Project Study Report-Project Development Support (PSR-PDS)

To

Request Approval to Proceed to the Project Approval and Environmental Document (PA&ED) Phase

On Route 395 and 203 in Mono County in and near Mammoth Lakes

Between Crowley Lake Drive on Route 395; Meridian Boulevard on Route 203

And .83 mile north of Route 203 on Route 395; .11 mile east of Route 395 on Route 203

APPROVAL RECOMMENDED:

Teresa Erlwein PE

Terry Erlwein, *Acting Deputy District 9 Director- Planning*

APPROVAL RECOMMENDED:

Dennee Alcala

Dennee Alcala, *Project Manager*

APPROVED:

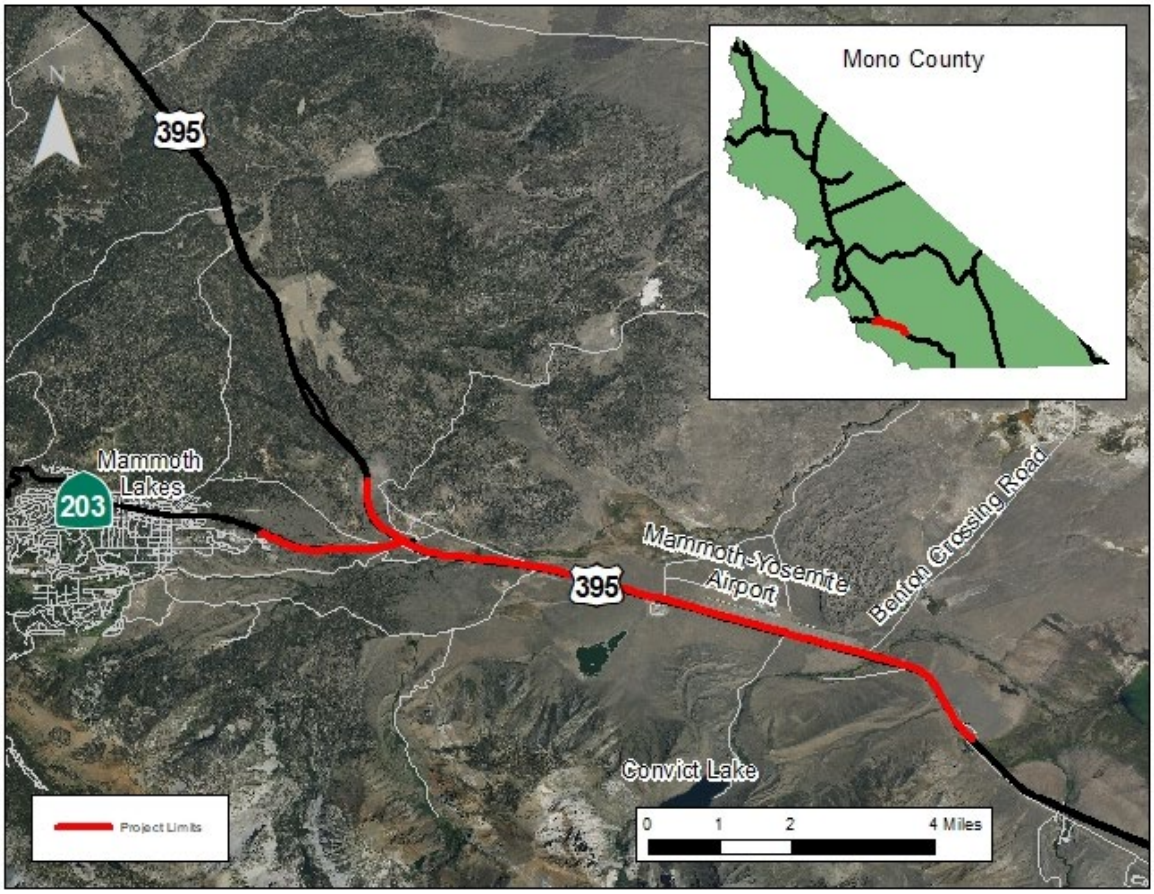
Digitally signed by Ryan A. Dermody
Date: 2020.06.22 12:48:50 -07'00'

Ryan Dermody, *District 9 Director*

06/22/2020

Date

Vicinity Map



This project study report-project development support has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

3/25/2020

REGISTERED CIVIL ENGINEER *DATE*

Table of Contents

1. INTRODUCTION

Project Description:

Within Caltrans District 9, the highest frequency of Wildlife Vehicle Collisions (WVC) are documented on United States (US) Route 395 and State Route (SR) 203 in Mono County between the Community of Crowley Lake and the Town of Mammoth Lakes (TOML). Collisions with large mammals, mainly Mule deer, come with risk of property damage or even injury to drivers. Furthermore, WVCs can negatively impact deer populations, which are important to the economy, culture, and biology of the region. This project proposes to construct a wildlife crossing corridor consisting of overcrossings, undercrossings, and an exclusion fence to reduce WVCs. There are 5 project alternatives consisting of different WVC reduction treatments along the corridor.

Project Limits	09-MNO-395/203 395-R18.03/R26.78, 203-6.87/R8.67
Number of Alternatives	6
Current Capital Outlay Support Estimate for PA&ED	$3,384,000
Current Capital Outlay Construction Cost Range	$18,000,000 - $64,000,000
Current Capital Outlay Right-of-Way Cost Range	$643,000 - $1,889,000
Funding Source	No funding source identified – multiple potential but unsecured funding sources.
Type of Facility	four-lane conventional highway and freeway functioning as four-lane divided expressway (US 395), four-lane undivided and divided conventional highway (SR 203).
Number of Structures	6
Anticipated Environmental Determination or Document	IS/EA – Initial Study under CEQA and Routine Environmental Assessment under NEPA.
Legal Description	IN MONO COUNTY IN AND NEAR THE TOWN OF MAMMOTH LAKES ON ROUTE 395 FROM CROWLEY LAKE DRIVE TO ROUTE 203 AND ON ROUTE 203 FROM MERIDIAN BOULEVARD TO ROUTE 395.
Project Development Category	Category 3 (revised freeway agreement, new Right-of-Way)

The remaining capital outlay support, right-of-way (R/W), and construction components of the project are preliminary estimates and are not suitable for programming purposes. Either a project report or a supplemental Project Initiation Document (PID) following the format of a Project Study Report (PSR) will serve as the programming document for the

remaining components of the project. A project report will serve as approval of the "selected" alternative. The target for PA&ED is fiscal year 2022/2023 and the anticipated construction funding year is 2024/2025.

Other approvals required are:

- **FHWA Approval** - Determination of Engineering and Operational Acceptability, Final Approval
- **California Transportation Commission (CTC) Approval** - New Highway Easements
- **Property Owners Approval** - Right of Entry, Temporary Construction Easements, New Highway Easements
- **Local Agency Approval** - Cooperative Agreement, Maintenance Agreement, Storm Water

For full a list of coordinating agencies, see Section 14.

2. BACKGROUND

In October 2016, the California Department of Transportation (Caltrans) District 9 published a Feasibility Study Report (FSR) for WVC reduction in Caltrans District 9, which covers Inyo County, Mono County, and the eastern portion Kern County. Collisions were inferred based on the number of animal carcasses removed from State Highways and from California Highway Patrol (CHP) collision reports. The results of

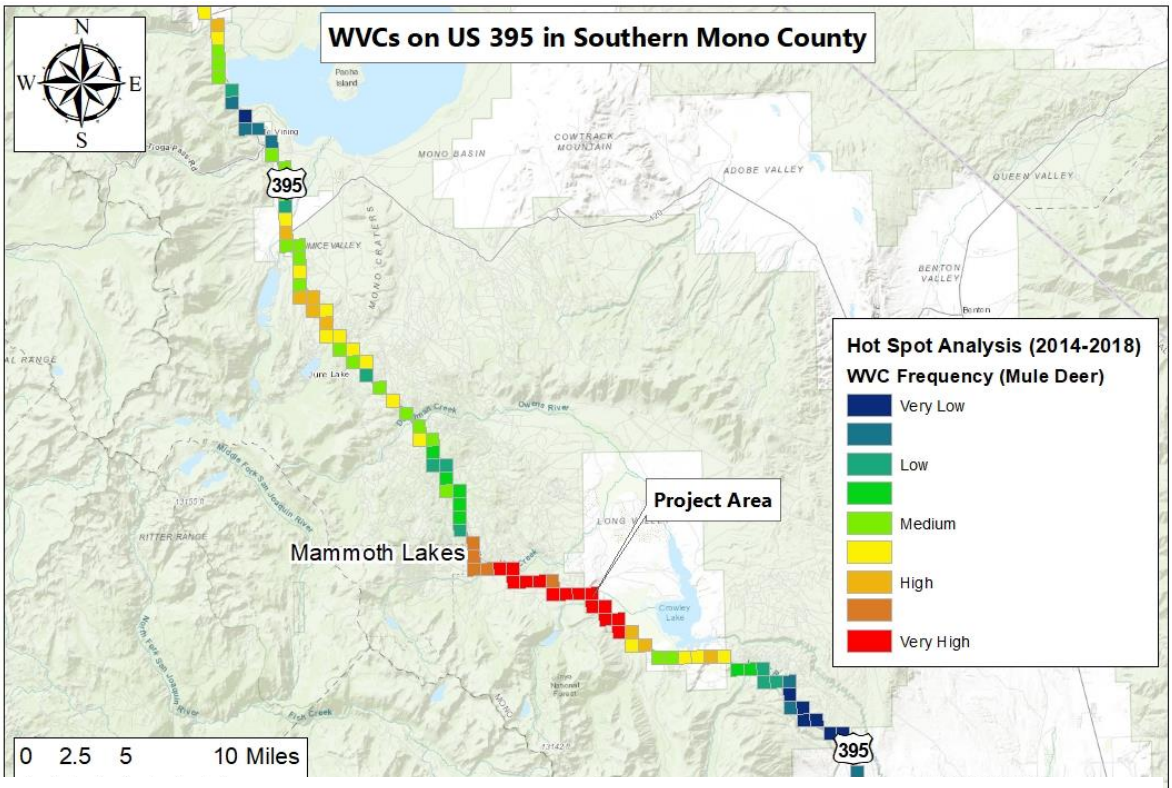


Figure 1: Southern Mono County - Mule Deer WVC hot spot analysis

this study were used to identify potential strategies to reduce WVCs. Caltrans has continued to collect carcass data since the completion of the FSR. Data through 2019 is now available and has been used in the preparation of this report.

After an overall analysis of WVCs in District 9, a project area was derived that represents the location with the highest concentration of WVCs; on US 395 from the intersection Crowley Lake Drive post mile (PM) R18.03) to just beyond the intersection with SR 203 (PM 26.0) and on SR 203 from Meridian Blvd (PM 6.9) to just beyond the intersection with US 395 (PM R8.67).

Mule Deer Herds in the Project Area.

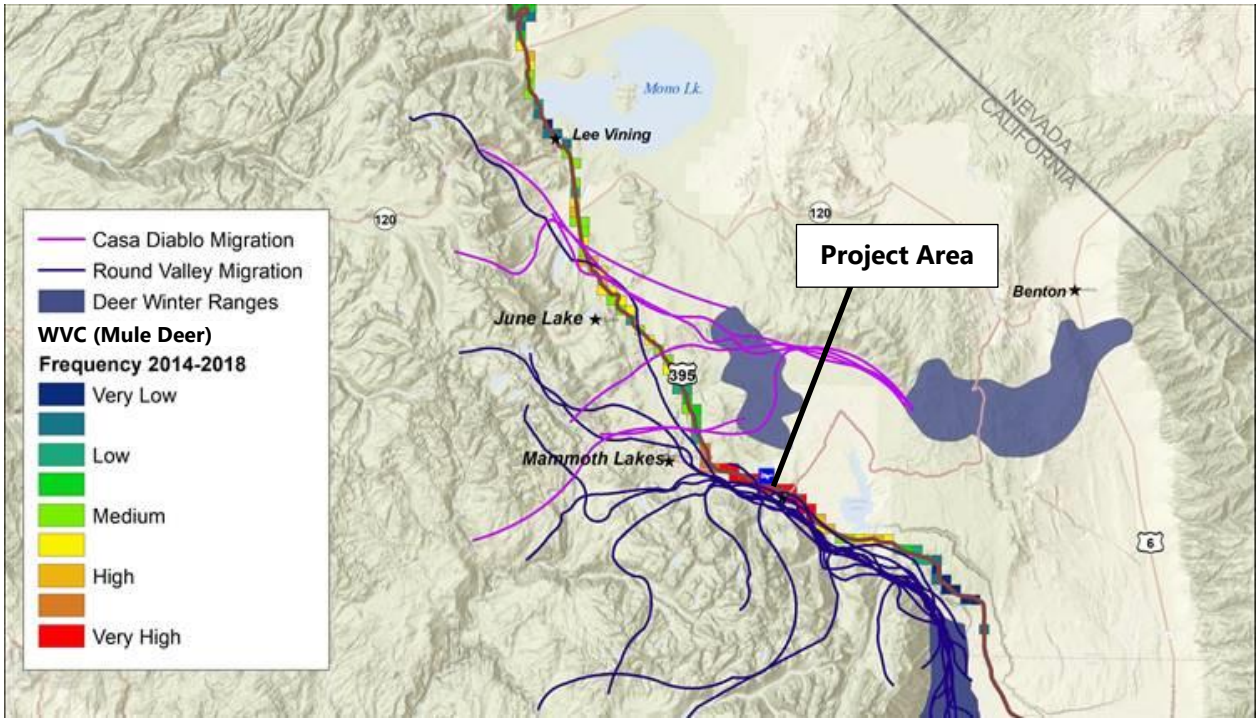


Figure 2: Round Valley/Casa Diablo Herd migration routes and winter ranges from CDFW.

The projects limit is within a natural mule deer stopover area, an area where herds linger for an extended time period during migration season. This stopover area is frequented by the Casa Diablo and Round Valley Mule deer herds during the months of May through September. While at the stopover area, many deer move back and forth across the highway to access forage and water resources available on both sides of US 395. As a result, the frequency of deer crossing the highway increases during May-September, which increases the risk of WVCs. After the stopover, deer migrate from the to summer ranges located on both the east and west sides of the Sierra Crest based on the timing of vegetation emergence. However, many deer remain in the stopover area as summer residents and these animals may cross the highway multiple times during the summer to access food and water resources.

Wildlife Data Collection and Current District 9 Efforts

While information on WVCs has been collected since the early 1970s, the most recent effort was launched in 2002. Maintenance personnel were asked to report twice a day,

once in the morning and once in the evening, any deceased wildlife removed from the roadway. Data collection efforts have typically followed consistent methods whereby deceased wildlife are removed by Caltrans maintenance staff and reported to Dispatch to be recorded in the District 9 Wildlife Mortality Log Book. Recent changes in WVC data collection have been developed and implemented by Caltrans environmental staff to improve the reporting rate and quality of data. These improvements include an updated mapping database and the ability to report WVCs through an online ArcGIS Survey 123 Form available to Caltrans staff and local stakeholders.

District 9 has continued to make efforts to notify the traveling public of the risks of WVCs through social media and messages on permanent and temporary Changeable Message Signs (CMS) placed in the project area during high frequency periods of WVCs. Since the completion of the FSR, northbound and south bound flashing beacons (shown below in table 1) were installed to notify travelers to be alert for crossing mule deer. However, there has not been a reduction of WVCs a result of these beacon.

General Description of the Project Area, Terrain, and Habitat

Within the project limit, US 395 passes through several terrain features, which may contribute to WVCs. Most of the project area consists of flora typical of high elevations within the Great Basin Desert. The dominant flora being Big Sagebrush, Bitterbrush, and smaller shrubs. Forest cover consisting of Jeffrey and Pinion pine trees begin to sparsely appear near the junction of SR 203 and US 395 and increases in cover to the west on SR 203, toward TOML, and to the north of the junction along US 395.

Most of the project area between Benton Crossing Rd. and SR 203 is fairly flat with little topographic relief. Cut slopes are generally 20 ft. tall or less and fill slopes are generally less than 15 ft. tall. US 395 crosses two creeks within this section, Convict Creek and Mammoth Creek, which flow year-round. Laurel Creek, just north of Hot Creek Hatchery Rd. flows under the highway intermittently depending on snow pack levels.

The area with greatest topographical relief within the project area occurs between the Caltrans McGee Maintenance Station and Mt. Morrison Rd. This section of highway skirts the steep eastern slopes of McGee Mountain immediately to the West, crosses the Tobacco Flat area, and moraines from the Convict Lake Drainage.

Image 1: Tobacco Flat and US 395

Tobacco Flat is a relatively shallow depression between the north slopes of McGee Mountain and the moraine to the north. Its topography slopes from west to east fairly steeply towards the valley floor and the highway. Within this depression is a deep drainage feature which intersects steeply with the highway. A seep is evident here immediately adjacent to the south bound lanes and is densely covered in willows. This is a significant hot spot, with the second highest concentration of WVCs in the project area. The largest hot spot in the District is located nearby between Benton Crossing Rd. and Mt. Morrison Rd. Terrain features, constriction of the migration route by the highway, topography, food, and water sources near the highway, and the duration the deer remain in this region during spring may contribute to the concentration of WVCs here.

Image 2: US 395 looking to the north at hot spot no. 1

Existing Facilities

US 395

US 395 through the project limit is a four-lane conventional highway, or four-lane divided expressway, with a variable width median from 46 ft.-100 ft. and shoulder width of 3-10 ft. This segment of US 395 is also designated as Scenic Highway. Side slopes vary from relatively flat slopes to cut and fill slopes of 2:1. Metal beam guardrail is installed at various locations. This portion of US 395 is built to concept as envisioned in the Interregional Transportation Strategic Plan and no further capacity increasing projects are planned. R/W width varies 200 ft. to 842 ft. and is generally delineated with a standard barbed wire fence.

In the project area, US 395 is classified as a Principal Arterial and is the one major route in eastern California providing access to Nevada from southern California. The average annual daily traffic (AADT) on US 395 is approximately 10,048 (2018) at the junction with SR 203 and consists of a mix of commercial, recreational, and interregional traffic. North of the junction with SR 203, the AADT drops to approximately 5,366 (2018). The *2011 US 395 Origination and Destination Study* found that 60% of surveyed travelers were recreational in nature. TOML is a major year-round recreational destination, especially for southern Californians. Summer visitation usually starts at the end of April with the opening of fishing season and peaks in August. This section of US 395 has a posted speed limit of 65 mph.

Adjacent land to Caltrans R/W through the project area is a mix of public and private ownership including the USDA Forest Service (USFS), Bureau of Land Management (BLM), Los Angeles Department of Water and Power (LADWP), the TOML, and Mono County. Adjacent land use includes ranching and cattle grazing, a small industrial park, water extraction, and a regional airport.

SR 203

Within the project area, SR 203 is a four-lane conventional highway with a variable width median, from 4 ft. to 150 ft., from the US 395 junction of Meridian Blvd. The facility is both a divided highway and an all paved undivided highway. SR 203 is classified as a Minor Arterial and provides access to the TOML.

Since SR 203 is a conventional highway with access control for a short length of fence near the junction of US 395 on the north side of the west bound lanes. The R/W varies in width from 200 ft. to 385 ft. SR 203 is built to its conceptual facility objectives as noted in 2016 SR 203 Transportation Concept Report. SR 203 has variable speed limits ranging from 35 to 55 mph within the project area.

Adjacent land to Caltrans R/W through the project area belongs to the USFS.

Signage

District 9 has placed standard warning signs for deer throughout the project area. In line with the recommendation by the 2016 FSR, the District's Traffic Operations unit affixed two solar flashing beacons, which run year-round, to existing signage. Current placement of standard non-vehicular warning signs for Deer (W11-3) are summarized for US 395 and SR 203 in the table below.

Locations of Standard Warning Sign for Deer (W11-3) Within and adjacent to Project Limit							
Route	Location	NB	SB	EB	WB	Within Project Area	Remarks
US 395	PM 12.77		✓			no	
	PM 18.0	✓				no	24-hour solar flashing beacon installed 2016. 240 ft South of Crowley Lake Dr.
	PM 20.98		✓			yes	
	PM 25.28		✓			yes	24-hour solar flashing beacon installed 2016
	PM 26.68	✓				yes	
	PM 27.13		✓			no	
SR 203	PM 6.34				✓	no	Supplemental plaque attached: "Next 2 Miles"
	PM 7.11				✓	yes	Attached to overhead light pole
	PM 8.33			✓		yes	Supplemental plaque attached: "Next 2 Miles"

Table 1: Standard warning sign W11-3 placement.

Previous Deer Fence

In general, current methods of reducing WVCs are not new and, in fact, were being studied and implemented as early as the 1960s by the California Department of Fish and Wildlife (CDFW) and Caltrans statewide.

Previous efforts installed a "deer proof" fence in 1969, along Mammoth Creek. However, the CDFW and Caltrans ultimately determined that the fence was ineffective at keeping

deer out of the state highway system's R/W. Deer were likely to have their legs entangled in the barbed wire or become trapped within the R/W, increasing the risk for a WVC. Public and agency concern that the fence caused more harm than good and its ineffectiveness at keeping deer out of the roadway triggered its removal in 2006. Only a small portion of it remains under the bridges at Mammoth Creek.

Since the original "Deer Proof Fence," additional research has been conducted on mule deer movement and migration patterns. Caltrans consultation with CDFW has created an improved design described under the alternatives section of this document. The new design is expected to be more effective than previous deer exclusion fence efforts.

Mammoth Yosemite Airport's Proposed Security/Wildlife Fence

The Mammoth Yosemite Airport, operated by the TOML, lies adjacent to US 395 between Benton Crossing Rd. and Hot Creek Hatchery Rd. The airport and Caltrans R/W abut each other here. Proposals with much multiple interagency interaction for assorted security/wildlife fences have occurred since at least the early 2000s. As part of this ongoing effort, the TOML approached Caltrans in February 2016 with plans to install an 8 ft. chain link fence around the airport (including along US 395 R/W) in the summer of 2017. This was supported by a consultant's December 2015 Wildlife Hazard Assessment (WHA). The consultant did not confer with Caltrans prior to finalizing the WHA. The fence project did not get the required approvals to meet the original 2017 delivery timeline and is yet to be constructed.

In early 2020, the "Airport Security Fence" project is still included in the Airport Capital Improvement Plan and eligible for Federal Aviation Administration (FAA) funding. This project consists of two components – one for Transportation Security Administration (TSA) items and the other pertaining to wildlife (i.e. keeping wildlife out of the airfield areas). The TSA portion is the priority for the Town/FAA; hence, would be constructed first. This is for the terminal complex and would not further affect wildlife passage.

The Wildlife component, which would include fence along US 395 R/W, is still pending and also needs to address livestock crossing. The color of the fence would be approved by Caltrans and the USFS, likely similar to the color of the Caltrans McGee Maintenance Station. TOML would maintain the airport fence through a maintenance agreement with Caltrans. TOML has been invited to participate in the stakeholder engagement meetings. For more information on stakeholder involvement, see Section 9.

Currently, a Special Use Permit (SUP) from the USFS grants the TOML rights to use a portion of the land the airport utilizes for operation and thus, the USFS has authority over part of the Airport Fence project. As of early 2020 the TOML is working toward acquiring abutting land from the USFS and LADWP to simplify jurisdictional issues in developing the fence project.

Airport personnel described the general pattern of the deer, as avoiding the areas of the airport with buildings and hangers and tracking around the airport to the north and south. At the south end of the air field the deer cross through Caltrans' standard barb wire fence,

continue onto the opposite side of airport property, and onto foraging areas east of the airport. As it is now, deer are unimpeded by Caltrans R/W fence (standard 42" tall barb wire fence) separating the airport from Caltrans R/W and deer cross the highway from the west to gain access to foraging areas east of the airport.

If and when the airport's wildlife fence is installed, it will be a new barrier for wildlife and it may cause an increase in WVCs at the fencing ends. It will be important for CDFW and Caltrans to monitor and record WVCs once the fence is installed.

The Caltrans Project Alternatives developed are heavily influenced by the assumption of a wildlife fence along the airport. See the discussion in Section 6 regarding those influences.

3. PURPOSE AND NEED

Purpose:

To reduce instance of WVCs, improve wildlife habitat connectivity, and improve safety for the traveling public in the Long Valley area of Mono County, CA.

Need:

The 2016 Wildlife Vehicle Reduction FSR identified high concentrations of WVCs, mainly involving mule deer, on US 395 and SR 203 in the Long Valley Area. In the four years since completion of the FSR, stringent data collection methods were implemented to improve WVC data quality. Between 2016 and 2019, 226 WVCs with mule deer were reported within the project area. This averages approximately 57 WVCs/year, or approximately 4 WVCs/mile/year.

Research on mule deer movement by CDFW suggests that the Long Valley area of Mono County is a migration corridor in the spring and fall and is a natural stopover area in the summer for the Casa Diablo and Round Valley mule deer herds. The corridor is transected by US 395 and SR 203, creating conflict points between motorists and wildlife crossing the State Highway. While the majority of documented WVCs involve mule deer, this habitat supports numerus wildlife species which can be impacted by the State Highway. Furthermore, high volume traffic years may further reduce permeability, resulting in population declines and genetic isolation, for less mobile species.

Even if a motorist is successful at avoiding wildlife in the roadway, a collision may result from efforts at avoiding it. Numerous collisions have been documented where drivers lose control of their vehicles, leave the highway. Collisions have also been documented where a vehicle has been in a WVC, pulled to the side of the road, and was struck by a passing vehicle.

Collisions create significant costs in the form of vehicle damage, insurance claims, medical bills, removal of carcasses, and the recreational value of deer. Furthermore, in recent years there has been increased public interest in wildlife connectivity and reducing the rate of WVCs.

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

The purpose of this project is focused on WVC reduction. This project does not propose modifications to the highway geometry, changes that would increase capacity, or modifications to circulation or demand. Subsequently, a Traffic Engineering Performance Assessment will not be produced as part of this document by decision of the Caltrans Project Development Team (PDT). A summary of traffic impacts within the project area are included under the next section.

5. DEFICIENCIES

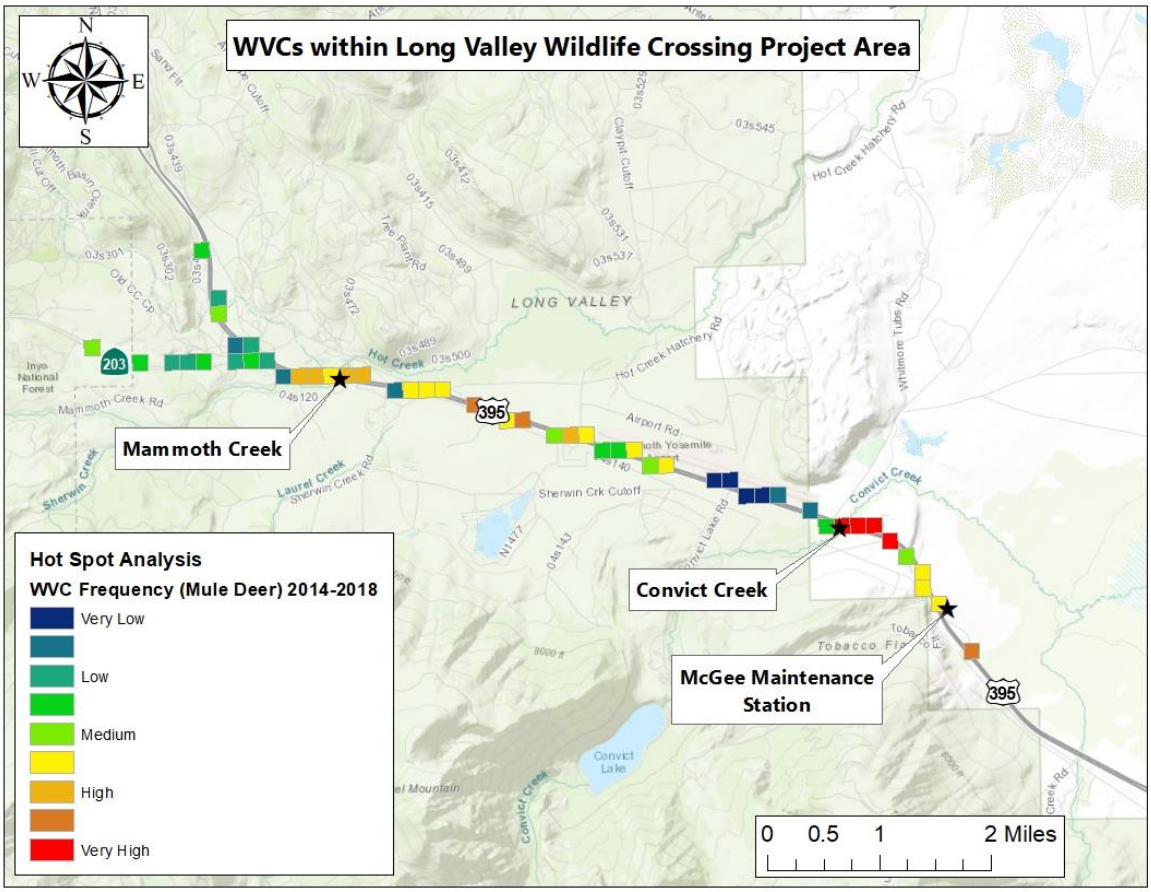


Figure 3: Project Area WVC hot spot analysis 2014-2018

Of the many variables associated with WVCs, the most important is likely the length of time deer spend in the stopover area; up to 10 weeks in the spring and a bit less in the fall. In spring, deer utilize this area waiting for high elevation passes to clear of snow, so they can migrate to their summer range west of the Sierra crest. WVCs are most frequent in the spring. In the fall, deer spend less time in the stopover area while on their way back down to their winter range in Round Valley.

CDFW report that mule deer populations, specifically within the Casa Diablo herd, have been decreasing over the past several decades. Besides the risk to drivers and mule deer,

there are also risk in the loss of key mule deer migration pathways , putting the population at even greater risk for decline. However, it should be noted that CDFW continues to issue hunting permits for the herd, and these hunting permits provide tangible benefits to the economy of Mono County. Other state transportation agencies, such as Colorado DOT, have been able to develop wildlife valuation to the economy to justify similar WVC reduction projects. While Caltrans has yet to develop California specific valuation, there is an intrinsic value of the deer population for both the economy and local environments that should be considered in developing this project. Reductions in deer population could have a ripple effect on hunting and therefore, local economies. The following graph shows the monthly distribution of deer carcasses removed from the project area.

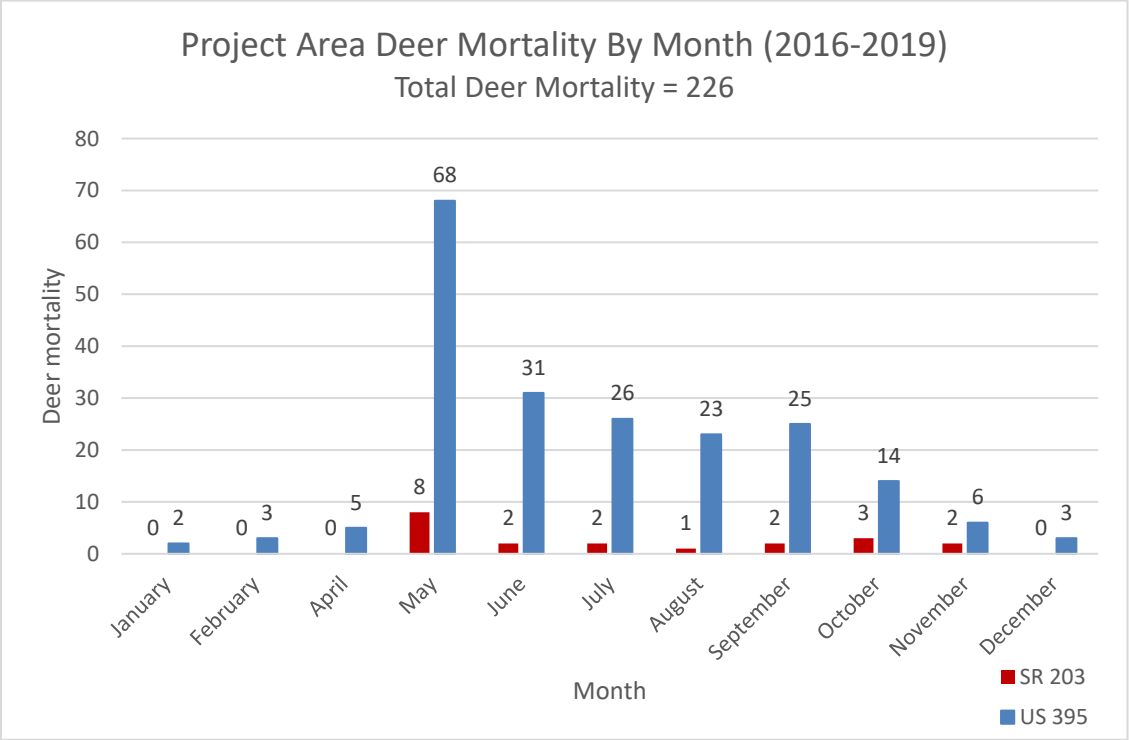


Figure 4: Deer Mortality in the project area by month (2016-2019)

Traffic

US 395

The FSR calculated a ten-year collision rate within the project area between January 2004 through December 2013. The total collision rate for this time, including collisions with deer, was 0.70, which was higher than the statewide rate of 0.43. The District has continued to collect wildlife collision data from collection of carcasses within the project area. A 3-year collision rate was calculated between 01/01/2017 and 12/31/2019 by compiling collisions reported by the California Highway Patrol (CHP), in the Statewide Integrated Traffic Records System, and adding WVCs as inferred by Caltrans Carcass data. The combined data was adjusted so that WVCs collected by both CHP and Caltrans were not double counted. The results are displayed in the following table:

Mono 395 P.M. R18.03/R26.78					
Type and Number of Collisions			**Collision Rate/MVM**		
	WVC	**Total**		**Actual**	**Statewide Average**
Fatal	0	0	**Fatal**	0.0	0.009
Injury	3	12	**Fatal + Injury**	0.17	0.18
Property Damage Only	37	76			
Caltrans Data	137	137			
Total	177	225	**Total**	3.15	0.50

Table 2: US 395 Collision Summary in the Project Area

Between 2017 and 2019, there were a total of 225 collisions, with 12 injuries and no fatalities, on US 395 within the project area. CHP recorded 40 WVCs, 3 of which resulted in injuries. Caltrans District 9 inferred an addition 137 collisions, for a total of 177 WVCs, based upon district carcass data.

SR 203

The FSR did not include collision rates for SR 203 within the project area. However, carcass data has been collected and a 3-year collision rate was prepared for the period between 01/01/2017 and 12/31/2019 in the same manner as US 395.

Mono 203 P.M. 6.9 /8.6					
Type and Number of Collisions			**Collision Rate/MVM**		
	WVC	**Total**		**Actual**	**Statewide Average**
Fatal	0	0	**Fatal**	0.0	0.016
Injury	0	7	**Fatal + Injury**	0.45	.53
Property Damage Only	1	9			
Caltrans Data	15	15			
Total	16	31	**Total**	1.03	1.52

Table 3: SR 203 Collision Summary in the Project Area

Between 2017 and 2019, there was a total of 31 collisions on SR 203 in the project area. No fatalities occurred but there were 7 injury collisions. A total of 16 WVC collisions were captured on the segment. CHP recorded 1 WVC and an additional 15 WVCs were inferred based upon district carcass data. There were no injuries of fatalities resulting from collisions with deer.

Safety Evaluation

This collection of 3-year collision data, including WVCs, was used by District 9 Traffic Operations to conduct a Safety Evaluation, which calculates a Traffic Safety Index (TSI). The TSI is used for evaluating safety benefits of highway safety improvement

projects for the State Highway Operation and Protection Program (SHOPP). It is a measure of the collision cost saved by motorists expressed as a percentage of the improvement's capital cost. To request fund approval from the 201.010 Safety Improvement Program category of the SHOPP, a TSI greater than 230 is required. Within the project area, a TSI of 190 was calculated and therefore the project is not currently eligible for this funding source.

Even though there have not been fatalities as a result of WVCs, continued conflicts with deer crossings may pose risk to travelers. Based on size alone, when struck by a vehicle mule deer have the potential to cause substantial damage and injury to drivers and passengers.

6. CORRIDOR AND SYSTEM COORDINATION

Locally, US 395 forms the major access corridor to and through Inyo and Mono Counties. This corridor connects the Eastern Sierra region with Southern California and the Reno/Lake Tahoe region in northern Nevada. US 395 is identified as a regionally significant part of the Interregional Road System (IRRS).

The project areas portion of US 395 is designated by the US Department of Transportation Federal Highway Administration (FHWA) as "Other National Highway System Route", or "Other Principal Arterial". It is not part of the Interstate System and not subject to the vertical clearances of the Interstate System. It also is not part of the Strategic Highway Network (STRAHNET) so does not need to meet STRAHNET requirements for highway design.

SR 203 is the primary access to TOML, the only incorporated community in Mono County, and serves as a 'main street' corridor to the community. The approximately 8-mile long route begins at the Madera County line, weaving its way through the TOML before terminating at the route junction with US 395. Within the project limit, SR 203 is classified as a "Minor Arterial" and is part of the IRRS.

This report is consistent with other regional planning documents such as the Mono County Regional Transportation Plan (RTP) and Mono County General Plan. The 2015 Mono County RTP discusses wildlife collisions, especially with deer, in its policies and goals. The RTP states under Regional Policy 9B that the County supports improvements Highways and Roadways that would "Reduce the potential for wildlife collisions to improve transportation system safety." The RTP includes a wildlife collision map for Mono County.

This PSR-PDS is based on the 2016 Feasibility Study Report for Wildlife Vehicle Collision Reduction in Caltrans District 9 and is consistent with other Caltrans Planning Documents including the Caltrans Transportation Concept Reports for US 395 and SR 203, and the District System Management Plan for District 9 that recognizes deer as being a "…major safety issue for motorists."

Agency coordination for this project mainly involves the improvement of Mule deer Collision data collection to define the project scope. While concentrations of deer carcass data do provide some insight into hotspots for WVC, continued efforts by other agencies, such as high-resolution wildlife movement data from CDFW and ongoing coordination with BLM to install deer proof fencing around the Mammoth Creek bridge, will provide further information to refine the design of the project.

7. ALTERNATIVES

There are 5 proposed alternatives that would meet the project's purpose and need.

All alternatives are based on the concepts outlined in the 2016 Feasibility Study Report for Wildlife Vehicle Collision Reduction in Caltrans District 9. Alternatives were created and evaluated with help and guidance from CDFW and USFS. After reviewing numerous methods and working with CDFW it was determined that a system of wildlife exclusionary fence and dedicated crossings would have the most effect at reducing WVCs. Research and numerous case studies indicate that exclusionary fence in combination with appropriately sized and located crossing structures can reduce WVCs by 90% or more. This system of fence and overcrossings/undercrossings prevent wildlife from entering the roadway and remove the conflict between wildlife and vehicles. Alternatives would not impinge upon or close off existing land use/access and would promote safe passage for all wildlife small or large.

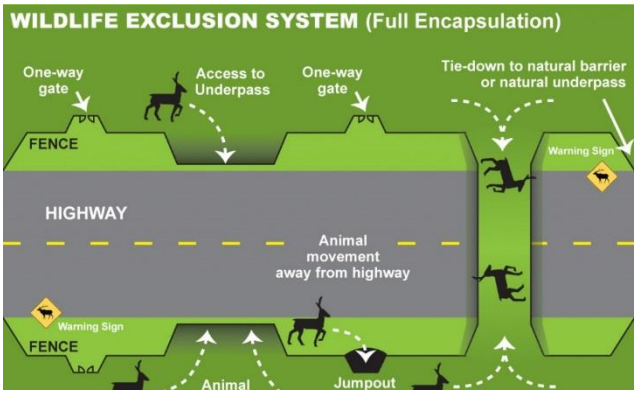


Figure 5: Wildlife Exclusion System.

All alternatives would reduce collisions with wildlife to some degree. The full build (Alternative 1) would be the most effective but is the most expensive. Distance between crossing locations are placed roughly one mile apart or as near to this recommended guidance as possible given the constraints within the project area.

A number of factors influenced the development of the alternatives. The width of the facility requires a larger opening for undercrossing structures and longer spans for overcrossing structures. The vertical height required of this larger opening size is more than the vertical relief available between Benton Crossing and Mammoth Creek, at least without modifying the highway profile grade or digging below the existing ground surface adjacent to the roadway. The proposed Mammoth Yosemite Airport fence (and the airfield itself) prevent crossing opportunities within its length, and since it is not feasible to place a crossing under the Airport, crossing opportunities would need to be placed at either end of the airport fence. All this combined adds significantly to the costs and complexity.

From a cost and constructability point of view, an undercrossing is preferable as a wildlife crossing if localized site conditions allow. Existing box culverts at Mammoth Creek and Convict Creek were built to accommodate wildlife and cattle. Besides these locations, the terrain within the project area isn't ideally suited throughout the project area to allow for the tall undercrossing needed to insure usage by deer and other large mammals. Overcrossings are shown where there is not enough vertical relief between the roadway and adjacent grade, on US 395 these locations are north of Hot Creek Hatchery Rd. An undercrossing is an alternate option to an overcrossing as shown in the alternatives. However, the grade adjacent to the roadway would likely need to be lowered substantially so a high ground water table or spring snow melt would not cause flooding of the undercrossing in spring when the greatest utilization of the crossing would occur.

All alternatives assume the TOML will install a wildlife exclusionary fence around the Mammoth Yosemite Airport. The fence continues to be a priority of the TOML and should be constructed in conjunction with this project for both projects to be successful. A fence around the airport would impact connectivity for wildlife, triggering the need for more crossing opportunities. Alternatives 1-3 differ only in limits of fence and placement of over/undercrossings. Alternative 1 is fully described below, and subsequent Alternatives describe the differences.

Structures Common to All 6 Alternatives:							
		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
US 395	McGee Creek Undercrossing PM 19.42	✓	✓	✓		✓	
	Convict Creek Bridges & Undercrossing PM 20.23	✓	✓	✓		✓	
	Overcrossing north of Hot Creek Hatchery Rd. PM 23.36	✓	✓	✓	✓		
	Medium mammal undercrossing midway between Mammoth Creek and crossing at PM ~23.36 to 24.07			✓	✓		
	Large mammal Over or Undercrossing midway between Mammoth Creek and crossing at PM ~23.36 to 24.07	✓	✓	`			
	Mammoth Creek Bridges Undercrossing (improvements to existing) PM 25.07	✓	✓	✓	✓		
SR 203	Overcrossing Structure PM 7.33 (0.5 miles from Meridian Blvd)	✓					
Notes:			1. No WVC reducing measures would be implemented on SR 203. 2. WVC reducing measures on US 395 would not be implemented north of the junction of SR 203 & US 395.	Same as Alternative 2 except the large mammal crossing described in Alternative 1 and Alternative 2 at PM 24.07 would be replaced with a medium mammal crossing.	"North Only Alternative	"South Only Alternative"	No Build Alternative

Table 4: Summary of structures on US 395 & SR 203, Alternatives 1-6.

Additional Studies Needed

Additional studies will be needed to validate the viability of the alternatives in this report. In 2019, the CDFW began a 2-year deer migration study, which includes cameras and animal collaring to produce high-resolution movement data that will be analyzed using Brownian Bridge Movement Models to produce deer migration routes and stopover areas. Caltrans and CDFW will use of this data to verify where wildlife is crossing the highway and to confirm the data obtained by Caltrans Maintenance and CHP collision reports. Fully analyzed movement data would be used to adjust the locations of some of the crossings and to determine where the fence line could be terminated. For a complete list of environmental studies, see Section 9.

Hydrology studies would be needed to determine seasonal ground water table elevations, flows, etc. near proposed crossing structures. Geotechnical investigations would be needed to determine soil engineering properties and foundation design for the proposed crossing structures.

Additional Intelligent Transportation System elements could also be included in the project. Some wildlife exclusionary fence and crossing structures have been paired with actuated wildlife detection systems to varying levels of success. Previous studies on these systems in California have shown high levels of false-positives resulting in driver desensitization. While these systems could be deployed at the ends of fence in all project alternatives, further studies would be required to implement these systems effectively.

Due to cost and complexity of Alternative 1 it could be constructed over time in stages. Alternatives 4 and 5, described below, could be constructed individually to achieve the overall build of Alternative 1. The WVC reduction measures described in this Alternative for SR 203 could also be built as a separate project.

Construction and Traffic

Construction impacts to the traveling public would occur due to construction of the crossing structures. Construction of Alternative 1 would span multiple seasons. Half-width construction could be accomplished at the undercrossings with a lane closure; reducing two lanes to one in the direction of travel. At the proposed Convict Creek bridges, a median detour could be utilized to allow one bridge to be constructed at a time. A creek diversion would be needed, or it may be possible to leave the existing 60-inch diameter culvert in-place and work around it to avoid having to construct a creek diversion.

Traffic control at the overcrossing structures would be like that used at Convict Creek. A median detour would likely be utilized to allow one side of the structure to be constructed at a time.

Traffic control would remain in place overnight for the duration of work. Pilot cars may be required at various times.

Anticipated Effectiveness

Literature and case studies suggest that crossing structures could provide a 90% or greater reduction of WVCs. This assumes adequately placed and sized crossing structures, a properly maintained fence, and properly maintained structures. The fence will need to be inspected regularly for compromises in integrity and any breeches repaired promptly. Smaller animals such as coyotes and foxes may compromise the fence line by burrowing below it. If an animal were successful at burrowing under the fence it could allow deer to pass beneath it and onto the roadway. To prevent this the fence should be extended below grade as described above. Proper maintenance of the fence includes visual inspection for sections that need repair due to vandalism, errant vehicles, and environmental factors such as downed trees or utility poles that may have fallen on it.

Crossing structures will need to be inspected regularly to ensure successful use. To encourage repeated use, the entrance and exits of the crossing structure should be regularly maintained to prevent vegetation from hiding or reducing the openness. Heavy vegetation at these points could discourage their use and limit their effectiveness. For a list of documents and studies used to determine the anticipated effectiveness of this project, see Section 18.

Alternative 1:

This Alternative is the "Full Build" option which would install fence and crossing structures on US 395 and a portion of SR 203 starting at Crowley Lake Dr. on US 395 and ending 0.83 mile north of the junction of US 395/SR 203.

US 395

Starting at Crowley Lake Dr. (PM R18.03) 78,317 linear feet of eight-feet high wildlife exclusionary fence would be installed on both sides of US 395 to 0.83 mile north of the junction of SR 203. The fence installed for this project would tie into the "new" security fence placed along the Mammoth Yosemite Airport. Fence should be installed at least two feet below grade where practicable to prevent burrowing wildlife from entering. The projects wildlife exclusionary fence would replace the existing barb wire R/W fence at the same location. However, it could be placed at various offsets to avoid sensitive environmental locations or to reduce impacts to the viewshed. On the east side of the highway, the exclusionary fence would tie into the Mammoth Yosemite Airport fence at both ends. The color of the fence would be appropriate for this Scenic Highway designation and be designed to withstand wind and snow loads. Fence is used to both prevent wildlife access to the highway and funnel wildlife to the crossing structures. Recent research and studies recommend a fence, which utilizes a variation of mesh size, with a square mesh opening size no larger than 6". Smaller sized mesh openings should be placed near the top of the fence especially in areas of sage grouse habitat. The smaller openings at the top create a denser mesh that makes it more visible to running deer and sage grouse. This should reduce the likelihood of deer or birds from running or flying into it.

A double cattle guard crossing structure would be placed where wildlife fence crosses an adjacent roadway or dirt road. Double cattle guards are considered too wide of an obstacle for deer and other wildlife to attempt to jump over or cross.

Alternative 1 propose wildlife fence installed around the industrial park across from Hot Creek Hatchery Rd. Doing so would require an easement for maintenance and installation of several cattle guard crossings at 3 dirt roads. Further study and consultation with CDFW and the USFS may reveal a simpler solution. One such solution might be to allow the wildlife fence to tie into the north and south perimeter walls/berms instead of going around the facility.

This alternative also proposes bridges at Convict Creek, similar to those existing bridges at Mammoth Creek, creating a crossing under the highway. The bridges would likely be a single span concrete structure without interior columns, maximizing the openness of the undercrossing. The bridge aesthetics and railing would match that of the Mammoth Creek bridges. The existing 60-inch diameter culvert, 8 ft. by 8 ft. by 223 ft. concrete box culvert cattle crossing, and the earthen embankment would be removed creating a wildlife passage under the highway; the earthen embankment would be replaced with two simple span concrete bridges, one each for the north bound and one for the south bound lanes.

The median area between the north and south bound lanes would be open like the one at Mammoth Creek. Wildlife fence would be installed to keep wildlife within the crossing and prevent access to the roadway. New Midwest Guardrail and transition railing would be installed at the bridges. Bridge railing and decorative features are proposed to be similar to those at Mammoth Creek. A wildlife passage would be constructed on each side of the creek and to allow passage during high and low flows. A clearance height of 10 ft. would be maintained from normal creek flow elevations to the underside of the bridge structure. (Installation of bridges here would also improve the riparian corridor.)

At US 395 PM 19.42, an undercrossing structure would be installed measuring 19 ft. tall, 36 ft. wide and 225 ft. long. This size would provide a well-lit and inviting crossing encouraging its use. At this location the road is built on top of approximately 40-60 ft. of fill. The undercrossing structure could be either prefabricated concrete arches or a steel plate pipe arch. A prefabricated concrete structure would likely be quicker to install and minimize traffic disruption. The soil created from the excavation for the undercrossing structure could be used to construct entrance and exit ramps eliminating the need to haul off excess earthen material.

Image 4: Bride railing and decorative features at Mammoth Creek bridges.

Two over or undercrossing structures could be placed between Hot Creek Hatchery Rd and Mammoth Creek. One at PM 23.36 and the other approximately midway between it and Mammoth Creek. Overcrossing structures would likely be prefabricated concrete arches with either prefabricated concrete walls or

masonry walls. The walls and arches would support earthen backfill to create a passage over the highway and median. Wildlife fence would be installed along the crossing structure to keep wildlife on the crossing structure. The crossings would be vegetated with native landscaping to encourage use and to shield headlights from below. Per the Highway Design Manual (HDM) a vertical clearance of 16.5 ft. over the highway will be provided. Median barrier and transition railing would be required around the structure as it would be a fixed object within the clear recovery zone. Based on recommended design guidance, the overcrossing structures should be no less than 130 ft.-165 ft. in width; the FSR assumed 150 ft.

Undercrossing would be challenging to construct as there is not much vertical relief between Mammoth Creek and Hot Creek Hatchery Rd. Hydraulic studies would be required to determine feasibility. Of particular concern is potential flooding due to a naturally high-water table and/or potential flooding of the undercrossing in late spring/early summer from seasonal snow melt. The size, length, and construction would be similar to that proposed at PM 19.42.

Image 5: Existing Mammoth Creek crossing.

The existing undercrossing at Mammoth Creek already utilized by deer and large carnivores according to camera trap data from CDFW. However, the crossing could be improved to increase its openness and visibility to wildlife as a crossing point. The following could be done: 1) willows and existing vegetation near the east entrance/exit would be trimmed and/or removed to increase visibility and 2) to increase the size of the east and west side entrances, the existing fill slopes could be cut back and retained with a tall retaining wall. These improvements should encourage use by wildlife. Further improvements could be made by removing the existing deer fence and re-grading the fill slopes at the south abutments, creating a high-water crossing**.** Currently, Caltrans is pursuing a smaller scale project with BLM and CDFW to install deer proof fence under the Mammoth Creek bridge to continue to facilitate movement of wildlife under the highway.

SR 203

A combination of fence and one overcrossing structure could be placed to reduce WVCs through this section of SR 203. Fence would start at PM R8.67 at the current cattle guard east of the north bound on and off ramps for US 395. An additional cattle guard would need to be installed. Fence would be placed on both sides of the highway and would end at Meridian Blvd. (PM 6.87). An estimated 17,100 linear feet of fence would be required. Since this is not an access-controlled facility, there is no existing R/W fence to remove. The wildlife fence would be designed, installed, and atheistically treated in the same manner as the wildlife fence on US 395

An overcrossing structure would be placed at approximately PM 7.33 where SR 203 is separated by a 170 ft. median. This location was chosen to take advantage of the existing

vertical relief. A prefabricated concrete arch and walls could be utilized to span one side of the roadway to the median; thus, allowing wildlife to cross over two lanes at a time. Earthen backfill would be placed and revegetated with native plant species. Decorative treatments and guardrail would be applied to the overcrossing structure in the same manner as overcrossings on US 395. For this type of facility, a minimum vertical height of 15 ft. would be maintained above the roadway. The width of the overcrossing should not be less than 150 ft. wide to appear clear and encourage use by wildlife. Wildlife fence would be installed along the edges of the structure.

US 395 & SR 203

Should wildlife find a way past the fence and into the roadway, jump-outs or ramps would be provided to allow them to get back over the fence and exit the roadway.

Anticipated Effectiveness

Based on 4 years of recent data (2016-2019) collected by Caltrans Maintenance, Caltrans Environmental, CDFW, and BLMD, 57 or more WVCs/year could be reduced on US 395 and on SR 203 with this Alternative.

Alternative 2:

Alternative 2 would be the same as Alternative 1 described above with the following differences:

> No WVC reducing measures would be implemented on SR 203. WVC reducing measures on US 395 would not be implemented north of the junction of SR 203 and US 395.

Anticipated Effectiveness:

48 or more WVCs/year could be reduced on US 395 with this Alternative. No reduction in WVCs would be seen on SR 203 or on US 395 north of the junction with SR 203.

Alternative 3:

Alternative 3 would be the same as Alternative 2 described above with the following difference:

> The large mammal crossing described in Alternative 1 and Alternative 2 at PM R24.07 would be replaced with a medium mammal crossing.

Anticipated Effectiveness:

48 or more WVCs/year could be reduced on US 395 with this Alternative.

Alternative 4:

North Only Alternative: This Alternative would install fence and crossing structures on US 395 only between Benton Crossing Rd. and the junction with SR 203. No fence or crossing structures would be installed south of Benton Crossing Rd.

Alternative 4 would take advantage of the existing Mammoth Creek crossing, but not install any WVC reducing measures on US 395 south of Benton Crossing Rd. This Alternative would also allow a logical construction staging of Alternative 1. Alternative 4 would install eight miles of wildlife exclusionary fence on both sides of US 395 from Benton Crossing Rd. to the junction with SR 203; the fence would tie into the new or proposed location for security fence placed along the Mammoth Yosemite Airport. Wildlife exclusionary fence would be the same type, color treatment, and installation as described in Alternative 1. Two new crossing structures would be installed along with improvements to the existing crossing at Mammoth Creek. The new crossing structures and improvements at the Mammoth Creek crossing would be the same as described in Alternative 1. A medium mammal undercrossing would be installed at PM R24.07. The proposed overcrossing structure at PM 23.36 would be the same as described in Alternative 1.

Anticipated Effectiveness

Approximately 31 WVCs/year occur between the junction of US 395 and SR 203 and Benton Crossing Rd. These could be reduced significantly in this area if Alternative 4 were implemented. No reduction in WVCs would be seen on SR 203 or on US 395 north of the junction with SR 203 or south of Benton Crossing Rd. This Alternative may shift or create new hot spots south of Benton Crossing Rd. This Alternative would require monitoring south of Benton Crossing Rd. so that measures could be taken if there is an increase in WVCs.

Alternative 5:

South Only Alternative: Fence and crossing structures would be installed between Hot Creek Hatchery Rd. and Crowley Lake Dr. This section of the project area has the most vertical relief to allow placement of undercrossings.

Alternative 5 would address the two largest hot spots in the District and allow for a staged construction of Alternative 1. Alternative 5 would install seven miles of wildlife exclusionary fence on both sides of US 395 from Hot Creek Hatchery Rd. to Crowley Lake Dr.; the fence would tie into the new or proposed location for wildlife fence placed along the Mammoth Yosemite Airport. Wildlife exclusionary fence would be the same type, color treatment, and installation as described in Alternative 1. Two new crossing structures would be installed along with the wildlife exclusionary fence. A new bridge at Convict Creek, as described in Alternative 1, would be installed to create an undercrossing opportunity like the one at Mammoth Creek. The other undercrossing would be constructed at PM 19.42, 0.80 miles south of Convict Creek. It would be constructed as described in Alternative 1.

Anticipated Effectiveness

Approximately 25 WVCs/year occur between Hot Creek Hatchery Rd. and Crowley Lake Dr. These could be reduced significantly in this area if Alternative 5 were implemented. No reduction in WVCs would occur north of Hot Creek Hatchery Rd. This Alternative may shift or create new hot spots north of Hot Creek Hatchery Rd. This Alternative would require monitoring north of Hot Creek Hatchery Rd. so that measures could be taken if there is an increase in WVCs.

Alternative 6:

No Build Alternative: This would not install fence or crossing structures. This alternative does not meet the project purpose and need and would result in continued risk for WVCs. Current WVC strategies would continue as the only effort to reduce WVCs.

Design standards and deviations from design standards

Preparation and approval of the Design Decision Document will be deferred until the PA&ED phase when more accurate topographic, utility, environmental, and R/W information are known. The decision to defer and the information in the Design Standards Risk Assessment Matrix was concurred by Brian Wesling, District 9 Design Liaison on March 25, 2020.

Design Standards Risk Assessment Matrix			
Location (Alternative)	Standard (HDM index, DIB, TOPD, etc.)	Nonstandard feature and its risk of not being approved (low, medium, high)	Justification for the approval risk rating
All	309.1(2)(a) 30-ft Clear Recovery Zone (fixed object)	Risk low.	Excessive costs and environmental impacts.
All	304.1 Side Slope Standards	Risk low.	Fill slope steeper than 3:1 and catch point less than 18-ft from EP.

To minimize project related impacts and costs, a Design Decision Document will be pursued for embankment side-slopes steeper than 4:1 and clear recovery zones less than 30-ft at over and under crossings. To minimize the span of the arch pipe overcrossings the walls and abutments will be placed as close to the edge of travelled way as possible without compromising safety.

Route Matters:

Portions of US 395 are classified as freeway. The sections of freeway may be denominated as controlled access expressway. This would allow more flexibility in the design and execution of this project.

8. RIGHT-OF-WAY

The R/W data sheet indicates that there will be 12 affected parcels, totaling 56.47 acres. All parcels are under public agency or governmental ownership. 17.05 acres on 9 parcels will be acquired as permanent highway easements for construction of new wildlife crossings. The property owners of these 9 parcels are the Bureau of Land Management (BLM), United States Forest Service (USFS), and the Los Angeles Department of Water and Power (LA DWP). The remaining 39.42 acres will require temporary easements, either Permits to Enter (PTEs) or Temporary Construction Easements (TCEs), on parcels owned by USFS, BLM, LA DWP, TOML, and Mono County.

R/W Certification is anticipated in 2025; however, this is dependent on funding availability in future years. Right of Way activities include 8 months for preparation of R/W maps and 24 months for regular R/W activities with a minimum of 24 months of lead time after Caltrans has received certified appraisal maps and necessary clearance.

R/W work involved with this project includes land acquisition, TCE/PTEs, utility relocation, permits, title and escrow work, and construction contract work.

Utilities

Underground fiber optic cable runs through the project area at various locations. In some places the fiber optic line is just outside the existing R/W fence or just inside of it. The depth and location of the fiber line would need to be determined and, if in conflict with the proposed structures or fence line, the utility would need to be relocated or protected in-place. Other known utilities are overhead utility poles just outside the R/W fence near Sherwin Creek Road on the east side of the highway. It is estimated that there will be 20 postholes required for overhead utility relocation.

Railroad

There are no railroads in the vicinity of this project.

Estimated R/W costs are captured under capital outlay project estimates. The following is a table of anticipated R/W needs by project alternative:

Agency	Required Easements (Acres)				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
USFS	38	27	27	17.6	3.9
BLM	3.2	3.2	3.2	0	3.4
City of LA	13.6	13.6	13.6	6.6	7.5
Mono County	2	2	2	1.5	0
Total	56.8	45.8	45.8	25.7	14.8

Table 6: R/W needs by project alternative

9. STAKEHOLDER INVOLVEMENT

In response to the 2016 FSR, Mono County formed a Wildlife Crossing Subcommittee under its Collaborative Planning Team to explore and collaborate on Wildlife Crossing Projects. At the time, there was an increase in public awareness regarding WVCs, but no identified funding mechanism for the project. Coordination between Caltrans and CDFW, BLM, and the USFS has been constant over the development of the 2016 FSR and this PID document. Valuable project information provided by biologists from these agencies has aided in development of project alternatives.

As previously mentioned, these project alternatives are heavily influenced by development of a deer exclusionary fence project around the Mammoth Yosemite Airport. Caltrans and TOML have been in communication in regard to the project. The fence alone could create additional WVCs but would make up a portion of the exclusionary fence for this project. TOML maintains programmed funding but would pursue construction of TSA fence components prior to wildlife fence improvements.

In 2019 Caltrans was able to fund development of a PID. Subsequently, Caltrans and Mono County reformed the Wildlife Crossing Subcommittee as The Eastern Sierra Wildlife Stewardship Team (ESWST). The ESWST is open to all local, regional, national, private, and tribal organizations interested in the proposed project. The purpose of forming ESWST is mainly to identify and pursue funding sources for the project, but also to provide a forum for input on the project scope. As of completion of this PID, the ESWST has met three times, in April 2019, November 2019, and February 2020, to discuss project updates and current funding opportunities.

Within the ESWST, Caltrans is working with agencies which have a direct role in project delivery in order to develop project level agreements. The ESWST has been in communication through the development of the PID and plan to meet periodically after completion of the PID phase.

10. ENVIRONMENTAL COMPLIANCE

A Mini Preliminary Environmental Assessment Report (PEAR) was prepared and is included with this report. The Mini PEAR indicates that the project will likely receive an Environmental Determination Initial Study (IS)/Routine Environmental Assessment (EA) under CEQA/NEPA. Achieving Project Approval and Environmental Document (PA&ED) is expected 27 months after beginning environmental.

The following permits and approvals are anticipated for the project:

CDFW 1602 Streambed Alteration Agreement.
Army Core of Engineers 404 Nationwide Permit.
Lahontan Regional Water Quality Control Board 401 Certification.

Certain environmental studies and reviews will be conducted during PA&ED. These

Include: Archaeological Survey Report, Extended Phase I/Phase II Proposal, Archaeological Evaluation Report, Environmentally Sensitive Area Action Plan, Historical Resources Evaluation Report, Memorandum of Agreement, Finding of Adverse Effect document, Phase III Data Recovery Proposal/Report, Water Pollution Control Program or Stormwater Pollution Prevention Program, Scenic Resource Evaluation, Visual Impact Assessment, Paleontological Identification/Evaluation Report, Natural Environment Study, Wetlands Delineation Report, Wildlife Crossing Assessment Report, Mitigation & Monitoring Plan, Nesting Bird Plan, Revegetation Plan, Pre-Construction Survey Report, Annual Monitoring Reports, and a Final Post Construction Report. A Biological Assessment may be required as well.

Refer to Attachment C – Mini - Preliminary Environmental Assessment Report and Attachment D - Risk Register for more details.

11. FUNDING

Funding for this project has only been secured for the preparation of this PSR-PDS (PID). So far there seems to be no appropriate funding sources within Caltrans beyond the preparation of the PID. In order to fulfil Caltrans mission, Caltrans puts funding towards projects identified through Caltrans performance-based planning process. At the time of preparation of this document, the project does not seem to qualify for additional funding from Caltrans funding sources. The ESWST has been formed with main intent of organizing these stakeholders to identify and pursue other funding sources for the project. It is assumed for the preparation of this PID document that funding will come from multiple public stakeholders as well as grants. Some members of the public have also suggested private funding sources for development and construction.

District 9 continues to pursue different funding sources for PA&ED, mainly focusing on different State grant programs tailored towards wildlife conservation. CDFW and BLM have offered to contribute funding or in-kind staff hours in order to complete some environmental studies required for PA&ED. This could provide a match source for future grant applications.

The project is also available for Federal-aid funding including a number of different wildlife and other grant programs. However, eligibility specific grant programs will need to be investigated further.

The following is a non-exhaustive list of potential grant programs which have been identified by Caltrans and its partners as possible funding sources:

- Wildlife Corridor and Fish Passage Program, Wildlife Conservation Board, State of California Proposition 68.
- State Wildlife Grant (SWG) Program, Department of the Interior, Fish and Wildlife Service-F19AS00153.

- R8 (CA/NV) Wildlife Restoration Grant Program for State Fish and Game Agencies. Department of the Interior, Fish and Wildlife Service- F19AS00007.
- State Wildlife Grant Program, Department of the Interior, Fish and Wildlife Service: F19AS00164.
  Program Title: R8 (CA/NV) State Wildlife Grant Program for State Fish and Game Agencies, Department of the Interior, Fish and Wildlife Service: F19AS00125.
- State Wildlife Grant Program, Department of the Interior, Fish and Wildlife Service: F19AS00164 State Wildlife Grant Program, Department of the Interior, Fish and Wildlife Service: F19AS00153.
- National Fish and Wildlife Foundation Improving Habitat Quality in Western Big Game Winter Range and Migration Corridors grant program
- Secretarial Order 3362 research funding (deer movement data and analysis)

Capital Outlay Project Estimate

	Range of Estimate	
	Construction	Right-of-Way
Alternative 1	$52,000,000 - $64,000,000	$1,427,000 - $1,889,000
Alternative 2	$41,000,000 - $50,000,000	$927,000 – $1,021,000
Alternative 3	$32,000,000 - $40,000,000	$927,000 – $1,021,00
Alternative 4	$16,000,000 - $20,000,000	$643,000 – $703,000
Alternative 5	$18,000,000 -$22,000,000	$643,000 – $703,000

Table 7: Capital outlay project estimate by alternative.

The level of detail available to develop these capital outlay project estimates is only accurate to within the above ranges and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds.

Capital Outlay Support Estimate

Capital outlay support estimate for programming PA&ED in fiscal year 2020/2021 is: $3,384,000. Programming is subject to availability of funds. For more information on the project delivery schedule, see Section 12.

12. DELIVERY SCHEDULE

The target for PA&ED is fiscal year 2022/2023 and the anticipated funding fiscal year for construction is 2024/2025, making this a Long Lead project.

All dates are for planning purpose only. Funding for future milestones has not been secured at this time. However, once the project is programmed, PA&ED may be achieved 27 months after Begin Environmental. A Supplementary PSR-PDS is expected for schedule changes if the original delivery schedule cannot be met.

13. RISKS

Because of the preliminary nature of this scoping document the cost and scope of these Alternatives are subject to risk triggers. Any of the following could trigger increases in cost or scope:

- Presence of archaeological of cultural artifacts/sites
- Unanticipated presence of sensitive-status wildlife.
- Federal listing of Bi-State Sage-Grouse.
- Survey season passing before 'Begin Environmental' request.
- Presence of sensitive-status plants or animals.
- Permit agency staff turn-over creating delays in permitting.
- Revised design with Environmental Study Limit increase.
- Unavoidable adverse effects to the building located at the southwest corner of the intersection of US 395 and Benton Crossing Road, know colloquially as “The Green Church”.
- Disagreements on level of effort, findings, and treatments for resources between Caltrans and external agencies.
- Design exceptions not approved or additional exceptions required
- Presence of wetlands under Army Corp of Engineers and/or CDFW jurisdiction
- Unanticipated impacts to state or federally protected species or habitat.
- TOML may no longer have funding for construction of the airport section of fence. At $10.50/linear foot of deer fence, this would cost at least an additional $126,000 (~12,000 ft) for construction of new fence along Caltrans R/W.
- Mitigation bank credits not identified or not able to be purchased.
- Retaining walls required to prevent embankments from encroaching upon sensitive environmental resources.

See Attachment D - Risk Register.

14. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This project has not been identified as a "Project of Division Interest". There has not been coordination with FHWA for review or approval at this stage of the project. The project does not propose new or modified access to US 395.

All project alternatives require the same documentation and studies. However, Alternatives 2-5 may require less time to develop than Alternative 1 due to reduced scope of work.

The project requires the following permits/approvals:

California Department of Fish and Wildlife
California Fish and Game Code Section 1602 Lake or Streambed Alteration Agreement
Cooperative Agreement

US Department of Fish and Wildlife
Potential Biological Assessment

Army Corps of Engineers
Section 404 Permit: Clean Water Act

USDI Bureau of Land Management
Cooperative Agreement
R/W Easements

Regional Water Quality Control Board
Clean Water Act Section 401
Water Quality Certification

Local Agency
Cooperative Agreements and R/W Easements with The City of Los Angeles: Department of Water and Power, Mono County, and Town of Mammoth Lakes

Other
Review from Local Utility Companies
Buy in from Local Stakeholders (Eastern Sierra Wildlife Stewardship Team)

15. PROJECT REVIEWS

Field Review	*Cory Freeman*	Date 4/5/2016
District Maintenance	*Terry Erlwein*	Date 4/9/2020
District Traffic Safety Engineer	*Lianne Talbot*	Date 4/9/2020
District 9 Design Liaison	*Brian Wesling*	Date 3/16/2020
Project Manager	*Dennee Alcala*	Date 3/16/2020
District Safety Review	*PDT Members*	Date 3/16/2020
Constructability Review	*PDT Members*	Date 3/16/2020
Other	*Eastern Sierra Wildlife Stewardship Team*	Date 5/15/2020

16. PROJECT PERSONNEL

Project Manager	Dennee Alcala	760-872-0767
Design Manager	Brian Wesling	760-872-0630
Environmental Manager	Katie Rodriguez	760-872-5204
Landscape Architect	Jim Hibbert	760-872-0783
Transportation Planning	Austin West	760-872-0792
Traffic Operations	Lianne Talbot	760-872-0650
Right of Way	Tanisha Barfield	760-872-0641
Project Engineer	Cory Freeman	760-872-0716
Asset Manager	Brandon Fitt	760-872-0724

17. ATTACHMENTS (Number of Pages - 33)

A. Location map (1)
B. Layout of Alternative 1 (7)
C. PEAR (19)
D. Risk Register (3)
E. R/W Data-sheet (3)

18. REFERENCES

2009 Western Transportation Institute Wildlife Detection Systems Mono County Regional Transportation Plan – 2015 Update, Mono County Local Transportation Commission, Mono County Community Development Department, Town of Mammoth Lakes Community Development Department.

Animal Vehicle Crash Mitigation using Advanced Technology, Phase 1: Review, Design and Implementation, Marcel P. Huijser, Patrick T. McGowen, Whisper Camel, Amanda Hardy, Patrick Wright, and Anthony P. Clevenger Western Transportation Institute, August 2006

Caltrans Wildlife Crossings Guidance manual 2007, California Department of Transportation

Caltrans Seeking Safe Passage Planning, California Department of Transportation, October 2015

Evaluation of the use and Effectiveness of Wildlife Crossings, National Cooperative highway Research program, NCHRP Report 615, May 2008

Evaluation of an Animal Warning System Effectiveness Phase Two – Final Report, Mohammad (Ashkan) Sharafsaleh, P.E., Marcel Huijser, PhD, Christopher Nowakowski, Mark C. Greenwood, PhD, Larry Hayden, Jonathan Felder, and May Wang, California PATH Program, University of California Berkeley, Western Transportation Institute, June 2012

Final Report – An Assessment of the Sandhouse Project's Effects on Mule Deer Movement and Mortality along State Route 395 in Mono County, Jones and Stokes, October 1999

Highway Deer Kill Study Route 09-Mno-395, California Division of Highways, District 09, January 1973

Methods to Reduce Traffic Crashes Involving Deer: What Works and What Does Not, James H. Hedlund, Paul D. Curtis, Gwen Curtis, Allan F. Williams, Insurance Institute For Highway Safety, October 2003

Procedures and Tools for Wildlife-Vehicle Collision Hotspot Analysis; Using Caltrans District 10 as an Example, Marcel P. Huijser, PhD and James S. Begley, M.Sc., Western Transportation Institute, January 2014

SR 203 Transportation Concept Report, California Department of Transportation, Office of System Planning, District 9, June 2007.

The Comparison of Animal Detection Systems in a Test-Bed: A Quantitative Comparison of System Reliability and Experiences with Operation and Maintenance Final Report, Marcel P. Huijser,PhD, Patrick T. McGowen, Tiffany D. Holland, BSc., Matt Blank, MSc., Mark C. Greenwood, PhD, Barrett Hubbard and Shaowei Wang, MSc. Western Transportation Institute, April 2009

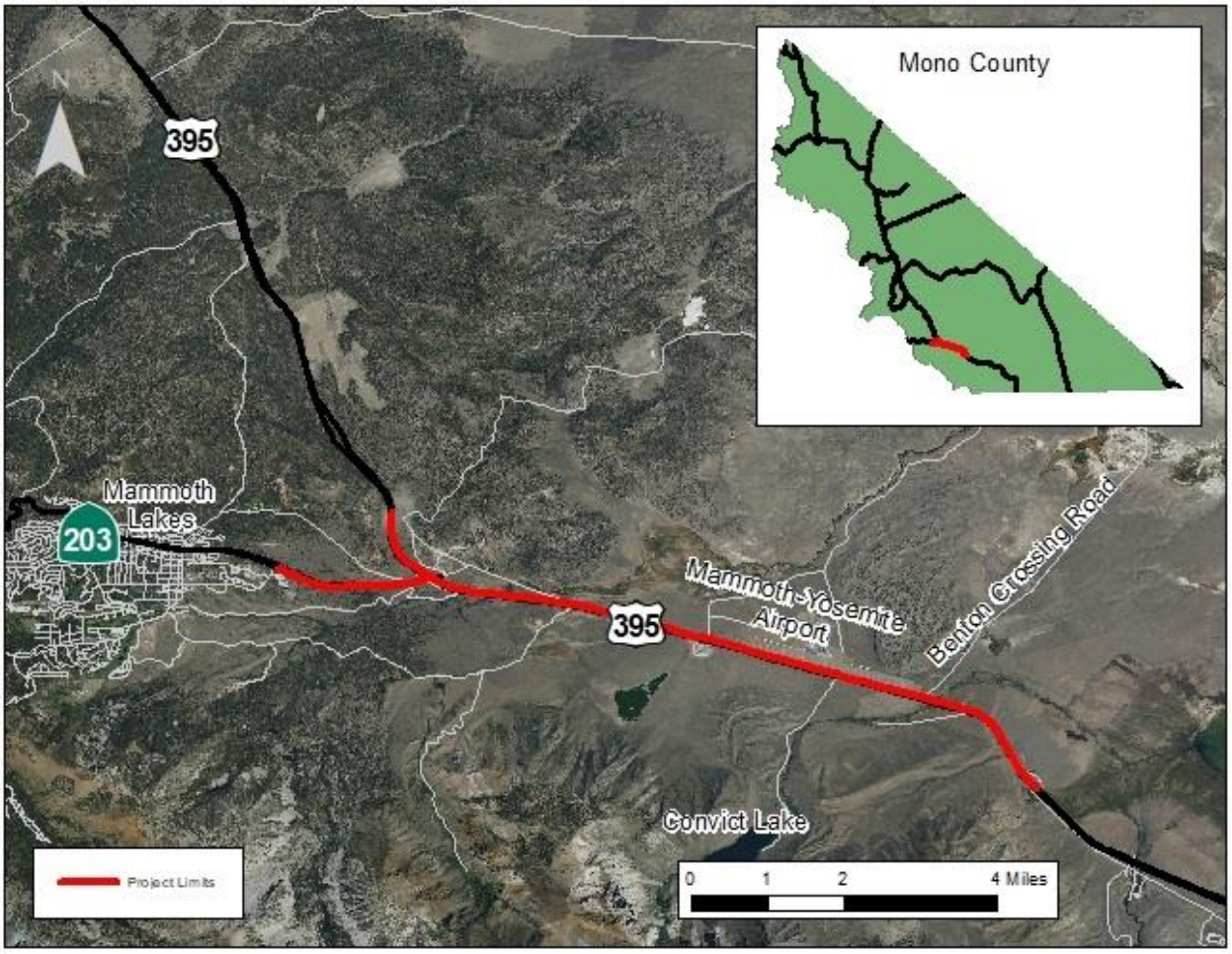
US 395 Transportation Concept Report, California Department of Transportation, Office of System Planning, District 10, November 2014.

Wildlife Crossing Structure Handbook, U.S. Department of Transportation Federal Highway Administration, FHWA-CFL/TD-11-003, March 2011

Wildlife-Vehicle Collision Reduction Study –Report to Congress, U.S. Department of Transportation Federal Highway Administration, FHWA-HRT-08-034, August 2008

Attachment A
Location Map

Long Valley Wildlife Crossing

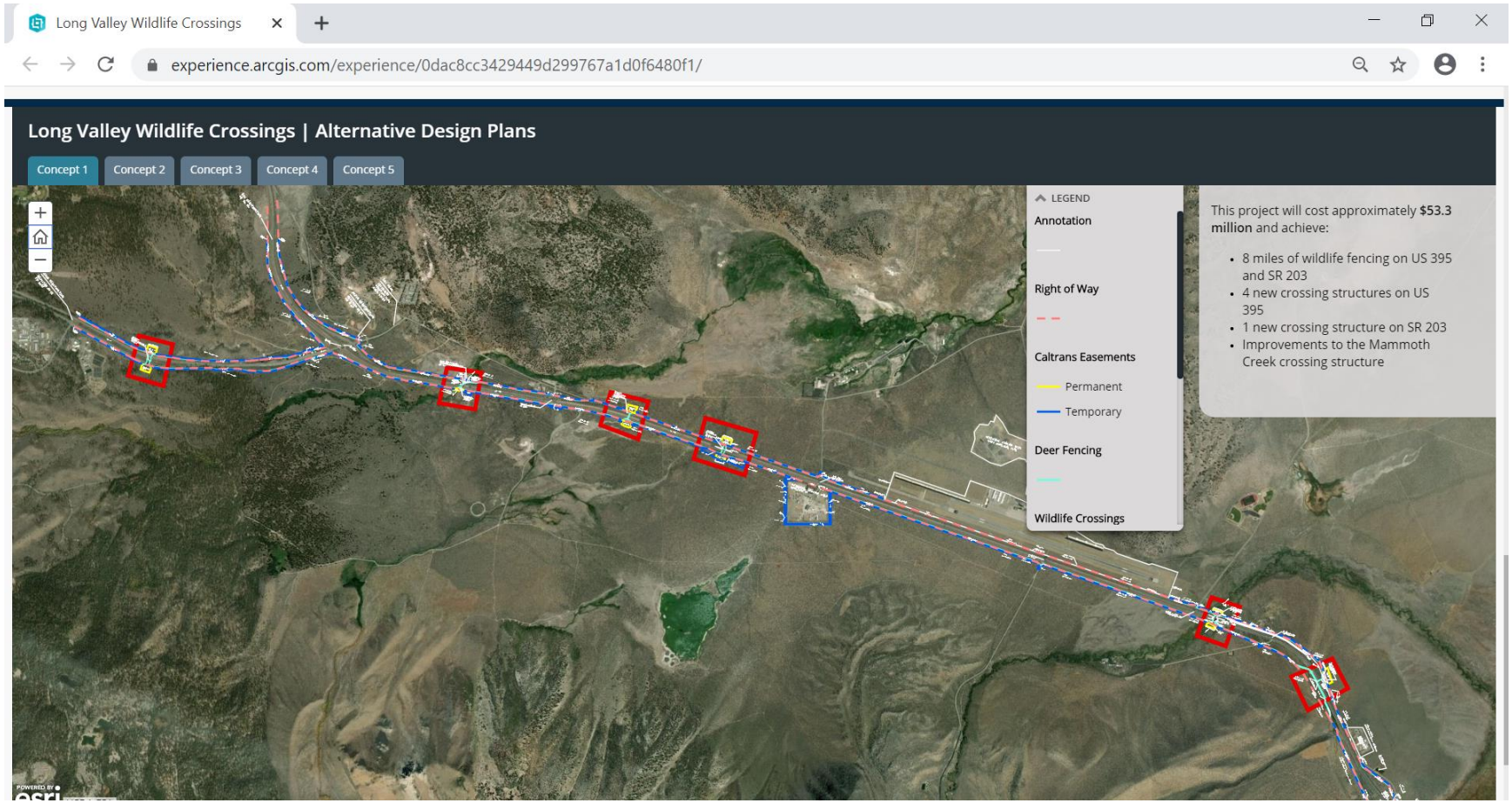


Attachment B
Layout of Alternative #1

Project Alternatives Web Map

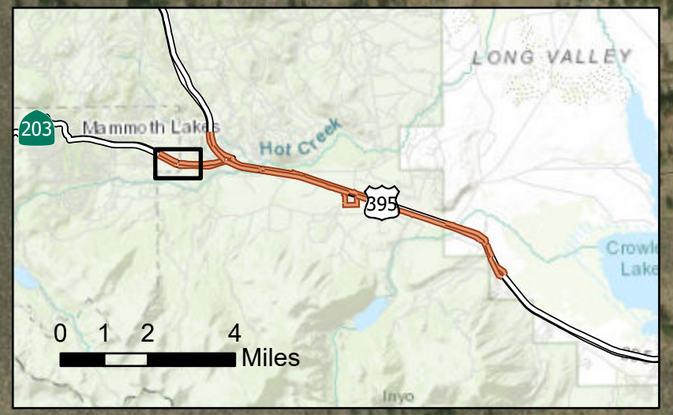
All project alternatives may be viewed in an online web map application. This web map can be accessed via the following link:

https://experience.arcgis.com/experience/0dac8cc3429449d299767a1d0f6480f1/.



SR 203 Overcrossing

Located along Highway 203 at Postmile 7.33



BEGIN DEER FENCE R/W PM 6.90

BEGIN DEER FENCE R/W PM 6.90

15' PTE NEW R/W DEER FENCE R/W

SR 203

R/W NEW R/W DEER FENCE 15' PTE

WILDLIFE OVERCROSSING NO. 1 PM 7.33

300'

CALTRANS EASEMENT 300'x200' 1.4 ACRES

140' MIN. TYP

USFS 037-050-013

16' PTE NEW R/W DEER FENCE R/W

R/W NEW R/W DEER FENCE 15' PTE

CALTRANS EASEMENT 300'x200' 1.4 ACRES

USFS 037-050-0

Legend

N

CT Easements

Permenant

Temporary

CT Right of Way

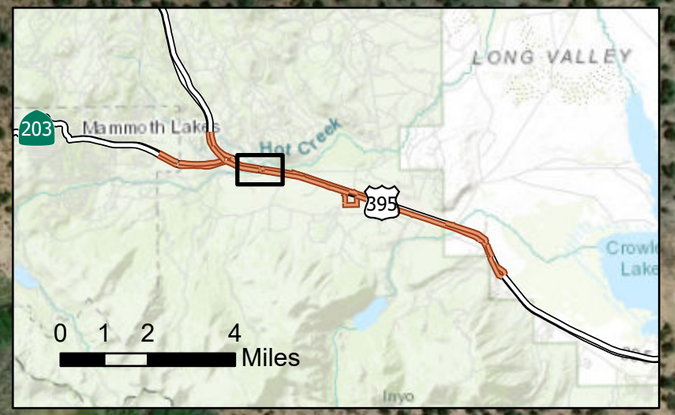
Deer Fencing

Wildlife Crossings

0 0.25 0.5 1 Miles

Mammoth Creek Crossing

Located along Highway 395 at Postmile 25.07



EXIST MAMMOTH CREEK UNDERCROSSING IMPROVEMENTS
PM 25.07

CITY OF LA
037-050-009

US 395

SHERWIN CREEK RD
PM 24.44

Legend

N

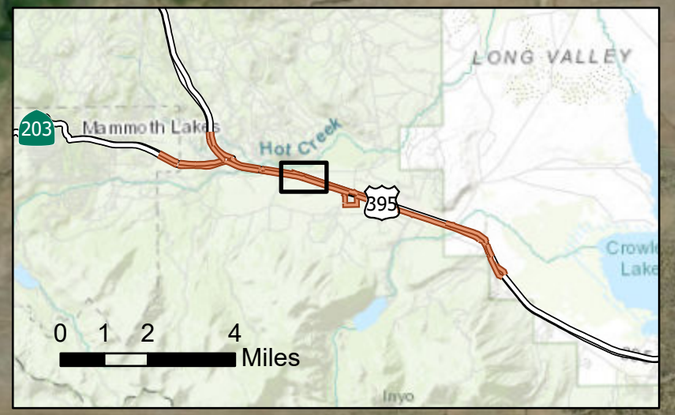
CT Easements
- Permenant
- Temporary

CT Right of Way
- Deer Fencing
- Wildlife Crossings

0 0.25 0.5 1 Miles

Large Mammal Overcrossing

Located along Highway 395 at Postmile 24



WILDLIFE OVERCROSSING/ UNDERCROSSING
PM 24.07

PTE 0.05 ACRE
(1) CATTLE GUARD
15' PTE
R&R EXIST BR R/R FENCE WITH NEW DEER FENCE/R

CITY OF LA
037-140-002

(1) CATTLE GUARD
PTE 0.70 ACRE
R&R EXIST BR R/R FENCE WITH NEW DEER FENCE/R
15' PTE

CAL TRANS EASEMENT 300'x200' 1.4 ACRES

USFS
037-140-004

CITY OF LA
037-140-002

CAL TRANS EASEMENT 1.0 ACRES

USFS
037-140-004

R&R EXIST BR R/R FENCE WITH NEW DEER FENCE/R
15' PTE

US 395

15' PTE
R&R EXIST BR R/R FENCE WITH NEW DEER FENCE/R

WILDLIFE OVERCROSSI
NO. 2
PM 23.36

REMOVE SNOW FENCE

Legend

N

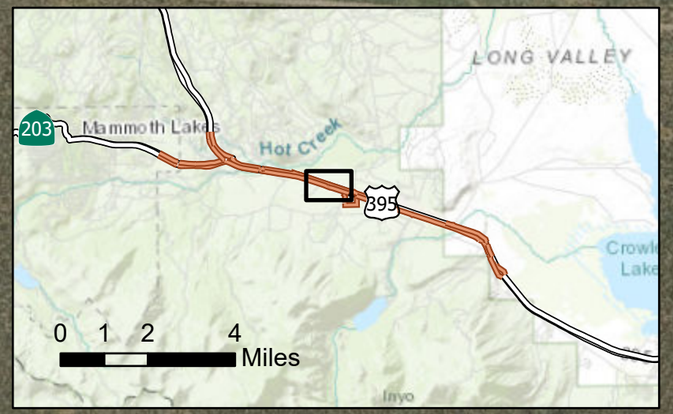
CT Easements
- Permenant
- Temporary

CT Right of Way
Deer Fencing
Wildlife Crossings

0 0.25 0.5 1 Miles

Hot Creek Overcrossing

Located along Highway 395 at Postmile 23.36



USFS
037-140-004

US 395

WILDLIFE OVERCROSSING NO. 2
PM 23.36

CALTRANS EASEMENT
300'x200'
1.4 ACRES

140' MIN. TYP

0.12 ACRE PTE (50'x100')

MIDWEST GUARDRAIL

REMOVE SNOW FENCE

CALTRANS EASEMENT
1.0 ACRES

300'

.5 ACRE PTE FOR CONSTRUCTION OF OVER CROSSING AND REMOVAL OF EXIST SNOW FENCE

USFS
037-130-007

RAD EXIST RW R/W FENCE WITH NEW DEER FENCE

15' PTE

PTE 0.98 ACRE

12) CATTLE GUARD

35' TYP

20' TYP

NEW R/W/DEER FENCE

POTENTIAL S
(MARZANO S)

Legend

N

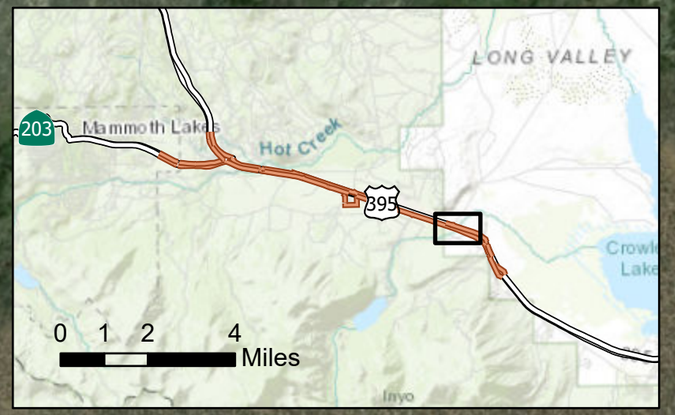
CT Easements
- Permenant
- Temporary

CT Right of Way
Deer Fencing
Wildlife Crossings

0 0.25 0.5 1 Miles

Convict Creek Crossing

Located along Highway 395 at Postmile 20.23



EXISTING AIRPORT FENCE CONSTRUCTED SUMMER 2017

TIE NEW DEER FENCE INTO EXISTING AIRPORT FENCE

CITY OF LA
060-080-007

(1) CATTLE GUARD

PTE
0.04 ACRE

CONVICT CREEK

CAL TRANS EASEMENT
300'x200'
1.4 ACRES

300'

CAL TRANS EASEMENT
300'x100'
.69 ACRES

CONVICT CREEK
UNDERCROSSING
PM 20.23

BENTON CROSSING RD
PM 20.36

NEW FILL SLOPES TYP

BRIDGE RAIL & MIDDLE ST GUARDRAIL TYP

END LAY BACK EXIST CUT SLOPE

NEW SINGLE SPAN BRIDGE DECK, TYP

CUT BACK EXISTING SLOPE

BLM
060-080-008

MT MORRISON RD
PM 19.83

PTE
0.25 ACRE

(1) CATTLE GUARD

RRR EXIST BR R/R FENCE WITH NEW DEER FENCE/W

15' PTE

25' PTE

Legend

N

CT Easements
- Permenant
- Temporary

CT Right of Way

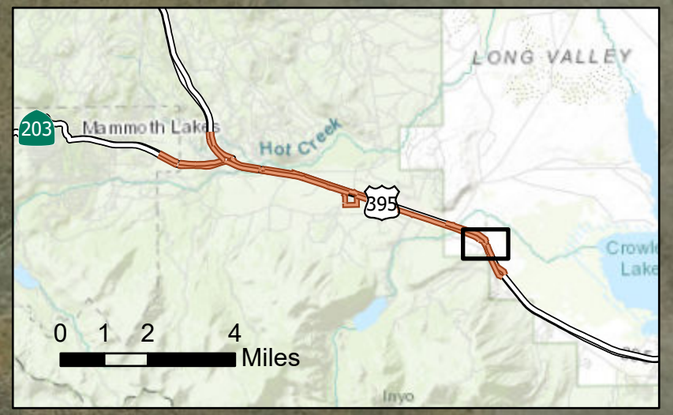
Deer Fencing

Wildlife Crossings

0 0.25 0.5 1 Miles

McGee Creek Undercrossing

Located along Highway 395 at Postmile 19.42



BLM
060-080-008

MT MORRISON RD
PM 19.83

PYE
0.25 ACRE

(1) CATTLE GUARD

25' PYE

REMOVE EXIST DEER FENCE

BEGIN LAYING BACK EXIST CUT SLOPE

CITY OF LA
060-080-007
15' PYE

EXIST FILL SLOPE

REMOVE THIS PORTION OF EXIST R/W DEER FENCE

MCGEE WILDLIFE UNDERCROSSING
PM 19.42

CALTRANS EASEMENT
1.93 ACRES

NEW FILL SLOPE

WILDLIFE CROSSING SIGN

(2) CATTLE GUARD

EXIST R/W

REMOVE THIS PORTION OF EXIST R/W DEER FENCE

15' PYE

BLM
060-080-008

(2) CATTLE GUARD

PYE
0.03 ACRE

CITY OF LA
060-080-006

INTO EXIST CHAINLINK FENCE

BLM; GREGORY
060-020-

Legend

N

CT Easements
- Permenant
- Temporary

CT Right of Way

Deer Fencing

Wildlife Crossings

0 0.25 0.5 1 Miles

Attachment C Preliminary Environmental Analysis Report (PEAR)

Mini-PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

1. Project Information

District: 9	County: MNO	Route: VAR	PM: 0.000/0.000	EA: 09-38160_ Proj ID: 0919000028
Project Title: LONG VALLEY WILDLIFE CROSSING				
Project Manager	Alcala, Dennee G		Phone # 760-872-767	
Env. Senior	Katie Rodriguez		Phone # 760-872-5204	
Planner	Kris Bason		Phone # 760-872-2312	
			Phone #	

2. Project Description

Purpose and Need

Purpose: To construct a wildlife crossing and exclusion facility through the Long Valley Area of Mono County along US 395 between McGee Creek (PM 16.61) and the junction with SR 203 (PM 25.95) and along SR 203 from Meridian Blvd (PM 6.06) to just east of the junction of SR 203 and US 395. The project is meant to reduce wildlife vehicle collisions, mainly involving mule deer, and to maintain wildlife habitat connectivity.

Need: Current available data from the 2016 Wildlife Vehicle Reduction – Feasibility Study Report shows US 395 in Long Valley as having the highest concentration of Deer Vehicle Collisions (DVCs) in the District. The highest concentrations of DVCs in this segment occur at Mt Morrison Rd, McGee Creek, Hot Creek Hatchery Road and the Junction of US 395 and SR 203.

Description of Work

The alternatives to be included in this PSR-PDS are based on the project alternatives outlined in the 2016 FSR for Wildlife Vehicle Collision Reduction in Caltrans District 9 (EA 09-98711). It is assumed that the full build alternative offered in the PSR-PDS will be the same as that in the FSR. As such, the PEAR produced for the FSR may be revised for current year in development of the PSR-PDS.

On US 395:

PM 16.61 (McGee Creek Rd) Begin Work; install Construction Area Signs
The area within the existing right of way would need to be cleared for construction area signs between begin work and begin construction.

PM 18.03 (Crowley Lake Dr) to PM 26.78 (including on and off ramps at the junction of US 395 & SR 203

A) Remove and replace (R&R) existing barbwire RW fence with new 8’ tall deer fencing; both sides of the highway except at the Mammoth Airport where an existing 8’ tall deer fence is assumed to be. However, as of October 2018, the USFS has rejected the airport Special Use Permit (SUP) permit application for that section of fence. Since Mammoth Airport may no longer have a funding source for construction of the airport section of fence, it should be included as a contingency that Caltrans may also need to place this section of fence. New deer fencing would be installed on the left side inside Caltrans R/W near PM 19.42

at the proposed wildlife undercrossing. Also the new deer fence will be constructed around the industrial park, across from Hot Creek Hatchery Rd, outside current Caltrans R/W. A 15' Permit To Enter (PTE) is shown for most of the deer fence construction. Larger PTEs will be needed at each wildlife crossing and road intersections as shown on the attached plans. Where deer fence crosses adjacent asphalt and dirt roads cattle guards will be installed to prevent deer from entering the right of way. A PTE will be needed at these locations as shown on the attached plans. Deer fencing would be a suitable color for the scenic highway designation and would be chosen by the Caltrans Landscape Architect; a rustic brown like the Natina stain applied to guardrail might be an appropriate color. Deer fence would also be installed 2' below adjacent grade to prevent burrowing below the fence line. Reflectors could be placed on the fence to reduce or prevent birds from flying into it. Jump-outs would also be constructed within the right of way at various locations to facilitate escape for any deer that do make it within the deer fencing.

B) Construct McGee wildlife undercrossing at PM 19.42 with permanent easement. This would create a tunnel under the highway to facilitate wildlife crossing. This would likely involve construction of a new steel or prefabricated segmental concrete arch structure and concrete footings. Fill slopes would need to be created at the entrance and exit of the undercrossing to create a more inviting entrance and exit; this would help to encourage use. The conceptual size of the steel arch is 33' wide by 20' tall. It's assumed the undercrossing would be constructed half at a time requiring north bound and south bound traffic be detoured around the active construction. See attached conceptual cross section.

C) Lay back existing 2:1 cut slopes that are across from Mt. Morrison Rd. (PM 19.83). This work would increase visibility and create additional 15' of clearance from the edge of existing edge of pavement and proposed slope. A 25' PTE is shown for this work and the installation of deer fence.

D) Install new bridges to create the Convict Creek Undercrossing at PM 20.23. To create an undercrossing at Convict Creek the existing fill construction would be removed and replaced with two single span bridges similar to the existing Mammoth Creek undercrossing. This would reestablish the natural drainage features and riparian corridor and provide a more natural and efficient wildlife undercrossing. The existing 60" diameter culvert with concrete wing walls and existing 8'x8'x220' concrete cattle crossing would be removed. The stream would be reconstructed and lined with appropriate rock slope protection. Gravel pathways on each side of the creek could be constructed along with a high water pathway. See attached conceptual cross sections. The new bridges, one for south bound and north bound lanes, could be constructed of all concrete or a combination of steel and concrete. Single span construction is possible, i.e. no interior columns. However structure depth will need to be carefully watched so as not to compromise the minimum clearance of 10' above the pathway. Concrete wing-walls/retaining walls may need to be constructed in the median and at the up-stream and down-stream bridge approaches. Existing willows will need to be either removed/and or trimmed back to facilitate construction and make the new undercrossing approach visible as seen on the ground by wildlife and pedestrians. A permanent easement will be needed on both sides of 395 and centered on Convict Creek to allow for maintenance of the undercrossing. Typical maintenance would be trimming willows and other vegetation, deer fence repair, and pathway maintenance. Trimming of the willows and other vegetation would need to occur occasionally to maintain the openness look of the undercrossing which helps encourage wildlife usage. It's assumed that the following permits will be required: Army Corp 404 and 401 permits and California Fish and Wildlife 1602 Streambed Alteration permits. It's assumed each bridge would be constructed one side at a time requiring north bound and south bound traffic be detoured around the active construction.

E) Install deer fence around the industrial park off Hot Creek Hatchery Rd. New right of way would need to be acquired to install deer fence around most of the perimeter.

F) Construct new overcrossing structure north of Hot Creek Hatchery Rd at post mile 23.36. The new structure would likely span over both north bound and south bound lanes with a support in the median. A prefabricated segmental concrete arch and concrete footings would be the most likely type of structure. The structure would be covered with soil and native vegetation along with an earthen ramp at both ends. The location would place the structure at the top of existing cut slopes to minimize structure quantities and maximize height clearances over the highway. A permanent easement would be required at both ends to allow for future maintenance. A PTE would be required at both ends to allow construction of the structure and removal of the existing snow fence.

G) Improvements at the existing Mammoth Creek Undercrossing, BR No. 470049R & BR No. 470049L would consist of the following:
a. At the East side (BR 470049R): To improve approach visibility on the east side, willows would be trimmed/removed and a portion of the existing fill slope would be trimmed back. A concrete retaining wall would likely need to be installed.
b. At the West side (BR 470049L): To improve approach visibility on the east side, a portion of the existing fill slope would be trimmed back. A concrete retaining wall would likely need to be installed.
c. The existing deer fence which remains under both bridges (constructed in 1969) would be removed.
d. The existing abutment fill slope on the south side should be regarded to provide a high water level path.
e. New deer fencing would tie into the existing concrete bridge abutments and the new retaining walls.
f. New paths and maintenance of the existing paths would require gravel placement.
A permanent easement will be added on the west side of BR 470049L to allow for maintenance of the undercrossing and keeping maintaining visibility of the path. The existing right of way on the east side of BR 470049R should be adequate as is to allow for future maintenance needs. Typical maintenance would be trimming willows and other vegetation, deer fence repair, and pathway maintenance. Trimming of the willows and other vegetation would need to occur occasionally to maintain the openness look of the undercrossing which helps encourage wildlife usage. It's assumed that the following permits will be required: Army Corp 404 and 401 permits and California Fish and Wildlife 1602 Streambed Alteration permits.

PM 26.78 End deer fence installation and construction.

PM 27.12 End Work;

The area within the existing right of way would need to be cleared for construction area signs between end work and end construction.

On SR 203:

PM 6.16 Begin Work; install Construction Area Signs. The area within the existing right of way would need to be cleared for construction area signs between begin work and begin construction.

PM 6.87 (Meridian Blvd) to PM 8.5 (junction of SR 203 & US 395)
A. New 8' tall deer fencing would be installed on both sides of SR 203. For most of this length of SR 203 there isn't any existing barb wire fencing to denote the right of way. Existing barb wire fencing only exists on the left side (westbound) near the junction of SR 203 & US 395; near the westbound chain up area near the US 395 south bound off-ramp. New deer fencing could be placed along the existing right of way or

within/outside the existing right of way. A 15’ Permit To Enter (PTE) is shown for most of the deer fence construction. Larger PTEs will be needed at each wildlife crossing and road intersections as shown on the attached plans. Where deer fence crosses adjacent asphalt and dirt roads cattle guards will be installed to prevent deer from entering the right of way. A PTE will be needed at these locations as shown on the attached plans. Deer fencing would be a suitable color for the scenic highway designation and would be chosen by the Caltrans Landscape Architect; a rustic brown like the Natina stain applied to guardrail might be an appropriate color. Deer fence would also be installed 2’ below adjacent grade to prevent burrowing below the fence line. Reflectors could be placed on the fence to reduce or prevent birds from flying into it. Jump-outs would also be constructed within the right of way at various locations to facilitate escape for any deer that do make it within the deer fencing.

B. Construct new wildlife over crossing structure at PM 7.33. The new structure would span over both west bound and east bound lanes with a support in the median. A prefabricated segmental concrete arch and concrete footings would be the most likely type of structure. The structure would be covered with soil and native vegetation along with an earthen ramp at both ends. The location would place the structure at the top of existing cut slopes to minimize structure quantities and maximize height clearances over the highway. A permanent easement would be required at both ends to allow for future maintenance. A PTE would be required at both ends to allow construction of the structure and removal of the existing snow fence.

PM 8.67(end of SR 203 designation) End deer fence installation and construction and install cattle guard.

At the junction of Substation Rd and the old highway alignment: End Work; The area within the existing right of way would need to be cleared for construction area signs between end work and end construction.

Staging Areas:
There are two locations which the contractor could utilize as major staging areas, both outside of Caltrans right of way. One location is the existing USFS material site behind the Mammoth Airport. The current contact for this material site is Colleen Garcia of the Inyo National Forest Service. The other location could be the industrial park off Hot Creek Hatchery Rd. Marzano has several acres available for potential rent. The contractor would have to make arrangements for either locations. The westbound chain up area on SR 203 could also be utilized as a staging area as well. PTEs have been sized to allow for staging needs.

Closing Comments on this Concept:
This concept would be the full build concept and most likely represent the most environmental impact/disturbance. Locations of fencing and crossing structures have been identified by field visits and discussions with California Fish and Wildlife biologist Tim Taylor. These locations are not fixed and would need detailed studies to confirm their locations or whether they should be revised.

The FSR will discuss various phases or only partial build out of this overall concept, i.e. portions of the full concept could be built as funding allows to achieve the full concept over many years or only a portion of this full concept could be built. Future studies would explore and fine tune exactly what would be built and where.

This project may be partially funded by the Caltrans Advance Mitigation Program.

3. Anticipated Environmental Approval

CEQA

IS

NEPA

Routine EA

Estimated length of time (in months)

27

4. Summary Statement

In order to identify environmental issues, constraints, costs, and resource needs, a Mini-PEAR was prepared for the project. Potential disposal, staging, and borrow sites will need to be identified in the PA&ED phase for complete environmental review. Field studies were not conducted and technical studies have been deferred to the PA&ED phase.

The anticipated environmental document for the proposed project is a IS/EA. This document level has been selected based on environmental specialists' analysis of potential/known resources in the proposed project area. The California Department of Transportation would act as the lead agency in the preparation of a joint NEPA/CEQA (National Environmental Policy Act/California Environmental Quality Act) environmental document. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 U.S. Code 326.

The following permits and approvals are anticipated for the project:
CDFW 1602 Streambed Alteration Agreement, ACOE 404 Nationwide Permit, and LRWQCB 401 Certification.

For the proposed project, the following reports are anticipated:
Archaeological Survey Report, Extended Phase I/Phase II Proposal, Archaeological Evaluation Report, Environmentally Sensitive Area Action Plan, Historical Resources Evaluation Report, Memorandum of Agreement, Finding of Adverse Effect document, Phase III Data Recovery Proposal/Report, Water Pollution Control Program or Stormwater Pollution Prevention Program, Scenic Resource Evaluation, Visual Impact Assessment, Paleontological Identification/Evaluation Report, Natural Environment Study, Wetlands Delineation Report, Wildlife Crossing Assessment Report, Mitigation & Monitoring Plan, Nesting Bird Plan, Revegetation Plan, Pre-Construction Survey Report, Annual Monitoring Reports, and a Final Post Construction Report. A Biological Assessment may be required as well.

Assuming an approved Environmental Study Request by January 2021, the following schedule is proposed:

- January 2021: Begin Environmental
- March 2021: Begin field surveys
- November 2021: Finish field surveys
- August 2022: Specialists' documents complete
- October 2022: Draft Environmental Document (DED)
- March 2023: Final Environmental Document (FED)
- April 2023: Project Approval and Environmental Document (PA&ED)

Stakeholder/ Agency Coordination: The stakeholders and agencies that will need to be coordinated with for this project are: Bureau of Land Management, US Forest Service, California Department of Fish and Wildlife, Lahontan Regional Water Quality Control Board, Los Angeles Dept. of Water and Power, Mono County, Town of Mammoth Lakes, Mammoth Airport, State Historic Preservation Officer, and Native American consultation with local Tribes.

BLM and CDFW may be able to aid in completion of environmental studies and/or documents during the 0 Phase. This may reduce costs and Caltrans staff hours, but it is not known to what level this will occur at this time. This PEAR will lay out the needs to complete all environmental compliance for all resources that can be used as a guide for agency coordination.

Visual/Aesthetics

This portion of US Highway 395 through the project limits has been designated as part of the Mono County Scenic Highway System and listed as a Designated State Scenic Highway. The project is within the Eastern Sierra region and is considered a sensitive corridor regarding visual resource issues. High desert, pine forests and mountainous views are available from the highway along most of the length of the project. The scenic and recreational nature of the region draws visitors from around the US and internationally.

Temporary impacts will include the removal of vegetation, moderate to large scale earthwork, construction of manmade features such as overcrossings and undercrossing, fencing and revegetation of disturbed areas among other features. After construction is completed several dominant new features noticeable to the traveling public including fencing and aesthetically designed overcrossings. A more in-depth study of the visual impacts created by this project will be required.

A Visual Impacts Assessment scoring questionnaire has been performed and the cumulative score was 18 out of a total possible of 30. An abbreviated Visual Impacts Analysis will need to be developed. This assessment will briefly describe project features, impacts and provide avoidance and minimization measures.

A scenic resource evaluation will need to be performed during the PAED phase.

Cultural Resources

This proposed project will be subject to a number of environmental laws, including the California Environmental Quality Act, National Environmental Policy Act, Section 106 of the National Historic Preservation Act. and Assembly Bill 52. The majority of the Project area was surveyed as part of previous projects and studies that are within the project limits, along both US 395 and SR 203.

Tribal Cultural Resources have been identified within the Project area, some of which are located within the project footprint. These include Casa Diablo Lake and Casa Diablo Hot Springs as well as habitation sites and obsidian quarries. Additional Tribal Cultural Resources may be identified through studies or proactive information sharing by tribes as a result of the studies conducted for this project. The level of environmental document is currently an IS/EA, therefore Native American consultation under Assembly Bill 52 would be required and could result in the identification of additional Tribal Cultural Resources which could require additional consultation efforts, and efforts to avoid, minimize, and/or mitigate impacts. Geoarchaeological study has found that the project area has a moderate to very high sensitivity rating for archaeological resources. This is supported by previous identification efforts which have found at least 18 archaeological and two Tribal resources in the project area. The project has the potential to significantly impact known and unknown cultural resources within the ROW.

Recommended studies for this Project would include 25.04 linear miles of Phase I pedestrian survey leading to the preparation of an Archaeological Survey Report (ASR). Because impacts to archaeological resources cannot be avoided, it is recommended that an Extended Phase I testing/Phase II Evaluation be conducted. Documentation required for this effort would be an Extended Phase I/Phase II Proposal and an Archaeological Evaluation Report (AER). A finding of No Adverse Effects without Standard Conditions is anticipated. The documentation to support this finding includes a Finding of No Adverse Effect document with Environmentally Sensitive Area Action Plan. Mitigation to address the Adverse Effect will require a Phase III Data Recovery Proposal and Phase III Data Recovery Report. Archaeological and Native American monitoring would also be likely.

At this time one built environment structure, the “Green Church,” may be directly or indirectly affected by project actions. There are two bridges located in the project area which are not eligible for listing on the National Register of Historic Places. An Historical Resources Evaluation Report (HRER) and Finding of Adverse Effect document with Memorandum of Agreement and mitigation plan is expected to account for impacts for built environment resources. Please note that the adverse effect is based on the project as proposed. It may be possible to avoid the adverse effect with a change in fence design at the location of the “Green Church.”

These studies would likely require approximately 18 months to complete from the initiation of environmental phase to completion of compliance documentation and necessary reviews (WBS 165-180).

Water Quality and Storm Water Runoff

The project scope will at a minimum require a Water Pollution Control Program and associated items, and if the disturbed soil area is over an acre and the project doesn’t qualify for an erosivity waiver a Stormwater Pollution Prevention Program may be required instead. The project scope will require 404/401 permits, impacts to jurisdictional aquatic resources are currently estimated at 0.72 acre. Assuming a mitigation ratio of 3:1 and a cost per acre of $200,000 for mitigation, $432,000 should be programmed for 404/401 permit mitigation. A 401 application fee of $8000 will be required, and a yearly fee of $1,600 for the three years following the construction year.

Paleontology

The project area is in the Long Valley region on the east side of the Sierra Nevada Mountains located on the western edge of the Basin and Range Geomorphic Province. Surface geology in the project footprint has been mapped by the US Geological Survey (Mount Morrison and Mount Abbot Quadrangles) as Quaternary basalt, tuffaceous sandstone lake deposits, valley fill (alluvium), gravel terraces (glacial), and older (likely Pleistocene) moraine deposits.

The Fresno State Paleo Sensitivity Database ranks the project area as having no sensitivity for fossil resources. A search of the University of California, Berkeley, Museum of Paleontology database revealed no fossil discoveries in or around the project area.

Based on the identification of the postmile segment as "no sensitivity" for paleontological resources, it is unlikely that fossils will be encountered during project construction. The only geologic unit with moderate potential to contain fossils, even though none have been found in it before, would be the tuffaceous sandstone deposit left by an ancient lake in Long Valley. This geologic unit, however, only underlies a small portion of the proposed project areas and no wildlife crossing structures are proposed in this area. According to the project description provided, only deer fencing and willow trimming would occur over this unit. The expected depth of excavation for fence installation is approximately 2 feet below ground surface, and therefore it is unlikely to encounter significant fossil resources. It is therefore recommended that a Paleontological Identification/Evaluation Report be written during PA&ED (40 hours in WBS 165), and fence installation within the lake deposit be spot-checked by a staff paleontologist (20 hours in WBS 280).

Hazardous Waste/Materials

There are no known sources of soil contaminants within the areas of construction. If the generation of excess material that could potentially involve Aerially Deposited Lead is included in the project design, soil testing will be necessary, $12,000 should be programmed for this in the 1 phase.

Air Quality

The project limits lie within the Great Basin Air Pollution Control District.
The proposed project will not have any significant long-term impacts to air quality. Project is exempt from conformity and hot-spot analysis. No further analysis required.

Noise and Vibration

Project is a Type III project exempt from noise analysis (23CFR772). No further analysis is required.

Biological Environment

The proposed project will require surveys for rare plants, invasive plants, general wildlife species, nesting birds, roosting bats, and fish (in coordination with CDFW Bishop). It will also require a wetland delineation survey and protocol-level willow flycatcher surveys. Annual long-term mitigation/monitoring surveys for 3-5 years post- construction will also be required.

The following permits and approvals are anticipated for the project: CDFW 1602 Streambed Alteration Agreement, ACOE 404 Nationwide Permit, LRWQCB 401 Certification. A 2081 Incidental Take Permit may be required if willow flycatcher or Owens tui chub are found within or adjacent/downstream of Project impact area and cannot be avoided.

The following reports are anticipated: Natural Environment Study, Wetlands Delineation Report Wildlife Crossing Assessment Report, Mitigation & Monitoring Plan, Nesting Bird Plan, Revegetation Plan, Pre-Construction Survey Report, Annual Monitoring Reports, and a Final Post Construction Report. A Biological Assessment may be required after initial Owens tui chub and greater sage grouse surveys are completed.

If riparian vegetation is permanently impacted from the proposed project, mitigation may be required in the form of onsite riparian vegetation replanting, noxious weed abatement, and monitoring and reporting success criteria for three to five years post-construction. As this project is an environmental enhancement, the replacement of culverts with a bridge at Convict Creek should improve existing conditions within the streambed and riparian vegetation by creating a larger more natural habitat corridor. The improvements resulting from the project would be proposed as mitigation for impacts to CDFW jurisdictional areas. Permanent impacts to wetlands will also require compensatory mitigation through ACOE, LRWQCB, and CDFW. Mitigation could be accomplished by purchasing ILF credits (if available) and/or proposing out-of-kind mitigation through on-site enhancements that will result from this project. Construction of wildlife fencing may require some mitigation measures to ensure minimization of impacts to Greater Sage Grouse movement. Coordination with permit agencies should start early in the 0 Phase to determine what will be accepted.

A Biological Monitor will be required to monitor all work within jurisdictional areas (CDFW/ACOE/LRWQCB), as well as for nesting birds if found during pre-construction surveys. If nesting willow flycatcher are found during Phase 0 surveys or during pre-construction surveys, avoidance and minimization measures may be required. This could include implementing a construction window to avoid impacts to nesting WIFL. If construction windows cannot be implemented, no-work buffers may be required for up to ¼ mile from any active nests.

Coordination between BLM, USFS, CDFW, LADWP, and Mono County should be conducted to get information on species surveys if conducted by any other agencies previously. Also, if acquiring ROW from any federal or state agencies, Caltrans will need to ensure any NEPA or CEQA requirements are met

(i.e. invasive plant survey report, etc.). BLM and USFS may also have land management plans requiring specific mitigation ratios for impacts to certain species and/or habitats (i.e. riparian habitat, Greater sage-grouse, etc.)

Total duration to complete required studies and produce the Biological Reports required for the 0 phase is approximately 12 months (for field studies, wetland surveys and report, and an NES).

Section 4(f)

Section 4(f) Considerations
If the “Green Church” is found to be eligible for listing in the National Register, then Section 4(f) would apply, but would likely be a de minimis finding.

6. Disclaimer

This report is not an environmental document or determination. The above information and recommendations are based on the project description provided in this report. The discussion and conclusions provided by this Mini-PEAR are approximate and based on a cursory review of existing records, databases, and mapping tools to estimate the potential for probable environmental effects. The purpose of this report is to provide a preliminary level of environmental analysis to support the Project Initiation Document. Changes in project scope, alternatives, existing environmental conditions, and/or environmental laws or regulations will require a reevaluation of this report.

7. Preparers

	Date Scoping Complete
Planner	Kris Bason
Biologist	Katie Rodriguez
Archaeologist	Julie Sage
Air Specialist	Matthew Goike
Haz Waste Specialist	Matthew Goike
Landscape Architect	Jim Hibbert
Noise Specialist	Matthew Goike
Water Specialist	Matthew Goike

8. Approval

Katie Rodriguez
Senior Biologist — 9/4/2019 Date

Dennee Alcala
Project Manager — 9.6.19 Date

☐ Headquarters Coordinator's Class of Action Concurrence has been obtained (e-mail concurrence is attached) - required for environmental documents only and not CEs

ATTACHMENTS:

- ☑ Attachment A: PEAR Environmental Studies Checklist
- ☑ Attachment B: Estimated Resources by WBS Code
- ☐ Attachment C: Schedule (Gantt Chart)
- ☑ Attachment D: PEAR Mitigation and Compliance Cost Estimate (MCCE)

Attachment A: PEAR Environmental Studies Checklist

District: 9.00	County: MNO	Route: VAR	PM: 0.000/0.000	EA: 09-38160_
				Proj ID: 0919000028
Project Title: LONG VALLEY WILDLIFE CROSSING				

	Not Anticipated	Memo to File	Report Required	Risk L M H	Comments
Human Environment					
Land Use	☑	☐	☐		
Coastal Zone	☑	☐	☐		
Wild & Scenic River Consistency	☑	☐	☐		
Growth	☑	☐	☐		
Farmlands/Timberlands	☑	☐	☐		
Community Impacts	☑	☐	☐		
Community Character and Cohesion	☑	☐	☐		
Relocations	☑	☐	☐		
Environmental Justice	☑	☐	☐		
Utilities/Emergency Services	☑	☐	☐		
Visual/Aesthetics	☐	☐	☑		
Cultural Resources					
Screening Memo	☑	☐	☐		
Archaelogical Survey Report	☐	☐	☑		
Historic Resources Evaluation Report	☐	☐	☑		
Historic Property Survey Report	☑	☐	☐		
Historic Resource Compliance Report	☑	☐	☐		
Section 106 / PRC 5024 & 5024.5	☐	☐	☑		
Native American Coordination	☐	☐	☑		
Finding of Effect	☐	☐	☑		
Data Recovery Plan	☑	☐	☐		May be needed if data recovery is required
Memorandum of Agreement	☐	☐	☑		
Tribal Lands	☑	☐	☐		
Other	☑	☐	☐		
ARPA Permit	☑	☐	☐		
Physical Environment					
Hydrology and Floodplain	☑	☐	☐		
Water Quality	☐	☐	☑		
Stormwater Runoff	☑	☐	☐		May be required if disturbed soil is over an acre
Geology, Soils, Seismic and Topography	☑	☐	☐		
Air Quality	☑	☐	☐		
Noise and Vibration	☑	☐	☐		
Energy and Climate Change	☑	☐	☐		
Hazardous Waste/Materials					
Hazardous Waste/Materials	☐	☐	☑		ADL testing

	Not Anticipated	Memo to File	Report Required	Risk L M H	Comments
ISA (Additional)	☑	☐	☐		
PSI	☑	☐	☐		
Other	☑	☐	☐		
Paleontology					
Paleontology	☑	☐	☐		
PER	☐	☐	☑		
PMP	☑	☐	☐		
Biological Environment					
Natural Environment Study	☐	☐	☑		
Natural Environment Study (MI)	☑	☐	☐		
Section 7 Formal	☑	☐	☐		
Section 7 Informal	☐	☑	☐		
Section 7 No effect	☑	☐	☐		
Section 10	☑	☐	☐		
USFWS Consultation	☐	☐	☑		BA may be required
NMFS Consultation	☑	☐	☐		
Species of Concern	☑	☐	☐		
Wetlands & Other Waters/Delineation	☐	☐	☑		
404(b)(1) Alternatives Analysis	☑	☐	☐		
Invasive Species	☐	☐	☑		
Coastal Management Plan	☑	☐	☐		
DFG Consistency Determination	☑	☐	☐		
HMMP	☐	☐	☑		
Other	☑	☐	☐		
Other					
Cumulative Impacts	☑	☐	☐		
Context Sensitive Solutions	☑	☐	☐		
Section 4(f)	☑	☐	☐		

	Not Anticipated	Memo to File	Report Required	Risk L M H	Comments

Permits	Not Anticipated	Required	Risk L M H	Comments
1600 Agreement Coordination	☐	☑		
2081 Incidental Take Permit	☑	☐		May be required
401 Certification Coordination	☐	☑		
Tribal 401	☑	☐		
404 Permit Coordination	☐	☑		
Local Coastal Development Permit Coord.	☑	☐		
State Coastal Development Permit Coord.	☑	☐		
NPDES Coordination	☑	☐		
US Coast Guard (Section10)	☑	☐		
TRPA	☑	☐		
BCDC	☑	☐		
State Lands Commission Lease Agreement	☑	☐		
Bureau of Reclamation Encroachment Permit	☑	☐		

ENVIRONMENTAL ANALYSIS WORKPLANS
PROJECT: Long Valley Wildlife Crossing
EA: 09-38160
EFIS: 09-1900-0028
Date: 9/16/19
Notes: Extremely sensitive area for cultural resources.

PAED	**100**	**160**	**165**	**170**	**175**	**180**
4206 (staff)	20	80	2000	60	320	400
4206 (consultants)	0	0	9850	0	0	0
4206 (TOTAL)	**20**	**80**	**11850**	**60**	**320**	**400**

BE (Begin Environmental): January 2021
DED: October 2022
FED: March 2023
PAED: April 2023

PSE	**100**	**205**	**235**	**255**	**260**
4206 (staff)	20	420	700	500	40
4206 (consultants)	0	0	5000	0	0
4206 (TOTAL)	**20**	**420**	**5700**	**500**	**40**

CONSTRUCTION	**100**	**270**	**280**	**295**
4206 (staff)	20	40	1100	1100
4206 (consultants)	0	0	6500	0
4206 (TOTAL)	**20**	**40**	**7600**	**1100**

Revised: 9/16/2019

Environmental Division
Mitigation and Compliance Cost Estimate (M.C.C.E.)

This MCCE is for: **PEAR** Oversight Project:

Dist - Co - Rte - PM: 09-MNO-VAR-0.000/0.000 EA (Proj ID): 09-38160_ (0919000028)

Project Name: LONG VALLEY WILDLIFE CROSSING Alternative #:

Project Manager: ALCALA, DENNEE G Phone Number: 760-872-767

MCCE Prepared By: Kris Bason Date: 6/13/2019 Phone Number: 760-872-2312

Resource Item	232/332 Dollars	FY	Acres/ Credits	ROW $ Planned	FY	ROW $ Actual	Paid	Construction 042$ (BEEs)	FY
Archaeological									
Phase 0 ASR	$250,000						☐		
XPI/Phase II evaluation and	$500,000						☐		
Phase III data recovery	$500,000						☐		
Phase 3 Construction monitoring	$125,000						☐		
Phase 3 Construction monitoring	$125,000						☐		
Archaeological Built Environment	$150,000						☐		
Archy ESA Fencing							☐	$100,000	
Biological									
Phase 0 Wetland Delineation/Report	$30,000						☐		
Phase 0 Willow Flycatcher surveys	$25,000						☐		
Phase 0 Bat surveys	$30,000						☐		
Phase 3 TO Biological monitor	$200,000						☐		
Bio ESA Fencing							☐	$10,500	
Bird/Bat exclusion netting							☐	$10,000	
ACOE Wetlands/WOUS Mitigation			0.72	$432,000			☐		
CDFW 1600 Mitigation			0.67	$201,000			☐		
Annual 401 Fee							☐	$1,600	
Annual 401 Fee							☐	$1,600	
Annual 401 Fee							☐	$1,600	
Phase 3 TO Biological monitor	$200,000						☐		
Hazardous Waste									
Phase 1 ADL testing	$12,000						☐		
Landscape									
Revegetation/erosion control							☐	$500,000	
Scenic									
Aesthetic overcrossing treatment							☐	$500,000	

Approved By: _____ Date: 9/18/19
Environmental Branch Chief

Right of Way Capital: _____ Date: 9/16/19
Right-of-Way Office Chief, Mitigation

If cultural and biology mitigation totals more than $500,000: _____ Date: 9/18/19
Environmental Office Chief

Submitted to PM on: 9.18.19 **Initial** _____

EA (Proj ID): 09-38160_ (0919000028)

Alternative #: _____

Resource Item	232/332 Dollars	FY	Acres/ Credits	ROW $ Planned	FY	ROW $ Actual	Paid	Construction 042$ (BEEs)	FY
Permit Fees									
CDFW Document Filing Fee				$2,354.75			☐		
1600				$10,626			☐		
401				$8,000			☐		
TOTAL	**$2,147,000**			**$653,980.75**				**$1,125,300**	

Comments (explanation and risk management plan attached)

PLEASE SEE WORD ATTACHMENT WITH COMMENTS/EXPLANATIONS

Long Valley Wildlife Crossing 09-38160 MCCE Notes

232/TO

- Archaeological Phase 0 Archaeological Survey Report (includes ARPA permit and record search costs for site identification): **$250,000 (WBS 165)**
- Archaeological XPI/Phase II evaluation and reporting Report (includes proposal, excavation, lab analysis, Phase II report, and FOE with ESA Action Plan. Includes costs for 2 Native American Monitors): **$500,000 (WBS 165)**
- Archaeological Built Environment Studies: **$150,000 (WBS 165)**
- Archaeological Phase III Data Recovery Report (includes Data Recovery Proposal, excavation, lab analysis, Data Recovery Report, and curation. Includes costs for 2 Native American Monitors): **$500,000 (WBS 235)**
- Biological Phase 0 Wetland Delineation and Report (6 days of work including travel @$1500/day; 80 hours for report writing @ $130/hour; 60 hours @ $130/hr. for mapping, GIS, etc.): **$30,000 (WBS 165)**
- Biological Phase 0 Willow Flycatcher Protocol-level surveys (2 field days x 2 visits; 2 travel days each visit; 8 days total @ $1500/day): **$25,000 (WBS 165)**
- Biological Phase 0 Passive and Observational Bat surveys (2 field days x 3 visits; 2 travel days per visit; 12 days total @ $1500/day; 80 hours for report writing @ $130/hour): **$30,000 (WBS 165)**
- Archaeological Phase 3 Construction monitoring (construction spans two FYs, the total cost for the construction monitoring, $33,666.10, is split between the two years. Includes costs for 2 Native American Monitors and 1 Archaeological Monitor): **$125,000 (WBS 280**)
- Archaeological Phase 3 Construction monitoring (construction spans two FYs, the total cost for the construction monitoring, $33,666.10, is split between the two years. Includes costs for 2 Native American Monitors and 1 Archaeological Monitor): **$125,000 (WBS 280**)
- Biological Phase 3 Monitoring (construction spans two FYs, the total cost for the construction monitoring, $250,000, is split between the two years. Includes costs for 60 days of monitoring, WEAP training, overtime, travel, and reports): **$200,000 (WBS 280)**
- Biological Phase 3 Monitoring (construction spans two FYs, the total cost for the construction monitoring, $250,000, is split between the two years. Includes costs for 60 days of monitoring, WEAP training, overtime, travel, and reports): **$200,000 (WBS 280)**

332/TO

- Haz Waste Phase 1 ADL soil testing: **$12,000 (WBS 235)**

050/ROW

- CDFW 1600 LSA permit (1 culvert, 1 bridge @ $1,493.00/project): **$10,626 (WBS 205)**
- LRWQCB 401 Certification (3799' impact estimate @ $13.50/linear foot): **$8,000 (WBS 205)**
- CDFW Document filing fee (IS): **$2,354.75 (WBS 205)**
- CDFW 1600 Mitigation (0.67 acres streambed impact @ $100,000/acre; 3:1 ratio): **$201,000 (WBS 235)**
- ACOE Wetlands/WOUS Mitigation (0.72 acres streambed impact @ $200,000/acre; 3:1 ratio): **$432,000 (WBS 235)**

042/BEES

- Biological ESA Fencing (3,000ft x $3.50/ft): **$10,500 (WBS 280)**
- Archaeological ESA Fencing: **$100,000 (WBS 280)**
- Bird/Bat exclusion netting: **$10,000 (WBS 280)**
- Native Revegetation/Erosion Control: **$500,000 (WBS 280)**
- Aesthetic treatments for overpasses: **$500,000 (WBS 280)**
- 401 annual fee: $1,600 **(WBS 280)**
- 401 annual fee: $1,600 **(WBS 280)**
- 401 annual fee: $1,600 **(WBS 280)**

Attachment D
Risk Register

Risk Register for 09-38160/0919000028, Long Valley Wildlife Crossing

Form v3.4 last modified April 2019

Risk Checkpoint:	PID
Date:	3/16/2020
Project Nickname:	Long Valley Wildlife Crossing
EA:	09-38160/0919000028
Co-Rt, Post Miles:	MNO-VAR-VAR
Project Manager:	Dennee Alcala
FY & Program (SHOPP or STIP):	
Capital Costs:	$42,000k
Support Costs:	$3,000k
Total Costs:	$45,000k
RTL Target:	Enter RTL Target Date

Phase	Cost Contingency Range $k			Schedule Contingency Range (Wkg Days)		
	Optimistic	PERT	Pessimistic	Optimistic	PERT	Pessimistic
0-PA&ED	$12	$20	$28	90	166	279
1-PS&E	$5	$12	$15	120	144	168
2-RW Sup	$0	$0	$0	0	0	0
3-Con Sup	$3	$8	$10	72	96	120
Support Contingency	$21	$40	$54	282	406	567
9-RW Cap	$0	$0	$0	0	0	0
4-Con Cap	$0	$0	$0	0	0	0
Capital Contingency	$0	$0	$0	0	0	0
Total Contingency	$21	$40	$54	282	406	567

Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (PxI)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
Active	1	Threat	Environmental	Unanticipated presence of sensitive-status wildlife	As a result of sensitive-status wildlife species being found present within the PIA or adjacent to the BSA, measures may need to be implemented in coordination with USFS, BLM, and/or CDFW (this includes BA/BO and possible mitigation and/or 2081 ITP permit). This may impact schedule and cost.	No sensitive-status wildlife species found present	Sensitive-status wildlife species found present	3-Moderate (31-50%)	8 - High ($1k - $k)	24	Accept	Consultation with resource agencies possibly resulting in additional studies and preparation of reports	K. Rodriguez	4/16/2020	1-PS&E Sup	O 40 hours ML 80 hours P 120 hours PERT 80 hours	O 180 ML 210 P 240 210 days	$6k 84
								40%	8 - High (3-6 months)	24								
Active	2	Threat	Environmental	Federal listing of GSG	As a result of USFWS determining that federal listing for GSG is warranted in October 2019, a BA/BO may be required and coordination with USFWS, BLM, and USFS will be required to implement avoidance and minimization measures, which could result in delays to the project schedule.	GSG will not be listed	GSG will be listed	4-High (51-70%)	1 - Very Low (Insignificant)	4	Accept	Consultation with resource agencies possibly resulting in additional studies and preparation of reports. Possibly implement mitigation.	K. Rodriguez	4/16/2020				
								60%	1 - Very Low (Insignificant)	4								
Active	3	Threat	Environmental	Roosting bats	As a result of maternity or seasonal bat roosts being found within the Convict Creek culvert, temporary mitigation may be required during construction to provide replacement roosting habitat. Construction windows to avoid maternity roosting season may also be required, which could impact the project schedule, cost, and scope.	Bat roosts found within Convict Creek culvert	No bat roosts found within Convict Creek culvert	3-Moderate (31-50%)	4 - Moderate ($1k - $k	12	Avoid	Avoid maternity roosting season with a construction window. Possibly mitigate by providing replacement roosting habitat during construction	K. Rodriguez	4/16/2020				
								40%	8 - High (3-6 months)	24					3-Con Sup	O 30 hours ML 60 hours P 90 hours PERT 60 hours	O 90 ML 120 P 150 120 days	$4k 48
Active	4	Threat	Environmental	Survey season passing before 'Begin Environmental' request	As a result of spring and summer survey season passing at the time of the 'Begin Environmental' request, surveys would have to be conducted the following year which may impact schedule and cost.	Begin Environmental' request received before spring and summer survey season	Begin Environmental' request received after spring and summer survey season	3-Moderate (31-50%)	4 - Moderate ($1k - $k	12	Accept	Conduct surveys the following year	K. Rodriguez	4/16/2020				
								40%	16 - Very High (>6 months)	48					0-PA&ED Sup	O 30 hours ML 60 hours P 90 hours PERT 60 hours	O 90 ML 120 P 150 120 days	$4k 48
Active	5	Threat	Environmental	Willow Flycatcher	As a result of WIFL being found nesting within or adjacent to the PIA, a construction window may be required to avoid take, which will increase costs and may affect the schedule.	No WIFL found nesting within or adjacent to the PIA	WIFL found nesting within or adjacent to the PIA	3-Moderate (31-50%)	4 - Moderate ($1k - $k	12	Avoid	Avoid nesting season with a construction window	K. Rodriguez	4/16/2020				
								40%	8 - High (3-6 months)	24					3-Con Sup	O 30 hours ML 60 hours P 90 hours PERT 60 hours	O 90 ML 120 P 150 120 days	$4k 48
Active	6	Threat	Environmental	Presence of sensitive-status plants	As a result of sensitive-status plant species being found present within the PIA, consultation with and possibly mitigation under CEQA may be required. This may impact schedule and cost.	No sensitive-status plant species found present within PIA	Sensitive-status plant species found present within PIA	2-Low (11-30%)	2 - Low (<$2,250k)	4	Accept	Consultation with resource agencies possibly resulting in additional studies and preparation of reports	K. Rodriguez	416/20				
								20%	2 - Low (<1 month)	4								
Active	7	Threat	Environmental	Permit agency staff turn-over	As a result of permit agency staff experiencing turn-over, discussions involving mitigation required for permitting could be delayed. This would affect the project schedule.	No delays due to permit agency staff turn-over	Delays due to permit agency staff turn-over	3-Moderate (31-50%)	8 - High ($1k - $k)	24	Accept	Accept delays during mitigation and permitting discussions with agencies	Archaeologist	8/27/2019				
								40%	4 - Moderate (1-3 months)	12								
Active	8	Threat	Environmental	Revised design with ESL increase	As a result of a revised design that includes an increase in environmental study limit being submitted after studies have been completed or the spring/summer survey season has passed, surveys would have to be conducted the following year, which may impact schedule and cost.	No revised design that includes an increased ESL	Revised design that includes an increased ESL	2-Low (11-30%)	4 - Moderate ($1k - $k	8	Accept	Conduct surveys the following year	Archaeologist	8/27/2019				
								20%	16 - Very High (>6 months)	32								
					As a result of the Green church being determined													

Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	**ID #**	**Type**	**Category**	**Title**	**Risk Statement**	**Current status / assumptions**	**Risk Trigger**	**Probability (P)**	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (PxI)	**Strategy**	**Response Actions**	**Risk Owner**	**Updated**	**Impacted Phase**	**Support (Hrs) Capital Cost ($k)**	**Schedule (Days)**	**Calculated Contingency**
Active	9	Threat	Environmental	Green church being determined eligible	As a result of the Green church being determined eligible, the current planned placement and/or design of the fence in relation to the Green Church would constitute an adverse visual effect, leading to lengthy consultation with both the local community and the SHPO, possibly lasting from one to two years. Mitigation and programmatic Sec 4(f) study would be required if impacts to the Green church cannot be avoided, which would lead to schedule and cost impacts.	Green church will be determined eligible	Adverse effects to Green church cannot be avoided	4-High (51-70%)	2 - Low (<$k)	8	Avoid	Redesign fence location in vicinity of Green Church to avoid adverse visual effects.	E. Zelazo	4/24/2020				
								60%	16 - Very High (>6 months)	64					0-PA&ED Sup	O 120 hours ML 160 hours P 256 hours PERT 170 hours	O 90 ML 180 P 365 196 days	**$16k** **118**
Active	10	Threat	Environmental	Disagreements on level of effort, findings, and treatments for resources between Caltrans and external agencies	As a result of disagreements on identification level of effort, findings, and treatments for resources between the INF, BLM Bishop Field Office, the Caltrans Cultural Studies Office, the SHPO, and/or District staff, additional studies and report preparation/revision may occur, which would lead to schedule delays prior to consultation with SHPO on the determination of effect. This will lead to schedule delays and cost impacts.	No disagreements on level of effort, findings, and treatments for resources between Caltrans and external agencies regarding cultural resources	Disagreements on level of effort, findings, and treatments for resources between Caltrans and external agencies regarding cultural resources	2-Low (11-30%)	2 - Low (<$k)	4	Avoid	Avoid disagreements with external agencies through early and often consultation with INF and the Bishop Field Office. Ensure level of effort follows established procedure to avoid disagreements with the SHPO and Caltrans Cultural Studies Office.	E. Zelazo	4/24/2020				
								20%	4 - Moderate (1-3 months)	8								
Active	13	Threat	Construction	TOML Airport Fence	TOML maintains funding for the Wildlife Fence around the airport. The fence should be constructed in conjunction with this project to ensure success. However, TOML does not have proper permits and approvals to construct and may not be successful in completing fence.	TOML will install airport fence prior to construction or may be unsuccessful with fence construction indefinitely.	Coordination with Wildlife Stewardship Team and TOML	1-Very Low (1-10%)	2 - Low (<$k)	2	Accept	Additional coordination with TOML and the Wildlife Stewardship Team.	PPM, Planning	2/24/2020				
								5%	2 - Low (<1 month)	2								
Active	15	Threat	Construction	Impact area size	During zero phase the impact area will need to be determined, the specific detours and designs needed will not exist yet. There is a risk that we do not obtain enough working area to build the facilities contemplated	Assume we will study enough area	IF any doubts during investigations, assume we need more space.	2-Low (11-30%)	2 - Low (<$2,250k)	4	Avoid	If there is any doubt about an area to be studied, it should be included or enlarged to assure that space is provided	DM/CM	3/26/2020				
								20%	2 - Low (<1 month)	4								
Active	16	Threat	Environmental	Mitigation	As a result of coordination with regulatory agencies, a new agreement to allow the project to be considered mitigation could lead to long negotiations requiring lots of staff time and many unknowns.	Project will be deemed as mitigation and agreements will be approved by regulatory agencies in a reasonable amount of time.	Project to be deemed mitigation will require lots of coordination with regulatory agencies and many unknowns.	3-Moderate (31-50%)	2 - Low (<$2,250k)	6	Accept	Begin discussions with regulatory agencies very early to begin process to deem project mitigation.	K. Rodriguez	4/16/2020				
								40%	8 - High (3-6 months)	24					1-PS&E Sup	O 40 hours ML 80 hours P 120 hours PERT 80 hours	O 120 ML 150 P 180 150 days	**$6k** **60**
Active	17	Threat	Funding	Lack of funding	As a result of not being able to secure funding, the project may be shelved and/or will not move forward inefficiently.	Project funding has not been secured via Caltrans, grants, or external stakeholders.	Project funds are not secured or are secured piecemeal.	3-Moderate (31-50%)	4 - Moderate ($2,251k - $4,500k	12	Avoid	If funds cannot be secured via joint efforts, Caltrans will shelve the project.	PM	4/6/2020				
								40%	4 - Moderate (1-3 months)	12								
Active	18	Threat	Stakeholders	Lack of consensus	As a result of having multiple agencies with varying goals participate in the project, consensus regarding project deliverables may be time-consuming or result in impasse.	Lack of shared vision throughout project delivery will cause inefficienceies; in turn, wasting limited staff time and money.	Project Development Team, comprised of internals & externals, has disagreements and it's unclear who retains ultimate decision-making authority.	2-Low (11-30%)	2 - Low (<$2,250k)	4	Avoid	An MOU needs to be developed to outline conflict resolution and who will make final decisions.	EM/PM	4/6/2020				
								20%	4 - Moderate (1-3 months)	8								
Active	19	Threat	Stakeholders	Priorities shift	As a result of agencies' commitment-levels waning, delivery of the project may not be achieved.	Agencies often experience shifting priorities, staff turnover, leadership change, and/or unforseeeable funding constraints that may adversely affect this project.	Agencies reduce their level of commitment to project deliverables, funding, and/or schedule.	3-Moderate (31-50%)	4 - Moderate ($2,251k - $4,500k	12	Escalate	Caltrans will need to respond swiftly and appropriately to any changes in external agency participation.	DDD Enviro/PM	4/6/2020				
								40%	4 - Moderate (1-3 months)	12								
Retired	11	Threat	Environmental	Discovery of unavoidable unidentified archaeological sites	As a result of the discovery of unavoidable previously unidntified archaeological sites that are determined elegible, additional consultation with the SHPO, INF, and/or BLM Bishop Field Office and development of an agreement document and mitigation plan may be required. This will lead to schedule delays and cost impacts.	No discovery of unavoidable unidentified archaeological sites	Discovery of unavoidable unidentified archaeological sites	1-Very Low (1-10%)	2 - Low (<$k)	2	Accept	Additional consultation, studies, and preparation of reports	Archaeologist	8/27/2019				
								5%	2 - Low (<1 month)	2								
Retired	12	Threat	Environmental	Identification of unavoidable Tribal Cultural Resources	As a result of identification of an unavoidable Tribal Cultural Resource during required AB 52 consultation, additional consultations and studies may be required, which would lead to schedule delays and costs impacts.	No identification of unavoidable Tribal Cultural Resources	Identification of unavoidable Tribal Cultural Resources	1-Very Low (1-10%)	2 - Low (<$k)	2	Accept	Additional consultation, studies, and preparation of reports	Archaeologist	8/27/2019				
									4 - Moderate (1-3	4								

Risk Identification								Risk Assessment			Risk Response				Quantifying "Red" (High P & I) Level Risks			
Status	ID #	Type	Category	Title	Risk Statement	Current status / assumptions	Risk Trigger	Probability (P)	Cost Impact Schedule Impact (I)	Cost Score Schedule Score (PxI)	Strategy	Response Actions	Risk Owner	Updated	Impacted Phase	Support (Hrs) Capital Cost ($k)	Schedule (Days)	Calculated Contingency
					delays and costs impacts.			5%	months)	4								
Retired	14	Threat	Environmental	ESR/RW Datasheet Scoping	One crossing structure (Medium or Large overcrossing/undercrossing between Mammoth Creek and crossing at 23.36) was ommitted from the ESR and R/W datasheet.	Structure can be scoped in by functional units during resourse reqeusts from PMM.	Planning	1-Very Low (1-10%)			Accept	PPM will note ommision for PDT so estimates can account for the structure in question.	PPM, Functional Units	3/25/2020				
								5%										

Attachment E
Right of Way Data Sheet

Right of Way Data Sheet Report

To: Dennee Alcala
Project Manager

Attention: Austin West, ATP
D-9 Planning Unit

Date: October 14, 2019
File Ref.: Mono 395 PM 18.03/26.78
Mono 203 PM 6.90/8.67
EA: 09-381600
Project No. 09-1900-0028
Alt No.: Fully Implemented Plan

From: **District 9 - Right of Way**

We have completed an REVISED estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated: *March 12, 2019 for the "Long Valley Wildlife Crossing", PSR-PDS, that is utilizing the project scope and limits as outlined by Design Team: Brian Wesling and Cory Freeman in 2016, when this was a feasibility study under EA 09-98711k;09-1600-0020. Same as outlined in 2016 - this design or alternative is for the fully implemented plan to reduce deer vehicle collisions on SR 203 and US 395. Project limits are US 395 from Crowley Lake Drive to just north of the US 395 & SR 203 junction, and along SR 203 from Meridian Blvd to junction Route US 395 & SR 203. Revised to include costs from Environmental's MCCE dated 9/18/2019.* The following assumptions and limiting conditions were identified:

1. The project is listed in the September 2019 District 9 "CT Workplan Status Report". The anticipated Construction/Award date is 8/2025 and the target RW Certification listed as 3/2025.

2. The Project Requestor indicates that there is **new** right of way required, that environmental mitigation parcels may be required, that there is utility involvement and the need for approximately 20 potholes.

3. The Environmental Branch has provided an MCCE, dated 9/18/2019, that outlines permit fees and acreage or credit bank info for mitigation parcels, and this information is included in this revised report.

4. Mono County, LA-DWP, USFS and BLM administered properties are located within the project limits and will ultimately be affected by this project. Longer lead times will be needed when working with and obtaining any property rights from Governmental Agencies. Note: Design will be obtaining the encroachment permits for any work on Mono County's road approaches.

5. Any utility relocations will require long lead times. Potholing locations will need to be identified as early as possible. Utility requirement and conflict maps for each of the utility involvements will need to be provided to RW as early as possible to avoid any project delays.

6. Right of Way activities (ordering title reports, preparing base maps, preparing appraisal maps, etc) can commence upon receipt of completed Certificate of Sufficiency. Anticipated Lead Times for this project will be –

♦ Preparation of R/W Maps to Regular R/W activities (base map prep, order title reports, appraisal map prep, comparable sales search)	8	Months
♦ Regular R/W activities (acquiring parcels or permits, performing RAP, utility relocation activities) to Right of Way Certification.	24	Months

NOTE: **The last chance to submit map/project changes to Right of Way, without jeopardizing r/w certification date, is 3 months after start of regular right of way work.**

ANTICIPATED Right of Way LEAD - TIME will require a minimum of 24 months after we receive certified Appraisal Maps, the necessary environmental clearances have been obtained, and freeway agreements have been approved.

Tanisha Barfield

TANISHA BARFIELD
Office Chief, District 9
Right of Way

October 14, 2019
EA 09-381600
Project No. 09-1900-0028

1. **RIGHT OF WAY COST ESTIMATE:**
(entered into PMCS COST RW1-5 Screens)

	Current Value (2019 Year)	Escalation Rate	Escalated Value (2025 Year)
Acquisition costs	$294,560.00	5%	$394,738.00
ENVIRONMENTAL permit/filing fees – per MCCE	$ 20,980.75		$ 20,980.75
Mitigation Bank Credits per MCCE	$633,000.00		$633,000.00
Utility Relocation	$470,000.00	10%	$832,633.00
Relocation Assistance			
Clearance/Demolition			
Title and Escrow Fees	$ 8,000.00		$ 8,000.00
TOTAL CURRENT VALUE	**$1,426,540.75**		**$1,889,351.75**
R/W SUPPORT COSTS			
Construction Contract Work (construction costs to be included in projects PS&E)			

2. Current anticipated date of RIGHT OF WAY CERTIFICATION: 2025 year

3. **PARCEL DATA:**
(entered on PMCS EVNT RW screen)

TYPE	NUMBER	DUAL APPR	UTILITIES		RR INVOLVEMENT	
X			U4-1		None	X
A	4		-2		C & M Agmt	None
B	8		-3		Service Contract	None
C			-4		Lic/RE/Clauses	None
D					**MISC R/W WORK**	
TOTAL:	12		U5-7	3	RAP Displacement	None
			5-8		Clear/Demo	None
			5-9		Const Permits	
EXCESS:	0				Condemnation	Possibly on LA-DWP parcels

Parcel Area Total: 53.47 acres total; 14.55 acres as permanent rights counted as 8 parcels (involving BLM, USFS, and LA-DWP) and 38.92 acres as temporary rights, either PTE or TCE (for fence install and the 22 different areas of cattle guard installation) counted as 4 parcels involving each of the 4 property owners (USFS, BLM, LA-DWP and Mono County). **Mitigation Acreage for Bank Credits, total:** 1.39 acres (ACOE/WOUS 0.72ac + CDFW 0.67)

4. Items of construction contract work: YES ☐ NO ☒

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): vacant parcels with vegetation that is typical to this region of the southern Mono County area.

   YES - RIGHT OF WAY REQUIRED ☒ NO – NONE REQUIRED ☐

6. Effect on assessed valuation: YES ☐ NOT SIGNIFICANT ☒ NO ☐

7. Utility facilities or rights of way affected: YES ☒ NO ☐

8. Railroad facilities or rights of way affected: YES ☐ Railroad Worksheet attached. NO ☒

9. Previously unidentified sites with hazardous waste and/or material found: NONE EVIDENT ☒

10. RAP displacements required: NO ☒

11. Material borrow and/or disposal sites required: NO ☒

12. Potential relinquishments and/or vacations: YES ☐ NO ☒

13. Existing and/or potential Airspace sites: YES ☐ NO ☒

14. Environmental mitigation parcels required: YES ☒ NO ☐ MCCE form dated 9/18/19, outlines permit costs and/or mitigation bank credit costs and acreage involved.

15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐

16. Data for evaluation compiled by (utility info =Julie Nellis, land values= Von Tatum & Nancy Escallier):

Lora Rischer Date: 10/17/19

Lora Rischer

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

11/8/2019
Date

Tanisha Barfield
TANISHA BARFIELD
Office Chief, District 9
Right of Way

Entered onto PMCS Screens (Event, Cost, Agre.) By: _____ Date: _____