

E. Cumulative Scenario and Impacts

E.1 Introduction and Methodology

A cumulative impact analysis is called for under NEPA. NEPA identifies three types of potential impacts: direct, indirect, and cumulative. “Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7). Under NEPA, both context and intensity are considered in the cumulative analysis. Among other considerations when considering intensity is whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts (40 CFR §1508.27(b)(7)).

The approach used in this EIS is the project list approach, which relied a list of past, present, and probable future projects producing related or cumulative impacts. In addition, analysts considered general plans and other documents, but did not rely on them to establish the cumulative scenario for the analysis.

The project list includes those projects found within a geographic area sufficiently large to provide a reasonable basis for evaluating cumulative impacts. The area over which the cumulative scenario is evaluated may vary by resource, because the nature and range of potential cumulative effects vary by resource. This area is identified as the geographic scope for the analysis of cumulative impacts related to a particular resource.

The analysis of cumulative effects must consider a number of variables. These include geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of the analysis is based on the nature of the geography surrounding the Proposed Project and the characteristics and properties of each resource and the region to which they apply. In addition, each project in a region will have its own implementation schedule, which may or may not coincide with the Proposed Project’s schedule.

E.2 Cumulative Projects

E.2.1 Cumulative Project List

Reasonably foreseeable projects that could contribute to the cumulative scenario are listed in Table E-1. The table indicates the project name and project type, as well as its location and status. Each project is identified by a map number, keyed to Figure E-1a. These figures show the locations of projects contributing to the cumulative scenario and their relationship to the Proposed Project. The general study area for cumulative projects is a three-mile radius around project features. Each discipline’s analysis may consider a larger or smaller area appropriate to the potential for impacts to combine.

Collectively, these projects represent known and anticipated activities that may occur in the project vicinity and that have the potential to contribute to a cumulative impact. Because the West of Devers Upgrade Project would be linear with occasional nodal facilities along its length, most of the projects in Table E-1 do not interact with the Proposed Project along its entire route. Many projects in the cumulative scenario are limited in their geographic extent. Others, such as the Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) North-South Pipeline Project, are linear projects that would overlap with segments of the West of Devers Upgrade Project. Projects in the cumu-

lative scenario become more or less relevant along the length of the Proposed Project, based on their changing proximity to the Proposed Project and, therefore, to the potential for cumulative interactions. As shown on Figure E-1a, most of the projects in the cumulative scenario are located in developed or developing areas in Riverside and San Bernardino Counties, California.

Two projects included in Table E-1 are described in more detail following the table, in Section E.2.2 (North-South Pipeline) and Section E.2.3 (Future 500 kV Transmission Line). Five additional projects are listed in the “Regional Projects” category because they are energy projects relevant to the Proposed Project. These projects would not require construction of the Proposed Project in order to operate (like the Connected Actions described in Section B.7 and analyzed in Section D), but their impacts could combine with those of the Proposed Project. In general, these projects are located too far east for impacts to combine, but in some disciplines a cumulative effect would occur and is described in the analysis in Section E.3.

E.2.2 North-South Pipeline

The CPUC determined in September 2014 that it would act as CEQA lead agency for environmental review of the proposed North-South Pipeline Project, which is the subject of an application filed in December 2013 by SoCalGas and SDG&E (Application A.13-12-013). The proposed route and related facilities for the North-South Pipeline Project are shown on Figure E-1a and in Table E-1. As proposed, the alignment and construction activities would intersect and run parallel to portions of the West of Devers corridor, particularly near Segments 1, 2, and 3. The North-South Pipeline Project would be a pipeline interconnection to transport 800 million cubic feet of natural gas per day. The proposed 36-inch diameter pipeline would begin in the City of Adelanto in the high desert area of San Bernardino County at the Adelanto Compressor Station. It would proceed southerly through the Cajon Pass, passing through the San Bernardino National Forest, and the cities of San Bernardino, Loma Linda, and Moreno Valley, terminating at the Moreno Pressure Limiting Station. The originally proposed route extended from Moreno Valley to Whitewater, but that route segment has been eliminated by the developer

E.2.3 Future 500 kV Transmission Line in WOD Corridor

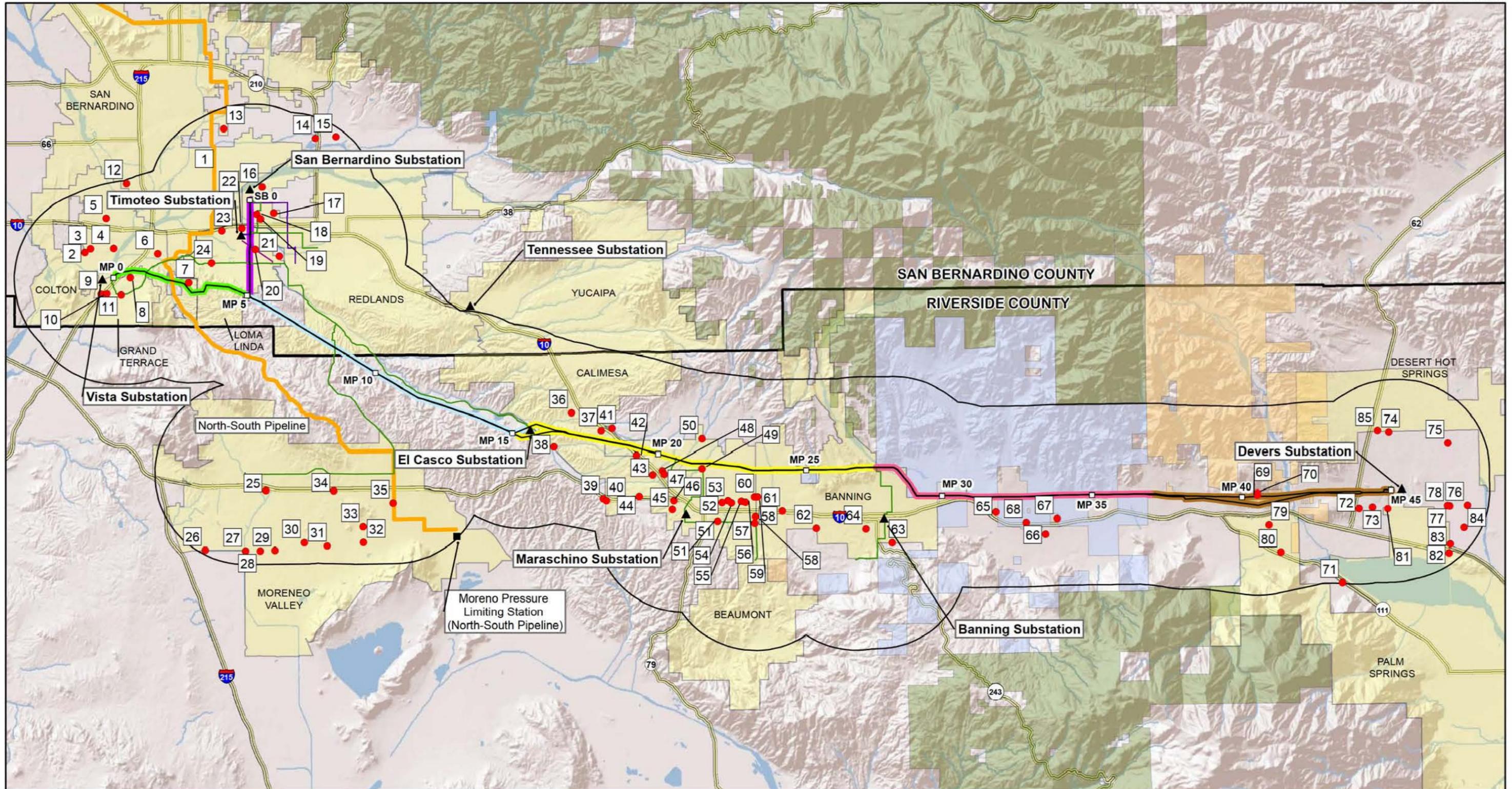
E.2.3.1 Background

In most of Segments 3 through 6 (San Timoteo Canyon to Devers Substation), SCE has designed the Proposed Project to be located very near one edge of its existing right-of-way (ROW), retaining as much as 200 feet of vacant space in the ROW to allow for future expansion of its transmission system. According to SCE, its proposed installation of the rebuilt transmission lines near one side of the existing ROW would “maximize use of the existing corridor” to “enable potential future use of the corridor.” SCE characterizes the retention of maximum vacant space “prudent long-term planning” to “facilitate [an] expansion in the future....” In response to CPUC data requests, SCE indicated that:

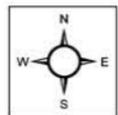
(1) the project will meet the California Independent Systems Operator’s “generation interconnection requests” for the next 10 years and that SCE has “no current plan, nor any reasonably foreseeable future phase for additional transmission lines,”

(2) only certain segments of the project right-of-way could facilitate additional transmission lines, and

(3) approval from the Morongo Band of Mission Indians would be needed to develop any such future transmission lines [on Morongo land] and SCE has not obtained such approvals. If a future 500 kV line were approved by the Morongo Band of Mission Indians, the impacts of this future transmission line would be as described in this cumulative analysis.



Sources: CEQA.net 2014, City Websites, & Personal Communication with City Planners



0 2 4 8 Miles

Components of Proposed Project

- ▲ Substation
- Telecommunication Lines
- Distribution Lines
- Subtransmission Lines

□ Mileposts (e.g. MP 10, SB 0)

- ▭ Cumulative Projects Study Area
- Cumulative Project (See Table E-1)
- North-South Pipeline
- County Line

Legend

Proposed Project Segments*

- Segment 1
- Segment 2
- Segment 3
- Segment 4
- Segment 5
- Segment 6

*All segments include both 220 kV conductors and telecommunications lines.

Land Jurisdiction

- ▭ Morongo Band of Mission Indians
- ▭ Bureau of Land Management
- ▭ US Forest Service
- ▭ City Boundary

West of Devers Upgrade Project

Figure E-1a
Cumulative Projects

This page intentionally blank.

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
REGIONAL PROJECTS				
North-South Pipeline Project: Pipeline interconnection proposed by SoCalGas and SDG&E to transport 800 million cubic feet of natural gas per day. Project components include a 36-inch diameter natural gas pipeline comprised of the Adelanto to Moreno pipeline (63 miles) in addition to the rebuilding of the Adelanto Compressor Station.	Natural gas pipeline	Begins at the Adelanto Compressor Station in Adelanto and proceeds south through the Cajon Pass and San Bernardino National Forest terminating in the City of Moreno Valley.	CPUC beginning CEQA process in fall of 2014.	1
Future 500 kV Transmission Line	Transmission	Analyzed between Devers Substation and Vista Substation	Transmission scenario defined in September 2014 Draft DRECP and EIR/EIS	1a
Blythe Energy Project, Phase II also known as Sonoran Energy Project (CAISO Queue 17+219)	Natural gas fired generation	On BLM land, northwest of City of Blythe; east of Palen/McCoy Wilderness	Approved by CPUC and BLM in 2005 but not yet under construction. In August 2015, AltaGas Sonoran Energy Inc. filed a petition with the CEC to modify the Final Decision for the project. The CEC is in the process of reviewing the petition. A decision on the project would be anticipated no earlier than 2016.	n/a
NextEra Genesis Project and NextEra McCoy Project (CAISO Queue 193)	Solar PV and Solar Thermal	On BLM land. Genesis is north of I-10 and southwest of McCoy Peak. McCoy: northwest of City of Blythe; east of Palen/McCoy Wilderness	Genesis is completed and online. Construction began in early 2015 on 250 MW of the McCoy Solar Project.	n/a
NextEra Blythe Project (CAISO Queue 294)	Solar PV	West of City of Blythe; east of Palen/McCoy Wilderness	Approved by CEC and BLM; construction started January 2015	n/a
IID Path 42 Upgrades	Transmission	Transmission line upgrades from south of Salton Sea to Devers Substation	Construction in progress	n/a
Solar PV Project connecting at Colorado River Substation 230 kV (CAISO Queue 798, energy only)	Solar PV	Uncertain; assumed to be southwest of Blythe and near Colorado River Substation	Proposed; no NEPA/CEQA started	n/a
Delaney-Colorado River 500 kV Transmission Line	Transmission	East of Blythe to Arizona	Approved by CAISO in 2014	n/a
SEGMENT 1: SAN BERNARDINO				
Colton				
Agua Mansa Logistics Center: Warehouse distribution facility on a 43-acre project site	Industrial	Agua Mansa Road and S. Rancho Avenue	Mitigated Negative Declaration adopted	2

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
San Salvador Preschool Modernization Program: School site modernization and replacement of existing systems (Colton Joint Unified School District)	Educational	San Salvador Preschool: Agua Mansa Rd. and 5th St.	Categorical Exemption applied	3
Drilling and Equipping Wells 30 and 31: construction and equipping of two domestic water production wells to meet City's anticipated water requirements (City of Colton)	Industrial	Fogg Street and Congress Street	Project approved on 2/10/14	4
Colton Senior Housing Project: 120-unit affordable replacement senior housing project (City of Colton)	Residential, Recreation	La Cadena Avenue, E Street, F Street, and 9th Street	Mitigated Negative Declaration adopted.	5
Cooley Ranch Elementary School Modernization Project: School site modernization and replacement of existing systems (Colton Joint Unified School District)	Educational	Cooley Ranch Elementary School: E. Duron St. and S. Cooley Dr. East.	Categorical Exemption applied	6
Reche Canyon Elementary School Modernization Program: School site modernization and replacement of existing systems (Colton Joint Unified School District)	Educational	Reche Canyon Elementary School: S. Ridge View Dr. and Canyon Vista Dr.	Categorical Exemption applied	7
Terrace View Elementary School Modernization Program: School site modernization and replacement of existing systems (Colton Joint Unified School District)	Educational	Terrace View Elementary School: Grand Terrace and Vista Grande Way	Categorical Exemption applied	8
Grand Terrace				
I-215/Barton Rd. Interchange Improvement Project: Reconstruct and widen Barton Road, re-align existing on- and off-ramps, improve local roadways, and modify traffic signals (Caltrans District 8)	Roadway	I-215/Barton Rd.	Project Approved on 3/5/14	9
Grand Terrace Town Square Master Development Plan: Commercial and retail center on 21 acres (City of Grand Terrace)	Commercial	Barton Road and Michigan Street	Project Approved on 12/19/13	10
Barton Plaza Commercial Project: Development of a commercial center on 3.6 acres of land made up of 4 buildings totaling 37,700 sq.ft. with 1,800 sq.ft. of outdoor seating. (City of Grand Terrace)	Commercial	Barton Road/Mount Vernon Ave.	Project Approved 3/1/12	11
San Bernardino				
San Bernardino Valley College Master Plan Stadium Expansion: replace existing bleacher facilities and improve stadium lighting and accessibility (San Bernardino Community College District)	Educational	N/E. Grant Ave.; E/N. Mt. Vernon Ave.; W/S. K St.; S/W. Esperanza St.	Project Approved 7/11/13	12

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
Indian Springs High School Athletic Facilities Improvements: Development and operation of a 3,500 seat grandstand, field lights, aquatic center, and concession/restroom building (San Bernardino City Unified School District)	Educational	6th St. at Del Rosa Dr.	Project Approved; Construction to take place Oct. 2014 through April 2015	13
SEGMENT 2: LOMA LINDA AND REDLANDS				
Highland				
5th St. Widening and Improvement Project: Widening and improvement of a 3.0-mile segment from 5th St., as well as construct various improvements including pavement rehabilitation, new turn lanes, new Class II Bikeway, sidewalks, and new traffic signals. (City of Highland)	Roadway	5th St. from SR 210 to Del Rosa Dr.	Project Approved on 6/11/13	14
Greenspot & Village Marketplace: 800 dwelling units and approximately 555,000 square feet of commercial development on 83 acres	Specific Plan	N/Greenspot Rd., E/Hwy. 210	Final Approval Pending	15
Redlands				
Redlands Distribution Center: warehouse and distribution center on 37 acres (City of Redlands)	Commercial/Industrial	1950 Palmetto Avenue	Entitlement approved. Currently in plan check review	16
Hillwood Warehouse: warehouse and distribution center on 36 acres (City of Redlands)	Commercial/Industrial	North side of Lugonia Avenue, South side of Almond Avenue, East side of California St.	Entitlement approved	17
McShane Warehouse: warehouse and distribution space on 50 acres (City of Redlands)	Commercial/Industrial	North side of Lugonia Avenue, South side of Almond Avenue, East side of Research Dr.	Entitlement approved. Currently in plan check review	18
Redlands Fulfillment Center: warehouse and distribution center on 50 acres (City of Redlands)	Commercial/Industrial	North side of I-10, South side of Lugonia Avenue, East side of Bryn Mawr	Entitlement approved	19
Middle School 5: construction of a new public middle school with a total of six buildings beginning in 2018 and completed by 2020 (Redlands Unified School District)	Educational	Mission Road and Valencia Avenue	Project approved on 10/22/13	20
Loma Linda				
Loma Linda Alzheimer's Special Care Center: 66-bed memory care facility on a 2.7-acre lot (City of Loma Linda)	Industrial	Southwest corner of New Jersey St. and Orange Avenue	Project constructed	21
Mountain View Marketplace Project: 46,718-square-foot marketplace on approximately 1.07 acres (City of Loma Linda)	Commercial	E/Mountain View Avenue, S/I-10, N/Rosewood Avenue	Mitigated Negative Declaration adopted by the City on 2/25/14	22

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
Holiday Inn Express: Four-story hotel on vacant site (City of Loma Linda)	Commercial	North side of Redlands Blvd., APN 0281-162-37	Mitigated Negative Declaration approved by City Commissioners on 11/6/2013	23
Loma Linda University Health Master Plan Project: construction of new facilities, modernization of existing facilities, and replacement of a portion of the main hospital in response to California's SB 1953 Hospital Seismic Safety Act (City of Loma Linda)	Industrial	Barton Road/Anderson St.	Project approved on 1/14/14	24
SEGMENT 3: SAN TIMOTEO CANYON				
Moreno Valley				
Sunnymead Blvd. Storm Drain	Infrastructure	Sunnymead Blvd. from Indian St. to SR-60/Perris Blvd.	Project Approved	25
Cactus Avenue Street Improvements: Addition of a third eastbound lane to the south side of Cactus Avenue from 1-215 off ramp near Commerce Center Dr. to Heacock St.	Roadway	Work commences at Veterans Way and terminates at Heacock St.	Notice of Determination filed 5/9/2013	26
Heacock Channel Improvement Project: Construction of a concrete-lined flood control channel (March Joint Powers Authority)	Industrial	Channel begins at intersection of Cactus Ave. and Heacock St. and runs approximately 10,000 lineal feet terminating at the Heacock St. Bridge.	Notice of Preparation filed 11/6/2013	27
Bayside/Charter/Alternative Schools: New school facilities proposed with an estimated 58,280 square feet to accommodate up to 496 students (Moreno Valley Unified School District)	Educational	Cactus Avenue and Indian Street	Notice of Determination filed 12/12/2013	28
Perris Boulevard Street Improvement Project: Widening Perris Blvd. to 3 northbound and 3 southbound lanes for a total roadway width of 86 feet within a 110-foot right-of-way.	Roadway	Work commences at Cactus Ave. and Perris Blvd. with a total length of 3.5 miles.	Notice of Determination filed 6/12/2013	29
Moreno Valley Field Station Project: Development of 685 acres into a residential development of 2,922 lots and supporting infrastructure (City of Moreno Valley)	Residential	Lassell Street and Brodiaea Avenue	Notice of Determination filed 3/23/2013	30
Nursing and Allied Health Education Building Expansion, Riverside County Regional Medical Center: Construction of a new three-story education center totaling approximately 35,000 square feet (Riverside County Economic Development Agency)	Educational	26520 Cactus Avenue	Project Approved	31

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
Senior Assisted Living Center (City of Moreno Valley)	Residential	Brodiaea Avenue and Moreno Beach	Project Approved	32
Frontier Homes (City of Moreno Valley)	Residential	Moreno Beach and Bay St.	Project Approved	33
SR-60/Nason St Overcrossing Bridge (City of Moreno Valley)	Infrastructure	Nason St./Sr. 60	Project Approved	34
ProLogis Eucalyptus Industrial Park EIR: Construction of 6 individual warehouses totaling 2.2 million sq.ft. (City of Moreno Valley)	Industrial	Eucalyptus Avenue/Redlands Blvd.	Final EIR Submitted	35
SEGMENT 4: BEAUMONT AND BANNING				
Calimesa				
Summerwind Ranch at Oak Valley: 677-acre residential development, 315-acre commercial development, and 1493-acre open space development (City of Calimesa)	Residential, Commercial	Between I-10 and San Timoteo Canyon Road	Project approved	36
Cherry Valley Plaza: 18-acre commercial development within Summerwind Ranch (City of Calimesa)	Commercial	N/I-10, W/Cherry Valley Rd., S/Desert Lawn Dr.	Project approved	37
Beaumont				
Fairway Canyon SCPGA, Tract No. 31462: 678-acre residential development and 47-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	N/San Timoteo Canyon Rd.; SW/I-10	Specific Plan Approved; Project under development.	38
Jack Rabbit Trail: 402-acre residential development and 4.5-acre commercial/industrial development (City of Beaumont)	Residential	S/SR 60' W/Jack Rabbit Trail	Specific Plan' Annexation Pending	39
Hidden Canyon Industrial: 158-acre commercial/industrial development (City of Beaumont)	Industrial	SE corner of SR 60 and Jack Rabbit Trail	Specific Plan Approved; Pilot Plan Approved	40
Sunny-Cal Specific Plan: Specific Plan would allow 216-acre residential development and 10-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	N/Brookside' W/I-10	Specific Plan Approved' Annexation Pending	41
Tournament Hills 1 & 2: Tract No. 30748, Tract No. 31288: 240-acre residential development (City of Beaumont)	Residential	Southwesterly of Desert Lawn Dr. and Champions Dr. and N/San Timoteo Canyon Rd.	Tract 30748 under construction, Tract 31288 Amendment to Oak Valley Specific Plan and EIR Addendum	42
Tournament Hills 3: 64-acre residential development (City of Beaumont)	Residential	N/Oak Valley Pkwy.; W/Desert Lawn Dr.	Amendment to Oak Valley Specific Plan Submitted	43
Heartland: 208-acre residential development and 62-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	N/SR 60; W/Potrero Blvd.	Specific Plan Approved; Preliminary grading	44

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
Dowling Orchard Business Park: 26-acre commercial/industrial development (City of Beaumont)	Commercial/Industrial	NW corner of 4th St. and Nicholas Rd.	Under Construction	45
Rolling Hills Ranch Industrial Winco / Prologis: 155-acre commercial/industrial development (City of Beaumont)	Commercial/Industrial	S/SR 60; W/Viele Avenue	Preliminary grading	46
Mountain Bridge: 38-acre commercial/industrial development (City of Beaumont)	Commercial/Industrial	Oak Valley Parkway and E/I-10	Plot Plan Approved	47
Oak Valley Senior Center: 9.4-acre residential development (City of Beaumont)	Residential	NW corner of Oak Valley Parkway and Oak View Dr.	Conditional Use Permit Submitted; Pending Public Hearing	48
Noble Creek Vistas: 223-acre residential development (City of Beaumont)	Residential/Commercial	N/14th St.' W/Beaumont Avenue	Specific Plan Approved; Annexation Complete	49
Beaumont Unified School District High School Stadium and Expansion (City of Beaumont)	Commercial	Brookside Avenue, west of Beaumont Ave.	Under Construction	50
Seneca Springs (Tracts 31519, 31520, 31521): 225-acre residential development and 13-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	W/Manzanita and S/1st St.	Homes recently built-out – Commercial half developed	51
Pennsylvania Avenue Apartments: 0.4-acre residential development (City of Beaumont)	Residential	850 Pennsylvania Avenue	Plot Plan Submitted Pending Public Hearing	52
8th St. Condos: 1.4-acre residential development (City of Beaumont)	Residential	1343 E. 8th St.	Plot Plan Approved	53
American Villas: 2.3-acre residential development (City of Beaumont)	Residential	693 American Avenue	Plot Plan Approved	54
Beaumont Commons: 4.14 16 Plot Affordable Housing (City of Beaumont)	Residential	Xenia between 6th and 8th St.	Project Approved	55
Tuscany Townhomes: 10.9-acre residential development (City of Beaumont)	Residential	Xenia and 8th St.	Plot Plan Approved	56
Four Seasons Tract No. 32260: 424-acre residential development and 9-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	S/I-10; W/Highland Springs Avenue	Specific Plan Approved; Homes under construction	57
Ramona Tire/Firestone: 0.4-acre commercial/industrial development (City of Beaumont)	Commercial	1488 Second Street Marketplace	Plot Plan Approved; Parcel Map Approved	58
Sundance: 905-acre residential development and 15-acre commercial/industrial development (City of Beaumont)	Residential; Commercial/Industrial	N/8th St.; W/Highland Springs Avenue	Specific Plan Approved; Project under development	59

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
Banning				
Butterfield Specific Plan: 936-acre residential development with a 45-acre commercial/industrial development and a 429 acres of open space development (City of Banning)	Residential; Commercial/Industrial	Highland Springs Avenue and Wilson Street	Specific Plan Amended and Approved	60
Highland Home Road/I-10 Interchange: Replacing I-10/Highland Home Road interchange with an overcrossing (City of Banning)	Roadway	I-10/Highland Home Road interchange	Project Approved	61
San Geronio Pass Campus Master Plan: 50-acre community college with expected full build-out by 2030 (Mt. San Jacinto Community College District)	Educational	Westward Avenue and Sunset Avenue	Final EIR approved by Mt. San Jacinto Community College District	62
Larry D. Smith Correctional Facility Phase III and IV Expansion: Addition of new housing space for all inmate classification levels, with support space for programming, counselling, and classrooms. Also, new fuel station construction will occur.	Industrial	S. Hargrave St. and E. Porter St.	Negative Declaration was prepared and submitted to Riverside Economic Development Agency	63
Rancho San Geronio Specific Plan: 849 acre-site with 161 acres located within unincorporated Riverside County and 688 acres within the City of Banning. 9.3-acre commercial space, 214-acre sports field, fire station facility, and community center, 3,412 dwellings.	Residential/ Commercial/Industrial	South side of I-10 between Westward Ave and Sunset and San Geronio Avenue	DEIR in preparation	64
SEGMENT 5: MORONGO TRIBAL LANDS AND VICINITY				
Cabazon				
Addition of 78,000 sq.-ft. retail space to Cabazon Outlets (County of Riverside)	Commercial	N/Seminole Dr.; S/Taos Rd.; E/Apache Tr.; W/Millard Pass	Pre-Application Review	65
9-building, 160-unit multi-family residential housing (County of Riverside)	Residential	S/Bonita Ave.; E/Ana Maria St.	Pre-Application Review	66
Construction of a 35,576 sq.-ft. outdoor dinosaur museum (County of Riverside)	Commercial	N/I-10; W/Deep Creek Rd.	Development Review Team	67
Morongo Tribal Lands				
Morongo Outdoor Entertainment Center: a music and events venue with an open amphitheater, event tent, Beach Club, and Forest venue with a combined capacity for 35,500 people (Bureau of Indian Affairs)	Commercial	Seminole Dr. and Millard Pass Rd.	FONSI issued on October 22, 2013	68

Table E-1. West of Devers Upgrade Cumulative Project List

Project	Type	Location	Status	Project ID
SEGMENT 6: WHITEWATER AND DEVERS SUBSTATION				
Whitewater and Unincorporated Riverside County				
Construction of a 100 kW photovoltaic array (County of Riverside)	Industrial	North of I-10, West of Whitewater Canyon	Project Approved	69
Relocate 32 Wind Turbine Sites (County of Riverside)	Industrial	North of I-10, West of Whitewater Canyon	Project Approved	70
Subdivision of 400 R-1 Lots and 5 R-5 Lots (County of Riverside)	Residential	Southerly of Overture Dr. and Southwesterly of Highway 111	Project Approved	71
Replace 33 Existing Wind Turbines (County of Riverside)	Industrial	South of Dillon Rd./West of Worsley Rd.	Project Approved	72
Indoor RV Storage/Covered RV Lot (County of Riverside)	Industrial	N/Dillon Rd. S/Garnet Creek W/Worsley Rd. W/Valley View Dr.	Project Approved	73
Subdivision of 320 acres into 3 residential lots (County of Riverside)	Residential	S/Pierson Blvd. and E/Diablo Rd.	Project Approved	74
60-ft. Wireless Cell Site Faux Water Tower (County of Riverside)	Industrial	S/Pierson Blvd.; W/Indian Canyon Ave.; E/Indian Palms; N/13th St.	Development Review Team	75
Storage Building 34,450 sq.ft. – two 12,000 sq.ft., one 10,450 sq.ft.(County of Riverside)	Industrial	N/Dillon Rd; E/Little Moraga Rd.; W/Indian Canyon Ave.	Project Approved	76
Commercial and Residential Development (County of Riverside)	Residential/ Commercial	N/Dillon Rd.; E/Indian Canyon Ave.	Project Approved	77
8,729-sq.ft. Restaurant with Assembly Area (County of Riverside)	Commercial	Dillon Rd. & N. Indian Canyon Drive	Project Approved	78
Palm Springs				
60-acre sand and gravel mine, with 10-acre processing site (City of Palm Springs)	Industrial	N/HWY 111 S/I-10 E/Whitewater River W/HWY 62	Project Approved	79
Whitewater Solar: 3.0 MW solar farm (City of Palm Springs)	Industrial	58641 Tipton Rd.	Approved; No Activity	80
Temporary 3 MW Power Generating Station (City of Palm Springs)	Industrial	W/Diablo Rd.; S/Dillon Rd.	Project Approved	81
Fed Ex Distribution Center: 105,600-sq.ft. distribution center (City of Palm Springs)	Industrial	Garnet Rd and W. of North Indian Canyon Rd.	Under Construction	82

Table E-1. West of Devers Upgrade Cumulative Project List

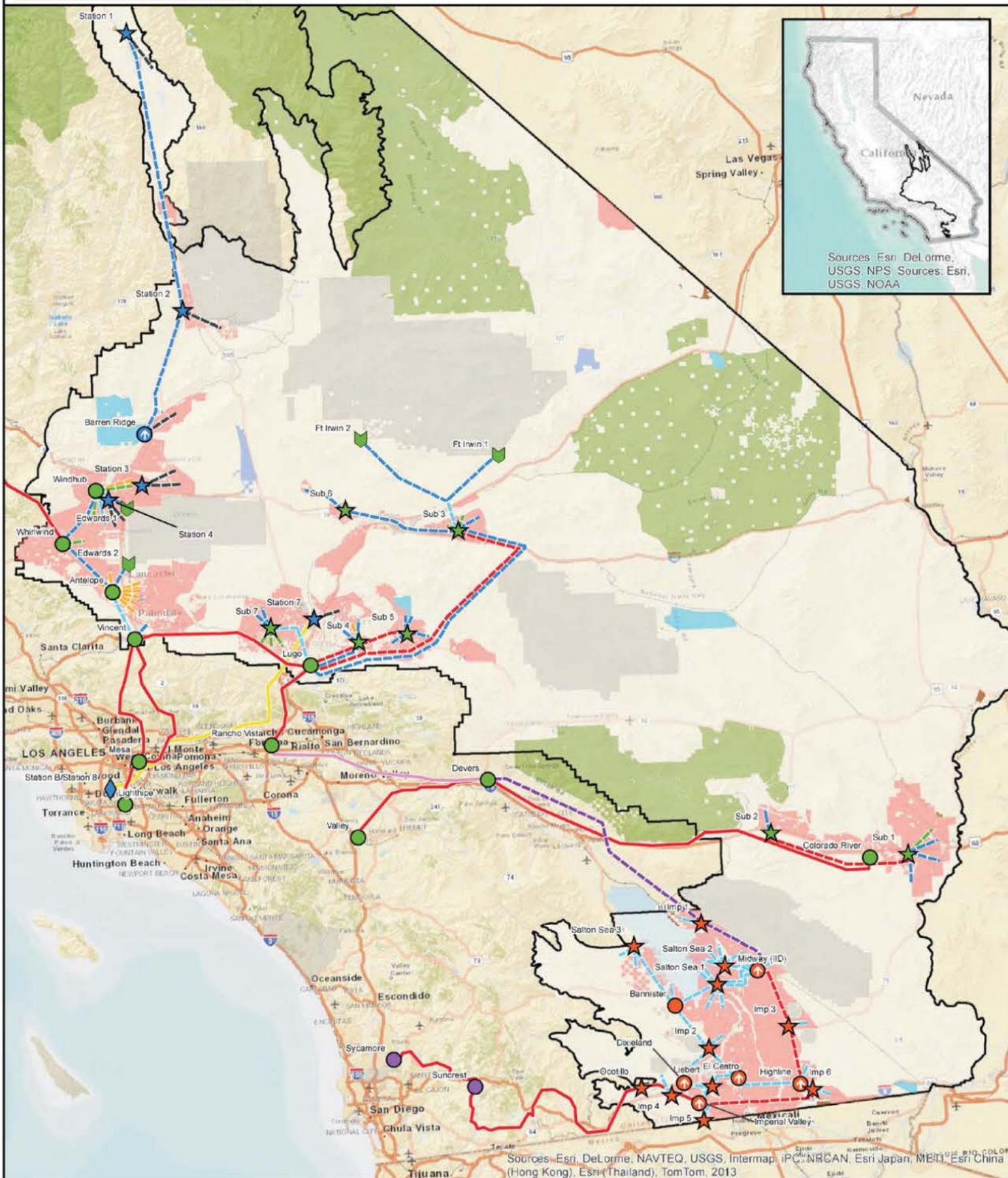
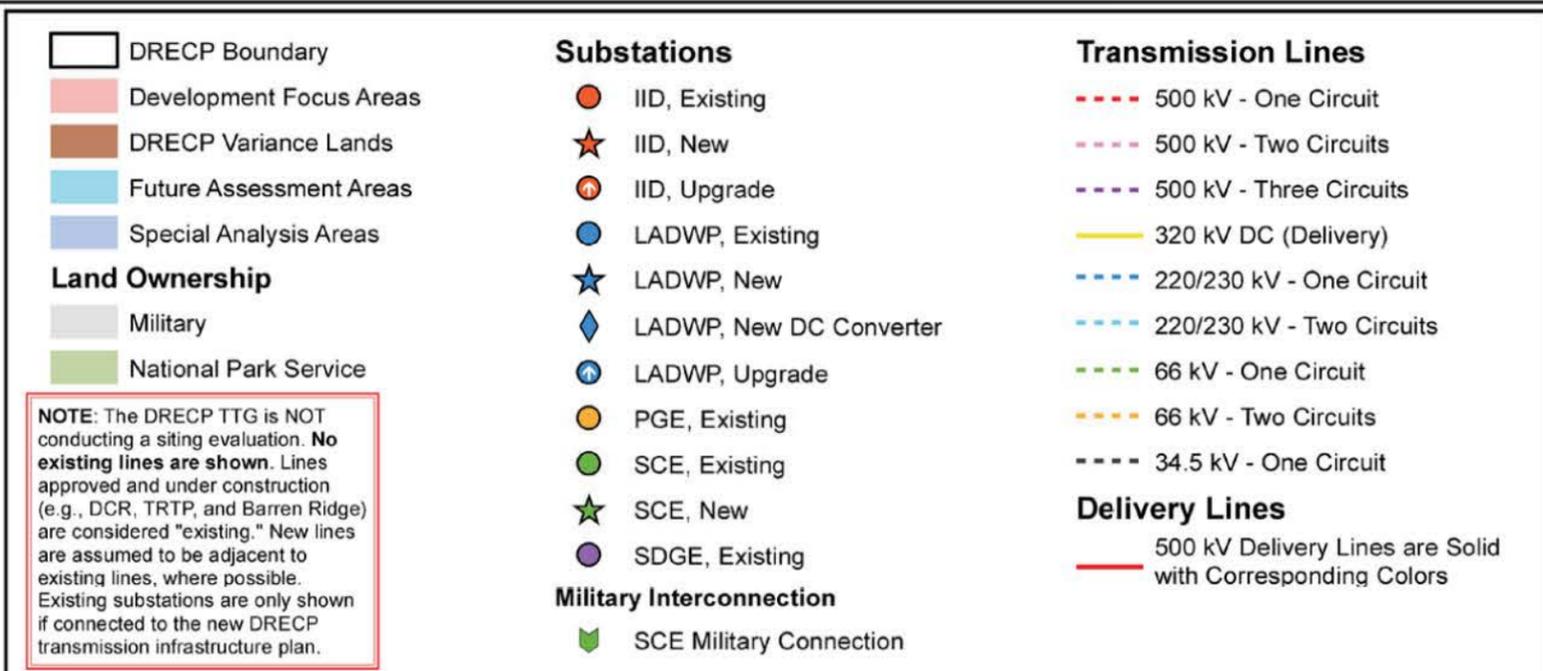
Project	Type	Location	Status	Project ID
Desert Hot Springs				
Construction of 3 warehouse/industrial buildings with a total of 1.5 million sq.-ft. (City of Desert Hot Springs)	Commercial/Industrial	N/20th St. and I-10; E/Indian Avenue	Development Review Team	83
Divide 76 acres into 114 industrial parcels (City of Desert Hot Springs)	Industrial	N/Avenue. 20; S/Dillon Rd.; E/Indian Avenue; W/Little Morongo Rd.	Project Approved	84
Gated Community of 1560 Dwellings and Golf Course (City of Desert Hot Springs)	Residential	N/Pierson Blvd.; E/of Worsley Rd.	Project Annexed	85

While SCE states that it currently has no specific plans for transmission expansion in the WOD corridor, and CAISO has not studied or identified the need for transmission expansion in the WOD corridor beyond SCE's proposed West of Devers Upgrade Project, there are other regional studies that point to the potential for future development. Three regional analyses of renewable energy in the California desert have identified the WOD corridor as the potential location of one or more future 500 kV transmission lines: the Desert Renewable Energy Conservation Plan ("DRECP"), the BLM Solar Programmatic EIS (PEIS), and the CPUC's Long Term Procurement Planning process (LTPP).

- **DRECP.** The DRECP is a species protection plan proposed by the BLM, California Energy Commission (CEC), U.S. Fish and Wildlife Service (USFWS), and other agencies to allow appropriate development of renewable energy projects in the southern California deserts. The Draft DRECP and EIR/EIS was published on September 26, 2014. The development of renewable energy that could occur if the Plan is approved would require the development of additional transmission lines. Where feasible, it is likely that these transmission lines would be proposed to be located in or adjacent to existing lines or corridors, which almost certainly would include segments of SCE's West of Devers right-of-way. The map illustrating potential transmission for the DRECP Preferred Alternative (Transmission Technical Group Alternative 5) shows two 500 kV circuits in the WOD corridor. See Figure E-1b, from the DRECP Transmission Technical Group report.
- **Solar PEIS.** The BLM similarly studied the potential for solar energy development and foreseeable need to expand transmission across six southwestern states, including the southern California deserts, as part of the 2012 Solar PEIS. In the Final Solar PEIS, Volume 2, the PEIS defines potential capacity of the Riverside East Solar Energy Zone (SEZ; the area around the City of Blythe) could be developed up to nearly 24,000 MW. The PEIS states, "...at full build-out capacity, new transmission lines and upgrades of existing transmission lines would be required to bring electricity from the proposed Riverside East SEZ to load centers." The PEIS states that for the first component of the transmission scenario, new lines could be constructed to carry up to 6,400 MW to Los Angeles and up to 740 MW to other nearby counties [Final PEIS, Vol 2, page 9.4-143]
- **CPUC Transmission Planning.** Development scenarios being studied within the CPUC 2014 LTPP include cases that contemplate additional availability of transmission out of the Imperial County renewable energy zone to load centers (Assigned Commissioner's Ruling on Assumptions, Scenarios, and Portfolios of February 27, 2014 in R.13-12-010). The LTPP is a CPUC proceeding to assess utility investment in power contracts and transmission additions to serve future utility loads. The routing for import of renewable power from Imperial Valley to the Los Angeles basin would almost certainly require use of the WOD corridor.

E.2.3.2 Cumulative Transmission Scenario

Based on the information above, the CPUC and BLM have determined that a future 500 kV transmission line in the WOD corridor is foreseeable, and therefore should be evaluated as a cumulative project in this EIS. The line would be built in SCE's existing ROW and along about 40 miles of the 45-mile project ROW. The future 500 kV line could be single-circuit or double-circuit, and for the purpose of this study, it is assumed to be a double-circuit line. The endpoints could be at future facilities developed within or near the existing Devers Substation and SCE's Rancho Vista Substation near Etiwanda, in Rancho Cucamonga.



Source: SCE, 2014.

West of Devers Upgrade Project

Figure E-1b
DRECP Transmission Technical Group Map for Preferred Alternative

This page intentionally blank.

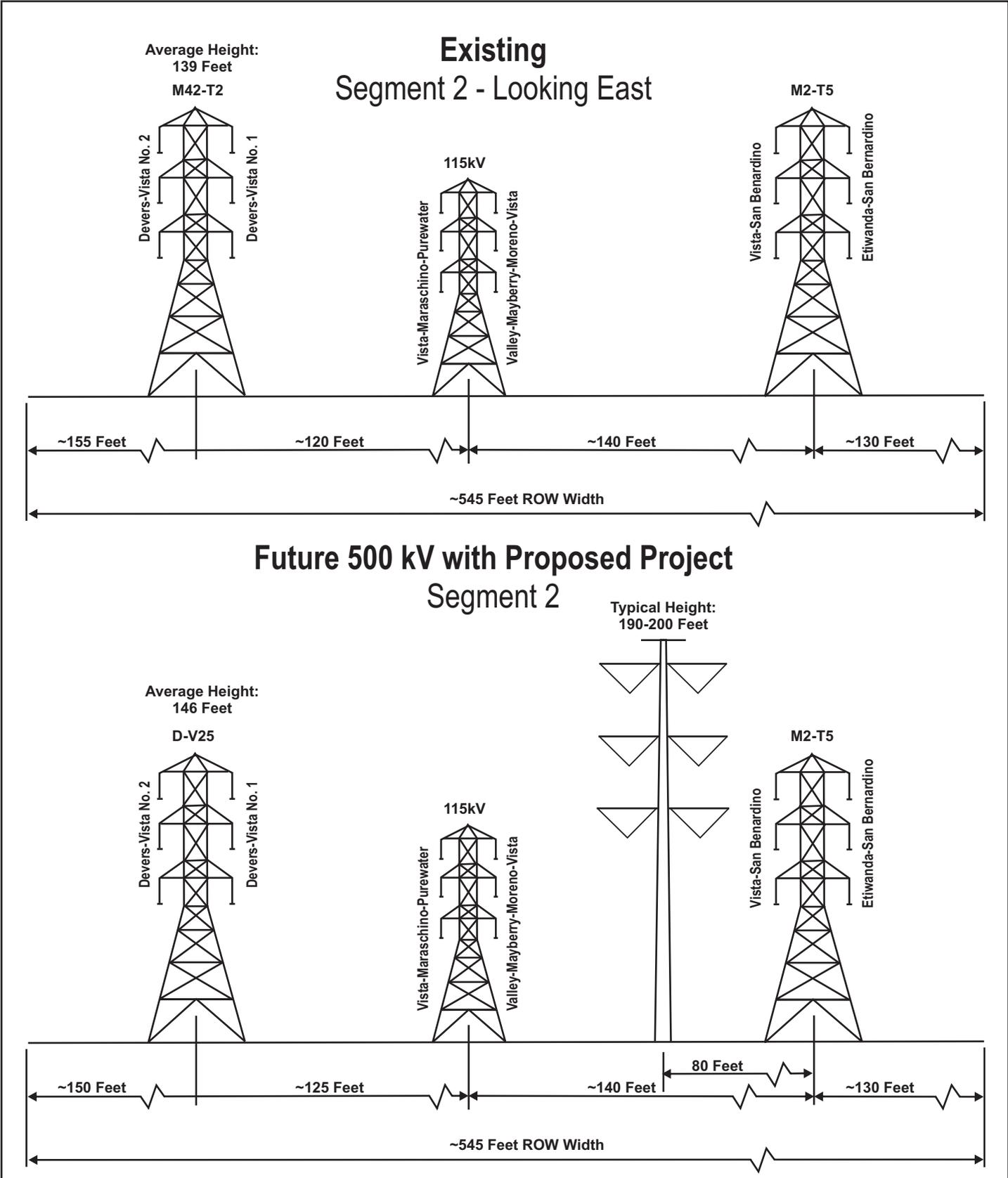
This analysis does not evaluate impacts west of the Vista Substation, because there would be no cumulative impacts in that area. The potential future 500 kV transmission structures in that segment would likely be new tubular steel poles approximately 190 to 200 feet tall, most likely located along an existing transmission corridor. The cumulative analysis in this EIS does include consideration of the following segments:

- **Segment 2:** Between the Vista Substation and San Bernardino Junction, the future 500 kV structures would be tubular steel poles approximately 190 to 200 feet tall, located within existing SCE ROW, between the existing 220 kV towers and existing 115 kV lines that would be unaffected by the WOD project. At San Bernardino Junction, the future 500 kV line would need to cross over the 220 kV circuits to the south.
- **Segment 3:** Between San Bernardino Junction and El Casco (Segment 3), the future 500 kV structures would be located to the south of the proposed pairs of double-circuit 220 kV towers. At or near El Casco, the future 500 kV line would need to cross over the proposed pairs of 220 kV circuits to the north.
- **Segments 4, 5, and 6:** Between El Casco and Devers, the future 500 kV structures would be located to the north of the proposed pairs of double-circuit 220 kV towers within the project ROW.

The route of the future 500 kV line would follow the ROW of the Proposed Project from the Devers Substation to the Vista Substation.

Figures E-2a through E-2d illustrate the ROW cross-section in the center of the route in four areas:

- Figure E-2a shows one Segment 2 profile of the future 500 kV line added to the Proposed Project.
- Figure E-2b shows one Segment 3 profile
- Figure E-2c shows one Segment 4 profile
- Figure E-2d shows one Segment 6 profile.



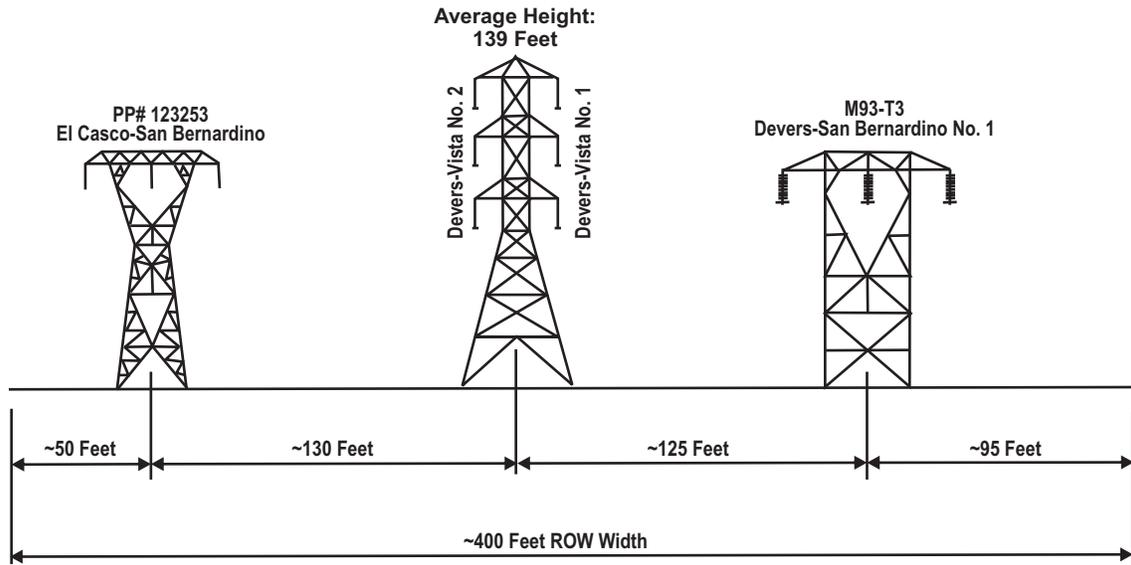
Source: SCE, 2014.

West of Devers Upgrade Project

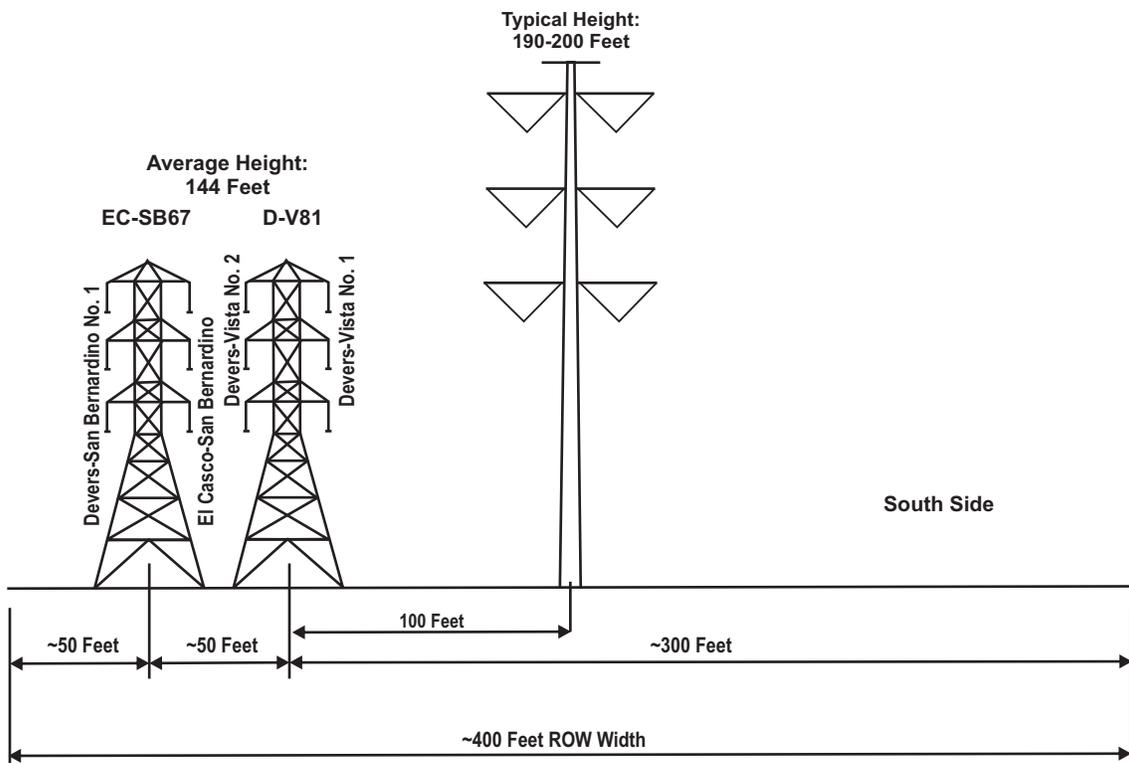
**Figure E-2a
 Cumulative Future 500 kV Corridor Profile
 Segment 2**

Not to Scale

Existing Segment 3 - Looking East



Future 500 kV with Proposed Project Segment 3



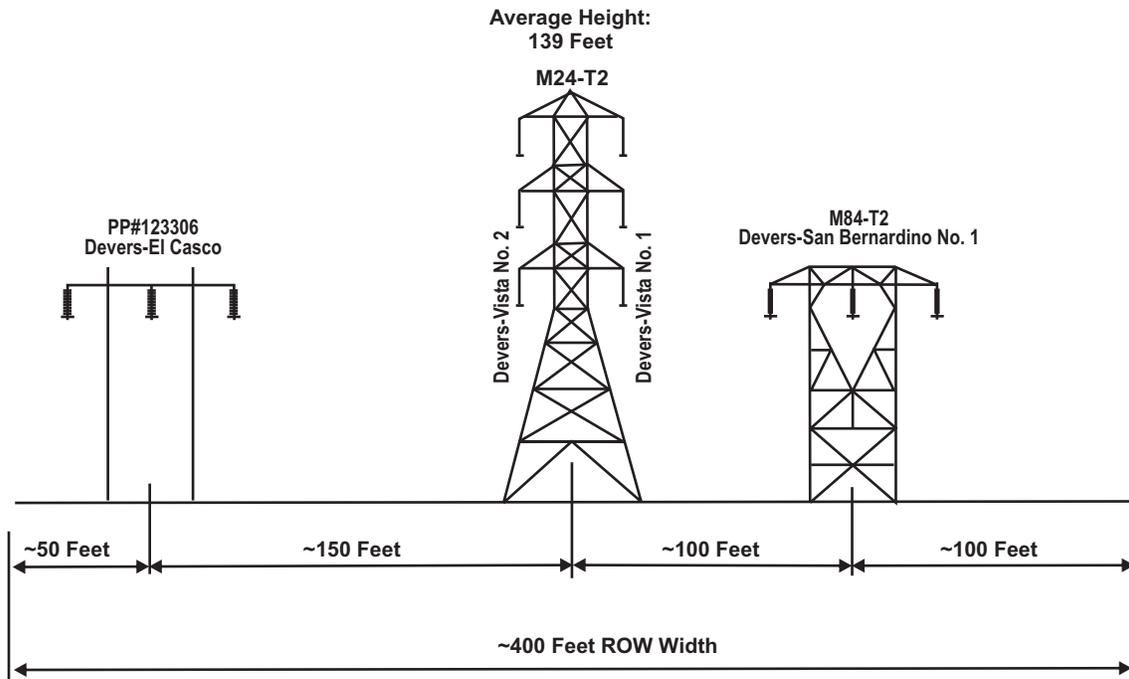
Source: SCE, 2014.

West of Devers Upgrade Project

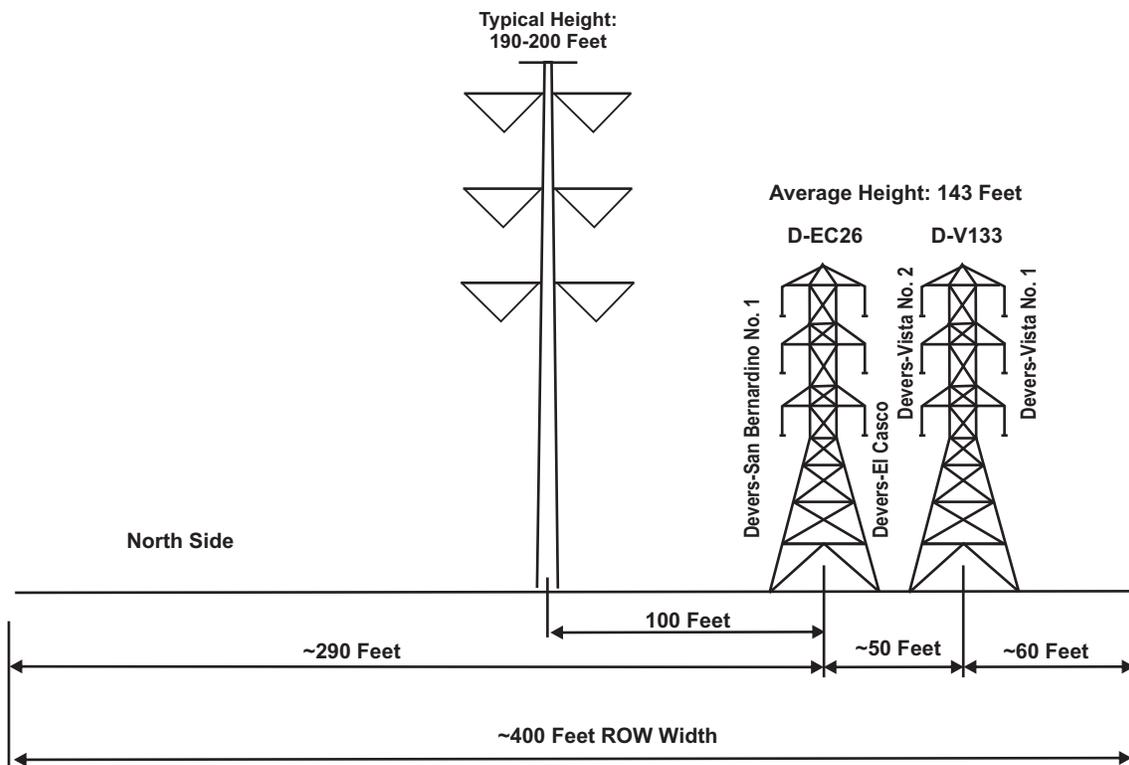
Figure E-2b
 Cumulative Future 500 kV Corridor Profile
 Segment 3

Not to Scale

Existing Segment 4 - Looking East



Future 500 kV with Proposed Project Segment 4



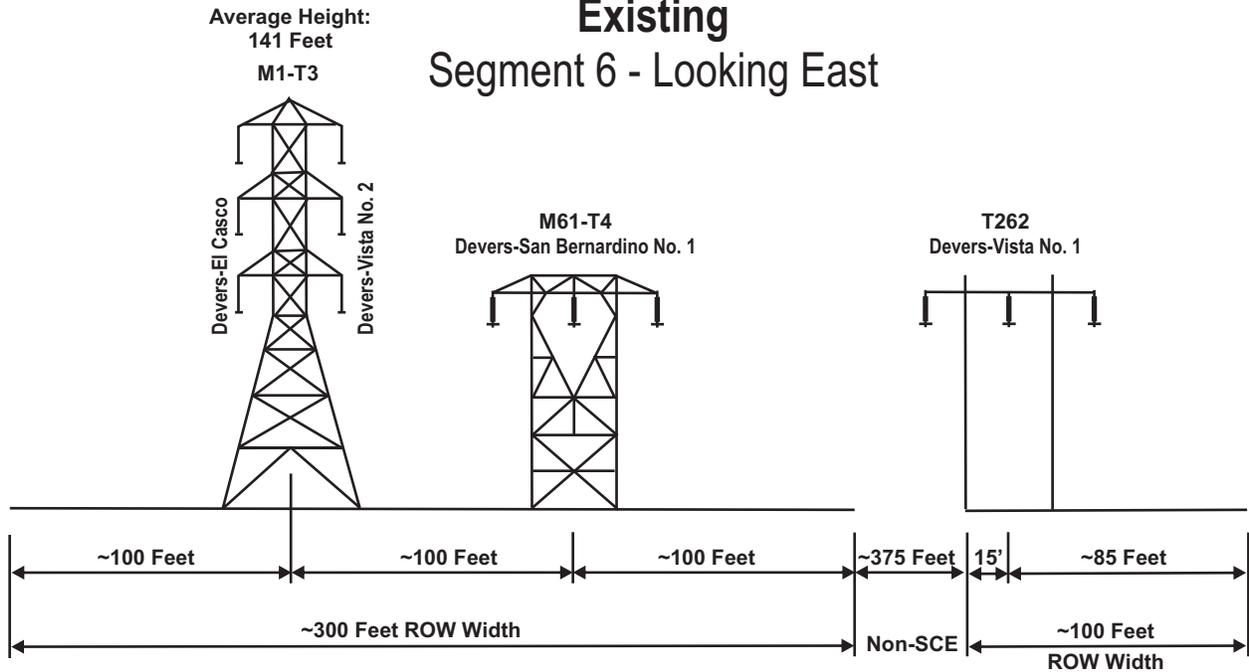
Source: SCE, 2014.

West of Devers Upgrade Project

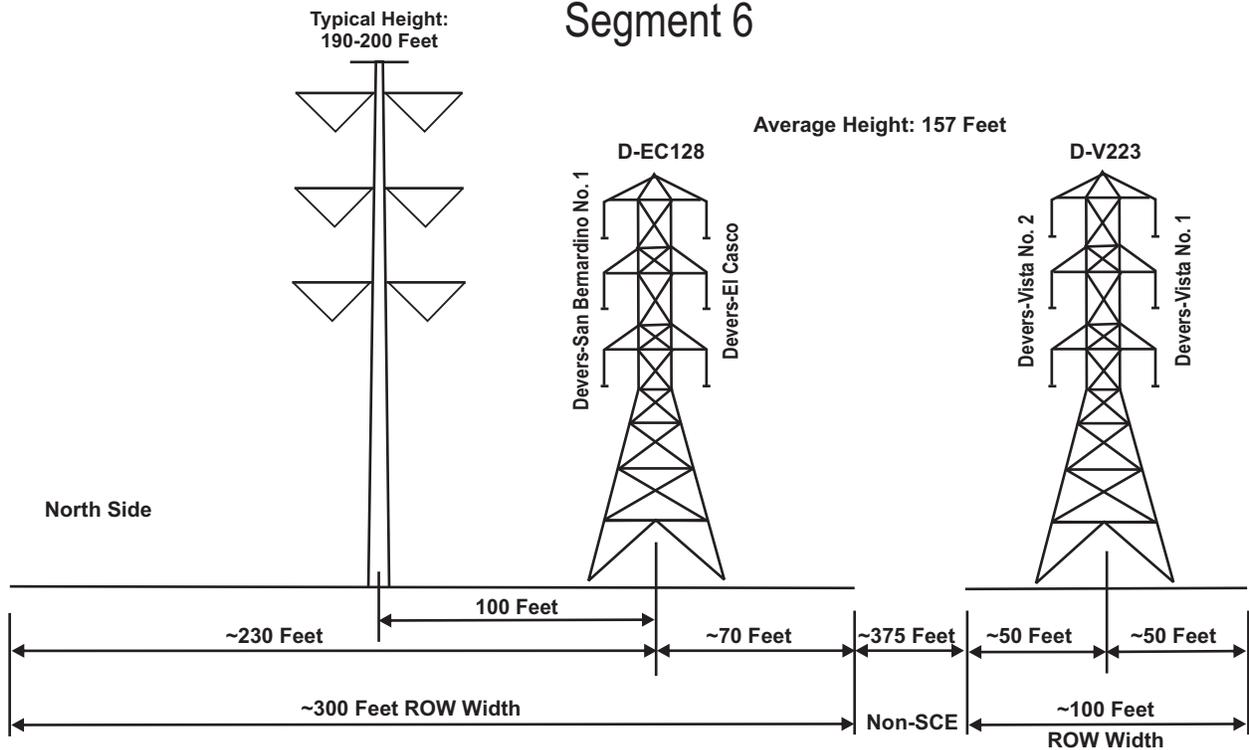
Figure E-2c
 Cumulative Future 500 kV Corridor Profile
 Segment 4

Not to Scale

Existing Segment 6 - Looking East



Future 500 kV with Proposed Project Segment 6



Source: SCE, 2014.

Not to Scale

West of Devers Upgrade Project

Figure E-2d
Cumulative Future 500 kV Corridor Profile
Segment 6

E.3 Cumulative Impact Analysis for the Proposed Project

E.3.1 Introduction

The following sections present the cumulative analysis for each of the 20 disciplines considered in Section D of this /EIS. Each section is based on the list of all of the projects within the cumulative projects study area (Table E-1, West of Devers Upgrade Cumulative Project List), and the locations of these projects (shown on Figure E-1a, Cumulative Projects).

For each discipline, the discussion first explains the geographic scope of the cumulative impact analysis. Next, the cumulative effects and their severity are described.

E.3.2 Agriculture

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with agriculture is the area within approximately 3 miles of the Proposed Project, which is the same as the Cumulative Projects Study Area shown in Figure E-1a, Cumulative Projects. This geographic scope is appropriate because it includes a large enough area to account for regional cumulative impacts to agriculture yet is focused enough to represent the Proposed Project's actual potential to combine with the impacts of other cumulative projects.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for agriculture within the cumulative analysis study area. Some examples of development projects that could combine to result in adverse cumulative effects to agricultural resources include: the North-South Pipeline Project near Segments 1, 2, and 3; several warehouse developments near Segment 1; several large residential developments near Segment 4; and a reasonably foreseeable future 500 kV transmission line that would be geographically contiguous with the majority of the Proposed Project. Some examples of projects within the cumulative projects study area that could adversely affect agricultural land include the following:

- Future 500 kV Transmission Line
- North-South Pipeline Project
- Redlands Distribution Center
- Hillwood Warehouse
- McShane Warehouse
- Redlands Fulfillment Center
- Middle School 5
- Summerwind Ranch at Oak Valley
- Fairway Canyon SCPGA
- Sunny-Cal Specific Plan
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Sundance
- Butterfield Specific Plan
- Cabazon Outlets expansion

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to agricultural land use in the region. The cumulative analysis study area is located in the counties of San Bernardino and Riverside. Agriculture is an important industry in both of these counties. Riverside County's early development was "linked to agriculture but commerce, construction, manufacturing, transportation and tourism soon took hold, contributing substantially to the region's rapid growth" (County of Riverside, 2015). Since that time, the development of numerous residential, commercial, industrial, and infrastructure projects has resulted in the continued loss of agricul-

tural land in the study area. From 2000 to 2002, Riverside County experienced a net decrease of 15,339 acres of important farmland (City of Moreno Valley, 2006). Similarly, from 2006 to 2008, approximately 19,400 acres of irrigated farmland were removed from agricultural use (County of Riverside, 2014a). Based on data from the California Department of Conservation's Farmland Mapping and Monitoring Program for 2010, San Bernardino County contained approximately 925,000 acres of agricultural land, of which approximately 23,000 acres were designated as Important Farmland. In 2010, Riverside County contained approximately 540,000 acres of agricultural land, of which approximately 429,000 acres were designated as Important Farmland.

The current and reasonably foreseeable projects described above would affect agricultural resources in the cumulative analysis study area in a similar manner as past activities. The North-South Pipeline Project near Segments 1, 2, and 3 would traverse several large areas of grazing land and a few smaller areas of Farmland of Local Importance. Several warehouse developments near Segment 1 could impact Farmland of Prime Importance. Also, several large residential developments near Segment 4 could lead to the conversion of Farmland of Local Importance to non-agricultural uses. The reasonably foreseeable future 500 kV transmission line would be geographically contiguous with the majority of the Proposed Project and would traverse a small amount of Important Farmland. Construction and operation of the Proposed Project would result in minor adverse effects to agricultural resources. Approximately 3.5 acres of Important Farmland would be permanently converted to non-agricultural use as a result of construction and operation of the Proposed Project. These potential adverse effects would combine with the adverse effects on agricultural resources from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to agricultural resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to agricultural resources. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. Construction and operation of the Proposed Project would lead to the permanent conversion of 3.5 acres of Important Farmland to non-agricultural uses and the temporary disturbance of approximately 32 acres of Important Farmland. This amount of farmland is very small in relation to the total amount of farmland both within the cumulative projects study area and within the region.

The severity of the Proposed Project potential adverse effects to agricultural resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of Mitigation Measure AG-3a (Establish agreement and coordinate construction activities with agricultural landowners). The full text of this mitigation measure is presented in Section D.2. With implementation of the mitigation measure described above and in Section D.2, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.3 Air Quality

Geographic Scope

The geographic scope for this cumulative analysis includes the same two air basins that were analyzed for the Proposed Project: the South Coast Air Basin and the Coachella Valley portion of the Salton Sea Air Basin. Most of the Proposed Project would fall within the South Coast Air Basin, which includes Segments 1 through 5. Segment 6 of the Proposed Project would fall within the Salton Sea Air Basin. This geographic scope is appropriate because it accounts for the potential for emissions from other cumula-

tive projects to combine with the emissions of the Proposed Project to exceed air quality thresholds within the two affected air basins.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for air quality within the cumulative analysis study area. Some examples of development projects that could combine to result in adverse cumulative effects to air quality include: commercial and industrial development (including new warehouse construction) near Segments 1 and 2, the North-South Pipeline Project near Segments 1 through 3, several large residential developments near Segment 4, and renewable energy and mining developments near Segment 6, and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the air quality of the region. Although air quality has generally improved since the high levels of pollution in the 1970s, the two air basins that are included in this cumulative analysis remain impaired by several pollutants. As described in Section D.3, the South Coast Air Basin is in non-attainment and exceeds the local or federal thresholds for several criteria pollutants, including ozone, PM₁₀, and PM_{2.5}. The Salton Sea Air Basin is in non-attainment and exceeds the thresholds for ozone and PM₁₀.

The current and reasonably foreseeable projects described above and in Table E-1 would affect air quality in the cumulative analysis study area in a similar manner as past activities. Emission of toxic air contaminants (TACs) and criteria pollutants could result from the operation of construction and maintenance vehicles and equipment. Ground disturbance could lead to the mobilization of pollutants such as dust and fine particulate matter. Development of new fossil-fuel based energy production would introduce new stationary sources of air quality pollutants. As described in Section D.3 (Air Quality), the total direct and indirect emissions from construction and operation of the Proposed Project would be below the federal General Conformity rule applicability emission trigger levels, but would exceed the SCAQMD regional or localized thresholds. These potential adverse effects would combine with the adverse effects on air quality from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to air quality that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to air quality. Construction and operation of various projects within the cumulative projects study area (such as the examples listed above) could result in emissions of criterial air pollutants that would exceed the General Conformity rule applicability emission trigger levels or the SCAQMD regional or localized thresholds. In addition to criteria air pollutants, the Proposed Project would not involve any notable sources of odors or toxic air contaminants (TACs) other than diesel-fired construction equipment, no individual sensitive receptor would be exposed to substantial concentrations of pollutants, no new stationary sources of TACs would be introduced, and construction-related diesel equipment emissions would not occur at any single location for an excessive duration.

The maximum daily and annual operating emissions from the various Proposed Project operation, maintenance, and inspection activities would not exceed federal General Conformity thresholds. During project operations, emissions would result from limited use of vehicles for routine maintenance, repair, and inspection that would not expose sensitive receptors to substantial concentrations of TACs or odors.

However, the Proposed Project's NO_x, VOC, PM₁₀, PM_{2.5}, and CO emissions during construction would remain above the SCAQMD daily threshold values. Therefore, the criteria pollutant construction emissions from the Proposed Project would cause substantial adverse effects. Depending on the timing of construction of other projects within the cumulative projects study area, the air quality adverse effects of the Proposed Project could combine with the air quality adverse effects of the other projects to result in a cumulative adverse effect to air quality, and the incremental contribution of the Proposed Project to the adverse cumulative effect would be substantial.

The severity of the Proposed Project potential adverse effects to air quality, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of Mitigation Measures AQ-1a (Control fugitive dust), AQ-1b (Control off-road equipment emissions), and AQ-1c (Control helicopter emissions). The full text of these mitigation measures is presented in Section D.3. Even with implementation of mitigation measures to control fugitive dust and vehicle emissions, the incremental contribution of the Proposed Project to the adverse cumulative effect would remain substantial.

E.3.4 Biological Resources – Vegetation

Geographic Scope

The geographic scope for this cumulative analysis includes the entire extent of all vegetation communities and special-status plant species of the region that could be adversely affected by construction, operation, restoration, and decommissioning of the Proposed Project. This geographic scope is appropriate because it accounts for the cumulative degradation or loss of a particular vegetation community or special-status plant species of the region from all projects that have impacted or would impact vegetation communities of concern or special-status plant species.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for vegetation within the cumulative analysis study area. Some examples of development projects that could combine to result in adverse cumulative effects to vegetation include: commercial and industrial development (including new warehouse construction) near Segments 1 and 2; the North-South Pipeline Project near Segments 1 through 3; several large residential developments near Segment 4; renewable energy and mining developments near Segment 6; and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the vegetation communities of the region. These past and present projects have resulted in direct and indirect adverse effects to vegetation communities through ground disturbance, vegetation removal, the introduction of non-native invasive plant species, the alteration of surface and subsurface flows, the creation of fugitive dust, the interruption of windblown sand transport to downwind habitat, the disturbance or destruction of wetlands, and permanent land use conversion. The cumulative analysis study area traverses several geographical and ecological zones. It traverses the San Timoteo Badlands (Badlands), spans San Timoteo Creek, the San Gorgonio River, and the Whitewater River, and runs through the San Gorgonio Pass into the western Sonoran Desert. Collectively, these areas contain a diverse flora that includes many rare, threatened, and endangered plants, and rare vegetation communities. Twenty-five special-status plant species occur or may occur within the study area, including four species listed under the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), or both. The listed species are Coachella Valley milk-vetch (*Astragalus lentiginosus* var.

cochellae; federal endangered), triple-ribbed milk-vetch (*Astragalus tricarinatus*; federal endangered), Nevin's barberry (*Berberis nevinii*; federal and state endangered), and Mojave tarplant (*Deinandra mohavensis*; state endangered). The development of past residential, commercial, industrial, and infrastructure projects has led to a reduction in habitat for native vegetation and the subsequent special-status classification of several plant species, including the examples listed above.

The impacts of past and present cumulative projects on vegetation have been both temporary and permanent. Temporary impacts to vegetation and habitat have occurred with construction of past and present cumulative projects, where vegetation was removed for temporary work areas, without long-term land use conversion, so that vegetation has returned to a more natural condition or has been actively revegetated or enhanced. However, some areas of disturbance that were not subject to long-term land use conversion are still classified as permanent impacts due to very long recovery times. Desert habitat is an example of vegetation community where an otherwise temporary impact could be considered permanent due to the very long recovery time for various plants within that habitat. Several drainages within the study area were identified with the potential to satisfy the three criteria necessary to meet the U.S. Army Corps of Engineers (USACE) definition of a wetland (i.e., presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology). In general, the extent of wetlands within the study area has been reduced by the development of past and present cumulative projects.

In addition to the direct impacts to vegetation described above, past and present cumulative projects have resulted in several indirect impacts to vegetation. These indirect impacts include dust caused by project activities or vegetation removal, interruption of windblown sand transport to downwind habitat, interruption of surface flows and water or sediment supply to downstream habitat, and the introduction or spread of invasive species.

The current and reasonably foreseeable projects described above and in Table E-1 would affect vegetation resources in the cumulative analysis study area in a similar manner as past activities. Earth movement, grading, and the creation of new impervious surfaces (such as that associated with the residential development projects near Segment 4 or linear projects such as the North-South Pipeline Project or the Future 500 kV Transmission Line) would lead to vegetation removal, the introduction of non-native invasive plant species, the alteration of surface and subsurface flows, the creation of fugitive dust, the disturbance or destruction of wetlands, and permanent land use conversion.

Construction and operation of the Proposed Project would result in adverse effects to vegetation resources, such as permanent vegetation and habitat removal for permanent project facilities, and temporary removal or degradation for temporary project work and access areas. The importance of this adverse effect would vary depending on vegetation or habitat type; in some cases, sensitive habitat such as riparian vegetation, or habitat supporting special-status species, would be permanently or temporarily removed. Project activities would generate dust, which could affect plant physiology and productivity, and degrade surrounding habitat value. Project activities and facilities would have a minor adverse effect on windblown sand transport. Project activities that would interrupt localized surface hydrology could impound stormwater runoff and sediment upstream of road crossings, cause erosion to downstream habitat where flow is redirected, or prevent water and sediment from reaching downstream vegetation and habitat. These effects could damage vegetation and habitat for wildlife, including special-status species, by killing or uprooting plants or eroding or burying burrows. The Proposed Project would affect jurisdictional waters of the State or waters of the U.S. by placing fill material for tower pads or roadways; constructing roadways, culverts, or other crossing structures; installing channel armoring; constructing impoundments or detention basins; or grading or other site preparation that alters natural runoff. Impacts to jurisdictional waters, including intermittent channels, could also affect downstream

wetlands, riparian, or aquatic habitat and the biological resources found in those downstream habitats. These potential adverse effects would combine with the adverse effects on vegetation resources from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to vegetation resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to vegetation resources. The incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be notable. Road construction and improvements, and site preparation for transmission structure demolition or construction, pull sites, staging areas, equipment yards, parking areas, and other project activities would necessitate removing existing vegetation and habitat. This adverse effect would be minor for vegetation and habitat removal in areas with little native habitat value. In other areas, loss of native vegetation would reduce or degrade habitat availability for native plants and wildlife, including special-status species. In some cases, sensitive habitats or vegetation types, or habitats that support listed threatened or endangered species or other special-status species, would be removed. The total acreage of both temporary and permanent loss of for each of the vegetation communities within the Proposed Project study area is presented in Section D.4, Table D.4-4. The total temporary disturbance of vegetation communities for the Proposed Project is approximately 3,180 acres. The total permanent loss of vegetation communities for the Proposed Project is approximately 373 acres.

The Proposed Project also would affect wetland or riparian habitat, vegetation and habitat that may support special-status plants or animals, and vegetation types designated by the California Department of Fish and Wildlife (CDFW) as “communities with highest inventory priority.” In addition to the direct adverse effects to native vegetation and habitat, the Proposed Project’s construction activities could have several indirect adverse effects to surrounding vegetation and habitat. These impacts may include dust caused by project activities or vegetation removal, interruption of windblown sand transport to downwind habitat, interruption of surface flows and water or sediment supply to downstream habitat, and the introduction or spread of invasive species. The extent and severity of these indirect habitat effects would be dependent on the sensitivity of adjacent habitat and the plants or wildlife it supports.

Approximately one half of the Proposed Project route is located within the Western Riverside Multiple Species Habitat Conservation Plan (WR-MSHCP) planning area, and a portion of the Proposed Project is located within the Coachella Valley Multiple Species Habitat Conservation Plan (CV-MSHCP). SCE is not a signatory to either the WR-MSHCP or the CV-MSHCP; however SCE intends to apply for Participating Special Entity (PSE) status for the Proposed Project to receive take authorization of listed species within both Plan Areas, subject to conditions of applicable state and federal authorizations and the WR-MSHCP and CV-MSHCP Implementing Agreements. If SCE does not obtain PSE status, then no take would be authorized under the MSHCP, and separate ESA, CESA, and other mitigation would be required, as described in Section D.4. Overall, construction and operation of the Proposed Project would result in substantial adverse effects to vegetation resources, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly notable.

The severity of the Proposed Project potential adverse effects to vegetation resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of APMs and Mitigation Measures VEG-1a (Conduct biological monitoring and reporting), VEG-1b (Prepare and implement worker environmental awareness program), VEG-1c (Minimize native vegetation and habitat loss), VEG-1d (Restore or revegetate temporary disturbance areas), VEG-1e (Compensate for permanent habitat loss), VEG-2a (Prepare and implement and integrated weed management plan), VEG-3a (Impact minimization and no net loss for jurisdictional

waters and wetlands), VEG-5b (Ensure MSHCP equivalency and consistency), AQ-1a (Control Fugitive Dust), AQ-1b (Control Off-Road Equipment Emissions), and WR-2a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). The full text of the vegetation APMs and mitigation measures is presented in Section D.4. The full text of the air quality and water resources mitigation measures is presented in Sections D.3 and D.19, respectively. With implementation of the mitigation measures described above and in their respective Section D analysis, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be minor.

E.3.5 Biological Resources – Wildlife

Geographic Scope

The geographic scope for this cumulative analysis includes the entire extent of all wildlife communities and special-status wildlife species of the region (including their habitat and current active ranges) that could be adversely affected by construction and operation of the Proposed Project. This geographic scope is appropriate because it accounts for the cumulative degradation or loss of a particular wildlife community or special-status species of the region from the construction and operation of all other projects that have impacted or would result in a reasonably foreseeable impact to a given wildlife community or special-status species.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for wildlife resources within the cumulative analysis study area. Some examples of development projects that could combine to result in adverse cumulative effects to wildlife include: commercial and industrial development (including new warehouse construction) near Segments 1 and 2; the North-South Pipeline Project near Segments 1 through 3; several large residential developments near Segment 4; renewable energy and mining developments near Segment 6; and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of many past and present projects within the cumulative analysis study area have resulted in substantial changes to the wildlife communities of the region. Some types of past and present adverse effects to wildlife communities include disturbance from noise and vibration, lighting, dust, and vehicle traffic; loss or degradation of habitat; destruction of burrows or nests; and mortality of individuals. Indirect effects include introduction and spread of invasive species that compete with native species and cause habitat degradation or reduction of available food sources and increased predation due to certain habitat alterations (e.g., perch sites or “subsidies” for predators). Vegetation removal has caused both temporary and permanent loss of wildlife habitat along with the displacement and mortality of resident wildlife species that are poor dispersers, such as snakes, lizards, and small mammals. Construction of numerous past and present projects has also resulted in the temporary degradation of adjacent habitat value due to disturbance, noise, increased human presence, and increased vehicle traffic during construction.

The cumulative analysis study area includes several geographical and ecological zones (described above in Section E.3.4 and Section D.4). It traverses the San Timoteo Badlands in western Riverside County, the San Gorgonio Pass, and extends into the western Sonoran Desert. Collectively, these areas contain a diverse fauna that includes many rare, threatened, and endangered animals. In addition to the general ecological description, biological connectivity across the San Gorgonio Pass is important to wildlife populations in the San Bernardino and San Jacinto Mountains; and sand transported from the mountain

canyons supplies desert dune wildlife habitat in the Coachella Valley. The Proposed Project also traverses two Multiple Species Habitat Conservation Plan (MSHCP) areas.

The habitats within the cumulative project study area support a wide variety of animals, such as insects, birds, small mammals, coyote, and deer. Ninety-six special-status wildlife species occur or may occur in the Proposed Project study area, including 12 species listed under the federal Endangered Species Act (ESA), California ESA, or both. The listed species are Casey's June beetle (*Dinacoma caseyi*; federal endangered), Sierra Madre (mountain) yellow-legged frog (*Rana muscosa*; federal and state endangered), desert tortoise (*Gopherus agassizii*; federal and state threatened), Coachella Valley fringe-toed lizard (*Uma inornata*; federal threatened and state endangered), Swainson's hawk (*Buteo swainsoni*; state threatened), bald eagle (*Haliaeetus leucocephalus*; federal and state protected and state endangered), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*; federal threatened and state endangered), southwestern willow flycatcher (*Empidonax traillii extimus*; federal and state endangered), little willow flycatcher (*E.t. brewsteri*; state endangered), least Bell's vireo (*Vireo bellii pusillus*; federal and state endangered), coastal California gnatcatcher (*Polioptila californica californica*; federal threatened), and Stephens' kangaroo rat (*Dipodomys stephensi*; federal endangered and state threatened).

Forty-five non-listed special-status wildlife species were observed during surveys and 26 additional special-status animals have a moderate or high potential for occurrence within the Proposed Project study area. These special-status wildlife species include: raptors (including golden eagles, kites, falcons, and hawks); burrowing owls; non-raptor birds (including herons, shrikes, larks, martins, sparrows, black-birds, thrashers, chats, and warblers); several bat species; several small mammals (including rabbits, mice, rats, squirrels, badgers, ringtails, and desert kit fox); reptiles and amphibians (including toads, lizards, and snakes); and bighorn sheep.

Special-status species of note include: golden eagle (*Aquila chrysaetos*; federal and state protected), white-tailed kite (*Elanus leucurus*; state protected), burrowing owl (*Athene cunicularia*; CDFW Species of Special Concern), American peregrine falcon (*Falco peregrinus*; state protected), desert kit fox (*Vulpes macrotis arsipus*; state protected), and Nelson's bighorn sheep, non-peninsular population (*Ovis canadensis nelsoni*; state protected). The Proposed Project route passes through federally designated critical habitat¹ for coastal California gnatcatcher (*Polioptila californica californica*) in Segment 2. Critical habitat for two other listed wildlife species is found near the route, but not within the Proposed Project area. Critical habitat for San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and Santa Ana sucker (*Catostomus santaanae*) are located in the Santa Ana River to the west and north and outside of the Proposed Project area in Segment 2. Critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*) is found within 200 feet of a proposed fiber-optic route, along San Timoteo Creek in Segment 3. The development of past residential, commercial, industrial, and infrastructure projects has led to increased mortality and a reduction in habitat for native fauna and the subsequent special-status classification of numerous species, including the examples listed above.

The species of concern and their associated habitats that are described above have been adversely affected by extensive past development in the region, and similar additional future development is expected to continue throughout the region. The types of adverse effects that have resulted from past and current projects in the cumulative analysis study area are expected to also result from construction and operation of future development projects. Some examples of cumulative projects in the region and selected key species that could be adversely affected by construction and operation of those projects include the following:

¹ Geographic areas designated by the United States Fish and Wildlife Service [USFWS] in Recovery Plans that contain features essential to conservation and recovery of threatened or endangered species.

- North-South Pipeline Project (coastal California gnatcatcher)
- Grand Terrace Town Square Master Development Plan (coastal California gnatcatcher)
- I-215/Barton Rd. Interchange Improvement Project (coastal California gnatcatcher)
- Summerwind Ranch at Oak Valley (southwestern willow flycatcher, least Bell's vireo, coastal California gnatcatcher, and Stephens' kangaroo rat)
- Fairway Canyon SCPGA (southwestern willow flycatcher, least Bell's vireo, coastal California gnatcatcher, and Stephens' kangaroo rat)
- Sunny-Cal Specific Plan (southwestern willow flycatcher, least Bell's vireo, coastal California gnatcatcher, and Stephens' kangaroo rat)
- Tournament Hills 1 & 2 (coastal California gnatcatcher and Stephens' kangaroo rat)
- Noble Creek Vistas (coastal California gnatcatcher and Stephens' kangaroo rat)
- Sundance (coastal California gnatcatcher and Stephens' kangaroo rat)
- Butterfield Specific Plan (coastal California gnatcatcher and Stephens' kangaroo rat)
- 100 kW photovoltaic array (Coachella Valley fringe-toed lizard and desert tortoise)
- Relocation of 32 wind turbines (Coachella Valley fringe-toed lizard and desert tortoise)
- Replacement of 33 existing wind turbines (Coachella Valley fringe-toed lizard and desert tortoise)
- 60-acre sand and gravel mine (Coachella Valley fringe-toed lizard and desert tortoise)
- Gated community of 1,560 dwellings and golf course in the City of Desert Hot Springs (Coachella Valley fringe-toed lizard and desert tortoise)
- Future 500 kV Transmission Line (all of the species listed above)
- Solar projects near Blythe and Desert Center (listed in Table E-1 under Regional Projects)

The location of the example cumulative projects listed above is shown on Figure E-1a. These projects within the region have adversely affected or could adversely affect the populations and habitats of the species of concern described in this section and in Section D.5.

Construction and operation of the Proposed Project would result in notable adverse effects to wildlife communities and special-status species. The Proposed Project's expected direct and indirect impacts to special-status wildlife during construction and operation would be similar to the wildlife impacts described above. Four federally or state-listed threatened or endangered animal species were documented within the Proposed Project study area during surveys: desert tortoise, least Bell's vireo, Stephens' kangaroo rat, and Swainson's hawk. Four additional listed species have a moderate or high potential for occurrence: western yellow-billed cuckoo, southwestern willow flycatcher, little willow flycatcher, and coastal California gnatcatcher. Listed species with a low potential to occur are Casey's June beetle, mountain yellow-legged frog, Coachella Valley fringe-toed lizard, and bald eagle. Take of listed species may result from Proposed Project activities. ESA Section 7 Consultation would be required for the Proposed Project's potential take of federally listed species, and CESA take authorization would be required for any take of state-listed species. Construction and operation of the Proposed Project could result in the direct mortality or the destruction of suitable habitat for numerous wildlife species, including the examples listed above. These potential adverse effects would combine with the adverse effects on wildlife resources from other projects within the cumulative projects study area to result in a cumulative adverse effect. All of the permanent adverse effects to wildlife resources that would result from construction activities would continue during operation of the Proposed Project. These permanent, operational adverse effects would combine with the potential adverse effects of other projects within the cumulative projects study

area (including residential, commercial, industrial, infrastructure, energy production, and transmission projects) to result in a cumulative adverse effect to wildlife communities.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to wildlife resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to wildlife resources. The incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be notable.

Several of the adverse effects to vegetation resources, described above in Section E.3.4 and in Section D.4, also apply to wildlife resources. This is especially true of habitat-related adverse effects (e.g., vegetation removal). Direct loss of small mammals, reptiles, and other less mobile species could occur during construction and operation of the Proposed Project. Construction and operation of the Proposed Project could also result in an increase in accidental road kills due to increased vehicle traffic along the construction corridor. Other potential causes of wildlife mortality or injury include entrapment in trenches, pipes, or other supplies and equipment; drowning in stored water; poisoning by ingestion or exposure to stored or spilled chemicals; and displacement into unsuitable adjacent habitat.

Indirect adverse effects to wildlife include noise and vibration, dust, visual disturbance from increased human activity, and exhaust emissions from heavy equipment during construction could cause wildlife to avoid habitats adjacent to the construction sites. Construction could impact wildlife in adjacent habitats by interfering with breeding or foraging activities, altering movement patterns, or causing animals to temporarily avoid areas adjacent to the construction zone. Wildlife species are most vulnerable to construction-related disturbances during their breeding seasons. Disturbances from construction could result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding season. Wildlife "subsidies" such as food or water, could attract wildlife to the project area where they may be at increased risk of road strike or other injury or mortality. In addition, wildlife subsidies may attract predators such as ravens, coyotes, or feral dogs to the project area, where they may prey on other species, including special-status species. Vegetation removal and construction disturbance can also introduce or increase the spread of non-native plant species, causing wildlife habitat degradation.

The Proposed Project would upgrade and replace existing facilities (e.g., transmission structures and conductors) without substantially altering the overall numbers of towers or conductors. The project would not introduce new transmission facilities into a location where none existed previously. Therefore, collision and electrocution hazard conditions for the project are expected to be similar to existing conditions. The operation of the Proposed Project is not expected to interfere with the long-term movement of any native resident or migratory species. The Proposed Project involves the upgrade and replacement of existing facilities (e.g., structures, access roads, existing substation modifications, and staging areas); therefore, ecological connectivity conditions for the Proposed Project would be similar to existing conditions.

The severity of the Proposed Project potential adverse effects to wildlife resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of APMs and Mitigation Measures VEG-1a through VEG-1e and Mitigation Measure VEG-2a, which are described above in Section E.3.4 and in Section D.4. The severity of the Proposed Project potential adverse effects to wildlife resources would be further reduced through implementation of APMs and Mitigation Measures WIL-1a (Conduct pre-construction biological resources surveys); WIL-1b (Ensure wildlife impact avoidance and minimization); WIL-1c (Prepare and implement a nesting bird management plan); WIL-2a (Conduct desert tortoise surveys, monitoring, and avoidance); WIL-2b (Prepare and implement raven monitoring, management, and control plan); WIL-2c (Conduct sur-

veys and avoidance for threatened or endangered riparian birds); WIL-2d (Conduct surveys and avoidance for Stephens' kangaroo rat); WIL-2e (Conduct surveys and avoidance for coastal California gnatcatcher); WIL-2f (Conduct surveys and avoidance for golden eagle); WIL-2g (Conduct surveys and avoidance for burrowing owl); WIL-2h (Conduct surveys and avoidance for special-status herpetofauna); WIL-2i (Conduct surveys and avoidance for bats); WIL-2j (Conduct surveys and avoidance for special-status small mammals); WIL-2k (Conduct surveys and avoidance for American badger, ringtail, and desert kit fox); and, WIL-3a (Evaluate bird collision risk and implement APLIC design guidelines). MSHCP participation (if SCE obtains PSE status) may result in additional measures to reduce the Proposed Project's adverse effects to these species. The full text of these APMs and mitigation measures is presented in Sections D.4 and D.5. With implementation of the mitigation measures described above and in Sections D.4 and D.5, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be minor.

E.3.6 Climate Change / Greenhouse Gas Emissions

As described in Section D.6, the climate change analysis for the Proposed Project considers cumulative global impacts related to greenhouse gas emissions and climate change. Therefore, please see Section D.6 for a more detailed discussion of potential cumulative impacts for climate change and greenhouse gas emissions.

Geographic Scope

Globally, greenhouse gas (GHG) emissions contribute, by their nature, on a cumulative basis to the adverse environmental impacts of global climate change. Because the primary environmental effect of GHG emissions would be to exacerbate global climate change and the numerous side-effects on the environment and humans, the area of influence for GHG impacts is global. However, those cumulative global impacts would be manifested as impacts on resources and ecosystems in California, as well as nationally.

Cumulative Analysis

Table D.6-1 (Summary of OEHHA Findings on Climate Change Indicators in California) in Section D.6 (Climate Change) describes climate change indicators in California, including documented impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply.

All projects described in Section E.2 (Cumulative Projects) would result in direct emissions of GHG over the lifetime of the projects. Some projects, such as the solar projects, would also produce electricity in a manner that avoids the GHG emissions normally associated with power plants over the lifetime of the projects. While each project's GHG emissions would be subject to State climate change programs including California's Cap-and-Trade Program and/or local air quality regulations, any increases in GHG emissions that occur in the project area would contribute to cumulative increases in global GHG emissions that could contribute to these effects.

Severity of Project Contribution to Cumulative Adverse Effects. The Proposed Project would generate GHG emissions through construction activities, routine inspection, operations, and maintenance over the life of the facilities. As discussed in Section D.6, the non-recurring construction emissions applied over the anticipated 30-year service life of the Proposed Project results in an average rate of roughly 1,600 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year. This level of amortized construction GHG emissions would be under the threshold level of 10,000 metric tons that applies to electric generating facilities for annual mandatory reporting of GHG (17 CCR 95101), and these emissions would also be

below a threshold level of 10,000 metric tons that applies to annually recurring emissions (SCAQMD, 2011). In addition, GHG emissions during routine operations and maintenance would be well below the threshold for mandatory reporting and the SCAQMD threshold.

The indirect effects of the project on GHG emissions would primarily be due to changing the deliverability of electricity generation facilities. One of SCE's objectives for the Proposed Project is to "integrate and fully deliver the output of new generation projects located in the Blythe and Desert Center areas" some of which include renewable energy resources. The Proposed Project would improve the ability to deliver electricity from the existing and likely future renewable resources in the southeastern California desert to the Los Angeles basin. Power produced from the renewable resources and made deliverable by the project would reduce, displace, or eliminate emissions that would otherwise occur from other power generation facilities including fossil fueled-fired power plants. Delivering electricity to coastal loads would enable an indirect, unquantified reduction in GHG emissions from electricity generation there, primarily within the South Coast Air Basin.

Although the overall levels of GHG emissions caused by the Proposed Project during construction, operations and maintenance would not occur at levels requiring reporting or at levels exceeding any established threshold, cumulative emissions from the project would contribute to climate change effects described above and in Table D.6-1 (see Section D.6, Climate Change).

E.3.7 Cultural Resources

Geographic Scope

The geographic scope for this cumulative analysis includes all of the area that was analyzed for both direct and indirect effects under the Proposed Project. The geographic scope for direct effects to cultural resources from construction of the Proposed Project is the existing 220 kV ROW plus a 50-foot buffer around all other linear project components and the ground disturbance footprint of all non-linear project components, including staging areas and substations. The geographic scope for indirect effects to cultural resources from construction of the Proposed Project includes a 0.5-mile buffer around all direct effects study areas. This geographic scope is appropriate because it includes a large enough area to account for potential impacts to similar cultural resources from other projects in the cumulative projects study area, yet is focused enough to represent the Proposed Project's actual potential to combine with the impacts of other cumulative projects.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for cultural resources within the cumulative analysis study area. Examples of other projects that could result in adverse effects to cultural resources include commercial and industrial development (including new warehouse construction) near Segments 1 and 2, the North-South Pipeline Project near Segments 1 through 3, several large residential developments near Segment 4, renewable energy and mining developments near Segment 6, and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the cumulative analysis study area have resulted in substantial changes to the cultural resources of the region. Depending on the age and type of project, some past projects may themselves be counted as historic resources. Archival research indicated that a total of 87 surveys have been conducted within a half-mile of the Proposed Project route. Through archaeological survey and archival research, 325 cultural resources have been

identified within approximately a half-mile of the Proposed Project. While not all of the cultural resources surveys represent projects that have been built, the projects that were built have likely resulted in an adverse effect to cultural resources. Disturbance or destruction of known historic resources is generally avoidable through project modification or implementation of mitigation. However, it is likely that some disturbance of historic resources in the region has occurred. Disturbance or destruction of previously unidentified buried cultural resources, including unknown or undiscovered human remains, is more difficult to avoid than known cultural resources. Past and present projects within the cumulative analysis study area have very likely disturbed or destroyed previously unidentified buried cultural resources. Typical activities that would result in the disturbance or destruction of buried cultural resources include grading, excavation, boring, trenching, and other types of sub-surface ground disturbance.

The current and reasonably foreseeable projects described above and in Table E-1 would generally include some amount of ground disturbance, including the types of sub-surface ground disturbance described above. These types of ground disturbance would affect cultural resources in the cumulative analysis study area in a similar manner as past activities. Construction and operation of the Proposed Project would result in minor adverse effects to known historic properties. Construction of the Proposed Project would involve ground disturbing activities such as vegetation removal, grading, trenching, boring, and excavation for new structure locations and transmission lines, access roads, pull sites, and substations. These ground disturbing activities could result in adverse effects to unknown or undiscovered buried cultural resources, including unknown or undiscovered human remains. Indirect impacts to cultural resources could also result from inadvertent or malicious vandalism or unauthorized collection of cultural resources on the surface of sites. The potential cultural resource adverse effects from construction and operation of the Proposed Project could combine with adverse cultural resources effects from other projects in the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to cultural resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to cultural resources. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. The loss of cultural resources is a concern in the project vicinity as these are not renewable resources and this is an area that is sensitive for prehistoric occupation. Inadvertent direct adverse effects may occur to known historic properties/historical resources as well as unknown buried cultural resources within the Proposed Project study area during construction through ground disturbing activities. Indirect adverse effects could also result from inadvertent or malicious vandalism or unauthorized collection of cultural resources on the surface of sites. The operation, maintenance, and restoration of the Proposed Project would result in similar but less severe adverse effects to cultural resources as would construction of the Proposed Project. Overall, construction and operation of the Proposed Project would result in minor adverse effects to cultural resources, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly minor but not negligible.

The severity of the Proposed Project potential adverse effects to cultural resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of APMs as well as Mitigation Measures CL-1a (Avoid environmentally sensitive areas); CL-1b (Develop Cultural Resources Treatment Plan [CRTP]); CL-1c (Train construction personnel); CL-1d (Conduct construction monitoring); CL-2a (Treatment of previously unidentified cultural resources); and, CL-2b (Properly treat human remains). The full text of these APMs and mitigation measures is presented in Section D.7. With implementation of the mitigation measures noted above and described fully in Section D.7, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.8 Socioeconomics and Environmental Justice

Geographic Scope

The geographic scope for the analysis of potential cumulative adverse effects for socioeconomics and environmental justice is a 3-mile buffer around all Proposed Project components, which is the same as the cumulative projects study area that is shown in Figure E-1a, Cumulative Projects. This geographic scope is appropriate because it is large enough to reflect regional impacts to socioeconomics and environmental justice, yet focused enough to represent the Proposed Project's actual potential to combine with the impacts of other cumulative projects.

Cumulative Analysis

Numerous past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for socioeconomics and environmental justice within the cumulative analysis study area. Some examples of other projects that could result in both adverse and beneficial effects to socioeconomics and environmental justice include commercial and industrial development (including new warehouse construction) near Segments 1 and 2, the North-South Pipeline Project near Segments 1 through 3, several large residential developments near Segment 4, renewable energy and mining developments near Segment 6, and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of many past and present projects within the cumulative analysis study area have resulted in substantial changes to the economic development of the region and the distribution of economic and environmental benefits and burdens. Past practices of zoning and land development have led to the formation of areas of concentrated wealth as well as areas with increased levels of poverty. Property values generally reflect the presence of environmental and socioeconomic amenities and burdens. For example, housing located in a desirable school district will generally cost more than comparable housing that is located in a less desirable school district. Conversely, housing located closer to a landfill will generally cost less than comparable housing located further away from refuse disposal sites. The uneven distribution of environmental and socioeconomic amenities and burdens is generally reflected in the median housing prices for the various communities and census tracts throughout the region.

Future patterns of zoning and land use development will likely be influenced by and generally conform to past patterns of zoning and land use development. The current and reasonably foreseeable projects described above and in Table E-1 would affect socioeconomics and environmental justice in the cumulative analysis study area in a similar manner as past activities. As described in Section D.8, construction and operation of the Proposed Project would not result in a substantial increase in population and would not displace any people or existing housing. Although the Proposed Project crosses several census tracts with a higher percentage of minority or low-income populations than the surrounding counties, project impacts would not fall disproportionately on minority or low-income populations. No perceptible change in property values overall is anticipated. Proposed Project effects on wages and public revenue would be beneficial. These potential socioeconomic and environmental justice effects of the Proposed Project could combine with the effects of other projects in the cumulative projects study area to result in beneficial cumulative effects. Although other projects in the cumulative analysis study area could result in adverse effects to socioeconomics and environmental justice, the Proposed Project was not found to result in any socioeconomic or environmental adverse effects and therefore would not combine with the adverse effects of other projects to result in a cumulative adverse effect to socioeconomics and environmental justice.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in beneficial effects to socioeconomics and environmental justice that would combine with the beneficial effects from construction and operation of other projects in the cumulative analysis study area to result in substantial beneficial effects to socioeconomics and environmental justice. However, the incremental contribution of the Proposed Project to these substantial cumulative beneficial effects would be minor. The Proposed Project was not found to result in adverse effects to socioeconomics and environmental justice, and construction and operation of the project would not combine with the adverse effects of construction and operation of other projects in the cumulative analysis study area to result in a cumulative adverse effect to socioeconomics and environmental justice. The size of the Proposed Project workforce would be very small compared to the total population in the project area. Proposed Project construction would occur largely within an existing ROW. No substantial increase in population would result and no people or existing housing would be displaced. Construction impacts would not fall disproportionately on minority or low-income populations and property values would not be perceptively affected. Construction of the Proposed Project would result in a beneficial effect for wages and public revenue, both directly for construction workers and indirectly for businesses that provide services to those construction workers. The incremental contribution of construction and operation of the Proposed Project to economic growth in the region would be minor.

No substantial adverse effects to socioeconomics and environmental justice were identified for construction and operation of the Proposed Project, and no mitigation is required. Construction and operation of the Proposed Project would result in minor beneficial effects for wages and public revenue, and the incremental contribution of the Proposed Project to the cumulative beneficial effect would be minor.

E.3.9 Geology and Soils

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with geology and soils is the area of ground disturbance for construction of the Proposed Project, the receiving waters downstream of project-related ground disturbance, and the contributing area upstream of those receiving waters. This geographic scope is appropriate because it accounts for potential cumulative adverse effects related to erosion and slope instability.

Cumulative Analysis

Potential adverse effects related to geology and soils can be roughly divided into two categories: geology and soil conditions that could adversely affect a project (such as seismic hazards and problematic soils), and project-related impacts to the surrounding geology and soil (such as erosion and slope instability). Impacts related to seismic hazards and problematic soils result from the geologic characteristics of an area and are generally unrelated to past, present, and reasonably foreseeable development projects and human activity. On the other hand, the cumulative conditions for erosion and slope instability are the result of many past, present, and reasonably foreseeable projects within the cumulative analysis study area. Some examples of development projects that could result in increased erosion or slope instability include commercial and industrial development (including new warehouse construction) near Segments 1 and 2, the North-South Pipeline Project near Segments 1 through 3, several large residential developments near Segment 4, renewable energy and mining developments near Segment 6, and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in soil loss and the reconfiguration of slope steepness throughout the region. Earth movement, mass grading, excavation, boring, trenching, and vegetation clearance has resulted in exposed, loose, and unstable soils. Site preparation for numerous projects throughout the region (including residential development) has altered the length and angle of repose for many slopes in the cumulative analysis study area. These earth disturbing activities have generally been designed to prevent soil loss and slope instability. However, the combined effect of past and present ground disturbance has generally led to increased soil loss and slope instability in the region.

The current and reasonably foreseeable projects described above and in Table E-1 would affect soil loss and slope stability in the cumulative analysis study area in a similar manner as past activities. Earth movement and grading (such as that associated with the residential development projects near Segment 4) would lead to increased erosion and sedimentation. Linear projects, such as the North-South Pipeline Project and the Future 500 kV Transmission Line, would include less mass grading and more dispersed ground disturbance than the large residential projects. Linear projects would generally result in less erosion at any one location compared to more concentrated development (such as large residential development projects), but would still result in an overall increase in erosion at the watershed level. Construction and operation of the Proposed Project would result in minor adverse effects on slope stability and soil loss due to grading, excavation, and vegetation clearance. These potential adverse effects would combine with the adverse effects on soil loss and slope stability from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to soil loss and slope stability that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to soil and slope stability. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. Construction activities for the project such as grading and excavation would cause ground disturbance and loosen soil which could trigger or accelerate erosion. The project would be required to obtain a NPDES permit, which would require that the applicant prepare and adhere to a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would require development and implementation of BMPs to identify and control erosion, which would reduce the potential for construction to trigger erosion. Portions of Segments 1 to 4 are underlain by the landslide prone San Timoteo Formation. Excavation and grading for tower foundations and work areas, and grading for new and modified access and spur roads could result in slope instability in these areas. Operation of the Proposed Project would not result in substantial increased erosion or slope instability. Overall, construction and operation of the Proposed Project would result in minor adverse effects to soil and slope stability, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly minor but not negligible.

The severity of the Proposed Project potential adverse effects to soil and slope stability, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of Mitigation Measures G-2a (Conduct geotechnical surveys for landslides and unstable slopes) and WR-2a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). The full text of these mitigation measures is presented in Sections D.9 and D.19, respectively. With implementation of the mitigation measures noted here and described in their respective Section D analysis, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.10 Hazards and Hazardous Materials

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with hazards and hazardous materials is the area within approximately 3 miles of the Proposed Project, which is the same as the Cumulative Projects Study Area that is shown in Figure E-1a, Cumulative Projects. This geographic scope is appropriate because it accounts for the amount of hazardous materials that would be utilized for the construction of the Proposed Project, the likelihood of discovering contaminated soil within or near the project footprint, and the likely maximum distance of contaminate transport.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for hazards and hazardous materials within the cumulative analysis study area. Some examples of development projects that could result in accidental releases of hazardous materials or mobilization of contaminated soil include commercial and industrial development (including new warehouse construction) near Segments 1 and 2, the North-South Pipeline Project near Segments 1 through 3, several large residential developments near Segment 4, renewable energy and mining developments near Segment 6, and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in the accidental release of hazardous materials and soil contamination. A review of hazardous material investigation and cleanup site databases from the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) revealed that the majority of historic hazardous material releases have occurred within the western portion of the study area, near Segments 1 through 4. However, leaking underground storage tanks (USTs) have occurred throughout the entire study area. The majority of hazardous materials releases have been associated with commercial and industrial development. The former Norton Air Force Base, located within the cumulative analysis study area north of Segment 1, was classified as a federal Superfund cleanup site due to soil and groundwater contamination with multiple types of hazardous waste. Agricultural development in the area has led to the presence of residual pesticides and herbicides in the soil (DTSC, 2015; SWRCB, 2015).

The current and reasonably foreseeable projects described above and in Table E-1 would affect hazards and hazardous materials in the cumulative analysis study area in a similar manner as past activities. Many of the industrial developments near Segments 1 and 2 would involve the storage or use of hazardous materials, which could contaminate soil or groundwater. The residential developments near Segment 4 would involve the grading of large areas that could disturb previously unidentified contaminated soil. Construction of the future 500 kV transmission line would involve the use of heavy machinery and construction vehicles that could leak hazardous materials including gasoline and diesel fuel, engine oil, coolant, lubricants, and grease.

Construction of the Proposed Project could result in leaks and accidental spills of hazardous materials such as gasoline, diesel fuel, oil, lubricants, and solvents. In addition, although no known hazardous waste sites exist within 1,000 feet of the Proposed Project, construction activities could disturb previously unidentified contaminated soil, including residual pesticide and herbicide contamination from past agricultural activities. Operations and maintenance activities associated with the Proposed Project could result in spills and leaks of hazardous materials at the substations and along the transmission line. The storage of hazardous materials used for routine maintenance activities may occur at the substations

where leaks and spills could also result in worker exposure and soil contamination. Because of the small amount of hazardous materials that would be stored and utilized for the Proposed Project and the low intensity and frequency of maintenance activities, any potential operational hazards and hazardous materials impacts would be very minor. These potential adverse effects would combine with the hazards and hazardous materials adverse effects from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects related to hazards and hazardous materials that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect. Construction and operation of the Proposed Project could result in the accidental release of hazardous materials or the mobilization of existing contaminated soils. Accidental releases of hazardous materials or disturbance of contaminated soil could result in adverse effects to construction workers, nearby residents, surface water, and groundwater resources. Overall, construction and operation of the Proposed Project would result in minor adverse effects related to hazards and hazardous materials, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly minor but non-negligible.

The severity of the Proposed Project potential adverse effects related to hazards and hazardous materials, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of several hazards and hazardous materials mitigation measures that would require development of project-specific hazardous material prevention and protection plans, including: a Storm Water Pollution Prevention Plan; a Spill Prevention, Control, and Countermeasures Plan; an Emergency Response Plan; a Soil Management Plan; and a Hazardous Materials Business Plan. The full text of these mitigation measures is presented in Section D.10. With implementation of the mitigation measures described here and in Section D.10, the Proposed Project's incremental contribution to the hazards and hazardous materials cumulative adverse effect would be negligible.

E.3.11 Land Use and BLM Realty

Geographic Scope

The geographic scope for the analysis of cumulative land use impacts is the same as the geographic scope for land use analysis of the Proposed Project, which is limited to the work areas of the project (as described in Section B, Description of Proposed Project). This geographic scope is appropriate because any cumulative impact on land use would be geographically contiguous with the Proposed Project.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for land use in the region. The vast majority of the projects that were identified in the vicinity of the Proposed Project would not be geographically contiguous with the Proposed Project and therefore would not combine with the potential adverse effects of the Proposed Project to result in an adverse cumulative effect. Two exceptions include the North-South Pipeline Project where it crosses Segment 2 and the future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the region have resulted in substantial changes to land use (including residential, commercial, industrial, infrastructure, and energy production and transmission projects). These changes include the establishment and growth of incorpo-

rated cities throughout Riverside and San Bernardino Counties. Numerous infrastructure projects also traverse the region, including: highways, railroads, aqueducts, and pipelines. Land use zoning and land use conflicts are generally addressed at both the county and local levels. Additionally, several federal agencies have jurisdiction over land uses in the region (including the BLM and the USFS).

The current and reasonably foreseeable projects described above and in Table E-1, including the North-South Pipeline Project and the future 500 kV transmission line, would affect land use in the region in a similar manner as past activities. Population growth is expected to lead continued growth of cities and the infrastructure that serves those population centers. Construction and operation of the Proposed Project would occur largely within an existing utility corridor, and would not divide an existing community. The existing corridor traverses a wide range of uses, including but not limited to residential, commercial, agricultural, recreation, and open space land uses. The Proposed Project would lead to conversion of a small amount of agricultural land to non-agricultural uses (see Section D.2). Sections D.4 and D.5 discuss the Proposed Project's compatibility with applicable habitat conservation plans. Although a small portion of the Proposed Project would be located on Bureau of Land Management land, the project would not be located within a designated Desert Wildlife Management Area or Multiple Use Class designation. Because the Proposed Project would be constructed and operated largely within an existing utility corridor, construction and operation of the Proposed Project would not result in land use conflicts that would combine with the adverse effects on land use from other projects in the region to result in a cumulative adverse effect. Neither the North-South Pipeline Project nor the future 500 kV transmission line would divide an established community or substantially disrupt an existing or recently approved land use.

Severity of Project Contribution to Cumulative Adverse Effects. Construction of the Proposed Project would occur largely within an existing ROW and would not substantially conflict with locally adopted land use plans, policies, or regulations. The North-South Pipeline Project would be geographically contiguous with a small portion of Segment 2, and the future 500 kV transmission line would be geographically contiguous with the majority of the Proposed Project. The construction schedule for the North-South Pipeline Project could overlap with the construction schedule for the Proposed Project, and therefore potential disruptions to existing land uses from pipeline construction could combine with potential disruptions to existing land uses from construction of the Proposed Project to result in an adverse cumulative effect. The Proposed Project would cause minor disruptions to existing land uses. Existing structures and existing conductor would be removed and replaced within the existing ROW, except for an approximately 3-mile portion of Segment 5 on the Morongo reservation. Construction of the Proposed Project would temporarily disrupt some existing land uses, including recreation and agriculture, and would cause temporary adverse effects related to traffic, noise, and aesthetics. These temporary disruptions and adverse effects are discussed under their relevant issue area.

The severity of potential adverse effects to existing land uses from construction of the Proposed Project, as well as the incremental contribution of the Proposed Project to the cumulative adverse effect, would be reduced through implementation of Mitigation Measure LU-1a (Prepare construction notification plan), which would require preparation of a construction notification plan and a public notice mailer, placement of newspaper advertisements and public venue notices, and provision of a public liaison person and toll-free information hotline.

E.3.12 Mineral Resources

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with mineral resources is the area within approximately 3 miles of the Proposed Project components, which is the same as the Cumulative Projects Study Area that is shown in Figure E-1a, Cumulative Projects. This geographic scope is appropriate because it is large enough to reflect regional impacts to mineral resources, yet focused enough to represent the Proposed Project's actual potential to combine with the impacts of other cumulative projects.

Cumulative Analysis

Numerous past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for mineral resources within the cumulative analysis study area. Some examples of cumulative projects that could temporarily disrupt mineral extraction activities or permanently preclude the availability of mineral resources include a future 500 kV transmission line that would be contiguous with approximately 40 miles of the 45-mile project ROW, the North-South Pipeline Project, and several large residential developments surrounding Segment 4 of the Proposed Project, including:

- Summerwind Ranch at Oak Valley
- Fairway Canyon SCPGA
- Sunny-Cal Specific Plan
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Sundance
- Butterfield Specific Plan

A list of all projects within 3 miles of the Proposed Project is provided in Table E-1. The location of these projects is shown on Figure E-1a.

The geographic scope of this cumulative analysis contains numerous active mining operations; the area is an important production region for sand and gravel resources. Construction and operation of many past and present projects within the cumulative projects study area (including residential, commercial, and industrial development projects) have led to the loss of availability of mineral resources. The County of Riverside Environmental Impact Report No. 521 states that "rapid urbanization in Riverside County produces intense competition for land, as well as increases the need for industrial commodities." That analysis further finds that "expanding urban areas typically force resource production away from its core." The expansion of urban cores within the cumulative analysis study area has led to the loss of availability of mineral resources. Based on the California Geological Survey 2012 report on Aggregate Sustainability in California, the permitted aggregate reserves in the region are not sufficient to meet the fifty-year demand for aggregate (sand and gravel). The past and continued loss of availability of mineral resources in the cumulative analysis study area contributes to the inability of permitted aggregate reserves to meet current and projected demand for those resources (County of Riverside, 2014b; CGS, 2012).

Construction of several cumulative projects (including the residential development projects listed above) would lead to the further expansion of urban areas in the region. This expansion would likely lead to the further loss of availability of additional mineral resources. Construction of the Proposed Project could temporarily disrupt sand and gravel mining operations at the Banning Rock Plant No. 66, which is located near the northeastern edge of the City of Banning. No other active mining operations would be affected by construction of the Proposed Project. As described in Section D.12, neither construction nor operation of the Proposed Project would lead to the permanent loss of availability of any known mineral

resources. Because the Proposed Project would not lead to the loss of availability of known mineral resources, the potential adverse effects of the Proposed Project would not combine with the adverse effects on mineral resources from other projects within the cumulative projects study area to result in a cumulative adverse effect related to the permanent loss of availability of mineral resources. Construction of the Proposed Project would temporarily disrupt mineral resource extraction activities, and this adverse effect could combine with the temporary adverse effects on mineral resource extraction activities to result in a temporary cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction of the Proposed Project would temporarily disrupt sand and gravel mining operations at the Banning Rock Plant No. 66. This temporary disruption of mining operations could combine with the effects of other cumulative projects to result in a temporary, minor adverse cumulative effect. Operation of the Proposed Project would not result in the loss of availability of any mineral resource. The Proposed Project would be constructed, operated, and maintained within an existing ROW, and would not preclude the extraction of known mineral resources. Operation of the Proposed Project would have no impact on mineral resources and would not combine with any adverse effects associated with operation of other projects. No cumulative impact would occur as a result of operation of the Proposed Project.

The temporary adverse effects of the Proposed Project could combine with the impacts of other cumulative projects if those other projects resulted in the simultaneous disruption of other mineral resource extraction activities in the region. The severity of the Proposed Project temporary, adverse effects to mineral resource extraction, as well as the incremental contribution of the Proposed Project to the temporary, cumulative adverse effect, would be reduced through implementation of Mitigation Measure MR-1a (Coordinate with quarry operations), which would require SCE to consult with the mine's owners and operators prior to construction of the Proposed Project within the active mining area. With implementation of the mitigation measures described above and in Section D.12, the incremental contribution of the Proposed Project construction activities to the temporary, cumulative adverse effects on mineral resources would be negligible.

E.3.13 Noise

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with noise is the area within approximately 1 mile of the Proposed Project components, including the ROW and access roads. This geographic scope is appropriate because noise levels attenuate rapidly with distance and the noise generated by activities greater than 1 mile from the Proposed Project generally would not combine with the noise generated by project construction and operation.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for noise within the cumulative analysis study area. The types of projects that could combine to result in adverse cumulative effects to ambient noise levels include residential, commercial, industrial, infrastructure, and energy production and transmission projects. Some examples of these types of projects within the cumulative analysis study area include the following:

- | | |
|---|--|
| <ul style="list-style-type: none"> ■ Future 500 kV Transmission Line ■ North-South Pipeline Project ■ Redlands Distribution Center ■ Hillwood Warehouse ■ McShane Warehouse ■ Redlands Fulfillment Center ■ Middle School 5 ■ Grand Terrace Town Square Master Development Plan ■ I-215/Barton Rd. Interchange Improvement Project ■ Summerwind Ranch at Oak Valley ■ Fairway Canyon SCPGA | <ul style="list-style-type: none"> ■ Sunny-Cal Specific Plan ■ Tournament Hills 1 & 2 ■ Noble Creek Vistas ■ Sundance ■ Butterfield Specific Plan ■ Cabazon Outlets expansion ■ 100 kW photovoltaic array ■ Relocation of 32 wind turbines ■ Replacement of 33 existing wind turbines ■ 60-acre sand and gravel mine |
|---|--|

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the ambient noise level of the surrounding area. Large highways, such as I-10 and State Route 60, convey heavy volumes of traffic through the region. March Air Reserve Base and the San Bernardino International Airport have brought commercial and military air traffic to the region. Residential development and the growth of incorporated cities have led to increased ambient noise levels, primarily as a result of vehicle traffic along local roads and highways. Numerous construction projects of all types have resulted in temporary increases in ambient noise levels throughout the region.

The current and reasonably foreseeable projects described above and in Table E-1 would affect ambient noise levels in the cumulative analysis study area in a similar manner as past activities. Commercial and industrial development (including warehouses near Segment 1) would bring increased truck traffic to the area. Residential development (including the large residential development projects near Segment 4) would temporarily raise ambient noise levels during construction from the use of heavy machinery and equipment. After construction, the residential developments would bring increased traffic to the area (including to previously undeveloped areas), which would permanently raise ambient noise levels. The sand and gravel mine near Segment 6 would raise ambient noise levels through the operation of heavy excavation equipment and potentially through blasting that may be required to mine the sand and gravel. Construction and operation of the Proposed Project would cause temporary localized increases in ambient noise levels. These increases in ambient noise levels could combine with the noise generated by other nearby activities to form an adverse cumulative impact.

Severity of Project Contribution to Cumulative Adverse Effects. Construction activities associated with the Proposed Project would occur between May 2016 and May 2020. These activities would create temporary elevated noise levels that could affect nearby sensitive receptors. Where construction activities for the Proposed Project and other projects in the cumulative analysis study area overlap both geographically and temporally, the noise-related adverse effects of the Proposed Project would combine with the noise-related adverse effects of the other cumulative projects to result in a substantial, temporary, adverse cumulative effect to nearby sensitive receptors. Due to the extended construction time-frame for the Proposed Project (approximately 36 to 48 months) and the resulting noise levels, the incremental contribution of the Proposed Project to the substantial, temporary, adverse cumulative effect would be substantial. Construction of the Proposed Project would result in increases to the ambient noise levels throughout the project area due to the use of heavy equipment such as drill rigs, cranes, trucks, graders, compactors, dozers, excavators, backhoes, and helicopters. Elevated noise levels would also occur due to operation of smaller equipment, such as light-duty vehicles, compressors, generators, and welders. Sensitive receptors for elevated noise levels near the Proposed Project include residences, schools, community parks, and other recreational uses. These sensitive receptors are described in Section D.13.1 (Noise). Construction noise associated with the Proposed Project would substantially disturb sensitive receptors located within 1,400 feet of construction activities.

The Proposed Project would introduce long-term sources of noise related to the audible corona effect of the 220 kV lines, which occurs with normal and routine operation. However, corona noise levels would not be above existing ambient noise levels for any segment of the Proposed Project. Similarly, routine inspection and maintenance activities would not adversely affect ambient noise levels. Although some of the cumulative projects listed above, such as the sand and gravel mine, would introduce substantial operational noise, the Proposed Project's incremental contribution to elevated long-term noise would be very minor. The future 500 kV transmission line would be geographically contiguous with the majority of the Proposed Project and would also introduce long-term sources of noise related to the audible corona effect of the lines. The corona noise resulting from the Proposed Project would combine with the corona noise from the future 500 kV transmission line, resulting in a substantial cumulative adverse effect.

The severity of the Proposed Project's potential adverse effects to ambient noise levels during construction, as well as the incremental contribution of the Proposed Project to the substantial, temporary, cumulative adverse effect for noise, would be reduced with implementation of Mitigation Measures N-1a (Implement best management practices for construction noise) and N-1b (Implement a helicopter noise control strategy). The full text of these mitigation measures is presented in Section D.13. Even with implementation of the mitigation measures noted above and described in Section D.13, the incremental contribution of the Proposed Project due to construction noise to the substantial, temporary, adverse cumulative effect would remain substantial.

E.3.14 Paleontological Resources

Geographic Scope

The geographic scope for potential paleontological impacts of the Proposed Project includes areas of ground disturbance underlain by paleontologically sensitive geologic formations, including the San Timoteo Formation and older Quaternary alluvium. The geographic scope for potential cumulative effects includes geologic formations with similar paleontological sensitivity that are contiguous with or adjacent to the project area, including the San Timoteo Formation. This geographic scope is appropriate because these contiguous or adjacent geologic formations could contain similar paleontological resources.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for paleontological resources within the cumulative projects study area. Some examples of development projects that could combine to result in adverse cumulative effects to paleontological resources include the following:

- Future 500 kV Transmission Line
- North-South Pipeline Project
- Redlands Distribution Center
- Hillwood Warehouse
- McShane Warehouse
- Redlands Fulfillment Center
- Middle School 5
- Grand Terrace Town Square Master Development Plan
- Summerwind Ranch at Oak Valley
- Fairway Canyon SCPGA
- Sunny-Cal Specific Plan
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Sundance
- Butterfield Specific Plan
- Cabazon Outlets expansion

Construction and operation of numerous past and present projects within the study area have resulted in discovery and disturbance of paleontological resources of the region. The results of the paleontological resources records searches revealed 8 previously recorded fossil localities within the Proposed

Project area and at least 50 additional fossil localities within approximately 1 mile of the Proposed Project area. In addition, the paleontological field reconnaissance survey identified 12 additional fossil localities in the vicinity of the Proposed Project area. All previously recorded localities are in the highly sensitive San Timoteo Formation and the moderately sensitive Quaternary Older Alluvium within or near Sections 2, 3, and 4. The San Timoteo Formation has yielded an abundant and diverse paleontological fauna that includes at least 30 mammalian and reptilian species. More than 1,700 fossils have been recovered from the deposits, including at least 1,450 specimens recovered during excavations related to the construction of SCE's El Casco Substation near Calimesa (LSA, 2012).

The current and reasonably foreseeable projects described above and in Table E-1 would affect paleontological resources in the cumulative analysis study area in a similar manner as past activities. Ground disturbance associated with the construction of various cumulative projects, including the residential, commercial, and infrastructure projects listed above, could lead to disturbance or destruction of important paleontological resources. The likelihood of an adverse cumulative effect on paleontological resources is increased when ground disturbance occurs within geologic areas of increased paleontological sensitivity, such as the San Timoteo Formation. It is anticipated that other projects within the cumulative projects study area would implement similar mitigation measures as the Proposed Project, which would reduce the likelihood of permanent adverse effects to paleontological resources. Even with incorporation of mitigation measures, there is a potential during excavation and mass grading activities to disturb, damage, or destroy fossils without first providing an opportunity to identify, study, or salvage those resources. The future 500 kV transmission line would be geographically contiguous with the majority of the Proposed Project and would introduce similar ground disturbance during construction. The same paleontologically sensitive geologic formations that underlie the Proposed Project would be located within the project area of the future transmission line. It is anticipated that the future 500 kV transmission line would implement similar mitigation measures as the Proposed Project, which would reduce the likelihood of permanent adverse effects to paleontological resources. As is the case with other cumulative projects, the adverse paleontological effects of the future transmission line would combine with the adverse paleontological effects of the Proposed Project to result in an adverse cumulative effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction of the Proposed Project could result in adverse effects to paleontological resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to paleontological resources. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a substantial, permanent, adverse effect. In general, for Proposed Project areas which are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources.

The severity of the Proposed Project potential adverse effects to paleontological resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of Mitigation Measures PAL-1a (Inventory and evaluate paleontological Resources), PAL-1b (Develop Paleontological Resource Mitigation and Monitoring Plan), PAL-1c (Train construction personnel), PAL-1d (Monitor construction for paleontological resources), and PAL-1e (Final reporting and curation). The full text of these mitigation measures is presented in Section D.14. With implementation of the mitigation measures noted above and described fully in Section D.14, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.15 Recreation

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with recreation includes the recreation facilities that would be traversed by or adjacent to the Proposed Project as well as the viewsheds of these affected recreation areas. This geographic scope is appropriate because it considers the effects of other projects within this region on the resources impacted by the Proposed Project.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for recreation resources within the cumulative analysis study area. Table E-1 lists projects that were identified for the cumulative analysis. The following projects are in close proximity to the Proposed Project and to recreational resources such that the construction and operation impacts could combine to result in a cumulative effect.

- Terrace View Elementary School Modernization Program
- Mountain View Marketplace Project
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Relocation of 32 wind turbines
- I-215/Barton Rd. Interchange Improvement Project
- Fairway Canyon SCPGA Tract No 31462
- Oak Valley Senior Center
- 100 kW Photovoltaic Array

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the recreation resources of the region. Residential development has led to an increase in the region's population that has placed additional demand on recreation resources, including open space. The construction of many residential, commercial, industrial, and infrastructure projects has resulted in temporary and permanent increases in traffic and the temporary closure of roadways and access points for recreation resources, including national forest land and state parks.

The current and reasonably foreseeable projects described above and in Table E-1 would affect recreation resources in the cumulative analysis study area in a similar manner as past activities. The cumulative projects that could impact these recreational facilities include large-scale residential development projects in the City of Beaumont that have not yet begun construction. Therefore, the construction of the cumulative projects could overlap with the construction of the Proposed Project. Residential and commercial development would have similar construction impacts as the Proposed Project: noise, dust, and an increase in traffic resulting in reduced or lost access. The cumulative projects could substantially impact access to recreation areas due to increased construction traffic or temporary road closures, effectively reducing the opportunities for recreation during the construction time frame. As a whole, they would result in a cumulative adverse effect to recreation for nearby residents. The Proposed Project would impact some recreational facilities that would also be impacted by cumulative projects, and the potential adverse effects of the Proposed Project would combine with the potential adverse effects on recreation resources from other projects within the cumulative projects study area to result in a cumulative adverse effect. Specifically, the following recreational resources are located near the Proposed Project and cumulative projects and could be affected by the construction of both:

- Sun Park
- Grand Terrace Senior Center Park
- Norton Younglove Preserve/Reserve
- Oak Valley Golf Club
- BLM land
- Cottonwood Park
- Rancho Mediterranean Park
- Cherry Valley Lakes RV Campground
- Noble Creek Regional Park

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to recreation resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to recreation resources. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. Construction activities of the Proposed Project would occur between May 2016 and May 2020. They would create temporary nuisances such as noise, dust, and construction traffic as well as require the use of access roads and work areas near the ROW. The Proposed Project would result in minor impacts to recreation during operations. The project would replace three high-voltage towers with two towers, reducing the amount of land used for transmission. It would place one tower closer to the Pacific Crest Trail, but this would occur in an area where the PCT is in close proximity to a number of existing industrial structures so would not change the overall feel of the area. The Proposed Project would not permanently preclude recreational activities as it is replacing an existing line and the areas temporarily disturbed during construction would return to recreation after the construction ended.

The severity of the Proposed Project's potential adverse effects to recreation resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative recreational impact, would be reduced with implementation of Mitigation Measures RC-1a (Coordinate construction schedule and activities with the authorized officer for the recreation area), R-1b (Coordinate construction schedule and activities with the authorized officer for the recreation area), and R-1c (Provide a temporary detour for Pacific Crest National Scenic Trail users). The full text of these mitigation measures is presented in Section D.15. With implementation of the mitigation measures noted above and described fully in Section D.15, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.16 Transportation and Traffic

Geographic Scope

The geographic scope for this cumulative analysis includes the local and regional roadways and highways that would be crossed by the Proposed Project or utilized for transportation of project components. In general, the project's transportation and traffic adverse effects (such as lane closures) would diminish in severity with increased distance from project activities. Accordingly, greater weight is placed on cumulative projects that are located nearer to the Proposed Project.

Cumulative Analysis

Many past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for transportation and traffic within the cumulative analysis study area. Some examples of cumulative projects (such as residential, commercial, and industrial development projects) that could combine to result in adverse cumulative effects to transportation and traffic include the following:

- Future 500 kV Transmission Line
- North-South Pipeline Project
- Redlands Distribution Center
- Hillwood Warehouse
- McShane Warehouse
- Redlands Fulfillment Center
- Grand Terrace Town Square Master Development Plan
- I-215/Barton Rd. Interchange Improvement Project
- Summerwind Ranch at Oak Valley
- Fairway Canyon SCPGA
- Sunny-Cal Specific Plan
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Sundance
- Butterfield Specific Plan
- Cabazon Outlets expansion
- 60-acre sand and gravel mine

Construction and operation of numerous past and present projects have resulted in substantial changes to the transportation network and the level of traffic within the study area. Adverse effects that have resulted from combined construction activities of past and present projects in the cumulative analysis study area include: unacceptable levels of service on roadways in the study area (including along State Route 60), conflicts with planned transportation projects, damage to roads in the study area, disruption to rail traffic or operations, and short-term elimination of parking spaces (County of Riverside, 2014c).

Reasonably foreseeable development in the region is described above and in Table E-1. The warehouses and other industrial developments near Segment 1 will increase truck traffic in the area. The residential development near Segment 4 will increase commuter traffic in the area as those new residents travel to and from work. The linear cumulative projects (including the North-South Pipeline Project and the Future 500 kV Transmission Line) will cross numerous roadways in the area and will lead to temporary road or travel lane closures and increased traffic from construction vehicles. Construction of the Proposed Project would result in adverse effects on transportation and traffic due to road or travel lane closures, increased construction-related traffic, and helicopter use. In addition, Proposed Project operations could affect aviation safety and activities associated with public airports. The presence of new towers or poles within 20,000 feet of San Bernardino International Airport and Banning Municipal Airport could potentially affect aviation activities because some towers or poles would extend through an imaginary surface extending outward and upward from the airport runways at a ratio of 100 to 1. This operational impact could combine with the operational impact of other cumulative projects, such as the future 500 kV transmission line. Where construction and operation of the Proposed Project occurs in the same area and at the same time as construction of other projects in the cumulative analysis study area, the combined effects of those projects and the Proposed Project would result in an adverse, temporary cumulative effect to transportation and traffic.

Severity of Project Contribution to Cumulative Adverse Effects. Construction of the Proposed Project would result in adverse effects to transportation and traffic that would combine with the adverse effects from construction of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to transportation and traffic. The incremental contribution of the Proposed Project to this cumulative adverse effect would be substantial. As described in Section D.16, construction of the Proposed Project would result in temporary road or travel lane closures, increased construction-related traffic, interference with emergency vehicle access, reduced access to adjacent properties, and nuisance caused by helicopter use. Without the implementation of appropriate mitigation measures, these adverse effects would be substantial.

The severity of the Proposed Project potential adverse effects to transportation and traffic, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of mitigation measures that would: require SCE to prepare construction transportation and traffic control plans; obtain encroachment permits; restrict lane clo-

asures; minimize disruption of bus and transit service; ensure pedestrian and bicycle circulation and safety; provide access to adjacent properties; avoid conflicts with planned transportation improvements; repair roadways damaged by construction activities; obtain and comply with railroad permits; notify the public of short-term elimination of parking spaces; prepare and implement a helicopter use plan; and, comply with FAA hazard and airport safety requirements. The full text of these mitigation measures is presented in Section D.16. With implementation of the mitigation measures described above and in Section D.16, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be minor.

E.3.17 Utilities and Public Services

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with utilities and public services is the service area of the cities, counties, State, and federal lands traversed by the Proposed Project. Because the Proposed Project traverses unincorporated land in both San Bernardino and Riverside County, the geographic scope for this analysis includes both of those counties. However, the demand that would be placed on utilities and public services by construction and operation of the Proposed Project would diminish considerably with increased distance from the project. Therefore, potential cumulative impacts on utilities and public services are analyzed with increased importance placed on other projects that are nearer to the Proposed Project.

Cumulative Analysis

Numerous past, present and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for utilities and public services within the cumulative analysis study area. In general, residential development places the greatest demand on public services and utilities (including fire and police protection, emergency medical services, schools, parks, water and wastewater services, electricity and natural gas delivery, and waste disposal services). However, other types of development (including commercial and industrial development projects) also place additional demand on public services and utilities. Some examples of development projects that could combine to result in adverse cumulative effects to utilities and public services include several large residential developments along Segment 4, which are listed here:

- Summerwind Ranch at Oak Valley
- Fairway Canyon SCPGA
- Sunny-Cal Specific Plan
- Tournament Hills 1 & 2
- Noble Creek Vistas
- Sundance
- Butterfield Specific Plan

Construction and operation of many past and present projects within the cumulative study area have resulted in substantial changes to the demand for public services and utilities in the region. The most obvious sources of increased demand on public services are past and present residential development projects. Residential development projects generally coincide with population growth and are mainly located within the incorporated cities in the study area, which are described in Section D.17. Population growth and the attendant increase in housing development are analyzed within the general plans of the incorporated cities in the study area. Regional population growth and residential development are analyzed within the general plans for Riverside and San Bernardino Counties. These general plans include goals and policies to maintain adequate public services and utilities such that population growth and residential development are anticipated and accompanied by a commensurate increase in public services.

For example, the 2006 General Plan for the City of Banning includes the following Land Use Element goal: “Sufficient and appropriately located public facilities to serve the needs of the City’s residents, businesses and visitors.” The Community Development Element in the 2007 General Plan for the City of Beaumont contains a similar goal: “The City of Beaumont will continue to provide for the development and maintenance of critical public facilities and services to ensure that existing needs and future demands can be met.” The example goals provided here are typical of goals and policies contained within general plans throughout the region. Thus, it is assumed that the planning process at both the county and city level is designed to anticipate and accommodate increases in demand for public services and utilities (City of Banning, 2006; City of Beaumont, 2007).

The current and reasonably foreseeable cumulative projects (including the residential development projects listed above) would increase the demand for public services and utilities. However, as described above, this future increase in demand for services would be anticipated and accommodated through implementation of the goals and policies contained in city and county general plans. Construction of the Proposed Project would result in a minor increase in demand for utilities and public services, such as police and fire protection. SCE estimates a peak daily workforce of approximately 340 workers. Some of this workforce would be drawn from existing SCE staff in the project area, thus reducing the influx of construction workers to the area. The small additional demand that the Proposed Project would place on utilities and public services would combine with the demand placed on public services and utilities by other projects within the cumulative projects study area. However, the cumulative demand on public services and utilities would not result in an adverse effect because the increased demand would be anticipated and planned for in both local and regional planning processes.

Severity of Project Contribution to Cumulative Adverse Effects. Several projects within the cumulative study area, including the residential development projects listed above, would place a substantial additional demand on utilities and public services. The combined demand placed on utilities and public services from all of the projects within the cumulative projects study area would likely exceed existing capacity. However, this adverse cumulative effect could be prevented through adequate city and regional planning. The incremental contribution of the Proposed Project to this potential adverse cumulative effect would be very minor. Due to the temporary nature of the Proposed Project construction (36 to 48 months) and the small number of workers that would relocate to the area during project construction, no expansion of schools, hospitals, fire stations, or police stations would be required.

Construction of the Proposed Project could impede or delay emergency response within the project area due to road closures, the use of fire roads and remote access roads, and the potential obstruction of various entrances and pathways throughout the project area. Because the Proposed Project is an upgrade of existing facilities, the impacts of the Proposed Project during operations and maintenance are anticipated to be the same as or substantially similar to the baseline. This is because operations and maintenance would require a similar amount of workforce and a similar need for public services and utilities. Overall, construction, operation, and maintenance of the Proposed Project would result in very minor adverse effects to public services and utilities, and the incremental contribution of the Proposed Project to the potential cumulative adverse effect similarly would be very minor.

The severity of the Proposed Project potential adverse effects to public services and utilities, as well as the incremental contribution of the Proposed Project to the potential cumulative adverse effect, would be reduced through implementation of Mitigation Measure T-1b (Prepare traffic control plans), which would include measures to avoid disruptions or delays in access for emergency service vehicles and to keep emergency service agencies fully informed of road closures, detours, and delays. Construction of the Proposed Project would temporarily increase demand on water supply utilities. Implementation of

Mitigation Measure UPS-1a (Use non-potable water for construction purposes), which would require SCE to use non-potable water for dust control and soil compaction, would reduce the severity of this adverse effect. The full text of these mitigation measures is presented in Section D.17. With implementation of the mitigation measures described above and in Section D.17, the incremental contribution of the Proposed Project to the potential adverse cumulative effect would be negligible.

E.3.18 Visual Resources

Geographic Scope

The geographic scope for the analysis of cumulative impacts associated with visual resources includes both local and regional viewsheds. Local cumulative effects occur within the immediate Proposed Project viewshed (projects, activities, and landscapes visible within the same field of view as the Proposed Project) and would generally be visible along the Proposed Project ROW and from nearby residential, commercial, and recreational areas; open space; roads; and major transportation corridors (I-10). Regional cumulative effects occur when viewers perceive that the general visual quality or landscape character of a regional area (e.g., along the I-10 travel corridor) is diminished by the proliferation of visible similar structures or construction effects, even if the changes are not within the same field of view as existing or known future structures or facilities. The result is a perceived “industrialization” or “urbanization” of the existing landscape character. In this case, the geographic scope for regional cumulative effects consisted of the I-10 corridor extending beyond the viewshed of the Proposed Project.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for visual resources within the cumulative analysis study area. Table E-1 lists 86 projects that were identified for the cumulative analysis. Of the 86 projects, seven urban development projects in the Moreno Valley Area (IDs 25 and 30 through 35) would not be located within the Proposed Project viewshed, would not contribute either to local or regional cumulative effects (in conjunction with the Proposed Project), and are not considered further. Of the remaining 79 cumulative projects, 74 projects would be urban development projects that would not exhibit visual characteristics similar to the Proposed Project. These urban development projects may, in combination with the Proposed Project, contribute to cumulative construction impacts (discussed below) but would not result in cumulative operational impacts in conjunction with the Proposed Project because the casual observer would not perceive any type of visual association or comparability between the urban development projects and the proposed transmission line.

The remaining five cumulative projects consist of two solar energy projects (IDs 69 and 80), two wind energy projects (IDs 70 and 72), and one potential future transmission line project (no ID#). The two solar energy and two wind energy projects have the potential to result in both cumulative construction and cumulative operational impacts and are discussed below. The potential future transmission project does not have the potential to cause cumulative construction impacts but does have the potential to result in cumulative operational impacts, as discussed below.

None of the five cumulative energy projects would, in conjunction with the Proposed Project, result in regional cumulative effects because: (1) the Proposed Project would replace existing facilities in an existing corridor (there would be no perceived proliferation or expansion of additional energy facilities within the I-10 landscape) and (2) all of the identified cumulative energy projects would be located within the project’s local viewshed, and any resulting cumulative effects would be local.

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the visual quality and landscape character of the region. Residential, commercial, industrial, infrastructure, and energy production and distribution projects have altered the landscape character of the San Bernardino Valley and the San Gorgonio Pass. Largely within the last century, these areas transitioned from sparsely populated open space and wilderness to a more urbanized and industrialized landscape.

The current and reasonably foreseeable projects described above and in Table E-1 would affect visual resources in the cumulative analysis study area in a similar manner as past activities, although the nature and severity of the potential adverse effects would be different than the adverse effects of past projects due to the different baseline conditions. These projects would add to the existing urban and industrial character of the landscape, but would not result in cumulative operational impacts in conjunction with the Proposed Project because the casual observer would not perceive any type of visual association or comparability between the urban development projects and the proposed transmission line.

Severity of Project Contribution to Cumulative Adverse Effects. The severity of the cumulative adverse effects is discussed below for both construction and operation of the Proposed Project combined with the construction and operation adverse effects of other projects within the cumulative analysis study area.

Construction Impacts. Construction of the Proposed Project was found to have an incremental contribution to cumulative effects on visual resources. If construction at any of the 74 cumulative urban development projects, two solar energy projects, or two wind energy projects were to occur at the same time as, or consecutively before or after, construction of the Proposed Project, construction-related activities, equipment, vehicle traffic, fugitive dust, land scarring, vegetation removal, and night lighting from these sites could visually combine with similar activities, equipment, and results at the Proposed Project sites. While it cannot be known at this time if construction of any of the cumulative projects would actually occur during construction of the Proposed Project, it can be said that concurrent construction of the Proposed Project and any of the other cumulative projects in the local viewshed would lead to the continued or expanded presence and visibility of construction-related effects in the landscape and local project region for potentially several years, resulting in a cumulatively adverse visual effect. In the case of vegetation removal, land scarring, construction marking of natural features, and night lighting effects, the cumulatively adverse visual effects would be substantial if visible to sensitive viewing populations and would require the effective application of mitigation measures to minimize vegetation removal, minimize night lighting, and reduce visual contrast.

Operational Impacts. Of the five local energy projects identified as sharing at least some similar visual characteristics of the Proposed Project, the two solar energy projects and two wind energy projects would be located in the eastern portion of Segment 6. While the two solar projects would exhibit a relatively low horizontal structural orientation that would be dissimilar to the prominent vertical structural character of the Proposed Project, they would present similar complex structural design and industrial surface characteristics. It is also likely that the solar projects would incorporate some prominent vertical elements in the form of gen-tie or collector facilities. In contrast, the two wind projects would present as prominent vertical features with industrial character similar to the Proposed Project structures. However, the cumulative contribution associated with the incremental change of the two wind projects would be substantially lessened because both projects represent either the relocation or replacement of wind energy developments already present in the landscape. Also, and particularly important in this case, the two solar energy and two wind energy projects would be situated in a landscape containing numerous, visually prominent, existing wind energy and transmission facilities, the presence of which would substantially lessen the visual prominence of the Proposed and cumulative projects. Therefore,

the cumulative effect of the two solar projects and two wind projects considered collectively in combination with the Proposed Project would be adverse but minor.

Future 500 kV Transmission Line. In contrast to the solar energy and wind energy cumulative projects, one cumulative energy project – the potential future 500 kV transmission line – would be co-located adjacent to the Proposed Project throughout Segments 2 through 6. Unlike the Proposed Project, the future 500 kV transmission line would consist of tubular-steel poles (TSPs) rather than lattice-steel structures. Although the 500 kV transmission line would exhibit a simpler design character compared to the complex structural appearance of the Proposed Project’s lattice-steel design (except in Segment 5 where the Proposed Project would also utilize tubular steel structures), the 500 kV structures would typically be noticeably taller (200’ height compared to 148’ average height for the Proposed Project except in Segment 5). The 500 kV structures would also appear more massive, which along with their greater height, would contribute to their more prominent visibility at greater viewing distances.

To a significant degree, the future 500 kV line’s contribution to cumulative visual effects is largely determined by the local landscape characteristics and viewing circumstances, which vary for each route segment the 500 kV line would be located in, and can generally be defined as follows:

- Segment 2 – Ridgeline suburban residential
- Segment 3 – Ridgeline rural residential
- Segment 4 – Suburban residential
- Segment 5 – Undeveloped open space
- Segment 6 – Rural residential

The following paragraphs summarize the future 500 kV line’s contribution to cumulative effects by route segment and refer to both the representative visual simulations of the Proposed Project and cumulative scenario in each segment.

Segment 2. Figures D.18-9A and D.18-9B (in Section D.18) present a representative existing view and Proposed Project simulation (respectively) in Segment 2, as viewed from KOP 2 on Canyon Vista Drive. As previously described, the Proposed Project would result in the replacement of one of three existing transmission lines with taller, double-circuit lattice structures of similar design. The incrementally taller structures would exacerbate structure skylining (extending above the horizon) but appear similar in overall structural complexity and prominence compared to the existing conditions. The overall visual effect would be adverse but less than substantial.

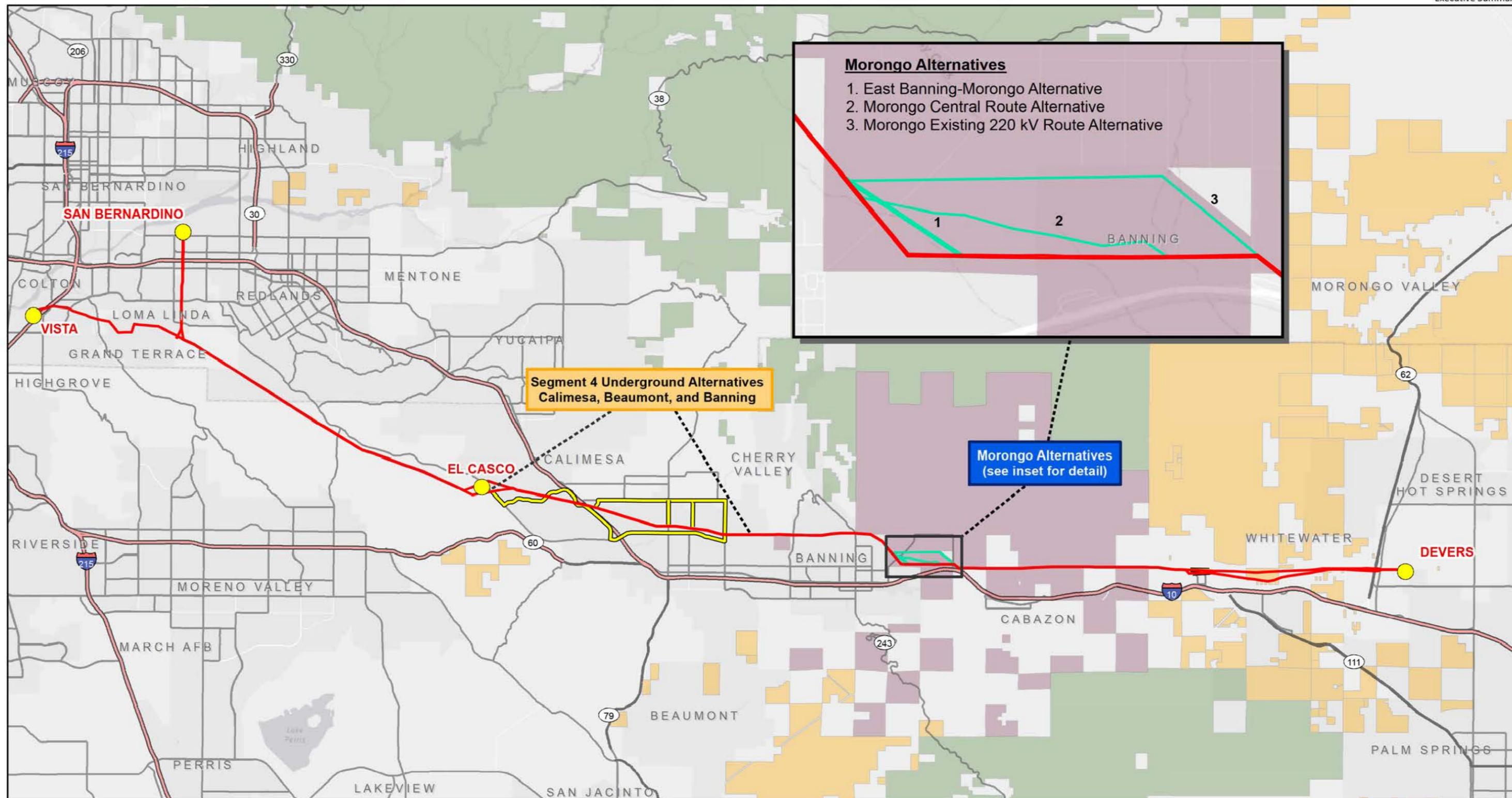
Figure E-3a presents a visual simulation of the addition of the potential future 500 kV transmission line to the Segment 2 ROW, also viewed from KOP 2. With the addition of the 500 kV line, structural diversity (and contrast) would increase, and asynchronous conductor spans become more noticeable, increasing overall structural complexity and clutter and visual contrast within the ROW. Although not readily apparent in the view from KOP 2 (due to the more distant 500 kV TSP location in this case), the 500 kV TSP structures generally appear noticeably taller, more massive, and visually prominent from various viewing opportunities along Segment 2 and from the extended viewshed north to I-10. Overall, the 500 kV line in combination with the Proposed Project would result in an increase in structural complexity and industrial character that would be noticeable to the sensitive residential viewing populations along Segment 2. The resulting cumulative visual change would be adverse and substantial requiring effective implementation of Mitigation Measures VR-9a (Project Design) and VR-10a (Surface Treatment).

Segment 3. Figures D.18-11A and 11B present a representative existing view and Proposed Project simulation (respectively) in Segment 3, as viewed from KOP 4 on San Timoteo Canyon Road. As previously

described, the Proposed Project would result in the replacement of three existing transmission lines of different design and size with two taller, double-circuit lattice structures of identical design. Due to lower positions on the hill slopes, the taller structures of the Proposed Project would not cause noticeably increased skylining and would not appear more prominent to the casual observer. Also, the reduction in the overall number and types of structures would reduce: (1) structural complexity within the ROW, (2) asynchronous conductor spans, (3) overall industrial character, and (4) view blockage of higher value landscape features. The overall visual effect would be slightly improved over the existing conditions.

Figure E-3b presents a visual simulation of the addition of the potential future 500 kV transmission line to the Segment 3 ROW, also viewed from KOP 4. With the addition of the 500 kV line, structural diversity (and contrast) increases, and asynchronous conductor spans become more noticeable, increasing overall structural complexity and clutter and visual contrast within the ROW. The 500 kV TSP structures also appear noticeably taller, more massive, and visually prominent from various viewing opportunities within San Timoteo Canyon. When combined with the improved visual conditions of the Proposed Project, the adverse visual change associated with the addition of the 500 kV line is somewhat attenuated. The resulting overall cumulative visual change would be adverse but less than substantial when compared to the existing visual conditions caused by the three existing disparate transmission lines in the Segment 3 ROW. This minor adverse effect would be further reduced through implementation of Mitigation Measures VR-9a (Project Design) and VR-10a (Surface Treatment).

Segment 4. Figures D.18-14A and 14B present a representative existing view and Proposed Project simulation (respectively) in Segment 4, as viewed from KOP 7 at the Solera Oakmont Clubhouse parking lot. As previously described, the Proposed Project would result in the replacement of three existing transmission lines of different design and size with two taller, double-circuit lattice structures of identical design. The taller structures of the Proposed Project would cause slightly increased skylining and would appear more visually prominent to the casual observer. However, from within and north of the ROW, the reduction in the overall number and types of structures would slightly reduce: (1) structural complexity within the ROW, (2) asynchronous spans, (3) overall industrial character, and (4) view blockage of higher value landscape features. The overall visual effect for most viewing locations would be slightly improved over the existing conditions. However, as previously noted, some views south of the ROW would experience Moderate or Moderate-to-High levels of visual change. Figure E-3c presents a visual simulation of the addition of the potential future 500 kV transmission line to the Segment 4 ROW, also viewed from KOP 7. With the addition of the 500 kV line, structural diversity (and contrast) increases, and asynchronous conductor spans become more noticeable, increasing overall structural complexity and clutter and visual contrast within the ROW. The 500 kV TSP structures also appear noticeably taller, more massive, and visually prominent from various viewing opportunities along Segment 4. However, when combined with the slightly improved visual conditions of the Proposed Project, the adverse visual change associated with the addition of the 500 kV line is somewhat attenuated. As a result, when viewing from most locations north of, within, or south of the ROW, the resulting overall cumulative visual change (from the combination of the Proposed Project and future 500 kV line) would be adverse but less than substantial when compared to the existing visual conditions caused by the three existing disparate transmission lines in the Segment 4 ROW. For those relatively few viewing locations south of the ROW that would experience Moderate to High visual change from the Proposed Project, the resulting cumulative visual change (with addition of the 500 kV line) would also be adverse and substantial. In all cases, Mitigation Measures VR-9a (Project Design) and VR-10a (Surface Treatment) would be required to reduce the adverse visual effects to the extent feasible.



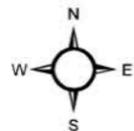
Morongo Alternatives

1. East Banning-Morongo Alternative
2. Morongo Central Route Alternative
3. Morongo Existing 220 kV Route Alternative

Segment 4 Underground Alternatives
Calimesa, Beaumont, and Banning

Morongo Alternatives
(see inset for detail)

Sources: SCE 2014

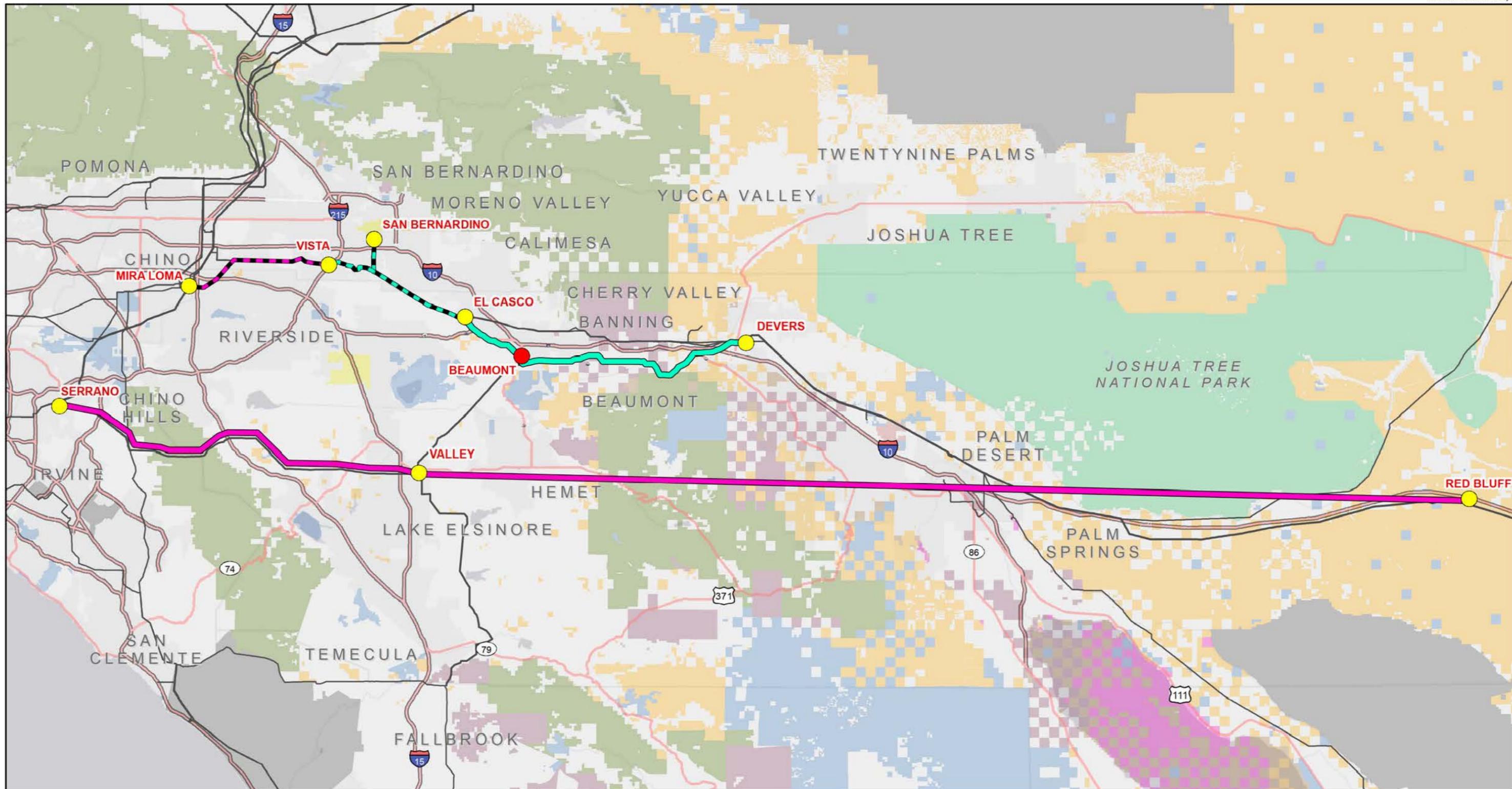


- Substation
- Proposed 220 kV Transmission Line Route
- Aboveground Alternative
- Underground Segment
- Major Highways
- Highways
- Major Roads
- BLM Land
- Forest Service Land
- Morongo Reservation

West of Devers Upgrade Project

Figure ES-3a
Route Alternatives Eliminated

This page intentionally blank.



Sources: SCE 2014

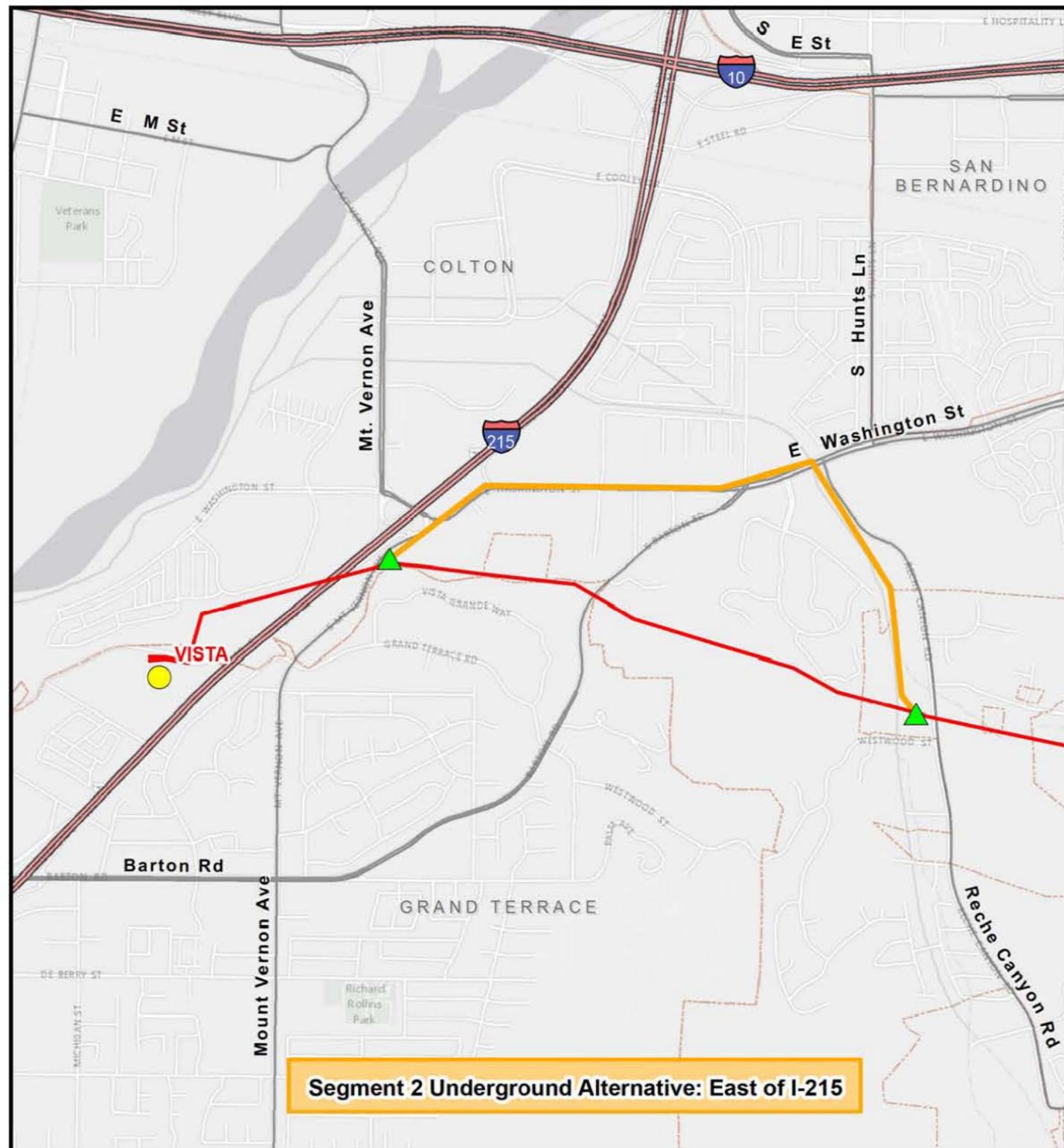
- SCE System Alternative 1 - 220 kV Rebuild
- SCE System Alternative 1 - 500 kV
- SCE System Alternative 2 - 220 kV
- SCE System Alternative 2 - 500 kV
- New Substation in SCE System Alternative 1
- Existing Substation
- Existing Transmission Lines (Platts 2013)**
- 230 kV
- 500 kV
- Major Highways
- Highways

- Federal Land Ownership**
- March Air Force Base
 - Tribal Lands
 - BLM
 - BOR
 - USFS
 - FWS
 - Local Government
 - DOD Lands
 - NPS
 - State

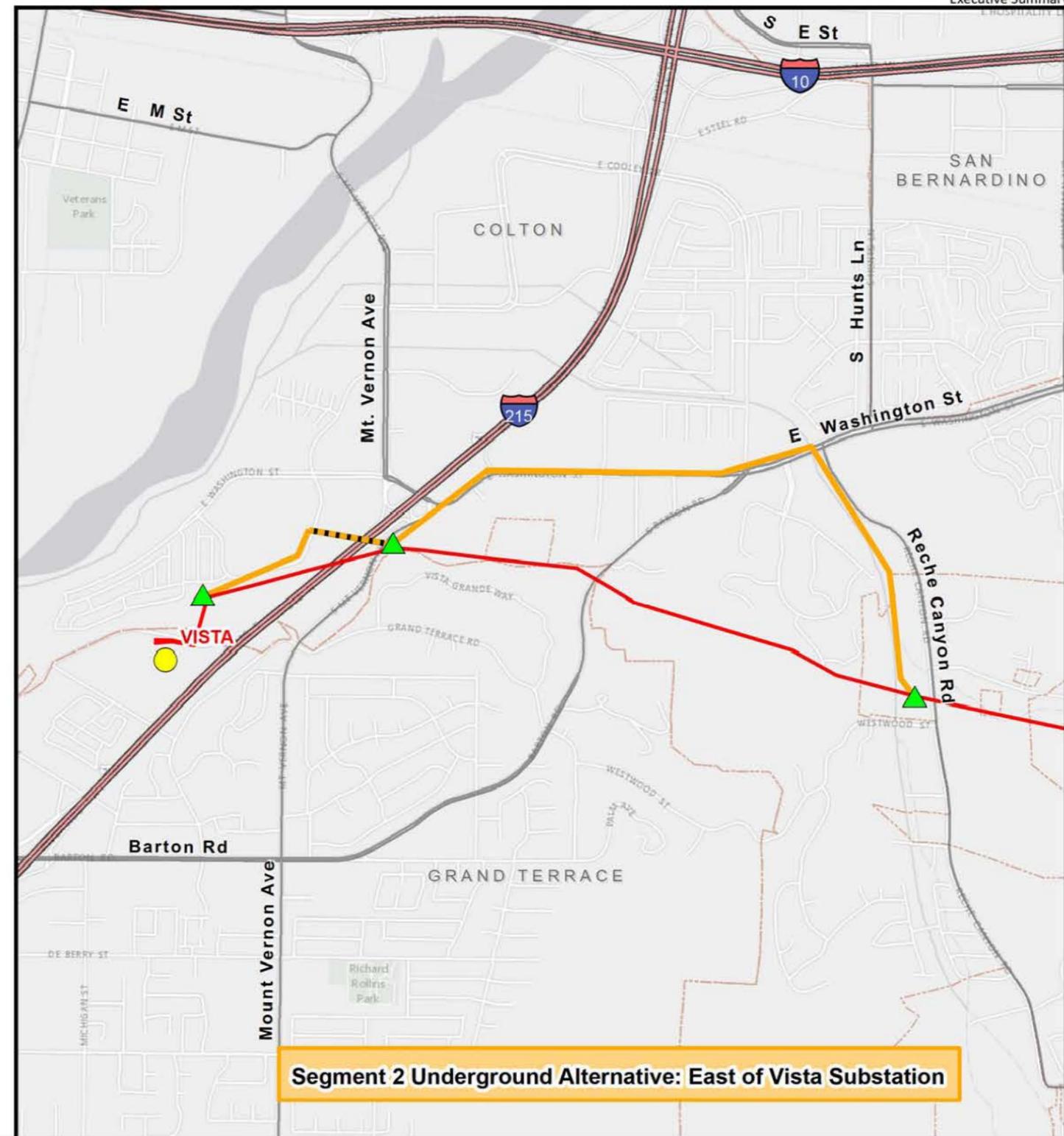
West of Devers Upgrade Project

Figure ES-3b
System Alternatives Eliminated

This page intentionally blank.



Segment 2 Underground Alternative: East of I-215



Segment 2 Underground Alternative: East of Vista Substation

Sources: SCE 2014

Underground Transition Structures	Proposed 220 kV Transmission Line Route	Major Highways
Substation	Underground Segment	Highways
City Boundary	HDD (Horizontal Directional Drill)	Major Roads
		Local Roads

West of Devers Upgrade Project

Figure ES-3c
**Alternatives Considered
but Not Screened for EIR/EIS Analysis**

This page intentionally blank.

Segment 5. Figures D.18-19A and 19B present a representative existing view and Proposed Project simulation (respectively) in Segment 5, as viewed from KOP 12 at the Morongo Community Center. As previously described, the Proposed Project would result in the replacement of three existing transmission lines of different design and size with two double-circuit TSP lines of identical design in a new ROW to the south, which would be farther away from the Community Center and closer to I-10. Although the proposed TSPs would be taller than two of the replaced transmission lines and similar in height to the third, they would not appear taller compared to the existing structures because of their more distant location relative to the Community Center. However, there would be substantially more structures apparent in the field of view from KOP 12 because of the east-west orientation of the new ROW. The resulting overall visual change associated with the Proposed Project would be adverse but less than substantial when viewed from KOP 12.

Figure E-3d presents a visual simulation of the addition of the potential future 500 kV transmission line to the new Segment 5 ROW, also viewed from KOP 12. With the addition of the 500 kV line, industrial character and structural diversity (and visual contrast) would increase slightly. Also, due to airspace restrictions, the somewhat more massive 500 kV TSPs would have limited structure heights similar to the 220 kV TSPs, thereby necessitating shorter conductor spans and more structures than might otherwise be necessary. The shorter conductor spans would appear asynchronous relative to the 220 kV conductor spans, which would increase overall structural complexity, clutter, and visual contrast within the ROW. However, these negative visual changes would be partially offset by the shared TSP design similarities between the 220 kV and 500 kV TSPs. As a result, when viewing from the Morongo Community Center, the resulting overall cumulative visual change (from the combination of the Proposed Project and future 500 kV line) would be adverse but less than substantial when compared to the existing visual conditions caused by the three existing disparate transmission lines in the existing Segment 5 ROW, which is also closer to the Community Center. This minor adverse effect would be further reduced through implementation of Mitigation Measures VR-9a (Project Design) and VR-10a (Surface Treatment).

Segment 6. Figures D.18-20A and 20B present a representative existing view and Proposed Project simulation (respectively) in Segment 6, as viewed from KOP 13 on Haugen-Lehman Way in the Community of Whitewater. As previously described, the Proposed Project would result in the replacement of three existing transmission lines of different design and size with two taller, double-circuit lattice structures of identical design. The taller structures of the Proposed Project would cause slightly increased skylining and would appear more visually prominent to the casual observer. However, the reduction in the overall number and types of structures would slightly reduce: (1) structural complexity within the ROW, (2) asynchronous spans, (3) overall industrial character, and (4) view blockage of higher value landscape features. The overall visual change would be slightly improved over the existing conditions.

Figure E-3e presents a visual simulation of the addition of the potential future 500 kV transmission line to the north side of the Segment 6 ROW, also viewed from KOP 13. With the addition of the 500 kV line, structural diversity (and contrast) increases, and asynchronous conductor spans become more noticeable, increasing overall structural complexity and clutter and visual contrast within the ROW. The 500 kV TSP structures also appear noticeably taller, more massive, and visually prominent from various viewing opportunities along Segment 6. However, when combined with either the slightly improved or adverse but less than substantial visual conditions of the Proposed Project, the adverse cumulative visual change associated with the addition of the 500 kV line would be less than substantial when compared to the existing visual conditions caused by the three existing disparate transmission lines in the Segment 6 ROW. This minor adverse effect would be further reduced through implementation of Mitigation Measures VR-9a (Project Design) and VR-10a (Surface Treatment).

E.3.19 Water Resources and Hydrology

Geographic Scope

The geographic scope for this cumulative analysis includes the water resources that would be affected by the Proposed Project, as well as any downstream receiving water and upland contributing area related to those water resources. The National Hydrography Dataset (NHD) divides all of the surface area within the United States into nested, hydrologically defined units that each drain to a single point. The geographic scope for this cumulative analysis includes three large watersheds called Subbasins under the NHD: San Jacinto, Santa Ana, and Whitewater River. The San Jacinto and Santa Ana Subbasins are governed by the Santa Ana Regional Water Quality Control Board (RWQCB) and the Whitewater River Subbasin is governed by the Colorado River RWQCB. Although these Subbasins contain waterbodies that are not crossed or directly affected by the Proposed Project, they represent both the hydrologic and administrative units for water quality control and protection of beneficial uses through which the project would pass. In addition, these surface water Subbasins are underlain by several groundwater basins, as described in Section D.19. This geographic scope is appropriate because it includes a watershed-level analysis of potential cumulative adverse effects.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for hydrology and water quality within the cumulative analysis study area. Some examples of development projects that could combine to result in adverse cumulative effects to water resources include: commercial and industrial development (including new warehouse construction) near Segments 1 and 2; the North-South Pipeline Project near Segments 1 through 3; several large residential developments near Segment 4; renewable energy and mining developments near Segment 6; and a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in substantial changes to the physical hydrology and water quality of the region. Although groundwater levels fluctuate over time, due in part to the amount of recharge entering the basin, residential and agricultural water use has generally led to reduced groundwater storage and availability. Land disturbance and earth movement, including grading and excavation, have led to increased erosion and sedimentation. Floodplain functions have been impaired through the placement of structures (such as housing) within floodplains and through the deliberate alteration of floodplain hydrology (including construction of dams, levees, and engineered channels). The creation of vast areas of impervious surface (including parking lots, roadways, and rooftops) has altered the rate and amount of surface water runoff in the study area. Improper handling, storage, and disposal of hazardous materials have led to contamination of surface water and groundwater resources.

The current and reasonably foreseeable projects described above and in Table E-1 would affect water resources in the cumulative analysis study area in a similar manner as past activities. Earth movement and grading (such as that associated with the residential development projects near Segment 4) would lead to increased erosion and sedimentation. Many of the cumulative projects would involve the storage or use of hazardous materials, which could contaminate surface water and groundwater. Some of the cumulative projects (including the residential development near Segment 4) could place structures in floodplains or require alteration of the floodplain (through levees or channel improvements) to prevent damage to structures. Construction and operation of the Proposed Project would result in minor



Michael Clayton & Associates

Latitude: 33° 56' 7.46" N Longitude: 116° 49' 22.36" W

This image presents a **Visual Simulation** of the **Proposed Project plus a Future 500 kV Transmission Line** (cumulative project) from **KOP 12**, at the **Morongo Community Center**. This simulation illustrates the addition of a future 500 kV tubular steel pole transmission line adjacent and to the north of the Proposed Project in the proposed new ROW. The 500 kV structures would be approximately the same height as the 220 kV structures in Segment 5 due to airspace restrictions.

KOP 12
Morongo Community Center
Cumulative Simulation

SCE West of Devers Upgrade Project
CEQA EIR / NEPA EIS
Visual Resources
Figure E-3d

This page intentionally blank.



Michael Clayton & Associates

Latitude: 33° 55' 49.53" N Longitude: 116° 41' 25.92" W

This image presents a **Visual Simulation** of the **Proposed Project plus a Future 500 kV Transmission Line** (cumulative project) from **KOP 13**, on **Haugen-Lehman Way**, just south of Amethyst Drive, in the residential community of Whitewater. This simulation illustrates the addition of a future 500 kV tubular steel pole transmission line adjacent and to the north of the Proposed Project in the existing ROW. The 500 kV structures would be noticeably taller and would appear somewhat more massive.

**KOP 13
Haugen-Lehman Way
Cumulative Simulation**

**SCE West of Devers Upgrade Project
CEQA EIR / NEPA EIS
Visual Resources
Figure E-3e**

This page intentionally blank.

adverse effects on water resources and hydrology due to water use and dewatering activities, the placement of structures in watercourses or flood hazard areas, increased erosion and sedimentation from ground disturbance, and the accidental spill or release of hazardous materials. These potential adverse effects would combine with the adverse effects on water resources from other projects within the cumulative projects study area to result in cumulative adverse effects.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to water resources that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to water resources. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. Construction and operation of the Proposed Project would result in minor adverse effects related to increased erosion and sedimentation and the accidental spill or release of hazardous materials. As described in Section D.19, ground disturbance associated with the Proposed Project is expected to result in a minimal increase in runoff and little risk to water quality. The dry nature of most of the surface streams near the Proposed Project is such that should hazardous material spills occur during construction, these could easily be cleaned up prior to water being contaminated (because water is not generally flowing). Groundwater basins that underlie the Proposed Project generally have groundwater deeper than 60 feet, which in nearly all cases would be below the maximum depth of excavation. With shallow excavation and deeper groundwater, there is little likelihood that groundwater could be affected during construction. Overall, construction and operation of the Proposed Project would result in minor adverse effects to water resources, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly minor but non-negligible.

The severity of the Proposed Project potential adverse effects to water resources, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of APMs and Mitigation Measures WR-2a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) and WR-3a (Implement flood, erosion, and scour protection for aboveground and belowground improvements). The full text of these APMs and mitigation measures is presented in Section D.19. With implementation of the mitigation measures described above and in Section D.19, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.20 Wildland Fire

Geographic Scope

The geographic scope for this cumulative analysis includes the local, State, and federal/tribal jurisdictions responsible for fire protection that are crossed by the project. The geographic scope for this cumulative analysis is the same as for the Proposed Project, because the same fire departments and agencies that would respond to a wildland fire related to the Proposed Project would also respond to a wildland fire related to other cumulative projects in the area.

Cumulative Analysis

A wide variety of past, present, and reasonably foreseeable development projects contribute or would contribute to the cumulative conditions for wildland fire within the cumulative analysis study area. Some examples of development projects that could result in adverse effects related to wildland fires include: commercial and industrial development (including new warehouse construction) near Segments 1 and 2; the North-South Pipeline Project near Segments 1 through 3; several large residential developments near Segment 4; renewable energy and mining developments near Segment 6; and, a future 500 kV transmission line that would share approximately 40 miles of the 45-mile Proposed Project ROW.

Construction and operation of numerous past and present projects within the study area have resulted in an increased risk of wildfire as well as an increased need for protection from wildland fire. Population growth in the region has led to the development of several incorporated cities that are nearby or directly adjacent to wildlands, including the San Bernardino National Forest. These population centers have introduced vehicle and pedestrian traffic in the surrounding wildlands. Visitors to the wildland areas in the region have introduced several sources of wildfire ignition, including smoking, camping stoves, and campfires. In addition to being a source of wildfire ignition, these population centers also require fire protection during a wildfire. Housing that has been built close to wildland areas has increased the potential threat to property and human life from uncontrolled wildfire.

These current and reasonably foreseeable projects described above and in Table E-1 would affect wildland fire in the cumulative analysis study area in a similar manner as past activities. For example, the large housing developments near Segment 4 would increase the resident population near to the San Bernardino National Forest, which could increase visitation to the forest thus increasing sources of wildfire ignition. Those same housing developments would require protection from wildfire in the event of an uncontrolled fire in the surrounding wildlands. Construction and operation of the Proposed Project would result in minor adverse effects related to the increased probability of a wildland fire and the delay or obstruction of fire suppression efforts. These potential adverse effects could combine with the adverse effects on wildland fire probability and suppression from other projects within the cumulative projects study area to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would result in adverse effects to wildland fire that would combine with the adverse effects from construction and operation of other projects in the cumulative analysis study area to result in a substantial cumulative adverse effect to wildland fire potential and suppression capabilities. However, the incremental contribution of the Proposed Project to this substantial cumulative adverse effect would be minor. Where the Proposed Project ROW, existing substations, or construction yards are located in or near wildlands, project-related construction activities at these locations have the potential to be an ignition source for a wildland fire. Examples of ignition sources include sparks from welding or from metal striking metal or stone, which could ignite surrounding vegetation, parking vehicles over dry vegetation, where hot undercarriages could ignite grass or shrubs, and improperly discarded smoking materials. During operation of the Proposed Project, live transmission line that arcs to vegetation is a potential ignition source for a fire. Electrical arcing from power lines can be caused by high-voltage surges and spikes and from such events as a line failure due to a tree fall, the toppling of a pole, or a line breaking during a storm. Because the Proposed Project is an upgrade of existing facilities, the impacts of the Proposed Project during operations and maintenance are anticipated to be the same as or substantially similar to the baseline. This is because operations and maintenance would require a similar amount of workforce (with similar associated sources of wildland fire ignition) and would result in similar obstructions to fire suppression efforts (new structures would be located almost entirely within an existing ROW). Overall, construction and operation of the Proposed Project would result in minor adverse effects to wildland fire potential and suppression capabilities, and the incremental contribution of the Proposed Project to the substantial cumulative adverse effect would be similarly minor but non-negligible.

The severity of the Proposed Project potential adverse effects to wildland fire, as well as the incremental contribution of the Proposed Project to the substantial cumulative adverse effect, would be reduced through implementation of Mitigation Measure WF-1a (Prepare and implement a Fire Management Plan). This mitigation measure is fully described in Section D.20. With implementation of the mitigation measure noted above and described fully in Section D.20, the incremental contribution of the Proposed Project to the substantial adverse cumulative effect would be negligible.

E.3.21 Electrical Interference and Safety

Geographic Scope

The geographic scope for analysis of Proposed Project adverse effects related to electrical interference and safety is the ROW for the entire length of the 220 kV transmission line. The geographic scope for this cumulative analysis is the same as for the Proposed Project, but also includes projects immediately adjacent to the 220 kV ROW. This geographic scope is appropriate because electrical interference and electrical safety hazards attenuate rapidly with distance from the transmission line, and therefore these potential adverse effects would not combine with similar adverse effects from other projects that are not within or immediately adjacent to the Proposed Project ROW.

Cumulative Analysis

The past, present, and reasonably foreseeable projects that contribute or would contribute to electrical interference and electrical safety hazards within the cumulative analysis study area are limited generally to electrical transmission lines. Several transmission lines currently exist in the Proposed Project corridor, and these past projects contribute to the existing baseline for electrical interference in the study area. Other transmission lines in the region also create electrical interference, but those other regional transmission lines are outside of the cumulative analysis study area because electrical interference from transmission lines attenuates rapidly with distance and would not combine with the potential adverse effects of the Proposed Project. The only project within the cumulative projects study area that could combine with the Proposed Project to result in a cumulative adverse effect is the future 500 kV transmission line, which could result in an increase in electrical interference and electrical safety hazards. This cumulative analysis has determined that a future 500 kV transmission line is foreseeable, and therefore should be evaluated as a cumulative project in this EIS. The line would be built in SCE's existing ROW and along about 40 miles of the 45-mile project ROW. The future 500 kV line could be single-circuit or double-circuit, and for the purpose of this study, it is assumed to be a double-circuit line. Construction and operation of the Proposed Project would result in minor adverse effects related to electrical interference and electrical safety hazards. These potential adverse effects could combine with the adverse effects on electrical interference and safety from the future 500 kV transmission line to result in a cumulative adverse effect.

Severity of Project Contribution to Cumulative Adverse Effects. Construction and operation of the Proposed Project would cause changes in power line field strength as the locations of energized conductors would change during construction and in the final configuration of the transmission lines after construction is complete. These changes in field strength at the edge of the ROW could create: interference with radio, television, communications, or electronic equipment; hazards to the public from project-induced currents or shocks; and, interference with cardiac pacemakers. The only other project within the cumulative projects study area that could result in adverse effects related to electrical interference and safety is the future 500 kV transmission line. Although the future 500 kV transmission line would be geographically contiguous with the majority of the Proposed Project, the construction schedule for the future transmission line would not overlap with the construction schedule of the Proposed Project. Therefore, construction-related adverse effects to electrical interference and safety from the Proposed Project would not combine with construction-related adverse effects to electrical interference and safety from the future transmission line to result in a cumulative effect. However, the operational adverse effects of the future transmission line could combine with the operational adverse effects of the Proposed Project to result in a cumulative adverse effect. Overall, construction and operation of the Proposed Project

would result in minor adverse effects related to electrical interference and safety, and the incremental contribution of the Proposed Project to the cumulative adverse effect would be similarly minor.

The severity of the Proposed Project potential adverse effects related to electrical interference and safety, as well as the incremental contribution of the Proposed Project to the cumulative adverse effect, would be reduced through implementation of Mitigation Measures EIS-1a (Limit the conductor surface gradient), EIS-1b (Document and resolve electronic interference complaints), and EIS-2a (Implement grounding measures). These mitigation measures are fully described in Section D.21. With implementation of the mitigation measures noted above and described fully in Section D.21, the incremental contribution of the Proposed Project to the adverse cumulative effect would be negligible.

E.4 Cumulative Impact Analysis of Alternatives

All of the retained alternatives are located in the same ROW as the Proposed Project and would involve similar types of construction activities. The same list of cumulative projects that could potentially combine with the Proposed Project to result in a cumulative adverse effect would also apply to all of the retained alternatives. Therefore, the cumulative analysis presented above for the Proposed Project would also apply to all of the alternatives, and the adverse cumulative effects that are described for the Proposed Project would also occur with all of the alternatives.

E.5 References

- CGS (California Geological Survey). 2012. Aggregate Sustainability in California – Map Sheet 52. http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52.pdf. Accessed February 6, 2015.
- City of Banning. 2006. City of Banning General Plan – Chapter III, Community Development. <http://www.ci.banning.ca.us/DocumentCenter/Home/View/663>. Accessed February 9, 2015.
- City of Beaumont. 2007. City of Beaumont General Plan. March. <http://www.ci.beaumont.ca.us/DocumentCenter/Home/View/63>. Accessed February 9, 2015.
- City of Moreno Valley. 2006. Moreno Valley General Plan – Final Program EIR. July. http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/ieir/5_8-agri-resources.pdf. Accessed February 5, 2015.
- County of Riverside. 2015. Riverside County History. <http://countyofriverside.us/Visitors/CountyofRiversideInformation/RiversideCountyHistory.aspx>. Accessed February 5, 2015.
- _____. 2014a. County of Riverside Environmental Impact Report No. 521 – Public Review Draft; Section 4.5, Agriculture and Forestry Resources. March. http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/04-05_AgriAndForestryRscrs_2014-04-15.pdf. Accessed February 5, 2015.
- _____. 2014b. County of Riverside Environmental Impact Report No. 521 – Public Review Draft; Section 4.14, Mineral Resources. March. http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/04-14_MineralResources_2014-04-07.pdf. Accessed February 6, 2015.
- _____. 2014c. County of Riverside Environmental Impact Report No. 521 – Public Review Draft; Section 4.18, Transportation and Circulation. March. http://planning.rctlma.org/Portals/0/genplan/general_plan_2014/EnvironmentalImpactReport/04-18_TransportationAndCirc_2014-04-07.pdf. Accessed February 6, 2015.

DTSC (Department of Toxic Substances Control). 2015. EnviroStor Data Management System. <http://www.envirostor.dtsc.ca.gov/public/>. Accessed February 9, 2015.

SCAQMD (South Coast Air Quality Management District). 2011. *SCAQMD Air Quality Significance Thresholds*. Revised: March 2011. <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>.

SWRCB (State Water Resources Control Board). 2015. GeoTracker Data Management System. <http://geotracker.waterboards.ca.gov/>. Accessed February 9, 2015.