE PROPOSED ACTION FIT INTO THE PEL RECOMMENDED PREFERRED ALTERNATIVE?

CDOT divided the PEL recommended Preferred Alternative into elements and set priorities based on traffic projections within the *US 50 West PEL Implementation Plan* (CDOT, 2012b), because funds to implement the entire PEL recommended Preferred Alternative are not currently available.

The Proposed Action, to widen westbound US 50 from Wills Blvd to McCulloch Blvd and to widen eastbound US 50 from McCulloch Blvd to Purcell Blvd, fits into the *US 50 West PEL Implementation Plan* (CDOT, 2012b).

WHAT WILL HAPPEN IF THE PROPOSED ACTION IS NOT IMPLEMENTED?

If CDOT and FHWA do not select the Proposed Action for implementation, US 50 would operate with no capacity, safety, or mobility improvements for westbound commuters from Wills Blvd to McCulloch Blvd, as well as eastbound commuters from McCulloch Blvd to Purcell Blvd. The six-lane elements of the PEL recommended Preferred Alternative would not be implemented, resulting in increased traffic congestion over time that would negatively affect intersection and roadway safety and operating conditions. In addition, roadway runoff would continue without water quality protection or stream and wetland improvements except those currently under construction at Wild Horse Dry Creek.

The traffic measures data, including corridor travel time and delay and signalized intersection LOS, provided in **Table 1** show how US 50 would operate if the Proposed Action is not implemented. Table 1 represents the No Action Alternative, which includes the third eastbound lane from Purcell Blvd to Wills Blvd and the intersection improvements at McCulloch Blvd approved by the *US 50 West Purcell Blvd to Wills Blvd EA* (CDOT, 2014).

Table 1. Existing and Future Traffic Congestion – No Action Alternative

Traffic Measure	Existing (2015) Peak Hour		Future (2035) Peak Hour	
	a.m.	p.m.	a.m.	p.m.
Corridor Travel Time and Delay				
<i>US 50 WB Wills to McCulloch</i>				
Average Travel Time (per vehicle)	6.5 minutes	10 minutes	14.5 minutes	16 minutes
Average Delay (per vehicle)	1.25 minutes	4.5 minutes	9 minutes	10.5 minutes
<i>US 50 EB McCulloch to Wills</i>				
Average Travel Time (per vehicle)	7.5 minutes	7 minutes	15 minutes	15.5 minutes
Average Delay (per vehicle)	2.25 minutes	1.75 minutes	9.5 minutes	10 minutes
Total Peak Hour Delay (WB+EB all vehicles)	620 hours	840 hours	3,440 hours	5,660 hours
Signalized Intersection Level of Service¹				
US 50/Wills Blvd Intersection	LOS A	LOS B	LOS B	LOS F
US 50/Pueblo Blvd Intersection	LOS C	LOS E	LOS F	LOS F
US 50/Purcell Blvd Intersection	LOS E	LOS C	LOS F	LOS F
US 50/McCulloch Blvd Intersection	LOS C	LOS C	LOS E	LOS F
¹ Level of Service (LOS) at intersections is based on the average delay of all vehicles using the intersection. LOS A is the best or the least congested grade, with minimal or no vehicle delay; while LOS F indicates failure because the demand for a road is more than its capacity. LOS B indicates slight delay to vehicles, LOS C indicates moderate vehicle delays with stable traffic flow, LOS D indicates more extensive delays, and LOS E indicates long traffic queues creating lengthy delays.				

The following summarizes key 2035 traffic impacts that will result from the No Action Alternative, with 2035 travel demand forecasts identified in the *US 50 West PEL* (CDOT, 2012a) and supplemental analysis to include the eastbound third lane from Purcell Blvd to Wills Blvd:

- The McCulloch Blvd intersection will operate at LOS F levels of congestion during the a.m. eastbound and p.m. westbound peak hour by 2035, as a result of the following commuter traffic patterns:
 - Eastbound traffic congestion on US 50 at McCulloch Blvd will result from the convergence of through traffic in the western portions of PWMD (1,400 vehicles per hour [vph]), with morning commuters leaving PWMD from the McCulloch Blvd intersection (about 1,300 vph) during the a.m. peak hour.

- The evening westbound p.m. peak hour through traffic volumes at McCulloch Blvd will be similar to the eastbound a.m. volumes, with nearly 1,400 vph.
- The Purcell Blvd intersection will operate at LOS F levels of congestion during the a.m. eastbound and p.m. westbound peak hour periods by 2035, as a result of the following commuter traffic patterns:
 - By the time commuters traveling eastbound from PWMD on US 50 reach Purcell Blvd during the a.m. peak hour, they are traveling in congested (LOS F) traffic volumes of more than 2,400 vph.
 - The evening westbound p.m. peak hour through traffic volumes at Purcell Blvd will be similar to the congested (LOS F) eastbound a.m. volumes, with over 2,100 vph.
- The Pueblo Blvd intersection will operate at LOS F levels of congestion during the a.m. eastbound and p.m. westbound peak hour periods by 2035, as a result of the following commuter traffic patterns:
 - By 2035, eastbound commuters would be traveling in congested traffic (LOS F) at the Pueblo Blvd intersection, with more than 3,000 vph on through lanes.
 - The evening westbound p.m. peak hour through traffic volumes at Pueblo Blvd will be similar to the congested (LOS F) eastbound a.m. volumes, with over 3,000 vph.
- At Wills Blvd during the p.m. peak hour westbound commute, congested traffic (LOS F) will result from over 3,000 vph traveling through the intersection.

Under the No Action Alternative, CDOT would continue to perform routine maintenance to keep the existing transportation network in good operating condition. **Figure 2** shows a typical section of the No Action Alternative. For more information, refer to **Appendix A02, US 50 West PEL (2012a)**.

HOW WELL DO THE NO ACTION ALTERNATIVE AND THE PROPOSED ACTION MEET THE PURPOSE AND NEED?

Table 2 summarizes the purpose and need for the No Action Alternative and the Proposed Action, including traffic measures relative to the roadway capacity/mobility needs for the Corridor; expected safety improvements; and the status of pedestrian and bicycle facility improvements.

Table 2. Purpose and Need Summary for the No Action Alternative and the Proposed Action

Project Needs	No Action Alternative		Proposed Action		
Roadway Capacity/Mobility	Does not have adequate capacity to accommodate a.m. and p.m. peak travel demand in the most congested portion of the PEL Corridor. The third EB lane from Purcell to Wills, currently under construction, will improve congestion and mobility for EB travelers.		Provides added capacity to accommodate p.m. peak travel demand between Wills and McCulloch with the third WB lane and to accommodate a.m. peak hour travel demand between McCulloch and Purcell with the added third EB lane.		
	Traffic Measures	a.m.	p.m.	a.m.	p.m.
Corridor Travel Time & Delay					
US 50 WB Wills to McCulloch					
Average Travel Time (per vehicle)	14.5 minutes	16 minutes	6.25 minutes	13 minutes	
Average Delay (per vehicle)	9 minutes	10.5 minutes	1 minute	7.5 minutes	
US 50 EB McCulloch to Wills					
Average Travel Time (per vehicle)	15 minutes	15.5 minutes	9.75 minutes	9 minutes	
Average Delay (per vehicle)	9.5 minutes	10 minutes	4.5 minutes	3.75 minutes	
Total Peak Hour Delay (WB + EB all vehicles)	3,340 hours	5,660 hours	2,503 hours	2,601 hours	
Signalized Intersection LOS (with Average Delay seconds)¹					
US 50/Wills Blvd Intersection	LOS B (12 sec)	LOS F (94 sec)	LOS B (13 sec)	LOS F (80 sec)	
US 50/Pueblo Blvd Intersection	North LOS F (133 sec) South LOS F (127 sec)	North LOS F (441 sec) South LOS F (87 sec)	North LOS B (16 sec) South LOS A (7 sec)	North LOS D (37 sec) South LOS A (6 sec)	
US 50/Purcell Blvd Intersection	Main LOS F (144 sec)	Main LOS F (198 sec)	North LOS B (20 sec) South LOS B (14 sec)	North LOS B (15 sec) South LOS B (13 sec)	
US 50/McCulloch Blvd Intersection	LOS E (74 sec)	LOS F (113 sec)	LOS E (80 sec)	LOS F (134 sec)	
¹ LOS is shown for north and south intersections of the diamond or grade-separated interchanges. (Travel demand analyzed corresponds to US 50 improvements only; that is, the improvements do not include off-system improvements included in the PEL, such as Pueblo Blvd Extension and West Pueblo Connector.)					

Table 2. Purpose and Need Summary for the No Action Alternative and the Proposed Action (Continued)

Project Needs	No Action Alternative	Proposed Action
<p>Roadway Capacity/Mobility (Continued)</p>	<p>Future (2035) peak-hour traffic would result in poor intersection operating conditions (LOS F) during a.m. and p.m. peak hour traffic periods.</p>	<p>Reduces Corridor travel time and delay for a.m. and p.m. peak hour travel on US 50 between Wills and McCulloch. Also reduces the total peak hour delay for a.m. and p.m. peak hour traffic. The greatest improvement in Corridor travel time and delay would be for a.m. peak hour travel demand.</p> <p>Improves future (2035) intersection operating conditions to LOS B at Purcell Blvd, and LOS B to D at Pueblo Blvd, during a.m. and p.m. peak hour traffic. Wills Blvd would remain congested (LOS F) during the p.m. peak hour traffic, and McCulloch Blvd would remain congested (LOS F) during both a.m. and p.m. peak hour traffic.</p> <p>The LOS at Wills Blvd would improve with the implementation of the future extension of Pueblo Blvd to I-25, and the LOS at McCulloch Blvd would improve with a grade-separated interchange, both of which are included in the PEL Implementation Plan (see Appendix A03).</p>
<p>Safety</p>	<p>The peak period for eastbound-related crashes occurs during the a.m. peak hour, and the peak period for westbound-related crashes occurs during the p.m. peak hour. The number of westbound-related crashes is about double the number of eastbound-related crashes during the peak periods. An increase in the rate of rear-end crashes may result from the increasing traffic volumes.</p> <p>Right-turn lane intersection improvements partially address safety conditions for eastbound travelers at McCulloch Blvd, Purcell Blvd, and Pueblo Blvd. The third eastbound lane from Purcell Blvd to Pueblo Blvd will also reduce crashes, particularly at Pueblo Blvd, where the highest frequency of crashes occurs in the PEL Corridor.</p>	<p>Improves safety conditions at intersections. Crashes would be expected to decline at McCulloch Blvd and Wills Blvd, and more so at Purcell Blvd and Pueblo Blvd, because of the increased capacity with lane widening and mobility improvements at each intersection. The grade-separation interchanges at Purcell Blvd and Pueblo Blvd would reduce the high incidence of rear-end and sideswipe crashes by improving mobility and reducing congestion at the intersections.</p> <p>Recent Transportation Research Board studies (2012, 2013) report on the relationships of congestion and crash rates and on the positive effects on safety through reduced congestion through design treatments, such as the addition of lanes.</p>
<p>Pedestrian and Bicycle Facilities</p>	<p>Does not accommodate future pedestrian and bicycle connectivity. No separate pedestrian or bicycle facilities exist along US 50 west of Wills Blvd. Although US 50 is a designated bicycle route in PACOG plans, there are no clearly marked bicycle lanes in either direction of US 50.</p>	<p>Would accommodate a future pedestrian/bicycle path between Wills Blvd and Pueblo Blvd</p>

WHAT ARE THE IMPACTS ASSOCIATED WITH THE NO ACTION ALTERNATIVE AND THE PROPOSED ACTION?

CDOT has evaluated the No Action Alternative and the Proposed Action for impacts to various resources present within the US 50 West project area. **Table 3** summarizes impacts to these resources for the No Action Alternative and for the Proposed Action. The Proposed Action includes areas of both permanent impacts from the completed project and temporary construction impacts. The Mitigation Tracking Number corresponds to the mitigation measures identified in **Table 4** that will be implemented to lessen the impacts of the Proposed Action. Technical documentation in **Appendix A** provides more detailed information of the impacts (the specific supporting technical document and appendix location are noted in parentheses below each resource in **Table 3**). Farmlands are not present within the Proposed Action footprint, and energy was researched in the *US 50 West PEL (2012a)* and found not relevant to alternative analysis; therefore, they are not discussed here. For more information on farmlands and energy, refer to **Appendix A02**.

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Transportation Resources (CDOT, 2016a – Appendix A01) (CDOT, 2012a – Appendix A02) (CDOT, 2012b – Appendix A03)</p>	<p>Transportation resources associated with the Proposed Action include US 50 from Wills Blvd to McCulloch Blvd.</p> <p>The section titled “What will happen if the Proposed Action is not implemented?” summarizes existing and future LOS and crashes, as well as provides an additional analysis of traffic operations performance measures, including travel delay and backup (queuing).</p> <p>From a local community context, the cross streets at the US 50 Pueblo Blvd, Purcell Blvd, Pueblo Blvd, and Wills Blvd intersections are congested, which causes delays for vehicles accessing or crossing US 50.</p> <p>For additional transportation information, refer to the <i>US 50 West PEL (Appendix A02)</i>.</p>	<p>Results in continued congestion, which is expected to worsen to LOS F by 2035. The third eastbound (EB) lane, currently under construction from Purcell Blvd to Wills Blvd, and the intersection improvements at Purcell Blvd and McCulloch Blvd would improve travel time and safety for EB travelers.</p> <p>The pattern of crashes in the project area would continue, particularly for westbound (WB) US 50 travelers, and worsen as congestion increases.</p>	<p>Permanent Impacts</p> <p>Would partially address the most critical congestion in the PEL Corridor described in Table 2 and detailed in Appendix 03:</p> <ul style="list-style-type: none"> For future 2035 traffic, the Wills Blvd intersection would operate at LOS B during the a.m. peak hour; however, the p.m. peak hour congestion would be LOS F for WB commuter traffic. The planned extension of Pueblo Blvd and I-25 would reduce WB traffic congestion on US 50 at Wills Blvd, by providing commuters with an alternative route from I-25 to Pueblo and Pueblo West. The Pueblo Blvd intersection would operate at LOS B/A for a.m. peak hour traffic and LOS D/A for p.m. peak hour traffic. 	<p>1</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Transportation Resources (Continued) (CDOT, 2016a – Appendix A01) (CDOT, 2012a – Appendix A02) (CDOT, 2012b – Appendix A03)</p>			<ul style="list-style-type: none"> • The Purcell Blvd intersection would operate at LOS B for both a.m. and p.m. peak hour traffic. • McCulloch Blvd intersection would operate at LOS E for a.m. peak hour traffic and LOS F for p.m. peak hour traffic. The grade-separated interchange planned for McCulloch Blvd would improve traffic operations to an acceptable LOS. • Proposed intersection improvements would reduce cross street congestion, particularly at Pueblo Blvd and Purcell Blvd. <p>Temporary Impacts For the most part, existing US 50 lanes would stay open to traffic during construction of the third WB and EB lanes, the US 50 realignment and bridge replacement through the Pueblo Blvd intersection, and construction of the Pueblo Blvd and Purcell Blvd grade separations. The existing WB bridge would remain open during the construction of the new bridge over Wild Horse Dry Creek. Intermittent lane closures would be allowed during non-peak traffic hours to accommodate construction.</p>	

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Air Quality (CDOT, 2016b – Appendix A04)</p>	<p>Pueblo County generally has good air quality and is an attainment area for all air quality priority pollutants identified and monitored by the United States Environmental Protection Agency (EPA).</p> <p>Air quality from vehicles degrades under congested, stop-and-go traffic conditions when compared with free-flowing traffic conditions.</p>	<p>Would not cause exceedances of regulatory thresholds for any criteria pollutants, nor would it result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in mobile source air toxics (MSATs).</p>	<p><u>Permanent Impacts</u></p> <p>Adding the third WB lane from Wills Blvd to McCulloch Blvd and the third EB lane from McCulloch Blvd to Purcell Blvd would reduce WB and EB peak hour congestion and air pollution from US 50 traffic.</p> <p>Would not cause exceedances of regulatory thresholds for any criteria pollutants, nor would it result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in MSATs.</p> <p><u>Temporary Impacts</u></p> <p>Construction activities would generate diesel emissions from construction equipment and fugitive dust from ground disturbing activities. These would be temporary, lasting only during the construction period.</p> <p>Fugitive dust would result from ground disturbance to approximately 118 acres due to the construction of the Proposed Action, of which 39.6 acres would be paved and 78.4 acres would be temporarily disturbed and revegetated.</p>	<p>2</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Geologic Resources, Including Soils and Groundwater (CDOT, 2016c – Appendix A05)</p>	<p>Surficial soils and sedimentary bedrock underlay US 50 from Wills Blvd to McCulloch Blvd. The surficial soil cover is relatively thin, typically less than 20 feet, over bedrock. Soils are silty clay, with limestone fragments and gravel. The erosion hazard is generally moderate in these soils. Erosion was observed primarily in the Williams Creek and Wild Horse Dry Creek drainage channels during field surveys conducted in summer 2013.</p> <p>Bedrock includes the Pierre Shale Formation (shale and sandstone) and the Niobrara Formation (chalky shale and fossiliferous limestone). Bentonite lenses within the bedrock have the potential for swelling. A high groundwater occurs at Williams Creek, Wild Horse Dry Creek, and the drainage at Purcell Blvd, where groundwater elevations are consistent with surface water elevations. Groundwater is perched above the shale bedrock in these locations.</p>	<p>Other improvements currently being constructed will provide stream restoration and erosion control at Wild Horse Dry Creek.</p> <p>Would not affect the geologic resources.</p>	<p><u>Permanent Impacts</u></p> <p>Would use conventional methods in constructing the WB and EB third lanes, mostly in previously graded soils. The road edge would typically be on fill. A continuous drainage swale paralleling the EB lane would have a 3:1 back slope that would meet or blend into existing contours within the US 50 ROW. The shale and sandstone bedrock would provide suitable bearing material to support the expected WB bridge loading. The relatively flat terrain would limit erosion along US 50 roadway shoulders. Erosion may occur within the Wild Horse Creek channels as a result of the WB bridge, and within the Williams Creek channel as a result of the WB lane realignment and CBC extension.</p> <p><u>Temporary Impacts</u></p> <p>Construction of the WB bridge footings would avoid the Wild Horse Dry Creek channel and would likely encounter shallow groundwater during construction. The overall Proposed Action footprint would disturb approximately 118 acres during construction. The relatively flat terrain would limit erosion to the construction zone, especially following clearing of vegetation for construction activities.</p>	<p>3, 4, 5</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Water Quality (CDOT, 2016d – Appendix A06)</p>	<p>Receiving water bodies include Williams Creek and Wild Horse Dry Creek. Williams Creek flows into Wild Horse Dry Creek about 1-mile south of US 50, and Wild Horse Dry Creek flows into the Arkansas River 4 miles to the south. There is currently no water quality treatment for US 50 roadway stormwater runoff in the project area.</p> <p>Wild Horse Dry Creek is included in the Colorado Department of Public Health and Environment (CDPHE) 303(d) list for impaired waters. The entire creek has a 303(d) high priority listing for <i>E. coli</i> and a low priority for selenium (Se).</p> <p>Williams Creek is not included on the CDPHE 303 (d) list for impaired waters.</p>	<p>Other improvements currently being constructed will provide water quality treatment for runoff from EB US 50 from Purcell Blvd to Wills Blvd, including two water quality ponds at Wild Horse Dry Creek.</p> <p>Would result in no other water quality treatment for US 50 roadway stormwater runoff within the project area.</p>	<p>Permanent Impacts</p> <p>Would result in approximately 39.6 additional acres of impervious area from lane widening and the grade-separated interchanges at Pueblo and Purcell Blvd. An increase in impervious surfaces would alter the volume, velocity, and quality (type and quantity of chemicals and other pollutants, such as sediment) of stormwater runoff from US 50 into Williams Creek and Wild Horse Dry Creek and a tributary to Williams Creek.</p> <p>Temporary Impacts</p> <p>During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the WB lane, WB bridge, roadside drainage swale, and water quality features.</p>	<p>4, 5</p>
<p>Floodplains (CDOT, 2016d – Appendix A06)</p>	<p>US 50 crosses Federal Emergency Management Agency (FEMA) regulated floodplains at Wild Horse Dry Creek and at Williams Creek. No floodway has been delineated for either floodplain.</p> <p>Wild Horse Dry Creek is designated a Zone AE floodplain, and Williams Creek is designated a Zone A floodplain. This means a detailed study has been performed, and the base flood elevation (BFE) has been established only for the Zone AE floodplain.</p>	<p>Would not change the FEMA floodplain at Wild Horse Dry Creek.</p>	<p>Permanent Impacts</p> <p>Realigning the US 50 WB lanes, constructing the new WB bridge, and removing the existing WB bridge would result in impacts to the Wild Horse Dry Creek floodplain. Both increases and decreases of less than 1-foot to the water surface elevations (WSEs) are anticipated.</p> <p>Preliminary analysis shows that both the proposed 160 ft. extension of the CBC within the Williams Creek channel and the construction of the WB bridge over Wild Horse Dry Creek would result in changes in</p>	<p>4, 5, 6</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Floodplains (Continued) (CDOT, 2016d – Appendix A06)</p>	<p>The BFE for Wild Horse Dry Creek just upstream of the US 50 EB bridge is approximately 4,777 ft. in elevation.</p>		<p>WSEs of less than a 1-foot drop upstream and less than a 1-foot rise downstream. Impacts to both floodplains would be anticipated to be contained to CDOT ROW.</p> <p>Temporary Impacts During construction, stormwater runoff could carry sediment to the Williams Creek and Wild Horse Dry Creek floodplains, which might impact water quality and flood elevations.</p>	
<p>Wetlands/Waters of the US (CDOT, 2016e – Appendix A07)</p>	<p>US 50 crosses wetlands along Williams Creek and Wild Horse Dry Creek. Thick stands of tamarisk (<i>Tamarix chinensis</i>) are dominant along Williams Creek and Wild Horse Dry Creek. Tamarisk and other noxious weeds are discussed in the Noxious Weeds section.</p> <p>Wetland delineations conducted in June 2013 and April 2015 revealed the presence of approximately 1.258 acres of wetlands within Williams Creek, Wild Horse Dry Creek, and a tributary to Williams Creek at Purcell Blvd. These wetlands would likely be considered jurisdictional wetlands, as they are contributing to permanent waters of adjacent creeks that flow directly or indirectly into a Traditional Navigable Water (United States Army Corps of Engineers [USACE], 2007).</p> <p>Informal trails cross wetlands in some locations.</p>	<p>Provides stream channel revegetation and tamarisk removal at Wild Horse Dry Creek.</p>	<p>Permanent Impacts Would have impacts to approximately 0.025 acre of wetlands at Williams Creek, Wild Horse Dry Creek, and a tributary to Williams Creek at Purcell Blvd resulting from permanent fill associated with the WB bridge and CBC extensions.</p> <p>Would include removal of vegetation (primarily tamarisk) from the stream channel due to realigning US 50, constructing the WB bridge, and extending the CBC at Williams Creek.</p> <p>Temporary Impacts There would be construction activities in 0.135 acre of wetland areas. Also, during construction, stormwater runoff could carry sediment to wetlands within Williams Creek, the Williams Creek tributary, and Wild Horse Dry Creek from grading and construction of the WB lane, WB bridge, roadside drainage swale, and water quality features.</p>	<p>4, 5, 7</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Vegetation (CDOT, 2016f – Appendix A08)</p>	<p>The project is located within the Central Shortgrass Prairie ecoregion. This southeastern area of Colorado is referred to as the Arkansas Valley Barrens, with typically sparse vegetation, growing in limited soils. Most of the vegetation present in the biological resources study area includes native shortgrass prairie grasses, shrubs, and trees. The PEL provides an initial inventory of vegetation (see Appendix A02).</p> <p>The Williams Creek riparian area, which includes some noxious weed species, contains stands of Siberian elm (<i>Ulmus pumila</i>), golden currant (<i>Ribes aureum</i>), sandbar willow (<i>Salix interior</i>), narrowleaf cattail (<i>Typha angustifolia</i>), creeping bentgrass (<i>Agrostis stolonifera</i>), small spikerush (<i>Eleocharis minima</i>), tamarisk, and annual sunflowers (<i>Helianthus annuus</i>).</p> <p>The Wild Horse Dry Creek riparian area contains stands of tamarisk, creeping bentgrass, small spikerush, Nebraska sedge (<i>Carex nebrascensis</i>), perennial pepperweed (<i>Lepidium latifolium</i>), hoary cress (<i>Cardariadraba</i>), and prince’s plume (<i>Stanleya pinnata</i>).</p> <p>Noxious weeds are discussed in the section that follows.</p>	<p>Would not impact vegetation resources.</p>	<p><u>Permanent Impacts</u></p> <p>Paving would result in the permanent removal of approximately 39.6 acres of shortgrass prairie grasses and shrubs. The increase in impervious surfaces would cause an increase in stormwater runoff and the exposure of the surrounding vegetation to higher levels of pollutants.</p> <p>Widening the bridge and installing riprap would result in the removal of riparian vegetation and non-native vegetation (primarily tamarisk), along Wild Horse Dry Creek.</p> <p>Tree impacts would include the removal of upland trees east of Purcell Blvd/US 50 and upland trees at the McCulloch Blvd/US 50 intersection.</p> <p><u>Temporary Impacts</u></p> <p>Soil disturbance of 118 acres of shortgrass prairie from construction equipment would create favorable conditions conducive to the introduction and further spread of noxious weeds.</p>	<p>8, 9, 10</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Noxious Weeds (CDOT, 2016f – Appendix A08)</p>	<p>Of the 12 species of weeds identified in the biological resources study area that are on the Colorado Department of Agriculture Noxious Weed List and the Pueblo County Target Species List (Pueblo County, 2013), field bindweed (<i>Convolvulus arvensis</i>) and redstem filaree (<i>Erodium cicutarium</i>) are common. Thick stands of tamarisk are dominant along Williams Creek and Wild Horse Dry Creek.</p> <p>The common occurrence of broom snakeweed (<i>Gutierrezia sarothrae</i>) indicates that the vegetation is in a less than optimal state. These weeds are introduced species that are known to out-compete native flora.</p>	<p>Other improvements currently being constructed will provide noxious weed treatment in EB US 50 ROW from Purcell Blvd to Wills Blvd. Invasion of noxious weeds would continue in other parts of US 50 from Wills Blvd to McCulloch Blvd.</p>	<p>Permanent Impacts Surface disturbance of approximately 78.4 acres following construction could indirectly introduce noxious and invasive weed species, which could persist after construction.</p> <p>Temporary Impacts Soil disturbance of approximately 118 acres from construction activities, such as grading, would create favorable conditions for noxious weeds to be introduced, become established, or spread further. Construction equipment would potentially introduce noxious weed species into the project area.</p>	<p>10</p>
<p>Senate Bill 40 (SB 40) Resources (CDOT, 2016f – Appendix A08)</p>	<p>Williams Creek and Wild Horse Dry Creek qualify as SB 40 jurisdictional streams, including the stream beds, stream banks, and as much bankside (riparian) areas that contribute to the quality of the general stream habitat through shading, water quality filtering, contribution of food items for fish/wildlife, and organic matter to the stream. The Williams Creek tributary does not qualify as it is an ephemeral stream.</p> <p>While the Wild Horse Dry Creek riparian area contains no tree species, there is a continuous corridor of dying or dead tamarisk shrub cover within this riparian area that provides most of the wildlife habitat within this drainage.</p>	<p>Other improvements currently being constructed will provide enhancement of SB 40 resources at Wild Horse Dry Creek.</p>	<p>Permanent Impacts Would remove SB 40 resources (riparian shrubs) along Wild Horse Dry Creek and Williams Creek due to bridge construction and the installation of riprap; and along Williams Creek due to the CBC extension. Would remove approximately 3,890 sq. ft. (0.089 acre) of SB 40 shrubs, consisting of mostly tamarisk (non-native shrub).</p> <p>Temporary Impacts During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the WB lane, US 50 realignment, WB bridge, roadside drainage swale, and water quality features, which could impact SB 40 resources.</p>	<p>4, 5, 9</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Fish (CDOT, 2016f – Appendix A08)</p>	<p>Aquatic habitats are limited to Williams Creek and Wild Horse Dry Creek. Within the CDOT ROW, these habitats have been modified as a result of the US 50 EB bridge over Wild Horse Dry Creek and the riprap at the base of the bridge. Algae, tamarisk, and other noxious weeds dominate the habitat within the Wild Horse Dry Creek drainage.</p> <p>During field surveys in summer 2013, two native fish species were observed: the plains killfish (<i>Fundulus zebrinus</i>) and the fathead minnow (<i>Pimephales promela</i>). These fish are not federally-listed (threatened or endangered) or state-listed (threatened or endangered) species, candidate species, or state species of special concern.</p> <p>Plains killfish were observed in the Williams Creek and Wild Horse Dry Creek channels and pools; and fathead minnows were observed in the Williams Creek channel and pools.</p>	<p>Other improvements currently being constructed will improve aquatic habitat associated with Wild Horse Dry Creek stream restoration.</p> <p>Would not change the aquatic habitat conditions associated with Williams Creek.</p>	<p><u>Permanent Impacts</u></p> <p>The WB bridge construction and the addition of riprap would not permanently impact fish habitat along Wild Horse Dry Creek, and the proposed improvements would not impede fish movement.</p> <p>The 160 ft. extension of the CBC at US 50 and Williams Creek would result in a loss of approximately 1,600 sq. ft. of fish habitat and may impede fish movement.</p> <p><u>Temporary Impacts</u></p> <p>During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the WB lane, WB bridge, roadside drainage swale, and water quality features. Sediment discharged to the creeks could temporarily impact water quality for fish.</p>	<p>4, 5, 10, 11</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Wildlife (CDOT, 2016f – Appendix A08)</p>	<p>The project is located within the Central Shortgrass Prairie ecoregion. The Williams Creek and Wild Horse Dry Creek corridors provide riparian habitat for mammals, migratory birds, and reptiles. Noxious weed infestation, ROW disturbances, and drought conditions have highly modified wildlife habitats in the biological resources study area. The project area is not located in a known migration area for species such as deer or elk; however, there is habitat for many small and medium-sized mammals, such as desert cottontail (<i>Sylvilagus audubonii</i>), black-tailed prairie dogs (<i>Cynomys ludovicianus</i>), and coyotes (<i>Canis latrans</i>). Habitat for reptiles, amphibians, and birds is also present (see the Threatened/Endangered Species and State Species of Special Concern section).</p> <p>Analysis documented in the <i>US 50 West PEL Study</i> (CDOT, 2012a) from 2004 to 2008 showed that 2 percent of the crashes within the PEL Corridor were from wildlife.</p>	<p>Would not change wildlife habitats or migratory bird habitats, other than the continued potential for animal-vehicle collisions that may increase as traffic volumes increase.</p>	<p>Permanent Impacts</p> <p>Would include permanent habitat loss of approximately 39.6 acres of shortgrass prairie and fragmentation of habitat due to the construction of the additional WB and EB lanes. Direct mortality may occur, primarily to small and medium-sized wildlife, reptiles/amphibians, and low-flying birds from vehicles. The widened roadway would make it more difficult for animals to move across the landscape.</p> <p>Removing riparian vegetation due to WB bridge construction, installation of riprap along Wild Horse Dry Creek, and extension of the CBC at Williams Creek would result in a loss of habitat for wildlife species that depend on the riparian corridor.</p> <p>Would remove 38,768 sq. ft. (0.89 acre) of shrubs along sections of Wild Horse Dry Creek and Williams Creek that are within CDOT’s ROW. Reconstructing the WB bridge would not impede wildlife movement. There would be a continued potential for animal-vehicle collisions that may increase as traffic volumes increase.</p> <p>Other indirect effects could include the introduction and spread of noxious or invasive weed species, which may further degrade wildlife habitat.</p>	<p>8, 9, 12</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Wildlife (Continued) (CDOT, 2016f – Appendix A08)</p>			<p>Temporary Impacts Surface disturbance of approximately 118 acres during construction could affect wildlife. The widened roadway and bridge over Wild Horse Dry Creek would also cause temporary habitat loss, restrict wildlife movement, and potentially displace certain wildlife species in the short term or temporarily due to increased noise and human presence associated with construction activities. The temporary concrete barrier, to be installed in approximately 2,000-foot sections within the median during construction from McCulloch Blvd to the divided intersection at Pueblo Blvd, would temporarily restrict wildlife movement across US 50. However, the concrete barrier would not be installed near Williams Creek or Wild Horse Dry Creek, where wildlife could be more likely to attempt to cross US 50 at-grade due to the lack of wildlife fencing in the area. The closest temporary barrier would be approximately 4,500 ft. west of Williams Creek and approximately 5,800 ft. west of Wild Horse Dry Creek. The barriers would be removed after construction.</p>	<p>8, 9, 12</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Wildlife (Continued) (CDOT, 2016f – Appendix A08)</p>			<p>Other indirect effects could include the introduction and spread of noxious or invasive weed species, which may further degrade wildlife habitat.</p> <p>Wildlife mortality from construction-related ground clearing and earth-movement activities could also affect small terrestrial species and burrowing animals.</p>	
<p>Migratory Birds (CDOT, 2016f – Appendix A08)</p>	<p>Migratory bird surveys along Williams Creek identified active and inactive nests in the biological resources study area, including:</p> <ul style="list-style-type: none"> • Black-billed Magpie (<i>Pica hudsonia</i>) – Active and inactive nests • Western Kingbird (<i>Tyrannus verticalis</i>) – Active nest • Cliff Swallows (<i>Petrochelidon pyrrhonota</i>) – Multiple active nests at the Wild Horse Dry Creek bridge, the Williams Creek culvert, and the culvert passing under Purcell Blvd, in the area south of US 50. <p>Suitable habitat for Western Burrowing Owl (<i>Athene cunicularia hypugaea</i>) (a State Species of Concern) also exists in the project area.</p>	<p>Would not change migratory bird habitats other than potential disturbances from increased traffic.</p>	<p><u>Permanent Impacts</u> Removing riparian vegetation along Wild Horse Dry Creek, Williams Creek, and the tributary to Williams Creek due to bridge widening and riprap installation would result in a loss of habitat for migratory birds that depend on the riparian corridor.</p> <p>Impacts to active Cliff Swallow nests may occur during the widening of the WB bridge over Wild Horse Dry Creek if construction occurs during the nesting season.</p> <p><u>Temporary Impacts</u> Would have short-term temporary impacts from the increased noise and human presence due to construction activities associated with the entire project (for example, construction noise and night lighting).</p>	<p>13</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Threatened/ Endangered Species and State Species of Special Concern (CDOT, 2016f – Appendix A08)</p>	<p>The biological resources study area contains no suitable habitat for federally-listed threatened or endangered species. Field surveys in June, July, and October 2013 and in 2015 identified no rare plants. The biological resources study area contains seven state listed species with suitable habitat:</p> <ul style="list-style-type: none"> • The black-tailed prairie dog (<i>Cynomys ludovicianus</i>) (State Threatened Species), with prairie dog colonies present within the study area • Black footed ferret (<i>Mustela nigripes</i>) (Federally Endangered and State Endangered Species) – An experimental population of black footed ferrets was reintroduced on the Walker Ranch, north of US 50, within the 2007 block-clearance zone for the black-footed ferret. • Western Burrowing Owl (<i>Athene cunicularia hypugaea</i>) (State Species of Concern) • Massasauga (<i>Sistrurus catenatus</i>) (State Species of Concern) • Triploid Colorado checkered whiptail (<i>Aspidoscelis neotesselata</i>) (State Species of Concern) • Plains leopard frog (<i>Rana blairi</i>) (State Species of Concern) • Northern leopard frog (<i>Rana pipiens</i>) (State Species of Concern) 	<p>Would not affect state listed species habitats.</p>	<p>Permanent Impacts</p> <p>Impacts from the permanent removal of 39.6 acres of shortgrass prairie may affect, but would not adversely affect, state listed species habitat:</p> <ul style="list-style-type: none"> • Proposed Action would affect black-tailed prairie dog colonies located within and adjacent to the Proposed Action footprint, at the Purcell Blvd and McCulloch Blvd intersections, due to loss of habitat. • Proposed Action would not affect the reintroduced population of black footed ferrets on the Walker Ranch. • Proposed Action footprint may affect Western Burrowing Owls that may use the prairie dog colonies as habitat. • Proposed Action footprint may affect massasauga due to the loss of shortgrass prairie habitat. • Constructing the WB bridge, installing riprap, removing tamarisk along Wild Horse Dry Creek, and extending the CBC at Williams Creek may affect, but would not adversely affect, habitat for the Triploid Colorado checkered whiptail, the plains leopard frog, and the northern leopard frog. <p>Temporary Impacts</p> <p>See Wildlife.</p>	<p>10, 14, 15, 16, 17, 18</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Threatened/ Endangered Species and State Species of Special Concern (Continued) (CDOT, 2016f – Appendix A08)</p>	<p>June and July 2013 surveys identified six individual whiptails along the terraces above Williams Creek.</p>			
<p>Historic and Archaeological Resources (CDOT, 2016g – Appendix A09)</p>	<p>Section 106 of the National Historic Preservation Act of 1966, as amended, requires projects proposed or funded by federal agencies to identify and assess effects to historic properties listed on or eligible for inclusion in the National Register of Historic Places. There are three eligible linear resources in the project area: the Kansas Colorado Railroad (5PE320), the Topeka and Santa Fe Railroad (5PE1665), and US Highway 50 (5PE8108).</p>	<p>Would not affect historic or archaeological resources.</p>	<p>Would result in the finding of no <i>adverse effect</i> [36CFR 800.5(d)(1)] to the the Kansas Colorado Railroad, Topeka and Santa Fe Railroad, and US Highway 50.</p> <p>Ground disturbance by heavy equipment and construction activities would have the potential to encounter unknown buried cultural material.</p> <p>Appendix A09 includes Section 106 correspondence and documentation.</p>	<p>19</p>
<p>Paleontological Resources (CDOT, 2016h – Appendix A10)</p>	<p>Locally abundant marine fossils are within the Niobrara geologic formation in the project area. The Potential Fossil Yield Classification for this formation is rated moderate. The potential for encountering a scientifically important fossil locality is low but is somewhat higher for common fossils.</p>	<p>Would not affect paleontological resources.</p>	<p>Permanent Impacts The WB bridge construction could possibly unearth subsurface fossils from the Niobrara Formation Smoky Hill Shale Member with a moderate rating for fossil importance.</p> <p>Temporary Impacts No temporary impacts to paleontological resources are expected.</p>	<p>20</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Land Use (CDOT, 2012a – Appendix A02)</p>	<p>Current development is concentrated at the McCulloch Blvd, Purcell Blvd, and Wills Blvd intersections; and at the southeast quadrant of the Pueblo Blvd intersection. City of Pueblo and Pueblo County land use zoning and the <i>2035 Comprehensive Plan</i> characterize land use trends toward higher-density, urban-style development adjacent to the Proposed Action footprint. Residential and commercial uses are currently zoned between McCulloch Blvd and Purcell Blvd; and commercial development is zoned from Purcell Blvd to Wills Blvd.</p> <p>The largest potential for future land use growth and associated regional trip generation occurs at Pueblo Blvd. The relatively low density current uses for much of the intersection are planned to become a Special Development Area for mixed use development.</p>	<p>Would be incompatible with the planning objectives for the area. US 50 would not accommodate the increases in travel demand projections associated with the planned growth in commercial and residential development.</p>	<p><u>Permanent Impacts</u></p> <p>Transportation improvements would avoid permanent impacts on land uses adjacent to the Proposed Action footprint. As an element of the PEL recommended Preferred Alternative, the Proposed Action would be compatible with future planning objectives for the City of Pueblo, Pueblo County, and PWMD.</p> <p>The proposed drainage easements and temporary construction easements would occupy portions of the PWMD MUE and would not affect private parcels south of E Grouse Dr, or north of E Enterprise Dr or E Holiday Dr. PWMD established the MUE as a buffer strip between the CDOT ROW and frontage roads and for utility and trail uses. The MUE is considered compatible with the drainage easements based on the US 50 West PEL (2012a) (see Appendix A02, Sections 3.13.4 and 3.15.4).</p> <p>The regional pond would be located on an undeveloped parcel to be acquired by CDOT adjacent to CDOT ROW, and the pond outlet pipeline would cross PWMD public land.</p> <p><u>Temporary Impacts</u></p> <p>Temporary impacts would include grading on easements to improve drainage at outfalls.</p>	<p>8, 21</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Social Resources (CDOT, 2012a – Appendix A02; CDOT 2016i – Appendix A11)</p>	<p>PACOG’s Amended 2035 Long Range Transportation Plan (2011) forecasts high population and employment growth in Census tracts in proximity to US 50, including PWMD and the City of Pueblo within the southeast quadrant of the Pueblo Blvd intersection. See Appendix A02 for more information.</p> <p>Community facilities and public services located near the US 50 Corridor include schools, churches, libraries, a recreation center, a fire station, and grocery stores. See Appendix A11 for more information.</p>	<p>Would not directly affect social resources. Indirect impacts to social and economic resources may be associated with continued congestion and traffic accidents.</p>	<p>Permanent Impacts Would support the economic and social needs of the surrounding area by providing increased capacity with improved vehicular access, while minimizing disruption to land uses outside the CDOT ROW. Would not impact community facilities and public services.</p> <p>Temporary Impacts Would create delays in traffic while construction is occurring. During these times, community facilities would take longer to access from US 50 and would require some extended travel time. Existing US 50 lanes would, for the most part, stay open to traffic during construction of the additional WB and EB lanes, new WB bridge over Wild Horse Dry Creek, and intersection improvements at Pueblo Blvd, Purcell Blvd, and McCulloch Blvd. Intermittent single lane closures would be allowed during non-peak traffic hours to accommodate construction activities.</p>	<p>22</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Environmental Justice (CDOT, 2016i – Appendix A11)</p>	<p>The Hispanic/Latino population within Pueblo County (41.4 percent) is much higher than that of the State of Colorado (20.7 percent). Environmental justice communities are located in the vicinity of US 50 between Wills Blvd and McCulloch Blvd.</p> <p>Most block groups within the community study area, which consists of Census block groups adjacent to US 50, have a lower Hispanic/Latino minority population when compared to that of Pueblo County (41.4 percent). Three block groups have a slightly higher percentage than that of Pueblo County, ranging from 41.6 percent to 54.6 percent. The block groups within the community study area are large and extend well beyond US 50 and very few residences are directly adjacent to US 50.</p> <p>Low-income households range from 2.9 percent to 29.9 percent within the Census tracts adjacent to the project, as compared to 17.6 percent for Pueblo County. The nearest residences in the Census tract that has a higher percentage (29.9 percent) than Pueblo County are located more than 0.5 mile from US 50.</p>	<p>Would not result in any disproportionately high or adverse impacts to low-income and/or minority populations in the study area.</p> <p>Would create traffic delays due to increased traffic without the added lane capacity. All populations present within the community study area would continue to experience traffic congestion problems.</p>	<p><u>Permanent Impacts</u></p> <p>Would not result in any disproportionately high or adverse impacts to the low-income and/or minority populations within the community study area. Would share project impacts and benefits equally among all populations and would not be predominately borne by low-income or minority populations.</p> <p>Overall, Pueblo County and City of Pueblo residents would benefit from enhanced mobility along US 50 to the community and public services facilities within the vicinity of the project due to improved connectivity, reduced congestion, and improved safety.</p> <p><u>Temporary Impacts</u></p> <p>Temporary impacts to low-income and/or minority populations would be no different from the temporary impacts due to traffic disruptions during construction, as identified in the Social Resources section.</p>	<p>22, 23</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Right-of-Way (CDOT, 2016a – Appendix A01)</p>	<p>The City of Pueblo, Pueblo County, and PWMD lands are adjacent to the US 50 ROW.</p>	<p>Would not change the CDOT ROW.</p>	<p>Would require additional ROW for transportation and water quality improvements from PWMD and two private parcels.</p> <ul style="list-style-type: none"> • A portion of the PWMD MUEs would be needed for the EB acceleration lane at Purcell Blvd and water quality swales along the south side of US 50. • An undeveloped private parcel would be needed for the regional pond and would be acquired by CDOT. Pueblo Blvd would extend north of the interchange improvements, into an undeveloped private parcel adjacent to Wild Horse Rd north of US 50. • All parcels and sections of PWMD MUE's are undeveloped and would not require relocations. 	<p>24</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Utilities and Railroad (CDOT, 2016a – Appendix A01) (CDOT, 2012a – Appendix A02)</p>	<p>Types of underground and overhead utilities within the US 50 ROW include:</p> <ul style="list-style-type: none"> • Gas line • Underground fiber optic line • Water line • Wastewater line • Transmission lines <p>US 50 crosses under the BNSF Railway tracks, approximately 0.75 mile east of the Pueblo Blvd intersection. The BNSF rail line at this location is a single-track segment serving as one of the rail lines connecting Colorado Springs and Pueblo.</p>	<p>Would not affect utilities or BNSF tracks within the ROW.</p>	<p><u>Permanent Impacts</u> Would not affect the BNSF tracks, bridge structure carrying the BNSF tracks over US 50, or overhead transmission lines. There would be no permanent impacts or loss of service from utilities that are currently operating within portions of the CDOT ROW.</p> <p><u>Temporary Impacts</u> Relocation of underground utilities within the ROW may be required due to the construction of the WB and EB lanes and grading for the parallel drainage swale. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to CDOT traffic signals during construction.</p>	<p>25</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Parks/Recreation Resources and Section 4 (f) and 6(f) Resources (CDOT, 2016j – Appendix A06 and A12)</p>	<p>The Honor Farm Park and Open Space (Honor Farm) is located within the city of Pueblo south of US 50 and west of Pueblo Blvd.</p> <p>PWMD is planning the Main McCulloch Blvd Trail along the east side of McCulloch Blvd from Joe Martinez Blvd (south of US 50) to Industrial Blvd (north of US 50). The planned trail would have an on-grade crossing of US 50 at McCulloch Blvd. CDOT is coordinating with PWMD on the trail crossing design at US 50.</p>	<p>Would have no use to existing or planned parks and recreation resources or to Section 4(f) resources.</p>	<p><u>Permanent Impacts</u></p> <p>Would avoid park and recreation, Section 4(f), and Section 6(f) resources. The outlet pipeline from the proposed regional water quality pond would drain into an unnamed tributary within PWMD public land, designated for private development in the <i>Honor Farm Park and Open Space Master Plan</i> (City of Pueblo, 2007).</p> <p>Would coordinate the design and construction of the proposed WB right turn lane at McCulloch Blvd and US 50 with the Main McCulloch Blvd Trail being planned by PWMD. Would also coordinate with PWMD for pedestrian crossings at Purcell Blvd.</p> <p>Would not affect any Section 4(f) or 6(f) resources.</p> <p><u>Temporary Impacts</u></p> <p>Would avoid park and recreation, Section 4(f), and Section 6(f) resources.</p>	<p>No mitigation required for parks and recreation resources.</p> <p>5 – Water quality includes mitigation for site restoration of the stormwater pipeline corridor within the Honor Farm</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Noise (CDOT, 2016k – Appendix A13)</p>	<p>Traffic noise levels are considered at exterior areas of frequent human use at noise-sensitive locations such as homes. Noise impacts occur when noise levels exceed the CDOT Noise Abatement Criteria (NAC) or increase by 10 decibels. Existing noise conditions were examined within and adjacent to the Proposed Action footprint.</p> <p>Twenty-six residential receptors are impacted by existing traffic noise levels equaling or exceeding the CDOT NAC (66 dBA), and noise levels at these locations range from 66 to 72 dBA.</p>	<p>Forty-one residential receptors would be impacted by 2035 No Action noise levels equaling or exceeding the CDOT NAC (66 dBA). Noise levels at these locations would range from 66 to 74. dBA.</p>	<p><u>Permanent Impacts</u> Forty-four residential receptors would be impacted by equaling or exceeding the CDOT NAC (66 dBA). Noise levels at these locations would range from 66 to 74. dBA.</p> <p><u>Temporary Impacts</u> Construction noise could temporarily affect adjoining properties adjacent to the Proposed Action footprint.</p>	<p>27</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Visual Resources/ Aesthetics (CDOT, 2012a – Appendix A02)</p>	<p>The regional landscape setting is characterized by open views within the Arkansas Valley Barrens landscape and distant mountain panoramas to the west. The shortgrass prairie vegetation is generally sparse and treeless, with chalky shale outcropping. Open views across the Honor Farm, Gary Walker Conservation Easement create a natural image. The parallel railroad tie fence provides a “ranch-like” element, and the PWMD entrance signage creates a local identity. There are no dominant focal points, and the landscape and architectural colors are generally light monochromatic earth tones.</p> <p>Local development patterns and viewsheds transition from east to west and range from urban to suburban between Pueblo and PWMD. Local distinctions in the natural and developed landscape character of the Corridor from east to west occur in context to the Ridge community area east of the BNSF railroad bridge, Park West at Pueblo Blvd/Wild Horse Dry Creek and Williams Creek, PWMD at Purcell Blvd, and PWMD at McCulloch Blvd.</p> <p>The PEL visual assessment provides the context for characterizing visual resources within the section of US 50 between Wills Blvd and McCulloch Blvd (see Appendix A02).</p>	<p>Would not result in any landscape changes or visual impacts.</p>	<p>Would be visually compatible with existing and planned land use development patterns within the city of Pueblo and PWMD, based on FHWA <i>Guidelines for Visual Impact Assessment</i> (FHWA, 2015). Views of the proposed US 50 WB and EB lane widening may be noticed but would not be likely to attract the attention of viewers or US 50 travelers. The visibility of the grade-separated interchanges at Pueblo Blvd and Purcell Blvd to viewers within the foreground (0 to 0.5 mile) would vary due to local terrain and development patterns, shown in Appendix C.</p> <p>The Pueblo Blvd interchange is within a sparsely populated area at Williams Creek and Wild Horse Dry Creek. The proposed Pueblo Blvd overpass would become a dominant visual element (strong visual contrast) within open foreground viewsheds from the Park West medical facilities adjacent to Pueblo Blvd, as well as the future medical complex under construction. The Pueblo Blvd overpass would be less visually dominant (moderate visual contrast) to foreground residential views, including the North Point Gardens Assisted Living residents and to a local resident. Local vegetation and commercial development would partially screen the visual impact of the proposed Purcell Blvd interchange to residential viewers within the foreground area, resulting in moderate to low levels of visual contrast.</p>	<p>28</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Visual Resources/ Aesthetics (Continued) (CDOT, 2012a – Appendix A02)</p>			<p>Temporary Impacts Concrete barriers, to be installed in approximately 2,000-foot sections during construction, would temporarily modify views for travelers on US 50. The barriers will be removed after construction.</p>	28
<p>Hazardous Materials (CDOT, 2016I – Appendix A14)</p>	<p>The regulatory data search identified one property adjacent to the CDOT ROW, the former US 50 West AMOCO, where past activities may have resulted in soil and water contamination within the Proposed Action footprint. Existing structures may contain lead based paint and/or asbestos.</p>	<p>Would not affect hazardous materials.</p>	<p>Would not expect to encounter hazardous materials during construction based on regulatory records and a visual reconnaissance of the areas within and adjacent to the Proposed Action footprint in conjunction with the proposed limited soil disturbance depth near the former US 50 AMOCO site and groundwater monitoring well.</p>	29
<p>Cumulative Impacts</p>	<p>The <i>US 50 West PEL Study</i> (2012a), Section 3.20, includes an analysis of cumulative impacts. The cumulative effects study area generally includes the PWMD to the west and north, Lake Pueblo to the south, and the Honor Farm and the portion of the city of Pueblo to I-25 to the east, shown on Figure 1. The timeframe for past projects is tied to the modernization of Pueblo’s highway system with the construction of I-25 through Pueblo between 1947 and 1959 and with the construction of the US 50 bypass in 1957. Reasonably foreseeable future projects are based on plans and projections out to 2035 in the <i>PACOG Amended 2035 Long Range Transportation Plan</i> (2011) and in the <i>PACOG 2035 Comprehensive Plan</i> (2002).</p>	<p>Not applicable because the No Action Alternative is considered part of the past, present, and reasonably foreseeable future actions identified in the cumulative impacts analysis.</p>	<p>This analysis examines the potential cumulative impacts of the past, present, and reasonably foreseeable future actions in the area with the added impacts of the Proposed Action.</p> <p>As an element of the PEL recommended Preferred Alternative, the incremental impact of the Proposed Action would be unlikely to have negative cumulative impacts on environmental resources, when added to other past, present, and reasonably foreseeable future actions.</p>	4, 5, 7, 8, 9, 10, 14, 15, 16, 17, 18

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Cumulative Impacts (Continued)</p>	<p>At the time of its creation in 1969, PWMD had no population. From 1990 to 2000, PWMD experienced rapid growth from 4,396 residents to almost 17,000. The population at the 2010 Census was 29,843. All lands adjacent to US 50 and interchanges are either built out or planned and zoned for development.</p> <p>PWMD appears likely to see continuing growth, approaching a 2035 population of about 45,000, approaching its build-out capacity of 50,000 to 55,000 (PACOG, 2011). The Land Use section summarizes the future land use plans for the area. The PEL recommended Preferred Alternative includes a multi-use pedestrian and bicycle trail, and PWMD is planning the Main McCulloch Blvd Trail.</p> <p>Cumulative impact issues analyzed for the Proposed Action include water quality, wetlands, state species of special concern, and fish habitats associated with Williams Creek and Wild Horse Dry Creek; and shortgrass prairie.</p>		<p>There would be some overall loss of shortgrass prairie and wetland habitats due to the expansion of the roadway. With mitigation measures, there would be revegetation of shortgrass prairie within the project footprint; and the potential for positive impacts, particularly on the water quality, wetlands, and wildlife habitats associated with Williams Creek and Wild Horse Dry Creek. The potential for environmental impacts resulting from the Proposed Action would be minimized because the footprint for transportation improvements would fall within CDOT ROW and PWMD MUE, and mitigation would be implemented for permanent and temporary resource impacts. The proposed intersection improvements would support existing and future development.</p> <p>The regional pond would be located within a previously disturbed parcel to be acquired by CDOT adjacent to the CDOT ROW, and the outlet to an adjacent tributary would cross a section of the City of Pueblo Honor Farm previously disturbed by other drainage structures. The proposed pipeline outlet would be consistent with the Honor Farm Conservation Easement.</p>	<p>4, 5, 7, 8, 9, 10, 14, 15, 16, 17, 18</p>

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
<p>Cumulative Impacts (Continued)</p>	<ul style="list-style-type: none"> • Water Quality – Williams Creek and Wild Horse Dry Creek habitats are receiving water bodies for US 50 roadway stormwater runoff. Soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek result from illegal off-road vehicle use in the CDOT ROW; and there is currently no water quality treatment for US 50 runoff in the project area. • Wetlands – Tamarisk dominates the wetlands along both Williams Creek and Wild Horse Dry Creek habitats. • State species of special concern and fish habitats associated with Williams Creek and Wild Horse Dry Creek – Stream channel erosion, soil compaction, and sedimentation have modified aquatic and riparian habitats. • Shortgrass Prairie – The extent of native grassland vegetation and associated wildlife habitats have been reduced by US 50 and PWMD development. 			<p>4, 5, 7, 8, 9, 10, 14, 15, 16, 17, 18</p>

WHAT MITIGATION COMMITMENTS WILL BE MADE FOR THE PROPOSED ACTION?

Mitigation commitments for the Proposed Action have been identified in detail for each impacted resource and are presented in the technical documentation contained in **Appendix A**. Each technical report or memorandum in **Appendix A** provides additional details about the methodology, analysis of impacts, and mitigation measures. **Table 4** lists a unique tracking number, mitigation category, impact, mitigation commitment, responsible agency for tracking commitments, and the timing or phase that mitigation will be implemented, summarizing all of the commitments made for the Proposed Action.

Table 4. Summary of Impacts and Mitigation for the Proposed Action

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase That Mitigation Will Be Implemented
1	Transportation Resources	Temporary disruption of traffic	A traffic control plan, including bicyclists, to ease travel conditions for motorists and bikeway users will be implemented. There will be public information updates during construction, as identified in the CDOT <i>Standard Specifications for Road and Bridge Construction</i> Section 626 (Public Information Services).	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
2	Air Quality	Air emissions and fugitive dust during construction	The following best management practices (BMPs) for air quality will be applied: <ul style="list-style-type: none"> • Maintain equipment on a regular basis. Equipment will be subject to inspection by the project manager to ensure maintenance. • Discourage excessive idling of inactive equipment or vehicles. • Control fugitive dust through implementation of CDOT’s <i>Standard Specifications for Road and Bridge Construction</i>, particularly Sections 107.24 (Air Quality Control), 209 (Watering and Dust Palliatives), and 250 (Environmental, Health and Safety Management), and the Air Pollution Control Division’s Air Pollutant Emission Notification requirements. • Locate stationary equipment as far as possible from sensitive receivers, such as residences and schools. These BMPs will be included in the project construction plans.	CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
3	Geologic and Groundwater Resources	Potential to encounter groundwater during bridge pier foundation construction	The contractor will obtain a Colorado Discharge Permit System Construction Dewatering Permit (COG070000).	CDOT Construction Engineering	Construction
4	Water Quality	Erosion and runoff in constructions zones	<p>A stormwater management plan (SWMP) will contain construction BMPs. CDOT will implement these temporary BMPs project-wide to prevent erosion and deposition of sediment. Typical BMPs that are anticipated to be used for this project include:</p> <ul style="list-style-type: none"> • Street sweeping • Stabilized construction entrances • Erosion logs • Removal and disposal of sediment • Aggregate bags • Temporary berms • Check dams • Permanent native seeding and mulching • Silt fence • Placement of soil retention blankets • Concrete washout structures • Placement of plastic fence to protect sensitive areas, such as wetlands • Vehicle tracking pads • Monthly inspections by CDOT Water Quality Program Manager 	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
5	Water Quality	Polluted highway stormwater runoff	<p>Permanent water quality mitigation will implement prevailing regulations and guidelines of the New Development, Redevelopment Program.</p> <p>The SWMP will identify permanent water quality facilities, which include flat swales adjacent to the roadway that will drain into the two EDBs under construction at Wild Horse Dry Creek and the proposed regional pond. Areas disturbed during construction will be revegetated (see Mitigation Tracking Numbers 7, 8, and 9) to also prevent erosion and sedimentation. The swales and EDBs will attenuate flows and allow infiltration, evaporation, and plant transpiration (see Appendix A01).</p> <p>Permanent BMPs will be incorporated into design, including riprap at the Wild Horse Dry Creek bridge abutment, riprap check dams along vegetated swales, and riprap to outfalls to break up concentrated flows.</p>	CDOT Region 2 Environmental, CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
6	Floodplains	Floodplain impacts	<p>Mitigation efforts will be investigated as part of final design to negate impacts as necessary.</p> <p>At Wild Horse Dry Creek, minor channel grading will minimize impacts to WSEs. At Williams Creek, mitigation to minimize the impacts to WSEs is less feasible. However, it is anticipated that the impacts will be contained to the channel and CDOT ROW, requiring no further investigation. A floodplain development permit will be obtained for the work in both Wild Horse Dry Creek and Williams Creek because the rise in the WSE is localized to a distance of 60 ft. downstream of the box, is contained within the channel and CDOT ROW, and will not impact any structures. It is reasonable for CDOT to request a variance from Pueblo County and FEMA to not complete a Conditional Letter of Map Revision.</p>	CDOT Hydraulics Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
7	Wetlands	Permanent impacts due to fill within 0.025 acre of wetlands	<p>All permanent wetland impacts will be mitigated at a 1:1 ratio. CDOT would either mitigate on site or purchase wetland mitigation bank credits from the Limon Wetland Bank as mitigation to offset permanent impacts to wetlands.</p> <p>CDOT will implement BMPs to avoid additional impacts to wetlands due to construction activities within and adjacent to the Proposed Action footprint (see Mitigation Tracking Number 5).</p> <p>The vegetation enhancement/restoration strategy at Wild Horse Dry Creek and Williams Creek involves installing riprap at the bridge abutment and drainage rundown locations (see Mitigation Tracking Number 5), removing tamarisk along Williams Creek and Wild Horse Dry Creek, and replacing the tamarisk with willow brush cuttings within the stretch of the drainage from ROW to ROW.</p> <p>CDOT will address the vegetation enhancement/ restoration strategy through revised project Special Specification 214 (Planting). In addition, CDOT will close informal trails within the ROW. Wetland protection measures are included in Mitigation Tracking Number 4.</p>	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
8	Vegetation	Vegetation disturbance	<p>CDOT will develop and implement a revegetation and reseeding plan that will be included in the SWMP for areas disturbed during construction. Specific objectives of the revegetation plan will be identified, such as blending the vegetation with existing vegetation, using native species, and minimizing the spread of noxious and invasive weeds. Erosion control features will minimize soil disturbance. Areas disturbed during construction will be reseeded with a seed mix appropriate for the shortgrass prairie area. Areas along Williams Creek and Wild Horse Dry Creek will be revegetated with a different seed mix appropriate for the soils in the riparian area, as identified in Mitigation Tracking Number 10.</p>	CDOT Region 2 Environmental and CDOT Construction Engineering	Design and Construction
9	SB 40 Resources	Impacts to SB 40 resources along Williams Creek and Wild Horse Dry Creek	<p>BMPs outlined in the <i>SB 40 Guidelines</i> (Colorado Parks and Wildlife [CPW] & CDOT, 2013) are incorporated into this project. The guidelines are in conformance with the following CDOT documents: <i>Erosion Control and Stormwater Quality Guide</i>; <i>Standard Specifications for Road and Bridge Construction</i>; MS4 permit; and <i>Drainage Design Manual</i>.</p> <p>BMPs include revegetating all disturbed areas with a mix of native trees, grasses, and forbs. The SWMP will include the revegetation plan. All areas cleared of tamarisk along Wild Horse Dry Creek and Williams Creek will be replanted with a combination of sandbar willow (1:1 mitigation ratio), other shrubs, and a native grass seed-mix. The replanting will include willow brush cuttings.</p>	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
10	Noxious Weeds	Noxious weed introduction during construction	<p>Noxious weed management objectives will generally be met by implementing the following actions in the project area:</p> <ul style="list-style-type: none"> • Construction contractor to survey the project for noxious weeds throughout construction to identify and treat weeds. • Keep the area of ground disturbance to the minimum necessary. • Thoroughly clean all equipment before entering and exiting the construction area. Include cleaning and disposal of weed infested soil in the cost of Item 626 Mobilization. The contractor shall submit to the engineer a statement certifying that all equipment has been cleaned before initial site arrival. • Do not use areas with noxious weed populations for topsoil salvage. • Use only herbicides approved for use in water in or within 25 feet of wetlands or other water features. • Receive written approval from the engineer to use broadcast herbicide spraying and apply only when weather conditions (including wind) are suitable for such work. • Notify engineer 24 hours before herbicide is applied. • Prohibit the application of herbicides in June through August near Williams Creek and Wild Horse Dry Creek. <p>CDOT will address noxious weed management through revised Project Special Specifications 217 (Herbicide Treatment).</p> <p>Tamarisk removal from Wild Horse Dry Creek is included in Mitigation Tracking Number 7.</p>	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
11	Fish	Construction runoff and siltation, and vegetation removal	See Mitigation Tracking Numbers 4, 5, and 9.	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction
12	Wildlife	Loss of habitat	See Mitigation Tracking Numbers 8 and 9. Temporary concrete barriers will be removed at the end of construction.	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction
13	Migratory Bird Treaty Act (MBTA)	Loss of migratory bird habitat and nests	To avoid and minimize activities that will have an impact on migratory birds and their nests, CDOT will include in project construction plans <i>Standard Special Specification 240</i> (Protection of Migratory Birds). Western Burrowing Owl impacts are addressed in <i>Standard Special Specification 240</i> (Black-Tailed Prairie Dog Management).	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Design and Construction
14	Threatened/ Endangered Species, State Species of Special Concern	Loss of black-tailed prairie dog habitat within Proposed Action footprint	CDOT will avoid and minimize impacts on known black-tailed prairie dog colonies within the project footprint. CDOT's <i>Impacted Black-Tailed Prairie Dog Policy</i> (2009) and <i>Standard Special Specification 240</i> (Black-Tailed Prairie Dog Management) will be followed for all activities that affect black-tailed prairie dogs within the Proposed Action footprint. CDOT will follow the Black-Tailed Prairie Dog Management Plan for all activities that affect black-tailed prairie dogs within the project footprint.	CDOT Region 2 Environmental and CDOT Construction Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
15	Threatened/ Endangered Species, State Species of Special Concern and MBTA	Loss of Western Burrowing Owl habitat within the Proposed Action footprint	<p>Mitigation for potential impacts on the Western Burrowing Owl will be included in the project construction plans. If prairie dog colonies are impacted within the project footprint and CDOT ROW and construction is scheduled to occur during the nesting season (March 15 to October 31) for Western Burrowing Owls, the CDOT staff biologist will survey the area for the presence of Western Burrowing Owls. If Western Burrowing Owls are found at the site, CDOT will coordinate with the United States Fish and Wildlife Service (USFWS) under the MBTA to ensure compliance. CDOT will include <i>Project Special Provision 240</i> in the project construction plans for all activities that affect Western Burrowing Owls within the project area.</p> <p>No Burrowing Owls are expected to be present between November 1 and March 14 (CPW, 2008).</p>	CDOT Region 2 Environmental and CDOT Construction Engineering	Design and Construction
16	Threatened/ Endangered Species, State Species of Special Concern	Loss of massasauga habitat within Proposed Action footprint	Erosion control BMPs included in the SWMP will address potential impacts to the massasauga rattlesnake. If construction activities occur between March 1 and July 31, the CDOT staff biologist and CPW will be consulted prior to construction to determine actions necessary to avoid and minimize impacts.	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction
17	Endangered Species, State Species of Special Concern	Loss of triploid Colorado checkered whiptail habitat within Proposed Action footprint	Erosion control BMPs included in the SWMP will address potential impacts to the triploid Colorado checkered whiptail.	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
18	Threatened/ Endangered Species, State Species of Special Concern	Loss of plains leopard frog and northern leopard frog habitat within the Proposed Action footprint	Erosion control BMPs in the SWMP will address potential impacts to the plains leopard frog and northern leopard frog. If construction activities occur between March 1 and July 31, the CDOT staff biologist and CPW will be consulted prior to construction to determine actions necessary to avoid and minimize impacts. Also application of herbicide near Williams Creek and Wild Horse Dry Creek will be prohibited during June to August (frog metamorphosis period) (see Mitigation Tracking Number 8).	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Construction
19	Historic and Archaeological Resources	Ground disturbance by heavy equipment and construction activities have the potential to encounter unknown buried cultural material	If any subsurface cultural materials are exposed during any phase of construction, the CDOT senior staff archaeologist will be contacted immediately to assess and evaluate the materials for eligibility to the National Register of Historic Places. The Contractor shall comply with <i>CDOT Standard Specification 107.23</i> (Archaeological and Paleontological Discoveries), as identified in the project construction plans.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
20	Paleontological Resources	Ground disturbance by heavy equipment and construction activities, including excavation and drilling for bridge piers, have the potential to encounter unknown paleontological resources	If any subsurface bones or other potentially significant fossils are found anywhere within the US 50 project area during construction, work in the immediate vicinity should be temporarily suspended, and the CDOT staff paleontologist should be notified immediately to assess the significance of the find and to make further recommendations. The Contractor shall comply with <i>CDOT Standard Specification 107.23</i> (Archaeological and Paleontological Discoveries), as identified in the project construction plans.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
21	Land Use	Grading on easements to improve drainage	See Mitigation Tracking Number 8.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
22	Social Resources	Temporary traffic impacts	<p>CDOT will coordinate with local communities, including the City of Pueblo and Pueblo West Metro District, for construction practices that will minimize disruption of traffic flow.</p> <p>CDOT will implement a Public Information Outreach campaign during construction, as identified in CDOT <i>Standard Specifications for Road and Bridge Construction</i> Section 626 (Public Information Services).</p> <p>CDOT will implement a way-finding and signage system to ease travel conditions for motorists and bikeway users.</p>	CDOT Construction Engineering and Public Information Office	Construction
23	Environmental Justice	Temporary traffic impacts	See Mitigation Tracking Number 22.	CDOT Construction Engineering and CDOT Public Information Office	Construction
24	Right-of-Way	ROW easement acquisitions	CDOT will follow the Uniform Relocation Act.	CDOT ROW	Design
25	Utilities	Utility relocation	Coordinate utility relocation with utility companies during final design.	CDOT Design Engineering, CDOT Construction Engineering, and CDOT Utilities	Design and Construction
26	Parks/Recreation Resources and Section 4(f) and 6(f) Resources	Impacts to planned trail and pedestrian facilities	<p>Coordinate the design and construction of the proposed WB right-turn lane at McCulloch Blvd and US 50 with the Main McCulloch Blvd Trail being planned by PWMD.</p> <p>Coordinate with PWMD for pedestrian crossings at Purcell Blvd.</p>	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
27	Noise	Traffic impacts	<p>One noise abatement barrier was found to be both feasible and reasonable and has been recommended for the Proposed Action—at the Stonegate Village residential complex. Traffic noise levels would be reduced for 18 impacted residential receptors. Possible noise abatement barriers were evaluated for several other locations, but these were determined to not meet feasibility and reasonableness criteria.</p> <p>Final noise abatement decisions will be made during the final design and public involvement phases of the project. Coordination on noise abatement decisions, including residents and property owners who would benefit from the identified noise abatement barrier, will occur at that time, as necessary.</p> <p>For temporary elevated noise levels experienced during construction, standard abatement measures shall be incorporated into construction contracts, where it is feasible:</p> <ul style="list-style-type: none"> • Manage construction activities to keep noisy activities as far from sensitive receptors as possible. • Notify neighbors in advance when construction noise may occur and its expected duration so that they may plan appropriately. • Keep exhaust systems on equipment in good working order. Maintain equipment on a regular basis and subject it to inspection by the construction project manager to ensure maintenance. • Use properly designed engine enclosures and intake silencers where appropriate. • Use temporary noise barriers where appropriate and possible. • Locate stationary equipment as far from sensitive receptors as possible. 	CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
28	Visual Resources/ Aesthetics	Visual impact of grading, WB bridge widening, and grade-separated interchanges	<p>Final design will emphasize blending roadside grading with existing contours to achieve a natural appearance, as much as practicable, and minimize cuts and fill. Native seeds for revegetation will be used. The EB bridge pedestrian fence has a dark and non-reflective surface.</p> <p>Select colors for interchange overpasses and retaining walls that blend in and complement landscape features.</p> <p>Temporary concrete barriers will be removed at the end of construction.</p>	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
29	Hazardous Materials/ Waste	Encountering hazardous materials	<p>CDOT <i>Standard Specifications</i> Section 250 (Environmental, Health and Safety Management) for assessing, handling, transporting, and disposing of hazardous materials will be implemented if hazardous materials are encountered during construction.</p> <p>Even though this Initial Site Assessment identified no significant active waste sites, because of the magnitude of the project and partial acquisition of a previously closed contaminated property (50 West Amoco site), a contractor prepared Materials Management Plan (MMP) that adheres to <i>CDOT Standard Specification</i> Section 250.03 will be required. The MMP must be submitted to CDOT for approval at least 10 days prior to project initiation. During construction, should hazardous or petroleum waste be encountered, the work at that location should stop, the procedures in the contractor's MMP should be implemented, and the CDOT project engineer should be notified immediately.</p>	CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 0503-085) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
	Hazardous Materials/Waste (Continued)		<p>If dewatering is necessary, groundwater brought to the surface will be managed according to Section 107.25 of the <i>CDOT Standard Specifications for Road and Bridge Construction</i>.</p> <p>Due to the potential presence of asbestos containing materials and lead containing paint, surveys for both will be conducted on any structures to be demolished as part of the project and the regulated materials should be managed in accordance with <i>CDOT Standard Specifications</i> Section 250.07 General and Section 250.04 Heavy Metal Based Paint Management.</p> <p>Structural excavation, such as caisson construction, may require the dewatering of contaminated groundwater. If dewatering is necessary, groundwater brought to the surface will be managed according to <i>CDOT Standard Specifications</i> Section 107.25 Water Quality Control.</p>		

WHAT ADDITIONAL CLEARANCES AND PERMITS ARE REQUIRED FOR THIS PROJECT?

In addition to the NEPA evaluation of environmental impacts provided by this EA, the Proposed Action must comply with federal and state laws and regulations, including the Clean Water Act, Endangered Species Act, MBTA, Section 106, and others. This includes obtaining permits, preliminary and construction surveys, reviews, and other approvals as required by local agency, state, and federal regulations.

CDOT consulted with USACE for wetland impacts and with the State Historic Preservation Officer for concurrence with CDOT’s findings of no historic properties affected and no adverse effect. Due to the absence of federally listed threatened and endangered species, there was no formal consultation with USFWS.

The following summarizes the types of permits, coordination, and authorization that may be required to support Proposed Action construction. Please note that this list is subject to change.

Construction Access Permits—The construction contractor is required to obtain construction access permits for detours and lane closures from the CDOT Region Access Control Manager.

Dewatering Permit—The contractor will obtain a Colorado Discharge Permit System Construction Dewatering Permit (COG070000) from CDPHE.

Permits from Local Jurisdictions—CDOT will obtain easements for drainage and construction from PWMD.

Air Quality—Pueblo County may require a **Construction Demolition Air Permit**. If required, the construction contractor would acquire this permit.

Air Quality—An **Air Pollution Emission Notice** to CDPHE may be needed. Various construction permits from state, regional, or local authorities may be needed because up to 118 acres of ground disturbance may occur during construction. The construction contractor will be responsible for these activities.

Floodplain—CDOT will acquire a **Floodplain Development Permit** from the City of Pueblo and Pueblo County.

Municipal Separate Storm Sewer Systems (MS4) Compliance—CDOT will provide a water quality report to CDPHE documenting methods to meet MS4 requirements.

Clean Water Act, Section 404—CDOT will prepare a 404 Nationwide permit application for submittal to USACE.

Senate Bill 40 Certification—SB 40 requires any state agency to obtain wildlife certification from the Colorado Parks and Wildlife when the agency plans construction in “. . . any stream or its bank or tributaries” (CDOT, 2012c). CDOT will acquire the SB 40 Certification.

Stormwater Permit—A **Colorado Discharge Permit System** permit, which includes the preparation of a SWMP, is required to protect state waters and ensure the quality of stormwater runoff on any construction activity that disturbs at least one acre of land. CDOT will obtain this permit from CDPHE’s Water Quality Control Division.

Utility Permit—The construction contractor will be required to obtain a utility permit for any work within CDOT’s ROW to install or maintain a utility.

WHAT OUTREACH AND OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WERE PROVIDED?

Stakeholder participation during the preparation of the *US 50 West PEL* (CDOT, 2012a) included involvement and input on issues, purpose and need, alternatives development and screening, and the PEL recommended Preferred Alternative. In addition, outreach occurred during the preparation of the *US 50 Purcell Blvd to Wills Blvd EA* (June 2014). No specific public outreach has been conducted for the *US 50 Wills Blvd to McCulloch Blvd EA*. CDOT has informed the public that as funding becomes available, improvements will be made, as noted in the *US 50 Purcell Blvd to Wills Blvd EA*.

Appendix B provides documentation for the coordination and consultation that CDOT and FHWA have conducted with federal, state, and local agencies and Native American tribes for this EA. CDOT contacted agencies for technical information and coordination related to floodplains and drainage; parks, recreation, and trail plans; and land use development. Also, in January 2014, as a part of the *US 50 Purcell Blvd to Wills Blvd EA*, FHWA contacted six federally recognized Native American tribes with an established interest in Pueblo County (Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Comanche Nation of Oklahoma, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, and Northern Cheyenne Tribe), and invited them to participate in the project as consulting parties under the National Historic Preservation Act. Consultation with Native American tribes recognizes the government-to-government relationship between the United States government and sovereign tribal groups (see **Appendix A09**). In that context, federal agencies must acknowledge that historic properties of religious and cultural significance to one or more tribes may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries. One tribe, the Kiowa Tribe of Oklahoma, expressed an interest in consulting. CDOT and FHWA will include the Kiowa Tribe in all notifications and other public documents related to this EA.

WHAT ADDITIONAL OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WILL BE PROVIDED?

A public meeting for this project will be held at the Pueblo West Library (298 S. Joe Martinez Blvd, Pueblo West, CO 81007) on May 31, 2016, from 5:00 PM to 7:00 PM.

NEXT STEPS

After CDOT's and FHWA's initial acceptance of this EA, a public and agency review of the EA will occur. The EA will be made available for review for 30 days. During this time, a public meeting will also be held. After the 30-day public comment period concludes, the comments gathered will be evaluated to determine where changes to the analysis would affect the decision. Responses to substantive comments will be prepared and included in the decision document.

If comments received during the public availability period indicate that changes to the Proposed Action are necessary, then a clarification will be made in the decision document to:

- Reflect changes in the Proposed Action or mitigation measures resulting from comments received on the EA or at the public meeting and any impacts of the changes
- Include any necessary findings, agreements, or determinations (for example, wetlands and Section 106)
- Include a copy of pertinent comments received on the EA and responses to the comments

Upon conclusion of the public comment period, CDOT and FHWA will prepare a decision document after the comments are received, assessed, and provided a response. Upon completion of the EA, the decision document, and final design, the project construction phase will commence. It is anticipated that improvements between Wills Blvd and Pueblo Blvd will be advertised for construction in 2017 and that construction will take place over a two-year period. Other elements of the Proposed Action will be designed and constructed when funding becomes available.

REFERENCES

Colorado Department of Transportation (CDOT). 2009. *Impacted Black-Tailed Prairie Dog Policy*. January. Accessed December 2013.
<http://www.coloradodot.info/programs/environmental/wildlife/guidelines/pdpolicy0109.pdf/view>.

Colorado Department of Transportation (CDOT). 2012a. *US 50 West Planning and Environmental Linkages Study*. June. [Available in Appendix A02]

Colorado Department of Transportation (CDOT). 2012b. *US 50 West PEL Implementation Plan*. June. [Available in Appendix A03]

Colorado Department of Transportation (CDOT). 2012c. *SB 40 Guidelines*. Accessed September 2013.

<http://www.coloradodot.info/projects/125NorthCOSDB/contract-documents/SB40%20Support%20Documents/SB%2040%20Guidelines.pdf/view>

Colorado Department of Transportation (CDOT). 2015. *US 50 West Wills Blvd to BNSF Acceleration Lane Categorical Exclusion*. October.

Colorado Department of Transportation (CDOT) 2016a. *Project Drawings and Plans*. Prepared for CDOT by J.F. Sato and Associates, January. [Available in Appendix A01]

Colorado Department of Transportation (CDOT) 2016b. *Air Quality Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A04]

Colorado Department of Transportation (CDOT) 2016c. *Soils Investigation Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by RocSol. February. [Available in Appendix A05]

Colorado Department of Transportation (CDOT) 2016d. *Water Quality and Floodplains Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A06]

Colorado Department of Transportation (CDOT) 2016e. *Wetlands Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A07]

Colorado Department of Transportation (CDOT) 2016f. *Biological Resources Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 13 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A08]

Colorado Department of Transportation (CDOT) 2016g. *Historic and Archaeology Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A09]

Colorado Department of Transportation (CDOT) 2016h. *Paleontology Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A10]

Colorado Department of Transportation (CDOT) 2016i. *Environmental Justice Technical Report for the US 50 West Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A11]

Colorado Department of Transportation (CDOT) 2016j. *Parks and Recreation Resources Technical Report for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A12]

Colorado Department of Transportation (CDOT). 2016k. *Traffic Noise and Vibration Impact Assessment for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A13]

Colorado Department of Transportation (CDOT) 2016l. *Hazardous Materials Initial Site Assessment for the US 50 West: Wills Blvd to McCulloch Blvd (Milepost 313 to Milepost 307)*. Prepared for CDOT by Felsburg Holt and Ullevig, April. [Available in Appendix A14]

Colorado Parks and Wildlife (CPW). 2008. *Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls*. February.

Colorado Parks and Wildlife (CPW) and Colorado Department of Transportation (CDOT). 2013. *Guidelines for Senate Bill 40 Wildlife Certification Developed and Agreed Upon by Colorado Parks and Wildlife and the Colorado Department of Transportation*. April 2013.

Pueblo Area Council of Governments (PACOG). 2002. *2035 Comprehensive Plan: Pueblo Regional Development Plan*. July.

Pueblo Area Council of Governments (PACOG). 2011. *Amended 2035 Long-Range Transportation Plan*.

Pueblo County. 2013. Turkey Creek Conservation District: Pueblo County Noxious Weeds Management. Website: <http://www.puebloweeds.com/>. Accessed in June.

Transportation Research Board. 2010. *Highway Capacity Manual*. Fifth Edition.

Transportation Research Board. 2012. Transportation Research Record: Journal of the Transportation Research Board, No. 2279. 2012. "Relationship Between Freeway Flow Parameters and Safety and Its Implication for Adding Lanes." Washington, D.C., DOI: 10.3141/2279-14.

Transportation Research Board. 2013. *Identification and Evaluation of the Cost-Effectiveness of Highway Design Features to Reduce Nonrecurrent Congestion*. Prepublication Draft. Not Edited. SHRP 2 Reliability Project L07. National Academy of Sciences.

United States Army Corps of Engineers (USACE). 2007. Regulatory Guidance Letter. No. 07-02. Dated July 4.

APPENDIX A. SUPPORTING TECHNICAL DOCUMENTATION

APPENDIX B. AGENCY AND STAKEHOLDER COORDINATION

US 50 West Wills Blvd to McCulloch Blvd EA
Appendix B – Agency and Stakeholder Coordination

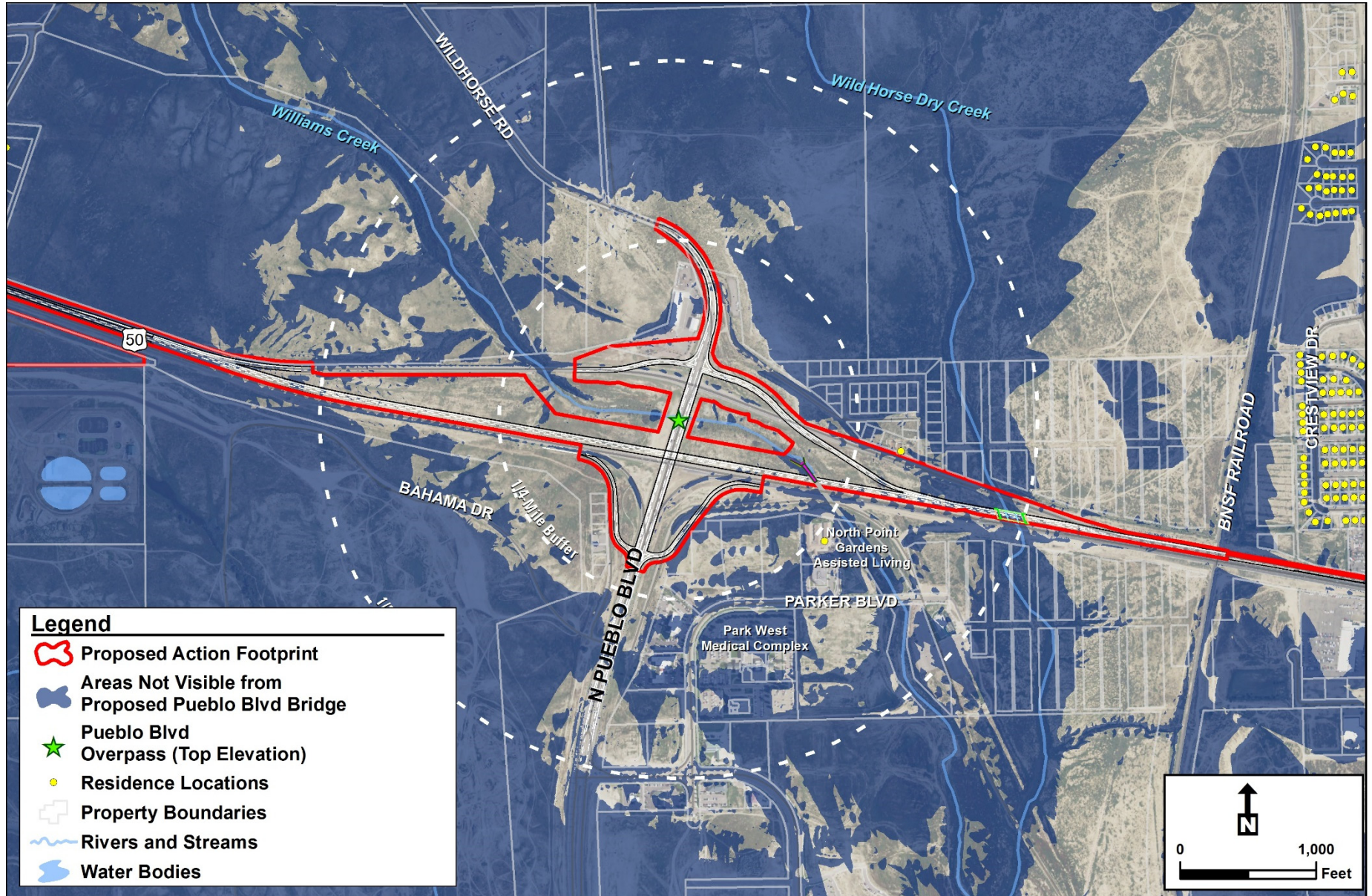
Date	Agency Contact	Summary
December 10, 2015	Pueblo West Metropolitan District	<p>Meeting with Dan Centa - Director of Public Works, Darrin Tangeman – District Manager, Scott Eilert – Director of Utilities, and Shawn Winters – District Engineer Assistant</p> <p>This meeting established collaboration and direction for a regional pond site to be shared by CDOT and PWMD:</p> <ul style="list-style-type: none"> • Agreed that a regional pond location near the PWMD treatment plant would be beneficial for municipal runoff • Expansion plans for treatment plant would constrain locating the pond on PWMD property • Identified a private parcel north of the treatment plant as a pond site, and an outlet to the unnamed tributary of Wild Horse Dry Creek east of the plant • Current treated water from PWMD plant is discharged into the unnamed tributary • PWMD is planning a new pipeline to send treated water from the plant to the Arkansas River
December 16, 2015	City of Pueblo	<p>Meeting with Scott Hobson – Assistant City Manager, and Steven Meier – Director of Parks and Recreation</p> <p>Discussed the compatibility of the regional pond outlet into the unnamed tributary location within the City of Pueblo (east of the PWMD treatment plant):</p> <ul style="list-style-type: none"> • There is a conservation easement within the area that allows for underground pipelines for storm water • The City recognizes the benefits of the regional pond, and would coordinate with CDOT on compliance with the Conservation Easement
January 4, 2016	City of Pueblo and Pueblo West Metropolitan District	<p>Letter to Scott Hobson – City of Pueblo, and Dan Centa – Pueblo West Metropolitan District</p> <p>CDOT sent a follow-up letter to the City and PWMD summarizing the outcome of the regional pond coordination meetings</p>

US 50 West Wills Blvd to McCulloch Blvd EA
Appendix B – Agency and Stakeholder Coordination

Date	Agency Contact	Summary
January 8, 2016	Pueblo West Metropolitan District	Dan Centa, PWMD Public Works Director – email regarding the proposed regional pond concept: <ul style="list-style-type: none"> • PWMD indicated the proposed regional pond would “work very well” • Coordination will be required with PWMD
January 2016	State Historic Preservation Officer and City of Pueblo	Consulted with SHPO and City of Pueblo on the effects of the Proposed Action for the Dry Creek Bridge (5PE3913), Kansas Colorado Railroad (5PE320.3), US Highway 50 (5PE8108.1), and Topeka and Santa Fe Railroad (5PE1665.19)
February 1, 2016	State Historic Preservation Officer	Correspondence from SHPO concurring with the effects determinations for 5PE3913, 5PE1665.19, 5PE8108.1, and 5PE1665.19. CDOT did not receive any comments from the City of Pueblo within the 30-day review period stipulated by regulation
March 4, 2016	City of Pueblo	Response to January 4, 2016 Regional Pond letter, indicating that the proposed project appears acceptable to the City of Pueblo. Email provides a list of implementation-related requirements, including an access easement across City property, IGA/MOU with the City and PWMD, construction documents and drainage report, and possible State of Colorado approval.
May 2016	Kiowa Tribe of Oklahoma	Request for Section 106 Consultation from John M. Cater, PE, Division Administrator, Federal Highway Administration, to Kiowa Tribe of Oklahoma.
Ongoing	Pueblo West Metropolitan District - ongoing coordination with CDOT	Ongoing CDOT coordination with Dan Centa, Director of Public Works, PWMD, regarding trail planning. <ul style="list-style-type: none"> • Provided current trail plan

APPENDIX C. INTERCHANGE VISIBILITY

Pueblo Boulevard Interchange – Foreground Visibility



Purcell Boulevard Interchange – Foreground Visibility

