

3.0 Regulatory Setting

3.1 REGULATORY SETTING

The regulatory setting governing the affected environment of the DesertXpress project, including the new project features, has not substantially changed since the publication of the Draft EIS. However, some environmental resource areas, including growth, hydrology and water quality, and climate change, have seen minor shifts and/or amendments to the regulatory statutes. This section focuses on the regulations and planning documents that have been added or updated since publication of the Draft EIS. For all other regulations and standards that have not changed since the Draft EIS, refer to the specific environmental resource discussions within **Chapter 3.0, Affected Environment, Environmental Consequences, and Mitigation Measures**, of the Draft EIS.

3.1.1 GROWTH

Southern Nevada Regional Policy Plan

As stated in **Section 3.2.1.3** of the Draft EIS, Clark County and the cities of Boulder City, Henderson, Las Vegas, and North Las Vegas comprise the Southern Nevada Regional Planning Coalition (SNRPC). The SNRPC was created to focus on the rapid growth of Clark County and the effects of this growth on education, health care, the natural environment, public safety, recreation and culture, and transportation. A summary of the SNRPC *Southern Nevada Regional Policy Plan*, as discussed below, was mistakenly omitted from **Section 3.2.1.3** of the Draft EIS, and has been added to the list of Regulations and Standards governing the affected environment of the project, including the new project features.

In 1997, the Nevada Legislature adopted Assembly Bill 493 requiring communities in the Las Vegas Valley to come together to produce a “regional policy plan” through designated Regional Planning Coalitions. As the Regional Planning Coalition for the Las Vegas Valley, the SNRPC is charged with crafting a regional plan that promotes the efficient use of land within existing urban areas, allows for the conversion of rural lands to other uses in a well-planned fashion, and promotes sustainable growth. In 2001, the SNRPC published the final *Southern Nevada Regional Policy Plan*, which includes regional planning guidelines that will be followed by Las Vegas, North Las Vegas, Henderson,

Boulder City, Clark County, the Clark County School District, regional and state agencies, and public utilities.¹ These guidelines address:

- Conservation, Open Space, and Natural Resource Protection
- Population Forecasts
- Land Use
- Transportation
- Public Facilities
- Air Quality
- Infill Development

The SNRPC subsequently sought to continue the initiatives within the *Southern Nevada Regional Policy Plan* by holding a series of Regional Growth Summit Workshops in the winter and spring of 2003. The Regional Growth Summits were designed to provide a forum for the region's elected officials to have an informed and facilitated discussion, which included an identification of principles and outcomes for moving forward in future growth planning and implementing actions. A summary of the workshops was published by SNRPC in 2004.²

3.1.2 HYDROLOGY AND WATER QUALITY

California Watershed Improvement Act of 2009

Since the publication of the Draft EIS, the Porter-Cologne Water Quality Control Act (California Water Code, Division 7) was amended to include the provisions of the California Watershed Improvement Act of 2009. Under the Watershed Improvement Act, each county, city, or special district that is a permittee or co-permittee under a National Pollutant Discharge Elimination System (NPDES) permit for municipal separate storm sewer systems may develop a watershed improvement plan that addresses major sources of pollutants in receiving water, stormwater, urban runoff, or other surface runoff pollution within the watershed to which the plan applies. The principal purpose of a watershed improvement plan is to implement existing and future water quality requirements and regulations by identifying opportunities for stormwater detention, infiltration, use of natural treatment systems, water recycling, reuse, and supply augmentation.

¹ Southern Nevada Regional Planning Coalition (2001). *Southern Nevada Regional Policy Plan*, http://www.snrpc.org/Reports/s_nevada_plan1.pdf.

² Southern Nevada Regional Planning Coalition (2004). *Regional Growth Summits Report*, <http://www.snrpc.org/Reports/SNRPCReport.pdf>.

As of March 2010, no known watershed improvement plans have been published for the watersheds surrounding the project area.

3.1.3 AIR QUALITY AND GLOBAL CLIMATE CHANGE

United States Environmental Protection Agency

In October 2009, United States Environmental Protection Agency (U.S. EPA) issued a Final Rule for mandatory reporting of green house gas (GHG) emissions. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The Final Rule went into effect on December 29, 2009, with data collection to begin on January 1, 2010, and the first annual reports due in March 2011.

This rule does not regulate the emission of GHGs; it only requires the monitoring and reporting of greenhouse gas emissions for those sources above certain thresholds.³ EPA adopted a Final Endangerment Finding for the six defined GHGs on December 7, 2009 which was published in the Federal Register as a final rule on December 15, 2009.⁴ The Endangerment Finding is required before EPA can regulate GHG emissions under Section 202(a)(1) of the federal Clean Air Act (CAA). The regulations are in response to the U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), where the Court held that the EPA has authority to regulate greenhouse gases from new motor vehicles.

³ US EPA, October 30, 2009. 40 CFR Parts 98 Mandatory Reporting of Greenhouse Gases; Final Rule.

⁴ US EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, December 15, 2009. (74 Fed. Reg. 66496.)

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3.1 LAND USE AND COMMUNITY IMPACTS

This section pertains to the land use implications of the project modification and additions. The section also includes an analysis of the potential community effects, including an environmental justice, and describes related mitigation measures.

3.1.1 AFFECTED ENVIRONMENT

Land use and community impact regulations and standards governing the affected environment of the DesertXpress project, including the new project features, have not changed since publication of the Draft EIS and thus remain applicable to the project modifications and additions. Refer to **Sections 3.1.1** and **3.1.2** of the Draft EIS for a discussion of land use and community impact regulations and standards.

Regional Conditions

The general community demographics of Victorville, Lenwood, Barstow, Yermo, Baker, Sloan, and the Las Vegas metropolitan area have not changed since publication of the Draft EIS. No new environmental justice community designations have been established since publication of the Draft EIS since the 2000 Census data is used to identify environmental justice census blocks.

Figures S-3.1-1 through **S-3.1-5** show the existing land ownership within the vicinity of the project modifications and additions. **Figures S-3.6-6** through **S-3.1-10** show the existing land use designations of pertinent land use planning documents. **Figure S-3.1-11** shows the Bureau of Land Management (BLM) Multiple Use Classifications within the vicinity of the project modifications and additions. **Figures S-3.1-12** and **S-3.1-13** identify the environmental justice census groups within the project region.

Victorville Station Site 3

VV3 is located on the west side of I-15 within the jurisdiction of San Bernardino County. **Figure S-3.1-1** shows the land ownership within the vicinity of VV3. Approximately 10 percent of the VV3 site (combined physical footprint for VV3A and VV3B site options) is owned by the Federal Government and managed by the BLM; the remaining 90 percent is under private ownership.

The proposed site for VV3 is currently undeveloped and vacant, with the Victorville Refuse Disposal Site located nearby. Overhead electric transmission lines, operated by the Los Angeles Department of Water and Power (LADWP), cross over the eastern portion of the VV3A site plan, while the VV3B site plan excludes this existing LADWP utility corridor .

Figure S-3.1-6 shows the land use designations on and within the vicinity of VV3. The San Bernardino County General Plan designates the area proposed for VV3 for residential and institutional uses.

The VV3 site is located within BLM's West Mojave Plan, which defines a regional strategy for conserving plant and animal species and their habitats and an efficient, equitable, and cost-effective process for complying with threatened and endangered species laws.¹ The BLM, however, has not assigned a Multiple Use Classification to the VV3 site. The BLM established Multiple Use Classifications to specify the type of use permitted on the land base upon the sensitivity of resources within the geographic area.

VV3 would also be located near several BLM mining claims in the mountainous area north of the site. Dirt roads leading away from Dale Evans Parkway provide access to BLM mining claims in this area. The actual location and physical footprint of the mining activities is not recorded by BLM and is thus not available for detailed analysis.

Figure S-3.1-12 shows the location of the VV3 site which is within two census blocks meeting the minority and low-income criteria for evaluation of environmental justice impacts.

OMSF 2

Since the publication of the Draft EIS, there has been no change to the location, land ownership pattern, or existing land uses at the OMSF 2 site. OMSF 2 would still be located on and surrounded by undeveloped lands. **Figure S-3.1-1** illustrates the land ownership for the OMSF 2 site and **Figure S-3.1-6** shows the land use designations on and surrounding the OMSF 2 site. **Figure S-3.1-12** shows that OMSF 2, as revised, would not be located within an environmental justice census block.

Segment 2C

Segment 2C would travel through the communities of Lenwood, Barstow, and Yermo along the I-15 freeway corridor. Segment 2C would be located on lands within the California Department of Transportation (Caltrans) right-of-way. Adjacent lands are a combination of private lands and lands under the management of the BLM. **Figure S-3.1-2** shows the land ownership within the vicinity of the Segment 2C. Due to the scale of **Figure S-3.1-2**, it is difficult to show the precise boundary of the Caltrans right-of-way (ranging generally from 300 to 500 feet in width) for the I-15 freeway corridor. For more information refer to **Appendix S-A-1**, which contains detailed plan and profile drawings for Segment 2C.

Existing lands immediately adjacent to the I-15 corridor outside of Lenwood, Barstow, and Yermo are primarily undeveloped and vacant. Within these communities, existing commercial, residential, and industrial developments are located immediately adjacent to both sides of the I-15 freeway corridor, and thus the proposed Segment 2C rail alignments.

¹ BLM, Land Use Planning. West Mojave Plan. 2006.

Figure S-3.1-7 shows the land use designations along Segment 2C. Segment 2C would be located within the BLM West Mojave Plan. There is no BLM Multiple Use Classification for lands in the vicinity of Segment 2C.

As shown in **Figure S-3.1-12**, Segment 2C would cross through two census blocks meeting the criteria for evaluation of environmental justice impacts.

Segment 4C

Segment 4C would be located in an undeveloped area of the desert, traversing through the Clark Mountain range. As shown on **Figure S-3.1-3**, Segment 4C would be located on lands under the ownership of the BLM and the State of California. The northern portion of Segment 4C would parallel an existing utility corridor, with overhead electric transmission lines above ground and several utilities underground.

Figure S-3.1-8 shows the land use designations in the vicinity of Segment 4C. Within California, San Bernardino County has designated lands within the vicinity of Segment 4C for institutional use. Within Nevada, Clark County has designated lands within the vicinity of Segment 4C for residential use. Segment 4C would be located within the BLM Northern and Eastern Mojave Plan area.

As shown in **Figure S-3.1-11**, Segment 4C would traverse through BLM land designated for Multiple-Use Classes under the California Desert Conservation Area Plan. Segment 4C would travel through lands designated as Class M and Class L. Class M lands provide for a wide variety of uses, including mining, livestock grazing, recreation, energy, and utility development, as well as to conserve desert resources. Class L lands are managed to provide for generally lower-intensity, carefully controlled multiple use of resources (including limited human use), while ensuring that sensitive natural, scenic, ecological, and cultural resource values are not significantly diminished.

As shown on **Figure S-3.1-12**, Segment 4C would also traverse one census block with a minority population that meets the criteria for evaluation of environmental justice impacts. All of the Segment 4 alignment options would cross this census block, which covers an area north of I-15 of about 40 miles in length, where there are no concentrated areas of human settlement. Notably, the census block group excludes the only substantial community in the vicinity of Segment 4 (the community of Baker), which is about 30 miles east of the various Segment 4 rail alignment routings.

Relocated Sloan MSF

The Relocated Sloan MSF (RSMSF) site is located on the east side of I-15, about 9 miles south of Sloan Road. The RSMSF site is located on BLM managed lands. **Figure S-3.1-4** shows the current land ownership on and within the vicinity of the RSMSF site. Adjacent land uses include undeveloped, vacant lands. The closest residential development is located 9 miles to the north.

Clark County has designated the RSMSF site for residential land uses. The RSMSF is also located within the BLM Las Vegas Field Office Resource Management Planning Area. **Figure S-3.1-9** shows the land use designations on and within the vicinity of the RSMSF. The BLM has not designated a Multiple Use Classification for the RSMSF site or surrounding lands.

As shown in **Figure S-3.1-13**, the RSMSF site is not located within or adjacent to any census blocks meeting environmental justice criteria.

Frias Substation

As shown on **Figure S-3.1-5**, the Frias Substation site is located on lands under the management of the BLM. The Frias Substation site is undeveloped and vacant. Existing land uses surrounding the site include overhead electric transmission lines (owned by Nevada Energy) immediately to the north, single-family residential homes to the north and west, and the I-15 freeway corridor to the east. Dean Martin Drive is located between the two portions of the Frias Substation site.

The Frias Substation is located within Clark County's Enterprise Regional Land Use Plan, which is part of the Clark County Comprehensive Plan. **Figure 3.2-4** of the Draft EIS shows the location and boundary of the Enterprise Regional Land Use Plan.

Figure S-3.1-10 shows the Enterprise Regional Land Use Plan designations for the Frias Substation site. The Enterprise Regional Land Use Plan designates the eastern portion of the Frias Substation site as Business and Design Research Park. The Enterprise Regional Land Use Plan designates the western portion of the site as Residential. The Frias Substation site is also located within the BLM Las Vegas Field Office Resource Management Plan Area.

As shown in **Figure S-3.1-13**, the Frias Substation site is not located within a census block meeting environmental justice criteria.

Alignment Adjustment Areas

AAAs1 through 8 would involve only a minor shifting of the rail alignment or profile for Segment 2A/2B, Segment 3B, and Segment 6B. **Table S-3.1-1** summarizes the land ownership, adjacent land uses, land use designations, and environmental justice communities for each AAA.

AAAs 1 through 7: AAAs 1 through 7 would not shift the rail alignments into any new land use designations or new types of adjacent land uses than what was presented in the Draft EIS.

AAAs 1 through 7 would not shift the rail alignments through any environmental justice census blocks not previously evaluated for each respective rail alignment in the Draft EIS.

Table S-3.1-1 Existing Land Use Summary - AAAs

AAAs and Affected Segment	Land Ownership	Adjacent Land Uses	Land Use Designations	Environmental Justice Census Block
AAA 1 (Segment 2A/2B)	Private	Residential, Commercial, Vacant	Residential, Commercial, Institutional	None
AAA 2 (Segment 2A/2B)	BLM, Private	Residential, Commercial, Vacant	Residential, Institutional	None
AAA 3 (Segment 3B)	BLM, Private	Vacant, Transportation Corridor	Residential, Institutional	1 – Minority
AAA 4 (Segment 3B)	Private	Vacant, Transportation Corridor	Residential	1 – Minority
AAA 5 (Segment 3B)	BLM, Private	Vacant, Transportation Corridor	Residential, Institutional	1 – Minority
AAA 6 (Segment 3B)	BLM	Vacant, Transportation Corridor	Institutional	1 - Minority
AAA 7 (Segment 6B)	BLM, Private	Vacant, Transportation Corridor	Residential, Planned Development/Mixed-Use	None
AAA 8 (Segment 6B)	Private	Commercial, Industrial, Hotel/Motel, Transportation Corridor	Commercial	1 - Minority

Source: CirclePoint, 2010.

AAA 8: AAA 8 would shift portions of the Segment 6B rail alignment outside of the Nevada Department of Transportation (NDOT) right-of-way for I-15 and into a Clark County owned right-of-way on Dean Martin Drive/Industrial Road. AAA 8 would diverge from the NDOT right-of-way in 3 locations:

- Between West Sunset Road and West Patrick Lane
- Between Hacienda Avenue and Tropicana Avenue
- Between Tropicana Avenue to St. Harmon Avenue

However, AAA 8 would not shift the rail alignment into any new land use designations or new types of adjacent land uses than what was presented in the Draft EIS. South of East Sunset Road, AAA 8 would shift portions of Segment 6B within Clark County's Enterprise Regional Land Use Plan and would be located on and adjacent to lands designated for residential, industrial, and civic use. North of East Sunset Road, AAA 8 would shift portions of Segment 6B within Clark County's Winchester/Paradise Land Use Plan near industrial, commercial, and planned development land use designations.² The draft version of the Winchester/Paradise Land Use Plan was published in May 2010 and has not yet been formally adopted by Clark County.

² Winchester/Paradise Land Use Plan, Clark County, April 2010.

Adjacent land uses include commercial, industrial, and limited residential developments. Where AAA 8 would shift portions of Segment 6B outside of NDOT right-of-way between Hacienda Avenue and Tropicana Avenue, the rail alignment would be located within the median of a local transportation corridor – Dean Martin Drive/Industrial Road.

AAA8 would shift portions of Segment 6B within census blocks meeting the minority and poverty population criteria for evaluation of environmental justice impacts. As shown in **Figures 3-1.19** and **3-1.20** of the Draft EIS, Segment 6B would cross three environmental justice census blocks, two of which meet the minority population criteria, and the third meeting the poverty criteria. The alignment shift associated with AAA8 would not alter Segment 6B's traversing of these census blocks.

Wigwam MSF Modification

The orientation of the Wigwam MSF site has been modified, but the location of the Wigwam MSF site has not changed. As such, the existing land ownership and land use designations have not changed from what is presented in **Section 3.1.3.2** the Draft EIS. **Figure S-3.1-5** illustrates the land ownership for the Wigwam MSF site and **Figure S-3.1-10** shows the land use designations on and surrounding the Wigwam MSF site. As shown in **Figure S-3.1-13**, the Wigwam MSF site is not located within a census block meeting the criteria for evaluation of environmental justice impacts.

Profile Modification

The Segment 3B profile modification would not relocate the rail alignment from its location previously evaluated in **Section 3.1.3.2** of the Draft EIS. While the Profile Modification would result in a vertical change in the elevation of the rail alignment to a depressed section, no horizontal change in the location of the rail alignment would occur. Refer to **Section 3.1.3** of the Draft EIS for a discussion of the existing and designated land uses within the vicinity of Segment 3B.

3.1.2 METHODS OF EVALUATION OF IMPACTS

The methodology described in **Section 3.1.3.3** of the Draft EIS was used to evaluate potential land use and environmental justice impacts of the project modifications and additions. **Table S-3.1-2** shows the compatibility of various land use types for each of the proposed project modifications and additions. **Table S-3.1-3** shows the applicable compatibility of land use designations for each of the project modifications and additions.

An adverse effect related to land use or community character would occur if the project modifications and/or additions:

- Interfere with the normal functioning of adjacent land uses
- Conflict with any applicable land use plan, policy, or regulation
- Cause displacement of a significant number of local residents

- Disrupt or sever community interactions or otherwise divide an established community

The analysis also considers impacts to environmental justice communities. A census block meeting the criteria for environmental justice analysis is defined as having a low-income population of greater than 25 percent or a minority population greater than 50 percent of the total community population. A census block also meets the criteria for environmental justice analysis if the low-income and/or minority population is more than 10 percentage points higher than the city or county average. In order to identify census blocks meeting these criteria, the 2000 Census block groups within a two-mile radius were examined.

Table S-3.1-2 Compatibility with Adjacent Land Uses

Project Feature Type	Level of Compatibility		
	High	Medium	Low
Rail Alignments, Utility Corridors	Transportation corridors, utility corridors, institutional land uses, vacant/undeveloped lands, airports, BLM Multiple Use Class I designated land	Agricultural lands, medium to high intensity commercial development, hotels/casinos, administrative/professional uses, BLM Multiple Use Class M designated land	Residential land uses, habitat/open space conservation areas, schools, hospitals, parks/recreational use, BLM Multiple Use Class L and C designated land
Stations/Maintenance Facilities, Temporary Construction Areas	Commercial/industrial land uses, business parks, transportation corridors, utility corridors, agricultural lands, vacant/undeveloped lands, airports, landfills, BLM Multiple Use Class I designated land	Residential land uses, BLM Multiple Use Class M designated land	Habitat/open space conservation areas, schools, parks/recreational use, BLM Multiple Use Class L and C designated land

Source: CirclePoint, 2010.

Table S-3.1-3 Compatibility with Land Use Designations

Project Feature Type	Level of Compatibility		
	High	Medium	Low
Rail Alignments, Utility Corridors	Institutional/Public Facilities, Industrial, Restrictive, Hotel/Casino, Desert/Mountain	Commercial, Agricultural, Business and Design Research	Residential
Stations/Maintenance Facilities, Temporary Construction Areas	Institutional/Public Facilities, Commercial, Industrial, Hotel/Casino, Commercial, Business and Design Research	Residential, Restrictive	Agricultural

Source: CirclePoint, 2010.

An adverse effect related to environmental justice would occur if:

- An adverse environmental effect is predominately borne by a minority population and/or low-income population; or
- An adverse environmental effect suffered by the minority population and/or low-income population is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority and/or non-low-income population.

STB issued a declaratory order on June 25, 2007 regarding STB's authority under 49 U.S.C. 10901. In this order, STB found the project to be exempt from state and local land use and environmental regulations, including the California Environmental Quality Act (CEQA) and local/regional zoning ordinances. Therefore, similar to the action alternatives evaluated in the Draft EIS, the project modifications and additions would not be subject to local land use plans. Thus, consistency with local policies is not required. Notwithstanding, an analysis of consistency with existing land use designations was conducted.

The project would be allowed under various county land use designations and zoning districts because it is a transportation facility that will be available to the public. The San Bernardino General Plan specifically allows public transportation uses in various land use districts.³ The project modifications and additions would not change this determination. Additionally, Clark County planning staff indicated that there are no goals or policies within the Clark County Comprehensive Plan that would specifically limit construction or implementation of the project features.⁴

3.1.3 ENVIRONMENTAL CONSEQUENCES

Each of the project modifications and additions were evaluated against the criteria identified above to determine whether any adverse effects would occur. The discussions below consider the project modifications and additions per these criteria.

Victorville Station Site 3

Interference with Normal Functioning of Adjacent Land Uses

VV3 would not interfere with the normal functioning of adjacent land uses insofar as adjacent lands are undeveloped and vacant. VV3 would have high compatibility with the existing vacant land uses.

³ John Schatz, San Bernardino County Planning Department. Personal Communication, July 2007.

⁴ Bob Klein, Clark County Planning Department. Personal Communication, July 2007.

Conflict with Applicable Land Use Plans

VV3 would have high compatibility with the institutional land use designations and low compatibility with the residential land use designations.

VV3A would place parking areas under an existing overhead electrical utility corridor owned and operated by LADWP. Parking may result in a conflict with LADWP's utility corridor. The VV3B site option would avoid the LADWP utility corridor by placing parking areas north and west of the station building. See **Section 3.4.4.6** for further discussion of this issue.

VV3 would be located immediately adjacent to access roads for several BLM mining claims located to the north of the site. Access to the dirt roads that extend from Dale Evans Parkway and provide access to the BLM mining claims north of the VV3 site would be maintained.

Cause Displacement of a Significant Number of Local Residents and/or Disrupt or Sever Community Interactions or Otherwise Divide an Established Community

VV3 would be constructed on currently vacant land and would not displace any residence or business or sever an established community.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

VV3 would be located within two census blocks meeting the minority and low-income population criteria for evaluation of environmental justice impacts. However, VV3 would be located in a portion of these census blocks that is currently undeveloped. There are no residences or community facilities within 1 mile of the VV3 site. Thus, VV3 would not present potential direct or indirect adverse effects to environmental justice communities.

OMSF 2*Potential Direct and Indirect Effects on Land Use and the Community*

Since the location of the facility has not changed and the size of the facility has been reduced, the potential land use impacts of the OMSF 2 facility would be the same as those discussed in **Section 3.1.4.2** of the Draft EIS.

Segment 2C*Interference with Normal Functioning of Adjacent Land Uses*

Segment 2C would be located within the existing I-15 freeway corridor and therefore has no direct effect on the functioning of adjacent lands. Intensifying the use of the I-15 freeway corridor would have a medium to low compatibility with the adjacent industrial/commercial and residential developments, respectively. Within Barstow, the

Segment 2C Side Running alignment option could result in greater interference with the adjacent land uses due to its slightly closer placement to the existing urban development north of the I-15 freeway.

Conflict with Applicable Land Use Plans

Because both alignment options for Segment 2C would be located within the existing Caltrans right-of-way for the I-15 freeway corridor, Segment 2C would not result in direct conflicts with applicable land use plans and designations. However, the Segment 2C alignment options would result in an intensification of the use of the I-15 corridor. This intensification could result in minor conflicts with land use designations, particularly in areas designated for residential use.

Notably, the Segment 2C alignment options would avoid potential conflicts associated with Segment 2A/2B which would traverse lands designated by the City of Barstow for Industrial Park development in Lenwood (located on the west side of Lenwood Road north of the Burlington Northern & Santa Fe Railway tracks).

Cause Displacement of a Significant Number of Local Residents

Since the Segment 2C alignment options would be located within the I-15 corridor, Segment 2C would not displace any residence or business.

Segment 2C could result in indirect noise effects associated with the high-speed train passby. The Segment 2C Side Running alignment option would have the potential for slightly greater indirect noise impacts since the rail alignment would be in closer proximity to the existing residential developments. Refer to **Section 3.12, Noise and Vibration**, for a discussion of noise effects associated with the Segment 2C alignment options.

Disrupt or Sever Community Interactions or Otherwise Divide an Established Community

Barstow is already divided by the I-15 freeway corridor. Several local roadways span over the I-15 freeway. Because Segment 2C would be located within the I-15 right of way and involve no changes to local roadways, it would not contribute to further severance of the community or otherwise disrupt community interactions.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

Through Barstow, Segment 2C would cross through two census blocks identified as having low-income and minority populations that meet the criteria for evaluation of environmental justice impacts. However, Segment 2C would not result in the displacement of any residence or business. Existing populations within these census blocks are already exposed to substantial transportation infrastructure (i.e., I-15) and the associated traffic, noise, air quality, and aesthetic effects. Segment 2C would intensify the

use of the I-15 freeway corridor which could result in increased indirect effects on these populations in the form of increased noise and air pollution levels. Noise impacts would be similar under both technology options under consideration (DEMU or EMU). When comparing existing and expected future air quality conditions through the entire project corridor, both the DEMU and the EMU options would result in beneficial air quality impacts relative to taking no action, insofar as both would divert automobile traffic to train use. However, the EMU option would result in substantially greater beneficial effects on local air quality relative to the DEMU option due to the avoidance of air quality effects related to the diesel fuel need to operate the high-speed trains. Overall, no adverse effect on environmental justice populations would occur.

Segment 4C

Potential Direct and Indirect Effects on Land Use and the Community

Segment 4C would have high compatibility with the existing vacant lands and high to low compatibility with the institutional and residential land use designations, respectively. Segment 4C would also have high compatibility with the BLM Class M lands and low compatibility with the BLM Class L lands. Segment 4C would not displace any residence or business, nor sever an established community due to the undeveloped nature of the area it would cross. Segment 4C would have similar effects on environmental justice populations as Segment 4B because it traverses through the same census block. However, development within this census block is sparse and is concentrated well outside the vicinity of the Segment 4 rail alignment options. No adverse effect on environmental justice populations would occur.

Relocated Sloan MSF

Interference with Normal Functioning of Adjacent Land Uses

The RSMSF would not interfere with the normal function of adjacent land uses due to the undeveloped and vacant nature of the surrounding area. The RSMSF would have high compatibility with the existing vacant land uses.

Conflict with Applicable Land Use Plans

As discussed in **Chapter 2.0, Alternatives**, the Applicant proposed the RSMSF in response to public comment from the Clark County Department of Aviation (CCDOA). The CCDOA identified potential adverse conflicts between the Sloan Road MSF as evaluated in the Draft EIS and the proposed “super arterial” that would provide vehicular access to the planned Southern Nevada Supplemental Airport near Primm. As a result, the Applicant relocated the RSMSF approximately 2 miles south of the Sloan Road MSF to avoid potential conflicts with future planned airport-related uses. The RSMSF would have high compatibility with the existing undeveloped, vacant lands and low compatibility with the residential land use designations under the Clark County Comprehensive Plan.

Cause Displacement of a Significant Number of Local Residents and/or Disrupt or Sever Community Interactions or Otherwise Divide an Established Community

The RSMSF would be located on land currently vacant and undeveloped and therefore would not result in the displacement of any residence or business or community severance.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

The RSMSF would not be located within an environmental justice census block and would therefore not result in any direct or indirect adverse effects to an environmental justice community.

Frias Substation

Interference with Normal Functioning of Adjacent Land Uses

As the Frias Substation would be located on vacant land, the substation would have high compatibility with existing lands on the proposed site. However, the Frias Substation would have medium compatibility with the residential development approximately 300 feet to the north and south.

Conflict with Applicable Land Use Plans

The Frias Substation would have medium compatibility with the residential land use designations on the west side of Dean Martin Drive and high compatibility with the Business and Design Research land use designations to the east of Dean Martin Drive.

Cause Displacement of a Significant Number of Local Residents and/or Disrupt or Sever Community Interactions or Otherwise Divide an Established Community

While the Frias Substation would be within proximity of existing single family homes, the site itself is currently vacant. Development of the Frias Substation would not result in the displacement of any residence or business nor sever an established community. Further, due to its location south of existing residential developments, the Frias Substation would not place a barrier or built feature between existing groups of homes and/or businesses. The Frias Substation would not interrupt the access along Dean Martin Drive. Thus, no adverse effects would occur in regards to displacement or community severance.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

The Frias Substation would not be located within an environmental justice census block and would therefore not result in any direct or indirect adverse effects to an environmental justice community.

Alignment Adjustment Areas

Conflict with Adjacent Land Uses and Land Use Plans and Displacement and Community Severance

The AAAs would not present any changes in land use compatibility and would not result in the displacement of any residence or business or severance of an existing community. A summary of the AAAs is provided below.

- **AAAs 1 and 2:** AAAs 1 and 2 would move Segment 2A/2B about 200 feet to the south and thus farther away from residential areas north of the Mojave River on Poplar Street in the greater Barstow area. This adjustment would slightly improve the compatibility with existing adjacent residential and commercial land uses.
- **AAAs 3 through 6:** AAAs 3 through 6 would shift portions of Segment 3B immediately adjacent to the I-15 corridor between Yermo and Baker, without incurring any additional land use changes. These adjustments would occur well outside of any established communities and thus have no impact relative to severance or community disruption.
- **AAA 7:** AAA 7 would shift Segment 6B to the outside (western) edge of the freeway right of way so as to better accommodate potential future widening of I-15. Nearly all of the land adjacent to the west of Segment 6B is designated for residential use. The only area proximate to Segment 6B currently in residential use is north and west of Robert Trent Jones Lane, a minimum distance of 1,000 feet from the I-15 corridor. Due to this distance, the modified rail alignment would not result in any interference with existing land uses nor in any community severance or disruption.
- **AAA 8:** AAA 8 would shift portions of Segment 6B outside of the NDOT right-of-way and into the adjacent Clark County right-of-way on Dean Martin Drive/Industrial Road. This adjustment would have high compatibility with the existing industrial developments, medium compatibility with the hotels/motels and commercial developments, and low compatibility with the nearby residential developments.

In regards to land use designations, Segment 6B would continue to have medium compatibility with the commercial and high compatibility with the industrial land use designations with implementation of AAA 8.

While the rail alignment would be shifted to the west towards existing industrial, commercial, residential, and hotel/motel developments, the adjustment associated with AAA 8 would remain within existing transportation corridors and no residential or business displacements would occur. Where the alignment adjustment would traverse within the median of Dean Martin Drive/Industrial Road (between Hacienda Avenue and Tropicana Avenue), access to existing roadways and properties would be maintained. Therefore, no severance of an existing community would occur.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

- **AAAs 1 and 2:** AAAs 1 and 2 would not shift portions of Segment 2A/2B within an environmental justice census block and would not result in any direct or indirect adverse effects to an environmental justice community.
- **AAAs 3 through 6:** AAAs 3 through 6 would shift portions of Segment 3B within the same two environmental justice census blocks as those identified for Segment 3B in the Draft EIS. Since the alignment adjustments would continue to follow the existing I-15 corridor, they would not introduce substantial new impacts to environmental justice areas to those analyzed in the Draft EIS.
- **AAA 7:** AAA 7 would not shift portions of Segment 6B within an environmental justice census block and would not result in any direct or indirect adverse effects to an environmental justice community.
- **AAA 8:** AAAs 8 would shift portions of Segment 6B within the same environmental justice census block as identified for Segment 6B in the Draft EIS. Since the alignment adjustment would continue to be located within existing transportation corridors (I-15 and Dean Martin Drive/Industrial Road), they would not introduce substantial new impacts to environmental justice areas.

Wigwam MSF Modification

Interference with Normal Functioning of Adjacent Land Uses

The location of the Wigwam MSF has not changed since publication of the Draft EIS. The Wigwam MSF Modification would maintain high compatibility with adjacent industrial uses, but medium compatibility with nearby residential uses.

Conflict with Applicable Land Use Plans

The Wigwam MSF Modification would not result in additional or new conflicts to applicable land use plans from what was evaluated in the Draft EIS. The Wigwam MSF would maintain high compatibility with Clark County's planned development/mixed-use land use designations and medium compatibility with the commercial land use designations.

Cause Displacement of a Significant Number of Local Residents

The modification of the trackway connection to the Wigwam MSF (from the northern end to the southern end) would result in the displacement of one additional business not previously affected by the Wigwam MSF evaluated in the Draft EIS. The Wigwam MSF Modification would continue to result in the displacement of the Southwest Rock and Landscape business (3020 West Wigwam Avenue) and would further result in the displacement of the Little Baja Garden and Design business (3033 West Ford Avenue).

Disrupt or Sever Community Interactions or Otherwise Divide an Established Community

The Wigwam MSF Modification would not result in division or severance of an existing community, consistent with the conclusion in the Draft EIS. Access within the vicinity of the Wigwam MSF would not be altered.

Result in Environmental Effects Disproportionately Borne by a Low-Income or Minority Population

The Wigwam MSF would not be located within an environmental justice census block and would not result in any direct or indirect adverse effects to an environmental justice community.

Profile Modification

Potential Direct and Indirect Effects on Land Use and the Community

The Segment 3B Profile Modification would not relocate the rail alignment from its location previously evaluated in **Section 3.1.3** of the Draft EIS. While the Profile Modification would result in a vertical change in the elevation of the rail alignment to a depressed section, no horizontal change in the location of the rail alignment would occur. Thus, there is no change to the land use and community impacts in regards to the Profile Modification.

3.1.4 MITIGATION MEASURES

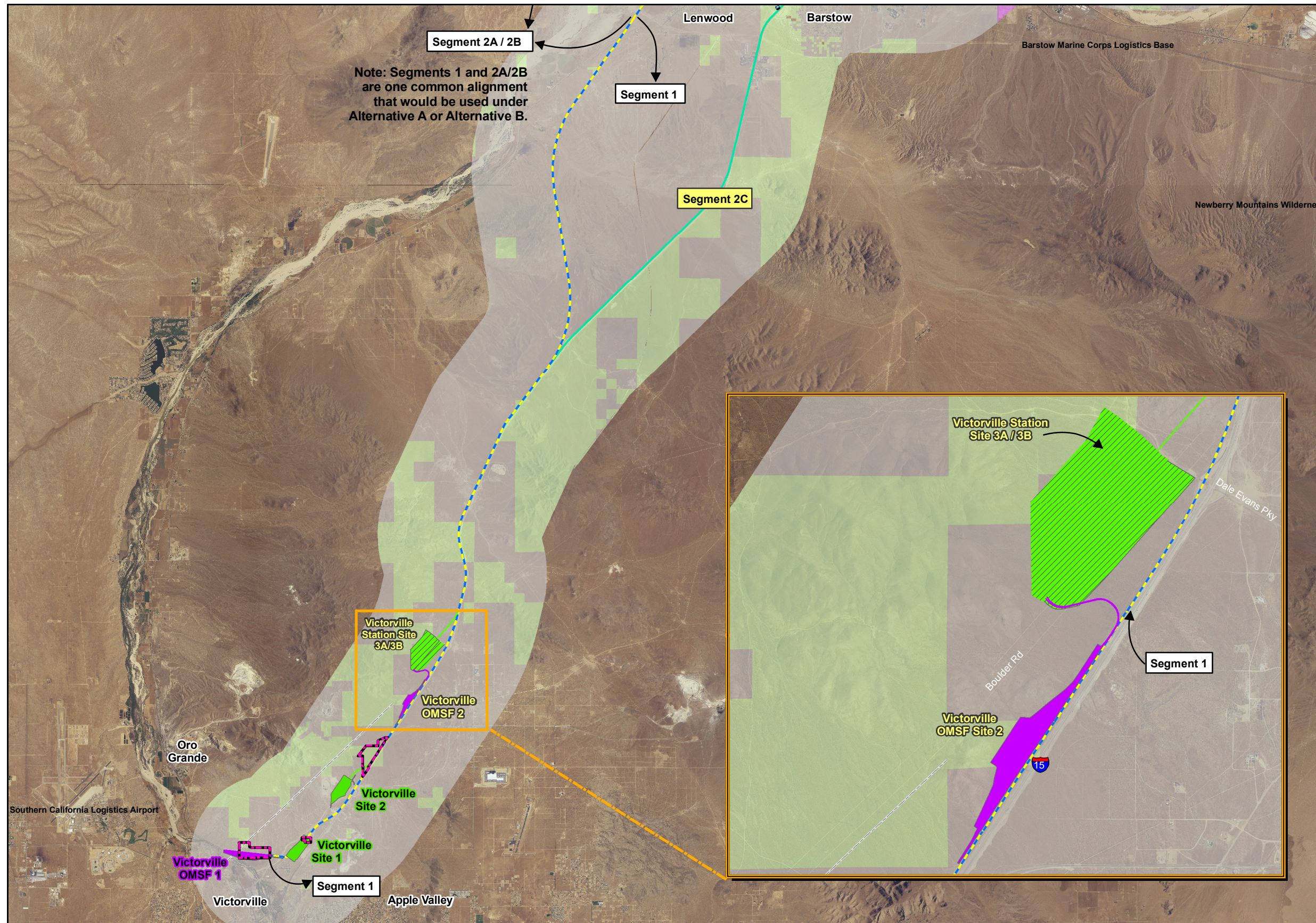
The mitigation measures identified in the Draft EIS would be applied to the project additions and modifications to reduce any adverse land use or environmental justice effects. Specifically, mitigation identified in the sections of the Draft EIS cited below would be applicable to the project modifications and additions to further reduce potential indirect effects on adjacent land uses and environmental justice populations. Measures identified in these sections of the Draft EIS include:

- **Section 3.4.5, Utilities:** Avoidance or minimization of conflict with existing utility infrastructure (including coordination with existing utility providers).
- **Section 3.5.5, Traffic:** The addition of signalization and/or lanes to the intersection approaches.
- **Section 3.6.5, Visual Resources:** Use of aesthetically pleasing materials for the rail alignment that minimize reflectivity, use of architecture and colors and the Victorville Station that reflect the surrounding desert landscape, design or signage at the Victorville Station to reflect the scale and character of the site and surroundings, use of contour grading, orderly construction site management, minimization of light spillover during construction, and use of visual screening construction areas as appropriate.

- **Section 3.11.5, Air Quality:** Use of best management dust control practices to minimize air quality impacts during construction.
- **Section 3.12.7, Noise:** Installation of noise barriers, use of sound and vibration reducing materials, relocation of crossovers or special track work, property acquisitions, limited construction times, limited locations of construction related activities, and use of sounds-reducing construction equipment.

3.1.5 RESIDUAL IMPACTS FOLLOWING MITIGATION

The incorporation of mitigation measures would mitigate permanent effects related to project construction and operation. However, even with this mitigation, the project additions and modifications would nonetheless result in the permanent conversion of lands to transportation uses.



Note: Segments 1 and 2A/2B are one common alignment that would be used under Alternative A or Alternative B.

Legend

Land Ownership

- Bureau of Land Management
- Department of Defense
- National Parks Service
- Private
- State of California

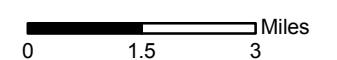
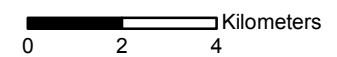
DesertXpress Alignments

- Alternative A
- Alternative B
- Common Alignment used under Alternative A or Alternative B
- Additional Alignment Modifications

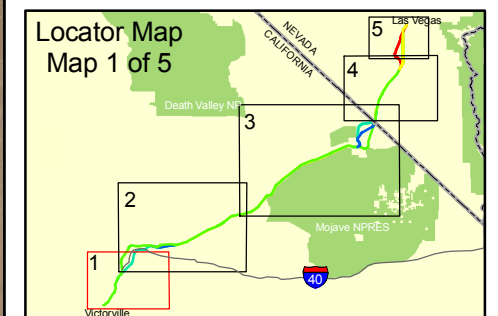
Ancillary Facility Sites

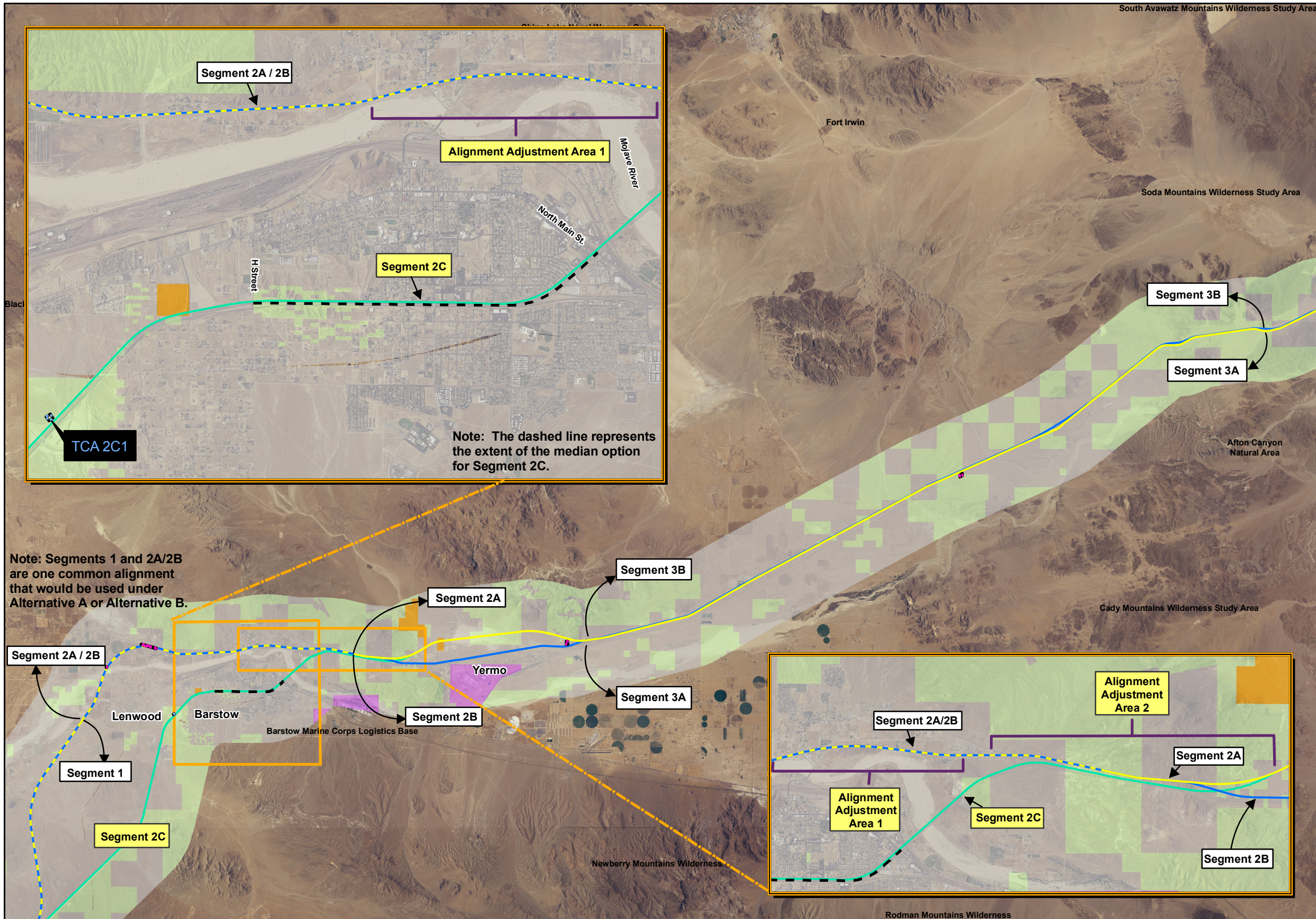
- Text** Project Modifications and Additions
- Modified Station Site Option - Victorville Station Site 3A/3B
- Station Options
- Maintenance Facility Site Options
- Temporary Construction Area (TCA) Site Options
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- Electric Utility Corridor (EMU Option Only)
- Alignment Adjustment Areas

1 inch equals 3 miles



Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery



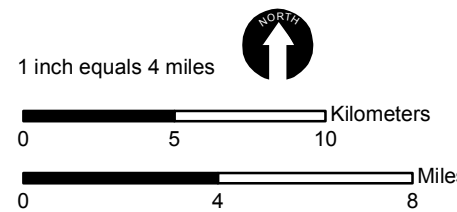


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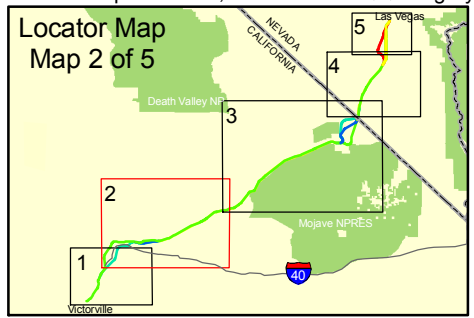
- Land Ownership**
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 - Department of Defense
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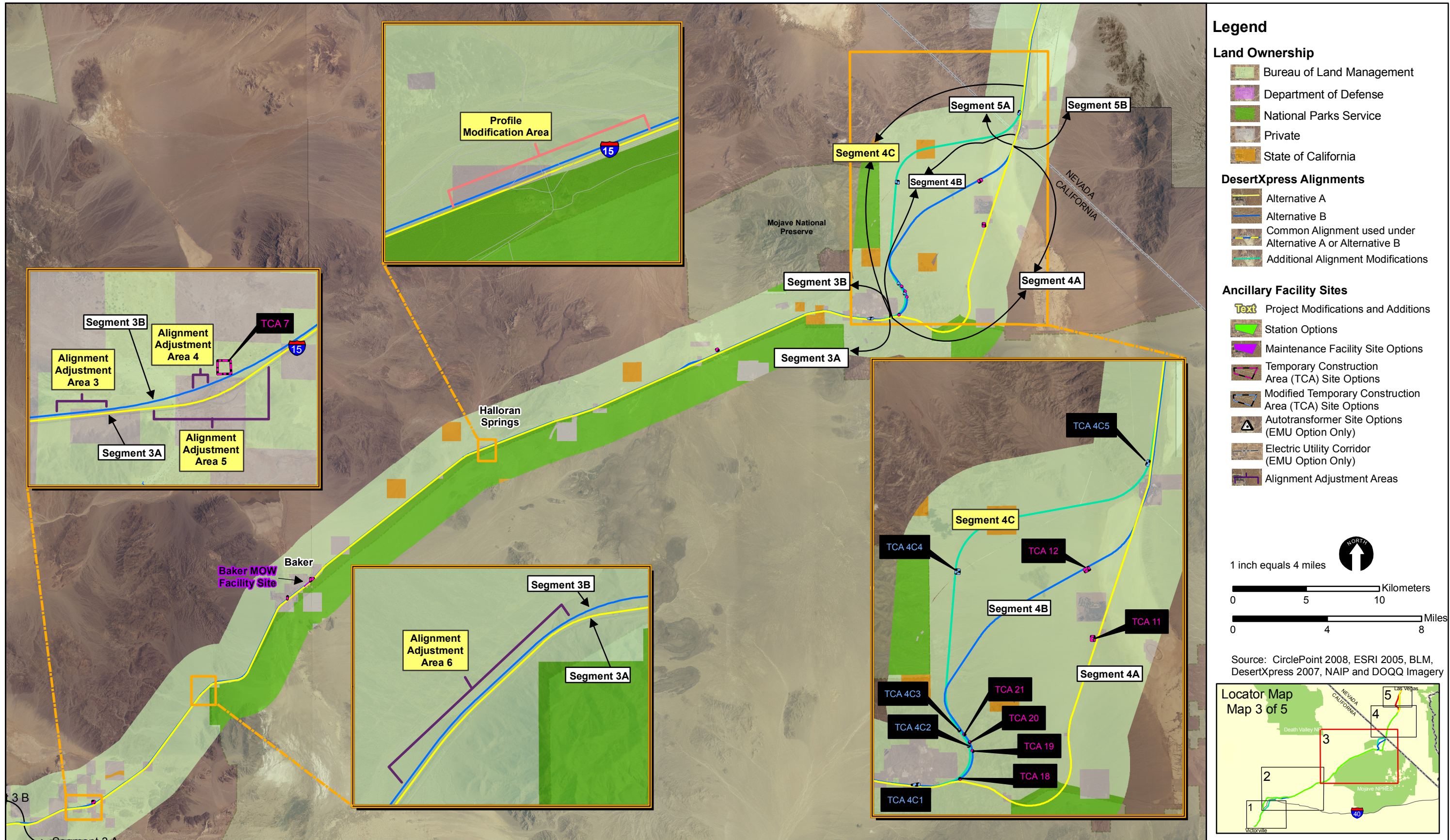


Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery



Note: Segments 1 and 2A/2B are one common alignment that would be used under Alternative A or Alternative B.

Note: The dashed line represents the extent of the median option for Segment 2C.

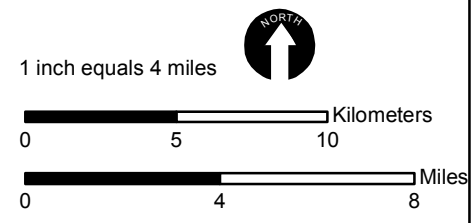


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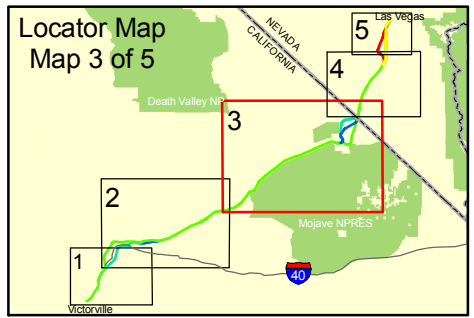
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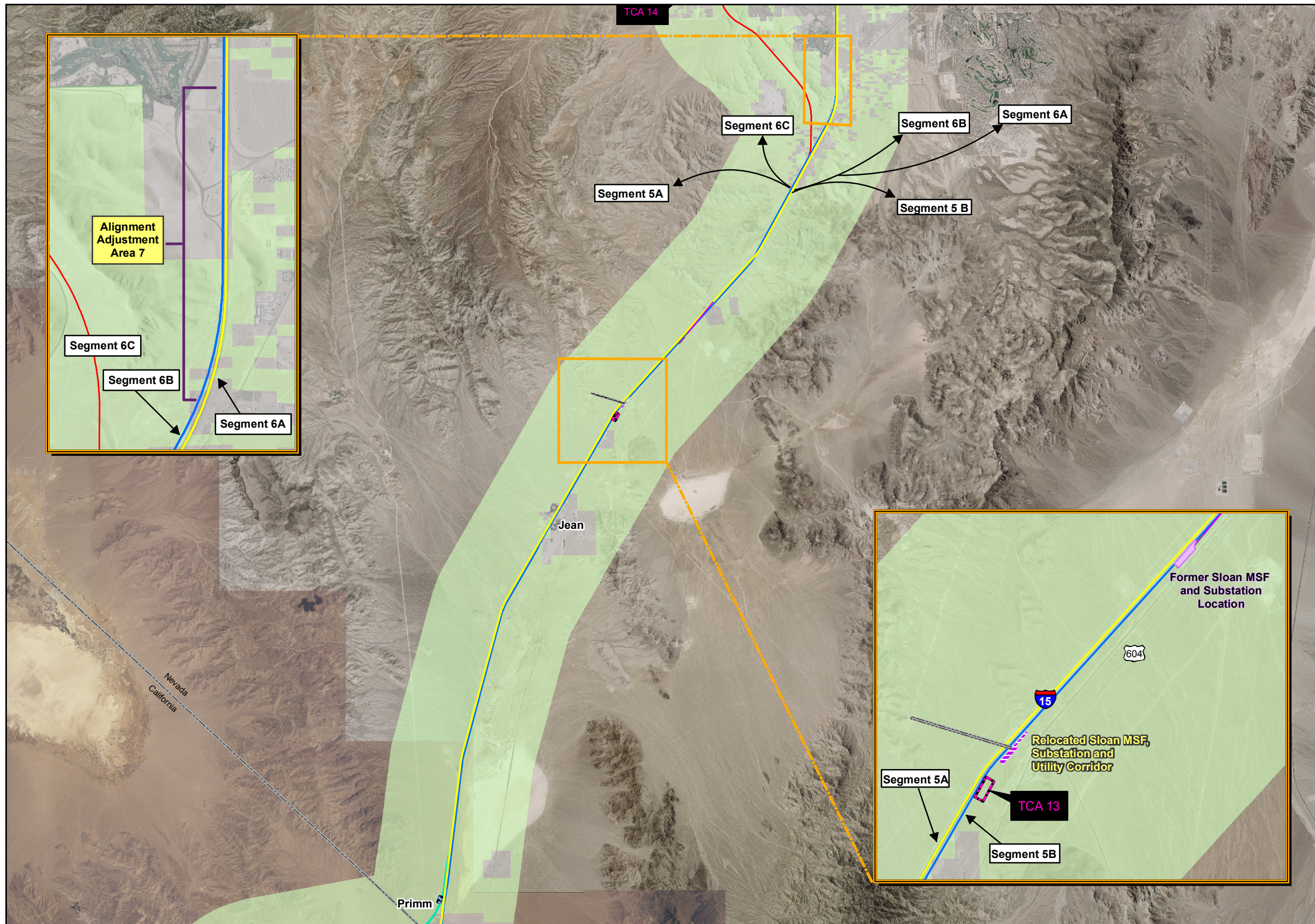
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Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery



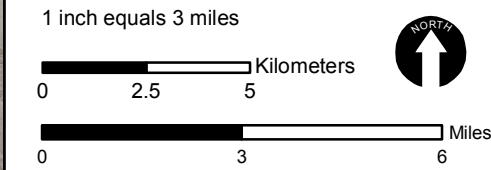


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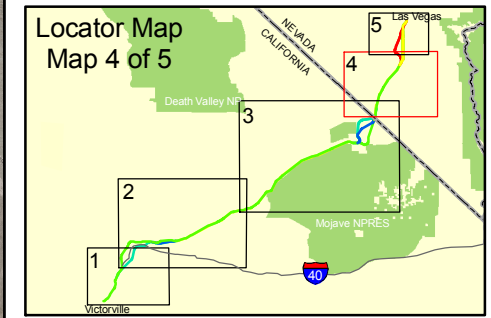
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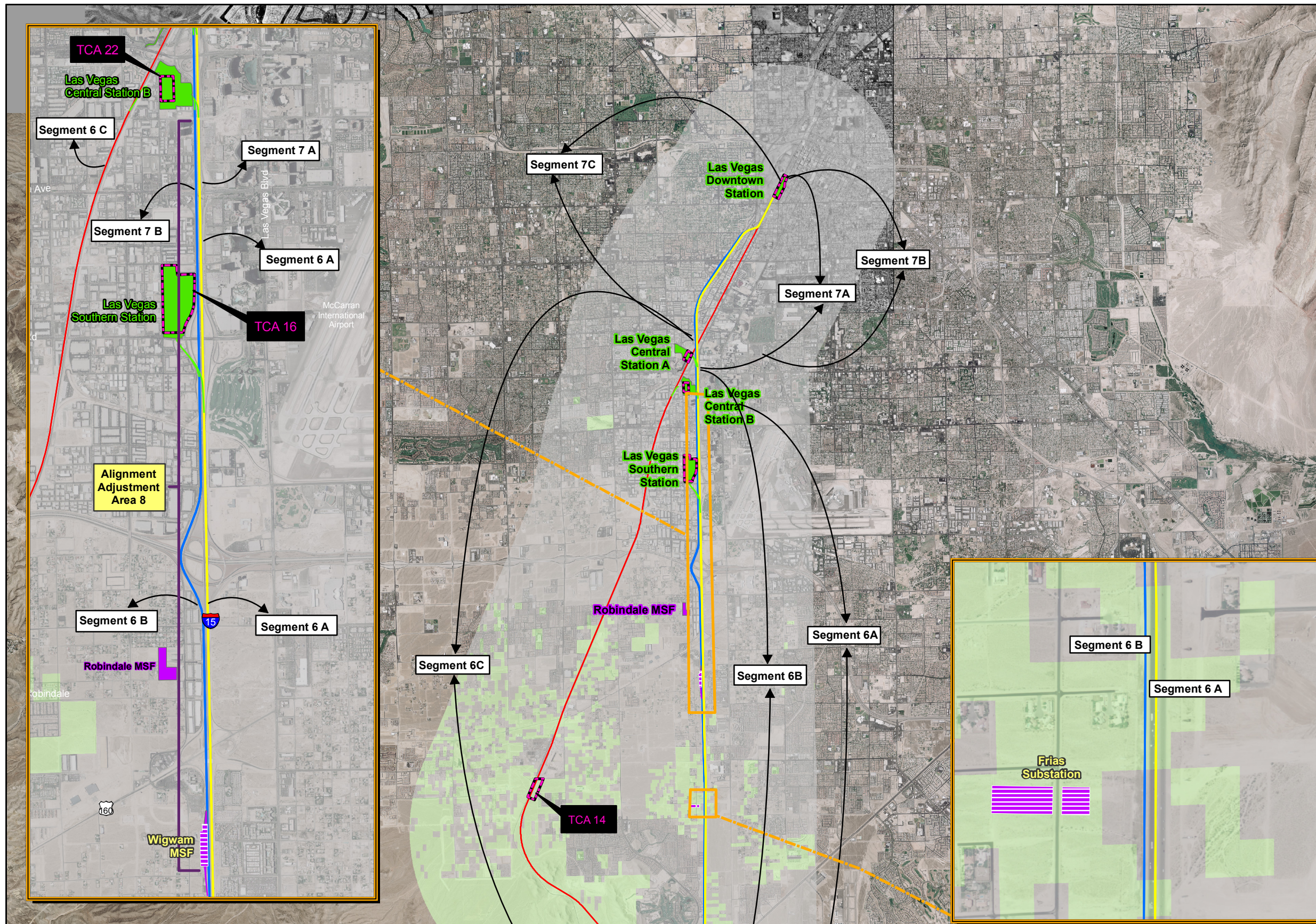
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Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery





Legend

Land Ownership

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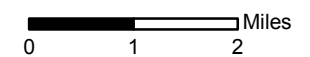
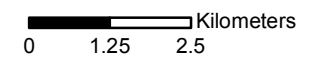
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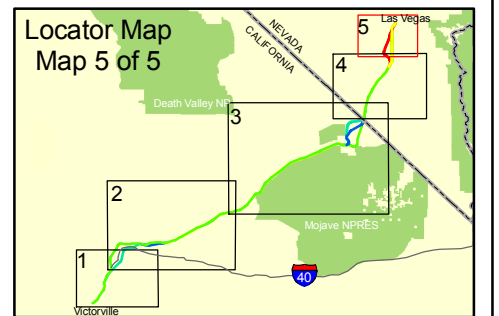
Ancillary Facility Sites

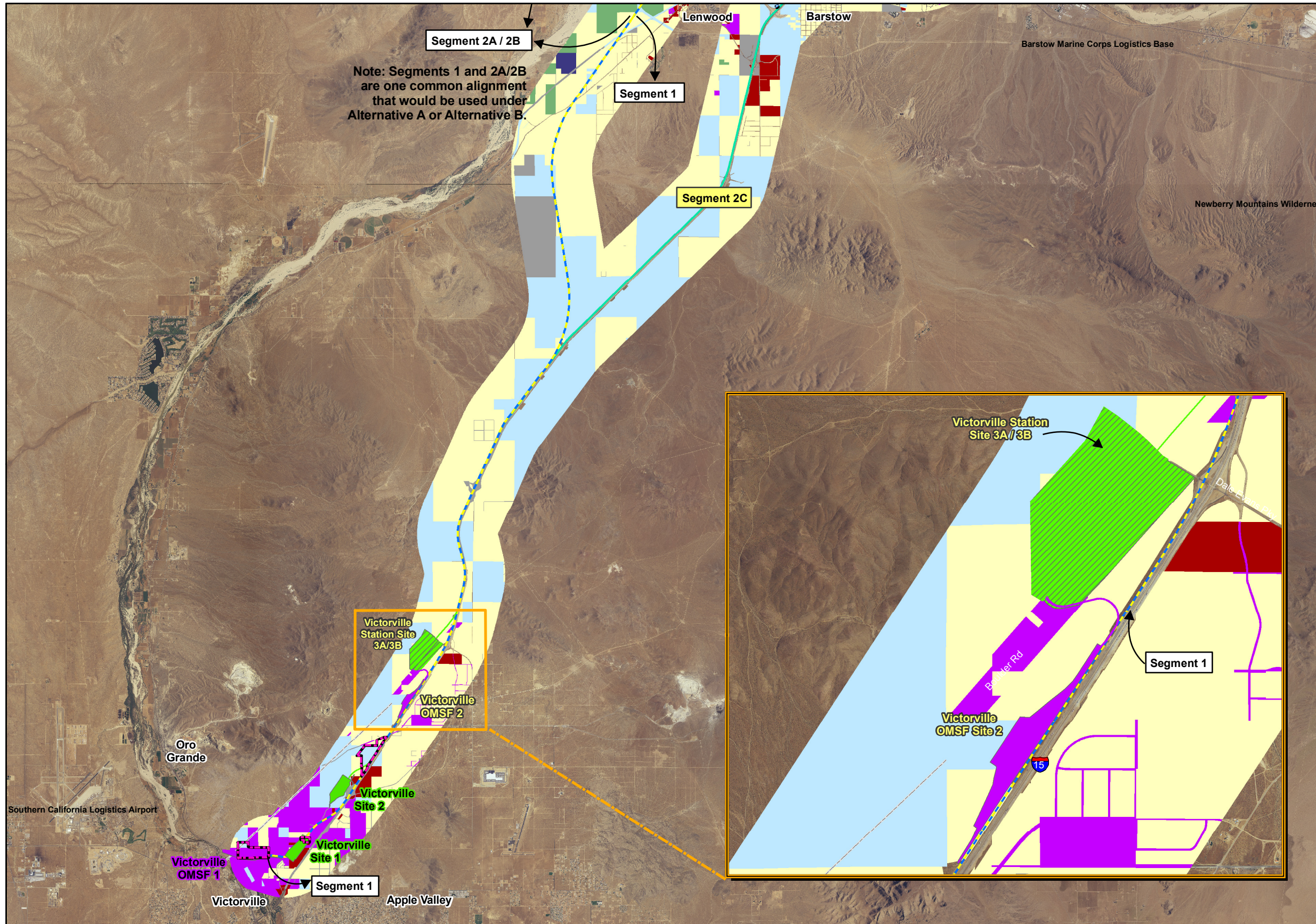
- Project Modifications and Additions
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- Maintenance Facility Site Options
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1 inch equals 2 miles



Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery





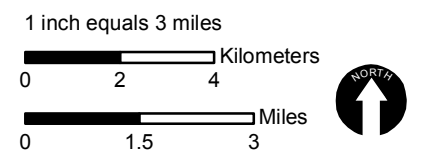
Note: Segments 1 and 2A/2B are one common alignment that would be used under Alternative A or Alternative B.

Legend

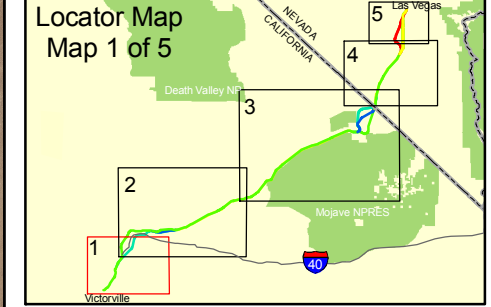
- Land Use Designation (California)**
- Administrative and Professional
 - Agricultural
 - Commercial
 - Desert and Mountain
 - Industrial-Manufacturing
 - Institutional/Annual Exemption
 - Open Space Contracts
 - Residential
 - Restrictive
 - Other

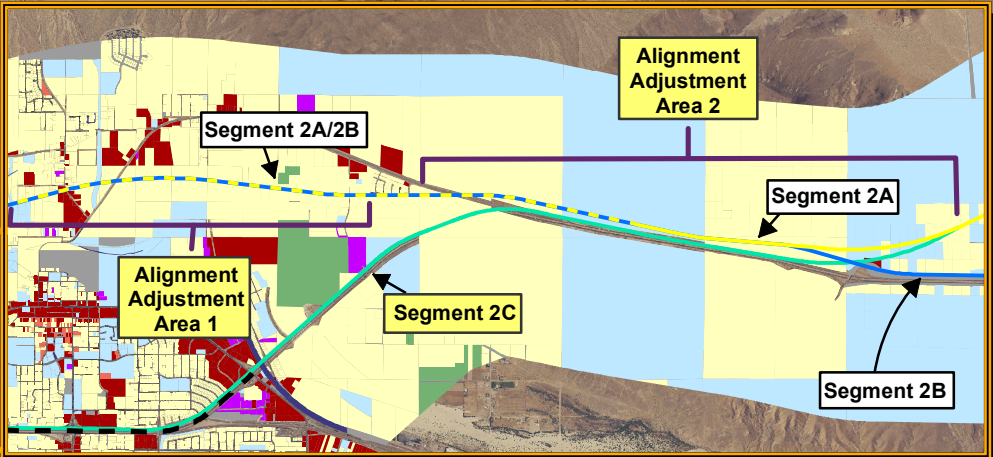
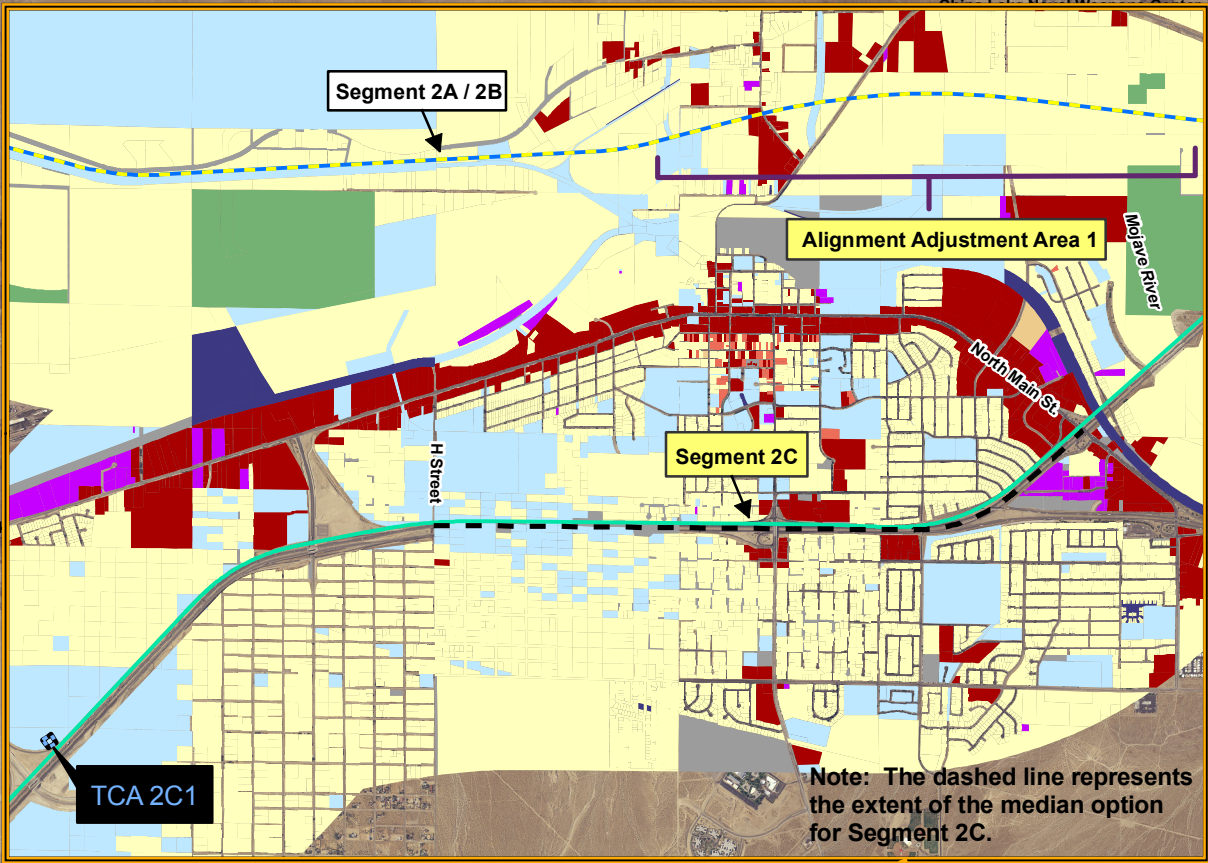
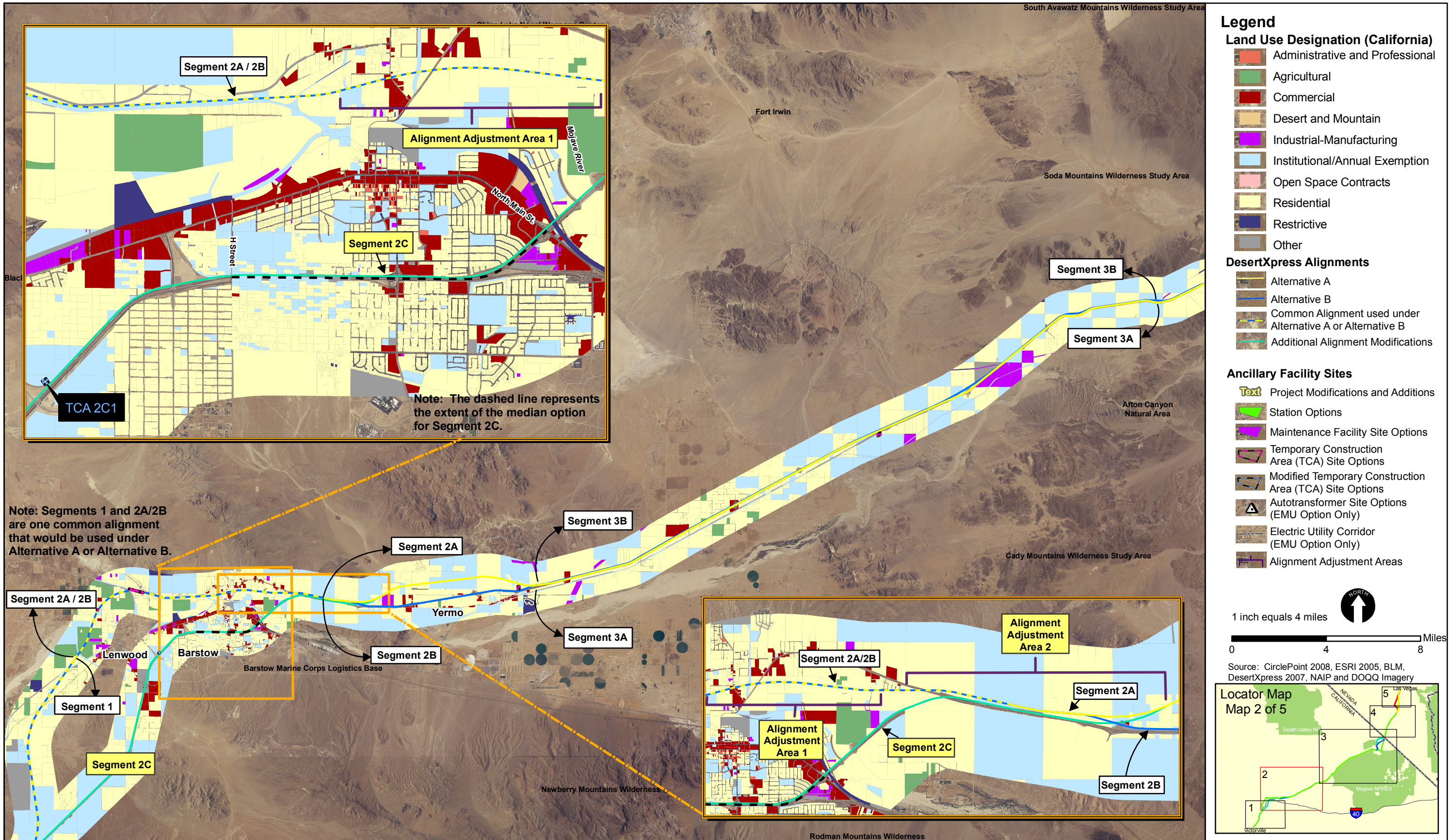
- DesertXpress Alignments**
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Source: DesertXpress 2007, ESRI 2005, NAIP 2003-2006





Note: Segments 1 and 2A/2B are one common alignment that would be used under Alternative A or Alternative B.

Legend
Land Use Designation (California)

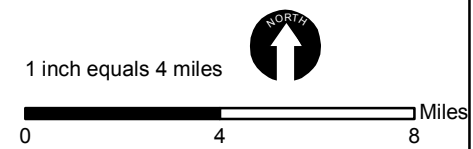
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DesertXpress Alignments

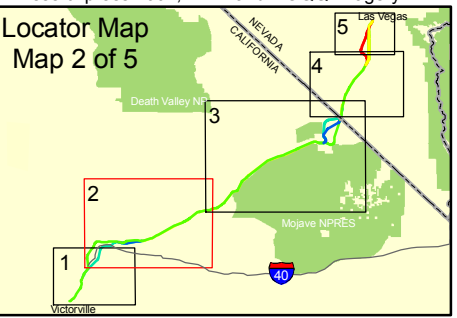
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Ancillary Facility Sites

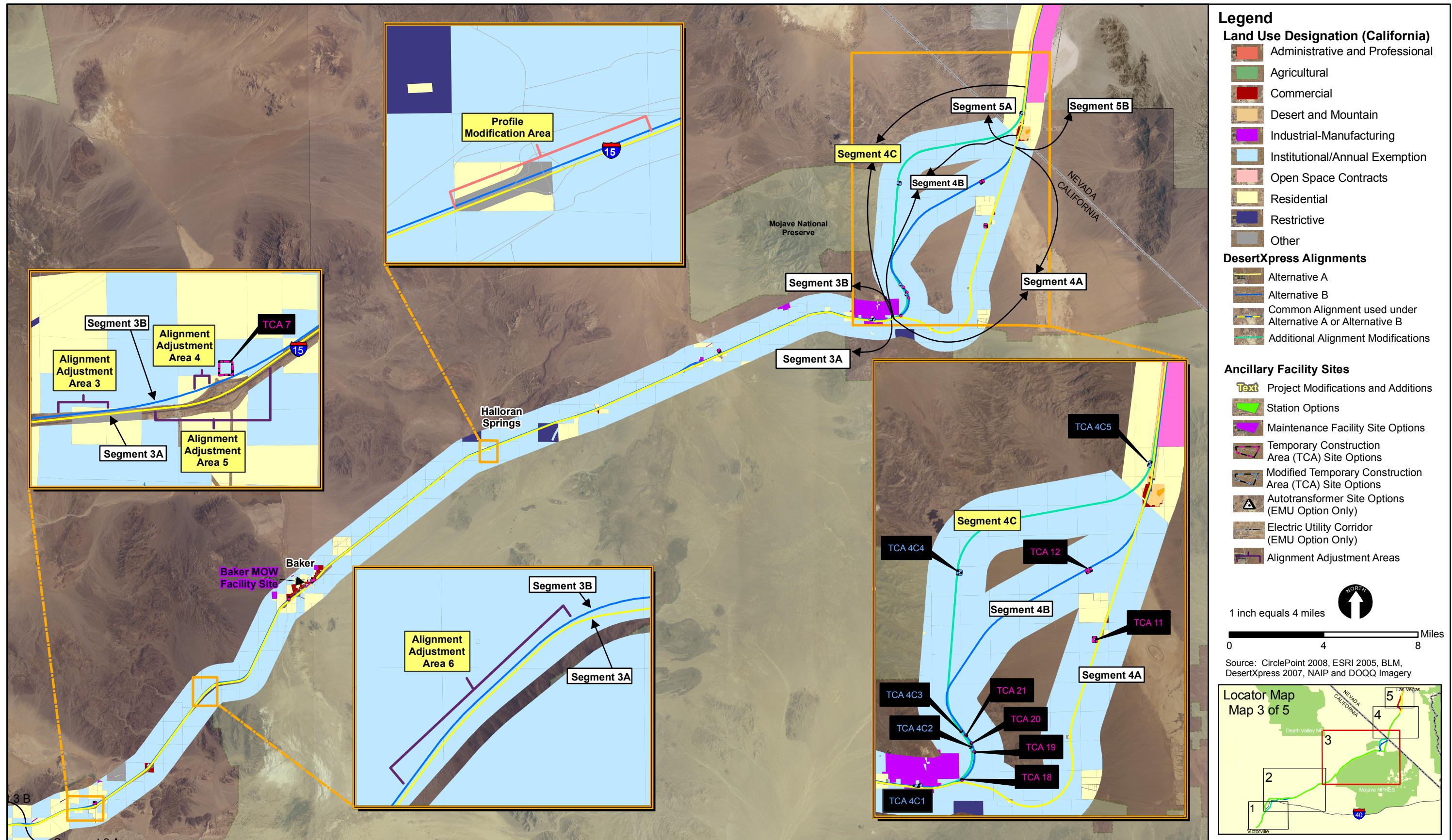
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Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery



DesertXpress - Supplemental EIS



Legend

Land Use Designation (California)

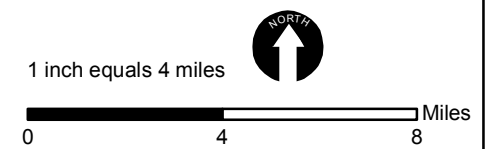
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DesertXpress Alignments

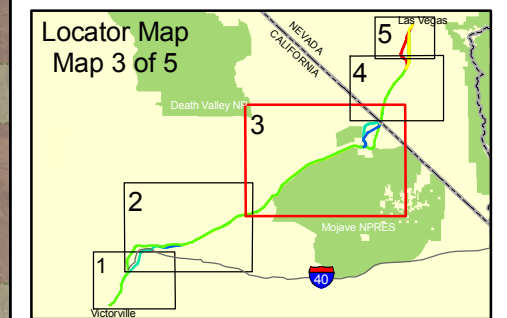
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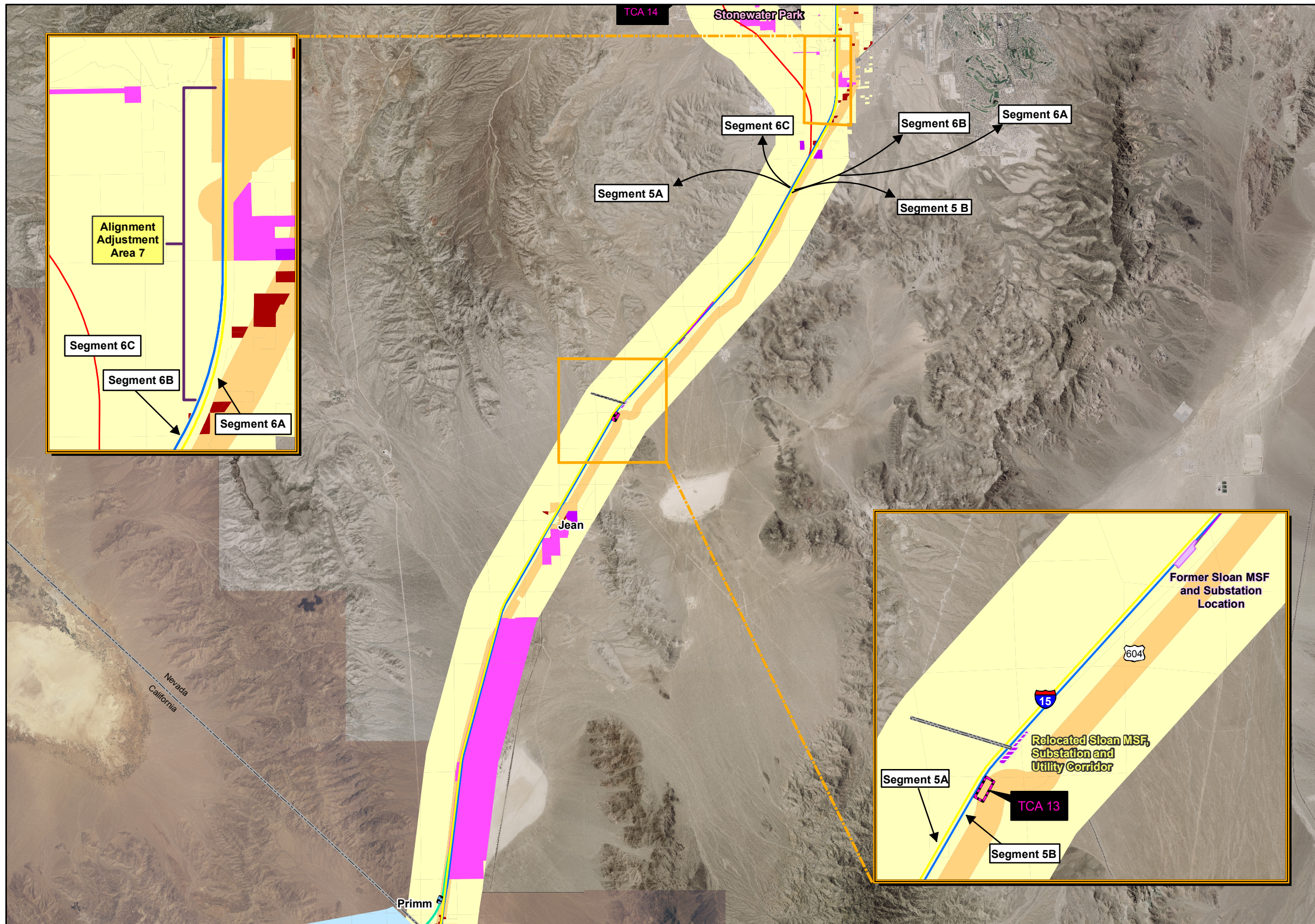
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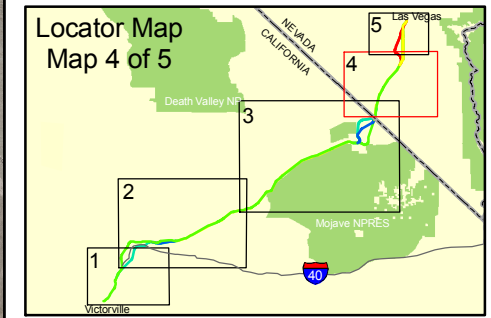


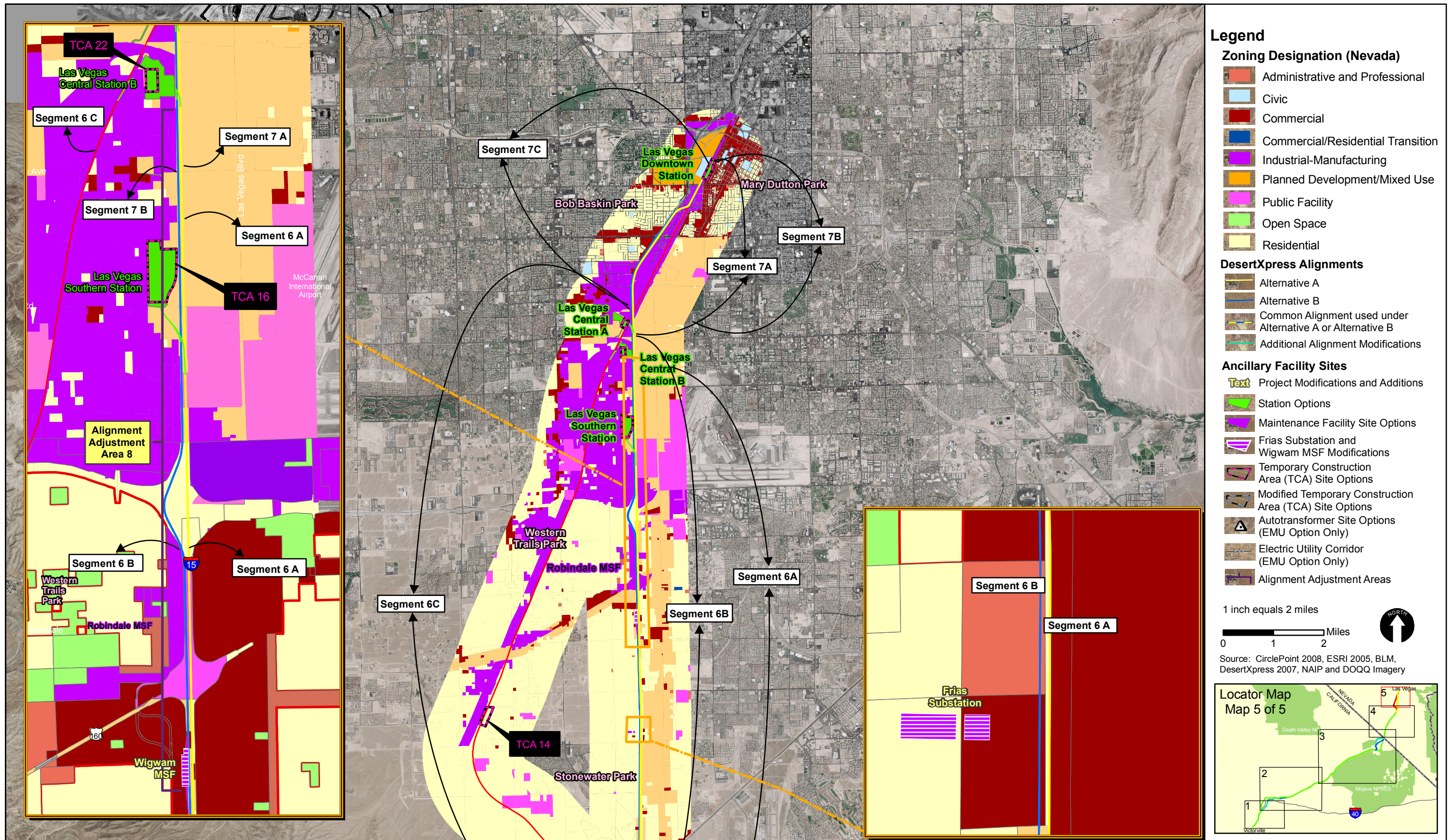
- Legend**
- Zoning Designation (Nevada)**
- Administrative and Professional
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 - Commercial
 - Commercial/Residential Transition
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 - Planned Development/Mixed Use
 - Public Facility
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1 inch equals 3 miles

0 3 6 Miles

Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery



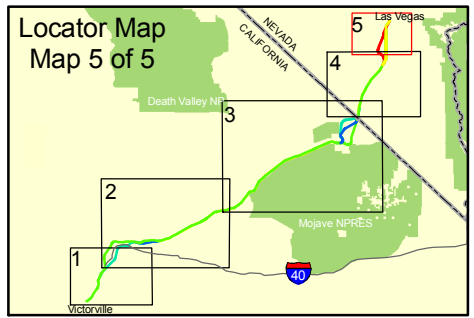


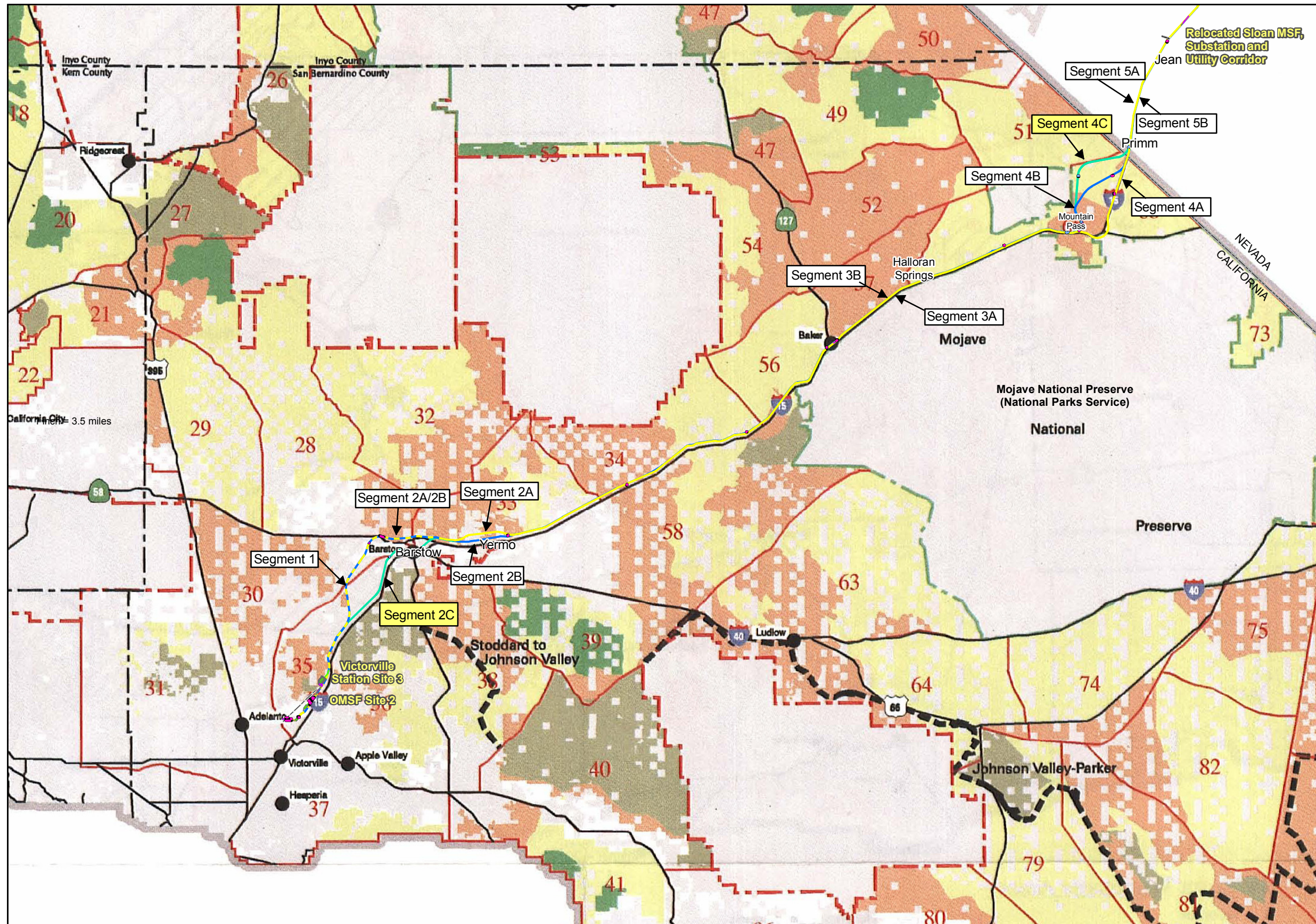
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1 inch equals 2 miles

0 1 2 Miles

Source: CirclePoint 2008, ESRI 2005, BLM, DesertXpress 2007, NAIP and DOQQ Imagery





Legend

California Desert Conservation Area

- Class I Intensive Use
- Class M Moderate Use
- Class L Limited Use
- Class C Controlled Use
- CDCA Boundary
- Planning Units

Other Features

- Private, State and Other Federally Managed Lands
- County Lines
- Military Boundary
- National Park Boundary
- Competitive Even Corridor

DesertXpress Alignments

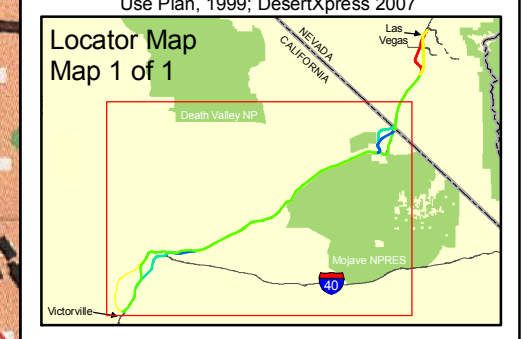
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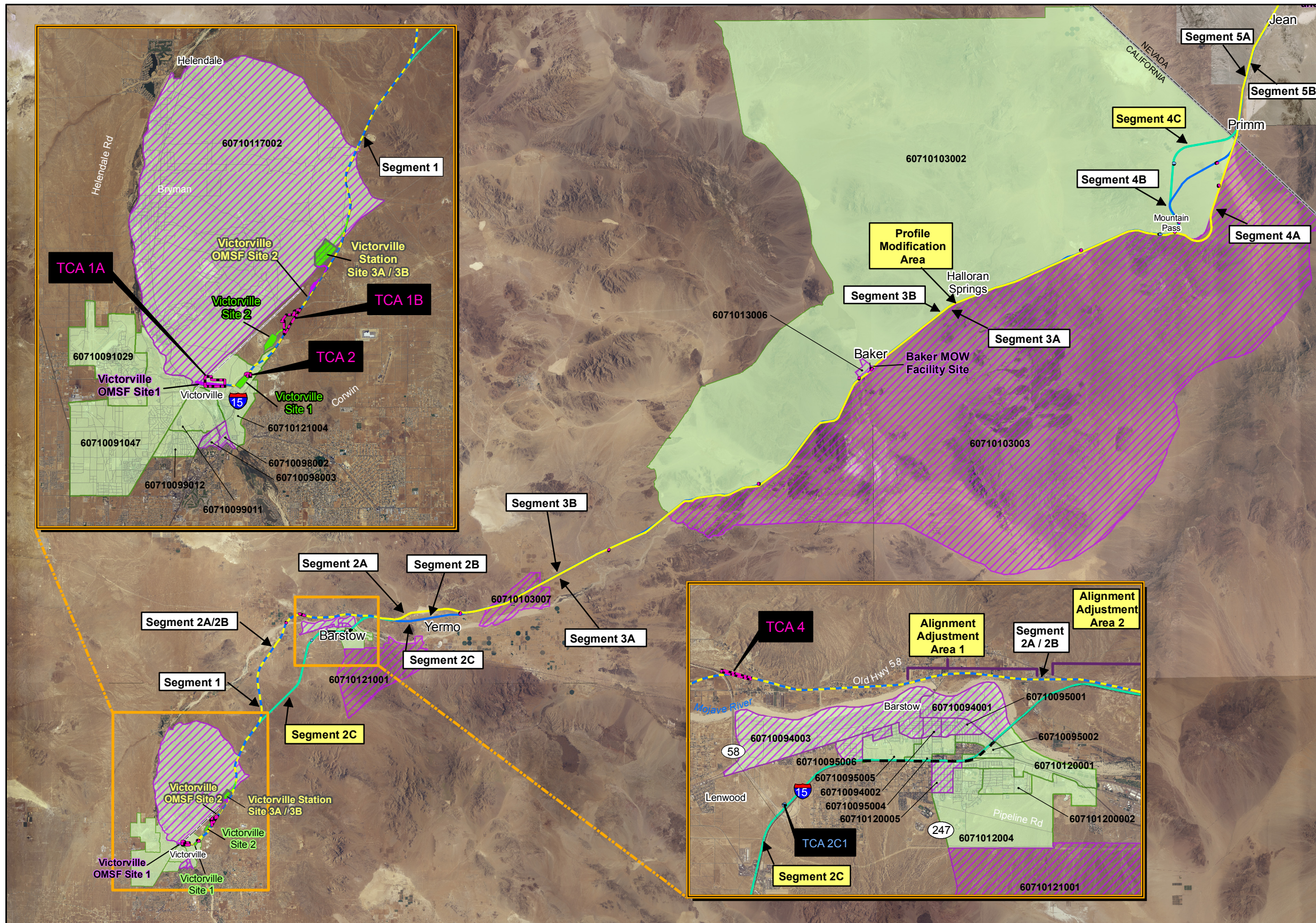
Ancillary Facility Sites

- Text: Project Modifications and Additions
- Modified Station Site Option - Victorville Station Site 3
- Station Options
- Maintenance Facility Site Options
- Relocated Sloan MSF / Substation Site; Frias Substation Site, Wigwam MSF
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- Autotransformer Site Options (EMU Option Only)
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1 inch equals 13 miles
 0 5 10 Miles

Source: Bureau of Land Management, California Desert Conservation Area Land Use Plan, 1999; DesertXpress 2007





Legend

Environmental Justice Data
Census Block Groups That Meet Environmental Criteria For:

- Minority Population
- Poverty Level

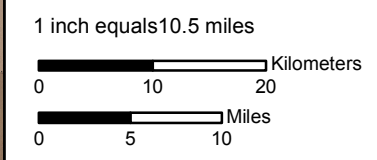
6070000001 Census Block Number

DesertXpress Alignments

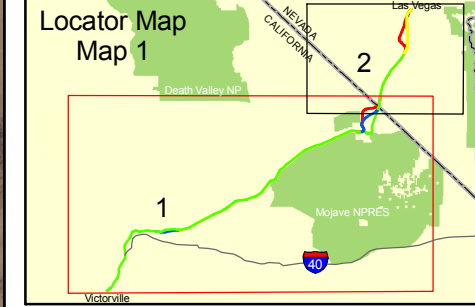
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Source: DesertXpress 2007, ESRI 2005, NAIP 2003-2006, US Census Bureau

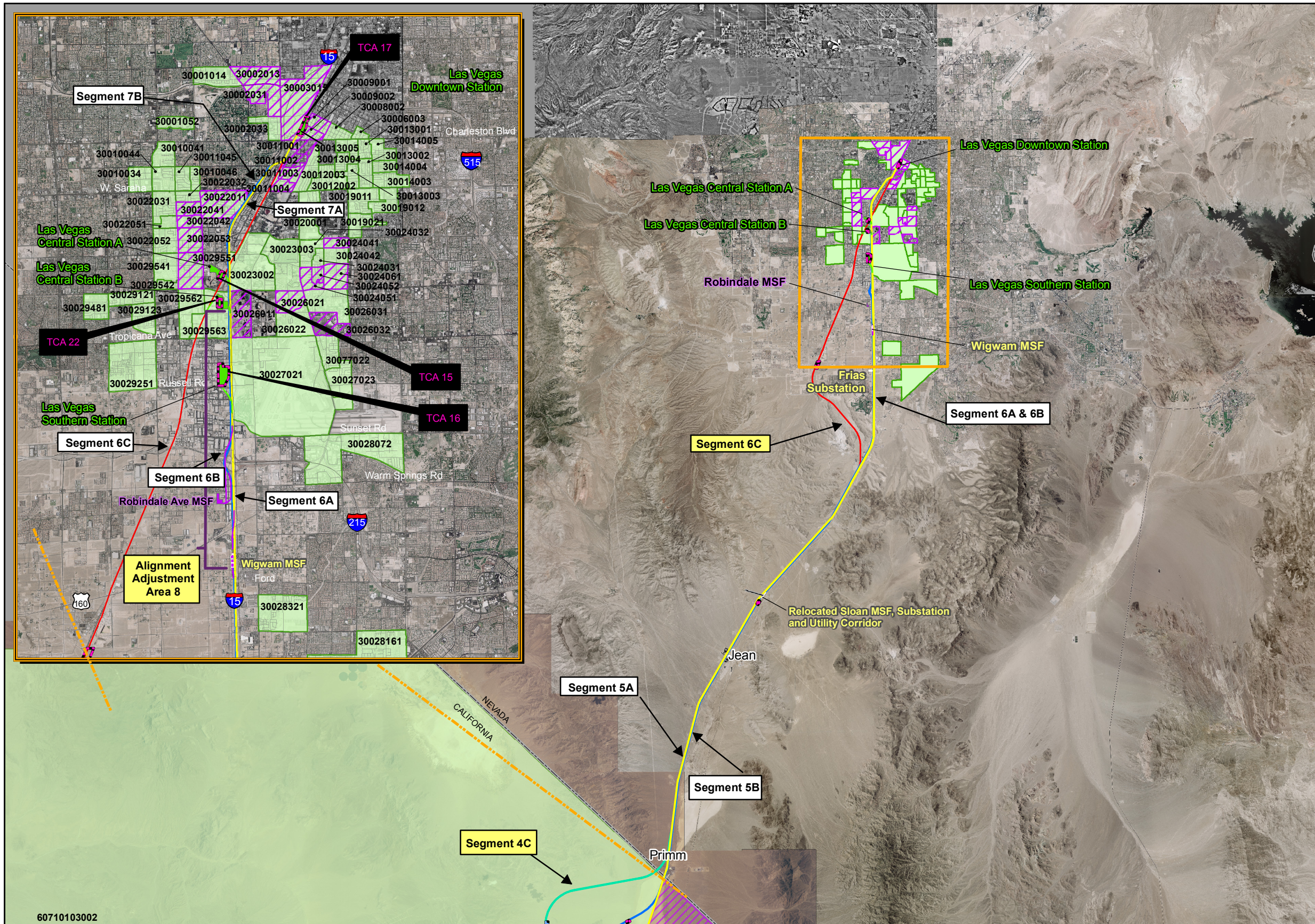


DesertXpress - Supplemental EIS

Environmental Justice: California (1)

S-3.1-12

Geografika Consulting 06.17.10



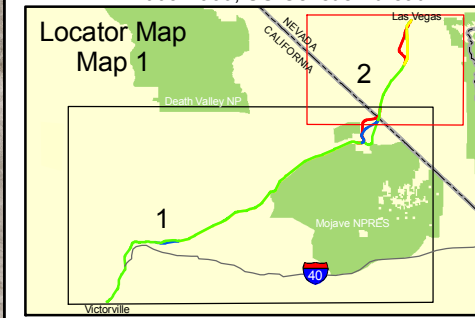
- Legend**
- Environmental Justice Data**
 Census Block Groups That Meet Environmental Criteria For:
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- 6070000001 Census Block Number
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 - Modified Temporary Construction Area (TCA) Site Options
 - Autotransformer Site Options (EMU Option Only)
 - Electric Utility Corridor (EMU Option Only)
 - Alignment Adjustment Areas

1 inch equals 10.5 miles

0 5 10 Kilometers

0 2.5 5 Miles

Source: DesertXpress 2007, ESRI 2005, NAIP 2003-2006, US Census Bureau



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DesertXpress - Supplemental EIS

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3.2 GROWTH

This section discusses the potential growth-inducing effects that could result from the project modifications and additions.

3.2.1 AFFECTED ENVIRONMENT

The federal, state, and local regulations related to population, household, and employment growth identified in **Section 3.2.1** of the Draft EIS have not changed since publication of the Draft EIS and remain applicable to the project modifications and additions. However, growth projections and forecasts within the regional and local planning documents have been modified since publication of the Draft EIS. As a result, an updated discussion is provided below including information regarding growth projections for the project region.

In addition, **Chapter 3.0, Regulatory Setting**, of this Supplemental Draft EIS includes a summary of the *Southern Nevada Regional Policy Plan*, which includes regional planning guidelines that will be followed by Las Vegas, North Las Vegas, Henderson, Boulder City, Clark County, the Clark County School District, regional and state agencies, and public utilities. A summary of the regional plan was not previously included in the Draft EIS. The policies and guidelines included in the *Southern Nevada Regional Policy Plan* do not affect the analysis in **Section 3.2.4** of the Draft EIS.

Regional Conditions

San Bernardino County

The Draft EIS used the Southern California Association of Governments (SCAG) 2005 growth projections, which were the most current available projections at the time of publication. In 2008, SCAG released updated growth projections for the County and the incorporated cities within the County.

For San Bernardino County, SCAG's 2008 Growth Projections estimate a population increase of about 1.1 million people, or nearly 59 percent, between 2005 and 2030. This projection is larger than previously reported in **Section 3.2.3.1** of the Draft EIS, which assumed an increase of 700,000 people between the same time period.

As discussed in **Section 3.2.1.2** of the Draft EIS, the DesertXpress project would be located in the "Desert Region" of San Bernardino County. SCAG has not updated its growth projections specific to the Desert Region of San Bernardino County since publication of the Draft EIS. Therefore, the information presented in the Draft EIS regarding the Desert Region remains the most current projections at the regional level.

City of Victorville

Since publication of the Draft EIS, SCAG updated its growth projections for the City of Victorville as part of its 2008 projections. SCAG's 2008 Growth Projections continue to project substantial increases in population, household, and employment growth, but slightly less employment growth than was forecast previously.

Table S-3.2-1 lists SCAG's 2008 Growth Projections for Victorville. The data forecast a population increase of 52 percent for Victorville between 2005 and 2020, with an additional increase of 22 percent by 2030. This is larger than SCAG's forecasted population growth for San Bernardino County (31 percent from 2005 to 2020 and an additional 15 percent from 2020 to 2030).

Table S-3.2-1 also shows growth projections for households in Victorville. Similar to population, the number of households in Victorville is expected to increase. SCAG projects an increase of 61 percent in the number of households from 2005 to 2020 and an additional increase of 21 percent by 2030 in Victorville. The number of households in Victorville is expected to increase at a faster rate than in San Bernardino County as a whole, which indicates projected concentrated growth in the Victorville area.

SCAG projects the number of jobs in Victorville will also increase substantially. Specifically, SCAG's 2008 projections estimate a 75 percent increase in jobs between 2005 and 2020 (from about 31,000 in 2005 to around 55,000 by 2020).

Table S-3.2-1 City of Victorville Growth Projections

Year	Population / Percent Growth ^a		Households / Percent Growth ^a		Employment / Percent Growth ^a	
	Population	Percent Growth	Households	Percent Growth	Employment	Percent Growth
2005 (actual) ^b	90,913	NA	27,108	NA	31,425	NA
2010	106,649	+17.3	32,392	+19.5	41,280	+31.4
2015	122,205	+14.6	38,919	+20.2	49,131	+19.0
2020	138,023	+12.9	43,766	+12.5	55,044	+12.0
2025	153,376	+11.1	48,421	+10.6	61,972	+12.6
2030	168,134	+9.6	52,775	+9.0	69,861	+12.7

Source: SCAG Projections, 2008.

a Percent Growth from last measured year (5-year increments)

b Growth projections in the Draft EIS were based upon SCAG 2005 projections. The 2005 data has been revised to reflect the historic 2005 demographics rather than an estimate.

Clark County

According to updated growth projections, the population growth estimates for Clark County between 2005 and 2030 have slightly decreased since publication of the Draft EIS. The growth projection data included in **Section 3.2.3.1** of the Draft EIS for Clark County was obtained from the UNLV Center for Business and Economic Research, which provided the most recent growth projections at the time of the publication of the Draft EIS. Since publication of the Draft EIS, the Regional Transportation Commission of Southern Nevada (RTC) published updated growth projections as part of their Regional Transportation Plan. The Comprehensive Planning Department of Clark County also updated its growth projections since publication of the Draft EIS. These more recent growth projections for Clark County identify a slower growth rate than previously anticipated.

Table S-3.2-2 summarizes the estimated population and housing growth projections within the County for the period of 2005 to 2030. According to the Comprehensive Planning Department of Clark County, the County is anticipated to grow from 1.8 million in 2005 to 2.7 million in 2020 and 3.1 million by 2030. This represents a 50 percent increase from 2005 to 2020 and an additional 15 percent increase by 2030 under the updated growth projections. This is a slight downward adjustment when compared to predictions outlined in the Draft EIS, which projected a 62 percent increase between 2005 and 2020 and additional 16 percent by 2030.

Table S-3.2-2 Clark County Growth Projections

Year	Population / Percent Growth ^a		Households / Percent Growth ^a		Employment / Percent Growth ^a	
2005 (actual)	1,815,700	NA	796,255 (year 2009)	NA	966,725	NA
2010	2,122,000	+16.9	822,480	+3.3	1,081,521	+11.9
2015	2,446,000	+15.3	948,062	+15.3	1,150,648	+6.4
2020	2,715,000	+11.0	1,053,325	+11.1	1,198,169	+4.1
2025	2,933,000	+8.0	1,136,821	+7.9	1,243,209	+3.8
2030	3,126,000	+6.6	1,211,627	+6.6	1,299,167	+4.5

a Percent Growth from last measured year (5-year increments)

Source: Comprehensive Planning Department of Clark County, 2009; Regional Transportation Commission of Southern Nevada, Regional Transportation Plan FY 2006-2030 Final Draft, 2006

The Clark County household growth forecasts have also been slightly reduced since publication of the Draft EIS. According to the Comprehensive Planning Department of Clark County, there were an estimated 796,255 households in the County in 2009, with an average of 2.58 people per household. The number of households within Clark County is expected to increase by 52 percent between 2009 and 2030, for an anticipated total of 1,212,418 households.¹

Table S-3.2-2 summarizes the employment projections in Clark County. According to the RTC, there were 966,725 jobs in Clark County in 2005. According to their projections, employment is expected to increase to 1,198,169, or by 24 percent, by 2020 and an additional eight percent by 2030.

City of Las Vegas

None of the project modifications and additions would be located within the City of Las Vegas. However, since the publication of the Draft EIS, some growth projections for the City of Las Vegas have been revised through the year 2020.

In February 2010, the City of Las Vegas updated its growth projections within the Population Element of its 2020 Master Plan to show a slower rate of growth than assumed in **Section 3.2.3.1** of the Draft EIS. The growth rate has been adjusted to reflect the economic downturn in 2009 and the substantially slower rate of development of vacant lands over the last few years.

3.2.2 METHODS OF EVALUATION OF IMPACTS

Consistent with the analysis in **Section 3.2.4** of the Draft EIS, the evaluation of growth effects is focused on areas immediately surrounding the proposed station and maintenance facilities. Growth inducing effects are foreseeable only around station and maintenance facilities, as they serve as the only “interfaces” of the project where passengers would board or exit trains and where the vast majority of DesertXpress employees would be based.

An adverse, direct growth effect would occur if the anticipated growth associated with the project changes would exceed growth projections at local and/or regional levels. An adverse, indirect growth effect would occur if the project modification and additions would involve the removal of obstacles to growth, result in negative growth impacts to local and/or regional economic vitality, and or positive or negative growth in population numbers or patterns.

¹ 2030 household information obtained by dividing the projected 2030 population by the person per household average of 2.58.

3.2.3 ENVIRONMENTAL CONSEQUENCES

Each of the project modifications and additions were evaluated against the criteria identified above to determine whether any adverse effects would occur. The discussions below consider the project modifications and additions per these criteria.

Victorville Station Site 3, OMSF 2, Relocated Sloan MSF, and Wigwam MSF Modification

Potential Direct and Indirect Effects on Growth

VV3, OMSF 2, the RSMSF, and the Wigwam MSF modification would result in the same direct and indirect growth effects as the station and maintenance facilities evaluated in **Section 3.2.4** of the Draft EIS. These station and maintenance facility additions and modifications merely alter the footprint of these sites, not the program of their expected uses or employment capacity of each facility. The same number of temporary construction employees as identified in the Draft EIS would be utilized during the construction of these facilities. Additionally, the same number of permanent jobs as identified in the Draft EIS would be created by these facilities at project buildout.

VV3, OMSF2, RSMSF and Wigwam MSF modification would not alter the finding the Draft EIS that the project would result in beneficial effects on local employment and growth and would not be anticipated to result in a significant relocation of construction workers from outside of the project area to inside the project area. The permanent increase in jobs with project operation would also not exceed the projected employment growth for the area, as the facilities would continue to represent less than one percent of all anticipated job growth in 2030.

Indirectly, VV3, OMSF 2, the RSMSF, and the modified Wigwam MSF would not alter the conclusion in the Draft EIS that the project would result in beneficial environmental consequences on growth in the surrounding community by increasing economic vitality, employment opportunities, and the potential for transit oriented development.

Segment 2C, Segment 4C, Frias Substation, Alignment Adjustment Areas, and Profile Modification

Potential Direct and Indirect Effects on Growth

The new rail alignments (the Segment 2C alignment options or Segment 4C), the AAAs, the Profile Modification, and the Frias Substation would not have any “interface” that would result in either a direct or indirect change in population, households, or jobs.

3.2.4 MITIGATION MEASURES

As none of the project modifications and additions would result in a substantial direct or indirect change in population, households, or jobs, no mitigation measures would be required.

3.2.5 RESIDUAL IMPACTS FOLLOWING MITIGATION

The project modifications and additions would not result in any adverse growth impacts.

3.3 FARMLANDS AND GRAZING LANDS

This section describes the potential effects of the project modifications and additions on farmlands and grazing lands within the project area.

3.3.1 AFFECTED ENVIRONMENT

Regulations and standards related to farmlands and grazing lands identified in **Section 3.3.1** of the Draft EIS have not changed and remain applicable to the proposed project.

Prime farmlands and farmlands of statewide importance within the project area are found only in isolated locations near Segment 1, 2, and 3. None of the proposed project modifications or additions are located on or within close proximity to lands designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland¹ or lands under a Williamson Act contract. Furthermore, the selection of the 2C Action Alternative would avoid farmlands otherwise impacted by Segment 2A/2B.

As shown on **Figure S-3.3-1**, VV3, OMSF 2, and Segment 4C would be located on BLM grazing allotment areas. None of the other project modifications or changes would be located on BLM grazing allotments.

3.3.2 METHODS OF EVALUATION OF IMPACTS

The same methodology as described in **Section 3.3.2** of the Draft EIS was used to evaluate direct and indirect effects. Direct effects would occur on any farmland or grazing land that would be crossed by the rail alignment or on sites proposed for stations or other permanent facilities. Indirect effects were assumed to occur within a 37.5 foot buffer on either side of the rail alignment, as a result of parcel severance (blocking water resources for livestock) or cutting off access to a farmed or grazed parcel.

3.3.3 ENVIRONMENTAL CONSEQUENCES

Each of the project modifications and additions were evaluated against the criteria identified above to determine whether any adverse effects would occur. However, none of the proposed project modifications or additions are located on or within close proximity to lands designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland². As such, the discussions below focus only on potential effects to grazing land.

¹ San Bernardino County Important Farmland, 2008. Farmland Mapping and Monitoring Program, California Department of Conservation.

² San Bernardino County Important Farmland, 2008. Farmland Mapping and Monitoring Program, California Department of Conservation.

Victorville Station Site 3 and OMSF 2

Potential Direct and Indirect Effects on Grazing Land

VV3 and OMSF 2 would be located on lands under BLM grazing allotments and would result in the permanent conversion of grazing lands to other uses. VV3 would permanently affect about 205 acres of grazing land, as compared to approximately 100 acres for both VV1 and VV2. With the reduced footprint of OMSF2, the permanently affected acreage of grazing land would be reduced to about 61 acres. Neither VV3 nor OMSF2 would result in additional indirect impacts to grazing lands because they would not cut off livestock access to available water sources, as no water sources would be covered or blocked by the project.

Segment 2C, Relocated Sloan MSF, Frias Substation, Alignment Adjustment Areas, Wigwam MSF Modification, and Profile Modification

Potential Direct and Indirect Effects on Grazing Land

Segment 2C, RSMSF, Frias Substation, AAAs, Wigwam MSF Modification, and Profile Modification would not be located on BLM grazing allotments. These project modifications and additions would therefore have no affect on farmlands or grazing lands.

Segment 4C

Potential Direct and Indirect Effects on Grazing Land

Figure S-3.3-2 shows the location of Segment 4C in relation to the joint NPS/BLM grazing allotment in this area. Segment 4C would result in the direct conversion of grazing lands to other uses. Segment 4C would directly affect approximately 176 acres of grazing land. In addition, Segment 4C could result in indirect impacts by cutting off livestock access to available water sources or result in the removal of livestock fencing, which would allow livestock to trespass, become lost, or potentially struck by vehicles on nearby roadways, including I-15. According to the NPS, the primary water sources for cattle within this allotment area are located within the Northern Unit of the Mojave National Preserve.³ Segment 4C could thus form a barrier within the allotment, concentrating cattle closer to the water sources and thus resulting in overuse of the Mojave National Preserve for grazing activities.

As such, implementation of Segment 4C could result in potentially direct and indirect adverse effects related to grazing lands and activities.

3.3.4 MITIGATION MEASURES

Mitigation Measures FAR-3 and **FAR-4** identified in **Section 3.3.5** of the Draft EIS would apply to VV3, OMSF 2, and Segment 4C to reduce potentially adverse effects related to grazing land. **Mitigation Measure FAR-3** would ensure the provision of livestock access to water and **Mitigation Measure FAR-4** would require new fencing and/or gate modifications.

³ Personal communication with Larry Whalon, National Park Service. 2010.

However, **Mitigation Measures FAR-3** and **FAR-4** would not specifically address the impacts associated with Segment 4C and so **Mitigation Measure FAR-5** has been added. In addition, FRA has added **Mitigation Measure FAR-6** as an alternative to **Mitigation Measures FAR-3, 4, and 5**.

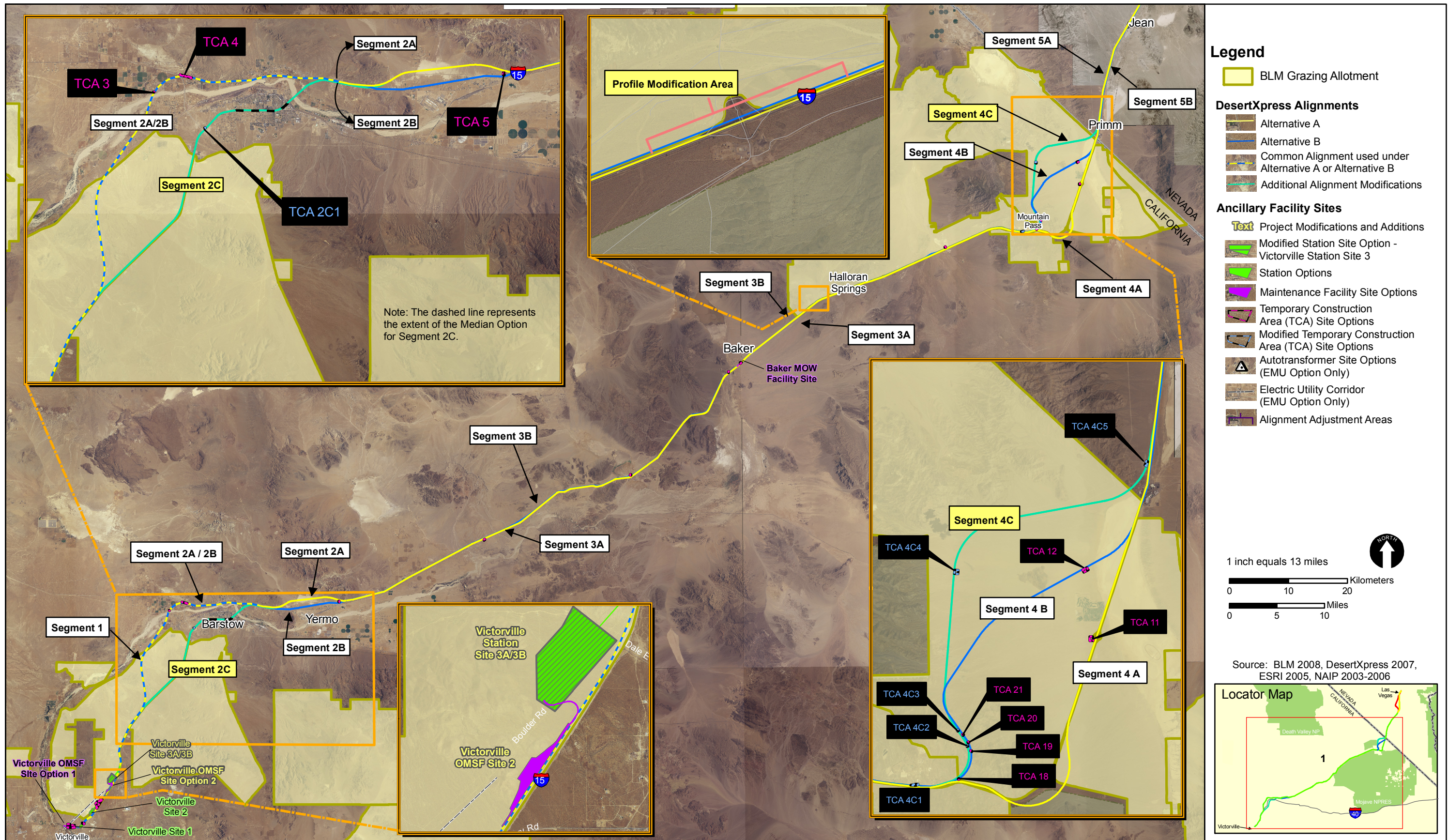
Mitigation Measure FAR-5: Provide Adequate Cattle Access in Areas of the Joint NPS/BLM Grazing Allotment (Segment 4C)⁴. Prior to issuance of the permit to construct, the project sponsor shall prepare revised plans for Segment 4C which include adequate cattle crossings to allow movement of cattle within the joint NPS/BLM grazing allotment. The location, number and design of the crossings shall be reviewed and approved by the General Manager of the Mojave National Preserve.

Mitigation Measure FAR-6: Purchase Grazing Allotment (VV3, OMSF2, Segment 4C). Prior to issuance of the permit to construct, the project sponsor shall purchase the rights to the grazing allotment(s) directly affected by VV3, OMSF2, and Segment 4C and discontinue grazing activities. The purchase of the rights and discontinuing of grazing activities shall be reviewed and approved by the BLM and the General Manager of the Mojave National Preserve as appropriate.

3.3.5 RESIDUAL IMPACTS FOLLOWING MITIGATION

Mitigation Measure FAR-5 would minimize impacts to grazing lands and associated indirect effects on grazing in the joint NPS/BLM grazing allotment. **Mitigation Measure FAR-6** would avoid grazing impacts entirely through compensation for existing grazing rights and the removal of the lands from grazing use. However, even with mitigation, the project would result in the direct conversion of grazing lands to transportation uses.

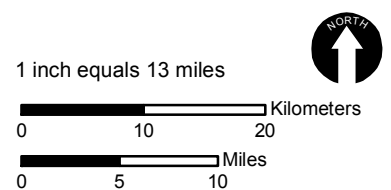
⁴ Mitigation Measure FAR 5 would not be required if Mitigation Measure FAR 6 is implemented.



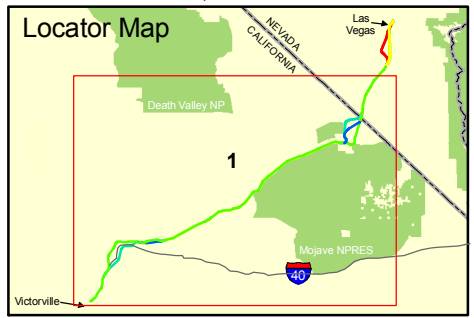
Note: The dashed line represents the extent of the Median Option for Segment 2C.

Legend

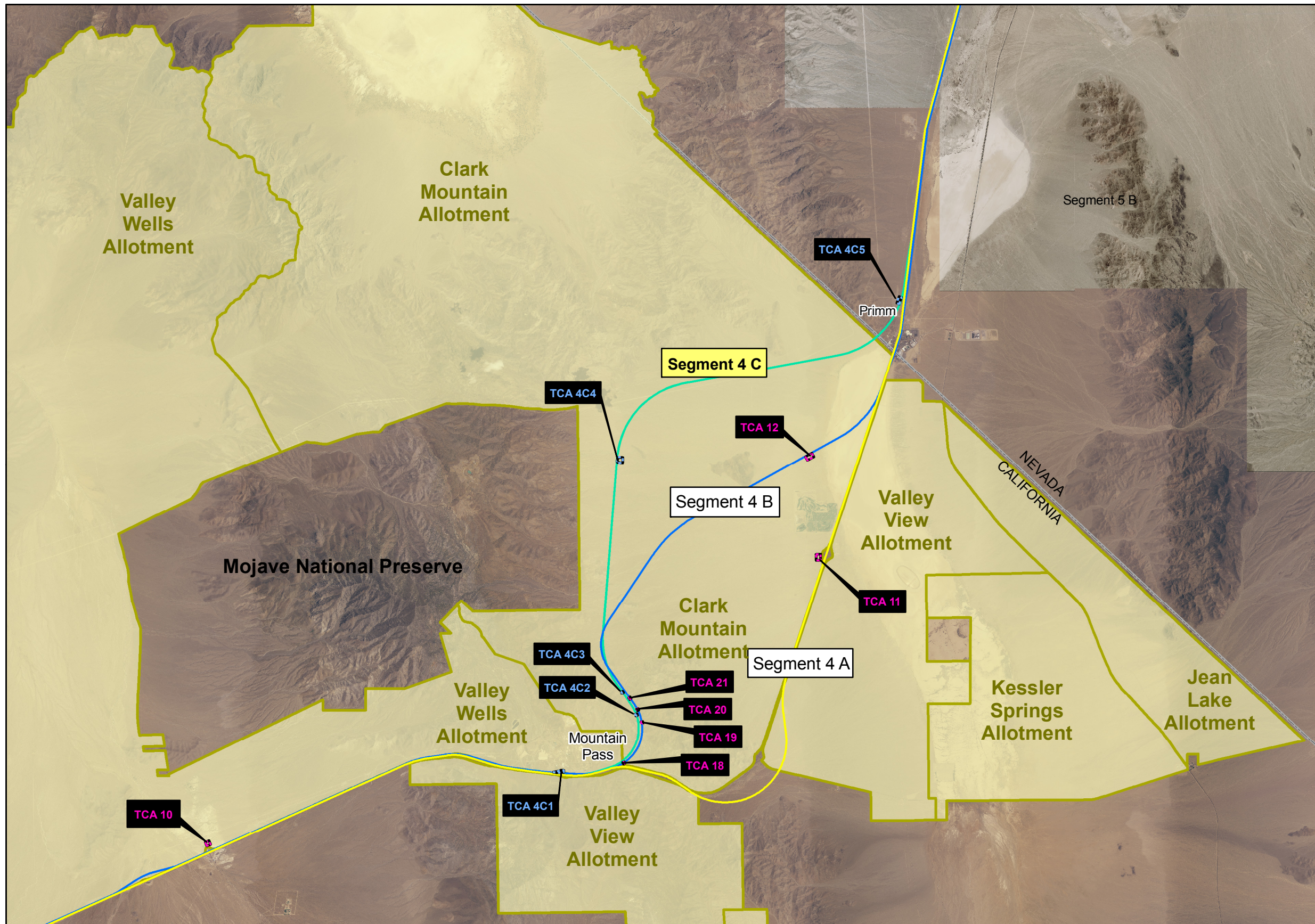
- BLM Grazing Allotment
- DesertXpress Alignments**
 - Alternative A
 - Alternative B
 - Common Alignment used under Alternative A or Alternative B
 - Additional Alignment Modifications
- Ancillary Facility Sites**
 - Project Modifications and Additions
 - Modified Station Site Option - Victorville Station Site 3
 - Station Options
 - Maintenance Facility Site Options
 - Temporary Construction Area (TCA) Site Options
 - Modified Temporary Construction Area (TCA) Site Options
 - Autotransformer Site Options (EMU Option Only)
 - Electric Utility Corridor (EMU Option Only)
 - Alignment Adjustment Areas



Source: BLM 2008, DesertXpress 2007, ESRI 2005, NAIP 2003-2006

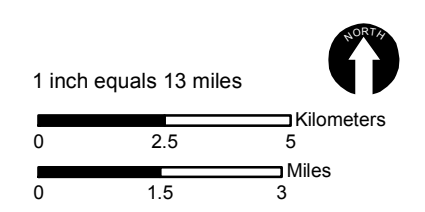


Source: Geografika Consulting 06.15.10

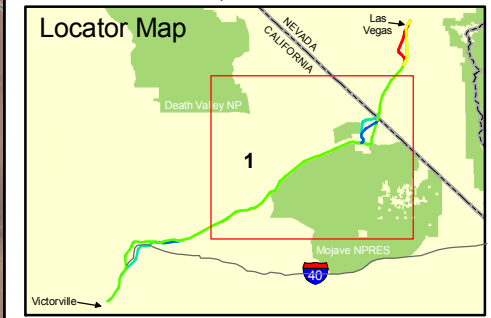


Legend

- BLM Grazing Allotment
- DesertXpress Alignments**
 - Alternative A
 - Alternative B
 - Common Alignment used under Alternative A or Alternative B
 - Additional Alignment Modifications
- Ancillary Facility Sites**
 - Project Modifications and Additions
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 - Temporary Construction Area (TCA) Site Options
 - Modified Temporary Construction Area (TCA) Site Options
 - Autotransformer Site Options (EMU Option Only)
 - Electric Utility Corridor (EMU Option Only)
 - Alignment Adjustment Areas



Source: BLM 2008, DesertXpress 2007, ESRI 2005, NAIP 2003-2006



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3.4 UTILITIES/EMERGENCY SERVICES

This section identifies the potential affect of the project modifications and additions on utilities and emergency service systems and associated service providers operating in the study area. The utilities evaluated in this section include electricity and gas, water, wastewater facilities, and solid waste providers. Emergency services evaluated in this section include police, fire, and emergency response. The analysis also covers potential physical impacts to existing pipelines and electrical transmission infrastructure.

3.4.1 AFFECTED ENVIRONMENT

Regulations and standards related to utilities and emergency services identified in **Section 3.4.1** of the Draft EIS have not changed since publication of the Draft EIS and remain applicable to the proposed project.

Table S-3.4-1 summarizes the utility service providers for electricity and gas, water, wastewater, solid waste, police services, and fire and emergency services for the project modifications and additions. **Table S-3.4-2** summarizes the physical utility delivery systems that would be crossed by the project modifications and additions. A discussion of each project modification and addition relative to these utility service providers and delivery systems is provided below.

Table S-3.4-1 Utility/Service Providers Necessary

Project Modifications & Additions	Electricity and Gas Service	Water Supply and Service	Sewage and Wastewater	Solid Waste	Police Services	Fire and Emergency Response Services
Victorville Station Site 3 (VV3A and VV3B)	SCE SGC	VWD	VVWRA	Victorville Landfill	SBCSD	SBCFD
OMSF 2	SCE SGC	VWD	VVWRA	Victorville Landfill	SBCSD	SBCFD
Segment 2C	SCE SGC	N/A	N/A	N/A	SBCSD CHP	SBCFD BFPD
Segment 4C	SCE SGC	N/A	N/A	N/A	SBCSD CHP (near I-15)	SBCFD
Frias Substation	Nevada Energy SGC	N/A	N/A	N/A	METRO	CCFD

Project Modifications & Additions	Electricity and Gas Service	Water Supply and Service	Sewage and Wastewater	Solid Waste	Police Services	Fire and Emergency Response Services
Relocated Sloan MSF	Nevada Energy SGC	LVVWD	CCWRD or private septic system	Apex Regional Landfill	METRO	CCFD
Alignment Adjustment Areas	SCE Nevada Energy SGC	N/A	N/A	N/A	AAAs 1 – 2: SBCSD, BPD, CHP AAAs 3- 6: SBCSD, CHP AAAs 7 – 8: METRO, NHP	AAAs 1 – 2: SBCFD, BFPD AAAs 3 – 6: SBCFD AAAs 7 – 8: CCFD, LVFR
Wigwam MSF Modification	Nevada Energy SGC	LVVWD	CCWRD	Apex Regional Landfill	METRO	CCFD
Profile Modification	SCE SGC	N/A	N/A	N/A	SBCSD CHP	SBCFD

Source: CirclePoint, 2010.

Notes: BFPD – Barstow Fire Protection District; BPD – Baker Police Department ; CCFD – Clark County Fire Department; CCWRD – Clark County Water Reclamation District; CHP – California Highway Patrol; LVFR – Las Vegas Fire and Rescue; LVVWD – Las Vegas Valley Water District; METRO – Las Vegas Metropolitan Police Department; NHP – Nevada Highway Patrol; SBCSD – San Bernardino County Sherriff’s Department; SBCFD – San Bernardino County Fire Department; SCE – Southern California Edison; SGC – Southwest Gas Corporation; VVWRA – Victorville Valley Wastewater Reclamation Authority; VWD – Victorville Water District.

Table S-3.4-2 Potential Utility Crossings

Project Modifications & Changes	Utility Crossings
VV3A	<i>Electrical Transmission</i> LA Department of Water and Power
VV3B	None
OMSF 2	None
Segment 2C	<i>Natural Gas</i> Mojave-Kern Pipeline SGC Pipelines Kinder Morgan CalNev Pipeline <i>Communications/Fiber Optic</i> No information available from Caltrans. Potential Communications/Fiber Optic lines could exist in the vicinity <i>Electrical Transmission</i> SCE PG & E <i>Water</i> Mojave River Pipeline
Segment 4C	<i>Natural Gas</i> Mojave-Kern Pipeline Kinder Morgan CalNev Pipeline Specific communication, electrical transmission, petroleum, water, and sewer line crossings outside of the I-15 corridor are not known. However, conflicts with utilities are likely to exist especially in the northern part of the alignment which is located adjacent to an existing utility easement.
RSMSF	None
Frias Substation	<i>Natural Gas</i> Southwest Gas Corporation Pipelines Kinder Morgan CalNev Pipeline <i>Communications/Fiber Optic</i> AT&T Communications Nevada Sprint Central Telephone 2 COX Communication, Las Vegas Sprint Nevada <i>Electrical Transmission</i> Nevada Energy <i>Water</i> Las Vegas Valley Water <i>Sewage</i> Clark County Water Reclamation District

Project Modifications & Changes	Utility Crossings
Alignment Adjustment Areas	
AAAs 1 – 2 (Segment 2A/2B)	<i>Electrical Transmission</i> SCE PG & E LA Department of Water and Power <i>Regional Water</i> Mojave River Pipeline Sewage/Stormwater Victor Valley Wastewater Reclamation Authority North Apple Valley Inceptor (Sewage only)
AAAs 3 – 6 (Segment 3B)	<i>Electrical Transmission</i> SCE LA Department of Water and Power
AAAs 7 – 8 (Segment 6B)	<i>Natural Gas</i> SGC Pipelines Kinder Morgan CalNev Pipeline <i>Communications/Fiber Optic</i> AT&T Communications Nevada Sprint Central Telephone 2 Electric Lightware COX Communication, Las Vegas IDA Communications Level 3 Communications Nextlink Nevada Sprint Nevada <i>Electrical Transmission</i> Sierra Pacific/Nevada Power <i>Regional Water</i> Las Vegas Valley Water District <i>Sewage/Stormwater</i> Clark County Water Reclamation District Clark County Flood Control District
Wigwam MSF Modification	<i>Electrical Transmission</i> Nevada Energy
Profile Modification	<i>Natural Gas</i> Kern River Gas Pipeline Kinder Morgan CalNev Pipeline <i>Electrical Transmission</i> SCE LA Department of Water and Power

Source: CirclePoint, 2010

Regional Conditions

Construction and operation of the action alternatives require electricity, water, and other public utilities. In addition, action alternatives trigger the need for such public services as police protection, and fire/emergency response services.

The proposed modifications and additions would need the same kinds of utilities as those

identified in **Section 3.4.3** of the Draft EIS. **Table S-3.4-3** summarizes the types of utilities needed to serve the project modifications and additions. In addition, **Table S-3.4-3** identifies the types of utilities that could be crossed by the proposed modifications and additions, leading to potential utility conflicts. The utility crossings would also be similar to those identified in **Section 3.4.3.2** of the Draft EIS.

Table S-3.4-3 Summary of the Regional Environment

Proposed Modifications and Additions	Utilities/Services Needed	Possible Utility Crossings
Stations and Maintenance Facilities Victorville Station Site 3 (VV3A and VV3B) OMSF 2 Relocated Sloan MSF(RSMSF) Wigwam MSF Modification	Electricity and Gas Water Supply and Service Sewage and Wastewater Stormwater Solid Waste Police Services Fire and Emergency Response Services	Electrical transmissions at VV3A and Wigwam MSF Modification sites
Rail Alignments Segment 2C Segment 4C Alignment Adjustments Profile Modification	Electricity (EMU option) Police Services Fire and Emergency Response Services	Pipelines Communications/Fiber Optic Electrical Transmission Regional Water Pipelines
Frias Substation	Electricity (EMU Option) Police Services Fire and Emergency Response Services	Pipelines Communications/Fiber Optic Electrical Transmission Water and Sewer Pipelines

Source: CirclePoint, 2010.

Victorville Station Site 3

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, water, wastewater, solid waste, police services, and fire and emergency services for VV3 under both parking options. Currently, no stormwater conveyance systems are present on the VV3 site for either parking option.

The Victorville Valley Wastewater Reclamation Authority (VWVRA) would be responsible for providing wastewater services to VV3. However, the VV3 site is currently outside of the established VWVRA service area. The VWVRA service area would need to be expanded to serve the VV3 site.

Physical Utility Delivery Systems

Table S-3.4-2 summarizes the physical utility delivery systems that would be crossed by VV3 under both parking options.

Figure S-2-6 of Chapter 2, Alternatives shows that the parking lot for VV3A would be located directly below electrical transmission lines. These transmission lines are owned by the Los Angeles Department of Water and Power (LADWP). VV3B is configured so that parking would be located north of the station building which would avoid areas under the existing utility lines.

OMSF 2

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, water, wastewater, solid waste, police services, and fire and emergency services for OMSF 2. The same utility service providers identified in **Section 3.4.3.1** of the Draft EIS would serve OMSF 2 since only the size, not the location, of OMSF 2 has been modified.

The VVWRA would be responsible for providing sewage and wastewater services to OMSF 2. However, the OMSF 2 site is currently outside of the established VVWRA service area and a service area expansion would be required to serve the OMSF 2 site.

Physical Utility Delivery Systems

There are no utility transmission and/or distribution facilities that cross the OMSF 2 site. Electrical transmission lines owned by the LADWP would be located west of the OMSF 2 site.

Segment 2C

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, police services, and fire and emergency services for Segment 2C. As a rail alignment, no water, wastewater, or solid waste service would be required. Stormwater conveyance systems are present within the median of the I-15 freeway.

Physical Utility Delivery Systems

Table S-3.4-2 summarizes the physical utility delivery systems that would be crossed by Segment 2C. Segment 2C would cross and/or overlap with the Kinder Morgan CalNev Pipeline. The pipeline transports gasoline, oil, and jet fuel from refineries in Southern California to Las Vegas. Near Yermo, Segment 2C would also cross the Mojave-Kern Pipeline, an interstate gas pipeline. Furthermore, Segment 2C would be located beneath electrical transmission lines near the cities of Lenwood and Barstow. Segment 2C would cross the Mojave River Pipeline near the Mojave River as well as various underground telecommunications lines.

Segment 4C

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, police services, and fire and emergency services for Segment 4C. As a rail alignment, no water, wastewater, or solid waste service would be required. Where Segment 4C parallels the existing I-15 freeway near Mountain Pass there are existing stormwater conveyance systems within the median of I-15. No stormwater conveyance systems exist in the undeveloped portions of Segment 4C north of Mountain Pass.

Physical Utility Delivery Systems

Table S-3.4-2 summarizes the physical utility delivery systems that would be crossed by Segment 4C. Portions of Segment 4C within the I-15 freeway corridor (the westernmost portions, where the alignment is similar to Segment 4B) would cross two major interstate pipelines, specifically the Kern River Gas Pipeline and Kinder Morgan CalNev Pipeline. Segment 4C would also have the potential to cross communication lines located in areas where the rail alignment would be located within the I-15 freeway corridor. Furthermore, the northern portion of Segment 4C would be located adjacent to an existing utility easement with similar underground utility conveyances, including telephone, electrical, water, natural gas, and petroleum, and electrical transmission lines.

Relocated Sloan MSF

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, water, wastewater, solid waste, police services, and fire and emergency services for the RSMSF site. No stormwater conveyance systems are present on the RSMSF site.

The RSMSF would be located outside of the Clark County Water Reclamation District's (CCWRD) service area. Therefore, the service area of CCWRD would need to be expanded in order to provide service to the RSMSF.

Physical Utility Delivery Systems

There are no utility transmission and/or distribution facilities that cross the RSMSF site.

Frias Substation

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, police services, and fire and emergency services for the Frias Substation site. As a substation with no permanent employees, no water, wastewater, or solid waste service demand would occur at this site. No stormwater conveyance systems are present on the Frias Substation

site, but existing drainages are located to the north and south of the Frias Substation site that cross under the I-15 freeway to the east.

Physical Utility Delivery Systems

Table S-3.4-2 summarizes the physical utility delivery systems that would be crossed by the Frias Substation site. The Frias Substation footprint does not contain any known utilities. However, the Frias Substation would include 25 kilovolt (kV) electrical lines that would cross underground, below an existing overhead Nevada Energy electricity line. The underground feeder lines would then cross into the I-15 right of way to deliver electricity to the train. The Frias Substation would also have aboveground connections to the Arden-Tolson electric transmission line, operated by Nevada Energy, south of the site.

Alignment Adjustment Areas

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, police services, and fire and emergency services for Alignment Adjustment Areas (AAA) 1 through 8. As a rail alignment, no water, wastewater, or solid waste service would be required for the AAAs. Existing stormwater conveyance systems are located in portions of the I-15 freeway corridor.

Physical Utility Delivery Systems

AAAs 1 through 8 would not be located in areas with new utility delivery systems not previously identified for Segment 2A/2B, Segment 3B, and Segment 6B in the Draft EIS. The AAAs would not create any new utility crossings. **Table S-3.4-2** summarizes the physical utility delivery systems that would be crossed by the rail alignments with implementation of the AAAs.

Wigwam MSF Modification

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, water, wastewater, solid waste, police services, and fire and emergency services for the Wigwam MSF modification. The same utility service providers identified in **Section 3.4.3.1** of the Draft EIS would serve the Wigwam MSF site since the orientation not the location of the Wigwam MSF has been modified.

Physical Utility Delivery Systems

Table S-3.4-2 summarizes the physical utility delivery systems that would be crossed by the modified Wigwam MSF. Although not identified in **Section 3.4.3.2** of the Draft EIS, the Wigwam MSF site would be located beneath an existing Nevada Energy electric

transmission line. This line cuts diagonally across the proposed site. The Wigwam MSF modification would not require altering or otherwise impact this line.

Profile Modification

Utility Service Providers

Table S-3.4-1 summarizes the utility service providers for electricity and gas, police services, and fire and emergency services for the Profile Modification. The same utility service providers identified in **Section 3.4.3.1** of the Draft EIS would serve the Profile Modification since the depth of the rail alignment (within a depressed section), not the location, of the 1.3 mile portion of Segment 3B has been modified.

Physical Utility Delivery Systems

Since the Profile Modification would not cross any new service or utility areas not previously evaluated for Segment 3B in the Draft EIS, the Profile Modification would cross the same utility transmission and/or distribution facilities as Segment 3B as identified in **Section 3.4.3.2** of the Draft EIS. **Table S-3.4-2** summarizes the physical utility delivery systems that would be crossed by Segment 3B with implementation of the Profile Modification.

3.4.2 METHODS OF EVALUATION OF IMPACTS

The same methodology described in **Section 3.4.2** of the Draft EIS was used to evaluate potential utility and emergency service effects of the project modifications and additions. Consistent with the methodology identified in the Draft EIS, the project modifications and additions would result in adverse effects if:

- Utility or service demands of the action alternative exceeded the existing or planned capacity of existing or planned utility and service systems, or
- The action alternative would physically interrupt or otherwise constrain or impede existing utilities distribution systems.

3.4.3 ENVIRONMENTAL CONSEQUENCES

Victorville Station Site 3

Electricity and Gas Service

Under either technology option (DEMU or EMU), VV3 would require electrical energy for station operations. **Section 3.4.4.2** of the Draft EIS noted that Southern California Edison (SCE) reports sufficient equipment and facility conditions to serve the existing and

future needs of the project's passenger station in Victorville.¹ Southwest Gas Corporation (SGC) has provided a "will-serve" letter for the project.² SGC states that current operating conditions are sufficient to serve existing needs plus those associated with the project. Therefore, the electrical and gas demands that would be created by VV3 would not exceed the capacity of service providers. Please also see **Section 3.13, Energy**, of this Supplemental Draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

VV3 would generate demand for water associated with restrooms, restaurant/food service uses, and landscaping. As discussed in **Section 3.4.4.2** of the Draft EIS, the Applicant provided estimates of water needs for a Victorville Station site option combined with an OMSF site option. The combined station and maintenance facilities would require approximately 3.3 acre-feet of water per year (AFY). It is assumed that VV3 would generate the same demand for water as the Victorville Station site options evaluated in the Draft EIS, as the station size and types of uses would be comparable. Although the size of OMSF 2 has been reduced since publication of the Draft EIS, there is no change in its proposed function. Therefore, the change to the size of OMSF 2 has no bearing on the amount of water needed.

Water necessary to serve the needs of customers and workers at VV3 and OMSF 2 is determined by the Victorville Water District (VWD), the local water service provider. VWD computes estimated water usage based on gross acreage of a property and the type of land use at the property. Specifically, for the type of land use closest to the proposed station and maintenance facilities, VWD assumes each acre of development (no matter what use is proposed) would generate approximately 1,800 gallons per day of water demand.

According to VWD's water generation rates, VV3 and OMSF 2 would yield a daily usage of approximately 461,700 gallons of water per day (about 1.4 acre-feet per day or about 511 AFY). This estimate likely overstates water demand for several reasons. Except for proposed buildings, most of the land associated with these facilities would be used for parking, train tracks, or undeveloped areas where water usage would be minimal.

Despite this potential overestimation of water use, the VWD has indicated that it would have adequate water supplies to serve the needs of VV3 and OMSF 2 since the daily water demands of the station would be small in comparison to VWD's overall water production.

Although VWD would have adequate water supply to serve VV3 and OMSF 2, there are no existing pipelines that could deliver water to the VV3 site currently available.

¹ Nancy Jackson, Southern California Edison. Personal communication, January 16, 2007.

² Letter from Southwest Gas Corporation, June 12, 2008.

Consultation with VWD following the publication of the Draft EIS clarified that the construction of VV2, VV3, and OMSF 2 would not be adequately served by existing water facilities due to their distance from existing water mains. The nearest existing water facility to VV2, VV3 and OMSF 2 is approximately 7 miles south at a substantially lower elevation. The existing main does not extent far enough to serve the station sites or the OMSF. Therefore, VV3 and OMSF 2 would require the construction and/or expansion of new water facilities, including storage facilities, wells, and/or transmission and distribution pipelines.

Section 3.4.4.2 of the Draft EIS noted that a water supply assessment would be required before the eventual use of any of the Victorville station and OMSF options. This assessment would determine the size and extent of new water facilities needed. This requirement continues to apply to the project modifications and additions.

Sewage and Wastewater

Similar to water demands, the sewage and wastewater demands for VV3 (for both parking options) are considered in combination with OMSF 2, consistent with the evaluation of the Victorville Station site options in **Section 3.4.4.2** in the Draft EIS.

VV3 and OMSF 2 would generate wastewater associated with anticipated water usage. According to the VVWRA, the station and maintenance facilities would not create a substantial need for additional wastewater equipment, facilities, or personnel. In its 2005 Sewerage Facilities Plan Update, as well as a policy adopted in August 2005 regarding anticipated community growth, VVWRA acknowledges the robust growth projections forecast for the Victor Valley area. Specifically, the sewerage plan anticipates the City of Victorville's population will double between 2005 and 2025 and that wastewater flows from the City would more than double over the same period.³ As the VVWRA facility planning assumes robust growth projections in the Victor Valley area; VV3 and OMSF 2 would be served by existing or planned VVWRA facilities.

Although VVWRA has adequate capacity to serve the station and maintenance facility, land underlying VV3 and OMSF 2 would need to be annexed to the VVWRA, as this land is currently outside of the VVWRA boundaries. **Section 3.4.4.2** of the Draft EIS identified a similar annexation requirement for VV2 and OMSF 2.

Stormwater

VV3 is located in an undeveloped area without existing stormwater conveyances or stormwater providers. Any necessary drainage features would need to be provided on site.

Solid Waste

³ VVWRA 2005 Sewerage Facilities Plan, p. 1-3.

VV3 under both parking options would generate waste from employees and/or passengers. Since the projected number of employees or passengers at VV3 would not change from what was considered in the Draft EIS, the solid waste generation projections contained in **Section 3.4.4.2** of the Draft EIS remains accurate. The Victorville Landfill reports sufficient existing capacity to accommodate the solid waste generated by VV3.

Police Services

VV3 would be located in the San Bernardino County Sheriff's Department (SBCSD) service area. The SBCSD anticipates that current and projected staffing would be sufficient to serve VV3.⁴

Fire and Emergency Response Services

Based on additional consultation following publication of the Draft EIS, the San Bernardino County Fire Department (SBCFD) has indicated that the implementation of any of the Victorville Station site options (VV1, VV2, VV3A, or VV3B) would require additional staffing, training, equipment, vehicles, and facilities to adequately serve the project in the event of an emergency. The SBCFD also expressed concern of emergency access.⁵ As a result, VV3 would result in new adverse effects from exceeding the capacity of the fire department.

Utility Infrastructure Crossings

The VV3 site options would result in varying effects to utility infrastructure crossings.

VV3A: VV3A surface parking areas would be located directly underneath an electrical transmission corridor owned and operated by LADWP. According to LADWP guidelines for vehicle parking, vehicles cannot be left under the overhead electrical utility lines for more than 24 hours. Most vehicle parking at VV3A is expected to extend for more than 24 hours, because rail passengers would likely be traveling to Las Vegas for more than one day. The Applicant is pursuing a lease agreement with LADWP, which would allow long term parking under the utility lines and ensure compliance with LADWP regulations to maintain access to and normal operation of the electric transmission lines.

VV3B: The VV3B station layout avoids use of the lands under the overhead LADWP lines, locating surface parking to areas northwest of the station building. This site option was included in the event the Applicant is unable to reach an agreement with LADWP to allow for long-term parking beneath the electric transmission lines.

⁴ Dan Riser, Operations Lieutenant, San Bernardino County Sheriff's Department. Personal communication, October 9, 2009.

⁵ Pat A. Dennen, San Bernardino County Fire Department. Personal Communication, November 2, 2009.

OMSF 2*Electricity and Gas Service*

While the OMSF 2 footprint has been reduced, OMSF 2 would continue to have the same functions as identified in the Draft EIS. Electrical and gas demands would not exceed the capacity of the service providers. Please also see **Section 3.13, Energy**, of this Supplemental Draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

Consistent with the evaluation of water supply and service in **Section 3.4.4.2** in the Draft EIS, the estimated water demand associated with OMSF 2 has been considered in combination with the Victorville Station site option. Refer to the heading “Victorville Station Site 3” above for a discussion of the combined water demand and associated effects for VV3 and OMSF 2.

Sewage and Wastewater

Consistent with the evaluation of sewage and wastewater in **Section 3.4.4.2** in the Draft EIS, the wastewater generation associated with OMSF 2 has been considered in combination with the Victorville Station site option. Refer to the discussion under heading “Victorville Station Site 3” above for a discussion of the combined wastewater generation and associated effects for VV3 and OMSF 2.

Stormwater

Since the location of OMSF 2 has not changed since the Draft EIS, effects related to stormwater would be the same as presented in **Section 3.4.4.2** in the Draft EIS. Any necessary drainage features would need to be provided on site.

Solid Waste

OMSF 2 would generate waste from employees and/or passengers. Since the projected number of employees or passengers at OMSF 2 would not change as a result of the reduced footprint, the solid waste generation projections contained in **Section 3.4.4.2** of the Draft EIS would be applicable and no adverse effects would occur.

Police Services

Consistent with the conclusion for OMSF 2 in the Draft EIS, the SBCSD anticipates that current and projected staffing would be sufficient to serve OMSF 2 and no adverse effects would occur with regard to police service.⁶

Fire and Emergency Services

Based on additional consultation following publication of the Draft EIS, SBCFD has indicated that the project as a whole, including OMSF 2, would require additional staffing, training, equipment, vehicles, and facilities to adequately serve the project in the event of an emergency. The SBCFD also expressed concern of emergency access.⁷ The SBCFD's comments are similar to all project features, individually and collectively.

Utility Infrastructure Crossings

As shown in **Table S-3.4-2**, OMSF 2 would not have the potential to cross any utility lines. As a result, no interruption or impediment of utility services would occur.

Segment 2C

Electricity and Gas Service

Electricity would be needed to power the trains if the EMU technology option is implemented. The electric service providers have indicated they would be able to provide sufficient electricity to meet this demand.⁸ SGC indicated that current natural gas operating conditions are sufficient to serve the project.⁹ Additionally, the Segment 2C alignment options would not substantially alter the amount of energy needed to operate the action alternatives as evaluated in **Section 3.4.4.2** in the Draft EIS and no new environmental effects would occur.

Please also see **Section 3.13, Energy**, of this Supplemental Draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

As a rail alignment, the Segment 2C alignment options would not generate demand for water. There would not be any landscaping nor any other water related use associated with the rail segments that would create an ongoing demand for water. The new rail

⁶ Dan Riser, Operations Lieutenant, San Bernardino County Sheriff's Department. Personal communication, October 9, 2009.

⁷ Pat A. Dennen, San Bernardino County Fire Department. Personal Communication, November 2, 2009.

⁸ Nancy Jackson, Southern California Edison, Personal Communication, January 16, 2007.

⁹ Southwest Gas Corporation, Personal Community, June 12, 2008.

alignments and alignment adjustments would therefore not result in any water service issues and no effects would occur. Refer to **Section 3.8, Hydrology and Water Quality**, of this Supplemental Draft EIS for a discussion of construction related water use.

Sewage and Wastewater

Since the Segment 2C alignment options would not generate demand for water, there would be no resultant wastewater generation and no required wastewater services. No effects related to sewage or wastewater treatment would occur.

Stormwater

The Segment 2C alignment options would be located within or adjacent to the I-15 freeway corridor and could tie into the existing stormwater discharge systems associated with I-15.

Solid Waste

The Segment 2C rail alignment would not generate solid waste. Daily maintenance-of-way activities may be required to dispose of waste items that may have strayed onto the tracks. However, this amount of waste is expected to be incidental/negligible. Therefore, the Segment 2C alignment options would not result in any effects from exceeding solid waste disposal capacity.

Police Services

The SBCSD anticipates that current and projected staffing would be sufficient to serve the Segment 2C alignment options.¹⁰ However, portions of Segment 2C next to the I-15 freeway corridor would introduce the concern that a catastrophic event, such as a train derailment, could result in a blockage of the I-15 freeway. Segment 2C would include crash barriers at all supporting columns or bridges to reduce effects to I-15 during potential train derailment.

Fire and Emergency Services

Based on additional consultation following publication of the Draft EIS, the SBCFD indicated that the Segment 2C alignment options, as well as Segment 2A and Segment 2B, would require additional staffing, training, equipment, vehicles, and facilities to adequately serve the project in the event of an emergency.

The SBCFD also expressed concern of the rail alignment within the I-15 freeway median.¹¹ While the Segment 2C alignment options would incorporate cross-median emergency

¹⁰ Dan Riser, Operations Lieutenant, San Bernardino County Sheriff's Department. Personal communication, October 9, 2009.

¹¹ Pat A. Dennen, San Bernardino County Fire Department. Personal Communication, November 2, 2009.

access, the SBCFD expressed concern that the use of the median with the rail alignment would affect the SBCFD's ability to use the median during an emergency response.

The portion of the Segment 2C alignment options through Barstow would be served by the Barstow Fire Protection District (BFPD). The BFPD has indicated that present staffing levels are insufficient to meet present demands. The BFPD indicates that a new facility north of the Mojave River would be required to meet acceptable emergency response times in the area. Existing and future staff also would need to be trained for fire and other emergencies that might be associated with a high-speed passenger train.¹²

Utility Infrastructure Crossings

The Segment 2C alignment options would cross existing utility conveyance systems. The I-15 freeway corridor contains utility infrastructure, such as overhead electrical and telephone lines. Consultation with utility providers during the preparation of the Draft EIS indicated that no major conflicts are anticipated with the proposed rail alignment running beneath electrical and telephone transmission lines, provided appropriate measures are taken.

Segment 4C

Electricity and Gas Service

Electricity would be needed to power the trains if the EMU technology option is implemented. Electric service providers have indicated they would be able to provide sufficient electricity to meet this demand.¹³ As Segment 4C is 8 miles longer than its Segment 4 counterparts as evaluated in the Draft EIS, additional energy would be needed to propel the train over this distance. Although more energy will be needed than identified in **Section 3.4.4.2** of the Draft EIS, energy demand would not exceed regional supply capacity. With regard to natural gas, SGC indicates that natural gas service would be available to serve the project, but that connection to the local natural gas system in Nevada could incur fees that would be required for the Applicant.¹⁴ No adverse effects would occur. Please also see **Section 3.13, Energy**, of this Supplemental draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

As a rail alignment, Segment 4C would not generate demand for water. There would not be any landscaping nor any other water related use associated with the rail segments that would create an ongoing demand for water. Segment 4C would therefore not result in any

¹² Barstow Fire Protection District, Personal Communication, April 2008.

¹³ Nancy Jackson, Southern California Edison, Personal Communication, January 16, 2007.

¹⁴ Southwest Gas Corporation, Personal Communication, June 12, 2008.

water service issues and no effects would occur.

Sewage and Wastewater

Since Segment 4C would not generate demand for water, there would be no resultant wastewater generation and no required wastewater services. No effects related to sewage or wastewater treatment would occur.

Stormwater

Where Segment 4C would be adjacent to the I-15 freeway corridor, there would be an opportunity to tie into the existing stormwater discharge systems associated with I-15. Where Segment 4C would traverse through undeveloped areas north of Mountain Pass, new stormwater conveyance may be required.

Solid Waste

Daily maintenance-of-way activities may be required to dispose of waste items that may have strayed onto the tracks. However, this amount of waste is expected to be incidental/negligible. Therefore, Segment 4C would not result in any effects from exceeding solid waste disposal capacity.

Police Services

The SBCSD anticipates that current and projected staffing would be sufficient to serve Segment 4C.¹⁵ Response times to Segment 4C would be affected by the lack of access roads to the proposed rail alignment. After Segment 4C exits the I-15 freeway corridor via a tunnel through the Clark Mountains, it would traverse lands without public rights-of-way; reaching the alignment would therefore be challenging if not impossible for conventional modes of transportation. As the Segment 4C alignment routing does not include public interfaces such as passenger stations, the need for police services would likely be required only in limited and emergency circumstances.

Fire and Emergency Response Services

Segment 4C would be located in the SBCFD service area. SBCFD indicated that existing services are inadequate to serve the project as a whole, including Segment 4C. Project features, inclusive and collectively, would require additional staffing, training, equipment, vehicles, and facilities to adequately serve the remote area in the event of an emergency. Specific to Segment 4C, a new station facility may be needed near Mountain Pass due the segment's distance from an existing SBCFD fire station.

¹⁵ Dan Riser, Operations Lieutenant, San Bernardino County Sheriff's Department. Personal communication, October 9, 2009.

The SBCFD also expressed concern regarding access to the rail tracks where the rail alignment would be outside the I-15 freeway corridor or within a tunnel, as it may be difficult to pinpoint the exact location of the train in the event of an emergency.

Utility Infrastructure Crossings

Section 3.16.4 of the Draft EIS noted that Segment 4B would conflict with a proposed solar project located to the west of Ivanpah Dry Lake. Because of this potential conflict, the Applicant proposed Segment 4C, which avoids the conflicts with the proposed solar project.

Notwithstanding, Segment 4C has the potential to conflict with other utilities. Segment 4C is located parallel to, but outside of, an existing utilities corridor. Segment 4C could result in physical conflicts with these utilities as they travel to and from the corridor.

Relocated Sloan MSF

Electricity and Gas Service

The change in the location of the RSMSF would not affect the amount of energy that would be needed to operate this maintenance facility, as compared to the evaluation in **Section 3.4.4.2** in the Draft EIS. Nevada Energy would provide electricity to the RSMSF. SGC has indicated that natural gas service would be available, but that connection to the local natural gas system could incur fees that would be required for the Applicant.¹⁶

Water Supply and Service

At the direction of Las Vegas Valley Water District (LVVWD), a water consumption rate based on an assumed commercial land use and property size was used to determine water demands. LVVWD requested that water demand flow rates be estimated based on maximum day gallons per minute (gpm). **Section 3.4.4.2** of the Draft EIS indicated that the largest Las Vegas MSF site would be 10 acres in size, with a resultant water demand of 48.4 AFY. The RSMSF would be 9.1 acres in size and thus comparable to the water demand assumption for the MSFs in **Section 3.4.4.2** of the Draft EIS. The LVVWD indicated that the water demand projection would be within estimations for water use within their service area.¹⁷ LVVWD has also established a “water commitment” application process.

While adequate water supply would be available for the RSMSF, the LVVWD indicated that there is not adequate infrastructure to bring water to the RSMSF. Based on additional consultation with the LVVWD following the publication of the Draft EIS, it was

¹⁶ Barbara Demaree, Southwest Gas Corporation. Personal communication, June 18, 2008.

¹⁷ LVVWD, Personal Communication, June 2009.

identified that both the Sloan Road MSF and the RSMSF would require the extension and construction of new water facilities and pipelines to serve them. Notably, the LVVWD has plans to extend water infrastructure from the metropolitan Las Vegas area to the vicinity of the Jean Heliport and the Southern Nevada Supplemental Airport (SNSA) beginning as soon as 2011. However, this infrastructure is not currently in place and the Sloan Road MSF and the RSMSF would require the creation of one or more connections to the planned expanded facilities.

Sewage and Wastewater

The RSMSF would generate wastewater from water usage. Based on additional consultation with CCWRD following the publication of the Draft EIS, CCWRD indicated that current services do not extend to either the Sloan Road MSF or the RSMSF. These MSF sites are approximately 5 to 7 miles, respectively, south of the nearest existing municipal sewer line. Therefore, implementation of the Sloan Road MSF or the RSMSF would require the extension of sewer lines to connect with the existing service system or the construction of a septic system pursuant to CCWRD regulations.

Stormwater

The RSMSF is located in an undeveloped area without existing stormwater conveyances or stormwater providers. Any necessary drainage features would need to be provided on site. As no connections to stormwater services would occur, the RSMSF would not affect the ability of stormwater providers to serve their service area.

Solid Waste

The RSMSF would generate waste from employees and/or passengers. Since the projected number of employees or passengers at the RSMSF would be the same as the assumptions for the Las Vegas MSFs in the Draft EIS, the solid waste generation projections contained in **Section 3.4.4.2** of the Draft EIS would be applicable. The Apex Landfill would have sufficient capacity to accommodate solid waste generated at the RSMSF and no adverse effects would occur.

Police Services

Based on additional consultation with the Las Vegas Metropolitan Police Department (METRO)¹⁸ following publication of the Draft EIS, METRO indicated that there has been a temporary suspension on the hiring of additional police officers due to the economic downturn. **Section 3.4.4.2** of the Draft EIS noted that although METRO is not considered understaffed, it is seeking to hire more personnel to meet local initiatives and

¹⁸ The Draft EIS defined the Las Vegas Metropolitan Police Department as both METO and LVMPD. For the purposes of this Supplemental Draft EIS, the acronym METRO will be used in reference to the Las Vegas Metropolitan Police Department.

it is not anticipated that the project would impact service to the community.¹⁹ With the hiring freeze, the primary concern expressed by the METRO following publication of the Draft EIS was that of police services for the Las Vegas Station site options because an emergency event could draw officers away from the existing needs of the community and that additional officers may be required.²⁰ Thus, it is not anticipated that the RSMSF would introduce any new environmental effects beyond those identified in **Section 3.4.4.2** of the Draft EIS.

Fire and Emergency Services

Based on additional consultation with the Clark County Fire Department (CCFD) following publication of the Draft EIS, the CCFD identified several changes to their department. The CCFD indicated that the Clark County's Heavy Rescue Team and the Hazardous Materials Emergency Response Team were decommissioned since publication of the Draft EIS.²¹ Similar to the concerns identified in **Section 3.4.4.2** of the Draft EIS, the CCFD indicated that new staff, equipment, and most likely, a new station would still be required as a result of the project, including the project modifications and additions. However, the changes in the location of the Sloan Road MSF would not alter employment projections or otherwise change operating characteristics of either of these facilities in a way that would change the fire emergency response effects identified in **Section 3.4.4.2** of the Draft EIS. The RSMSF would actually be 2 miles closer to the nearest fire and police stations than the Sloan Road MSF analyzed in the Draft EIS.

Utility Infrastructure Crossings

As shown in **Table S-3.4-3**, the RSMSF would not have the potential to cross any utility lines. As a result, no interruption or impediment of utility services would occur.

Frias Substation

Electricity and Gas Service

The Frias Substation would be needed to connect the project to a source of electrical power. Nevada Energy would provide electricity to the Frias Substation, through a connection to the adjacent electric transmission lines. SGC has indicated that natural gas service would be available, but that connection to the local natural gas system could incur fees that would be required for the Applicant.²² The substation would not change the amount of energy needed by the action alternatives and would be required to operate the

¹⁹ Las Vegas Police Department, Personal Communication, January 2007.

²⁰ A.J. Delap, Office of Intergovernmental Services, Las Vegas Metropolitan Police Department, June 18, 2010.

²¹ Girard Page, Senior Deputy Fire Chief, Clark County Fire Department. Personal communication, June 8, 2010.

²² Barbara Demaree, Southwest Gas Corporation. Personal communication, June 18, 2008.

EMU technology option if either the Wigwam or Robindale MSFs are selected. Therefore, no new environmental effects would occur.

Water Supply and Service

The Frias Substation would not require water supply or service and no effects would occur.

Sewage and Wastewater

Since the Frias Substation would not require or use water, there would be no wastewater generation. No wastewater service would be required and no effects would occur.

Stormwater

The Frias Substation is located in an undeveloped area without existing stormwater conveyances or stormwater providers. Any necessary drainage features would need to be provided on site. As no connections to stormwater services would occur, the Frias Substation would not affect the ability of stormwater providers to serve their service area.

Solid Waste

The Frias Substation would not generate solid waste and would not result in any effects to solid waste service or the capacity of landfills.

Police Services

Based on additional consultation with the METRO following publication of the Draft EIS, METRO indicated that there has been a temporary suspension on the hiring of additional police officers due to the economic downturn. **Section 3.4.4.2** of the Draft EIS noted that although METRO is not considered understaffed, it is seeking to hire more personnel to meet local initiatives and it is not anticipated that the project would impact service to the community.²³ The primary concern expressed by the METRO was that of police services for the Las Vegas Station site options in that an emergency event could draw officers away from the existing needs of the community and that additional officers may be required.²⁴ As a substation, it is not anticipated that the Frias Substation would require general police service.

²³ Las Vegas Metropolitan Police Department, Personal Communication, January 2007.

²⁴ A.J. Delap, Office of Intergovernmental Services, Las Vegas Metropolitan Police Department, June 18, 2010.

Fire and Emergency Services

As previously discussed, the CCFD identified several changes to their department. Similar to the concerns identified in **Section 3.4.4.2** of the Draft EIS, the CCFD indicated that new staff, equipment, and most likely, a new station would still be required as a result of the project, including the project modifications and additions.²⁵ However, the Frias Substation would not create new adverse effects since the employment projections or operating characteristics of the project would not be altered.

Utility Infrastructure Crossings

The Frias Substation would connect directly to existing overhead electrical lines in the area and would provide electrical service to the project. There are no known utility conflicts associated with construction or operation of the Frias Substation.

Alignment Adjustment Areas

Electricity and Gas Service

Electrical energy would be needed to power the trains if the EMU technology option is implemented. The electricity service providers have indicated they would be able to provide sufficient electricity to meet this demand. Implementation of AAAs would not substantially alter the amount of energy needed to operate the action alternatives as evaluated in **Section 3.4.4.2** in the Draft EIS and no new environmental effects would occur. SGC has indicated that natural gas service would be available, but that connection to the local natural gas system in Nevada could incur fees that would be required for the Applicant.²⁶ Please also see **Section 3.13, Energy**, of this Supplemental draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

The AAAs would not result in any change in demand for water for their associated rail alignments. There would not be any landscaping nor any other water related use associated with the rail segments that would create an ongoing demand for water. The AAAs would therefore not result in any water service issues and no effects would occur.

Sewage and Wastewater

Since the AAAs would not generate demand for water, there would be no resultant wastewater generation and no required wastewater services. No effects related to sewage or wastewater treatment would occur.

²⁵ Girard Page, Senior Deputy Fire Chief, Clark County Fire Department. Personal communication, June 8, 2010.

Stormwater

AAAs 1 and 2 would be located in areas outside of the I-15 freeway corridor and would have the potential to require new stormwater conveyances or connections to existing systems (unless they are constructed on ballast, which would reduce the amount of stormwater runoff associated with the rail alignment). AAAs 3 through 8 would be adjacent to the I-15 freeway and could tie into the existing stormwater discharge systems associated with I-15.

Solid Waste

The AAAs would not result in any change to solid waste generation relative to their associated rail alignments. Daily maintenance-of-way activities may be required to dispose of waste items that may have strayed onto the tracks. However, this amount of waste is expected to be incidental/negligible. Therefore, the AAAs would not result in any effects from exceeding solid waste disposal capacity.

Police Services

The AAAs would only result in minor shifts to portions of Segment 2A/2B, Segment 3B, and Segment 6B and would not alter the police service effects nor introduce any new environmental effects related to police services. The effects identified for Segment 2A/2B, Segment 3B, and Segment 6B in **Section 3.4.4.2** of the Draft EIS would remain.

Fire and Emergency Services

The AAAs would only result in minor shifts to portions of Segment 2A/2B, Segment 3B, and Segment 6B and would not alter the fire and emergency service effects nor introduce any new environmental effects. The effects identified for Segment 2A/2B, Segment 3B, and Segment 6B in **Section 3.4.4.2** of the Draft EIS would remain.

Utility Infrastructure Crossings

The AAAs would not change the nature of the utility conflicts that would occur during construction of the rail segments. Accounting for the AAAs, Segment 2A/2B, Segment 3B, and Segment 6B would continue to cross or be in close proximity to a number of utilities, including gas pipelines, electric transmission lines, water/wastewater infrastructure, and communications/fiber-optic lines. AAA 1 occurs within Segment 2A/2B, in the vicinity of a known crossing of the Mojave Kern Pipeline. The resultant change to the rail alignment may modify the precise location where the rail alignment and the pipeline intersect. With AAA 8, Segment 6B would leave the I-15 right of way in three places and could conflict with overhead utility lines and drainage features in these areas.

²⁶ Barbara Demaree, Southwest Gas Corporation. Personal communication, June 18, 2008.

Although the types of conflicts from the alignment adjustments would be similar in number and nature to those discussed in **Section 3.4.4.2** of the Draft EIS, the physical location of utility conflicts may be different.

Wigwam MSF Modification

Electricity and Gas Service

The modification to the orientation of the Wigwam MSF would not affect the amount of energy that would be needed to operate this facility. The modified Wigwam MSF would result in the same energy and natural gas demand as the Wigwam MSF evaluated in **Section 3.4.4.2** of the Draft EIS and no new environmental effects would occur.

Water Supply and Service

Since only the orientation of the Wigwam MSF has been changed since publication of the Draft EIS, the assumed water demand would be the same as presented in **Section 3.4.4.2** of the Draft EIS. LVVWD reports adequate water supply and infrastructure to serve the Wigwam MSF.²⁷

Sewage and Wastewater

Since only the orientation of the Wigwam MSF has been changed since publication of the Draft EIS, the estimated wastewater generation would be the same as presented in **Section 3.4.4.2** of the Draft EIS. The CCWRD and LVPWD would have adequate capacity to serve the Wigwam MSF.

Stormwater

Since the location of the Wigwam MSF has not changed since the Draft EIS, the effects related to stormwater would be the same as presented in **Section 3.4.4.2** in the Draft EIS. Any necessary drainage features would need to be provided on site.

Solid Waste

Since the size and employment capacity of the Wigwam MSF has not changed since the Draft EIS, the effects related to solid waste would be the same as presented in **Section 3.4.4.2** in the Draft EIS. No adverse effects related to solid waste generation or landfill capacity would occur with the modification.

²⁷ LVVWD, Personal Communication, June 2009.

Police Services

Since the location of the Wigwam MSF has not changed since the Draft EIS, the effects related to police services would be the same as presented in **Section 3.4.4.2** in the Draft EIS. It is not anticipated that the Wigwam MSF modification would affect the ability of the METRO or Nevada Highway Patrol (NHP) to provide police service.

Fire and Emergency Services

As previously discussed, the CCFD identified several changes to their department. Similar to the concerns identified in **Section 3.4.4.2** of the Draft EIS, the CCFD indicated that new staff, equipment, and most likely, a new station would still be required as a result of the project, including the project modifications and additions.²⁸ However, the Wigwam MSF modification would not create new adverse effects since the employment projections or operating characteristics of the project would not be altered.

Utility Infrastructure Crossings

Portions of the Wigwam MSF site would be located under an electric transmission line.

Profile Modification*Electricity and Gas Service*

As the Profile Modification would place a portion of the Segment 3B rail alignment within a retained cut, no change to the required electricity and gas service as identified in **Section 3.4.4.2** of the Draft EIS would occur. No new environmental effects would occur. Please also see **Section 3.13, Energy**, of this Supplemental draft EIS for a discussion of energy use associated with the project modifications and additions.

Water Supply and Service

The Profile Modification would not generate demand for water. There would not be any landscaping nor any other water related use associated with the rail segments that would create an ongoing demand for water. The Profile Modification would therefore not result in any water service issues and no effects would occur.

²⁸ Girard Page, Senior Deputy Fire Chief, Clark County Fire Department. Personal communication, June 8, 2010.

Sewage and Wastewater

Since the Profile Modification would not generate demand for water, there would be no resultant wastewater generation and no required wastewater services. No effects related to sewage or wastewater treatment would occur.

Stormwater

With the Profile Modification, this portion of Segment 3B would be situated within a retained cut and would not have the ability to tie into the existing I-15 stormwater drainage system because the rail alignment would be below grade. However, it is assumed that the rail alignment would be constructed on ballast and would not generate substantial amounts of stormwater runoff.

Solid Waste

The Profile Modification would not generate solid waste. Daily maintenance-of-way activities may be required to dispose of waste items that may have strayed onto the tracks. However, this amount of waste is expected to be incidental/negligible. Therefore, the Profile Modification would not result in any effects from exceeding solid waste disposal capacity.

Police Services

The Profile Modification is located in the same physical footprint as Segment 3B in the Draft EIS and therefore introduces no additional effects related to police services.

Fire and Emergency Services

The Profile Modification is located in the same physical footprint as Segment 3B in the Draft EIS and therefore introduces no additional effects related to fire and emergency services.

Utility Infrastructure Crossings

The Profile Modification is located in the same physical footprint as Segment 3B in the Draft EIS and therefore introduces no additional utility conflicts.

3.4.4 MITIGATION MEASURES

The mitigation measures identified in **Section 3.4.5** of the Draft EIS would be applied to the project modifications and additions to avoid, minimize, and mitigation for any adverse effects related to utilities and emergency services. These mitigation measures would also be applied to the project modifications and additions to reduce any new adverse effects related to utilities and emergency services. The relevant mitigation measures from the

Draft EIS are summarized below:

- **Mitigation Measure 1** would require the payment of connection and/or service/user/tipping fees, would be applied to all Las Vegas area MSF site options, VV3 (both parking options), and OMSF 2 to reduce effects related to connections to water facilities.
- In addition to the preparation of a Water Supply Assessment, **Mitigation Measure 2**, which is intended to minimize water usage through the incorporation of water-saving devices and drought-tolerant landscaping, would be applied to VV3 (both parking options), and continue to be applied to OMSF 2, to reduce effects related to water supply.
- **Mitigation Measure 3** would be applied to the RSMSF Site to ensure a water commitment from the LVVWD during the design phase of the project.
- **Mitigation Measure 4** would apply to rail segments within the freeway rights-of-way, including the rail alignments, alignment adjustments, and the Profile Modification. This mitigation measure would require that the Applicant coordinate with the state transportation agencies in California and Nevada to ensure that the proposed rail alignments connect to existing freeway stormwater conveyance devices.
- **Mitigation Measure 5** would be applied to all proposed modifications and additions, which would require that the project develop appropriate stormwater conveyance structures/systems at station and maintenance facility sites.
- **Mitigation Measure 6** would continue to be applied to all proposed modifications and additions, which would require the payment of impact fees for fire and emergency services. The Applicant would be required to pay a fair share development impact fee for improving the fire service and emergency response level to a level proportionate to the project's impact.
- **Mitigation Measure 7** would also be applied to all proposed modifications and additions, which would require the development of an emergency operations plan for the rail alignments, which would address concerns of accessing the rail alignments outside of the I-15 corridor.
- **Mitigation Measure 8** would be applied to all of proposed modifications and additions, which would avoid or minimize conflicts with existing utility infrastructure crossings.

3.4.5 RESIDUAL IMPACTS FOLLOWING MITIGATION

The incorporation of mitigation measures would minimize permanent effects related to the adequate provision of services and conflicts from utility crossings. Where proposed modifications and additions require the expansion of utility infrastructure, their location would be determined during the final design phase of the project. If additional facilities

were located outside of the footprint of the project features or were fundamentally different in nature to previous proposals, separate environmental review of the water facilities' construction and operation would be required. Additionally, if groundwater wells or other sources of water are considered during project operation or construction, development of these features would be subject to subsequent environmental review.

3.5 TRAFFIC AND TRANSPORTATION

This section identifies the potential effect on traffic and transportation within the project area as a result of the project modifications and additions and discusses the related mitigation measures.

3.5.1 AFFECTED ENVIRONMENT

Regulations and standards related to traffic and transportation identified in **Section 3.5.1** of the Draft EIS have not changed since publication of the Draft EIS and thus remain applicable to the proposed project.

Victorville Station Site 3

VV3A and VV3B parking options differ only in terms of parking configuration. Therefore, the study assumes equivalent traffic levels for both. Furthermore, traffic going to and from VV3A and VV3B would use the same roadways, intersections, and station access points.

Study Area Roadways and Intersections

The Dale Evans Parkway interchanges with I-15 would provide the only access to and from the VV3 site. Currently, this roadway has a single travel lane in each direction. On the east side of I-15, Dale Evans Parkway extends to the City of Apple Valley about five miles to the southeast. However, on the west side of I-15, the paved portion of Dale Evans Parkway terminates after a few hundred feet, and Dale Evans Parkway continues to the northwest as a dirt road, providing access into the nearby mountains. Owing to relatively low traffic volumes in this area, intersections in the area are stop-sign controlled (unsignalized).

The following existing intersections in the station vicinity have been identified for analysis:

- Dale Evans Parkway and I-15 Northbound (NB) Ramps
- Dale Evans Parkway and I-15 Southbound (SB) Ramps

Figure S-3.5-1 shows existing lane geometry at the Victorville study intersections.

Evening peak hour turning movement counts were obtained at these study intersections on Thursday, May 28, 2009. **Figure S-3.5-2** presents these volumes in Intersection Level of Service (LOS) for the weekday PM peak period (4:00 PM to 6:00 PM) for the study intersections. **Table S-3.5-1** indicates that both study area intersections currently operate at acceptable conditions (LOS A).

Table S-3.5-1 Intersections Level of Service – Existing Conditions LOS

Intersection	Traffic Control	Existing Conditions	
		LOS	Delay ^a
1 I-15 Northbound Ramps / Dale Evans Parkway	Unsignalized ^b	A (NB) ^c	9.3
2 I-15 Southbound Ramps / Dale Evans Parkway	Unsignalized ^b	A (SB) ^c	9.8

Source: AECOM, 2009.

^a Delay reported in seconds per vehicle

^b LOS and Delay reported for worst approach

^c SB=Southbound, NB=Northbound

Study Area Ramp Junctions

The term “ramp junction” refers to both “merge” areas where on-ramps enter freeways, and “diverge” areas where cars prepare to exit freeways via off-ramps. For the freeway-ramp junctions, the *Highway Capacity Manual* methodology determines the LOS based on density of vehicles in the area of the freeway directly downstream or upstream of the studied ramps (presented in passenger cars per mile per lane, or pc/mi/ln). **Table 3.5-2** of the Draft EIS presents the definitions for LOS values for ramp junctions. The planned transportation improvements assumed under the Draft EIS were also used in this analysis, and are incorporated into the forecasts for both the No Action Alternative and the Action Alternatives in the 2030 scenario.

A ramp junction analysis was performed to calculate the existing LOS conditions of the I-15 on- and off-ramps to Dale Evans Parkway.

Table S-3.5-2 shows that under existing conditions, the I-15 NB ramp junctions operate at an acceptable LOS B, and the SB ramp junctions operate at an acceptable LOS C.

Table S-3.5-2 Ramp Junction Level of Service – Existing Conditions

Location	LOS ^a	Density of Ramp (pc/mi/ln)
1 I-15 NB ^b Off-ramp to Dale Evans Parkway	B	16.0
2 I-15 SB ^b Off-ramp to Dale Evans Parkway	C	26.6
3 I-15 NB ^b On-ramp from Dale Evans Parkway	B	16.1
4 I-15 SB ^b On-ramp from Dale Evans Parkway	C	26.3

Source: AECOM, 2010.

Notes: Bold indicates unacceptable conditions

^a LOS = Level of Service

^b NB = Northbound; SB = Southbound

OMSF2, Relocated Sloan MSF, and Wigwam MSF Modification

The revised OMSF2 site, RSMSF site, and the Wigwam MSF Modification would not result in changes to the anticipated number of workers at the MSF/OMSF facilities considered in **Section 3.5.4** of the Draft EIS. Furthermore, these modifications and additions would not result in any changes in access points from the local roads that would affect traffic patterns.

Segment 2C, Segment 4C, Alignment Adjustment Areas, and Profile Modification

Segment 2C and Segment 4C would not include any interface with passengers or employees (e.g. station or maintenance facility) nor create any at-grade crossings or require modification or changes to existing local roadways.

Likewise, the eight proposed AAAs and Profile Modification involve shifts of the location of the proposed rail alignment but would not include any interface with passengers or employees.

Frias Substation

The Frias substation would be unmanned and therefore would not generate any new vehicle trips during project operations.

3.5.2 METHODS OF EVALUATION OF IMPACTS

Rail Ridership Study

In response to the proposed VV3 station alternative, a Supplemental Traffic Impact Assessment (TIA) was prepared by AECOM in April 2010. The 2010 TIA supplements the TIA that was prepared for the project and was included as **Appendix E** in the Draft EIS. The new 2010 TIA is included in this document as **Appendix S-B**.

The 2010 TIA only addresses the affects from VV3, as the remainder of the project modifications and additions would not include any interface with passengers or employees (e.g. station or maintenance facility) nor create any at-grade crossings or require modification or changes to existing local roadways.

The Draft EIS ridership projections were calculated assuming VV2 as the southern terminus of the route. Since VV3 is 4.5 miles further north from southern California population centers than VV2, the ridership forecasts were reviewed to determine the potential impact of VV3 on ridership. The review determined the location of VV3 would result in a less than one percent decrease in ridership. Given this minimal change in anticipated ridership, approximately the same number of vehicles would be traveling to and from the VV3 station as would travel to the other station options. Vehicle travel time to access the VV3 station would be three to four minutes longer than trips to VV1 or VV2 for vehicles coming from southern California, which would not substantially increase overall vehicle travel time for travelers from southern California.¹ At the same time, VV3's closer proximity to Las Vegas would result in slightly reduced train trip times, partially offsetting longer automobile trips. Given this, the TIA prepared for VV3 assumes the same level of traffic to and from the station as assumed for the other station site options.

¹ Stantec Consulting Services, April 13, 2010.

Notably, ridership forecasts differ between the EMU and DEMU technology options. The EMU technology offers higher speeds, larger trains, and shorter travel times than the DEMU and therefore would attract more riders than the slower, less frequent DEMU option. The EMU is thus anticipated to attract a higher level of ridership than the DEMU, which translates to higher traffic volumes to and from passenger stations.

Scenarios Evaluated

Two horizon years were selected for the traffic analysis: 2013 and 2030. The year 2013 was selected because it is the year the DesertXpress high speed passenger train is expected to begin operations. The year of 2030 was also selected to evaluate cumulative conditions because it is about 20 years after the start of construction, and because it was the farthest year in the future for which regional travel forecasts were available for the metropolitan Las Vegas area.

The same LOS thresholds for the Victorville area used in **Section 3.5.2.2** the Draft EIS are used here. According to the City of Victorville and the San Bernardino County Congestion Management Plan, the LOS at the study intersections for this analysis would be considered unacceptable if it falls below LOS D or adds five percent or more to the peak hour traffic volumes of an intersection.

3.5.3 ENVIRONMENTAL CONSEQUENCES

Victorville Station Site 3

Potential Direct and Indirect Effects on Intersections

Figures S-3.5-3 and **S-3.5-4** show that the intersection geometry would change between 2013 and 2030, respectively, when station access roads are constructed. Dale Evans Parkway is the only existing street that would serve the proposed VV3 station site. **Figure S-3.5-5** shows the overall trip distribution for the station.

The following intersections were evaluated under future conditions with VV3:

- Intersection 1: I-15 NB Ramps/Dale Evans Parkway
- Intersection 2: I-15 SB Ramps/Dale Evans Parkway
- Intersection 3: Station Access #1/Dale Evans Parkway
- Intersection 4: Station Access #2/Dale Evans Parkway
- Intersection 5: Future Street/Dale Evans Parkway
- Intersection 6: Future Street/Station Access #3
- Intersection 7: Future Street/Station Access #4
- Intersection 8: Future Street/Station Access #5

Tables S-3.5-3 and **S-3.5-4** show future conditions at the intersections listed above under baseline conditions for the DEMU and EMU option respectively.

DEMU Technology Option

Existing Plus DEMU – Adverse Effects: When compared to existing conditions, the DEMU option would have an adverse effect on two study area intersections: the I-15 NB Ramps/Dale Evans Parkway and I-15 SB Ramps/Dale Evans Parkway intersections. As shown in **Table S-3.5-5**, LOS at both of these intersections would deteriorate from an acceptable to unacceptable level, resulting in an adverse effect. **Section 3.5.5** below provides mitigation.

2013 Plus DEMU – Adverse Effects: The addition of traffic generated by the DEMU option to 2013 Baseline Conditions would change the LOS from acceptable to unacceptable at three study area intersections, resulting in adverse effects. The affected intersections would be the I-15 NB Ramps/Dale Evans Parkway, I-15 SB Ramps/Dale Evans Parkway, and Future Street/Dale Evans Parkway intersections. **Section 3.5.5** below provides mitigation. As shown in **Table S-3.5-5**, all other study intersections would continue to operate at an acceptable LOS.

2030 Plus DEMU – Adverse Effects: The addition of traffic generated by the DEMU option to 2030 Baseline Conditions would change LOS from acceptable to unacceptable at three study area intersections, resulting in adverse effects. The affected intersections would be the I-15 NB Ramps/Dale Evans Parkway, I-15 SB Ramps/Dale Evans Parkway, and Future Street/Dale Evans Parkway intersections. **Section 3.5.5** below provides mitigation. As shown in **Table S-3.5-5**, all other study intersections would continue to operate at an acceptable LOS.

EMU Technology Option

Existing Plus EMU – Adverse Effects: When compared to existing conditions, the EMU option would have an adverse effect on two study area intersections: the I-15 NB Ramps/Dale Evans Parkway and I-15 SB Ramps/Dale Evans Parkway intersections. As shown in **Table S-3.5-6**, LOS at both of these intersections would deteriorate from an acceptable to unacceptable level, resulting in an adverse effect. **Section 3.5.5** below provides mitigation.

2013 Plus EMU – Adverse Effects: The addition of traffic generated by the EMU option to 2013 Baseline Conditions would change LOS from acceptable to unacceptable at five study area intersections, resulting in adverse effects. The affected intersections would be the I-15 NB Ramps/Dale Evans Parkway, I-15 SB Ramps/Dale Evans Parkway, Station Access #1/Dale Evans Parkway, Future Street/Dale Evans Parkway, and Future Street/Station Access #4 intersections. **Section 3.5.5** below provides mitigation. As shown in **Table S-3.5-6**, all other study intersections would continue to operate at acceptable LOS.

2030 Plus EMU – Adverse Effects: The addition of traffic generated by the EMU option to 2030 Baseline Conditions would change LOS from acceptable to unacceptable at three study area intersections, resulting in adverse effects. The affected intersections would be the I-15 NB Ramps/Dale Evans Parkway, I-15 SB Ramps/Dale Evans Parkway, and Future Street/Dale Evans Parkway intersections. **Section 3.5.5** below provides mitigation for these cumulative effects. As shown in **Table S-3.5-6**, no cumulative effects would occur at the other study intersections since they would continue to operate at acceptable LOS.

Table S-3.5-3 Existing, 2013, & 2030 Baseline plus DEMU- LOS Conditions on Local Streets

Intersection	Existing Conditions ^a		Existing Conditions Plus DEMU Conditions ^a		2013 Baseline Conditions ^a		2013 Baseline Plus DEMU Conditions ^a		2030 Baseline Conditions ^{a,e}		2030 Baseline Plus DEMU Conditions ^{a,e}	
	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b
1 I-15 Northbound Ramps & Dale Evans Parkway	A (NB) ^c	9.3	F(NB)^c	163.4	B (NB) ^c	12.0	F(NB)^c	586.3	C	30.8	F	89.9
2 I-15 Southbound Ramps & Dale Evans Parkway	A (SB) ^c	9.8	F(SB)^c	115.3	C (NB) ^c	15.5	F(SB)^c	666.9	C	24.3	F	83.0
3 Station Access #1 & Dale Evans Parkway	NA	NA	B(NB) ^c	12.6	NA	NA	C(NB) ^c	19.3	NA	NA	B	18.5
4 Station Access #2 & Dale Evans Parkway	NA	NA	A(NB) ^c	9.6	NA	NA	B(NB) ^c	11.7	NA	NA	B	13.4
5 Future Street & Dale Evans Parkway	NA	NA	A(NB) ^c	9.1	C (SB) ^c	16.0	F(NB)^c	2028.4	D	49.3	E	56.6
6 Future Street & Station Access #3 ^d	NA	NA	A(WB) ^c	9.3	B (EB) ^c	11.9	C(EB) ^c	21.7	A	7.4	A	9.1
7 Future Street & Station Access #4 ^d	NA	NA	A(WB) ^c	9.0	B (EB) ^c	13.2	D(EB) ^c	27.6	B	12.4	B	15.5
8 Future Street & Station Access #5	NA	NA	A(WB) ^c	8.7	NA	NA	B(WB) ^c	11.5	NA	NA	A	6.5

Source: AECOM, 2010.

Notes:

- a) LOS and Delay reported for worst approach
- b) Delay reported in seconds per vehicle
- c) NB = Northbound, SB=Southbound, EB = Eastbound, WB=Westbound
- d) Intersections 6 and 7 are T-intersections under 2013 and 2030 Baseline conditions
- e) Signalization of all intersection occurs only under 2030 Baseline conditions

Bold text indicates unacceptable conditions.

Table S-3.5-4 Existing, 2013, & 2030 Baseline plus EMU- LOS Conditions on Local Streets

Intersection	Existing Conditions ^a		Existing Conditions Plus EMU Conditions ^a		2013 Baseline Conditions ^a		2013 Baseline Plus EMU Conditions ^a		2030 Baseline Conditions ^{a,e}		2030 Baseline Plus EMU Conditions ^{a,e}	
	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b	LOS	Delay ^b
1 I-15 Northbound Ramps & Dale Evans Parkway	A (NB) ^c	9.3	F(NB)^c	529.5	B (NB) ^c	12.0	F(NB)^c	---	C	30.8	F	162.3
2 I-15 Southbound Ramps & Dale Evans Parkway	A (SB) ^c	9.8	F(SB)^c	567.8	C (SB) ^c	15.5	F(SB)^c	---	C	24.3	F	150.6
3 Station Access #1 & Dale Evans Parkway	NA	NA	C(NB) ^c	19.4	NA	NA	F(NB)^c	65.1	NA	NA	C	31.4
4 Station Access #2 & Dale Evans Parkway	NA	NA	B(NB) ^c	10.4	NA	NA	B(NB) ^c	13.0	NA	NA	B	13.6
5 Future Street & Dale Evans Parkway	NA	NA	A(NB) ^c	9.5	C (SB) ^c	16.0	F(NB)^c	---	D	49.3	E	58.7
6 Future Street & Station Access #3 ^d	NA	NA	A(WB) ^c	9.8	B (EB) ^c	11.9	D(EB) ^c	29.9	A	7.4	A	9.5
7 Future Street & Station Access #4 ^d	NA	NA	A(WB) ^c	9.4	B (EB) ^c	13.2	E(EB)^c	40.7	B	12.4	B	15.8
8 Future Street & Station Access #5	NA	NA	A(WB) ^c	8.8	NA	NA	B(WB) ^c	12.0	NA	NA	A	8.2

Source: AECOM, 2010.

Notes:

- a) LOS and Delay reported for worst approach
- b) Delay reported in seconds per vehicle
- c) NB = Northbound, SB=Southbound, EB = Eastbound, WB=Westbound
- d) Intersections 6 and 7 are T-intersections under 2013 and 2030 Baseline conditions
- e) Signalization of all intersection occurs only under 2030 Baseline conditions

Bold text indicates unacceptable conditions.

Table S-3.5-5 I-15/Dale Evans Parkway Ramp Junction Level of Service - 2013 Conditions

Ramp Junction	2013 Baseline		2013 Baseline Plus DEMU		2013 Baseline Plus EMU	
	LOS ^a	Density of Ramp	LOS ^a	Density of Ramp	LOS ^a	Density of Ramp
1 I-15 NB ^b Off-ramp to Dale Evans Parkway	B	18.8	C	23.4	C	25.3
2 I-15 SB ^b Off-ramp to Dale Evans Parkway	D	28.8	D	29.0	D	29.1
3 I-15 NB ^b On-ramp from Dale Evans Parkway	B	18.8	C	22.2	C	23.6
4 I-15 SB ^b On-ramp from Dale Evans Parkway	D	29.6	D	30.2	D	34.8

Source: AECOM, 2010.

Notes: Bold indicates unacceptable conditions

^a LOS = Level of Service

^b NB = Northbound; SB = Southbound

Table S-3.5-6 I-15/Dale Evans Parkway Ramp Junction Level of Service - 2030 Conditions

Ramp Junction	2030 Baseline		2030 Baseline Plus DEMU		2030 Baseline Plus EMU	
	LOS ^a	Density of Ramp	LOS ^a	Density of Ramp	LOS ^a	Density of Ramp
1 I-15 NB ^b Off-ramp to Dale Evans Parkway	D	28.2	D	32.0	D	33.5
2 I-15 SB^b Off-ramp to Dale Evans Parkway	E	35.5	E	35.6	E	35.7
3 I-15 NB ^b On-ramp from Dale Evans Parkway	D	29.1	D	32.4	D	33.7
4 I-15 SB^b On-ramp from Dale Evans Parkway	F	41.6	F	42.2	F	46.5

Source: AECOM, 2010.

Notes: Bold indicates unacceptable conditions

^a LOS = Level of Service

^b NB = Northbound; SB = Southbound

Ramp Junction Analysis

All traffic accessing the proposed VV3 station site would use the northern I-15 /Dale Evans Parkway interchange. **Figure S-3.5-3** shows the overall trip distribution for the station area. These distributions were incorporated into the traffic forecasts for the 2013 and 2030 conditions at the I-15 on and off ramps at Dale Evens Parkway.

Table S-3.5-3 summarizes the 2013 conditions at the I-15/Dale Evans Parkway ramp junctions under both baseline (No Project) and with project conditions (Both DEMU and EMU technology options). Under the 2013 Baseline Conditions, all ramp junctions are expected to operate at acceptable conditions (LOS D or better).

Implementation of the project with the proposed VV3 station site would worsen delays at the I-15 and Dale Evans Parkway ramp junctions in year 2013 under both technology options. However, the LOS would remain acceptable at all ramp junctions under both technology options.

Table S-3.5-4 summarizes the 2030 conditions at the I-15/Dale Evans Parkway ramp junctions. Under the 2030 Baseline Conditions, NB ramp junctions are expected to operate at acceptable conditions (LOS D), while SB ramp junctions would operate at unacceptable conditions (LOS E and F). When compared to the 2030 Baseline Conditions, the SB ramp junctions would continue to operate at unacceptable conditions with implementation of VV3 under both the DEMU and EMU options, while the NB ramp junctions would continue to operate at an acceptable LOS D.

OMSF2, Relocated Sloan MSF, and Wigwam MSF Modification

As previously stated, the revised OMSF2 site, RSMSF site, and the Wigwam MSF Modification would not result in changes to the anticipated number of workers at the MSF/OMSF facilities considered in the Draft EIS. Therefore these project modifications would not change the conclusion in **Section 3.5.4** of the Draft EIS that these facilities would not result in adverse traffic effects on nearby local roadways.

Segment 2C, Segment 4C, Alignment Adjustment Areas, and Profile Modification

As previously stated, Segment 2C, Segment 4C, and AAAs would not include any interface with passengers or employees (e.g. station or maintenance facility) nor create any at-grade crossings or require modification or changes to existing local roadways. Therefore, there are no traffic effects related to these features.

Frias Substation

The Frias substation would be unmanned and therefore would not generate any new vehicle trips during project operations. As a result, the Frias Substation would not result in any traffic related effects.

3.5.4 MITIGATION MEASURES

The addition of project traffic to future projected traffic in 2013 and 2030 would contribute to unacceptable delays at the affected intersections. **Table S-3.5-7** lists mitigation requirements for VV3 under the DEMU technology option. **Table S-3.5-8** lists mitigation requirements for VV3 under the EMU technology option. The project Applicant would be responsible to contribute to these mitigations equal to their fair-share of the adverse effect as determined by the appropriate jurisdictional authority.

Mitigation Measures TRAF-25 and **TRAF-26** would avoid or reduce the adverse traffic effects associated with the proposed VV3 station site. **Appendix S-B**, the Supplemental TIA for VV3, provides LOS calculations at intersections after implementation of **Mitigation Measures TRAF-25** and **TRAF-26**. These calculations show that mitigation measures would improve the level of service (LOS) to acceptable (LOS D or better) conditions at all study intersections.

Table S-3.5-7 VV3 Mitigation Measures – DEMU Technology Option

Station Site Option	Intersection	Existing	2013	2030
Mitigation TRAF-25: Victorville Site Option 3 – Project Mitigation The project Applicant would be responsible to contribute to these mitigations equal to their fair-share of the adverse effect as determined by the appropriate jurisdictional authority.	1. I-15 Northbound Ramps/Dale Evans Parkway	▪ Signalize	▪ Add northbound left turn lane	▪ Add second northbound left turn lane
	2. I-15 Southbound Ramps/Dale Evans Parkway	▪ Signalize	▪ Add eastbound right turn lane ▪ Add westbound left turn lane	▪ Optimize signal timing
	5. Future Street/Dale Evans Parkway	N/A	▪ Signalize	▪ Optimize signal timing

Source: AECOM, 2010.

Note: The number of each improvement needed corresponds with the intersection numbers as discussed in the rest of this section.

Table S-3.5-8 VV 3 Mitigation Measures - EMU Technology Option

Station Site Option	Intersection	Existing	2013	2030
Mitigation TRAF-26: Victorville Site Option 3 – Project Mitigation The project Applicant would be responsible to contribute to these mitigations equal to their fair-share of the adverse effect as determined by the appropriate jurisdictional authority.	1. I-15 Northbound Ramps/Dale Evans Parkway	▪ Signalize	▪ Add two northbound left turn lanes ^a	▪ Add northbound left turn lane ^a
	2. I-15 Southbound Ramps/Dale Evans Parkway	▪ Signalize	▪ Add eastbound right turn lane ▪ Add second westbound through lane ▪ Add westbound left turn lane	▪ Add second eastbound right turn lane
	3. Station Access #1/Dale Evans Parkway	N/A	▪ Signalize ▪ Add second westbound left turn lane	N/A
	5. Future Street/Dale Evans Parkway	N/A	▪ Signalize ▪ Add second westbound left turn lane	▪ Add third westbound left turn lane
	7. Future Street/Station Access #4	N/A	▪ Signalize	N/A

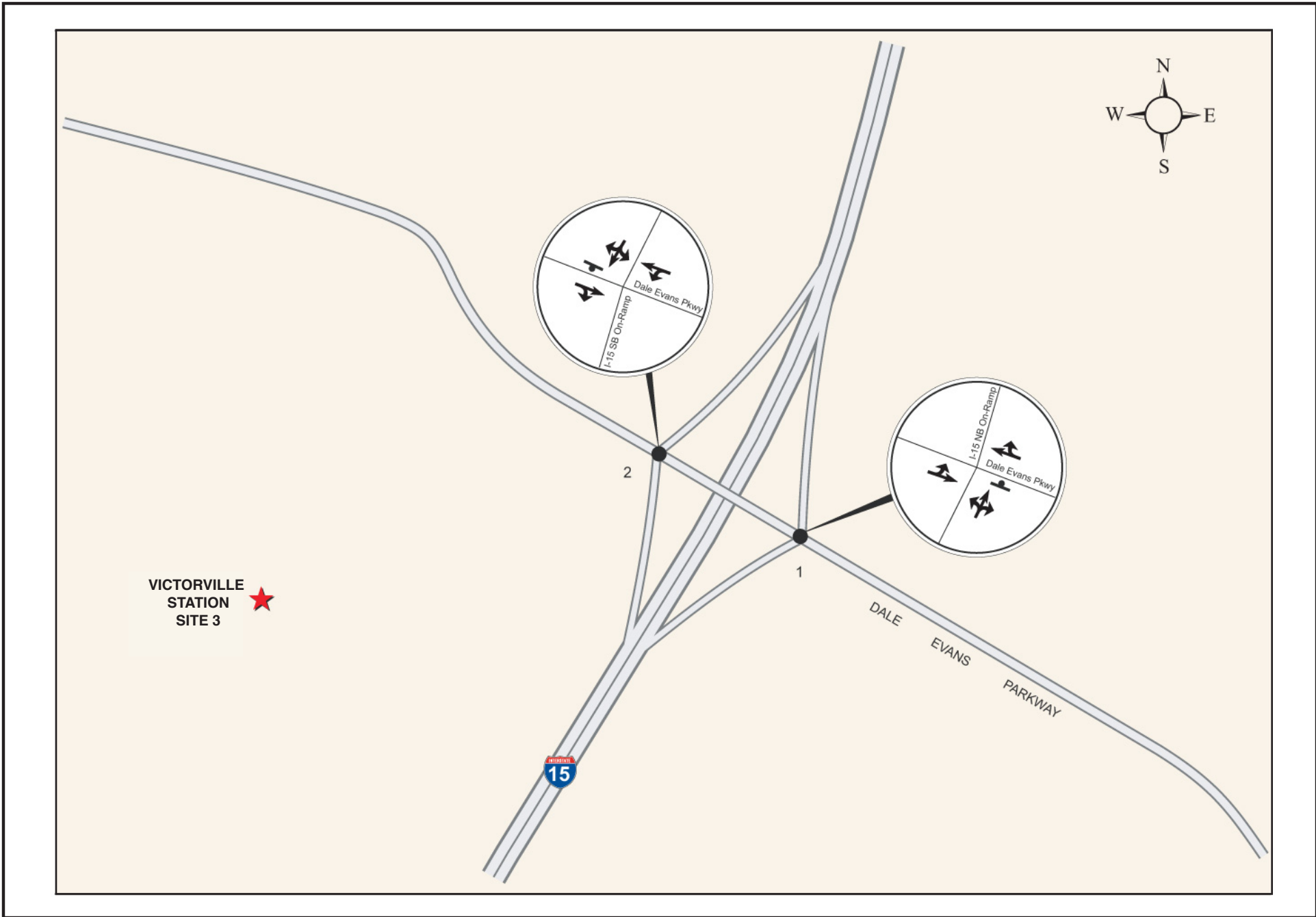
Source: AECOM, 2010.

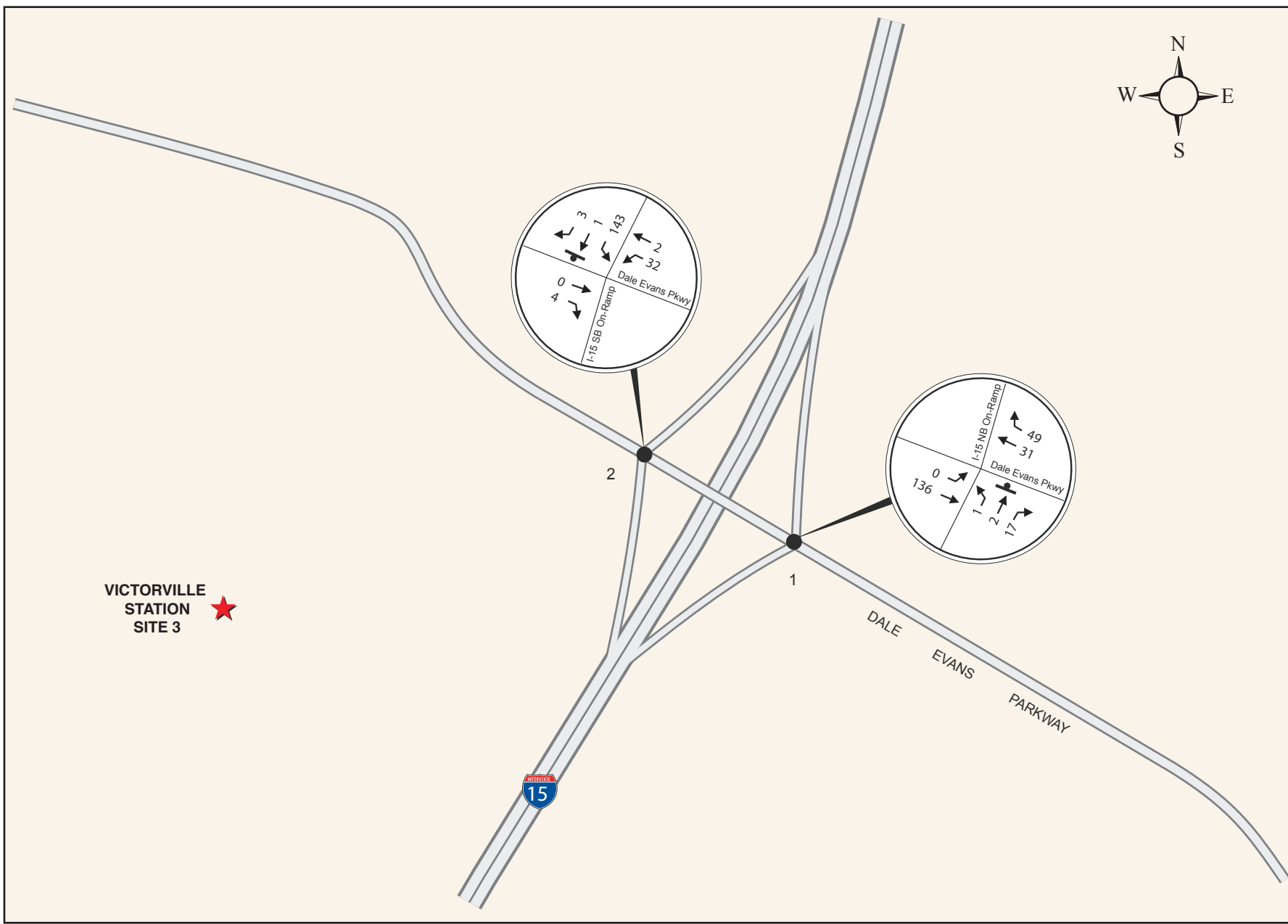
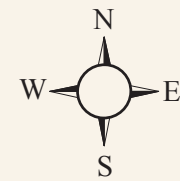
Note: The number of each improvement needed corresponds with the intersection numbers as discussed in the body of this section and in the referenced 2010 TIA.

^a The 2013 geometry at intersection 1 is assumed to be unsignalized (the same as existing geometry) and the 2013 mitigation measure reflects what is needed to improve the intersection under these conditions. By 2030, the intersection geometry would change and the intersection is expected to be signalized with one left-turn lane and two through lanes. The 2030 mitigation reflects changes needed to the anticipated 2030 intersection geometry.

3.5.5 RESIDUAL IMPACTS FOLLOWING MITIGATION

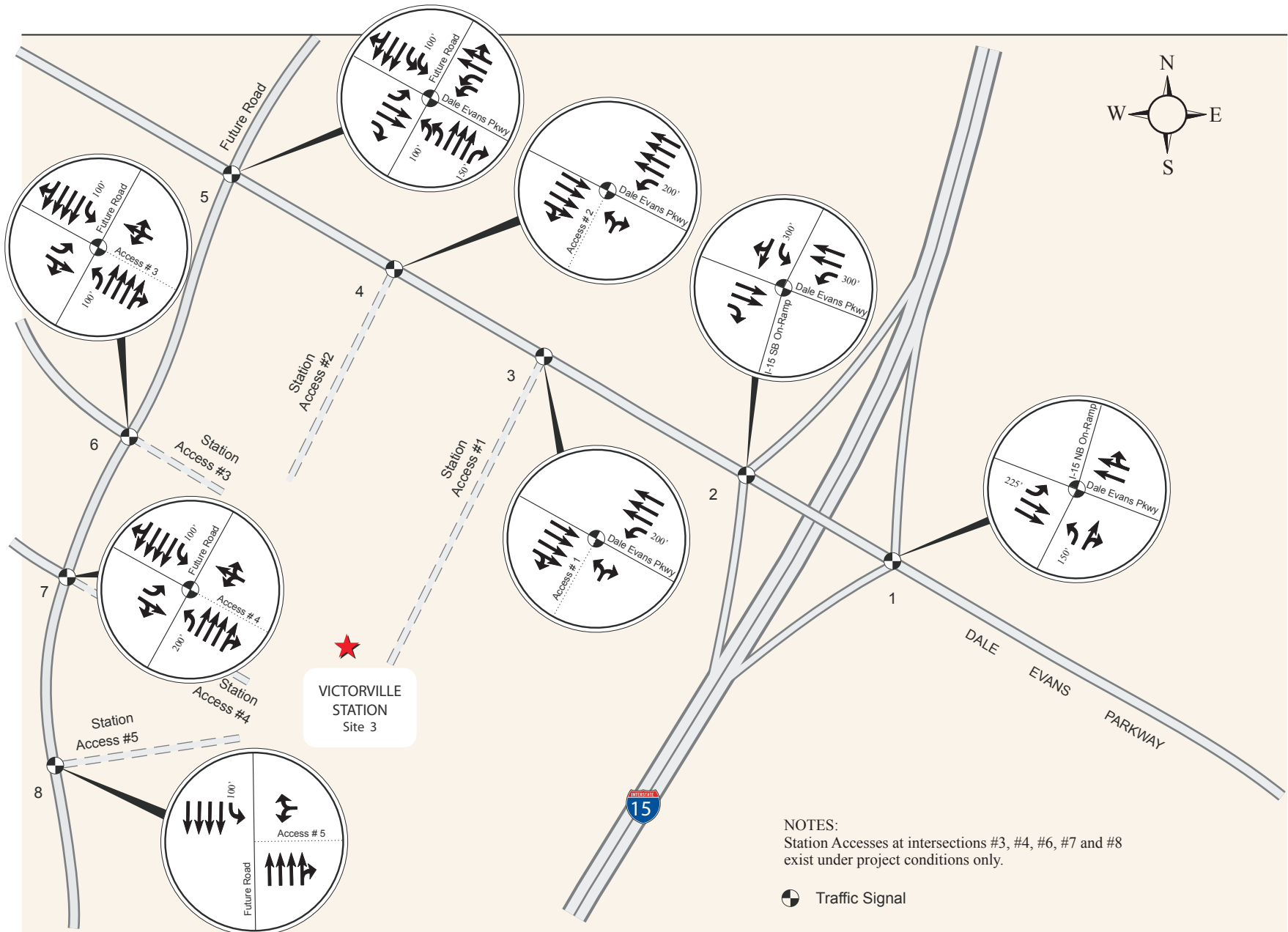
The mitigation identified in **Tables S-3.5-7** and **S-3.5-8** would reduce the delay at the affected intersections so that the LOS would operate at an acceptable LOS (LOS D or better) at all intersections. Therefore, all potential traffic and transportation effects can be successfully reduced through the implementation of the mitigation measures. No residual impacts from the project are anticipated after implementation of mitigation.





VICTORVILLE
STATION
SITE 3 ★





NOTES:
 Station Accesses at intersections #3, #4, #6, #7 and #8 exist under project conditions only.

Traffic Signal



3.6 VISUAL RESOURCES

This section describes the potential impacts to the visual environment related to the project modifications and additions and appropriate mitigation measures.

3.6.1 AFFECTED ENVIRONMENT

Regulations and standards related to visual resources identified in **Section 3.6.1** of the Draft EIS have not changed since publication of the Draft EIS and remain applicable to the project modifications and additions.

As noted in **Section 3.6.2** of the Draft EIS, FRA has grouped the project corridor landscapes into three visual quality and sensitivity categories – low, medium, and high. **Figures S-3.6-1** and **S-3.6-5** show these visual quality and sensitivity classifications for the areas of the project modifications and additions.

Section 3.6.2 of the Draft EIS also describes the FHWA and BLM visual methodologies. The FHWA and the BLM identify the visual quality and sensitivity of visual landscapes, using ratings of low, medium, and high. **Table S-3.6-1** identifies the FRA, FHWA, and BLM landscape sensitivities and summarizes the landscape types and notable visual resources in the areas of the project modifications and additions.

The BLM has also established visual management land classifications, using ratings of Class I through Class IV. Class I and II lands are relatively undisturbed and have vistas towards undeveloped natural areas. Class III lands include areas with established transportation corridors, but which look out onto landscaped with moderate to low visual disruption. Class IV lands represent visually disturbed areas and look out onto other visually disturbed areas.

None of the project modifications and additions would be located within a BLM designated Area of Critical Environmental Concern (ACEC). ACECs can contain sensitive visual resources, in addition to sensitive biological and paleontological resources. **Figure S-3.6-3** shows the location of the designated ACECs in relation to the project modifications and additions.

Victorville Station Site 3

The VV3 site (including both parking options (VV3A and VV3B)) would be located on undeveloped lands with low lying shrubs and desert soils as well as overhead electric transmission lines. The I-15 freeway corridor is located immediately east of the proposed VV3 site. FRA considers the overall existing visual quality of the VV3 site and surroundings to be moderate. The VV3 site is located on BLM visual management Class III lands. **Figure S-3.6-7** illustrates the existing visual conditions at the VV3 site.

Table S-3.6-1 Summary of Existing Landscape Sensitivities for Project Modifications and Additions

Modifications and Additions	Relevant Figure	BLM Objective Class	FHWA Visual Quality/Sensitivity Rating	FRA Visual Quality Rating	Typical Visual Resources Present
VV3A and VV3B	S-3.6-1	Class III	Moderate	Medium	Mountains with limited vegetation in middle ground and background, undeveloped lands with low lying shrubs and desert soil in foreground
OMSF 2	S-3.6-1	Class III	Moderate	Medium	Mountains with limited vegetation in middle ground and background, undeveloped lands with low lying shrubs and desert soil in foreground
Segment 2C (Side Running and Median)	S-3.6-1	Class II-III outside Barstow/Lenwood; Class IV in Barstow/ Lenwood	Low to Moderate	Medium outside Barstow; Low within Barstow	Outside Barstow/Lenwood: Mountains with limited vegetation in middle ground and background, undeveloped lands with low lying shrubs and desert soil in foreground In Barstow/Lenwood: Urban and suburban development
Segment 4C	S-3.6-2	Class I	High	Low to High	Mountains with limited vegetation and undeveloped lands with low lying shrubs and desert soil in foreground and background
Relocated Sloan MSF	S-3.6-3	Class II/III	Moderate	Medium	Undeveloped lands with low lying shrubs, desert soil, and rock outcroppings in foreground, rolling hills with limited vegetation in middle ground and background
Frias Substation	S-3.6-3	Class IV	Low	Low	Suburban development, undeveloped lands with low lying shrubs and desert soil
AAAs 1 & 2 (Segment 2A/2B)	S-3.6-2	Class II	Moderate	Medium	Suburban development combined with undeveloped lands with low lying shrubs and desert soils; Mojave River.
AAAs 3 – 6 (Segment 3B)	S-3.6-3	Class II	Moderate	Medium	Undeveloped lands with low lying shrubs and desert soils
AAA 7 (Segment 6B)	S-3.6-4	Class II/III	Moderate	Medium	Mountains in the background, undeveloped lands with low lying shrubs and desert soils in the foreground
AAA 8 (Segment 6B)	S-3.6-5	Class IV	Low	Low	Urban development, views of Las Vegas Strip and downtown
Wigwam MSF Modification	S-3.6-3	Class IV	Low	Low	Suburban development combined with undeveloped lands with low lying shrubs and desert soil in foreground
Profile Modification	S-3.6-3	Class III	Moderate	Medium	Undeveloped lands with low lying shrubs and desert soil in foreground, mountains with limited vegetation in middle ground and background

Source: CirclePoint, 2010.

OMSF 2

Since the location of the OMSF 2 is the same as presented in the Draft EIS, the existing visual character of the site remains as described in **Section 3.6.2.2** of the Draft EIS. The existing visual environment consists of undeveloped lands with low lying shrubs and desert soils immediately adjacent to the I-15 freeway corridor. Views of mountains are also afforded from the site. **Table S-3.6-1** and **Figure S-3.6-1** summarize the existing visual quality and sensitivity of OMSF 2.

Segment 2C

The visual character along the Segment 2C alignment options varies by location. Between the transition from Segment 1 and Lenwood, the existing visual environment consists of undeveloped areas with low lying shrubs and desert soils.

The presence of the I-15 corridor and interspersed manmade features (i.e., billboards) fragment the natural landscape south of Lenwood and Barstow, but the corridor affords vivid views of undeveloped areas, hillsides, and distant mountains, representing moderate visual quality. The Segment 2C alignment would be located on BLM visual management Class II-III lands outside of Barstow and Lenwood.

Through Lenwood, Barstow, and into Yermo, the visual environment consists of urban and suburban development. **Figure S-3.6-8** illustrates a typical view of the existing visual character along Segment 2C within central Barstow. The combination of the I-15 freeway and urbanized development through Lenwood and Barstow represent an area of low visual quality and sensitivity. The Mojave River becomes a prominent visual feature in the eastern portion of Segment 2C. Though this urbanized area, Segment 2C would be located on BLM visual management Class IV lands.

Segment 4C

The existing visual character of Segment 4C is largely similar to that of Segment 4B as described in **Section 3.6.2.2** of the Draft EIS. **Figure 3.6-28** in the Draft EIS depicts an existing view looking from the I-15 freeway towards the area proposed for Segment 4C with the Clark Mountains in the background. When entering the Clark Mountain area, the existing visual environment is dominated by rocky mountains and undeveloped lands. North of the Clark Mountains, the existing visual environment is dominated by undeveloped lands with low lying shrubs and desert soils. Segment 4C would traverse lands considered to have a high level of visual quality and integrity. As with Segment 4B, Segment 4C would be located on BLM visual management Class I lands. Views of Segment 4C would be possible from higher elevation vantage points within the northern unit of the adjacent Mojave National Preserve.

Relocated Sloan MSF

The visual character of the RSMSF site consists of undeveloped lands with rocky outcroppings, low lying shrubs and hills adjacent to the I-15 freeway. Billboards and industrial areas are located nearby. The RSMSF site is located in an area with moderate visual quality and is located on BLM visual management Class II/III lands. **Figure S-3.6-4** shows the existing visual quality and sensitivity at the RSMSF site.

Frias Substation

The Frias Substation site is located in a mixed suburban and undeveloped visual environment immediately west of the I-15 freeway corridor. The site is undeveloped with desert soil and scattered shrubbery with adjacent single-family development to the north and west. The site is semi-disturbed due to the presence of overhead electric transmission lines that traverse in an east-west direction just north of the site. Dean Martin Drive bisects the two sites that make up the Frias Substation. The Frias Substation is located on BLM visual management Class IV lands, with low visual quality and sensitivity due to the metropolitan nature of the surround Las Vegas visual environment.

Alignment Adjustment Areas

The proposed AAAs are located in close proximity to the I-15 freeway corridor in Segment 2A/2B, Segment 3B, and Segment 6B. AAAs 1 through 7 are within the same existing visual environment analyzed within the Draft EIS, as the adjustments would have a maximum horizontal shift of no more than 400 feet from the center of the rail line evaluated in the Draft EIS. These shifts occur in largely undeveloped areas near the I-15 freeway corridor. The visual character of these AAAs would be similar to the areas described for Segment 2A/2B, Segment 3B, and Segment 6B in **Section 3.6.4.2** of the Draft EIS.

AAA 8 would shift a portion of the Segment 6B rail alignment outside of the existing I-15 freeway corridor into a local roadway. Between Hacienda Avenue and Tropicana Avenue, this alignment adjustment would traverse through the median of Dean Martin Drive/Industrial Road. **Figure S-3.6-9** shows the existing visual character of AAA 8 between Hacienda Avenue and Tropicana Avenue. As documented in **Section 3.6.2.2** of the Draft EIS, the visual environment in this area is predominately urbanization, with residential, commercial, and industrial developments lining the I-15 freeway corridor, representing low visual quality. Views of the distant mountains to the north are available from this location.

Wigwam MSF Modification

Since the location of the Wigwam MSF site is the same as presented in the Draft EIS, the existing visual character of the site remains as described in **Section 3.6.2.2** of the Draft EIS. **Figure S-3.6-10** shows the existing visual environment at the Wigwam MSF site. The existing visual environment consists of suburban development, such as RV parks, single-family residential development, and large multi-story neutral colored hotels and casinos, immediately adjacent to the I-15 freeway corridor. The site itself is largely undeveloped with low lying shrubs and desert soil with two small buildings housing commercial/industrial uses. **Table S-3.6-1** and **Figure S-3.6-5** summarize the existing visual quality and sensitivity of the Wigwam MSF site.

Profile Modification

The Profile Modification would not involve any new visual environments. The existing visual environment along Segment 3B has not changed since the Draft EIS. As shown in **Figure S-3.6-11**, existing views include undeveloped lands with low lying shrubs and desert soils, distant mountains, and an existing overhead transmission line in the mid-

range view. As with Segment 3B, the Profile Modification would traverse through lands considered to have a moderate level of existing visual quality and integrity. The Profile Modification would be located on Class III lands. Views of the Profile Modification area are available to the north from motorists traveling southbound on I-15.

3.6.2 METHODS OF EVALUATION OF IMPACTS

The same methodology used in **Section 3.6.3** of the Draft EIS is used to evaluate potential effects of the project modifications and additions, providing a comparison of existing visual character to conditions following implementation. The same blended methodological approach of incorporating key aspects of both BLM and FHWA visual guidance documents and regulations is utilized. **Section 3.6.3** of the Draft EIS provides a discussion of the BLM visual contrast rating process and FHWA visual impact assessment methodologies.

BLM visual management class assignments were based on a qualitative review of site photography and field reconnaissance. FHWA visual quality and visual sensitivity ratings were determined by assessing the vividness, intactness, unity, and adjacent character of the existing sites. New viewpoints or “key observation point” (KOP) consistent with BLM and FHWA guidance were selected for VV3, Segment 2C, and AAA 8 due to their public visibility from the I-15 freeway and adjacent roadways.

3.6.3 ENVIRONMENTAL CONSEQUENCES

Victorville Station Site 3

The VV3 site would be visible from the I-15 freeway. **Figure S-3.6-7** illustrates the visual comparison between existing and future conditions at the VV3 site showing the VV3A parking option, which would have surface parking areas between the station building and the I-15 freeway. Under the VV3B parking option, the surface parking areas seen in **Figure S-3.6-7** would be located on the northwestern side of the VV3 station building and would not be visible from this viewpoint on I-15.

Evaluation under BLM Criteria

As shown in **Figure S-3.6-7**, the VV3 site would somewhat dominate the middle ground, partially obstructing views to distant hills and open desert lands for motorists on I-15. The VV3 station building would be located approximately 2,000 feet from I-15, which would reduce the visual intensity of the station building for motorists on I-15. With the presence of the I-15 freeway and overhead electric transmission lines, the addition of a new rail station facility as an adjacent transportation facility would not substantially detract from the existing landscape.

The VV3 site would also create a new source of light and glare; sunlight could reflect from the new station building creating a new source of glare, while overhead parking lighting and outdoor building lighting would introduce new sources of light during nighttime

hours. As the parking area for VV3B would be located on the northwestern side of the VV3 station, the lighting associated with the overhead parking lighting would be less intense for motorists on I-15 as compared to VV3A.

The VV3 site would be stationary images primarily observed by passing motorists on I-15 traveling at speeds of about 70 miles per hour (mph), representing brief viewer duration. VV3 would be located approximately 6 miles north of central Victorville and would not be visible from the City's more developed/populated portions, resulting in very few stationary, non-motorist views of the station. As such, the VV3 site would not create significant adverse visual effects.

Evaluation under FHWA Criteria

Implementation of VV3 would reduce the vividness of the existing desert landscape visible to the west from I-15. Due to the presence of the overhead electric transmission lines and adjacent I-15 transportation corridor, VV3 would not result in a change to the already low unity of the visual environment. Development of the station building and parking areas and the associated light and glare would result in a less intact desert setting, thereby decreasing the intactness of the existing setting. Under VV3B, the surface parking areas would be constructed on the northwestern side of the station building and the light associated with the overhead parking lighting would be less intense for motorists on I-15 as compared to VV3A, whose parking area would be under the existing overhead electric transmission lines. However, due to the brief viewer duration from motorists on I-15, visual effects from lighting would not be significantly adverse.

OMSF 2

The visual effects associated with the reduced footprint for OMSF 2 would be similar to the effects of OMSF 2 discussed in **Section 3.6.4.2** of the Draft EIS. OMSF 2 would introduce a new manmade, utilitarian visual feature into the existing environment. While OMSF 2 would partially obstruct views of the adjacent desert mountains and open desert lands, OMSF 2 would not represent the dominant visual feature for motorists on I-15. In fact, the reduced footprint of OMSF 2 would further reduce the visual dominance of OMSF 2.

Additionally, the existing overhead electric transmission lines already disrupt the natural landscape and the viewer duration from motorists traveling on the I-15 freeway would be brief. Thus, no adverse visual effects would occur from OMSF 2, as previously concluded in **Section 3.6.4.2** of the Draft EIS.

Segment 2C

Segment 2C would traverse two distinct visual environments: 1) the undeveloped landscape between Segment 1 and Lenwood; and 2) the more urbanized landscape through Lenwood and Barstow.

Evaluation under BLM Criteria

Segment 1 to Lenwood: As discussed in **Chapter 2.0, Alternatives**, of this Supplemental Draft EIS, Segment 2C would follow the existing I-15 freeway starting at a

point south of Lenwood. Constructing the rail trackway, concrete pillars, and trains necessary for Segment 2C would contrast with the form, color, and texture of the open desert areas and hillsides within the BLM visual management Class II-III landscape. However since the I-15 freeway corridor already creates a substantial contrast in the visual environment, the construction of Segment 2C would not constitute a substantially new visual feature within the existing landscape. Passing trains would briefly block views from the I-15 freeway to the north or west, however, this view blockage would be for only short durations due to the expected train frequency and speeds, resulting in a minor effect on views from the freeway.

Within Lenwood and Barstow: Through Lenwood and Barstow, the I-15 freeway corridor travels through an urban environment. Segment 2C would be highly visible to motorists on the I-15 freeway but would not be out of character within the surrounding urban landscape.

As shown in **Figure S-3.6-12**, the Segment 2C Side Running alignment option would be visible in the foreground for motorists, pedestrians, and visitors near the I-15/Main Street interchange within Barstow. Segment 2C would be on elevated structure as it crosses over Main Street immediately west of the I-15 freeway. The elevated trackway would be highly visible in this commercial and urban landscape but would not block significant views.

Similarly, as shown in **Figure S-3.6-13**, the Segment 2C Median alignment option would also be visible in the foreground but slightly shifted to the east within the median of the I-15 freeway. No significant views would be blocked by either alignment option. The visual effects of the two alignment options would be similar due to their location within an existing transportation corridor.

While Segment 2C would result in the construction of a new crossing of the Mojave River, the crossing would occur immediately adjacent to the existing I-15 freeway bridges. As such, the new bridge would not stand out or create a substantial new visual element in the immediate landscape.

Evaluation under FHWA Criteria

South of Lenwood and Barstow: The visual effects of the Segment 2C alignment options would be the same for this visual environment since both alignment options would be located immediately west of the I-15 freeway. The concrete barriers, trackway, and passing trains along the west side of the I-15 freeway would detract from the vividness, intactness, and unity of views from I-15 towards the open desert lands and rolling hills. The Segment 2C alignment options would be visible to motorists traveling in either direction on I-15, looking north or west. The presence of autotransformers would also disrupt views of the desert landscape from I-15. The Segment 2C alignment options would decrease visual quality in undeveloped areas as seen from I-15. However, since the majority of these views would remain unobstructed when a train is not present, the overall visual quality rating for the undeveloped portions of Segment 2C would remain moderate.

Within Lenwood and Barstow: The Segment 2C alignment options would introduce railway elements such as elevated trackways and passing trains into motorists' views from I-15. Although these elements would change existing views, they would not block scenic

views or breakup the intactness of the urban landscape. **Figures S-3.6-12 and S-3.6-13** show the elevated crossing of the Segment 2C Side Running and Segment 2C Median alignment options at the I-15/Main Street interchange within Barstow would disrupt the unity of the existing visual environment, as a new overhead trackway and concrete pillars would be visible from motorists and pedestrians on Main Street near I-15. Through Barstow and Lenwood, existing views from I-15 are not highly vivid, as manmade development, including residential and commercial developments and billboards, dominate the views and there are very few natural elements present. Thus, the addition of the rail elements, including concrete pillars, trackways, and trains, would not substantially lower this already low level of visual quality.

Segment 4C

Evaluation under BLM Criteria

Concrete trackways, pillars, and tunnel portals associated with Segment 4C would have the greatest potential for visual effects because they would contrast with the form, color, and texture of the desert mountain surroundings. Refer to **Figure 3.6-28** in the Draft EIS for a visual simulation of a tunnel portal that would be utilized under Segment 4C near I-15. However, the I-15 freeway already presents a substantial linear transportation corridor in this area. Therefore, the introduction of Segment 4C would not be completely out of character within the landscape.

In areas further north where Segment 4C diverges from the I-15 freeway corridor, the rail alignment would be located within BLM visual management Class I lands and would traverse diverse landscapes, including rocky hills, mountains, open desert terrain and a mesa just north of the Ivanpah dry lakebed. The rail alignment would then follow adjacent to an existing overhead electrical utility corridor back to the I-15 corridor near Primm. While the new railroad would contrast with the natural landscape of the open desert, the rail line would be located in a remote area and not highly visible from the I-15 freeway. Once within the overhead electric utility corridor the new rail line would be in an area of highly visible manmade features. Overall, Segment 4C would contrast with the texture and form of the desert landscape. Although not visible from any vantage point readily accessible to a substantial numbers of viewers, Segment 4C could be visible from wilderness areas of the Mojave National Preserve to the west from the air or from the peaks of the Clark Mountains.

Evaluation under FHWA Criteria

West of Mountain Pass, prior to traversing through the Clark Mountains, Segment 4C would be visible to the north for motorists on I-15, representing brief viewer duration. The vividness of current views from I-15 to the north of the desert mountains would be diminished through the addition of concrete pillars and track structures. Segment 4C would introduce a manmade linear structure through this undeveloped landscape, thus detracting from the intactness and unity of the view. While the visual quality would decrease within this portion of Segment 4C, Segment 4C would be a co-dominate visual feature since views of the Clark Mountains would remain above and beyond the rail

alignment. Once crossing into the mountains, Segment 4C would no longer be visible from I-15. Therefore, the overall visual quality would remain moderate.

North of the Clark Mountains, Segment 4C would not be visible by motorists travelling on I-15. Although Segment 4C could be seen from wilderness areas of the Mojave National Preserve to the west, from aerial views, or from the peaks of the Clark Mountains, views of Segment 4C would be seen in the distant background and the rail alignment would be a distinctly subordinate visual feature in the overall landscape. The intactness, unity, and vividness of the existing environment would be slightly diminished. Thus, the visual quality in this portion would be moderate with implementation of Segment 4C.

Relocated Sloan MSF

The RSMSF would be located in close proximity and at a site with similar visual character as the Sloan Road MSF evaluated in **Section 3.6.4.2** of the Draft EIS. As with the Sloan Road MSF, the RSMSF structure would be visible to motorists traveling on I-15 and would contrast with the adjacent undeveloped desert lands. At night, the RSMSF would be a new source of light in a largely undeveloped area. However, given that motorists traveling at freeway speeds would have brief viewer duration, adverse effects to the visual quality of the RSMSF area would be minimal.

Frias Substation

Evaluation under BLM Criteria

While the Frias Substation would be located immediately adjacent to the I-15 corridor, views of the substation from motorists traveling on I-15 would be blocked in part by a concrete wall constructed along the rail alignment. As such, the Frias Substation would not dominate the viewshed for motorists looking west from I-15. The substation would introduce new overhead electric transmission lines; however, these new transmission lines would be immediately adjacent to existing overhead transmission lines that cross I-15 near West Frias Avenue.

The Frias Substation would also be visible to motorists and/or pedestrians traveling on nearby residential streets, including West Frias Avenue, West Haleh Avenue, and South Dean Martin Drive. Views of the substation would also be available from nearby single-family homes. Due to the proximity to the single-family homes and lands designated for future commercial and residential development, the Frias Substation could create some limited visual incompatibility with surrounding uses. While the substation would introduce new utility towers, the towers would be of the same scale, form, and color as the existing overhead electric transmission lines that parallel West Frias Avenue and cross over just north of the Frias Substation site. Further, the I-15 transportation corridor is already visible from these locations and the addition of new substation would not represent a substantial contrast from the existing environment.

Evaluation under FHWA Criteria

As previously stated, the Frias Substation would not be seen by motorists on I-15 but would be seen by motorists on surrounding roadways. Due to the disturbed nature of views at this location with the presence of suburban development and overhead electric

transmission lines, the addition of the Frias Substation would not introduce a new type of development to the area. The vividness, intactness, and unity of the visual environment would remain low with the addition of the substation. The Frias Substation would be a co-dominant element in the landscape and no adverse visual effect would occur. As previously stated, mitigation to reduce the visual effects of the Frias Substation would be applied.

Alignment Adjustment Areas

AAAs 1 through 7 would be minor in nature and would not traverse new visual environments nor result in new visual effects beyond those discussed in **Section 3.6.4.2** of the Draft EIS for Segment 2A/2B, Segment 3B, or Segment 6B.

While the visual environment of AAA 8 was previously considered with Segment 6B in **Section 3.6.4.2** of the Draft EIS, this adjustment would shift a portion of the rail alignment outside of the I-15 freeway corridor and into the median of Dean Martin Drive/Industrial Road between Hacienda Avenue and Tropicana Avenue. Therefore, this evaluation focuses only on AAA 8.

Evaluation under BLM Criteria

Portions of AAA 8 Within I-15 Freeway Corridor: Although implementation of AAA 8 would shift portions of Segment 6B to the west, much of the rail alignment would remain within the existing I-15 freeway corridor (immediately adjacent to I-15 southbound travel lanes). The rail alignment shift in this area would not result in new visual effects beyond those previously considered for Segment 6B in **Section 3.6.4.2** of the Draft EIS. Although passing trains in this area would temporarily block views from the freeway, this effect would be temporary and AAA 8 would not dominate views for motorists on I-15. Since greater visual change is allowed by BLM Class IV lands, the portions of AAA 8 within the I-15 freeway corridor would not be inconsistent with the existing urban visual landscape.

Portions of AAA 8 Outside of I-15 Freeway Corridor: **Figure S-3.6-9** shows a visual simulation of a portion of AAA 8 that has been shifted outside of the existing I-15 freeway corridor and into the median of Dean Martin Drive/Industrial Road between Hacienda Avenue and Tropicana Avenue. The elevated rail alignment would dominate views from motorists on Dean Martin Drive/Industrial Road, as the elevated alignment and concrete pillars would be placed within the median of the roadway. Shifting the rail alignment outside of the freeway corridor and into this local roadway would alter the scale of the rail alignment for viewers on Dean Martin Drive/Industrial Road and at the adjacent industrial, commercial, and hotel uses. This portion of the elevated structure would intensify the transportation use of the local roadway. However, given the urban and developed nature of the area, the elevated alignment would not conflict or substantially contrast with the existing urban visual landscape.

Evaluation under FHWA Criteria

Portions of AAA 8 Within I-15 Freeway Corridor: Within the I-15 freeway corridor, AAA 8 would traverse through an area of low visual quality due to the