Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area  Aesthetics	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Temporary Minor Changes in Landscape from Trenching Operations  Mitigation: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•
Impact: Possible Minor Changes in the Existing Visual Character or Quality of a Site  Mitigation: Mitigation is incorporated in the design and construction approach.	•	•	•	٠	•	•	•	•	•
Impact: Possible Minimal Visual Effect Resulting from Construction of Regenerator/OP-AMP Stations  Mitigation Measure A-1: Design Regenerator/OP-AMP Stations to Be Unobtrusive	•	•		•	•		•	•	

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Agricultural Resources - no impacts would occur.									
Air Quality									
Impact: Temporarily Increased Levels of Air Pollutants during Construction Exceeding Air District Thresholds  Mitigation Measure AQ-1: Implement Construction Best Management Practices	•	•	•	•	•	•	•	•	•
<ul> <li>Impact: Temporary Emissions Exceeding Limits from Operating Emergency Backup Generators</li> <li>Mitigation Measure AQ-2: Obtain Authority to Construct and Permit to Operate Emergency Backup Generators, Where Required</li> </ul>	•	•	•	•	•	•	•	•	•
Impact: Temporary Generation of Odors from Diesel Exhaust during Construction and from Diesel Backup Generators at Regenerator/OP-AMP Stations  Mitigation: None required because the impact is absent or less than significant.	٠	٠	٠	٠	٠	٠	•	•	٠

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area Biological Resources	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance of Special-Status Plant Populations	•	•	•	•	•	•	•	•	•
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction.  Mitigation Measure B-3: Avoid Impacts on State-Listed and Federally Listed and CNPS 1B Special-Status Plant Populations by Establishing and Observing Exclusion Zones									
Mitigation Measure B-4: Avoid Impacts on CNPS Lists 2 and 4 Special-Status Plant Populations by Implementing Specific Measures  Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources	٠	•	•	•	•	•	•	•	٠
Impact: Possible Introduction of New Noxious Weeds or Spread of Existing Noxious Weed Infestations  Mitigation Measure B-6: Avoid the Dispersal of Noxious Weeds in the Fiber Optic Cable and Associated Facility Rights-of-Way	•	•		•	•	•	•	•	

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance of Vernal Pools and Associated Habitat for Special-Status Species  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitats by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas				٠	•				
Impact: Possible Disturbance to Delta Green Ground Beetle and Its Habitat  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction  Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitats by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas  Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones				•					

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
<ul> <li>Impact: Construction Activities Near Areas that are Habitat for the Valley Elderberry Longhorn Beetle</li> <li>Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas</li> <li>Mitigation Measure B-9: Avoid Disturbance to Elderberry Shrubs by Establishing and Observing Exclusion Zones</li> </ul>	•	•		•					
Impact: Possible Disturbance to Delhi Sands Flower-Loving Fly Habitat  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction  Mitigation Measure B-10: Avoid Disturbance to Delhi Sands Flower-Loving Fly Habitat							•		

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Quino Checkerspot Butterfly Habitat							•		
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-11: Avoid Disturbance to Quino Checkerspot Butterfly Habitat									
Impact: Possible Disturbance to Morro Shoulderband Snail Habitat						•			
Mitigation Measure B-12: Avoid Morro Shoulderband Snail Habitat by Rerouting or Boring Under Suitable Habitat Areas									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance of Habitat for Non-Federally Listed Special-Status Amphibians and Reptiles  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction  Mitigation Measure B-8: Avoid Riparian and Wetland Habitats	•	•		•	•	•	•		
That Support Special-Status Species by Establishing and Observing Exclusion Zones  Mitigation Measure B-13: Avoid Disturbance to Special-Status Reptiles and Amphibians by Boring Under Streams or Constructing Barrier Fencing and Relocating Animals During Construction									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area  Impact: Possible Disturbance to California Red-Legged Frogs in	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	• San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	• Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Drainages That Intersect the Proposed Project Route  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									
Impact: Possible Disturbance of Habitat for the Arroyo Southwestern Toad  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction  Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones							٠		

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Potentially Occupied Habitat for California Tiger Salamanders  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near	•			•	•	•			
Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-7: Avoid Impacts on Vernal Pool Habitat by Establishing and Observing Exclusion Zones around Vernal Pools and Hydrologically Connected Areas									
Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Blunt-Nosed Leopard Lizard Habitat					•				
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-14: Avoid Blunt-Nosed Leopard Lizard Habitat by Conducting Preconstruction Searches for Burrows and Implementing Protection Measures, If Necessary									
Mitigation Measure B-15: Avoid Blunt-Nosed Leopard Lizard Burrows by Establishing and Observing Exclusion Zones Around Burrows									
Mitigation Measure B-16: Construct in Blunt-Nosed Leopard Lizard Habitat during the Lizard's Active Season									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Coachella Valley Fringe-Toed Lizard and Its Habitat							•		
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-17: Avoid Potentially Occupied Coachella Valley Fringe-Toed Lizard Habitat by Establishing and Observing Exclusion Zones									
Impact: Possible Disturbance to Flat-Tailed Horned Lizard and Its Habitat							•		
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-18: Implement the Flat-Tailed Horned Lizard Rangewide Management Strategy									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Desert Tortoise and Its Habitat  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas							•		
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-19: Avoid Desert Tortoise Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary									
Mitigation Measure B-20: Avoid Desert Tortoise Burrows by Establishing and Observing Exclusion Zones									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
<ul> <li>Impact: Construction Activities near Areas with Potentially Active Nonlisted Special-Status Raptor Nests and Other Potential Nesting Habitat</li> <li>Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas</li> <li>Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction</li> <li>Mitigation Measure B-21: Avoid Disturbing Active Special-Status Raptor Nests</li> </ul>	•	•		•	•	•	•	•	
Impact: Possible Disturbance of Active Swainson's Hawk Nests  Mitigation Measure B-1: - Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-22: Avoid Disturbing Active Swainson's Hawk Nests by Establishing and Observing Buffer Zones	•	•		•	•				

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Active Northern Spotted Owl Nests  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-23: Avoid Disturbing Northern Spotted Owl Nests by Constructing During the Non-Breeding Season or by Establishing and Observing Buffer Zones Around Active Nests	•								
Impact: Possible Disturbance to Active California Spotted Owl and Northern Goshawk Nests  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-24: Avoid Disturbing California Spotted Owl and Northern Goshawk Nests by Establishing and Observing Buffer Zones and Avoid Construction Activities During the Breeding Season	•	•							

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Construction Activities in Areas near Potential Active Burrowing Owl Nests	•	•		•	•	•	•	•	
Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-25: Avoid Disturbing Active Burrowing Owl Nests and Implement Standard DFG Guidelines during the Nonbreeding Season									
<b>Impact:</b> Construction Activities Near Areas that are Habitat for California Condors					•				
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Temporary Construction Activities in Areas That are Potential Habitat for Willow Flycatcher and Least Bell's Vireo		•			•	•	•		
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									
Mitigation Measure B-26: Avoid Noise Disturbance near Occupied Least Bell's Vireo Habitat during the Nesting Season, and Implement Protection Measures, If Necessary									
Mitigation Measure B-27: Avoid Noise Disturbance near Occupied Willow Flycatcher Habitat during the Nesting Season and Implement Protection Measures, If Necessary									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Temporary Construction Activities Near Areas that are Potential Nesting Habitat for California Gnatcatcher							•		
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions Before Construction									
Mitigation Measure B-28: Avoid Occupied California Gnatcatcher Habitat During the Nesting Season, and Implement Protection Measures, If Necessary									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Kit Fox Den and Their Habitat					•				
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-29: Avoid San Joaquin Kit Fox Dens by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary									
Mitigation Measure B-30: Avoid San Joaquin Kit Fox Dens by Establishing and Observing Exclusion Zones									
<b>Impact:</b> Possible Disturbance to Active Special-Status Kangaroo Rat Burrows and Their Habitat					•	•			
Mitigation Measure B-31: Avoid Giant, Tipton, and Morro Bay Kangaroo Rat Burrows by Conducting Preconstruction Surveys and Implement Protection Measures, If Necessary									
Mitigation Measure B-32: Avoid Giant, Tipton, and Morro Kangaroo Rat Burrows by Establishing and Observing Exclusion Zones									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Active Stephens' Kangaroo Rat Burrows  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas							•		
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-33: Avoid Stephens' and Pacific Kangaroo Rat Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary  Mitigation Measure B-34: Avoid Stephens' Kangaroo Rat Burrows by Establishing and Observing Exclusion Zones									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Active San Joaquin Antelope Ground Squirrel Burrows  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near					•				
Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-35: Avoid San Joaquin Antelope Ground Squirrel Burrows by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary									
Mitigation Measure B-36: Avoid San Joaquin Antelope Ground Squirrel Burrows by Establishing and Observing Exclusion Zones									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Construction Activities Near Active Breeding Sites for Northern Harrier, Snowshoe Hare, White-Tailed Jackrabbit, Sierra Nevada Mountain Beaver, and American Badger  Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near	•	•		•	•	•	•	•	
Specified Sensitive Biological Areas  Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-37: Avoid Disturbance to Northern Harrier, Snowshoe Hare, White-Tailed Jackrabbit, Sierra Nevada Mountain Beaver, and American Badger by Conducting Preconstruction Surveys and Establishing No-Disturbance Buffers									
Impact: Construction Activities on Bridges that are Nesting Habitat for Swallows	•	•	•	•	•	•	•	•	•
Mitigation Measure B-38: Avoid Disturbance to Nesting Swallows by Implementing Timing Restrictions, Removing Nests, and Installing Mesh Netting									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Construction Activities in Areas Near Bat Maternity Roosting Sites	•	•	•	•	•	•	•	•	•
Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions Before Construction									
Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									
Mitigation Measure B-39: Avoid Bat Maternity Roost by Postponing Bridge Attachments									
Impact: Possible Disturbance of Other Special-Status Wildlife Species	•	•	•	•	•	•	•	•	•
<b>Mitigation:</b> None required because the impact is absent or less than significant.									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Temporary Construction Activities in Streams that Support Threatened, Endangered, and Special-Status Fish Species	•	•	•	•	•	•	•	•	•
Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions before Construction									
Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources									
Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									
Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages									
Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities									
Mitigation Measure F-1: Avoid In-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Removal or Disturbance of Woody Riparian Vegetation	•	•	•	•	•	•	•	•	•
Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources									
<b>Mitigation Measure B-8:</b> Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones									
<b>Mitigation Measure B-40:</b> Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages. Refer to the discussion of this mitigation measure earlier in this section.									
Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Disturbed during Construction Activities									
Impact: Possible Disturbance of Sensitive Biological Resources from the Use of Staging Areas outside the Delineated Proposed Project Study Area and Not within Previously Paved or Graveled Areas	•	•	•	•	•	•	•	•	•
Mitigation Measure B-42: Survey Proposed Staging Areas before Construction and Implement Avoidance Measures, if Required									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
<ul> <li>Impact: Short-Term Direct Disturbance of Waters of the United States (Including Wetland Communities)</li> <li>Mitigation Measure B-1: Retain Qualified Biologists or Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas</li> <li>Mitigation Measure B-5: Confine Construction Equipment and Associated Activities to the Project Routes in Areas That Support Sensitive Resources</li> </ul>	•	•	•	•	•	•	•	•	•
Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities  Mitigation Measure B-43: Minimize Disturbance and Restore Other Waters of the United States to Preproject Conditions  Mitigation Measure B-44: Minimize Disturbance and Restore Jurisdictional Wetlands to Preproject Conditions  Mitigation Measure B-45: Avoid and Protect Specified Jurisdictional Wetlands Adjacent to Construction Areas	•	•	•	•	•	•	٠	•	•

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Temporary Disturbances to Wildlife Movements  Mitigation Measure B-8: Avoid Riparian and Wetland Habitats That Support Special-Status Species by Establishing and Observing Exclusion Zones  Mitigation Measure B-13: Avoid Disturbance to Special-Status Reptiles and Amphibians by Boring Under Streams or Constructing Barrier Fencing and Relocating Animals During Construction	•	•	•	•	•	•	•	•	•
Impact: Possible Wildlife Entrapment in Open Trenches  Mitigation Measure B-46: Fill or Cover Open Trenches	•	•	•	•	•	•	•	•	•
Impact: Possible Temporary Disturbance of Common Wildlife Species  Mitigation Measure: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Temporary Increases in Sedimentation and Turbidity Possibly Affecting Fish  Mitigation Measure B-1: Retain Qualified Biologists or Resource	•	•	•	•	•	•	•	•	•
Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas  Mitigation Measure B-5: Confine Construction Equipment and									
Associated Activities to the Project Routes in Areas That Support Sensitive Resources  Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages									
Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities  Mitigation Measure B-43: Minimize Disturbance and Restore									
Other Waters of the United States to Preproject Conditions  Mitigation Measure F-1: Avoid in-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location	•	•	•	•	•	•	•	•	•

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Short-Term Disturbance of Fish Habitat	•	•	•	•	•	•	•	•	•
Mitigation Measure B-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Biological Areas									
Mitigation Measure B-2: Conduct a Biological Resource Education Program for Construction Crews and Enforce Construction Restrictions Before Construction									
Mitigation Measure B-40: Avoid and Minimize Disturbance of Woody Riparian Vegetation along Drainages									
Mitigation Measure B-41: Conduct Postconstruction Monitoring in Woody Riparian and Wetland Communities That Are Substantially Disturbed during Construction Activities									
Mitigation Measure B-43: Minimize Disturbance and Restore Other Waters of the United States to Preproject Conditions									
Mitigation Measure F-1: Avoid in-Water Construction in All Flowing Streams That Support Sensitive Fish Species at or below the Crossing Location									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to	Sacramento to Calif./Nevada Border	Santa Clara	Pittsburgh to	San Luis Obispo to Bakersfield	Los Osos Loop	Riverside to California/	Los Angeles to Riverside	
Impact: Possible Short-Term Degradation of Fish Habitat from		•	•		•	•		•	•
Mitigation Measure B-1: Retain Qualified Biologists and									
Specified Sensitive Biological Areas									
Mitigation Measure B-2: Education Program for Construction Crews and Enforce Construction Restrictions Before Construction									
Possible Effects on Fish from Accidental Spills of Toxic Substances during Construction	•		•	•		•	•		•
Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near									
Mitigation Measure B-2: Conduct a Biological Resource									
Construction Restrictions before Construction									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area  Cultural Resources	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Long-Term Disturbance of Cultural Resource Sites  Mitigation Measure C-1: Develop and Implement Avoidance Procedures  Mitigation Measure C-2: Develop and Implement Cultural Resources Monitoring Plan  Mitigation Measure C-3: Conduct Test Excavation to Determine Resources Significance, and if Significant, Conduct Data Recovery Excavation	•	•	•	•	•	•	•	•	•
Impact: Possible Indirect Impact on Historic Structures from Siting of Regenerator/OP-AMP Sites  Mitigation Measure C-4: Site Regenerator/OP-AMP Facilities to Avoid Setting Impacts on Significant and Potentially Significant Resources	•	•	•	٠	•	•	•	•	•
Impact: Possible Long-Term Damage to Unidentified Buried Cultural Resource Sites from Ground-Disturbing Activities  Mitigation Measure C-5: Stop Work If Cultural Resources Are Discovered during Ground-Disturbing Activities	•	•	•	٠	•	٠	•	•	•

Table S-2. Summary of Impacts and Mitigation Measures

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Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Disturbance to Paleontological Resources during Construction  Mitigation Measure C-6: Retain a Qualified Paleontologist to	•	•	•	•	•	•	•	•	•
Oversee Construction Activities and Prepare a Report  Impact: Possible Long-Term Damage to Previously Unidentified Human Remains on Federal or Nonfederal Land from Ground-Disturbing Activities  Mitigation Measure C-7: Comply with State and Federal Laws Pertaining to the Discovery of Human Remains	•	•	•	•	•	•	•	•	•
Geology and Soils									
Impact: Possible Temporary Damage to the Cable System from Earthquake-Induced Strong Ground Shaking  Mitigation: None required because the impact is absent or less than significant.	•	•	٠	•	٠	٠	•	•	٠
Impact: Possible Temporary Damage to the Cable System from Earthquake Fault Displacement  Mitigation: None required because the impact is absent or less than significant.	•	•	•	•	•	•	•	•	•
Impact: Possible Temporary Damage to the Cable System from Earthquake-Induced Liquefaction  Mitigation: None required because the impact is absent or less than significant.	•	٠	•	•	٠	•	•	•	•

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Long-Term Slope Mass Failure	•	•	•	•	•	•	•	•	•
<b>Mitigation:</b> None required because the impact is absent or less than significant.									
Impact: Possible Temporary Accelerated Erosion and Sedimentation from Soil Disturbance and Vegetation Removal	•	•	•	•	•	•	•	•	•
<b>Mitigation:</b> Mitigation is incorporated in the design and construction approach.									
Impact: Potential Damage to the Cable System from Seasonal Soil Expansion and Contraction	•	•	•	•	•	•	•	•	•
Mitigation: Mitigation is incorporated in the design and construction approach.									

Table S-2. Summary of Impacts and Mitigation Measures

	Point Arena to	Sacramento to Calif./Nevada Border	Santa Clara	Pittsburgh to	San Luis Obispo to Bakersfield	Los Osos Loop	Riverside to California/	Los Angeles to Riverside	
Impact and Mitigation by Resource Area	Poil	Sac Cali	Sar	Pitt	Sar Bak	Los	Rive	Los Rive	
Hazards and Hazardous Materials									
Impact: Hazardous Materials during Construction  Mitigation Measure H-1:	•		•	•		•	•		•
Handling, and Use of Hazardous Materials									
Impact: Hazardous Materials Sites  Mitigation Measure:	•		•	•		•	•		•
construction approach.									
Impact:  Mitigation Measure: Mitigation is incorporated in the design and	•	•		•	•		•	•	
Impact: Possible Temporary Exposure of People or Structures to  Mitigation Measure: Mitigation is incorporated in the design and	•	•		•	•		•	•	
Hydrology and Water Quality									
Impact: Waterbodies	•		•	•		•	•	_	•
Mitigation Measure: construction approach.									

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Impact: Possible Temporary Disruption of Bed and Bank Sediments in Channels during Conduit and Cable Installation  Mitigation Measure: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•
Impact: Possible Long-Term In-Channel Erosion and Deposition from Decreased Channel Stability  Mitigation Measure: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•
Impact: Possible Temporary Degraded Water Quality from Accidental Spills of Hazardous Materials during Construction  Mitigation Measure: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•
Impact: Possible Temporary Water Quality Degradation and Siltation from Accidental Seepage of Bentonite into Streams  Mitigation Measure: Mitigation is incorporated in the design and construction approach.	•	•	•	•	•	•	•	•	•
Impact: Possible Increased Flood Hazards from Possible Placement of Regenerator/OP-AMP Stations within the Floodplain  Mitigation Measure: None required because the impact is absent or less than significant.	•	•	•		•		•	•	

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
Land Use and Planning									
Impact: Possible Conflict with Local Land Use Plans	•	•	•	•	•	•	•	•	•
Mitigation Measure LU-1: Obtain and Comply with Local Zoning Permits									
Mineral Resources									
Impact: Possible Conflict with Future Mineral Exploration and Access to Resource Sites  Mitigation Measure: None required because the impact is absent	•	•	•	•	•	•	•	•	•
or less than significant.									
Noise									
Impact: Temporary Exposure of Residences and Other Sensitive Receptors to Construction Noise in Excess of Local Standards  Mitigation Measure N-1: Employ Noise-Reducing Construction Practices	•	•	•	•	•	•	•	•	•
Impact: Temporary Exposure of Residences or Other Sensitive Receptors to High Noise Levels from Helicopter Operation That Could Exceed Local Noise Ordinance Criteria									
Mitigation Measure N-2: Limit Use of Helicopters near Residences and Other Sensitive Land Uses									

Table S-2. Summary of Impacts and Mitigation Measures

Point Arena to Sacramento	Sacramento to Calif./Nevada Border	San Francisco to Santa Clara	Pittsburgh to Sacramento	San Luis Obispo to Bakersfield	San Luis Obispo to Los Osos Loop	Riverside to California/ Arizona Border	Los Angeles to Riverside	Los Angeles to Anaheim
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	• Point Arena to Sacramento	Point Arena to Sacramento Sacramento to Calif./Nevada Border	Point Arena to Sacramento Sacramento to Calif./Nevada Border San Francisco to Santa Clara	Point Arena to Sacramento Sacramento to Calif./Nevada Border San Francisco to Santa Clara Pittsburgh to Sacramento Sacramento			Point Arena Sacramento Sacramento Calif./Nevada San Francisc San Francisc Santa Clara Sarcamento Santa Clara Sarcamento Santa Luis Obi Bakersfield Los Osos Lo Los Osos Lo Arizona Borc	Point Arena Sacramento Sacramento Calif./Nevada San Francisc Santa Clara Pittsburgh tc Sarramento San Luis Obi Bakersfield San Luis Obi Los Osos Lo Los Osos Lo Arizona Borc Riverside to Riverside

Table S-2. Summary of Impacts and Mitigation Measures

Impact and Mitigation by Resource Area	Point Arena to	Sacramento to Calif./Nevada Border	Santa Clara	Pittsburgh to	San Luis Obispo to Bakersfield	Los Osos Loop	Riverside to California/	Los Angeles to Riverside	
Transportation/Traffic									
<b>Impact:</b> Way	•		•	•		•	•		•
Mitigation Measure T-1: State Road Encroachment Permits									
Impact:  Mitigation Measure: None required because the impact is absent	•	•		•	•		•	•	
Impact: Temporary Increase in Accident Risk  Obtain and Comply with Local and State Road Encroachment Permits		•	•		•	•		•	•
Temporary Effects on Traffic Flow  Mitigation Measure T-1: State Road Encroachment Permits	•		•	•		•	•		•
Impact:  Mitigation Measure T-1: Obtain and Comply with Local and  Utilities and Service Systems - no impacts would occur.	٠	•		•	•		•	٠	