

Appendix C
Multi-Use Trail Alignment
Alternatives Analysis

Multi-Use Trail Alignment Alternatives Evaluation
 Red Rock Trail and Intersections Project

Evaluation Criteria	Evaluation Question	No Build	Alternative 1a (SR-159)	Alternative 1b (Summerlin)
Fulfill Purpose and Need – Improves the safety of SR-159 for all users	Does the alternative improve the safety of non-motorized users accessing RRCNCA from the east? Does the alternative improve the safety of vehicles accessing RRCNCA along SR-159 from the east?	(No) Does not address the underlying conditions of bicycle, pedestrian, and vehicle mix along SR-159.	(Yes) Separates non-motorized users from SR-159 traffic by constructing a multi-use trail on a new alignment that stays within NDOT right-of-way for approximately 5,245 feet and meets clearzone requirements. Likewise, lengthening the deceleration lanes at Calico Basin Road and the Scenic Drive Fee Area improves safety by providing more vehicle stopping distance and queuing capacity for vehicles entering the area. For bicyclists and pedestrians who choose to stay on the SR-159 shoulder, the widened pavement and striped bike lanes through the Calico Basin Road and Scenic Drive Fee Area intersections improve safety by clearly demarcating bicycle and vehicle paths of travel.	(Yes) Separates non-motorized users from SR-159 traffic by constructing a multi-use trail on a new alignment that diverges from the NDOT right-of-way. Likewise, lengthening of the deceleration lanes at Calico Basin Road and the Scenic Drive Fee Area improves safety by providing more vehicle stopping distance and queuing capacity for vehicles entering the area. For bicyclists and pedestrians who choose to stay on the SR-159 shoulder, the widened pavement and striped bike lanes through the Calico Basin Road and Scenic Drive Fee Area intersections improve safety by clearly demarcating bicycle and vehicle paths of travel.
Fulfill Purpose and Need – Improves access to RRCNCA	Does the alternative improve access to RRCNCA and the recreational nodes at Calico Basin Road and the Scenic Drive Fee Area?	(No) Does not provide any new access routes or improve any existing access to RRCNCA or the recreational nodes within.	(Yes) Provides a new access route to RRCNCA by creating a new multi-use trail connecting the Scenic Drive Fee Area to the Summerlin residential area and existing I-215 West Beltway multi-use path to the east. Formalizes existing informal parking along Calico Basin Road. Creates a new parking area serving the relocated RRCNCA gateway sign and a new parking area serving the new multi-use trail.	(Yes) Provides a new access route to RRCNCA by creating a new multi-use trail connecting the Scenic Drive Fee Area to the Summerlin residential area and existing I-215 West Beltway multi-use path to the east. Formalizes existing informal parking along Calico Basin Road. Creates a new parking area serving the relocated RRCNCA gateway sign, and a new parking area serving the new multi-use trail.
Fulfill Purpose and Need – Improves Recreational Opportunities within RRCNCA	Does the alternative provide a new, high-quality recreational opportunity within RRCNCA?	(No) Does not provide any new recreational opportunities within RRCNCA.	(Yes) Creates a new, high-quality recreational experience within RRCNCA by constructing a new 12-foot-wide multi-use trail.	(Yes) Creates a new, high-quality recreational experience within RRCNCA by constructing a new 12-foot-wide, multi-use trail.
Fulfill Purpose and Need – Conserves the natural resources within RRCNCA	Does the alternative limit the development of social trails and other disturbance-creating dispersed recreational activities within this portion of RRCNCA?	(No) Does not formalize any trails within RRCNCA and therefore does not reduce the ongoing development of unauthorized social trails. Does not increase the queuing capacity of SR-159 at the Calico Basin Road or Scenic Drive Fee Area which, when exceeded on peak visitation days in the summer, results in roadside parking and vegetation disturbance.	(Yes) Creates a formalized multi-use trail that concentrates recreational use through this area of RRCNCA, thereby reducing the development of unauthorized social trails. Includes new signage along the new trail prohibiting off-trail travel, concentrating recreational users to the new trail, reducing the development of social trails while allowing the existing network of social trails to revegetate.	(Yes) Creates a formalized multi-use trail that concentrates recreational use through this area of RRCNCA, thereby reducing the development of unauthorized social trails. Includes new signage along the new trail prohibiting off-trail travel, concentrating recreational users to the new trail, reducing the development of social trails while allowing the existing network of social trails to revegetate.
Constructability	Can the alternative be constructed using established construction methods without resulting in significant delay, cost increase, or other critical issues that would jeopardize project completion?	Not Applicable	(Yes) No constructability issues have been identified that would jeopardize project completion.	(Yes) No constructability issues have been identified that would jeopardize project completion.

Evaluation Criteria	Evaluation Question	No Build	Alternative 1a (SR-159)	Alternative 1b (Summerlin)
Maintenance	Can BLM maintain the improvements without a significant expansion in maintenance area or cost?	Not Applicable	(Partial) Clark County has agreed to maintain the trail and low-water crossing located at the wash crossings. The low water crossings would need to be cleared of wash debris in the event of a precipitation event. BLM would be responsible for maintenance of the new parking areas. The new parking areas represent approximately 2 acres of new pavement requiring annual sweeping and revegetation of plants within the parking area landscape islands should transplanted vegetation fail to establish.	(Partial) Clark County has agreed to maintain the trail and low-water crossing located at wash crossings. The low water crossings would need to be cleared of wash debris in the event of a precipitation event. BLM would be responsible for maintenance of the new parking areas. The new parking areas represent approximately 2 acres of new pavement requiring annual sweeping and revegetation of plants within the parking area landscape islands should transplanted vegetation fail to establish.
Cost	Is construction of the alternative feasible within the Project's budget of \$13 million?	Not Applicable	(Yes) Estimated construction cost is likely to be approximately \$13 million.	(Yes) Estimated construction cost is likely to be approximately \$10 million.
Environmental Resources*	Can the alternative be constructed without impacting the floodplain in excess of the allowable increase (i.e., 1 foot) in the 100-year base flood elevation?	Not Applicable	(Yes) The Red Rock Wash is identified as a FEMA Zone A floodplain. Improvements would not impact the floodplain such that the 100-year base flood elevation would rise more than 1 foot.	(Yes) The Red Rock Wash is identified as a FEMA Zone A floodplain. Improvements would not impact the floodplain such that the 100-year base flood elevation would rise more than 1 foot.
Environmental Resources*	After mitigation, is the alternative consistent with the VRM Objectives?	(Yes) In the absence of either build alternative, no new visual elements would be introduced to the viewshed.	(Yes) The multi-use trail, parking lot, and bridges would create new visual elements with moderate levels of contrast with the Mojave landscape. A portion (approximately 1.0 mile) of the multi-use trail and a new bridge would be visible in the foreground to motorists on SR-159 approaching RRCNCA from the east. Cut and fill slopes along the multi-use trail would be visible to motorists traveling on SR-159. The minor (12-foot) widening of SR-159 represents a minor change to the existing landscape. Through implementation of mitigation measures detailed in Section 4 of the EA—including supplemental plantings and a low visual impact bridge design—the level of visual impact can be reduced and conform with the VRM objectives of the area. The complete Visual Impact Assessment is attached to the EA.	(Yes) The new parking areas would create new visual elements with moderate levels of contrast with the Mojave landscape. Because this alternative diverges from SR-159 and travels along the southern side of the Summerlin development, the trail is not visible from SR-159 to users entering RRCNCA from the east. This alternative does not require two bridges over Red Rock Wash, thereby introducing fewer new visual elements to the viewshed compared to 1a. Minor visual changes associated with new cut and fill slopes would be visible along SR-159 near Calico Basin Road and the Scenic Drive Fee Area. Supplemental plantings would further reduce the visual impacts of this alternative to conform with the VRM objectives of the area. The complete Visual Impact Assessment is attached to the EA.
Environmental Resources*	Does the alternative avoid impacts to threatened and endangered species?	(No) In the absence of either build alternative, unauthorized social trail development will continue to degrade desert tortoise habitat.	(No) Approximately 20.11 acres of desert tortoise habitat would be permanently impacted by the paving of the proposed trail, and an additional 15.54 acres would be temporarily impacted by construction-related activities. However, undisturbed habitat north and west of the Project area would remain intact. All Project-related activities would be conducted in accordance with the stipulations of the Programmatic Biological Opinion for RRCNCA (USFWS File No. 1-5-04-F-526). Impacts to desert tortoise and its habitat would be insignificant.	(No) Approximately 24.92 acres of desert tortoise habitat would be permanently impacted by the paving of the proposed trail, and an additional 17.16 acres would be temporarily impacted by construction-related activities. However, undisturbed habitat north and west of the Project area would remain intact. All Project-related activities would be conducted in accordance with the stipulations of the Programmatic Biological Opinion for RRCNCA (USFWS File No. 1-5-04-F-526). Impacts to desert tortoise and its habitat would be insignificant.

Evaluation Criteria	Evaluation Question	No Build	Alternative 1a (SR-159)	Alternative 1b (Summerlin)
Environmental Resources*	Does the alternative avoid impacts to BLM and state species of concern	(No) In the absence of either build alternative, unauthorized social trail development will continue to result in the disturbance of habitat for BLM- and state-listed species of concern.	(No) Approximately 20.11 acres of habitat for the following BLM sensitive wildlife species would be permanently impacted by paving the proposed trail, and an additional 15.54 acres would be temporarily impacted by construction-related activities: banded Gila monster, common chuckwalla, Mojave shovel-nosed snake, desert glossy snake, Mojave desert sidewinder, horned lizard, desert collared lizard, long-nosed leopard lizard, western red-tailed skink, Brewer’s sparrow, phainopepla, Crissal thrasher, golden eagle, LeConte’s thrasher, loggerhead shrike, peregrine falcon, sage thrasher, and western burrowing owl. No direct impacts to the BLM sensitive plant yellow twotone beardtongue are anticipated as a result of this Project.	(No) Approximately 24.92 acres of habitat for the following BLM sensitive wildlife species would be permanently impacted by paving the proposed trail and an additional 17.16 acres would be temporarily impacted by construction-related activities: banded Gila monster, common chuckwalla, Mojave shovel-nosed snake, desert glossy snake, Mojave desert sidewinder, horned lizard, desert collared lizard, long-nosed leopard lizard, western red-tailed skink, Brewer’s sparrow, phainopepla, Crissal thrasher, golden eagle, LeConte’s thrasher, loggerhead shrike, peregrine falcon, sage thrasher, and western burrowing owl. No direct impacts to the BLM sensitive plant yellow twotone beardtongue are anticipated as a result of this Project.
Environmental Resources*	Does the alternative avoid impacts to woodland and forestry resources?	(No) In the absence of either build alternative, unauthorized social trail development will continue to result in the disturbance of cactus and yucca plants.	(No) Approximately 493 cactus and 3,006 yucca plants are in the path of the proposed trail, requiring transplanting to another area within RRCNCA.	(No) Approximately 521 cactus and 3,802 yucca plants are in the path of the proposed trail, requiring transplanting to another area within RRCNCA.
Environmental Resources*	Can the alternative be constructed within the existing public right-of-way?	Not Applicable	(Yes) All improvements can be constructed within BLM, NDOT, and Clark County right-of-way.	(No) 1.35 acres of permanent right-of-way would be required from the Summerlin residential development for grading the trail.

*Note: resources reflected in this section have been determined be both present and different between the two build alternatives.

Acronyms

BLM = U.S. Bureau of Land Management
 EA = Environmental Assessment
 FEMA = Federal Emergency Management Agency

I-215 = Interstate 215
 NDOT = Nevada Department of Transportation
 RRCNCA = Red Rocks Canyon National Conservation Area

SR-159 = State Route 159
 USFWS = U.S. Fish and Wildlife Service
 VRM = Class II Visual Resource Management

Summary of Determinations

Determination	No Build	Alternative 1a (SR-159)	Alternative 1b (Summerlin)
(No)	7	3	4
(Yes)	0	9	8
(Partial)	0	1	1
Not Applicable	5	0	0

The two action alternatives equally meet and fulfill the Project’s safety, access, recreation, and conservation needs as measured through Criteria 1 through 4. The difference in the temporary and permanent physical disturbance is a factor in this analysis. Alternative 1a results in approximately 7 acres (5 permanent and 2 temporary) less disturbance than Alternative 1b. Limiting impacts to sensitive species habitat is at the core of preserving RRCNCA’s unique resources. In addition to the smaller disturbance area, Alternative 1a’s alignment travels through a less densely vegetated portion of RRCNCA and as a result impacts approximately 830 plants fewer cactus and yucca than Alternative 1b. Cactus and yucca are essential components of the Mojave ecosystem and protected BLM resources, and therefore the impacts to cactus and yucca are a meaningful differentiation between the two action alternatives. Although Alternative 1a introduces new visual elements not present in Alternative 1b, additional plantings and low visual impact bridge design will reduce those impacts to a degree that is consistent with the VRM class objectives for this area of RRCNCA and acceptable to the BLM. Alternative 1b is not able to be constructed within the existing public right-of-way. The BLM intends to construct the project within the existing public right-of-way and avoid any impacts to adjacent private property owners. Therefore, the difference in right-of-way impacts between the two action alternatives is also a meaningful one. Because Alternative 1a meets the project’s purpose and need and has less environmental and community impacts than Alternative 1b, it is identified as the Proposed Action. The No Action Alternative fails to meet any of the project’s needs and therefore is eliminated from further consideration. Although the No Action Alternative has been eliminated as a viable alternative, it is carried through the environmental impacts section of this EA for impact baseline comparison with the Proposed Action.