

**FINDING OF NO SIGNIFICANT IMPACT**  
**Reconstruct Road Segments to Improve Safety (PMIS 187464)**  
**National Park Service, U.S. Department of the Interior**  
**Mojave National Preserve**  
**June 2015**

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## **INTRODUCTION**

This Finding of No Significant Impact (FONSI) has been prepared in accordance with the National Environmental Policy Act (NEPA) for the project, Reconstruct Road Segments to Improve Safety, in Mojave National Preserve, San Bernardino County, CA. This document describes the selected action and provides an explanation of why it will have no significant effects on the human environment. The project will be implemented by the National Park Service (NPS), in collaboration with the Federal Highway Administration (FHWA). The FONSI, environmental assessment (EA) completed in November 2014, and Errata, prepared as a technical attachment to the EA, constitutes a complete record of the environmental impact analysis for the proposal.

## **PURPOSE AND NEED**

Numerous serious accidents occur every year on Preserve roads, often involving vehicle rollovers, injuries and fatalities. The purpose of the project is to improve public safety by reducing the number and severity of traffic accidents in the Preserve. It will also enhance the visitor experience by correcting existing road design deficiencies and conditions that endanger those driving through the Preserve or limit safe access to residences and facilities.

Mojave National Preserve roads have seen a significant increase in traffic from motorists visiting the Preserve and an associated increase in serious accidents. Sections of road most frequently used by Preserve visitors have geometric deficiencies that contribute to vehicular accidents and fatalities. This project is needed to correct problems on sections of paved and dirt roads that contribute to high accident rates and increased accident severity (such as rollover crashes), particularly for drivers who are distracted by the scenery or exceeding the speed limit. Safe access for residents, visitors, and emergency personnel is also compromised when storms wash out sections of unpaved road. The dangerous road conditions include: tight horizontal and vertical curve alignments (sharp curves and/or dips), improper super-elevation (banking or tilting of the roadway surface), inadequate sight distance, inadequate signage, and poorly configured intersections.

## **SELECTED ACTION**

The NPS will implement Alternative 2, with minor modifications incorporated in response to public comment and agency consultation. The Selected Action includes improvements to eight sections of roadway in the Mojave National Preserve. The actions at each site are described below.

### *Site 1: Kelbaker Road Curve Alignment*

The long straight stretch of Kelbaker Road east of Baker is interrupted by a sharp curve with substandard grade changes. A total of 1,650 feet of roadway will be realigned to form a more gradual horizontal curve with a larger radius. The grade profile will be leveled during the realignment to

flatten the road and remove dips. The centerline and edge line will be restriped. Center line and edge line rumble strips will be to alert drivers when they drift from their lane of traffic.

The realigned portion of roadway will be 22 feet wide with two-foot shoulders; 2,000 cubic yards of roadway will be excavated and 1,800 cubic yards of aggregate will be used as base fill. The existing road occupies 1.3 acres, 0.6 acres of which will be reclaimed and revegetated. The total area of new disturbance at this site is 1.7 acres. One quarter of an acre of the existing roadway and adjacent existing disturbed areas will be used for staging. The turnoff to a connecting backcountry access road will be realigned on currently disturbed land, and the apron paved.

A variety of native plants may be removed, stored in temporary nurseries, and relocated to reclaimed areas, both during the project and following completion of the project. Revegetation work will use soil conserved along the corridor and native species from genetic stock originating in the Preserve. Revegetation efforts will also attempt reconstruction of the natural spacing, abundance, and diversity of native plant species.

The newly disturbed areas during construction will be revegetated through use of locally collected plant species (seeds and transplants). Control of non-native and invasive plant species will occur before and after construction activities.

#### *Site 2: Kelbaker Road, Kelso Pass Alignment*

In this location, 3,600 feet of roadway will be reconstructed to realign curves, correct vertical alignment deficiencies (dips and peaks) within the curves, and improve the super-elevation (tilt) of the curves. The project will also improve signage and striping, and install centerline and edge line rumble strips. A cattle guard grate will be removed and salvaged for reuse. The realignment of the curves may result in a need to transplant one or more Joshua trees. Large, mature Joshua trees at the site will be avoided and fenced off during construction. Wildlife crossing signs will also be installed.

The roadway width will be 22 feet with two-foot shoulders for a total of 26 feet paved width. About 11,000 cubic yards of roadway will be excavated and 4,000 cubic yards of aggregate used for road base. Excavated material will be used as fill and grading material at other project sites. The existing roadway at this site occupies 2.7 acres, most of which is within the footprint of the new road alignment. The total new disturbance will be about 3.35 acres. At this site, 0.15 acres of previously disturbed area will be used for staging.

A variety of native plants may be removed, stored in temporary nurseries, and relocated to reclaimed areas, both during the project and following completion of the project. Revegetation work will use soil conserved along the corridor and native species from genetic stock originating in the Preserve. Revegetation efforts will also attempt reconstruction of the natural spacing, abundance, and diversity of native plant species.

The newly disturbed areas during construction will be revegetated through use of locally collected plant species (seeds and transplants). Control of non-native and invasive plant species will occur before and after construction activities.

#### *Site 3: Kelbaker Road, Granite Pass Alignment*

At this site, 3000 feet of roadway will be realigned, regraded and reconstructed to correct a series of sharp curves and vertical dips and rises. The radius of curvature of the existing curves will be realigned to provide safer driving conditions at the posted speed limit, and the vertical road alignment will be regraded to remove the abrupt grade changes.

Other improvements will include additional signage, speed feedback signs and flashing beacons. Wildlife crossing signs will be installed. A total of 3.1 acres of desert vegetation, including three or four mature junipers, will be removed as part of the road realignment, and some plants may be salvaged and replanted in the reclaimed road area. In addition, the existing undersized culvert will be replaced with a larger diameter culvert.

The realigned portion of roadway will have two lanes 11 feet wide, with two-foot shoulders and edge and center line rumble strips. The project requires 9,000 cubic yards of roadway will be excavated and 3,500 cubic yards of aggregate will be used as base fill. The existing road occupies 2.5 acres, 0.3 acres of which will be removed, reclaimed and vegetated, and the remainder of which overlaps the new road alignment. The area of new disturbance at this site is 3.8 acres and 0.2 acres of the existing disturbed area will be used for staging. In addition, the existing unimproved pullout will be converted to a paved parking area measuring 48 x 70 feet (0.08 acre) for cars and RVs. A berm will be constructed around the edge of the parking lot to prevent visitors from driving off the pavement.

A variety of native plants may be salvaged, stored in temporary nurseries, and relocated to reclaimed areas, both during the project and following completion of the project. Revegetation work will use soil conserved along the corridor and native species from genetic stock originating in the Preserve. Revegetation efforts will also attempt reconstruction of the natural spacing, abundance, and diversity of native plant species.

The newly disturbed areas during construction will be revegetated through use of locally collected plant species (seeds and transplants). Control of non-native and invasive plant species will occur before and after construction activities.

#### *Site 4: Kelbaker Road/Kelso-Cima Road Intersection*

Kelbaker Road will be raised three feet as it approaches the railroad crossing to improve sight lines and allow drivers to have a better view of the road ahead. There will be no change in alignment for Kelbaker Road.

Kelso-Cima Road will be moved 50 feet to the northwest at the intersection of Kelbaker Road, to create more defined "T" intersection with Kelbaker Road. The large expanse of asphalt and gravel in the existing intersection will be reduced. New asphalt curbs will be constructed on both sides of Kelso-Cima Road. These changes will allow for more space between the railroad crossing and the intersection to improve the line of sight in the Kelso Depot area. These improvements will help channel the traffic flow and slow down vehicles as they move through the intersection and pedestrian crossing. As a result, the informal gravel parking lot on the east side of Kelso-Cima Road will be eliminated. A speed hump will be installed on Kelso-Cima Road across from Kelso Depot, and 800 feet from the intersection. In addition, installation of speed feedback signs and other speed slowing measures will promote slower speeds.

Improvements will realign and re-grade 400 feet of roadway at this site. The roadway width will be standardized at 22 feet with two-foot shoulders for a total of 26 feet, including the removal of about 0.2 acres of asphalt on the east side of the intersection that will be reclaimed and revegetated. This work requires 800 cubic yards to be excavated and 400 cubic yards of aggregate road base will be used for the realigned and regraded road. The project will involve the reconstruction of 1.1 acres of previously disturbed roadway. There will be 0.5 acres of new disturbance at this site, much of which is in a previously disturbed area. Staging will occur on 0.15 acres of previously disturbed area.

*Site 5: Kelso-Cima/Morningstar Mine/Cima Road Intersection*

The work at the Cima location includes raising the grade of the roadway between the railroad spur crossings, improved signing and striping, and possible realignment of Cima Road. Cima Road will be realigned to create a “T” intersection at a greater distance from the railroad crossing. A stop sign will be added for vehicles traveling north on Kelso-Cima Road. These modifications will clarify the dominant through-traffic route and make it easier to see approaching vehicles. The realignment of Cima Road is dependent upon the Preserve acquiring access by way of fee simple or right of way purchase to make improvements on four acres at the site. If access cannot be acquired, the road will not be realigned into the “T” intersection, but other measures will be implemented as described.

The railroad spur line is located on Kelso-Cima Road 70 feet south of the intersection and rises about five to seven feet above the road grade. The elevation difference between Kelso-Cima Road to the south and west of its intersection with Cima Road impedes the visibility of oncoming vehicles on Kelso-Cima Road. This situation reduces motorists' reaction time as they approach the intersection, increasing the risk of rear-end collisions.

The length of the modified roads will be 800 feet on Kelso-Cima Road, and 380 feet on Cima Road. The realigned roadway width will be 22 feet with two-foot shoulders for a total of 26 feet; 380 cubic yards of roadway will be excavated and 150 cubic yards of aggregate will be used as base fill. The area of the existing road at this site is about 0.8 acres, 0.2 of which will be reclaimed and revegetated if Cima Road was realigned and the remainder of which overlaps the new road alignment. The total area of disturbance at this site will be 1.8 acres, including 0.8 acres of existing vegetation, and one acre within the previously disturbed area adjacent to the road and railroad tracks, between the railroad crossings. The total existing disturbed areas to be used for staging is 0.45 acres. If Cima Road is not realigned, the existing intersection location will remain, no vegetation will be removed, and the new disturbance will be limited to the one acre within the previously disturbed area between the railroad crossings.

*Site 6: Cedar Canyon Road, Low Water Crossings*

To minimize damage from floods, the project proposes to pave two low water crossings (LWCs) 0.6 miles apart on Cedar Canyon Road with asphalt, and install riprap and buried concrete barriers (known as “Jersey Barriers”) on both sides of the LWC to reinforce the pavement against undermining. The design requires a transition of 10 feet of disturbance downstream and upstream.

The pavement and barriers at the first LWC will be 150 feet in length and 52 feet wide, with a 10-foot transition on both sides, for a total of 170 feet of riprap. Riprap will be buried two feet in the ground. The second LWC will be paved for a length of 130 feet, and a width of 52 feet, with 10 foot transition on both sides of the crossing, for a total of 150 feet of riprap. There will be a total of 0.2 acres of disturbance at this site, all in areas that are previously disturbed. All staging will occur within the existing roadway or previously disturbed areas. The improvements are designed to work well in desert wash conditions and to withstand a 25 to 50-year flood.

*Site 7: Black Canyon Road, Curve Improvement Site*

In this location, a small curve with incorrect super-elevation (banking) will be re-graded to prevent vehicles from sliding off the roadway as they go through the curve. In addition to road improvements, sign improvements will be installed to identify curves and reduce speed. This curve grading will not entail any work outside the existing roadway prism and will affect .21 acres of

previously disturbed land. Staging will occur within the existing roadway or adjacent previously disturbed areas.

*Site 8: Black Canyon Road, Slope Protection*

On a section of Black Canyon Road which frequently washes out during storm events, riprap or gabions will be placed into the side of the road embankment adjacent to the wash to provide reinforcement against future storm-water damage. Bank armoring will occur over a potential maximum length of 7,000 feet and an area of about 2.9 acres of previously disturbed land. Staging will occur on the roadway, or on already disturbed land adjacent to the project. Slope armoring will be five feet from the channel elevation to the top of the riprap. To the greatest extent possible, sections of the bank that are stable with existing vegetation will remain and not be disturbed.

Near the northern end of the bank protection work at this site, a 50 foot long low water crossing will be constructed to allow the drainage on the east side of the roadway to cross over into the main channel on the west side of the roadway. The roadway will be lowered about three feet to the existing channel elevation. Additional slope armoring will be placed at the NE, SE, and SW corners of the low water crossing to protect the roadway and assist in diverting the water across the roadway. No concrete barriers or asphalt pavement will be placed at this low water crossing.

*Activities Common to All Sites*

Certain activities will be conducted at each of the project sites to ensure that environmental impacts are avoided or minimized.

**Traffic Control and Access.** The construction contractor will have a traffic plan in place prior to construction. Flaggers will be used with an appropriate buffer space to direct traffic. Traffic delays will be expected to be limited to approximately 30 minutes or less.

**Staging Areas.** All staging areas will be on previously disturbed areas, existing road beds or disturbed pull outs. No staging will occur on previously undisturbed land.

**Waste Material.** It is anticipated that 6,000 cubic yards of waste material, consisting of existing road bed, will be generated from all the sites. To the greatest extent possible, existing onsite demolished materials, such as waste concrete and asphalt, may be recycled and reused to reduce waste and truck traffic. If it cannot be used onsite, the contractor will either recycle the material or dispose of it in an approved landfill.

**Construction Methods.** Road construction methods will include some or all of the following, depending on the site.

- Grading and excavation;
- Pulverizing existing pavement for use as aggregate base
- Placing new hot mix asphalt over the aggregate base;
- Installing rumble strips;
- Installing traffic signage and striping;
- Installing short or long-term erosion control measures following approved best management practices such as wattles, silt fences, riprap and gabions;
- Implementation of measures to minimize risks to personal safety,
- Fencing of Staging areas to ensure no land or resources outside the disturbed area are impacted.

## **MODIFICATIONS TO THE SELECTED ACTION**

During the public meeting, there was discussion of adding a stop sign at the Kelso-Cima/Morningstar Mine Road/Cima Road intersection. FHWA concurred that inadequate sight distance is problematic at this location and recommended a three way stop at this intersection. This will be added into the final design of the project.

Consultation with the U.S. Fish and Wildlife Service (USFWS) yielded one change to the project's approach for avoiding impacts to the desert tortoise. Tortoises will not be handled for this project; if a tortoise enters the work area, all work will cease until the animal leaves on its own accord.

Stipulations from the Memorandum of Agreement and conservation measures from the Biological Opinion have been added to the project and integrated into the migration table.

Slight modifications and additions to the mitigations were added as a result of consultation with the State Water Quality Control Board. These changes are added to the mitigation table.

## **RATIONALE FOR SELECTED ALTERNATIVE**

The project will improve public safety by correcting roadway deficiencies and providing warning devices for motorists. It will enhance the visitor experience by adding a pullout where motorist could enjoy views of the Preserve, while protecting wilderness areas and the federally threatened desert tortoise. The project will also reduce maintenance costs associated with the repair of roads that are frequently damaged during localized flooding events, and allow Preserve maintenance crews to decrease the time required to restore safe access to residents and facilities. The project will improve safety and the visitor experience for both motorists and pedestrians by reducing dangerous road conditions and confusion at the intersections in Kelso and Cima.

## **OTHER ALTERNATIVES CONSIDERED (NO ACTION ALTERNATIVE)**

The No Action Alternative (referred to in the EA as Alternative 1) provides a basis for comparing present Preserve operations with the action alternative. Under this scenario, the roads of Mojave National Preserve will remain in their current condition and configuration. The Preserve's routine of maintenance and repairs will continue. The existing use and maintenance of roadways will continue as is, and the current structural and safety issues will remain.

At the locations identified as having dangerous intersections and geometric deficiencies in the road, motorists will continue to have traffic accidents resulting in vehicle rollovers, injuries, and fatalities. None of the safety issues associated with the sharp curves, abrupt grade changes, poor sight lines and distances, or other concerns will be addressed.

No improvements will be made to Black Canyon Road or the low water crossings on Cedar Canyon Road. These roads will continue to be inundated with water during flood events and sustain major road damage. After storm damage occurs to these sections of roads, Preserve maintenance staff will complete repairs as done currently. Access to and from Mid Hills and Hole-in-the Wall could be impassable, visitors and park residents could be stranded within the park, and there will be hazardous driving conditions until repairs have been completed.

Current management and road maintenance practices will continue, including measures such as installation of speed limit and other traffic signs, flashing beacons, radar speed feedback signs or

roadway striping and marking as appropriate. Preserve staff will educate visitors to the dangers of exceeding speed limits, by posting information on the Preserve website, at the visitor centers, and other park publications or meetings. Speed limits will be enforced throughout the Preserve as is done currently. The No Action Alternative will not improve safety or the visitor experience, or reduce the number of accidents and fatalities in the Preserve. Serious accidents will continue to occur at project sites, and high maintenance costs will continue to be incurred. Inconvenience to Preserve residents and visitors will continue, along with disruption of park operations caused by damaged roadways.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The CEQ Regulations implementing NEPA and the NPS NEPA guidelines require that “the alternative or alternatives which were considered to be environmentally preferable” be identified (Council on Environmental Quality Regulations, Section 1505.2). The environmentally preferred alternative results in the least damage to the biological and physical environment; it is also the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

The Council on Environmental Quality defines the environmentally preferred alternative as “...the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act’s §101.” Section 101 of the National Environmental Policy Act states that “... it is the continuing responsibility of the Federal Government to ...

- 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- 2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- 3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- 4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
- 5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and
- 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.”

Alternative 1, the No Action Alternative, does not meet criteria 2 and 3 because it does not contribute to or provide for a safe visitor experience. As described in the EA, Alternative 2, the Selected Alternative, including all mitigation measures, is the Environmentally Preferred Alternative because it best meets the evaluation criteria above. The Selected Alternative protects public and employee health, safety, and welfare by addressing safety concerns associated with road alignments that do not meet federal highway safety standards, and confusing intersections that have poor sight lines and distance, while including mitigation measures that minimize impacts to desert tortoise, other wildlife, and natural habitat (criteria 2, 3, and 5); and limits damage to natural resources by providing an improved turnout at Granite Pass (criteria 1, 3, and 4) for visitor access, parking and viewing. The Selected Alternative will significantly improve public health and safety by reducing the likelihood and severity of accidents within the Preserve, while simultaneously reducing impacts and risks to wildlife and the environment, and will also will improve Preserve operational efficiency and sustainability by reducing the need for ongoing road maintenance and the consumption of depletable resources associated with such maintenance (criteria 1 and 6).

## **ALTERNATIVES AND ACTIONS CONSIDERED BUT DISMISSED**

FHWA evaluated potential roadway safety improvements within the Preserve in a scoping report, and prepared design drawings that provide the basis for the EA. Their analysis identified the improvements described above as the most appropriate, cost-effective measures available to improve safety while minimizing impacts to the park's resources. FHWA also considered, but dismissed, three specific alternatives to the Selected Alternative.

### *Alternate Site 1 Alignment*

At Site 1 on Kelbaker Road, the existing curve in the road has a radius of 660 feet, which does not meet the American Association of State Highway and Transportation Officials (AASHTO) standards for the existing 55 mph speed limit of the road and has been the site of many single vehicle accidents. FHWA also considered a longer radius, which will have enabled motorists to successfully negotiate the curve at even higher speeds, and further reduced the number and severity of accidents. However, the longer curve radius will result in a significant increase in area of disturbance in order to accommodate a small number of unlawful drivers.

### *Alternate Site 3 Alignment*

At Site 3 on Granite Pass, the project team also considered an alternative curve alignment with a radius of 1100 feet (the Selected Alternative has a radius of 960 feet). The larger radius will better accommodate vehicles travelling at high speeds, but the new construction disturbance will be larger and will cross into the Wilderness area. This alternative was considered but dismissed because the increase in safety was negligible, compared to the impact to vegetation and wildlife of the larger area disturbance.

### *Lowering Speed Limits and Increasing Enforcement (No construction)*

Several scoping comments suggested lowering speed limits in the Preserve in lieu of realigning the roadway. Commenters postulated that there will be little or no need to redesign the roadways if slower speed limits were in place. Others felt that increased law enforcement of speed limits will limit the number of motorists using the Preserve as a short-cut route, resulting in fewer accidents. As a result, the planning team assessed the feasibility of implementing these suggestions instead of completing any constructed modifications on the roads.

After reviewing studies conducted by the NPS, California Department of Transportation (CalTrans) and the FHWA, the project team found that research failed to demonstrate a connection between posted speed limits and actual vehicle speeds. For instance, the FHWA found that raising or lowering the speed limits did not affect vehicle speeds and that speed limits set too low to be accepted as reasonable by the vast majority of drivers will be ignored.

The NPS has also completed research on driver speeding habits in relation to desert tortoise mortality. The study found that slowing traffic with lower posted speed limits, increased law enforcement and improving driver awareness does not reduce driver speeds, or impacts to tortoise populations. Literature reviews conducted as part of this research revealed similar data. These findings provide a good correlation to this project and demonstrate the ineffectiveness of warning signs and lower speed limits on driver behavior.

The Selected Alternative does not preclude NPS management from completing appropriate engineering studies, reducing speed limits, or increasing enforcement in future. Nonetheless, limited field staff prevents the NPS from more frequent patrolling of Preserve roads at this time.



Physical changes on these sections of roads are required to make them safer. Lower speed limits will not solve the problem or fulfill the purpose and need of the project. At this time, staffing constraints prevents the NPS from increasing enforcement of speed limits and other traffic laws.

**RESOURCE PROTECTION/MITIGATION MEASURES**

Mojave National Preserve is committed to avoiding, minimizing, and mitigating potentially adverse environmental impacts. Mitigation measures identified below will be implemented as part of the selected alternative.

Number	Mitigation	Responsible Party
<b>General Measures</b>		
GM-1	All protection measures will be clearly stated in the construction specifications and workers will be instructed to avoid conducting activities beyond the construction zone. This does not exclude necessary temporary structures such as erosion control fencing.	NPS Project Manager (PM) FHWA Project Engineer (PE)
GM-2	All tools, equipment, barricades, signs, and surplus materials will be removed from the project work limits upon project completion. Construction debris will be hauled from the Preserve to an appropriate disposal or recycling location. Any asphalt surfaces damaged due to work on the project will be repaired to original condition. All demolition debris will be removed from the project site, including all visible concrete and metal pieces.	FHWA PE
GM-3	Contractors will be required to properly maintain construction equipment (e.g., mufflers to minimize noise).	FHWA PE
GM-4	A hazardous spill plan will be put in place, stating what actions will be taken in the event of a spill and preventive measures to be implemented, such as placement of refueling facilities, storage, and handling of hazardous materials.	FHWA PE
GM-5	All equipment will be maintained in a clean, well-functioning state to avoid or minimize contamination from mechanical fluids. Equipment will be checked daily.	FHWA PE
GM-6	Material stockpiling, machinery storage, and vehicle parking will be permitted only in designated areas.	FHWA PE
GM-7	No work will occur on holidays. Work hours will be scheduled between dawn and dusk to avoid the potential for accidents after dark.	NPS PM and FHWA PE
GM-8	Weekday lane closures using one-way traffic with pilot cars and flaggers and 30-minute maximum delays will allow the work to continue with minimal traffic safety concerns.	NPS PM and FHWA PE
GM-9	Cross-country (off-road) travel outside of the construction areas will not be authorized, except under life-threatening/emergency	NPS PM and FHWA PE

Number	Mitigation	Responsible Party
	situations.	
GM-10	No pets or firearms will be permitted inside the construction areas.	NPS PM and FHWA PE
GM-11	Ranchers will be notified and information pertaining to the construction timing will be provided so that grazing operations and allotments are not impacted.	NPS PM
<b>Air Quality</b>		
AQ-1	Construction activities will be coupled with water sprinkling to reduce fugitive dust emissions. Water sprinkling will occur as needed on active work areas where soil or fine particles are exposed.	NPS PM and FHWA PE
AQ-2	Water will be obtained from Preserve sources, and trucked to project sites.	NPS PM and FHWA PE
AQ-3	Idling of construction vehicles will be limited to reduce construction equipment emissions. Unnecessary idling of all construction vehicles will be avoided throughout the construction period.	NPS PM and FHWA PE
<b>Geological Resources/Soils</b>		
Soils-1	<p>Erosion and sediment control will be required. Best management practices for drainage and sediment control, as identified and used by the FHWA and the NPS, will be implemented to prevent or reduce non-point source pollution and minimize soil loss and sedimentation in drainage areas. Use of best management practices in the project area for drainage protection will include all or some of the following actions, depending on site-specific requirements:</p> <ul style="list-style-type: none"> <li>• Keep disturbed areas as small as practical to minimize exposed soil and the potential for erosion.</li> <li>• Locate waste and excess excavated materials outside of drainages to avoid sedimentation.</li> <li>• Install silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) prior to construction.</li> <li>• Conduct regular site inspections during the construction period to ensure that erosion-control measures were properly installed and are functioning effectively.</li> <li>• Only tightly woven fiber netting or nonbinding materials shall be used for erosion control or other purposes to ensure that small mammals and reptiles do not become trapped. No</li> </ul>	NPS PM and FHWA PE

Number	Mitigation	Responsible Party
	plastic-tied wattles shall be used.	
Soils-2	Store, use, and dispose of chemicals, fuels, and other toxic materials appropriately.	NPS PM and FHWA PE
Soils-3	Revegetate disturbed areas as soon as possible after construction is completed.	NPS PM
<b>Vegetation</b>		
Veg-1	Vegetation disturbance will be minimized by replacement of topsoil in as near the original location as possible, scarification, mulching, and seeding / planting with species native to the immediate area.	NPS PM and FHWA PE
Veg-2	Reclaimed/revegetated areas will be monitored after construction to determine if efforts are successful or if additional remedial actions are necessary.	NPS PM and Vegetation Specialist
Veg-3	Remedial actions could include installation of erosion-control structures, reseeding and/or replanting the area, and controlling non-native plant species.	NPS PM and FHWA PE
Veg-4	In an effort to avoid introduction of non-native/noxious plant species, no imported topsoil or hay bales will be used during revegetation. Weed free materials (e.g., straw bales) may be used for erosion-control dams that may be necessary.	NPS PM and FHWA PE
Veg-5	<p>Non-native and/or invasive plant species will be controlled in areas determined to be high-priority by Preserve staff and other undesirable species will be monitored and controlled, as necessary. To prevent the introduction and minimize the spread of non-native vegetation and noxious weeds, the following measures will be implemented during construction:</p> <ul style="list-style-type: none"> <li>• Pressure wash and/or steam clean all construction equipment to ensure that all equipment, machinery, rocks, gravel, or other material are cleaned and weed free before entering the Preserve.</li> <li>• Cover all haul trucks bringing asphalt or other materials from outside the Preserve to prevent seed transport.</li> <li>• Limit vehicle parking to existing roadways, parking lots, or access routes.</li> <li>• Limit disturbance to previously disturbed roadsides and culvert areas. No machinery or equipment should access areas outside the construction zone. Treatment of non-native vegetation will be completed in accordance with NPS-13, <i>Integrated Pest Management Guidelines</i>.</li> </ul>	NPS PM and FHWA PE
Veg-6	One or more vegetation surveys will be completed prior to any construction work to avoid or reduce impacts to any undetected	NPS biologist

Number	Mitigation	Responsible Party
	listed or rare plant species.	
Veg-7	A project-specific plan will be developed and implemented to monitor the success of re-vegetation efforts. The plan will contain report and success measures and appropriate contingency measures.	NPS biologist
<b>Federally Listed Species and Species of Special Consideration</b>		
Listed-1	Qualified biologists will provide oversight of all survey efforts, monitoring, and other activities within the roadway corridor necessary to protect desert tortoise.	NPS PM and Wildlife Specialist
Listed-2	An individual will be designated the field contact representative to oversee project compliance and coordination. The field contact representative will be authorized to halt any activity that may harm desert tortoise.	NPS Wildlife Specialist
Listed-3	A worker education program will be presented to all construction personnel prior to any construction activities. At a minimum, this program will cover: (1) desert tortoise distribution/occurrence, (2) general behavior, activity patterns, and ecology, (3) sensitivity of the species to human activities, (4) legal protection, (5) penalties for violation of state or federal laws, (6) reporting requirements, and (7) project protective mitigation measures; and (8) legal penalties for violation of federal or state laws.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-4	Handling or relocating desert tortoises is not permitted. If a tortoise enters the project area, all work will stop until the tortoise moves away on its own accord.	NPS Wildlife Specialist and FHWA PE
Listed-5	Speed limits within the project area, along right-of-way maintenance routes designated for limited use shall not exceed 20 miles per hour. Speed limits shall be clearly marked and all workers shall be made aware of the limits.	
Listed-6	Vehicles parked in desert tortoise habitat shall be inspected immediately prior to being moved. Construction vehicles parked overnight the side of the road or in pre-existing turnouts will be surveyed (from all four directions) for desert tortoise prior to moving the vehicle in the morning.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-7	A litter control program will be implemented during construction to eliminate the accumulation of trash to avoid attracting ravens that may prey on juvenile desert tortoise. All trash and food items generated by the construction activities would be promptly contained and removed to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets shall be provided on site, if applicable.	NPS FHWA PE and Wildlife Specialist

Number	Mitigation	Responsible Party
Listed-8	All work and staging areas will be surveyed prior to the start of construction. Tortoise-proof fencing will be installed to prevent tortoises from entering the construction and staging areas. After initial presence/absence surveys are complete, the fence perimeter will be checked daily to ensure the integrity of the tortoise exclusion barrier is intact.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-9	At sites where fencing is not feasible, presence/absence surveys will be completed each morning by a qualified biologist. The qualified biologist would accompany all heavy equipment operators in desert tortoise habitat and remain on site while construction employees are actively working. The qualified biologist has the responsibility and authority to halt all project activity that would endanger a desert tortoise.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-10	A qualified biologist will monitor initial vegetation removal and disturbance to monitor for any undocumented tortoises.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-11	The qualified biologist will maintain a complete record of desert tortoise encounters.	NPS PM, FHWA PE, and Wildlife Specialist
Listed-12	To avoid building up tall berms that may inhibit desert tortoise movement, the operator should minimize lowering of the roadbed while grading. Berms higher than 12 inches or a slope greater than 30 degrees would be pulled back into the roadbed.	NPS PM, FHWA PE, and Wildlife Specialist
<b>Wildlife or Wildlife Habitat</b>		
Wildlife-1	Vegetation will be cleared prior to March 1 or after May 20. If work needs to occur during this time, a nesting survey will be conducted to ensure no nesting birds are present in the construction area. If a nest or nests are found, work shall be postponed until after young have left the area. In addition, all work areas shall be fenced and disturbance shall not be permitted beyond the fenced area.	NPS PM, FHWA PE, and Wildlife Specialist
Wildlife-2	Train workers to avoid or limit contact with migrating birds or mammal species	NPS PM, FHWA PE, and Wildlife Specialist
<b>Water Resources</b>		
Water-1	During precipitation events that result in flow to stream channels affected by the project, no construction will take place.	NPS FHWA PE
Water-2	Staging areas will not occur in steam channels and will occur outside of flood prone areas to the greatest extent possible.	NPS PM and FHWA PE
<b>Visitor Resources</b>		
VR-1	Motorists will be advised in announcements, programs, publications and temporary signs that there may be temporary inconveniences from construction	NPS PM and Interpretation Staff

Number	Mitigation	Responsible Party
	work on the road.	
VR-2	In all cases, traffic control and safety shall be maintained.	NPS PM and FHWA PE
VR-3	The construction contractor shall include proposed daytime work protocols in its Quality Control Plan and its Safety Plan to show how traffic monitoring and controls will be implemented.	NPS PM and FHWA PE
<b>Archeological Resources and Cultural Landscapes</b>		
HR-1	Prior to construction, the NPS will complete recordation and documentation of Kelbaker and Kelso-Cima intersection, and the section of Kelso-Cima Road that will be realigned, accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation.	Park Archeologist and NPS PM
HR-2	After construction, the NPS will update the National Register of Historic Places Registration Form to update the National Register for the Kelso Depot, Restaurant, and Employees Hotel National Historic District and document the new alignment of the intersection, Kelbaker Road, and Kelso-Cima Road.	Park Archeologist
HR-3	The intact section of the archeological site at Project Site 2 will be fenced off and avoided during construction.	NPS PM, FHWA PE, and Park Archeologist
HR-4	Archeological specimens found within the construction area will be removed only by NPS archeologists who meet the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716), or their designated representatives.	Park Archeologist
HR-5	In the event that a previously unidentified archeological resource is discovered during ground disturbing activities, all construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can be reasonably expected to occur. An archeologist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR 61) will immediately inspect the work site and determine the area and nature of the affected archeological feature. Construction work may then continue in the project area outside the defined area of the resource. Within 48 hours of the discovery, the NPS shall notify the CA SHPO and such notification shall describe the NPS' assessment of the eligibility of the feature for listing on the National Register of Historic Places and proposed actions to resolve potential adverse effects. The CA SHPO shall respond within 48 hours of the notification and the NPS shall take into account the CA SHPO's recommendation regarding National Register eligibility and proposed actions, and then carry out appropriate actions. In compliance with the Native American Graves Protection and Repatriation Act of 1990, work will be halted and NPS will also notify and consult concerned American Indian tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the project.	NPS PM, FHWA PE, and Park Archeologist
HR-6	Archeological monitoring will occur during ground disturbing activities at sites 2 and 4.	Park Archeologist

## **WHY THE SELECTED ALTERNATIVE WILL NOT SIGNIFICANTLY AFFECT THE QUALITY OF THE HUMAN ENVIRONMENT**

As defined in 40 Code of Federal Regulations 1508.27, significance is determined by examining the following criteria:

- 1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect may be beneficial.*

No major adverse or beneficial impacts were identified that will require analysis in an environmental impact statement. None of the impacts rise to the level of significance.

The project will have minor adverse impacts to archeological sites due to disturbance of a non-eligible site within the existing disturbed roadway. The intact portion of the site will be fenced and avoided. Long term adverse impacts will occur to the cultural landscape at Kelso Depot due to changes in the historic road alignment. The project will have short and long-term minor adverse impacts to desert tortoise, species of special consideration and wildlife due to disturbance of its habitat during construction. It is anticipated that no tortoises would be harmed because construction areas will be fenced, and all work would halt if a tortoise enters the work areas, and not resume until the animal leaves the site on its own accord. Construction will also create minor to moderate, short and long term adverse impacts to vegetation; over the long term, the disturbed areas are expected to re-vegetate, and select mature plants will be saved and replanted on site after construction is completed.

Impacts to geological resources and soils will be short- and long-term minor to moderate, adverse, and local, and short- and long-term beneficial where presently disturbed land is rehabilitated. Although construction will occur during dry periods, there is the potential to impact water resources since construction of low water crossings and slope stabilization efforts will occur in washes.

Construction will result in detours and traffic delays, causing short-term impacts to visitors, residents and others traveling through the Preserve. Overall, the effects to visitors will be beneficial due the great improvements in public safety on the Preserve roads.

The project will have no or negligible impacts to or from air quality, climate change, environmental justice, Ethnographic Resources, Geohazards / Natural Hazards, Hazardous Materials, Historic Resources, Land Use, Lightscapes and Night Sky, Museum Collections, Preserve Management and Operations, Prime and unique farmland, Unique Ecosystems, Urban Quality/Gateway communities, Socioeconomics, Soundscapes, Visual Resources, Wetlands and Riparian Habitat, Wild and Scenic Rivers, Wilderness.

- 2. The degree to which the Selected Alternative affects public health and safety.*

The primary advantage of this project is the benefit to public health and safety. Numerous serious accidents occur every year on Preserve roads, often involving vehicle rollovers, injuries and fatalities due to existing road design deficiencies. By correcting the problems with the roads and intersections, the project will improve public safety by reducing the number and severity of traffic accidents within the Preserve. It will increase safety for pedestrians at Kelso Depot by clarifying the intersection and slowing traffic. Additionally, repairs on unpaved Cedar Canyon Road and Black Canyon roads will stabilize the roads to reduce flood damage which can strand residents and/or limit safe access to Preserve residents and facilities.

- 3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

There are no prime farmlands, wetlands, or wild and scenic rivers in the project area. Nearly half of Mojave National Preserve is designated as Critical Habitat for the desert tortoise, and at least five of the sites for improvement are in or near designated habitat. As described in the EA, Preserve biologists will monitor all construction activity, and numerous mitigation measures and best practices have been established, and will be implemented by Preserve management to ensure that significant impacts to the tortoise are avoided. Kelso Depot Historic District is also in the project area. Impacts to the roads will be resolved through mitigations defined in a Memorandum of Agreement with the CA SHPO.

- 4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

Neither public scoping nor the public review of the EA brought about any substantial disputes as to the environmental consequences of the project. Further, the project in and of itself, is not controversial.

- 5. The degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.*

Each project site was assessed for important resources and the project team completed a thorough analysis of the potential impacts and risks of the project. No highly uncertain, unique, or unknown risks were identified during either preparation of the EA or the public comment period and staff are confident that none will occur during project implementation.

- 6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

This project will not result in any significant impacts and will not set a precedent for significant reasonably foreseeable future actions or considerations.

- 7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

The environmental assessment evaluated cumulative impacts for each of the resources affected by the Selected Alternative considering the actions and projects listed above. For many of the resources analyzed (geological resources/soils, federally listed species/wildlife, vegetation and), cumulative impacts will be short-term and long-term minor to moderate adverse, and long-term beneficial due to the rehabilitation of disturbed land. Impacts to visitor experience/public safety and transportation could be minor to moderate adverse if other projects (such as pavement preservation) were constructed concurrently. Impacts to cultural and historical resources will be minor to moderate adverse. There were no cumulative adverse impacts exceeding the moderate level and none will rise to the level of significant.

- 8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

The realignment of the intersection of Kelso-Cima Road and Kelbaker Road constitutes an adverse effect to historic properties in accordance with Section 106 of the National Historic Preservation Act.



These roads are contributing features to the Kelso Depot, Restaurant, and Employees Hotel National Historic District. The modification of the intersection, located outside of the Kelso Depot and grounds, is a minor adjustment of road alignment through a heavily disturbed and previously modified portion of the roadscape and Historic District. This roadwork will occur on the south side of the Depot, arguably the least visually significant portion of the building. The south and west sides of the Depot were always utility oriented portions of the building and never intended to be approached as entryways onto the property and this part of the grounds has been extensively bulldozed and cleared over many years. Archways, facades and other historically interesting and significant features were purposefully constructed on the east and north sides of the Depot; the project does not affect this area. The area of effect been heavily disturbed and modified over the years and the width and configuration of the roads has changed over time. The project will create a more consistent road width and create a more defined T intersection that is described in NRHP Registration Form. Mitigations defined in the Memorandum of Agreement with the CA SHPO identify mitigations that the NPS will implement to resolve the adverse effect.

9. *The degree to which the action may adversely affect an endangered or threatened species or its critical habitat.*

There are four federally listed species that may occur in the Mojave National Preserve, but only the federally threatened desert tortoise and its critical habitat is present in the project area. Mojave National Preserve is generally considered excellent desert tortoise habitat supporting a viable population of tortoises. Sites 1, 2, 4 and 5 are within desert tortoise critical habitat. Sites 3 and 6 are in tortoise habitat. Only sites 7 and 8 on Black Canyon Road are not in tortoise habitat but site 8 is close enough to other populations that its presence is possible.

The project design, construction methods, and mitigation measures will ensure that impacts to the desert tortoise do not exceed a level of moderate adverse impact. It is anticipated that no tortoises would be harmed because construction areas will be fenced, and all work would halt if a tortoise enters the work areas, and not resume until the animal leaves the site on its own accord. Tortoises are will not be handled. Other numerous mitigation measures are included to protect desert tortoises during construction. The density of tortoises is lower in the vicinity of busy roads, and this lower density decreases the likelihood that desert tortoises occur in the work areas. This lower density, combined with the avoidance measures, will ensure that desert tortoises are not killed or injured during implementation of the project.

Reclaiming and revegetating portions of the existing roadway and previously disturbed lands near the roadway with native seeds and transplanting native plant species will result in the rehabilitation of habitat and provide beneficial effects to the desert tortoise.

10. *Whether the action threatens a violation of federal, state, or local law imposed for the protection of the environment.*

A review of all applicable laws was completed as part of the planning process. The selected alternative violates no federal, state, or local environmental protection laws.

## **PUBLIC INVOLVEMENT AND AGENCY AND TRIBAL CONSULTATION**

### **Public Scoping**

The Public Scoping period occurred between January 15 and February 15, 2014. Press releases and announcements in seven newspapers provided information on how the public could comment on the project. Information about the project was posted on the National Park website announcing the project and asking for the public's input: <http://parkplanning.nps.gov/moja-road-safety>.

A project newsletter detailing road locations and activities was sent to over 140 interested parties. Newsletters were made available at the visitor centers. Twenty scoping letters were sent to Federal, state and tribal agencies. On February 1, 2014, the NPS held a public meeting at the Interagency Fire Center at Hole in the Wall in the Preserve. The comment period closed on February 15, 2014. Over the 30-day comment period, a total of 17 correspondences were received, not including comments received at the public meeting. The majority (11) of submittals were from unaffiliated individuals representing themselves as residents or visitors to the Preserve. The remaining submittals were from the following agencies and organizations: California Department of Fish and Wildlife; Lahontan Regional Water Quality Control Board; Center for Biological Diversity; Eastern Sierra Center for Applied Population Ecology; Society for the Conservation of Bighorn Sheep; Wild Sheep Foundation.

The most common comments agreed with the purpose and need for the project, and congratulated the NPS on moving forward with the planned improvements. Many commenters also recommended additional measures to reduce speeds and improve safety throughout the Preserve, such as reduced speed limits, improved signage and the use of other techniques such as rumble strips and flashing signs. A number of comments (primarily by residents of the Preserve) suggested locations for additional roadway improvements that are not part of the scope of the current project, particularly on the maintained dirt roads that develop potholes and/or washboard surfaces, and are subject to damage during floods. Comments by regulatory agencies (CA Department of Fish and Wildlife and Lahontan Regional Water Quality Control Board) primarily focused on potential impacts and mitigations for natural (wildlife, vegetation and surface water) resources, and on the regulatory and permit requirements associated with the planned projects. The commenters representing conservation or environmental organizations were concerned with impacts to natural resources such as desert tortoise and other wildlife, and were not generally in favor of the project, instead recommending reduced speed limits and increased enforcement throughout the Preserve.

### **Public Review of the EA**

The EA was released for a 30-day public review on November 8, 2014. A press release announcing the availability of the document was distributed to various agencies, tribes, members of the public on the park's mailing list, and local news media. A project newsletter detailing the project was sent to over 180 interested parties, federal, states and tribal agencies. Notice of availability and the public meeting was advertised in six newspapers: Desert Dispatch, Apple Valley Review, Hesperia Star, San Bernardino County Sun, Victorville Daily Press, and Lucerne Valley Reader. Printed copies of the EA were made available at the park's visitor center and electronic copies were posted on the NPS Planning, Environment and Public Comment website <http://parkplanning.nps.gov/moja-road-safety>.

A public meeting was held from 11:00 a.m. to 1:00 p.m. on November 22, 2014, at the Interagency Fire Center at Hole in the Wall, 1 Black Canyon Road, Essex, CA 92332. The public meeting was attended by five individuals, all of whom were residents or in-holders in the Preserve. Six individual comments were received from the members of the public present at the meeting. During the 30-day

public review, comment letters were received from six private individuals, and one from the Lahontan Regional Water Quality Control Board (LRWQCB). The letters were subdivided into 39 comments from individual members of the public, and 11 from the LRWQCB.

The most frequent category of comments noted the need for repair and maintenance of the roads in the Preserve and recommended additional locations, site conditions, and other maintenance issues that should be addressed as soon as possible, both on paved and unpaved roads, throughout the Preserve. Other commenters recommended other measures like rumble strips and additional signage to reduce speeds and warn motorists of unsafe conditions and requested additional parking. There were a number of comments that questioned the design and effectiveness of the low water crossings (LWC) and suggested other approaches to resolve the problem. Others noted that road closures will be a major inconvenience and a safety risk if emergency access was restricted. The Lahontan Regional Water Quality Control Board (LRWQCB) reiterated the need for protection of water resources, permitting, and mitigation requirements that may be applicable to the project.

### **Agency Consultation**

#### *U.S. Fish and Wildlife Service*

In accordance with Section 7 of the Endangered Species Act (ESA), the NPS contacted the USFWS regarding federally listed species in May 2014. On September 15, 2014, NPS formally requested consultation under Section 7 of the ESA. A biological assessment was submitted to the USFWS for review as part of consultation. During a meeting on March 20, 2015, the NPS and USFWS discussed the project and determined that it was not likely to adversely affect the desert tortoise and its critical habitat. As a result, the NPS submitted a letter to USFWS requesting concurrence with that determination. In a letter dated March 24, 2015 the USFWS concurred that the project would not adversely affect the threatened tortoise or its critical habitat.

#### *California State Historic Preservation Officer (SHPO)*

In accordance with §106 of the National Historic Preservation Act, the park initiated consultation with the California State Historic Preservation Officer (SHPO) in February 2014, and on March 20, 2014, submitted a summary of the project and potential impacts to cultural and archeological resources. On May 2, 2014, the State Historic Preservation Officer responded with comments and questions, and on August 6, 2014, the Preserve responded with additional information and clarifications. SHPO concurred in writing on October 1, 2014, with NPS' determination that the project will constitute an adverse impact to the Kelso Depot Historic District, and that a Memorandum of Agreement will be the appropriate vehicle to resolve the adverse effects. An MOA was signed by the NPS on February 13, 2015, and by the SHPO on February 20, 2015. Mitigations identified in the MOA are included in the mitigation table.

#### *Native American Tribes*

Consultation was initiated by letter on March 24, 2014 and again on December 2, 2014, with the locally affiliated Mohave and Chemehuevi Native American tribes. No response has been received.

#### *Army Corps of Engineers*

A Nationwide permit from the U.S. Army Corps of Engineers under Sections 404 of the Clean Water Act (CWA) is required for impacts to jurisdictional non-wetland waters of the U.S. Actions at sites 1, 2, 3, 4, 6, 7 and 8 could potentially discharge small amount of fill into drainages. The total area of impact is .39 acres. A permit application is pending.

*State Water Control Board*

These same actions also warrant a permit Regional Water Quality Control Board (RWQCB) as required per Sections 401 of the CWA. The project area overlaps both Colorado River and Lahontan Regional Water Quality Control Boards. For this reason, the State Water Resources Control Board is taking jurisdiction for issuance of the permit. As a state agency, the SWRCB must comply with the California Environmental Quality Act (CEQA), and the SWRCB determined that the EA and FONSI satisfy CEQA requirements, with the addition of additional mitigations. These have been added to the mitigation table. The permit process is underway.

**CONCLUSION**

Implementation of the selected action will not have significant impacts on the human environment. The determination is sustained by the analysis in the environmental assessment, agency consultations, the inclusion of public review, and the capability of mitigations to reduce or avoid impacts. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the selected alternative will not violate any federal, state, or local environmental law. Therefore, it has been determined that an environmental impact statement is not required for these actions, and the project will be implemented as soon as practicable.

Recommended:

*Todd J. Suers*

Superintendent, Mojave National Preserve

*6-1-15*

Date

Approved:

*Patricia A. Neubacher*

Regional Director, Pacific West Region

*6/4/15*

Date

*acting*

## **Attachment A. DETERMINATION OF NON-IMPAIRMENT Reconstruct Road Segments to Improve Safety**

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While Congress has given the National Park Service (NPS) management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (enforceable by federal courts) that the NPS must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the NPS. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The impairment of park resources and values may not be allowed by the NPS unless directly and specifically provided for by legislation or by the proclamation establishing the park. The relevant legislation or proclamation must provide explicitly (not by implication or inference) for the activity, in terms that keep the Service from having the authority to manage the activity so as to avoid the impairment.

The impairment that is prohibited by the Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute impairment if it's an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values, and it cannot be further mitigated. An impact that may, but would not necessarily, lead to impairment may result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park.

The National Park Service's *Management Policies 2006* requires analysis of potential effects to determine whether or not actions would impair park resources. The resources and values that are subject to the no-impairment standard include the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and

continue to act upon it. At Mojave National Preserve, the resources subject to the impairment standard include the natural landscapes and visibility, both in daytime and at night; natural soundscapes and smells; water and air resources; geological resources/soils; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals. The Preserve offers a variety of opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them. The Preserve also contributes to the high public value, integrity, and environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system.

As specified in Section 2 (b)(1) of the 1994 California Desert Protection Act (CDPA), Mojave National Preserve was established in order to:

- Preserve unrivaled scenic, geologic and wildlife values associated with these unique natural landscapes;
- Perpetuate in their natural state significant and diverse ecosystems of the California Desert;
- Protect and preserve the historical and cultural values of the California Desert associated with ancient Indian cultures, patterns of western exploration and settlement, and sites exemplifying the mining, ranching and railroading history of the Old West;
- Provide opportunities for compatible public outdoor recreation, protect and interpret ecological and geological features and historic, paleontological, and archeological sites, maintain wilderness resource values, and promote public understanding and appreciation of the California desert; and
- Retain and enhance opportunities for scientific research in undisturbed ecosystems

The NPS does not address impairment for non-resource topics. Therefore, topics evaluated for impairment include cultural resources, federally listed species and species of special consideration/wildlife, geological resources and soils, water resources and vegetation resources.

## **RESOURCE TOPICS**

### *Cultural Resources*

Cultural Resources include archeological resources and cultural landscapes. At Site 2 on Kelbaker Road, a small archeological lithic scatter site has been identified. This is the only project site with known archeological resources. At Site 4, the project would impact the cultural landscape of the Kelso Depot Historic District. Kelso Depot was registered as a National Historic Landmark in 2000.

Construction monitoring and fencing off the site would ensure avoidance of impacts to the archeological site. Site 2 is located approximately 50 feet from the construction activities, and disturbance would be localized within the construction zone. As a result, impacts would be minor, and would result in little loss of important information potential.

Reconstruction of the intersection between Kelbaker Road and Kelso-Cima Road at Site 4 would affect the historic road alignment which is a contributing landscape feature of the Kelso Depot, Restaurant, and Employees Hotel. The proposed changes would widen the road from 20 feet to 26 feet, and impact the setting and viewshed of the Kelso Depot Historic Depot cultural landscape. The impact would be moderate and adverse, and would result in an adverse effect

under Section 106 of the NHPA. The NPS will mitigate this adverse effect through a Memorandum of Agreement with the CA SHPO. As a result, Preserve resources will not be impaired.

#### *Federally Listed Species and Species of Special Consideration*

Consultation with the USFWS identified one federally listed threatened species, the Mojave population of the desert tortoise, known to occur within the project area. As described in the EA, several other listed species may occur in or near the Preserve, but are not expected to be present near any project sites, and therefore have been excluded from analysis. There are also more than 30 species of special consideration (including migratory birds, mammals, reptiles and insects) known to occur in the Preserve, and potentially near project site.

Under the Selected Alternative, impacts from construction activities to the desert tortoise could include: approximately 10 acres of newly disturbed areas on the realigned roadways, resulting in loss of habitat; potential direct harm and disruption of behavior during clearing, grading, and trenching activities; disturbance by noise or vibrations from heavy equipment; damage to soil and cryptogams on the periphery; incidental death of unseen tortoise along roads, beneath crushed vegetation, or in undetected burrows; destruction of burrows; handling of tortoise; entrapment of tortoises in pits or trenches; attraction of ravens and facilitation of their survival by augmenting food or water; fugitive dust; and toxins from exhaust. The behavior of some species of special consideration, such as migratory birds, bats and large mammals like bighorn sheep, could likewise be disturbed by construction activities.

No tortoises will be handled during construction, and a number of other mitigation measures will be implemented to avoid impacts to the desert tortoise. The USFWS concurred that the project would not adversely affect the desert tortoise and its critical habitat. Species of special consideration such as burrowing owls could also be disturbed or displaced during construction activity. Such impacts would occur primarily on the approximately 10 acres of newly disturbed areas needed for roadway reconstruction; however, the majority of construction activity would occur within the existing disturbed roadway bench. In addition, approximately one acre of the existing roadway alignment no longer needed would be reclaimed and rehabilitated by removing all pavement material and revegetating with native seeds, and transplanting native plant species. This would result in the rehabilitation and restoration of potential habitat for desert tortoise and species of special consideration. Mitigation measures would also be implemented to minimize disturbance outside the roadway bench, monitor for desert tortoise and species of special consideration, and avoid or minimize impacts to these species. Therefore, the Selected Alternative would not result in impairment of the federally listed desert tortoise or species of special consideration because the adverse impacts would be temporary and would be mitigated.

#### *Wildlife*

A wide variety of wildlife species are known to occur in the Preserve within or adjacent to project sites. Wildlife known to occur includes large and small mammals, reptiles, and bird species. Under the Selected Alternative, roadway reconstruction activities would result in potential impacts to wildlife, such as: clearing and grubbing of approximately 10 acres of undisturbed areas resulting in loss of habitat; harm or disruption of behavior during construction activities; noise disturbance; and temporary displacement. The majority of construction activity would occur within the existing roadway areas of disturbance (existing roadway bench). Mitigation measures to minimize the disturbance area, monitoring during construction, and

restoration and revegetation of approximately one acre along the roadway would reduce the potential for adverse impacts. The Selected Alternative would not result in impairment of wildlife resources because adverse impacts would be temporary and mitigation measures would be implemented to avoid and reduce impacts.

### *Geological Resources/Soils*

The Preserve is a land of mountain ranges, sand dunes, creosote flats, great mesas, active and extinct volcanoes, Joshua Tree forests, and other desert landforms, ranging in elevation from 800 feet above sea level near Baker to nearly 8,000 feet in the Clark Mountains. Ancient metamorphic rocks that date back 2.5 billion years have been identified in the Clark Mountains. Other areas of the Preserve are dominated by Paleozoic limestone containing caves such as Mitchell Caverns, Mesozoic granitic intrusive rocks at Cima Dome and in the Granite Mountains, and a variety of volcanic rocks near Hole in the Wall and Black Canyon. Geologically very young volcanic rocks occur in the Cinder Cones National Natural Landmark, with cinder cones and basalt flows that erupted as recently as 10,000 years ago.

A wide array of soil types are found in the Preserve, and at the various project sites. Soils with sandy textures with gravel and rock cobbles are most common at the project sites, along with fine to medium grained sands and gravel in stream washes. Soils with medium textures; and with calcium carbonate (e.g., caliche) accumulations are common, as is the development of desert pavement and/or biologically formed desert crust. Shallow soils and upland soils are also present. The Preserve also contains escarpments, ephemeral streams, and the extensive areas of sand dunes and young volcanic rocks described above. The lava flows and cinder cones are so young that very little soil formation has occurred.

There are no known rare or unique soils in the park.

Under the Selected Alternative, clearing and grubbing (during construction) of approximately 10 acres of newly disturbed areas will result in disturbance and removal of soils. Excavation, grading, and exposure of soil material would increase the potential for erosion. Revegetation of approximately one acre of disturbed area along the realigned roadways would provide long-term and beneficial impacts to soils.

Mitigation measures and Best Management Practices incorporated into the Selected Alternative will protect disturbed areas from erosion and compaction. Therefore, the project will not result in impairment of soil resources because adverse impacts are temporary, approximately one acre of disturbed areas will be revegetated, and mitigation measures will reduce impacts.

### *Water Resources*

Water resources in the Preserve include high volume surface water flows that periodically inundate Cedar Canyon and Black Canyon Roads during storm events, and deposit sand and gravel on the road surface, which requires post-event removal by Preserve maintenance crews. Flood events may also add new sediments and nutrients to the washes, redistribute and mix them with existing deposits, producing a sand and gravel texture with little organic material. Portions of Cedar Canyon and Black Canyon Roads will be re-constructed within washes or floodplains. Approximately 0.2 acres of non-wetlands “waters of the U.S.” occur at Sites 1, 2, 3, and 4 on Kelbaker Road where the road crosses ephemeral stream channels, and at the Low Water Crossings on Cedar Canyon Road.



Groundwater is found underneath most of the Preserve and varies greatly in depth and quality. Groundwater basins in the Preserve are recharged from surface and subsurface infiltration. Groundwater is the principal source for desert springs, seeps, and a few ephemeral streams. The small springs and seeps in the Preserve offer isolated and limited water for plants, wildlife, or domestic or commercial purposes. Some springs produce potable water, but overall water quality is poor because of high dissolved mineral concentrations

Under the Selected Alternative, roadway improvements at Sites 1 through 4, and on Black Canyon and Cedar Canyon Roads include improving roadway grades, curvature, embankment protection, adding low water crossings, and slope armoring. Slope armoring will affect the hydrology by stabilizing the banks and causing less gravel, sand, and soil to wash downstream. The low water crossings will not impede or affect the flow of water, but will reduce erosion and damage to stream banks during flooding events. Therefore, the long term impacts to surface water quality will be beneficial. None of the project sites will affect any groundwater resources. As a result, the project will not result in any impairment of water resources.

### *Vegetation*

Vegetation community types present within the Preserve include playas, saltbush, creosote-covered flats and alluvial fans, and Joshua tree woodlands. There are also many unique and/or rare habitats within the Preserve: examples include the Joshua tree, Mojave yucca, and Spanish bayonet communities on Cima Dome. There are seven different types of wash plant species associations including: cat's claw acacia, smoke trees, and desert willows. Higher elevations support grassland, sagebrush, blackbrush, pinyon-juniper woodlands as well as unique remnant habitats containing small white fir forests, and pinyon-junipers with oak in the higher elevations. The Piute Creek desert oasis also supports a fragile and limited riparian community.

A total of 803 species of plants representing 85 plant families have been identified in the Preserve, and more than 100 discrete ecological environments, defined as Vegetation Alliances by Thomas, et al, 2004, have been defined and mapped.

The creosote shrub community is the most widespread throughout the Preserve. Below 3,000 feet (e.g., at Sites 1 and 4), the vegetation is generally dominated by *Larrea tridentata* (creosote bush), *Prosopis* spp. (mesquite), *Yucca* spp. (yucca), *Fouquieria splendens* (ocotillo), and several species of cactus. When moisture conditions are favorable (e.g. in Kelso Wash at Site 4), *Acacia greggi* (cat's claw), *Parkinsonia* spp. (palo verde), and *Chilopsis* spp. (desert willow) may also appear, as well as several species of grass, and cactus. At higher elevations (e.g., Kelso Pass at Site 2, Cima at Site 5), *Yucca brevifolia* (Joshua Tree) and *Yucca schidigera* (Mojave Yucca) are common. At Granite Pass (Site 3), a variety of cactus species are abundant. The highest elevation sites along Cedar Canyon and Black Canyon Roads (Sites 6, 7, and 8) are characterized by a diverse mix of scrubland vegetation types and cacti.

Several non-native invasive species occur throughout the park, primarily along roadways and trails. Many of these species migrate along the roadway through motorized and non-motorized seed dispersal.

Roadway reconstruction and rehabilitation would primarily occur within the existing disturbed roadway bench. Under the Selected Alternative, the total area of new soil disturbance would be approximately 10 acres. Restoration and revegetation of approximately 1 acre of currently disturbed areas along the roadway would occur. Mitigation measures are also incorporated under

the Selected Alternative to minimize impacts to vegetation within the project area, and to limit the impacts of invasive species.

In general, the Selected Alternative would affect a small portion of vegetation species populations in the project area and result in short-term changes to plant species composition. Invasive species would likely increase in only limited locations along the roadway. Therefore, the Selected Alternative would not result in impairment of vegetation because adverse impacts would be addressed by mitigation measures including revegetation of disturbed areas and controlling invasive species.

## **SUMMARY**

The minor to moderate adverse impacts anticipated as a result of implementing the Selected Alternative would not rise to levels that would constitute impairment of any of the affected resources or values whose conservation is necessary to fulfill the specific purposes identified in the establishing legislation or proclamation of the Preserve. The Selected Alternative would not impair any of the resources that are key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or that are identified as significant in the park's general management plan or other relevant NPS planning documents.

## **ERRATA**

### **Reconstruct Road Segments to Improve Safety Environmental Assessment**

**May 2015**

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The *Reconstruct Road Segments to Improve Safety Environmental Assessment Environmental Assessment* (November 2014) was released for public review from November 8, 2014 to December 8, 2014. A total of seven correspondences resulting in 50 comments were received during the public review period. The errata records changes to the text of the EA as a result of public comment and agency consultation. These edits correct, clarify, or modify original text based on public comments and correct other inaccuracies in the environmental assessment (EA). These corrections do not change the project activities or increase the degree of impact described in the EA.

Substantive comments received on the EA require responses. Although the majority of comments were non-substantive, responses are provided to help the reviewer better understand the project. Comments topics were grouped and summarized; individual comments/letters are not included.

This Errata should be attached to the EA to complete the environmental impact analysis. The environmental assessment, errata, and finding of no significant impact (including the mitigation table) comprise the full and complete record of the environmental impact analysis.

### **EDITS TO THE EA**

#### Page 21 and 22, Site 1 and Site 2

The newly disturbed areas during construction would be revegetated through use of locally collected plant species (~~seeds and transplants~~). Control of non-native and invasive plant species would occur before and after construction activities.

#### Site 4, Kelbaker Road/Kelso-Cima Road Intersection, page 24

Revise text: As a result, the informal gravel parking lot on the ~~east~~ northwest side of Kelso-Cima Road would be eliminated.

#### Site 5: Kelso-Cima/Morningstar Mine/Cima Road Intersection, page 25

Insert text: A three-way stop at the intersection will be added to this intersection.

#### Site 6, Cedar Canyon Road, Low Water Crossings, second paragraph, page 28

Insert italicized text: All staging would occur within the existing roadway or previously disturbed areas *and outside flood prone areas to the greatest extent possible*.

Site 8: Black Canyon Road, Slope Protection, first paragraph, page 30

Insert italicized text: Staging would occur on the roadway, or on already disturbed adjacent land ~~to the project~~ and outside of flood prone areas to the greatest extent possible.

Activities Common to All Sites, Staging Areas, page 30

Insert these sentences: All staging areas would be on previously disturbed areas, existing road beds or disturbed pull outs. No staging would occur on undisturbed land. Staging areas will be located outside of known flood prone areas to the greatest extent possible.

Page 62, Impacts to federal listed species and Page 63, State Listed Species and Species of Special Consideration

Revegetation of disturbed areas ~~with native seeds~~, by transplanting native plant species, and mulching will result in the rehabilitation of critical habitat and beneficial effects to the tortoise.

Insert this text: *Transplanting of large plants will discourage drivers from parking off the road in tortoise habitat.*

Page 72, Alternative 2, Vegetation Impacts

In third paragraph, delete references to collecting seed. Revegetation will largely occur as a result of transplanting. Seed may be broadcast from existing park seed stock.

Table 1, Mitigation Measures

Delete General Mitigation #7. Kelbaker will be fully closed during construction. A detour will be posted.

Delete General Mitigation 8 and 9, replace with: No work will occur on holidays. Work hours will be scheduled between dawn and dusk to avoid the potential for accidents after dark.

Add new General Mitigation #8: Weekday lane closures using one-way traffic with pilot cars and flaggers and 30-minute maximum delays will allow the work to continue with minimal traffic safety concerns.

Delete General Mitigation #11. Mitigation has been revised as Listed-7.

Add new vegetation mitigation, Veg-6: One or more vegetation surveys will be completed prior to any construction work to avoid or reduce impacts to any undetected listed or rare plant species.

Add new vegetation mitigation, Veg-7: A project-specific plan will be developed and implemented to monitor the success of re-vegetation efforts. The plan will contain report and success measures and appropriate contingency measures.

Delete all Federally Listed Species and Species of Special Consideration mitigations and replace with:

Listed-1	Qualified biologists will provide oversight of all survey efforts, monitoring, and other activities within the roadway corridor necessary to protect desert tortoise.
Listed-2	An individual will be designated the field contact representative to oversee project compliance and coordination. The field contact representative will be authorized to halt any activity that may harm desert tortoise.
Listed-3	A worker education program will be presented to all construction personnel prior to any construction activities. At a minimum, this program will cover: (1) desert tortoise distribution/occurrence, (2) general behavior, activity patterns, and ecology, (3) sensitivity of the species to human activities, (4) legal protection, (5) penalties for violation of state or federal laws, (6) reporting requirements, and (7) project protective mitigation measures; and (8) legal penalties for violation of federal or state laws.
Listed-4	Handling or relocating desert tortoises is not permitted. If a tortoise enters the project area, all work will stop until the tortoise moves away on its own accord.
Listed-5	Speed limits within the project area, along right-of-way maintenance routes designated for limited use shall not exceed 20 miles per hour. Speed limits shall be clearly marked and all workers shall be made aware of the limits.
Listed-6	Vehicles parked in desert tortoise habitat shall be inspected immediately prior to being moved. Construction vehicles parked overnight the side of the road or in pre-existing turnouts will be surveyed (from all four directions) for desert tortoise prior to moving the vehicle in the morning.
Listed-7	A litter control program will be implemented during construction to eliminate the accumulation of trash to avoid attracting ravens that may prey on juvenile desert tortoise. All trash and food items generated by the construction activities would be promptly contained and removed to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets shall be provided on site, if applicable.
Listed-8	All work and staging areas will be surveyed prior to the start of construction. Tortoise-proof fencing will be installed to prevent tortoises from entering the construction and staging areas. After initial presence/absence surveys are complete, the fence perimeter will be checked daily to ensure the integrity of the tortoise exclusion barrier is intact.
Listed-9	At sites where fencing is not feasible, presence/absence surveys will be completed each morning by a qualified biologist. The qualified biologist would accompany all heavy equipment operators in desert tortoise habitat and remain on site while construction employees are actively working. The qualified biologist has the responsibility and authority to halt all project activity that would endanger a desert tortoise.
Listed-10	A qualified biologist will monitor initial vegetation removal and disturbance to monitor for any undocumented tortoises.
Listed-11	The qualified biologist will maintain a complete record of desert tortoise encounters.
Listed-12	To avoid building up tall berms that may inhibit desert tortoise movement, the operator should minimize lowering of the roadbed while grading. Berms higher than 12 inches or a slope greater than 30 degrees would be pulled back into the roadbed.

Add mitigation #2 for water resources: Staging areas will not occur in stream channels and will occur outside of flood prone areas to the greatest extent possible.

Wildlife #1: Change work restriction for nesting season from March 1-June 15 to March 1-May 20. New mitigation reads: Vegetation will be cleared prior to March 1 or after May 20. If work needs to occur during this time, a nesting survey will be conducted to ensure no nesting birds are present in the construction area. If a nest or nests are found, work shall be postponed until after young have left the area. In addition, all work areas shall be fenced and disturbance shall not be permitted beyond the fenced area.

Delete all Archeological and Cultural Landscape mitigations and replace with:

HR-1	Prior to construction, the NPS will complete recordation and documentation of Kelbaker and Kelso-Cima intersection, and the section of Kelso-Cima Road that will be realigned, accordance with the Secretary of the Interior’s Standards and Guidelines for Architectural and Engineering Documentation.
HR-2	After construction, the NPS will update the National Register of Historic Places Registration Form to update the National Register for the Kelso Depot, Restaurant, and Employees Hotel National Historic District and document the new alignment of the intersection, Kelbaker Road, and Kelso-Cima Road.
HR-3	The intact section of the archeological site at Project Site 2 will be fenced off and avoided during construction.
HR-4	Archeological specimens found within the construction area will be removed only by NPS archeologists who meet the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716), or their designated representatives.
HR-5	In the event that a previously unidentified archeological resource is discovered during ground disturbing activities, all construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can be reasonably expected to occur. An archeologist meeting the Secretary of the Interior’s Professional Qualification Standards (36 CFR 61) will immediately inspect the work site and determine the area and nature of the affected archeological feature. Construction work may then continue in the project area outside the defined area of the resource. Within 48 hours of the discovery, the NPS shall notify the CA SHPO and such notification shall describe the NPS' assessment of the eligibility of the feature for listing on the National Register of Historic Places and proposed actions to resolve potential adverse effects. The CA SHPO shall respond within 48 hours of the notification and the NPS shall take into account the CA SHPO's recommendation regarding National Register eligibility and proposed actions, and then carry out appropriate actions. In compliance with the Native American Graves Protection and Repatriation Act of 1990, work will be halted and NPS will also notify and consult concerned American Indian tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the project.
HR-6	Archeological monitoring will occur during ground disturbing activities at sites 2 and 4.

Migratory Birds, page 63

Change work restriction for nesting season from March 1-June 15 to March 1-May 20.

Cultural Landscapes, Alternative 1, Cumulative Impacts, page 58.

In the analysis of Cultural Landscapes, replace “revocation” with “renovation.”

Geological Resources and Soils, Alternative 2, page 66

Insert text: The total amount of cut and fill material was balanced between all sites to the maximum extent possible while still maintaining minimal areas of impact. The excess waste material generated from the project will be stored within the Preserve at the designated areas. This material may then be reused on future projects within the Preserve.

Water Resources, Alternative 2, Proposed Action, page 68

Delete sentence: Therefore, no impacts to water quality are anticipated.

Insert: Impacts to water quality are expected to be negligible or minor. Flooding from heavy desert storms can be somewhat unpredictable and have the potential to wash out any area or road. The LWCs through washes are prone to flooding, as is the project area on Black Canyon Road. The staging areas for these and all sites will be located outside of known flood prone areas to the greatest extent possible to minimize impacts to water quality.

Visitor Experience and Safety, Alternative 2, Proposed Action, page 74.

Add text: Work would be sequenced and not under construction at the same time, thus allowing for alternate routes through the Preserve during construction. NPS will conduct public outreach to communicate the construction schedule and any planned travel restrictions or road closures.

## **RESPONSE TO COMMENTS**

**Comment:** The most received comments (12) focused on the need for repair and maintenance of additional roads in the Preserve. Commenters described a number of other hazardous conditions and maintenance issues that should be addressed as soon as possible, both on paved and unpaved roads, throughout the Preserve.

**Response:** This project has been funded to address the highest priority road safety issues in the Preserve. The NPS plans to address a whole range of maintenance and repair issues associated with the Preserve's roads as funding becomes available. Other road repairs and maintenance will be identified in a Preserve-wide roads maintenance plan that is in preparation. This is the first road project proposed by the NPS for the roads in Mojave National Preserve and issues on other roads will be addressed as soon as feasible.

**Comment:** Several comments (8) requested clarification of specific aspects of the design of the proposed improvements, and particularly recommended the use of rumble strips and additional signage (including flashing signs and speed warnings) to reduce speeds and warn motorists of unsafe conditions.

**Response:** All of the safety improvement projects are designed to meet current FHWA safety standards for the posted speed limits. The reconstructed, realigned curves at Sites 1, 2 and 3 will include edge-line and center-line rumble strips along the entire length of reconstructed roadways, and improved signage, including chevrons and curve signs will also be installed that meet modern standards. The improved intersections at Sites 4 and 5 will include additional stop signs, rumble strips and other signage, as well as a speed hump to calm traffic.

**Comment:** Several comments (7) recommended the installation of additional pullouts for parking, including pullouts that can accommodate large rigs such as motor homes, and wider shoulders so that motorists can pull off the roads safely in more areas. Additional parking near Kelso Depot was also recommended, as was more parking throughout the Preserve for large rigs such as recreational vehicles.

**Response:** The NPS agrees that the improvement and paving of the existing pullout at Granite Pass is warranted as it will improve both safety and the visitor experience. Pullouts at other locations are not included in this project, which is focused on the specific high safety priority sites identified. Roadways in the Preserve will not generally be widened in order to minimize encroachment on wilderness and wildlife. The site under the power lines at Kelso Pass is not a candidate for a pullout because of access restrictions within the right-of-way. When Kelso-Cima Road is moved 50 feet to the northwest, it will eliminate the existing dirt informal parking area owned by NPS. Other informal parking areas on private property will not be affected by this project.

**Comment:** There were a number of comments (4) that questioned the design and effectiveness of the low water crossings (LWC), and noted that continued re-grading after storms was making the runoff and erosion problems worse. Additional measures such as increased use of gabions and/or rip rap were recommended, as well as a different approach to re-grading that would not lower the roadway grade.

**Response:** The low water crossings are designed to meet FHWA standards, with riprap and gabions designed to limit erosion and washouts. The asphalt paving of the LWCs should limit future degradation of the roadway and reduce maintenance costs. The LWCs are designed to meet 25 year flooding events, which is appropriate for the volume of traffic on these roads.

**Comments:** The Lahontan Regional Water Quality Control Board (LRWQCB) had three comments regarding the use of asphalt to pave the LWCs, and as a possible road base material under the roadways. They recommended the use of other materials because of the possibility that asphalt could leach potentially hazardous constituents during a storm event.

**Response:** Asphalt leaching studies cited in the EA indicate that pollutants generated through Toxicity Characteristic Leaching Procedure are below detection limits. The



impacts to water quality are anticipated from the use of asphalt in the LWCs are expected to be negligible. Any use of asphalt waste as a road-base will be capped by asphalt. The low volume of traffic on Cedar Canyon and Black Canyon Roads where the LWCs will be installed does not warrant the added cost of an alternative pavement material such as concrete.

**Comment:** The LRWQCB also noted that the construction staging areas should be sited in upland areas outside of stream channels and other areas prone to flooding, and that work within a stream channel should occur when the channel is dry.

**Response:** Work will occur when the channels/washes are dry and staging will occur outside of the stream channels. Staging areas for Cedar Canyon and Black Canyon Roads will occur within the disturbed road bed. As a result of this comment, the NPS will require the contractor to create a staging area that is outside of flood prone areas.

**Comment:** Two Preserve landowners commented that the possibility of road closures during construction would be a significant inconvenience and a safety risk if emergency access was restricted. They recommended careful planning to minimize or avoid closures.

**Response:** The construction, road closures and access restrictions will be sequenced to allow for continued traffic flow throughout the Preserve. Detours will be put in place so that no area of the Preserve becomes completely inaccessible. Preserve staff will provide additional information to the public before construction. Notice will be provided 21 days in advance of the closure of Kelbaker road between Kelso and I-15.

**Comment:** One comment expressed concern regarding the Preserve-wide reduction in speed limits to 45 mph, noting that only a few areas were degraded enough to warrant the reduction.

**Response:** The Preserve-wide reduction in speed limits is a temporary measure designed to improve safety while roads that have been damaged by weather and/or degraded by wear are repaired and upgraded. Original speed limits will be restored as safety projects are completed and road safety improves.