

## 2022 Section 4(f) Evaluation Update

The Brightline West (previously XpressWest) Las Vegas to Victor Valley Project (Project) consists of the construction and operation of a fully grade-separated, dedicated, passenger-only high-speed rail system along an approximately 170-mile corridor connecting Victor Valley, California to Las Vegas, Nevada. The Project was originally evaluated in the following documents (collectively referenced as the DesertXpress Environmental Impact Statement [EIS]):

- March 2009 Draft Environmental Impact Statement and 4(f) Evaluation for the proposed DesertXpress High-Speed Passenger Train (DesertXpress DEIS)
- April 2010 Supplemental Draft Environmental Impact Statement and 4(f) Evaluation for the proposed DesertXpress High-Speed Passenger Train (DesertXpress SEIS)
- March 2011 Final Environmental Impact Statement and 4(f) Evaluation for the proposed DesertXpress High-Speed Passenger Train Victorville, California to Las Vegas, Nevada (DesertXpress FEIS)

The Federal Railroad Administration (FRA) issued the Record of Decision DesertXpress High-Speed Passenger Train (DesertXpress ROD) in July 2011. In January 2019, DesertXpress Enterprises, LLC submitted Project modifications, including a refined alignment between Apple Valley and Las Vegas, modified station sites in Apple Valley and the Las Vegas area, and other changes to ancillary facilities. In September 2020, the FRA determined the Project modifications would not result in substantial changes in the evaluation of impacts described in the DesertXpress EIS, and therefore a supplemental EIS would not be required for the Project modifications. As the Brightline West Las Vegas to Victor Valley Project moves into final design and preparation to begin construction, DesertXpress Enterprises, LLC has submitted additional Project modifications, including refined alignments from Apple Valley to Lenwood and Primm to Sloan Road, modifications to the Victor Valley Station, and other changes to ancillary facilities.

This report evaluates the effects of these project changes and updates the Section 4(f) evaluation that was completed by FRA in 2011.

### 1.0 Introduction

Section 4(f) of the Department of Transportation Act of 1966 (23 United States Code [USC] 138 and 49 USC 303) declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation land, wildlife and waterfowl refuges, and historic sites.” Section 4(f) protected resources include the following:

- Publicly owned park and Recreation lands, including Federal, state and local parks
- Wildlife and Waterfowl Refuges, including Federal, state, and local areas set aside for preservation of wildlife and/or waterfowl
- Clean Air Act “Class 1” Areas, a subcategory of park and recreation lands that includes parklands identified in the Clean Air Act (42 USC 85) as having particular sensitivity to any visual intrusion that could result from degraded air quality
- Historic sites, including historic architectural resources and archaeological resources. Historic sites qualifying for protection under Section 4(f) include only those on or eligible for listing on the

National Register of Historic Places (NRHP). For the purposes of compliance with Section 106 of the National Historic Preservation Act a federal agency may assume a cultural resource eligible for the purposes of the undertaking only in order to assess effects caused by the undertaking. Formally, the cultural resource remains unevaluated for NRHP eligibility. However, an assumed eligible historic site would be considered a Section 4(f) protected resource.

Section 4(f) states that the Secretary of Transportation may approve a transportation program or project that requires the use of a Section 4(f) protected resource only if (1) there is no prudent and feasible avoidance alternative to the use of the land from the Section 4(f) property; and (2) the program or project includes all possible planning to minimize harm to the Section 4(f) property resulting from the use (49 USC 303).

## 2.0 Methodology for Evaluation of Impacts

This report uses the same methodology for evaluating whether the Project would result in a use of resources protected by Section 4(f) as was applied in the 2011 Section 4(f) evaluation. Potential uses of 4(f) protected resources are split into two categories: *direct use*, which involves the traversal or removal of the protected resource, and *constructive use*, which occurs when direct use is avoided but the activities, features, or attributes that qualify the resource for protection are significantly degraded.

Consistent with the methodology used in 2011, FRA determined if direct use of Section 4(f) resources would occur from the Project based on whether the Project would traverse, remove, or permanently incorporate the evaluated resource.

In the 2011 Section 4(f) evaluation, FRA utilized five constructive use criteria to evaluate whether the Project would result in a constructive use on Section 4(f) resources, including noise, vibration, access, aesthetic and visual quality, and ecological intrusion. These criteria remain the same in this updated evaluation. FRA's 4(f) evaluation in 2011 used a distance threshold of 400 feet between the Project footprint and the protected resource to determine, as warranted, if constructive use from noise, vibration, access, visual, or ecological intrusion from operation or construction of the Project would occur. This update also uses the 400-foot threshold to evaluate the potential for constructive use of parks and recreation areas and wildlife and waterfowl refuges. The rationale for the 400 feet threshold for applicable project operation and construction effects is described below:

- Noise and Vibration: As documented in Section 3.12.6.1 of the DEIS, operating noise from the proposed high-speed trains would reach 65 dBA at a distance of about 300 feet and would increase to as much as 400 feet for construction activities. The EIS also concluded the area potentially affected by vibration would be similar to that related to noise. Thus, distances up to 400 feet were considered for noise and vibration effects on Section 4(f) resources in the 2011 EIS.
  - Attachment G, Noise and Vibration Technical Report, of the September 2020 Reevaluation, includes a reanalysis of noise effects resulting from the Project as the Project design had changed from predominately side-running (running along the side of the I-15 freeway) to the median (running in the middle of the I-15 freeway with highway travel lanes on each side). This reanalysis determined that the noise generated by Project construction and operation would not exceed the existing noise effects caused by I-15 freeway, and would have no adverse effect beyond 200 feet of the proposed

trackway. This is the distance beyond which sensitive receptors experience minimal to no noise impacts. Vibration impacts were identified only up to 25 feet of the trackway and not beyond, for vibration-sensitive receptors. Thus, the 200-foot threshold for noise and 25-foot threshold for vibration used for considering effects on sensitive receptors has been applied for considering noise and vibration effects on all Section 4(f) resources for this analysis.

- **Access:** Access impacts were anticipated to occur only where the proposed action would otherwise severely restrict access to a protected property.
- **Ecological Intrusion:** As documented in Section 3.14.2.3 of the DEIS, a 400-foot wide corridor centered on the rail centerline represents the area of potential indirect effects (or constructive use) evaluated for the presence of ecologically important features (e.g., wetlands and endangered species). The 400-foot threshold is considered for ecological intrusion effects on Section 4(f) resources for this analysis.

The constructive use evaluation for this update evaluates the potential for constructive use on all resources within the Area of Potential Effect (APE), which has been amended and expanded as part of ongoing Section 106 consultation.

For this update of the Section 4(f) evaluation, to ensure all Section 4(f) resources within the Project vicinity were considered, FRA utilized the following distance criteria for developing the list of potential resources that would require evaluation:

- **Parks and Recreational Areas:** one mile
- **Wildlife and Waterfowl Refuges:** one mile
- **Clean Air Act “Class 1” Areas:** 100 miles
- **Historic Sites:** Within the defined Area of Potential Effect (APE)

This updated evaluation considers resources originally identified in the DesertXpress EIS and new resources that have been identified since FRA’s original evaluation in 2011 and historic sites within the expanded APE. The following technical reports prepared for the modified Project provide further information on historic sites, including historic architectural resources and archaeological resources, within the APE:

- FRA. 2022a. *Subsurface Archaeological Inventory: Addendum to the XpressWest High-Speed Passenger Train Project, Archaeological Inventory Report, San Bernardino County, California.* Prepared by Dudek. March 15, 2022.
- FRA. 2022b. *Subsurface Archaeological Inventory: Addendum to the XpressWest High-Speed Passenger Train Project, Archaeological Inventory Report, Clark County, Nevada.* Prepared by Dudek. March 15, 2022.
- FRA. 2022c. *FINAL Confidential XpressWest High-Speed Passenger Train Project Archaeological Inventory Report, Clark County, Nevada.* Prepared by Dudek. February 2022.
- FRA. 2022d. *FINAL Confidential XpressWest High-Speed Passenger Train Project Archaeological Inventory Report, San Bernardino County, California.* Prepared by Dudek and ICF. February 2022.
- FRA. 2022e. *FINAL Confidential XpressWest High-Speed Passenger Train Project Historic Built Environment Technical Report: California.* Prepared by HNTB and ICF. March 2022.

- FRA. 2022f. *FINAL Confidential XpressWest High-Speed Passenger Train Project Historic Built Environment Technical Report: Nevada*. Prepared by HNTB and ICF. March 2022.
- FRA. 2022g. *Brightline West—Las Vegas to Victor Valley—Archaeological Resources Finding of Eligibility and Effect: California*. Prepared by Dudek.
- FRA. 2022h. *Brightline West—Las Vegas to Victor Valley—Archaeological Resources Finding of Eligibility and Effect: Nevada*. Prepared by Dudek.

### 3.0 Analysis of Use of Section 4(f) Resources

#### 3.1 PARKS AND RECREATION AREAS

FRA's evaluation conducted in 2011 identified 20 Section 4(f)-protected park and recreation resources within one mile of the Preferred Alternative. These are summarized in Table F-3.15-1 of the Final EIS. FRA determined that the Preferred Alternative would not result in the use of any park or recreation resource protected under Section 4(f).

In this updated evaluation, FRA used a preliminary desktop analysis of public databases and GIS data to identify whether the modified Project footprint contains park or recreation resources that were not identified in the original evaluation in 2011. FRA identified several previously unevaluated parks and recreation resources; Table 1 provides a list of each park and recreation area identified as a potential Section 4(f) resource located within one mile of the modified Project footprint. Figure 1 through Figure 11 below depict the locations of these resources.

**Table 1 Potential 4(f) Resources within 1 Mile of the Modified Project Footprint**

Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
<b>National Park Service</b>				
Mojave National Preserve	Yes	<p><b>Location:</b> Preserve's boundaries encompass Providence Mountain State Recreation Area (Mitchell Caverns), the University of California's Granite Mountains Natural Reserve and California State University's Desert Studies Center at Soda Springs.</p> <p><b>Size:</b> 1.54 million acres</p> <p><b>Features:</b> National recreation resource</p>	Approximately 200 feet south of Segment 3 Alignment	No Use

#### City of Barstow

Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
Dana Park Community Center	Yes	<b>Location:</b> 850 Barstow Road <b>Size:</b> 7.9 acres <b>Features:</b> Recreational fields, playgrounds, swimming pool, sports and fitness facilities	0.1-mile north of Segment 2 Alignment	No use
H Avenue Soccer Fields	Yes	<b>Location:</b> Avenue H at Vineyard Street <b>Size:</b> 2.8 acres <b>Features:</b> Park and sports facilities	0.1-mile north of Segment 2 Alignment	No use
Barstow Heights Park	Yes	<b>Location:</b> Rimrock Road and H Street <b>Size:</b> 0.8 acre <b>Features:</b> Park and playground	0.5-mile south of Segment 2 Alignment	No use
Stringham (Pitcher) Park	Yes	<b>Location:</b> 1610 East Rimrock Road <b>Size:</b> 5.3 acres <b>Features:</b> Park and sports facilities	0.6-mile south of Segment 2 Alignment	No use
Lillian Park	Yes	<b>Location:</b> 901 Bigger Street <b>Size:</b> 3.7 acres <b>Features:</b> Park	0.6-mile north of Segment 2 Alignment	No use
John Sturnacle Park	Yes	<b>Location:</b> 1434 Sage Drive <b>Size:</b> 2.4 acres <b>Features:</b> Park	0.3-mile north of Segment 2 Alignment	No use
Foglesong Park	Yes	<b>Location:</b> 300 Avenue G <b>Size:</b> 10.2 acres <b>Features:</b> Park	0.4-mile north of Segment 2 Alignment	No use
Mint Park	Yes	<b>Location:</b> Harvard Drive <b>Size:</b> 0.3 acre <b>Features:</b> Park	0.7-mile south of Segment 2 Alignment	No use

Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
Cameron Park	Yes	<b>Location:</b> Yucca Street and Kelly Drive <b>Size:</b> 2.2 acres <b>Features:</b> Park	0.2-mile north of Segment 2 Alignment	No use
Montara Park	Yes	<b>Location:</b> Montara Road and Church Street <b>Size:</b> 4.4 acres <b>Features:</b> Park	0.5-mile south of Segment 2 Alignment	No use
Panamint Park	No	<b>Location:</b> Panamint Road and K Street <b>Size:</b> 1.8 acres <b>Features:</b> Park	0.5-mile south of Barstow electrical Substation	No use
Rotary Centennial Park	No	<b>Location:</b> Barstow Road and E Virginia Way <b>Size:</b> 0.7 acre <b>Features:</b> Park	0.1-mile north of Segment 2 Alignment	No use
Cora M Harper Community Center	No	<b>Location:</b> 841 Barstow Road <b>Size:</b> 0.6 acre <b>Features:</b> Sports, fitness, and recreation facilities	0.2-mile north of Segment 2 Alignment	No use
<b>San Bernardino County</b>				
Smith Park (Yermo)	Yes	<b>Location:</b> Yermo Road at McCormack Street, Yermo <b>Size:</b> 0.5 acre <b>Features:</b> Park	0.2-mile south of Segment 2 Alignment	No use
Chet Hoffman Park (Baker)	Yes	<b>Location:</b> Hillview Drive and Park Avenue, Baker <b>Size:</b> 11.2 acres <b>Features:</b> Park	0.2-mile north of Segment 3 Alignment	No use
Hurst Park (Yermo)	No	<b>Location:</b> Yermo Road and Jellico Street, Yermo <b>Size:</b> 3.4 acres <b>Features:</b> Park	0.3-mile south of Segment 2 Alignment	No use

Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
Silver Valley High School/Yermo School Recreation Areas (Yermo)	No	<b>Location:</b> 35484 Daggett-Yermo Road <b>Size:</b> 15.0 acres <b>Features:</b> Recreational fields and sports facilities	0.3-mile south of Segment 2 Alignment	No use
Fred Sandridge Sports Park (Yermo)	No	<b>Location:</b> Calico Boulevard and School Road, Yermo <b>Size:</b> <b>Features:</b> Park	0.2-mile south of Segment 2 Alignment	No use
Obregon Park (Yermo)	No	<b>Location:</b> Yermo Road and F Street <b>Size:</b> 1.3 acres <b>Features:</b> Park	0.2-mile south of Segment 2 Alignment	No use
Yermo Rodeo and Community Events Center	No	<b>Location:</b> 35697 Elephant Mountain Road, Yermo <b>Size:</b> 4.3 acres <b>Features:</b> Open air venue to host festivals, concerts and other community events open to the public.	0.3-mile north of Segment 2 Alignment	No use
Baker Junior High School Recreation Areas (Baker)	No	<b>Location:</b> East adjacent to 72100 Schoolhouse Lane, Baker <b>Size:</b> 2.7 acres <b>Features:</b> Recreational fields and sports facilities	0.7-mile north of Segment 3 Alignment	No use
Baker Elementary and High School Recreation Areas (Baker)	No	<b>Location:</b> 72100 Schoolhouse Lane, Baker <b>Size:</b> 2.3 acres <b>Features:</b> Recreational fields	0.7-mile north of Segment 3 Alignment	No use
<b>Clark County</b>				
Western Trails Park	Yes	<b>Location:</b> 7355 Rogers Street <b>Size:</b> 6.0 acres <b>Features:</b> Park	1 mile west of Warm Springs Station	No use

Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
Stonewater Park	Yes	<b>Location:</b> Southern Highlands Parkway and Valley View <b>Size:</b> 7.3 acres <b>Features:</b> Park	0.6-mile west of Segment 6 Alignment	No use
Silverado Ranch Park	Yes	<b>Location:</b> East Silverado Ranch Boulevard and Gillespie Street <b>Size:</b> 30.3 acres <b>Features:</b> Park and sports facilities	0.7-mile east of Segment 6 Alignment	No use
BLM Doith Las Vegas Desert Gun Range	No	<b>Location:</b> Las Vegas Boulevard S <b>Size:</b> N/A <b>Features:</b> Public recreational shooting facilities	0.1-mile east of Segment 5 Alignment	No use
Trails End Park	No	<b>Location:</b> New Providence Street and Ringrose Street <b>Size:</b> 0.1 acre <b>Features:</b> Park	0.2-mile west of Segment 6 Alignment	No use
Shoreline Park	No	<b>Location:</b> New Providence Street and Tomessa Street <b>Size:</b> 0.2 acre <b>Features:</b> Park	0.3-mile west of Segment 6 Alignment	No use
Overlook Commons	No	<b>Location:</b> Reyes Avenue and Southern Highlands Parkway <b>Size:</b> 0.4 acre <b>Features:</b> Park	0.4-mile west of Segment 6 Alignment	No use
Fire Station Dog Park	No	<b>Location:</b> W Starr Avenue and Coulter Canyon Drive <b>Size:</b> 0.4 acre <b>Features:</b> Park	0.4-mile west of Segment 6 Alignment	No use



Potential 4(f) Resources within 1 Mile of the Modified Project Footprint	Previously Evaluated	Description	Approximate Distance from Project Footprint	Preliminary Analysis of Use under Section 4(f)
Jimmy Pettyjohn Park	No	<b>Location:</b> 11322 Southern Highlands Pkwy <b>Size:</b> 2.0 acres <b>Features:</b> Park	0.5-mile west of Segment 6 Alignment	No use
Olympia Sports Park	No	<b>Location:</b> 4885 Starr Hills Avenue <b>Size:</b> 14.2 acres <b>Features:</b> Recreational fields and sports facilities	1 mile west of Segment 6 Alignment	No use
Somerset Hills Park	No	<b>Location:</b> 10801 Valencia Hills Street <b>Size:</b> 4.9 acres <b>Features:</b> Park and sports facilities	0.9-mile west of Segment 6 Alignment	No use
John C Bass Elementary School Recreation Areas	No	<b>Location:</b> 10377 Rancho Destino Road <b>Size:</b> 6.9 acres <b>Features:</b> Recreational field, playground, and sports facilities	0.6-mile east of Segment 6 Alignment	No use
Beverly Mathis Elementary School Recreation Areas	No	<b>Location:</b> 7950 Arville Street <b>Size:</b> 5.6 acres <b>Features:</b> Recreational field, playground, and sports facilities	0.8-mile west of Segment 6 Alignment	No use
Dennis Ortwein Elementary School Recreation Areas	No	<b>Location:</b> 10926 Dean Martin Drive <b>Size:</b> 3.9 acres <b>Features:</b> Recreational field, playground, and sports facilities	Approximately 0.1-mile west of Segment 6 Alignment	No use

Source: Geografika, 2022

The modified Project footprint would result in the majority of the rail alignment shifting to within the I-15 freeway median. The modified Project footprint would not traverse, remove, nor incorporate any of the parks and recreation areas listed above in Table 1. Therefore, no direct use of these potential Section 4(f) resources would occur.

The potential for constructive use would occur where the modified Project footprint is within 400 feet of a Section 4(f) resource, where noise, vibration, visual, access, and ecological intrusion effects from construction and operation activities would occur. Parks and recreation areas within 400 feet include the Mojave Desert National Preserve. Section 3.1.1 below evaluates the potential for constructive use of the Preserve from the modified Project. All remaining park and recreation resources are located further than 400 feet from the modified Project footprint, and therefore would not be adversely affected by noise, vibration, effects to visual quality, or ecological intrusion, and no constructive use of these resources would occur.

### 3.1.1 MOJAVE DESERT NATIONAL PRESERVE – POTENTIAL FOR CONSTRUCTIVE USE

Approximately 40 miles of Segment 3 would run within the I-15 median in proximity to the northern boundary of the Mojave Desert National Preserve. At the nearest point, the Preserve is approximately 175 feet from the southern edge of the I-15 freeway ROW.

There are currently no established public use areas such as hiking trails and few attractions within the Preserve within 3 to 5 miles of the I-15 freeway.<sup>1</sup> Areas in the Preserve where noise sensitive human activities would occur, such as hiking trails, picnic areas, and campgrounds are not in proximity to the I-15 freeway.

The Project would not alter existing access to the Preserve. In the vicinity of the Preserve, the rail alignment would be fully grade separated from all existing roadways, thereby avoiding the need to sever or change access to and from the Preserve.

The Project being located with the I-15 freeway median in the vicinity of the Mojave Preserve will be in an area that already contains transportation and infrastructure uses including the I-15 freeway and its fences, interchanges, rest stops, and electrical transmission lines. In certain locations, the Project would introduce new visual elements such as retaining walls, catenary poles and wires, and trains operating in the median of the freeway. The addition of these elements would not substantially change the visual and aesthetic setting because they would be similar in appearance and scale to the existing I-15 freeway and associated infrastructure.

Many areas of the Preserve contain suitable desert tortoise habitat, and evidence has been found of tortoise and other wildlife using of existing washes that pass under the I-15 freeway and provide access for the tortoise into and out of the Preserve. The Project would not alter the existing location or size of culverts and bridges that cross over existing washes, nor desert tortoise exclusionary fencing between the Preserve and the I-15 freeway. Therefore, tortoise and other wildlife would continue to be able to move north and south under the I-15 corridor (into and out of the Preserve) as at present. There would thus be no interference with the species' movement corridor or critical life cycle processes.

Based on the above analysis, the FRA has determined that no constructive use of any portion of the Mojave Desert National Preserve would occur. There would be minimal visual effects to the existing

---

<sup>1</sup> National Parks Maps. 2022. *Mojave Maps*. Available at: <http://npsmaps.com/mojave/>.

aesthetic setting in proximity to the I-15 freeway; however this effect would not result in a use of the features or attributes that are critical to the resource.

### **3.2 WILDLIFE AND WATERFOWL REFUGES QUALIFYING FOR PROTECTION UNDER 4(F)**

FRA's evaluation in 2011 determined that there were no Federal, state, or local wildlife refuges within one mile of the Project and thus there would be no direct or constructive use to wildlife and waterfowl refuges. The nearest wildlife refuge area in California to the Project footprint is the Camp Cady Wildlife Area, designated by the California Department of Fish and Wildlife, located approximately three miles from Segment 2. In Nevada, the nearest wildlife refuge area to the Project footprint is the Desert National Wildlife Refuge, approximately 25 miles northwest of the City of Las Vegas.

In 2022 FRA conducted a desktop review of public databases to evaluate whether any new wildlife or waterfowl refuges have been established since the original 2011 evaluation. FRA determined that no new wildlife or waterfowl refuges have been established within one mile of the modified Project footprint.

Based on FRA's updated evaluation, the 4(f) conclusion regarding the Project effects on wildlife and waterfowl refuges has not changed. There remain to be no new Federal, state, or local wildlife refuges within one mile of the Project.<sup>2,3,4</sup>

### **3.3 CLEAN AIR ACT "CLASS 1" AREAS**

FRA's evaluation in 2011 assessed national wilderness areas and national parks designated as Clean Air Act "Class 1 Areas" to determine whether Project implementation would impair protected activities, features, or attributes of these resources. These resources include national wilderness areas and national parks that meet Class 1 Area criteria within 100 miles of the Project. The nearest Class 1 Area identified was the Cucamonga Wilderness, approximately 30 miles south of Victorville. FRA determined that the Project would not result in noise, vibration, access, or ecological resource effects at these properties, given the distance from the Project footprint. FRA also determined that the Project would not result in visual quality impacts, as the electric multiple unit (EMU) option for powering trains would operate in general conformity with criteria air pollutant thresholds, and would not contribute adversely to visibility impairment within the identified Class 1 Areas.

In 2022 FRA conducted a desktop review to evaluate whether any Class 1 Areas have been established since the original 2011 evaluation. FRA determined that no new Class 1 Areas have been established within 100 miles of the modified Project footprint.<sup>5</sup>

---

<sup>2</sup> California Department of Fish and Wildlife. 2022. *CDFW Lands Viewer*. <https://apps.wildlife.ca.gov/lands/>. Accessed September 2022.

<sup>3</sup> Nevada Department of Wildlife. 2013. *Nevada Crucial Habitat Assessment Tool*. [http://www.ndow.org/Nevada\\_Wildlife/Maps\\_and\\_Data/NVCHAT/](http://www.ndow.org/Nevada_Wildlife/Maps_and_Data/NVCHAT/). Accessed October 2019.

<sup>4</sup> U.S. Fish and Wildlife Services. 2018. *National Wildlife Refuge System*. January 12, 2018. [https://www.fws.gov/refuges/maps/NWRS\\_National\\_Map.gif](https://www.fws.gov/refuges/maps/NWRS_National_Map.gif). Accessed October 2019.

<sup>5</sup> United States Environmental Protection Agency. 2021. *California Federal Class 1 Areas*. Available at: [https://www3.epa.gov/region9/air/maps/ca\\_cls1.html](https://www3.epa.gov/region9/air/maps/ca_cls1.html). Accessed: September 2022.

The modified Project would utilize EMU technology and thus the 2011 conclusions regarding Class 1 Areas would remain valid. Therefore, the Project modifications would not result in substantial changes in the evaluation of effects to Class 1 Areas since 2011, and no Section 4(f) direct or constructive would occur for these areas.

### **3.4 HISTORIC ARCHITECTURAL RESOURCES QUALIFYING FOR PROTECTION UNDER 4(F)**

FRA's Section 4(f) evaluation in 2011 evaluated the Project's potential to impact eligible and assumed eligible historic architectural resources that met criteria defined by the NRHP. Historic architectural resources within both the Direct APE (areas permanently occupied by Project's rail alignment and facilities) as well as the Indirect APE (areas within 200 feet on either side of the centerline of the Project's rail alignment, and within 100 feet of the centerline of the proposed utility corridor) were evaluated. The evaluation in 2011 determined that no historic architectural resources within the APE were determined or recommended to be NRHP-eligible, and thus no historical architectural resources would be adversely affected or subject to significant impacts through Project implementation.

As part of the Section 106 process and ongoing consultation with the California and Nevada State Historic Preservation Officers (SHPO) and federally-recognized tribes, FRA has expanded the APE since 2011. The current APE contains the following historic resources: In California, 794 built environment resources have been identified within the APE. Two resources are considered NRHP eligible, two resources are exempt from the requirements of Section 106, and the remaining 790 resources were determined not eligible for listing on the NRHP. In Nevada, 43 built environment resources have been identified within the current project APE. Four resources are eligible for listing in the NRHP within the APE, and the remaining 39 were determined not eligible for listing on the NRHP. Historic architectural resources that qualify for evaluation under Section 4(f) within the Project APE are listed in Table 2 below.

Adverse effects to historic properties per Section 106 would result when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP. The assessment of effects (application of the Criteria of Adverse Effect) addresses why and how historic properties would be altered or destroyed as a result of the Project. The Criteria of Adverse Effect found in 36 CFR Part 800.5 address direct and indirect effects to NRHP-eligible historic properties, including: physical (temporary as well as permanent), removal, change in character or use, introduction of atmospheric, audible, vibratory, visual (often associated with changes to the setting) elements, and neglect, transfer, sale, or lease. In addition, FRA considered whether effects from the Project, when considered cumulatively, would result in an adverse effect to NRHP-eligible historic properties. The finding of effect reports for both California and Nevada assessed the potential for the Project to result in adverse effects to the NRHP-eligible historic properties in the APE and concluded that the Project would not adversely affect historic built environment properties. In addition, FRA determined that effects from the Project, when considered cumulatively, would not result in an adverse effect to the built environment properties in the Project across California and Nevada.

**Table 2 Historic Architectural Resources Subject to Section 4(f)**

Resource Name	Primary Number	Resource Type	NRHP Status	NRHP Criteria	Section 106 Determination	Analysis of Use under Section 4(f)
<b>California</b>						
SCE Boulder Dam – San Bernardino Transmission Line	P-36-010315	Linear: Transmission Lines	Eligible	A, C	No Adverse Effect	No use
LADWP Bould Dam – Los Angeles Transmission Lines 1,2, and 3	P-36-007694	Linear: Transmission Lines	Eligible	A, C	No Adverse Effect	No use
<b>Nevada</b>						
Los Angeles Bureau of Power and Light Boulder Line 2	CK6237	Linear: Transmission Lines	Eligible	A, C	No Adverse Effect	No use
Los Angeles Bureau of Power and Light Boulder Line 1	CK6238	Linear: Transmission Lines	Eligible	A, C	No Adverse Effect	No use
Los Angeles Bureau of Power and Light Boulder Line 3	CK6242	Linear: Transmission Lines	Eligible	A, C	No Adverse Effect	No use
Jean Underpass	S581	Structure: Railroad Bridge	Eligible	C	No Adverse Effect	No use

Source: HNTB, 2022

The Project would not directly use any of the historic architectural resources that qualify for evaluation under Section 4(f), because there would be no physical destruction, removal, neglect, deterioration, transfer, sale, or lease of these historic properties. Additionally constructive use of these historic architectural resources would not occur, because the Project would be constructed within the median of the I-15 freeway thus avoiding any potential noise, vibration or aesthetic effect on these resources. The Project would not result in activities that would alter the historic properties in any manner inconsistent with accepted standard treatment of historic properties, there would be no change in the character of use of the historic properties, the overall setting of the historic properties would not be altered, the Project will not introduce incompatible visual, atmospheric, or audible elements that might diminish the integrity of the historic properties, and the historic properties would continue to retain the character-defining features that convey their NRHP significance.

### 3.5 ARCHAEOLOGICAL RESOURCES QUALIFYING FOR PROTECTION UNDER 4(F)

In 2011, FRA evaluated the Project's potential to impact NRHP-eligible archaeological resources within the APE. Records searches of prehistoric and historic resources, including files and databases at the South Central Coastal Information Center of the California Historical Resources Information System (CHRIS), the Mojave River Valley Museum in Barstow, and the Harry Reid Center in Las Vegas, were analyzed. FRA identified one archaeological resource site that met the criteria for protection under Section 4(f). The evaluation in 2011 determined the Preferred Alternative would not result in the direct or constructive use of any archaeological resources qualifying for protection under Section 4(f).

As part of the Section 106 process and ongoing consultation with the California and Nevada SHPO's and Tribal governments, FRA has expanded the APE. In California, 473 archaeological resources (including districts, sites, and isolates) have been identified in the Project APE. Many sites in the California APE have been determined eligible for the NRHP, or, for the purposes of this undertaking only, have been assumed eligible for the NRHP solely under Criterion D (for their archaeological information potential), and are therefore not subject to Section 4(f). Only those resources eligible for the NRHP under Criteria A, B, or C are subject to Section 4(f) analysis and evaluation.

Within the California portion of the Project APE, there are 24 archaeological resources that are eligible or assumed eligible for the NRHP under Criteria A, B, or C. Of these, two are assumed individually eligible for the purposes of the undertaking only under criteria A and D. Fourteen archaeological sites are eligible for NRHP listing under criteria A and D, which are both individually eligible, and eligible as contributors to the following four NRHP-eligible archaeological districts: Sidewinder Quarry Archaeological District (SQAD), Mojave River Lithic Landscape (MRL), Soapmine Road Archaeological District (SRAD), and Cronese Lake Archaeological District (CLAD). The Halloran Springs Archaeological District (HSAD) is also eligible for NRHP listing under criteria A, C, and D with three sites within the HSAD assumed eligible under the same NRHP criteria. These 24 archaeological resources qualify for evaluation under Section 4(f) and are listed in Table 3 below.

In Nevada, 214 archaeological resources have been identified in the Project APE. Of these, none of the archaeological sites are eligible for NRHP listing under Criterion A, B or C so none of the 214 Nevada resources qualify for protection under Section 4(f).

**Table 3 Archaeological Resources Subject to Section 4(f)**

Districts/Sites	Intersects ADI <sup>6</sup>	Only within APE-All <sup>7</sup>	NRHP Status	NRHP Criteria	Contributing Archaeological District	Section 106 Determination	Analysis of Use under Section 4(f)
-----------------	-----------------------------	----------------------------------	-------------	---------------	--------------------------------------	---------------------------	------------------------------------

**California only**

<sup>6</sup> ADI = Area of Direct Impact. This equates to the area of direct use for construction and/or operation of the Project.

<sup>7</sup> All = Area of Indirect Impact. This equates to the area of effects for construction and/or operation of the Project that could result in changes in historic character through visual changes, noise, and/or vibration.

Districts/Sites	Intersects ADI <sup>6</sup>	Only within APE-AII <sup>7</sup>	NRHP Status	NRHP Criteria	Contributing Archaeological District	Section 106 Determination	Analysis of Use under Section 4(f)
SQAD (Sidewinder Quarry Archaeological District)	Yes	No	Eligible	A, D	N/A	Adverse Effect	Use
MRL (Mojave River Lithic Landscape)	Yes	No	Eligible	A, D	N/A	Adverse Effect	Use
SRAD (Soapmine Road Archaeological District)	Yes	No	Eligible	A, D	N/A	Adverse Effect	Use
CLAD (Cronese Lake Archaeological District)	Yes	No	Eligible	A, D	N/A	Adverse Effect	Use
HSAD (Halloran Springs Archaeological District)	No	Yes	Eligible	A, C, D	N/A	No Adverse Effect	No Use
P-36-000562	Yes	No	Eligible	A, D	SQAD	Adverse Effect	Use
P-36-002283	Yes	No	Eligible	A, D	SQAD	Adverse Effect	Use
P-36-008321	Yes	No	Eligible	A, D	SQAD	Adverse Effect	Use
P-36-006950	Yes	No	Eligible	A, D	SQAD	Adverse Effect	Use
P-36-003485	Yes	No	Eligible	A, D	SQAD	Adverse Effect	Use
P-36-002129	Yes	No	Eligible	A, D	MRL	Adverse Effect	Use
P-36-000223	Yes	No	Eligible	A, D	MRL	Adverse Effect	Use
P-36-003694	Yes	No	Eligible	A, D	MRL	Adverse Effect	Use
ICF-XW1-010*	Yes	No	Eligible	A, D	MRL	Adverse Effect	Use

Districts/Sites	Intersects ADI <sup>6</sup>	Only within APE-AII <sup>7</sup>	NRHP Status	NRHP Criteria	Contributing Archaeological District	Section 106 Determination	Analysis of Use under Section 4(f)
ICF-XW2-017*	Yes	No	Eligible	A, D	MRL	Adverse Effect	Use
P-36-008923	Yes	No	Eligible	A, D	SRAD	Adverse Effect	Use
ICF-BV-001*	Yes	No	Eligible	A, D	SRAD	Adverse Effect	Use
ICF-XW1-004	Yes	No	Eligible	A, D	SRAD	Adverse Effect	Use
P-36-004198	Yes	No	Eligible	A, D	CLAD	Adverse Effect	Use
P-36-005236	No	Yes	Assumed Eligible	A, D	N/A	No Adverse Effect	No use
P-36-005385	No	Yes	Assumed Eligible	A, D	N/A	No Adverse Effect	No use
P-36-002559	No	Yes	Assumed Eligible	A, C, D	HSAD	No Adverse Effect	No use
P-36-021757	No	Yes	Assumed Eligible	A, C, D	HSAD	No Adverse Effect	No use
P-36-022193	No	Yes	Assumed Eligible	A, C, D	HSAD	No Adverse Effect	No use

Source: Dudek, 2022

\*Indicates archaeological sites located entirely within the Project ADI.

The HSAD, and sites P-36-005236, P-36-005385, P-36-002559, P-36-021757, and P-36-022193 are located entirely within the AII and would not encounter the ADI, as shown in Table 3. Therefore, the modified Project would not result in the physical incorporation of these Section 4(f) resources, and no use would occur.

The modified Project footprint would result in adverse effects per Section 106 to archaeological districts and sites located within the ADI. The modified Project would result in the use of portions of the SQUAD, MRL, SRAD, and CLAD located within the ADI. Elements of these archaeological districts outside of the ADI would remain and continue to maintain the attributes that make these resources eligible for listing under Section 106. However, because the Section 106 finding for these archaeological districts and sites is an adverse effect, the modified Project would result in use under Section 4(f) and requires consideration of feasible and prudent alternatives.

Sites ICF-XW1-010, site ICF-XW2-017, and site ICF BW-001 are located entirely within the ADI (as shown in Table 3 above). Implementation of the modified Project would result in direct use of these archaeological sites, and would remove and/or use the elements and attributes making these sites eligible under Section 106 and Section 4(f). The remaining archaeological sites located in the ADI also contain elements outside the ADI which would remain with implementation of the modified Project.



However, the Project would result in an adverse effect to these resources under Section 106, and thus would result in use of these resources requiring the consideration of feasible and prudent alternatives.

## 4.0 Consideration of Feasible and Prudent Alternatives

A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.<sup>8</sup> An alternative is not feasible if it cannot be built as a matter of sound engineering judgment. An alternative is not prudent if:

- It compromises the project to a degree that it is unreasonable to proceed with the Project in light of its stated purpose and need;
- It results in unacceptable safety or operational problems;
- After reasonable mitigation, it still causes:
  - Severe social, economic, or environmental impacts;
  - Severe disruption to established communities
  - Severe disproportionate impacts to minority or low-income populations; or
  - Severe impacts to environmental resources protected under other Federal statutes;
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude; or
- It causes other unique problems or unusual factors.

The No Build alternative is not considered a prudent alternative, since it would compromise the Project purpose and need described in Chapter 1 of the 2011 DesertXpress FEIS. This includes the need to reduce vehicle miles traveled (VMT), greenhouse gas (GHG), criteria pollutant emissions (from conversion of automobile trips to electric rail), and traffic congestion along the existing transportation corridor, and to provide local/regional economic benefits from construction and operation of the Project.

Any alignment alternatives that would place the Project outside of the current I-15 right of way, would adversely affect large portions of archaeological districts and individual sites that are currently undisturbed, resulting in substantially more adverse effects to historic properties. On the basis of multiple records searches, extensive pedestrian survey, and subsurface testing in the APE, it is estimated that more than 100 known and currently undetected archaeological historic properties would be adversely affected if the Project were constructed on an alignment outside of the current I-15 right of way. As a result, an alignment alternative that would place the project outside the I-15 ROW would not be prudent because it would result in increasing the magnitude and severity of impacts to historic properties protected under Section 4(f).

Therefore, FRA has determined that there are no feasible and prudent alternatives to the modified Project that would avoid or reduce impacts to Section 4(f) resources.

---

<sup>8</sup> Federal Highway Administration (FRA). 2022. *Environmental Review Toolkit – Section 4(f)*. [https://www.environment.fhwa.dot.gov/env\\_topics/4f\\_tutorial/keyterms\\_f.aspx](https://www.environment.fhwa.dot.gov/env_topics/4f_tutorial/keyterms_f.aspx). Accessed December 2022.

## 5.0 All Possible Planning to Minimize Harm

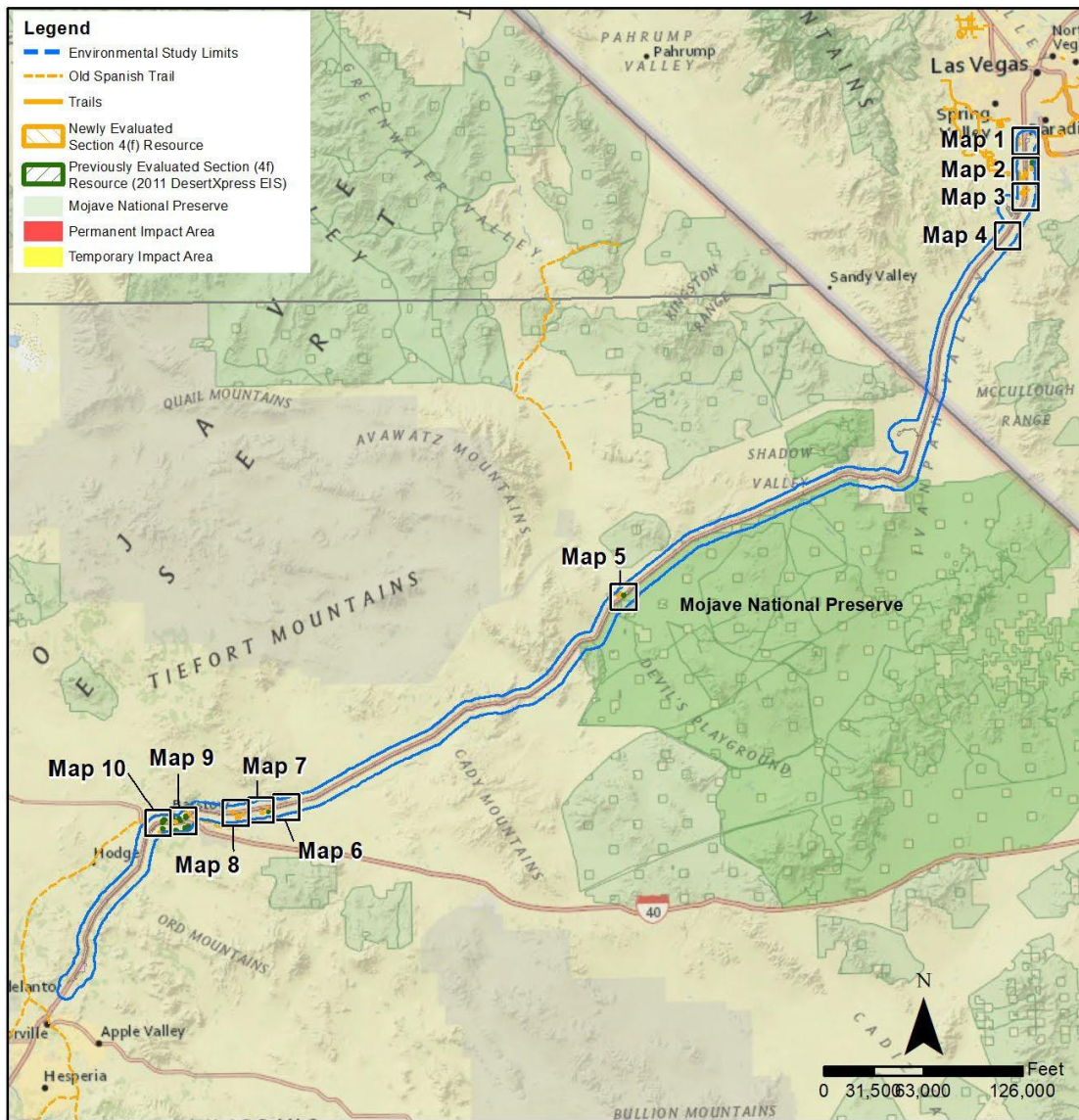
The modified Project incorporates all possible planning to minimize harm to the resulting from the use of protected properties. For all archaeological resources, the Project as currently designed would minimize adverse effects to historic properties as it would mostly result in construction impacts to existing disturbed areas where impacts to archaeological resources have previously occurred, including the I-15 freeway median and shoulders. Minimization measures proposed to minimize construction-related impacts to the CLAD archaeological district (and site P-36-004198 within it) include curtailed ground disturbance, below-ground trenching within existing disturbed areas to minimize impacts to viewshed, selection of construction equipment and methods that minimize noise and vibration, erection of temporary noise and vibration barriers between construction activities and the sensitive archaeological deposits, development and implementation of a creative planting plan between construction activities and sensitive archaeological deposits, monitoring of noise and vibration during construction to ensure minimization efforts are sufficient, and erection of exclusionary barriers between sensitive deposits and activity zones with a sufficient buffer.

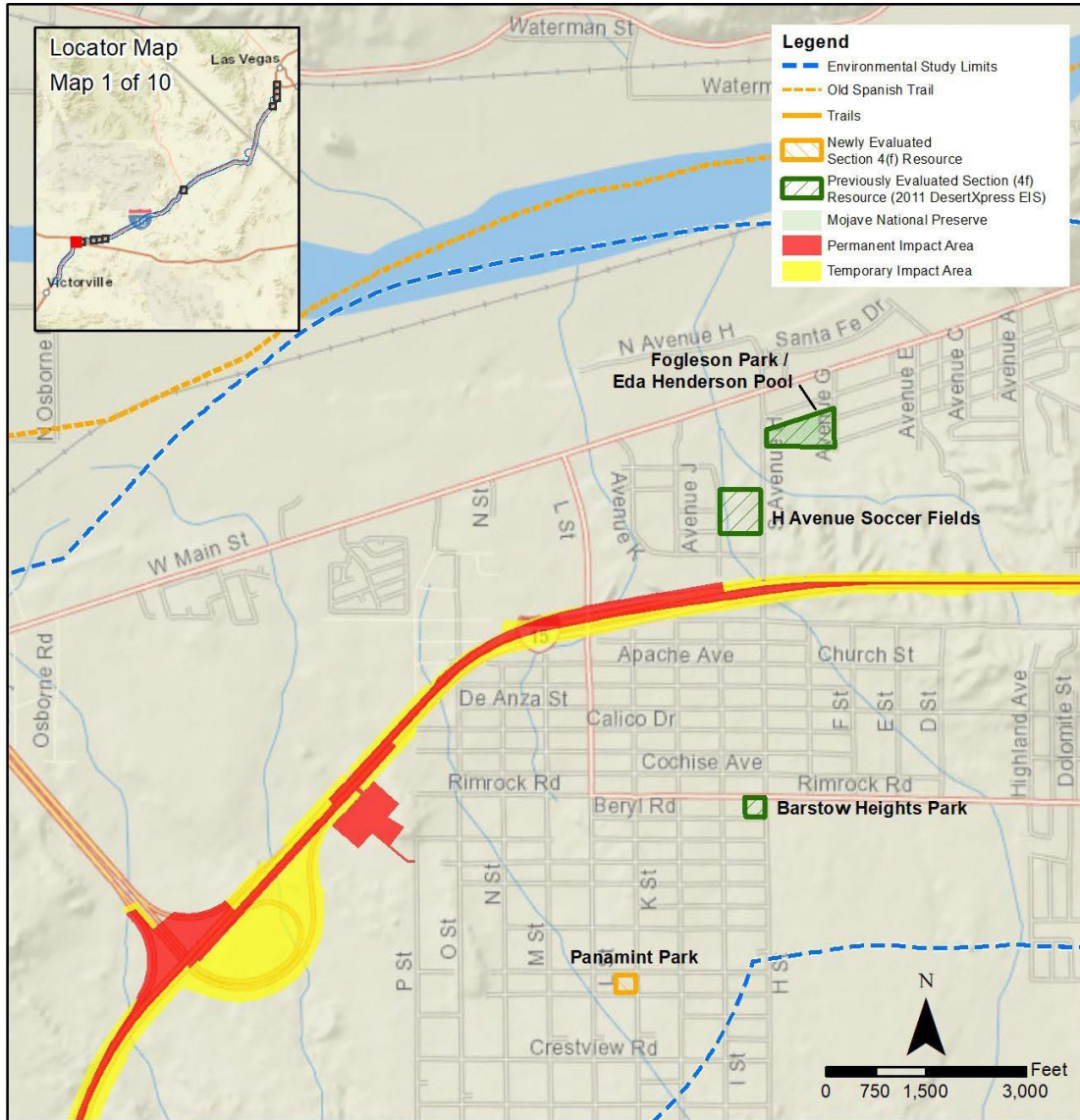
## 6.0 Conclusion

FRA's updated evaluation has determined that the Project's effects on Section 4(f) resources are as follows:

- **Parks and Recreational Areas:** No Use
- **Wildlife and Waterfowl Refuges:** No Use
- **Clean Air Act "Class 1" Areas:** No Use
- **Historic Sites:**
  - Historic Architectural Resources: No Use
  - Archaeological Resources: Direct use for archaeological districts and sites within the ADI. No use for archaeological sites within the APE outside of the ADI.

The use of archaeological districts and sites within the ADI was not identified in FRA's initial Section 4(f) evaluation (2011). The archaeological resources that would experience use were recently identified during FRA's evaluation of cultural resources under Section 106. The affected resources were the subject of tribal and consulting party review and consultation through the Section 106 process. In addition, the agency has conducted all possible planning to minimize harm through including measures in the Section 106 Programmatic Agreement and Treatment Plan to minimize the effects to these resources to the extent feasible.



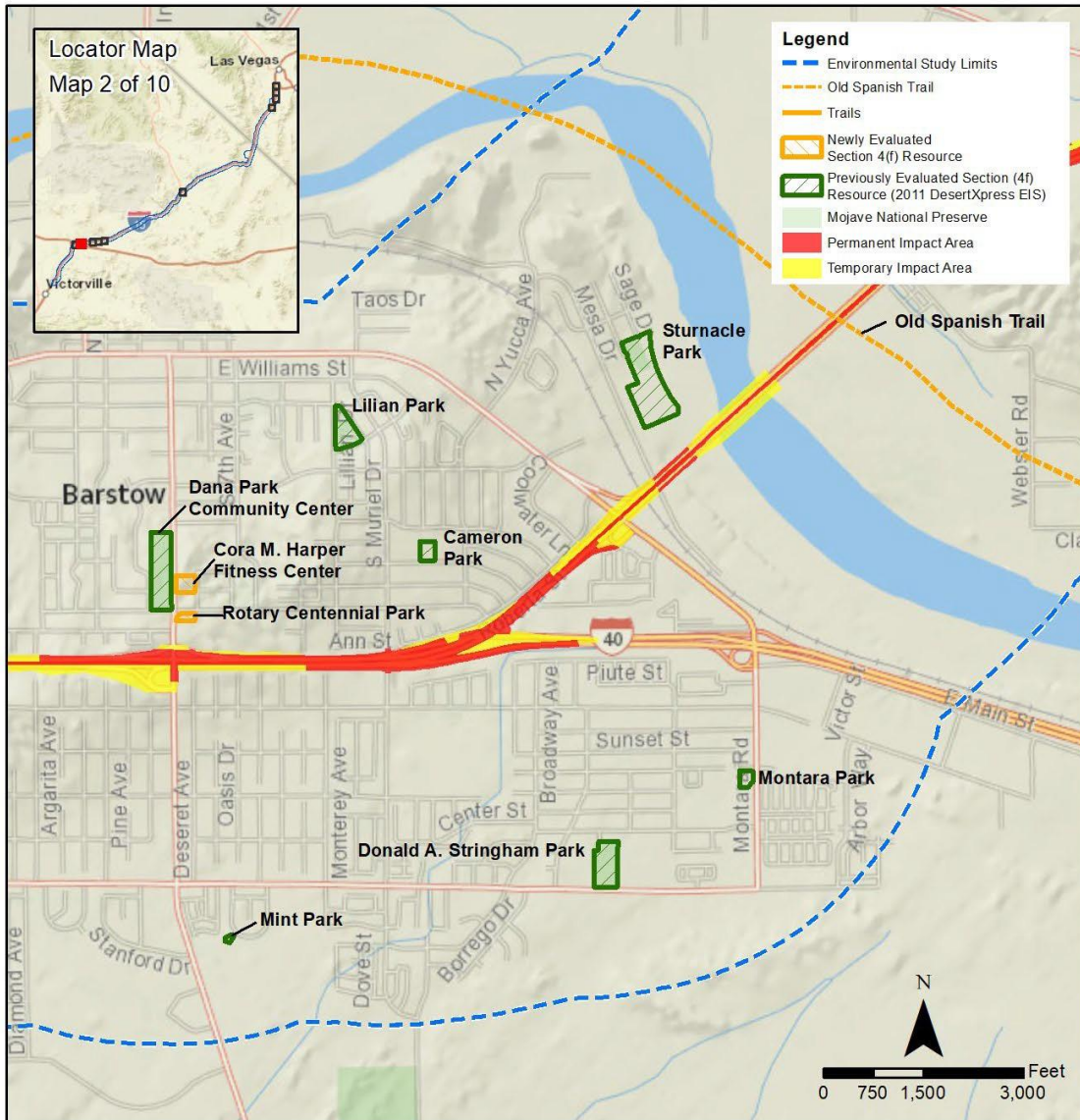


Section 4(f) Resources (1 of 10)

Figure

Source: Geografika, 2022; Google Earth, 2022



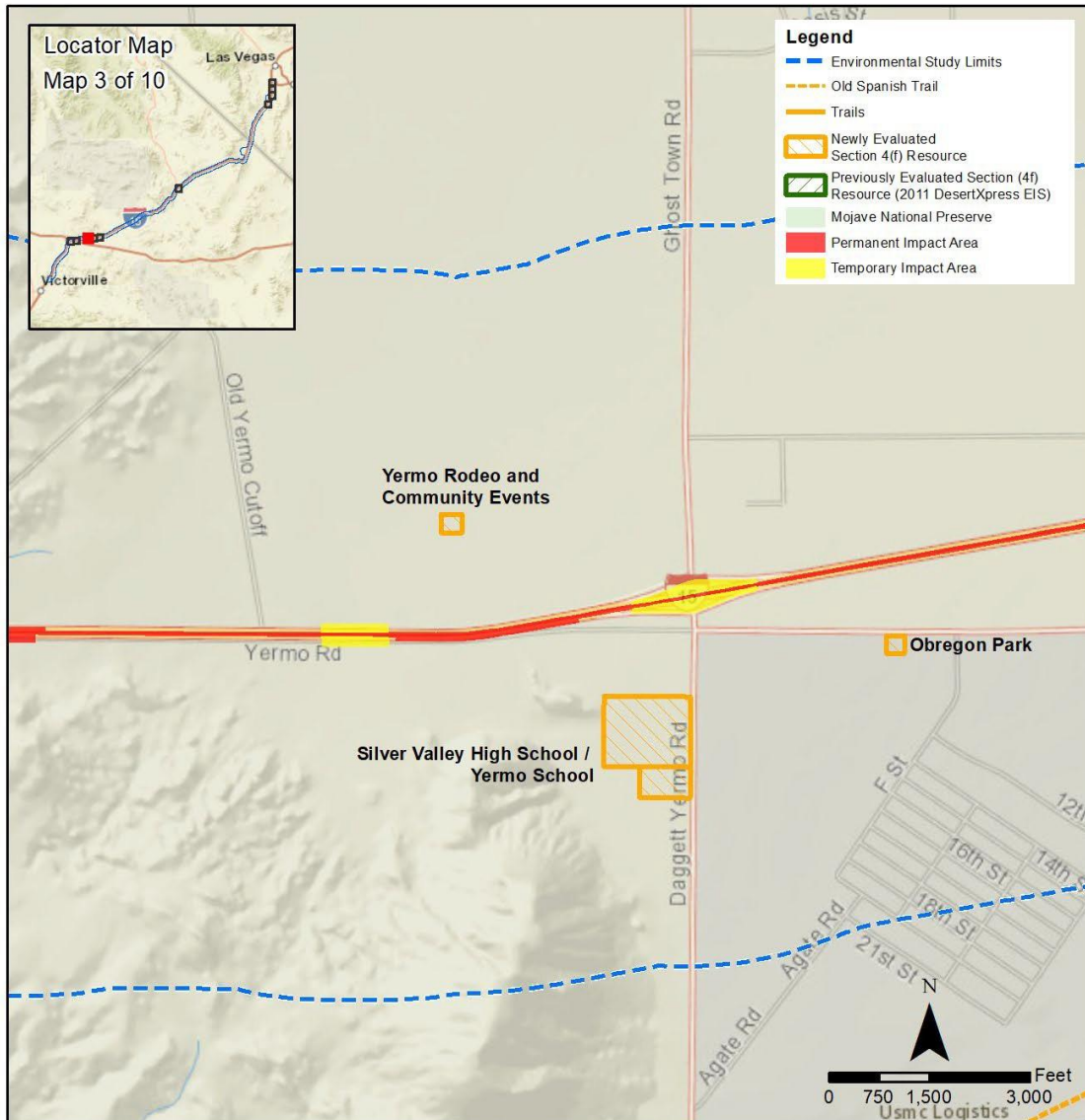


Section 4(f) Resources (2 of 10)

Figure

3

Source: Geografika, 2022; Google Earth, 2022

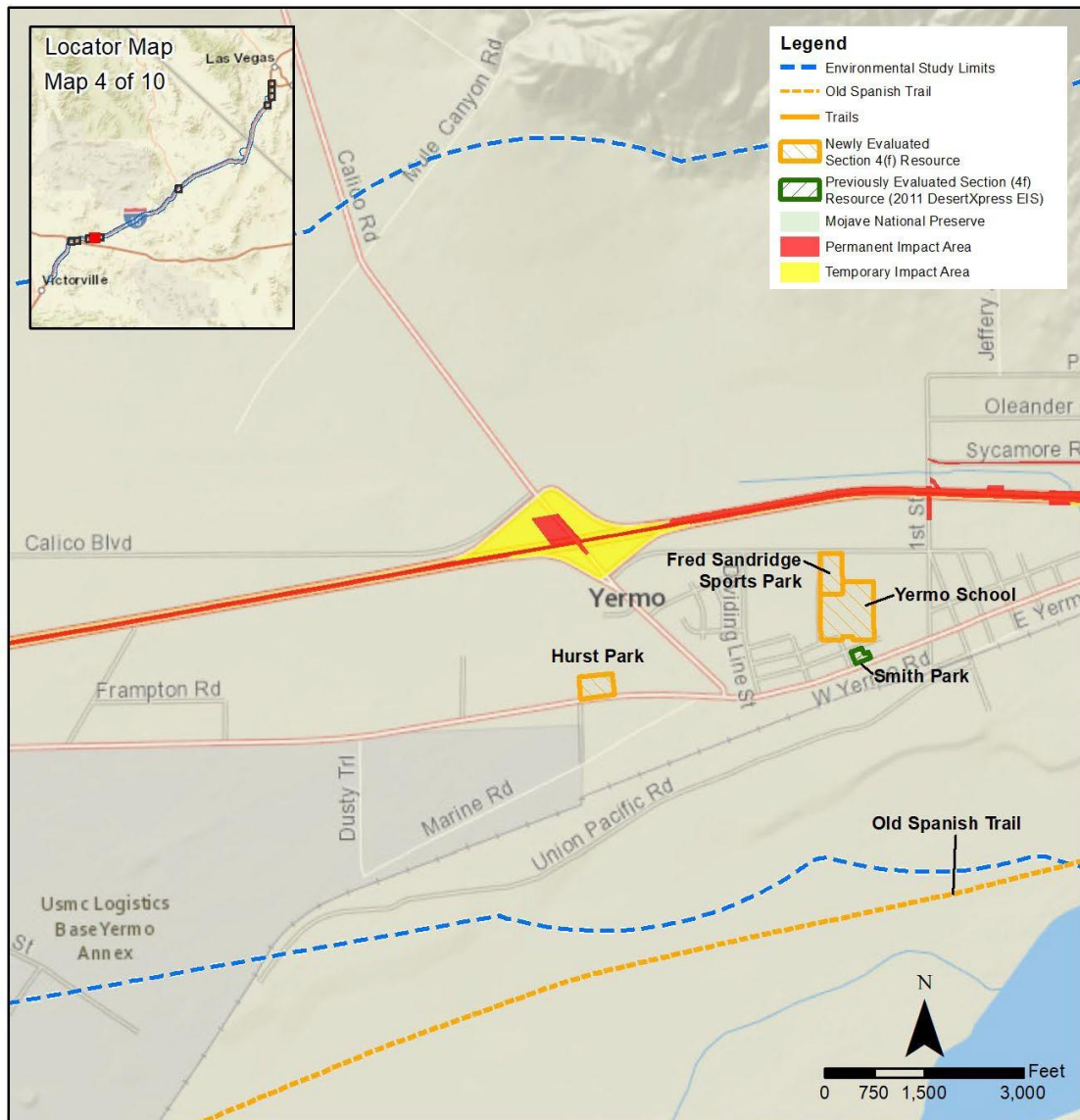


Section 4(f) Resources (3 of 10)

Figure

4

Source: Geografika, 2022; Google Earth, 2022



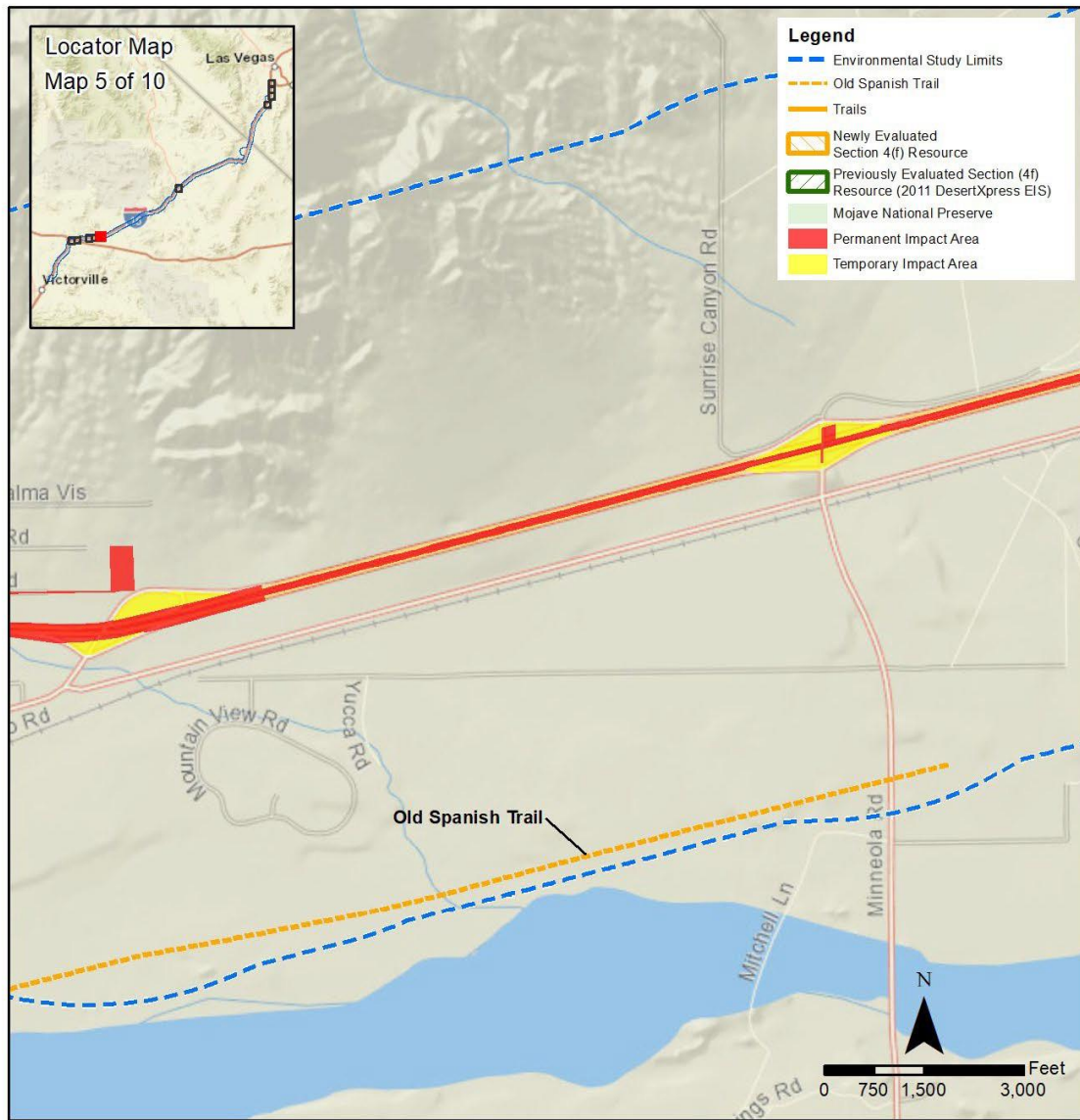
Section 4(f) Resources (4 of 10)

Figure

5

Source: Geografika, 2022; Google Earth, 2022





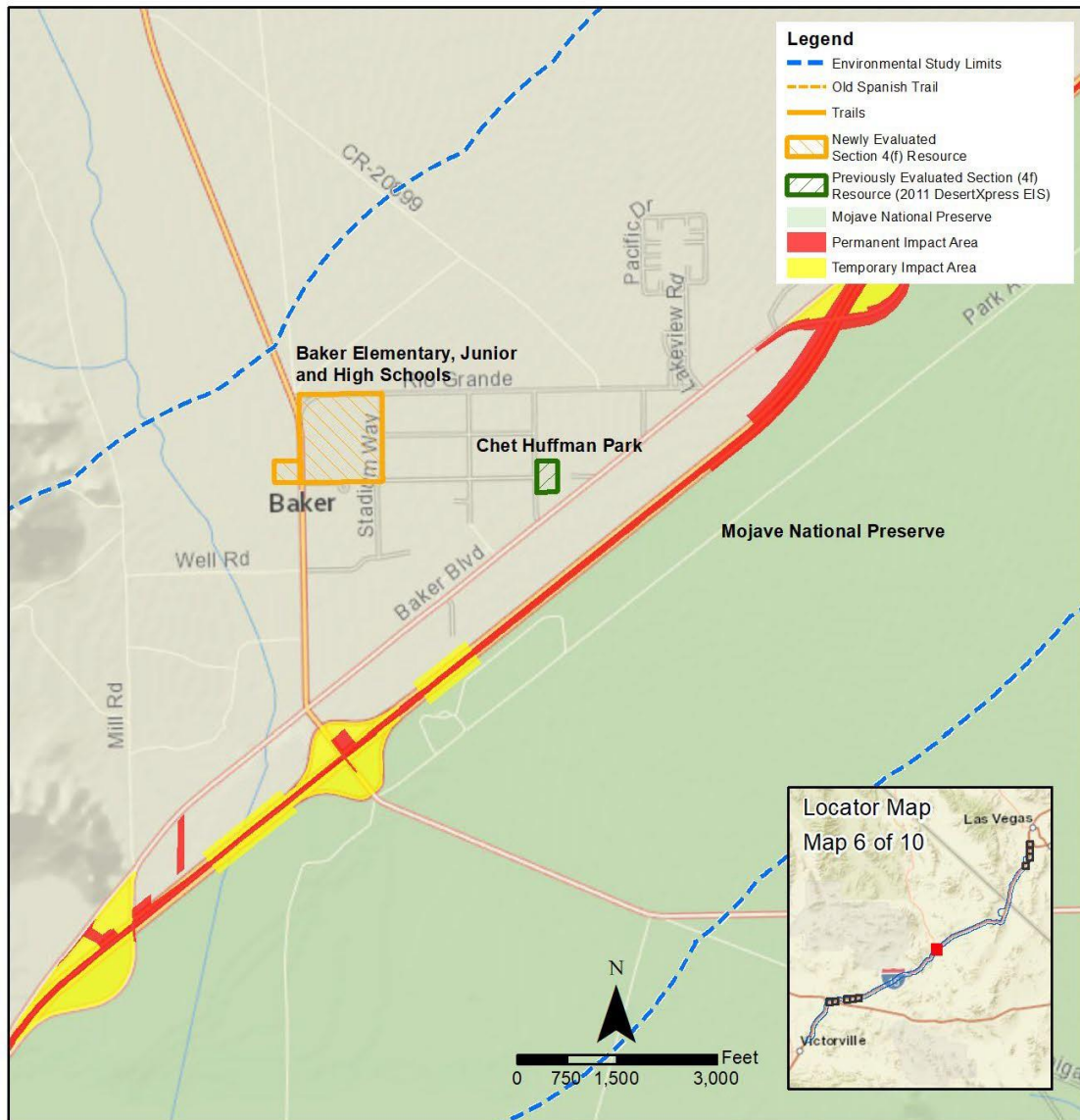
Section 4(f) Resources (5 of 10)

Figure

6

Source: Geografika, 2022; Google Earth, 2022

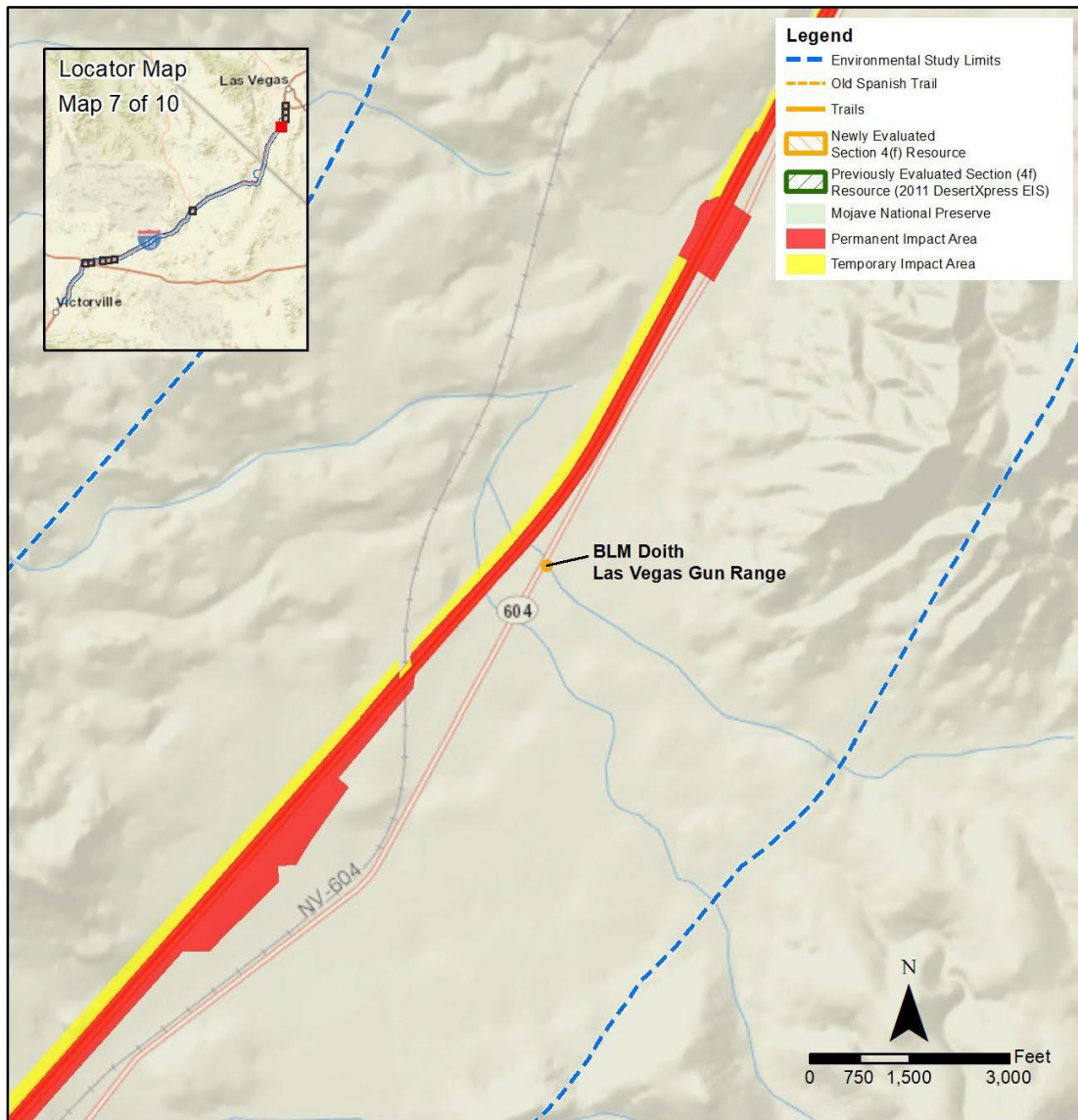




Section 4(f) Resources (6 of 10)

Figure

Source: Geografika, 2022; Google Earth, 2022

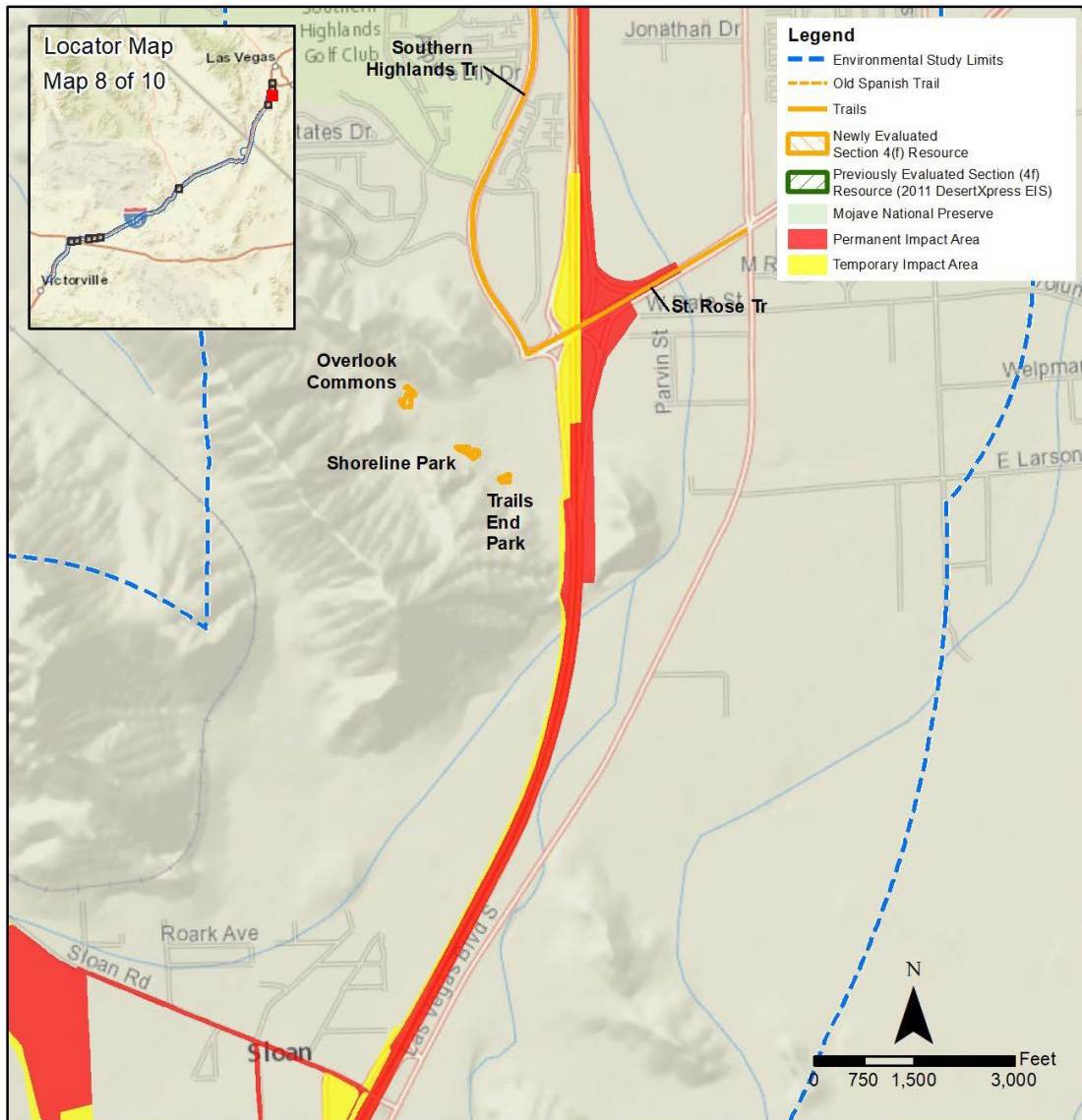


Section 4(f) Resources (7 of 10)

Figure

8

Source: Geografika, 2022; Google Earth, 2022



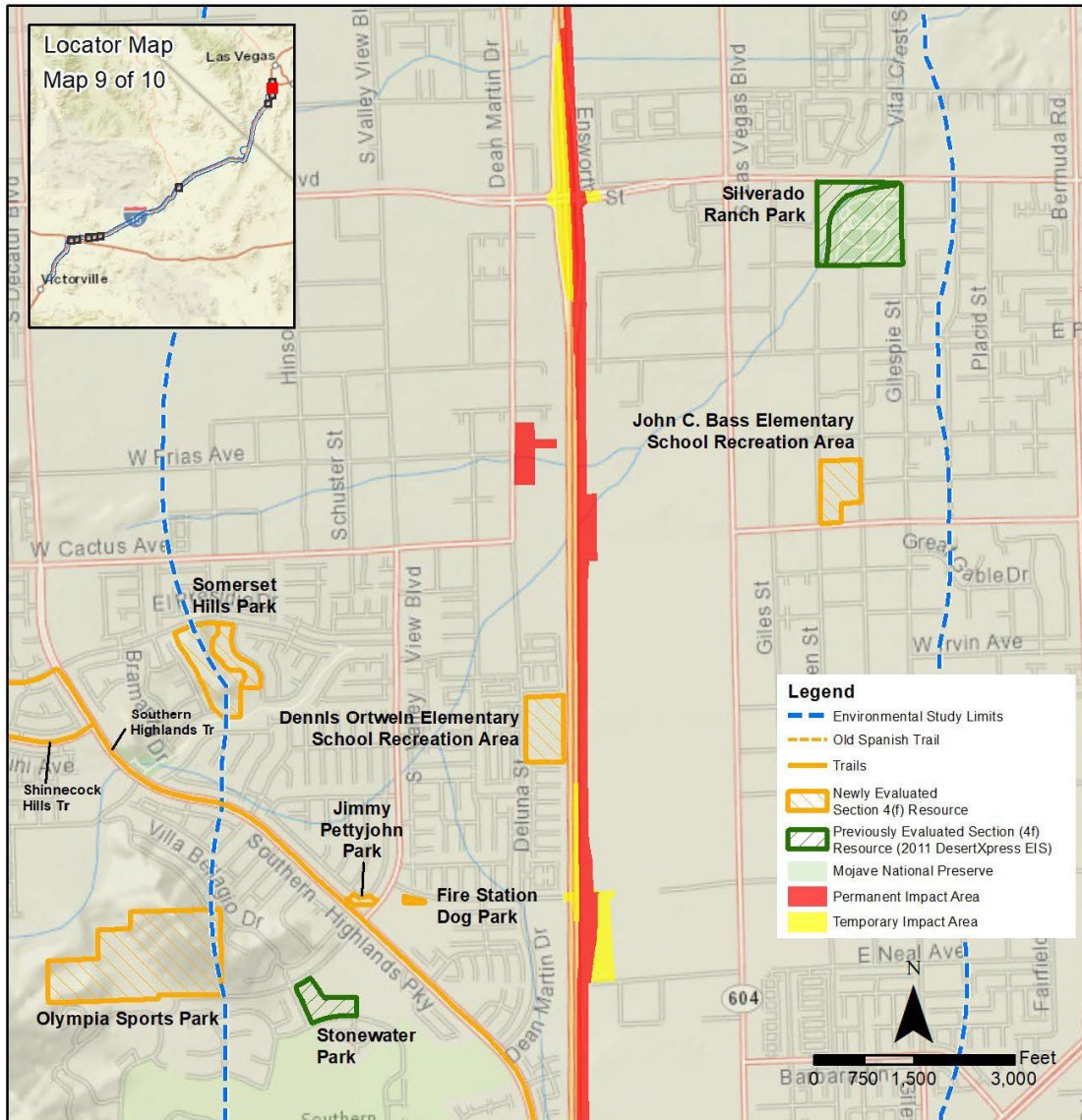
Section 4(f) Resources (8 of 10)

Figure

9

Source: Geografika, 2022; Google Earth, 2022





Section 4(f) Resources (9 of 10)

Figure

10

Source: Geografika, 2022; Google Earth, 2022



**This page intentionally left blank.**