

Project Elements

- Proposed Action Transmission Line Alignments
- Action Alternative Transmission Line Alignments
- Proposed Robinson Summit Substation Locations
- ▲ Existing Substation
- SWIP Corridor
- LCCRDA Corridor
- Existing Falcon to Gonder 345 kV Transmission Line

Resources

- ▨ Wilderness Study Area (WSA)
- ▨ Wilderness Area (WA)
- ▨ Area of Critical Environmental Concern (ACEC)

Land Ownership

- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- ▨ Bureau of Indian Affairs
- Fish and Wildlife Service
- Department of Defense
- Department of Energy
- State of Nevada
- Regional Park
- Private
- Water

Source - Land Ownership: Bureau of Land Management
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

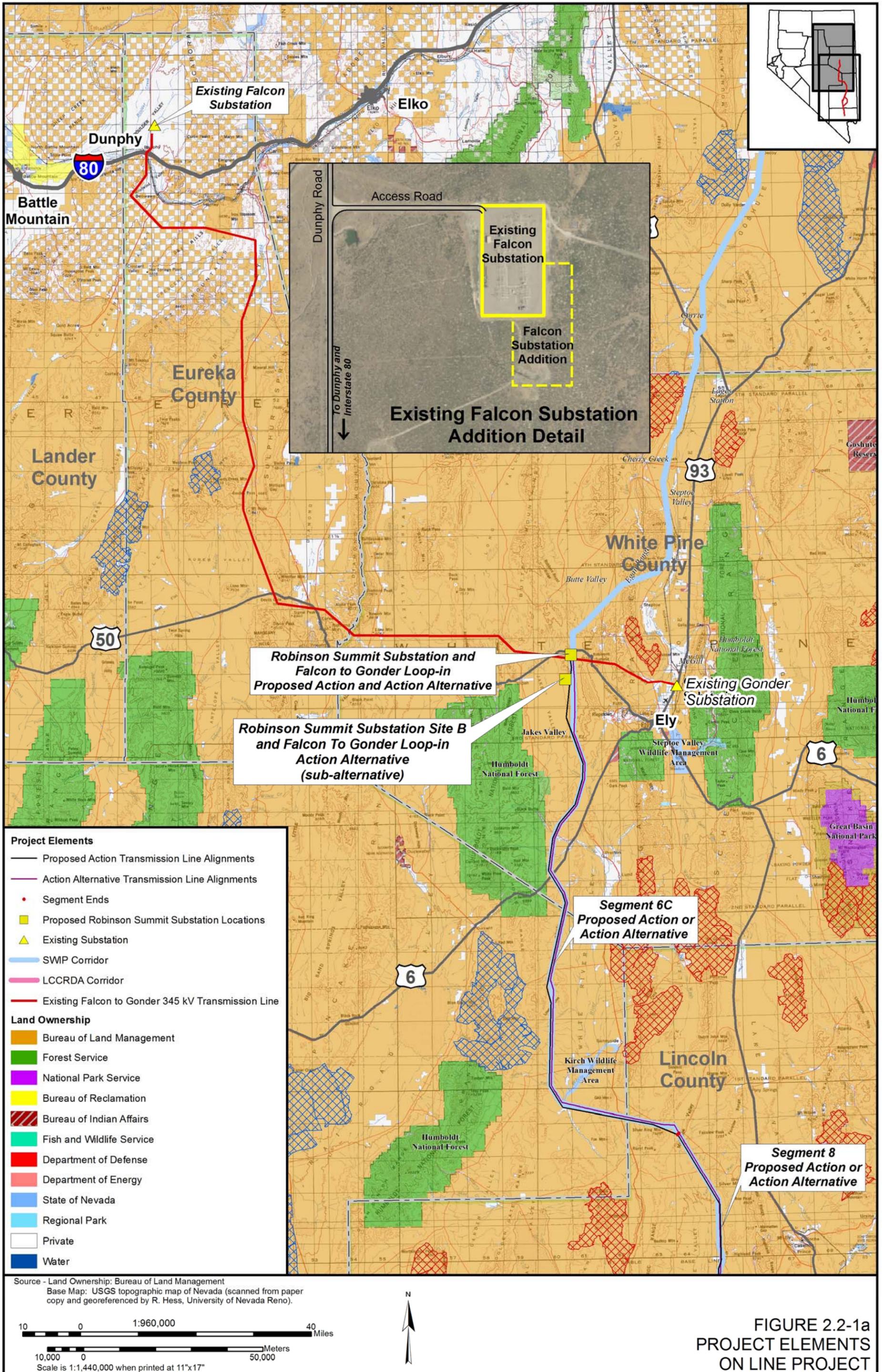
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10,000 0 50,000 Meters

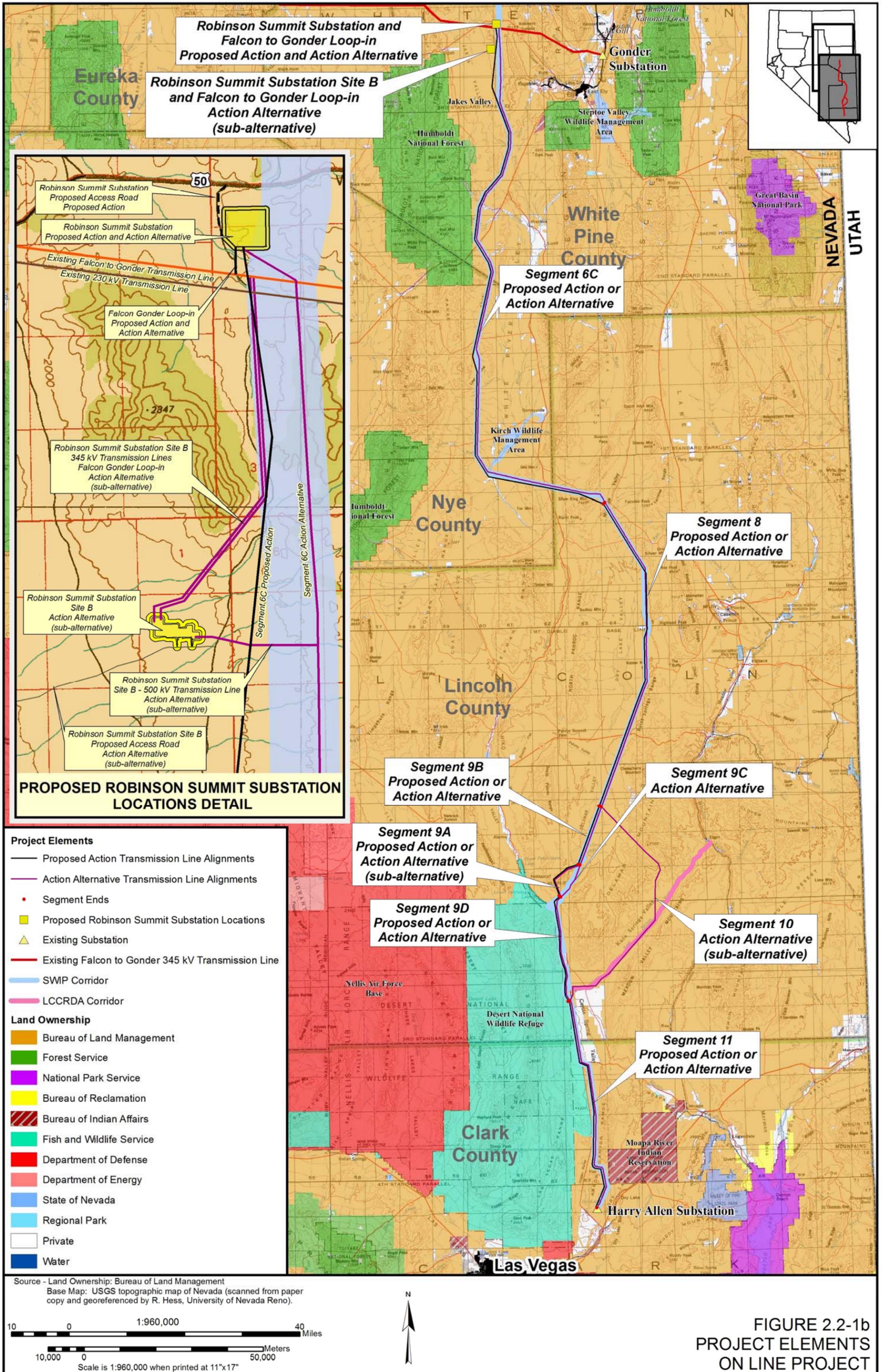
Scale is 1:1,440,000 when printed at 11"x17"



FIGURE 1.1-1
PROJECT LOCATION MAP
SHOWING PROPOSED TRANSMISSION ROUTE
ON LINE PROJECT



**FIGURE 2.2-1a
PROJECT ELEMENTS
ON LINE PROJECT**



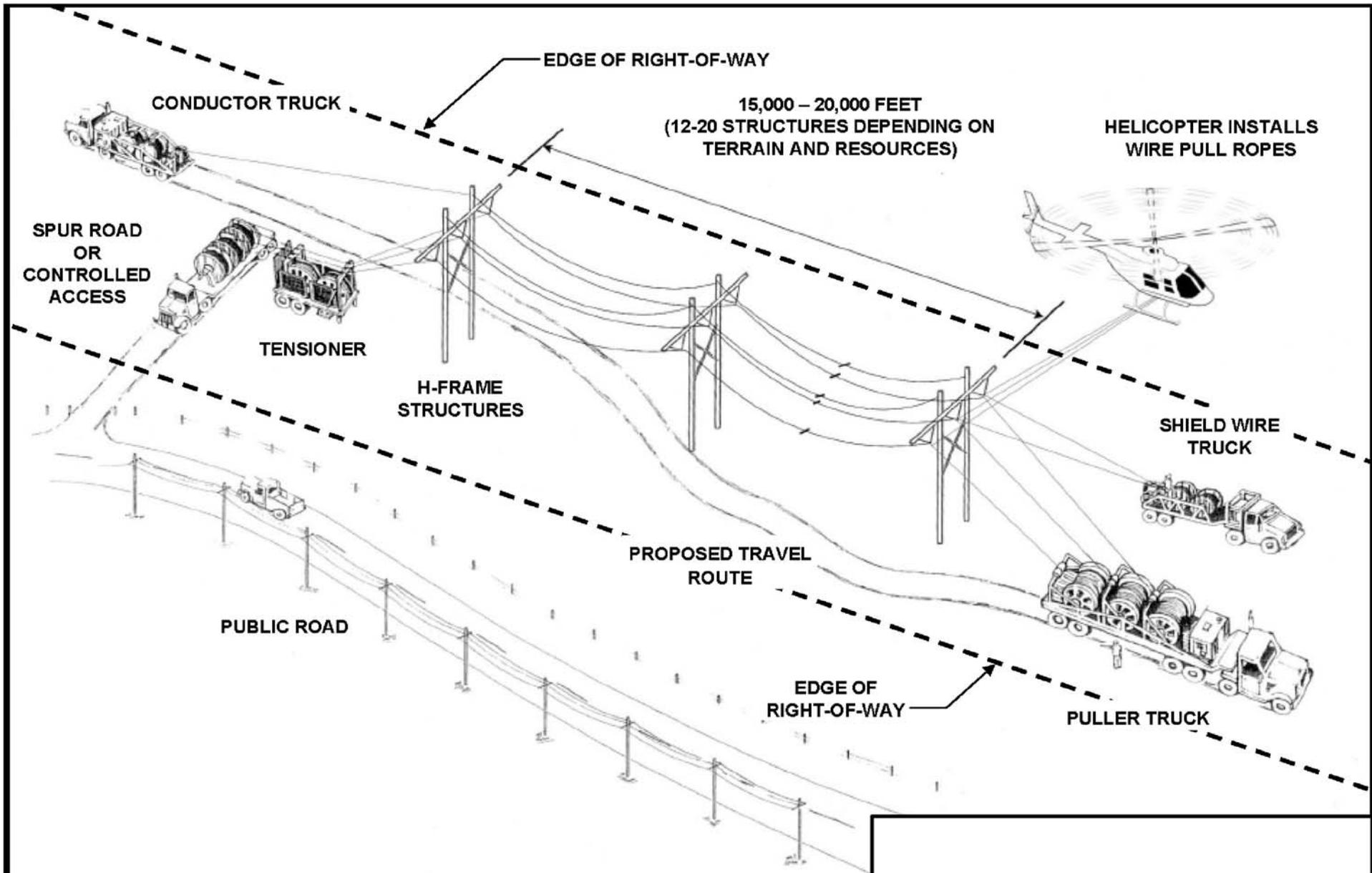


FIGURE 2.2-3
 BASIC WIRE HANDLING EQUIPMENT
 ON LINE PROJECT

Source: Sierra Pacific Power Co., *Alturas Transmission Line Draft EIR/IS*, June 1997.

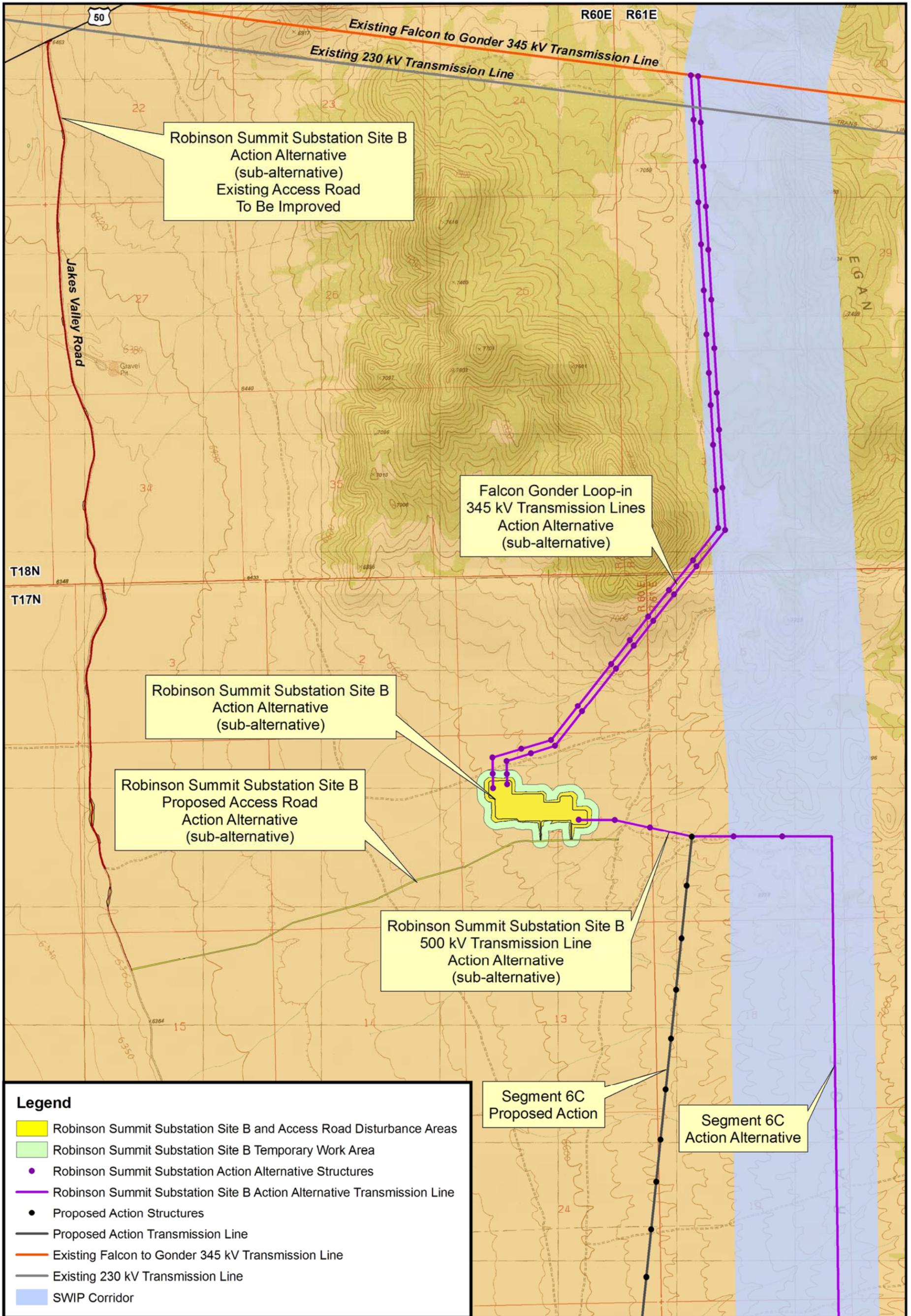
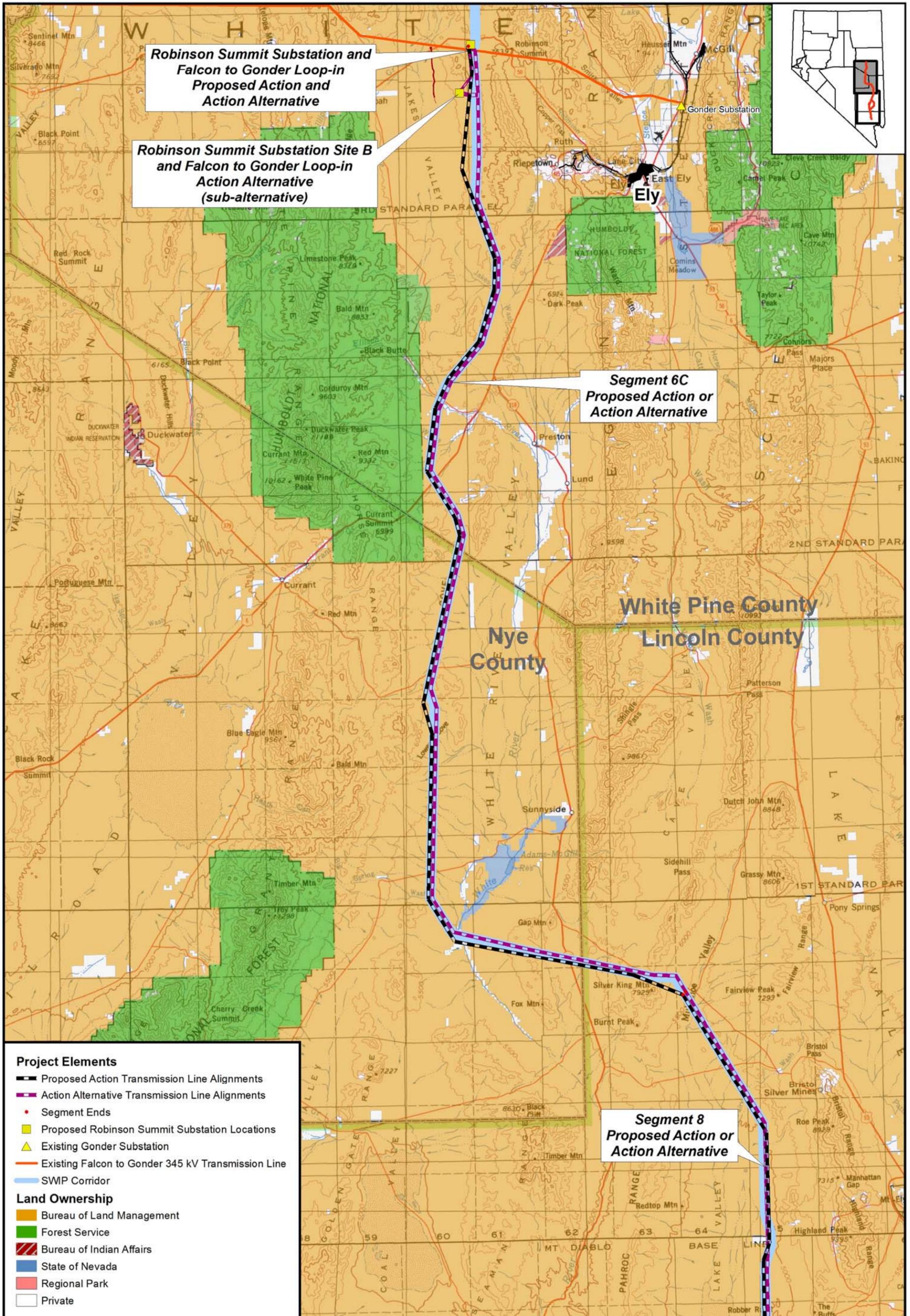
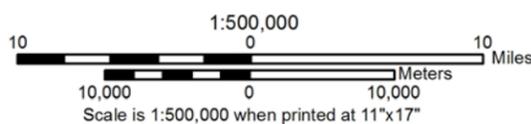


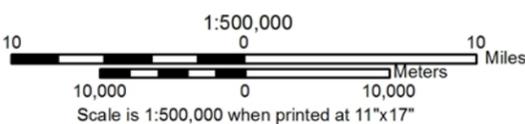
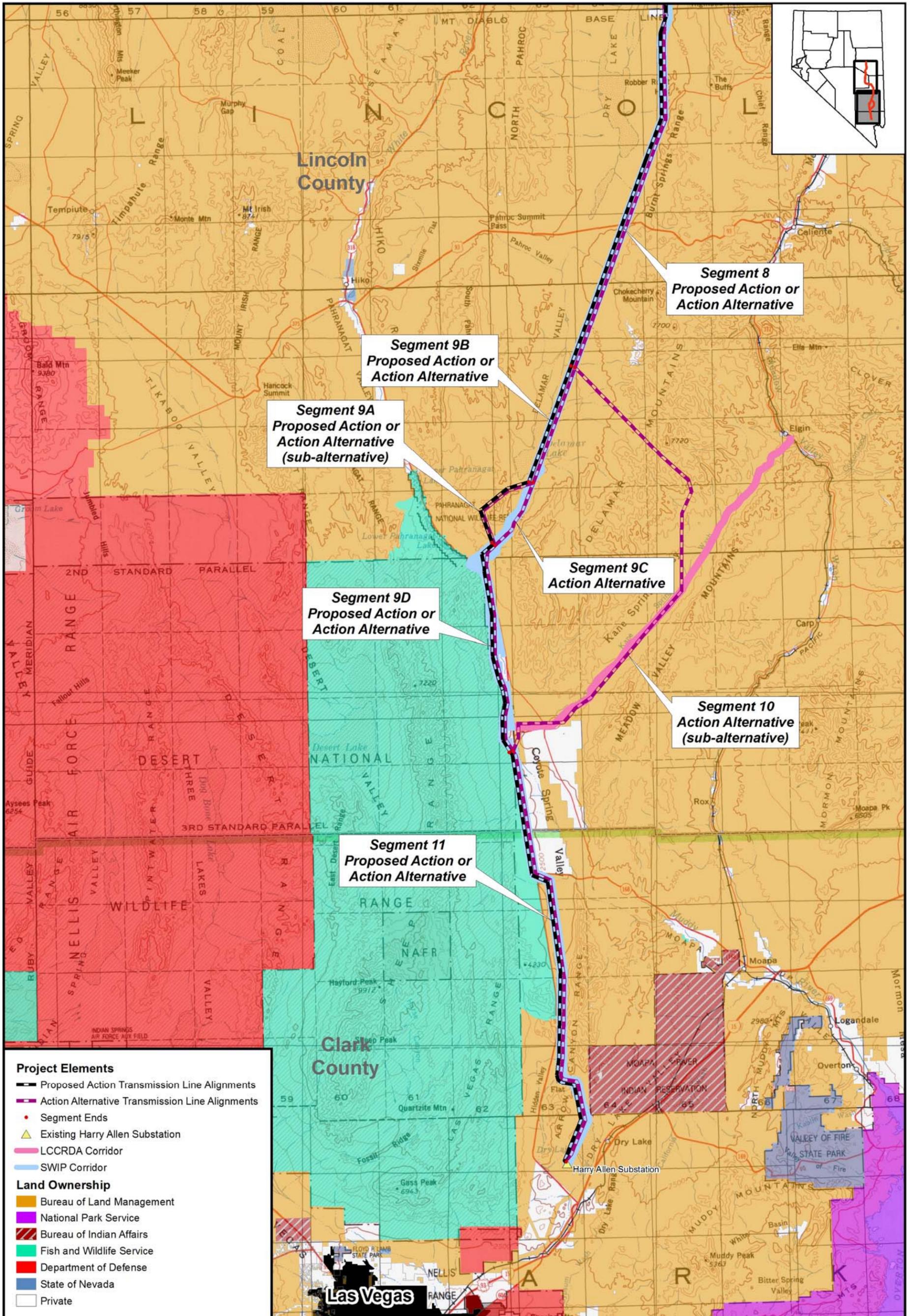
FIGURE 2.3-1
ROBINSON SUMMIT SUBSTATION SITE B
ACTION ALTERNATIVE (SUB-ALTERNATIVE)
ON LINE PROJECT



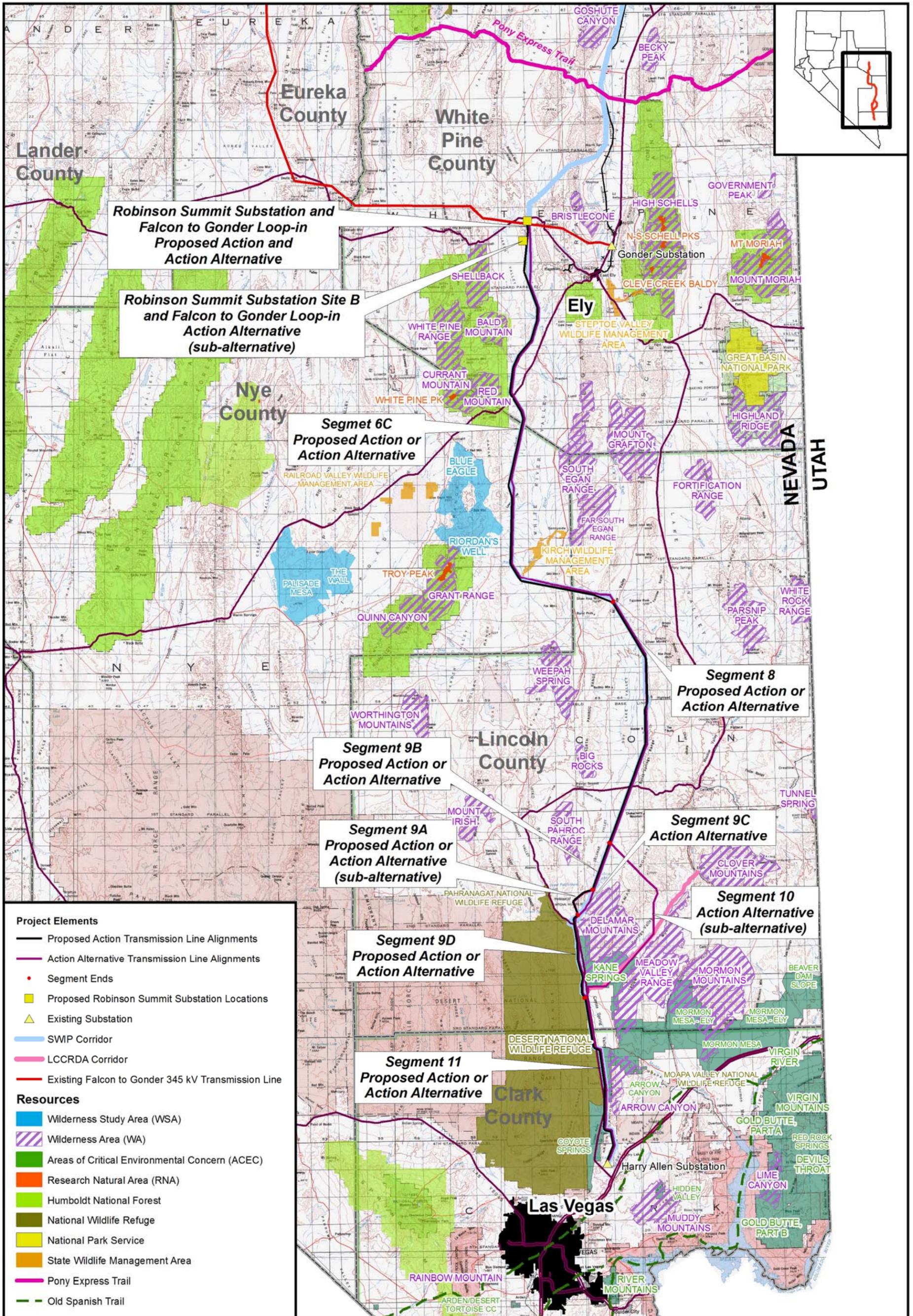
Source - Land Status: Bureau of Land Management
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).



**FIGURE 3.12-1a
 LAND OWNERSHIP
 ON LINE PROJECT**



**FIGURE 3.12-1b
LAND OWNERSHIP
ON LINE PROJECT**



Source - ACEC, WA, WSA: Bureau of Land Management
 WA AND RNA: U.S. Forest Service
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

Old Spanish Trail from National Park Service, National Trails Intermountain Region

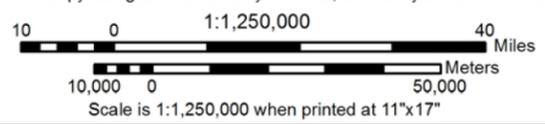
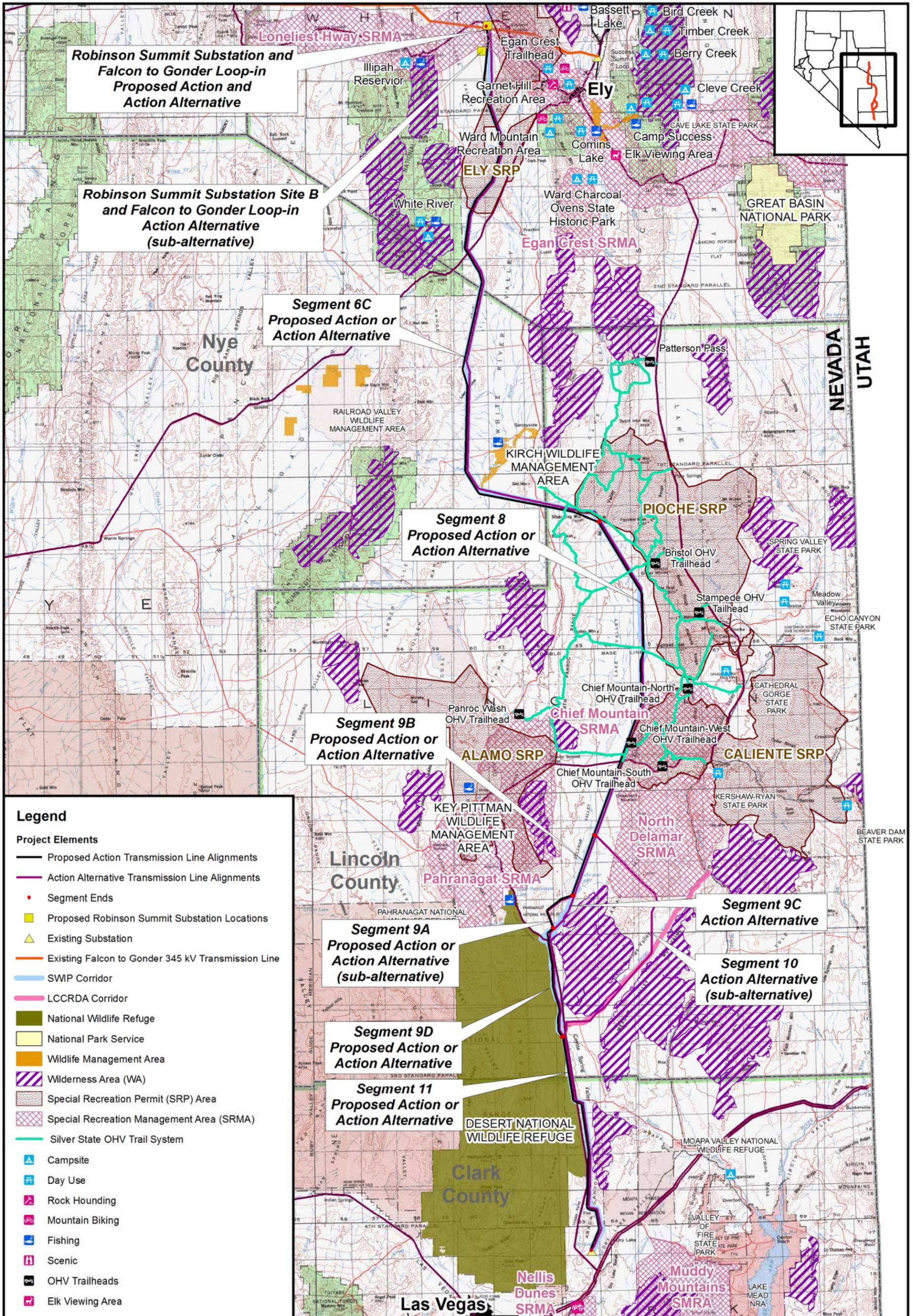


FIGURE 3.13-1
ACEC, WA, WSA, AND RNA MAP
ON LINE PROJECT



Robinson Summit Substation and Falcon to Gonder Loop-in Proposed Action and Action Alternative

Robinson Summit Substation Site B and Falcon to Gonder Loop-in Action Alternative (sub-alternative)

Segment 6C Proposed Action or Action Alternative

Segment 8 Proposed Action or Action Alternative

Segment 9B Proposed Action or Action Alternative

Segment 9A Proposed Action or Action Alternative (sub-alternative)

Segment 9C Action Alternative

Segment 10 Action Alternative (sub-alternative)

Segment 9D Proposed Action or Action Alternative

Segment 11 Proposed Action or Action Alternative

Legend

Project Elements

- Proposed Action Transmission Line Alignments
- Action Alternative Transmission Line Alignments
- Segment Ends
- Proposed Robinson Summit Substation Locations
- ▲ Existing Substation
- Existing Falcon to Gonder 345 kV Transmission Line
- SWIP Corridor
- LCCRDA Corridor
- National Wildlife Refuge
- National Park Service
- Wildlife Management Area
- ▨ Wilderness Area (WA)
- ▨ Special Recreation Permit (SRP) Area
- ▨ Special Recreation Management Area (SRMA)
- Silver State OHV Trail System
- ▲ Campsite
- ▲ Day Use
- ▲ Rock Hounding
- ▲ Mountain Biking
- ▲ Fishing
- ▲ Scenic
- ▲ OHV Trailheads
- ▲ Elk Viewing Area

Source - ACEC, WA, WSA, SRP: Bureau of Land Management
 WA AND RMA: U.S. Forest Service
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

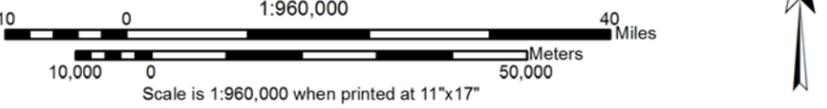
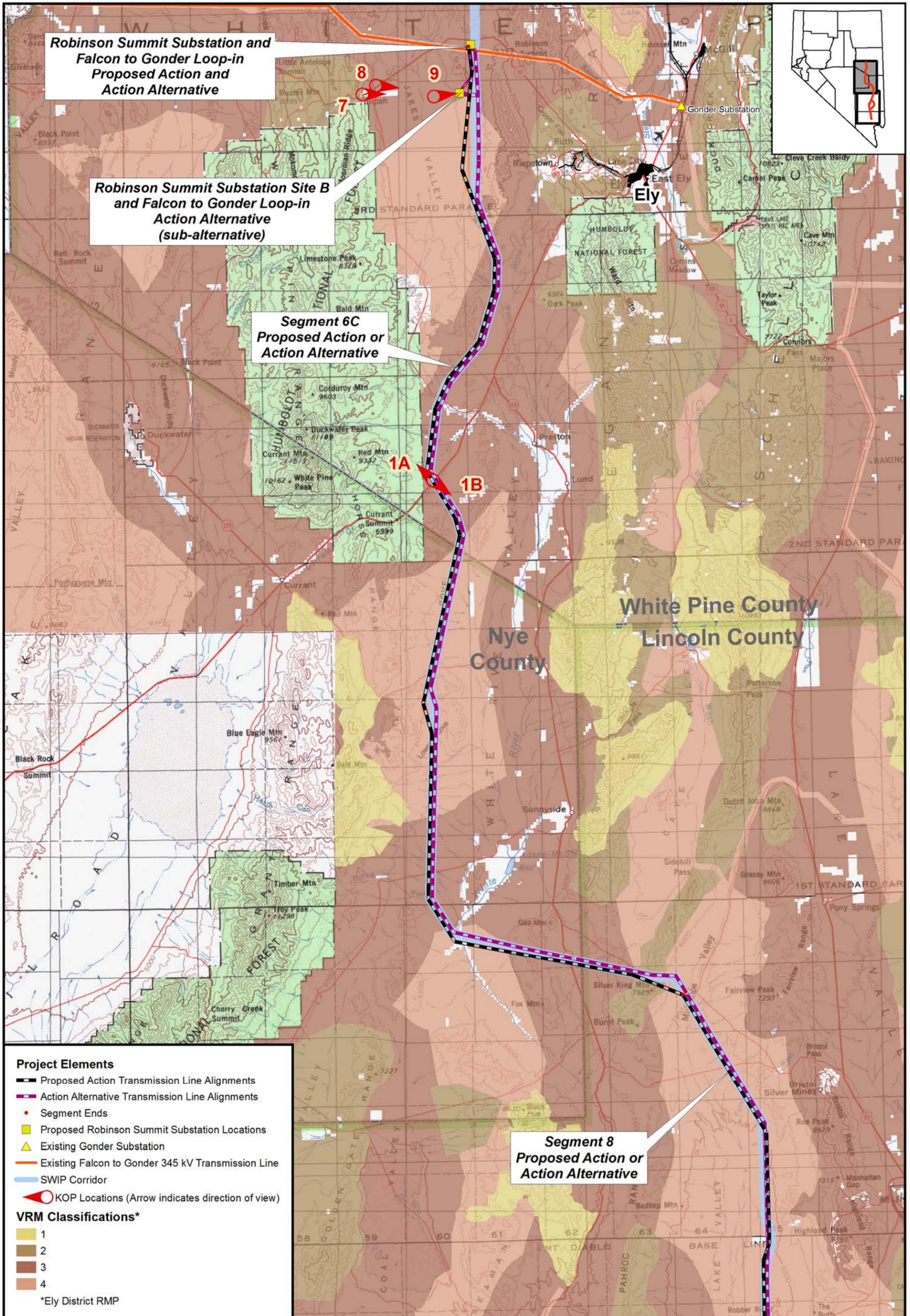


FIGURE 3.14-1 EXISTING RECREATION AREAS AND SITES ON LINE PROJECT



Source - Land Status: Bureau of Land Management
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

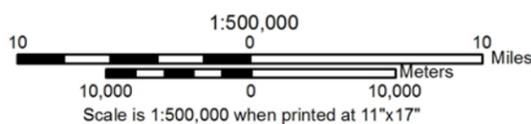


FIGURE 3.15-1a
KOPS AND VRM CLASSES
ON LINE PROJECT

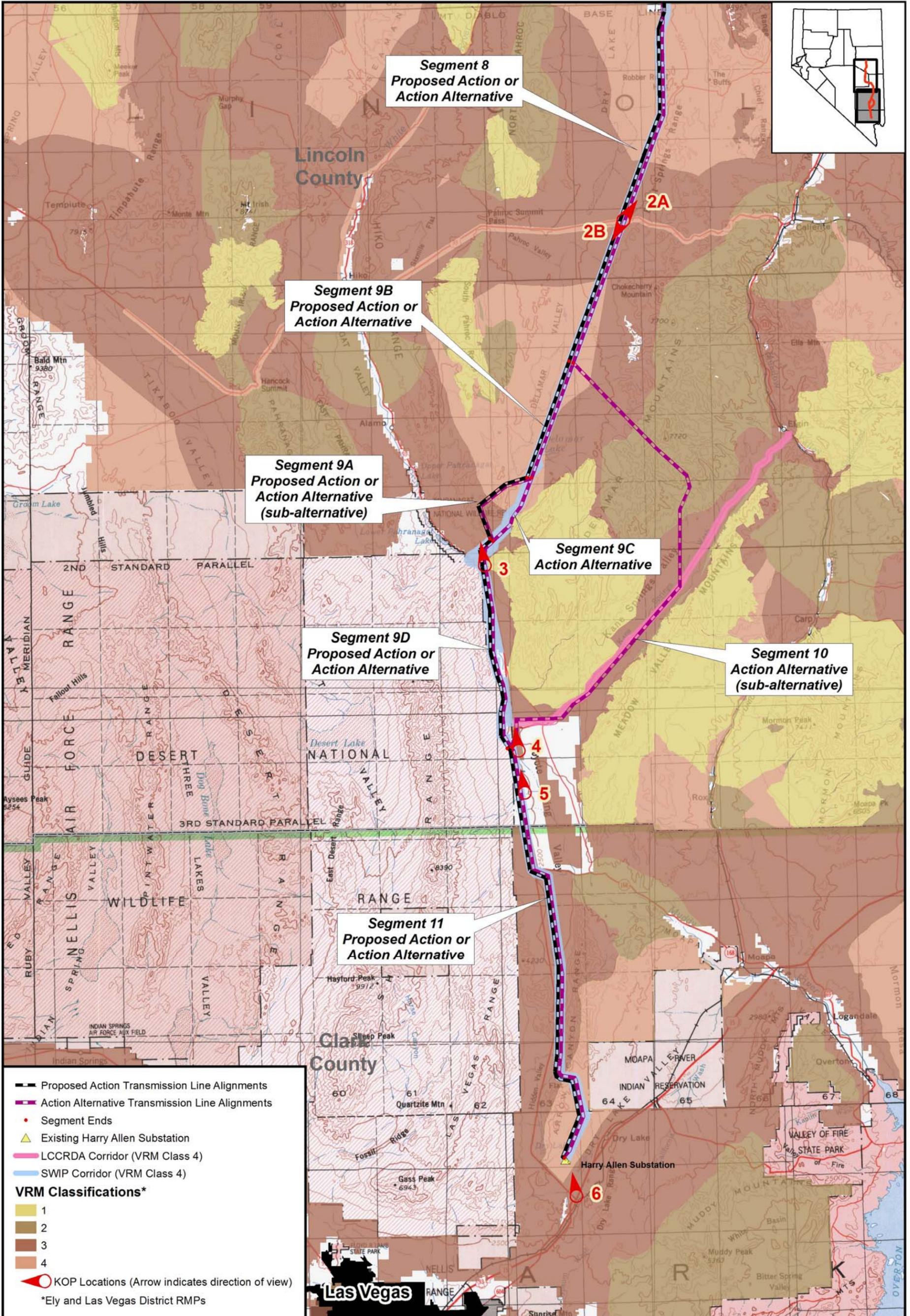
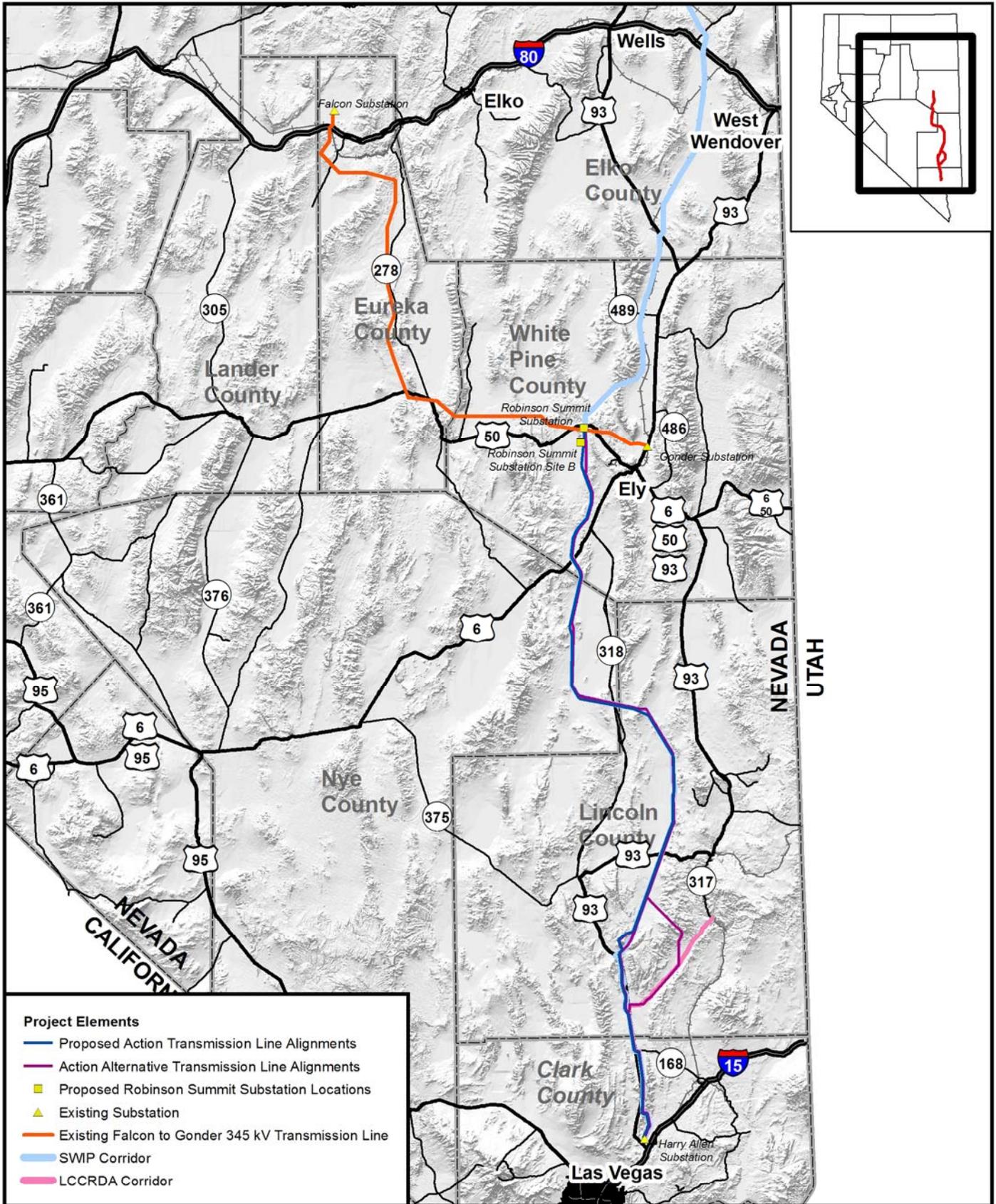


FIGURE 3.15-1b
KOPS AND VRM CLASSES
ON LINE PROJECT



Project Elements

- Proposed Action Transmission Line Alignments
- Action Alternative Transmission Line Alignments
- Proposed Robinson Summit Substation Locations
- ▲ Existing Substation
- Existing Falcon to Gonder 345 kV Transmission Line
- SWIP Corridor
- LCCRDA Corridor

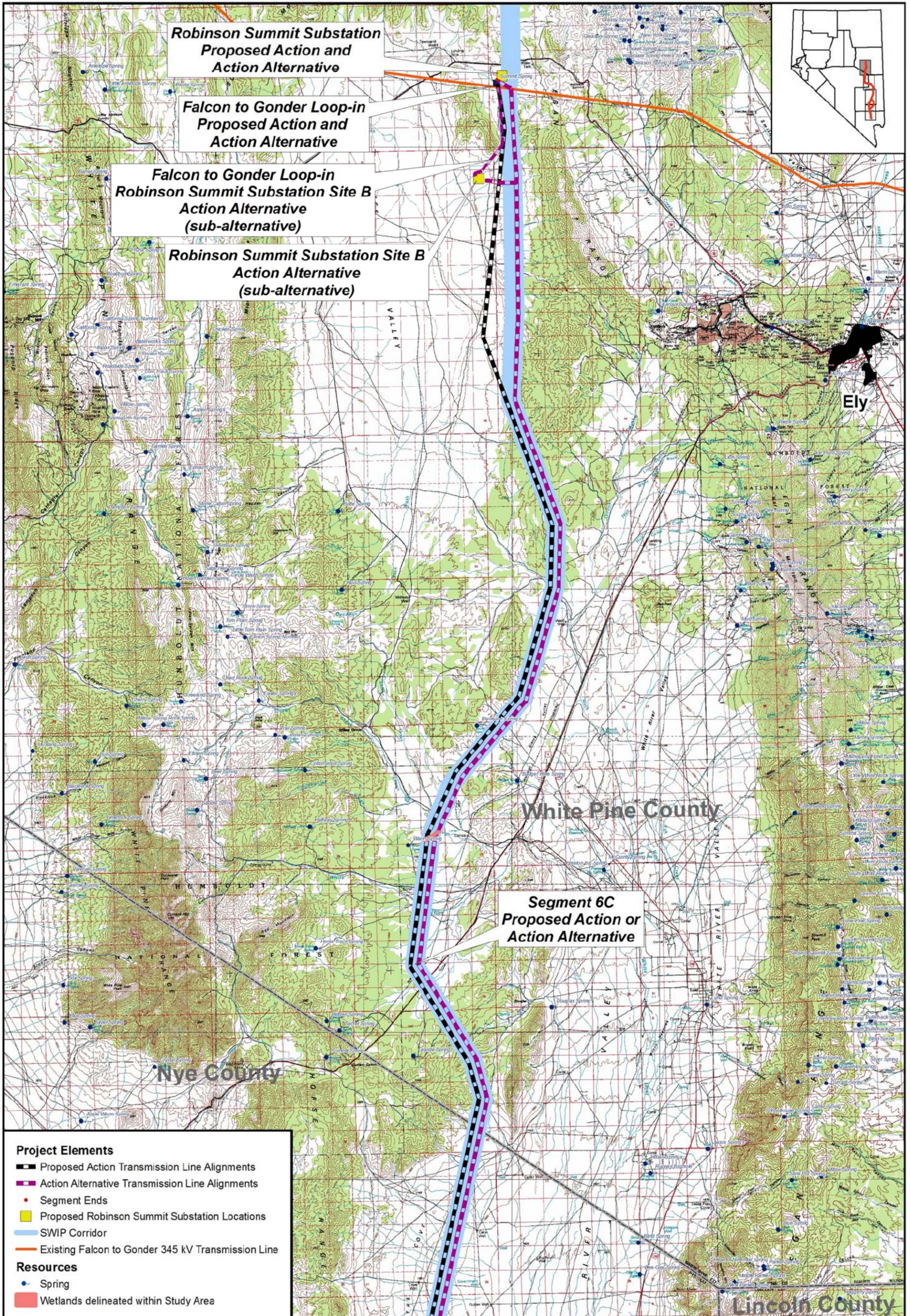
Source - Highways: ESRI
Base Map: University of Nevada, Reno and ESRI

10 0 1:2,500,000 50 Miles
10,000 70,000 Meters

Scale is 1:2,500,000 when printed at 8.5" x 11"



**FIGURE 3.20-1
TRANSPORTATION MAP
ON LINE PROJECT**



Source - Gnis Springs: USGS and BLM
 Base Map: USGS 1:100,000 scale topographic maps, Duckwater, Ely, Garrison, and Mount Hamilton, Nevada

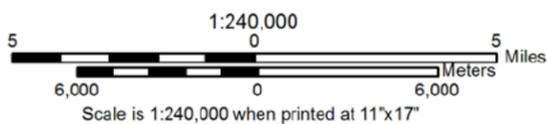
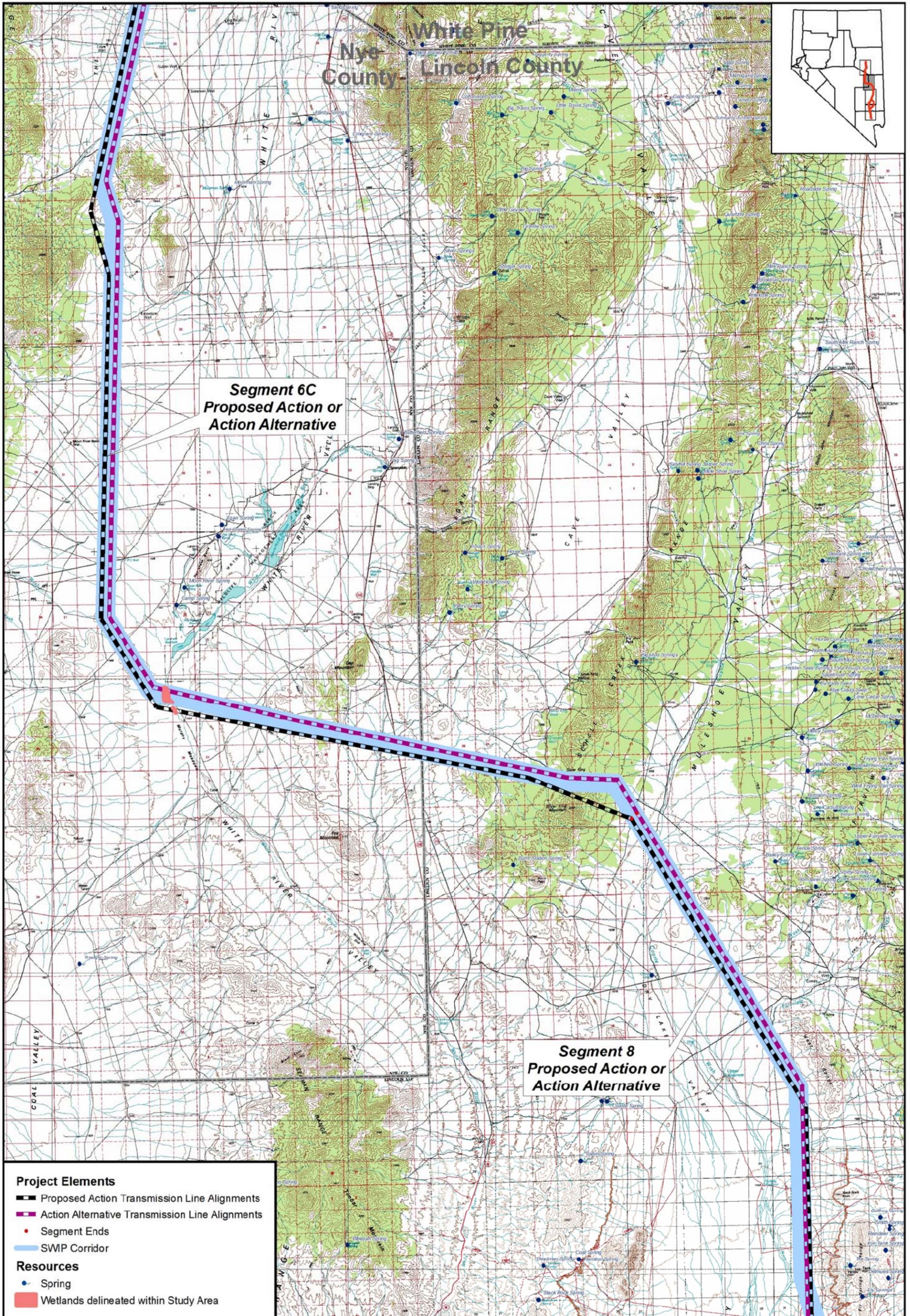
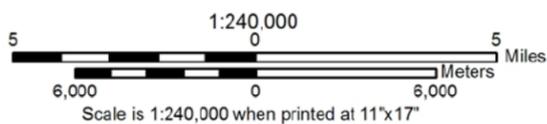


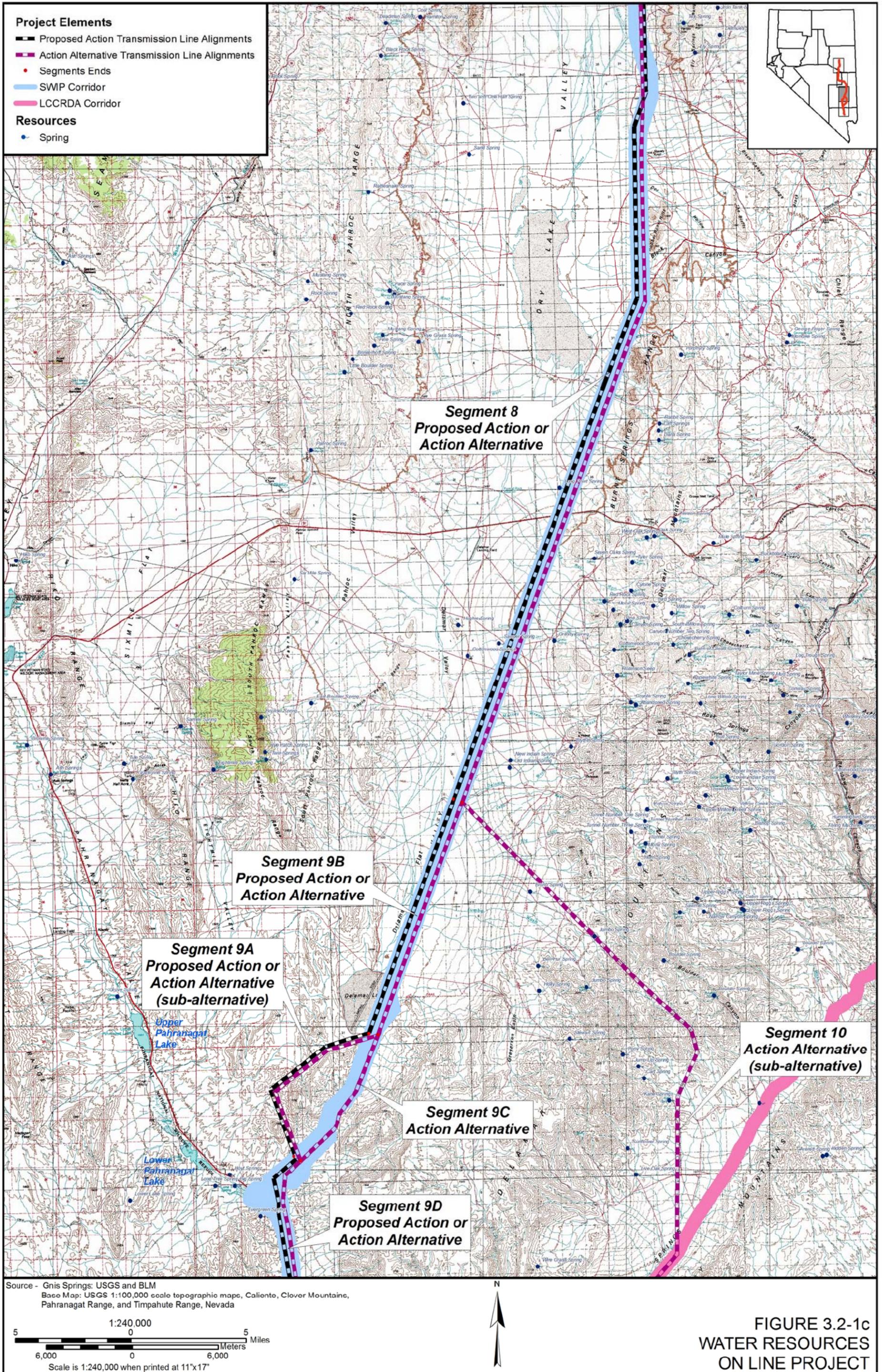
FIGURE 3.2-1a
WATER RESOURCES
ON LINE PROJECT

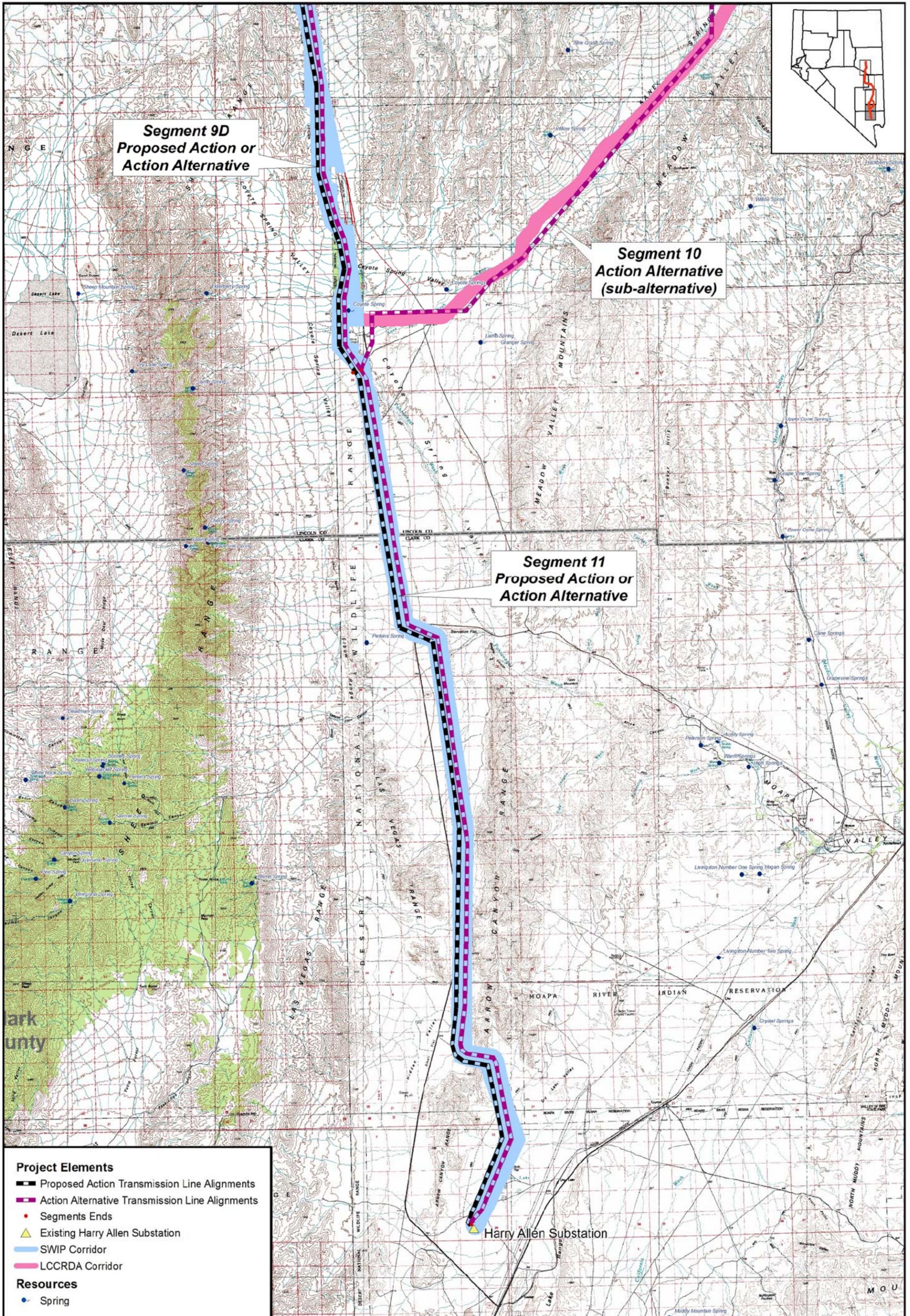


Source - Gnis Springs: USGS and BLM
 Base Map: USGS 1:100,000 scale topographic maps, Caliente, Duckwater, Garrison, Indian Springs, Pahrangat Range, Quinn Canyon Range, Timpahute Range, Wilson Creek



**FIGURE 3.2-1b
 WATER RESOURCES
 ON LINE PROJECT**





- Project Elements**
- Proposed Action Transmission Line Alignments
 - Action Alternative Transmission Line Alignments
 - Segments Ends
 - ▲ Existing Harry Allen Substation
 - SWIP Corridor
 - LCCRDA Corridor
- Resources**
- Spring

Source - Gnis Springs: USGS and BLM
 Base Map: USGS 1:100,000 scale topographic maps, Clover Mountains, Indian Springs, Lake Mead, Las Vegas, Overton and Pahrangat, Nevada

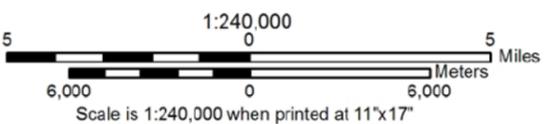
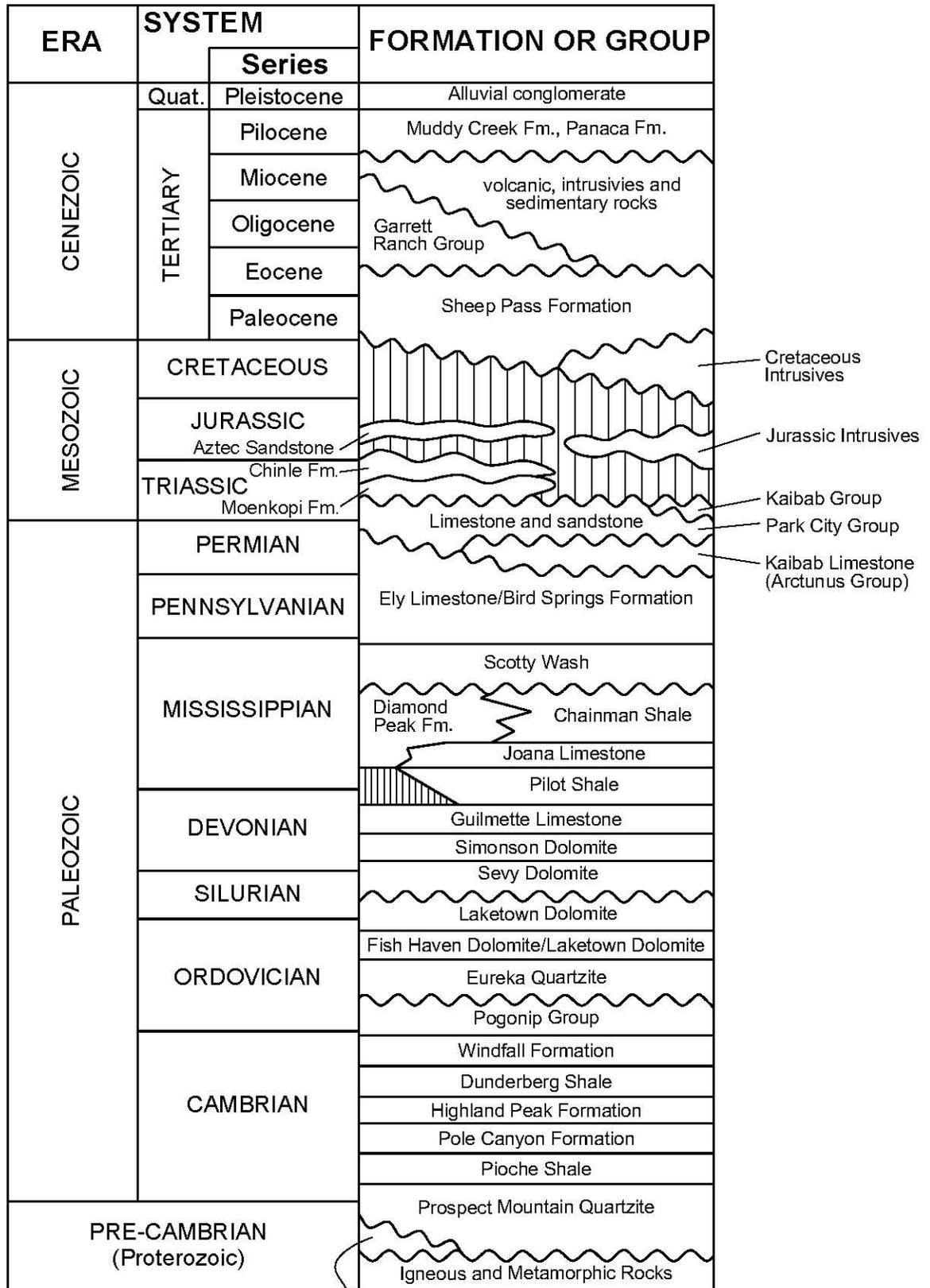


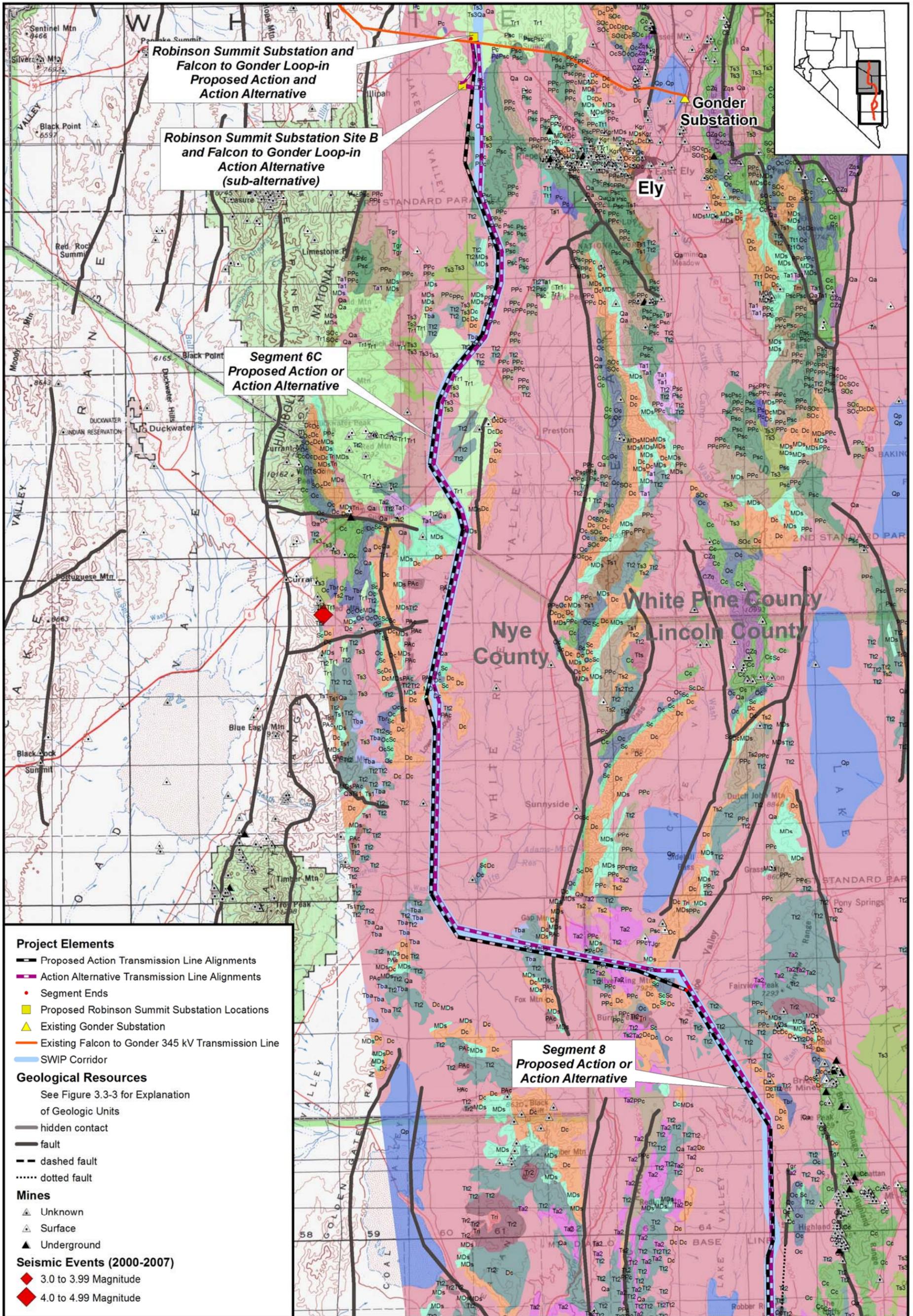
FIGURE 3.2-1d
WATER RESOURCES
ON LINE PROJECT



Johnnie Mountain Fm.

FIGURE 3.3-1
STRATIGRAPHIC COLUMN
ON LINE PROJECT

Source: Modified from Peterson and Grow (1995).



Robinson Summit Substation and Falcon to Gonder Loop-in Proposed Action and Action Alternative

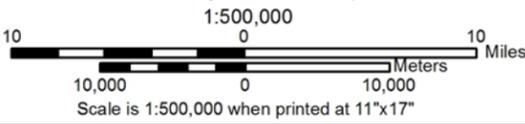
Robinson Summit Substation Site B and Falcon to Gonder Loop-in Action Alternative (sub-alternative)

Segment 6C Proposed Action or Action Alternative

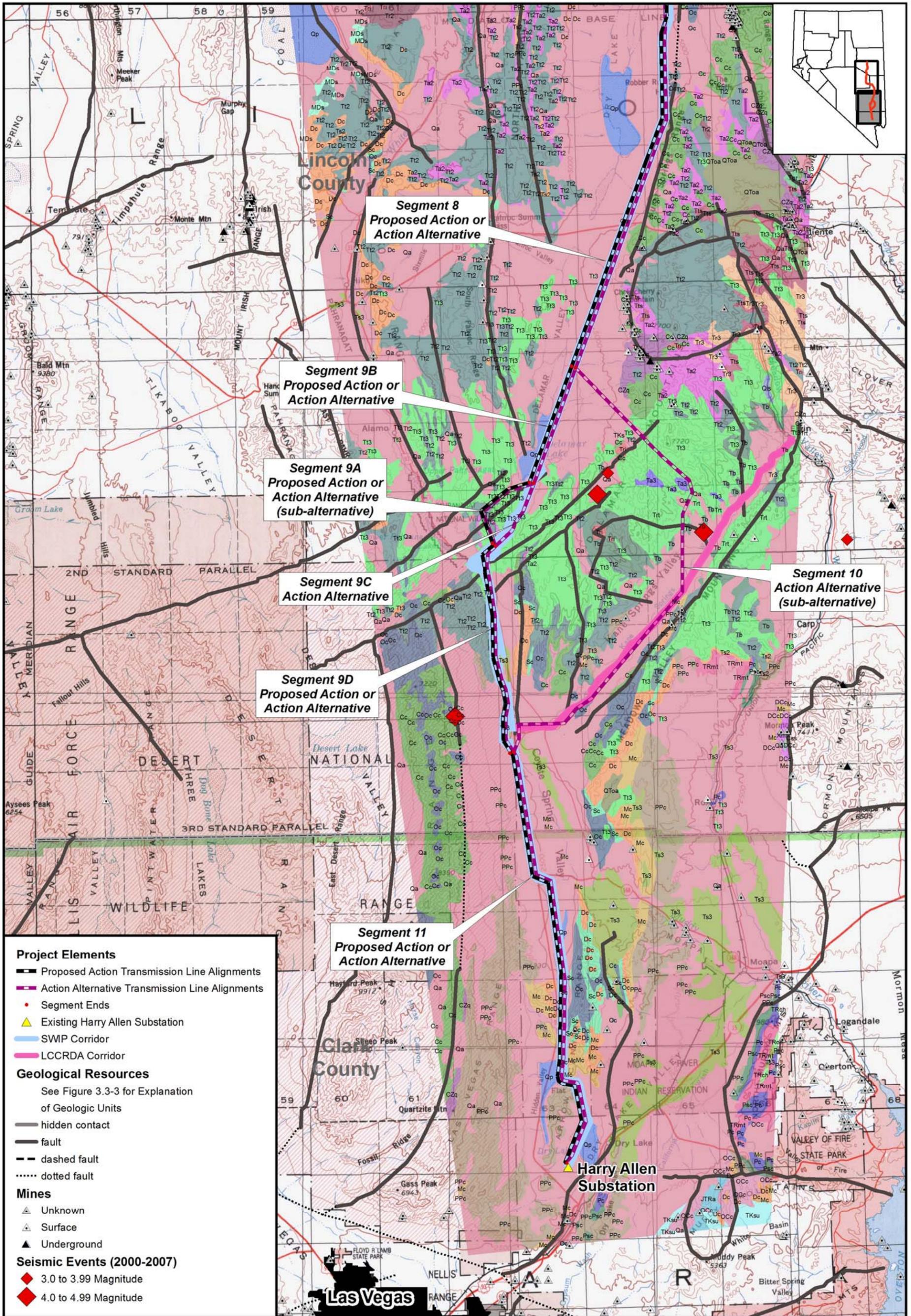
Segment 8 Proposed Action or Action Alternative

- Project Elements**
- Proposed Action Transmission Line Alignments
 - Action Alternative Transmission Line Alignments
 - Segment Ends
 - Proposed Robinson Summit Substation Locations
 - ▲ Existing Gonder Substation
 - Existing Falcon to Gonder 345 kV Transmission Line
 - SWIP Corridor
- Geological Resources**
- See Figure 3.3-3 for Explanation of Geologic Units
- hidden contact
 - fault
 - - - dashed fault
 - dotted fault
- Mines**
- ▲ Unknown
 - ▲ Surface
 - ▲ Underground
- Seismic Events (2000-2007)**
- ◆ 3.0 to 3.99 Magnitude
 - ◆ 4.0 to 4.99 Magnitude

Source - Mines: USGS Mineral Resources Online Data (through 2003)
 Seismic: UNR Seismology Lab, University of Nevada, Reno (date range: 1/1/00 through 4/13/07)
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno)



**FIGURE 3.3-2a
 GEOLOGICAL RESOURCES
 ON LINE PROJECT**



Source - Mines: USGS Mineral Resources Online Data (through 2003)
 Seismic: UNR Seismology Lab, University of Nevada, Reno (date range: 1/1/00 through 4/13/07)
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno)

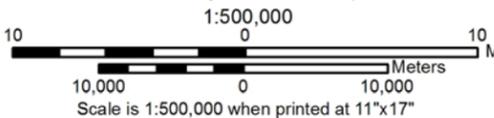
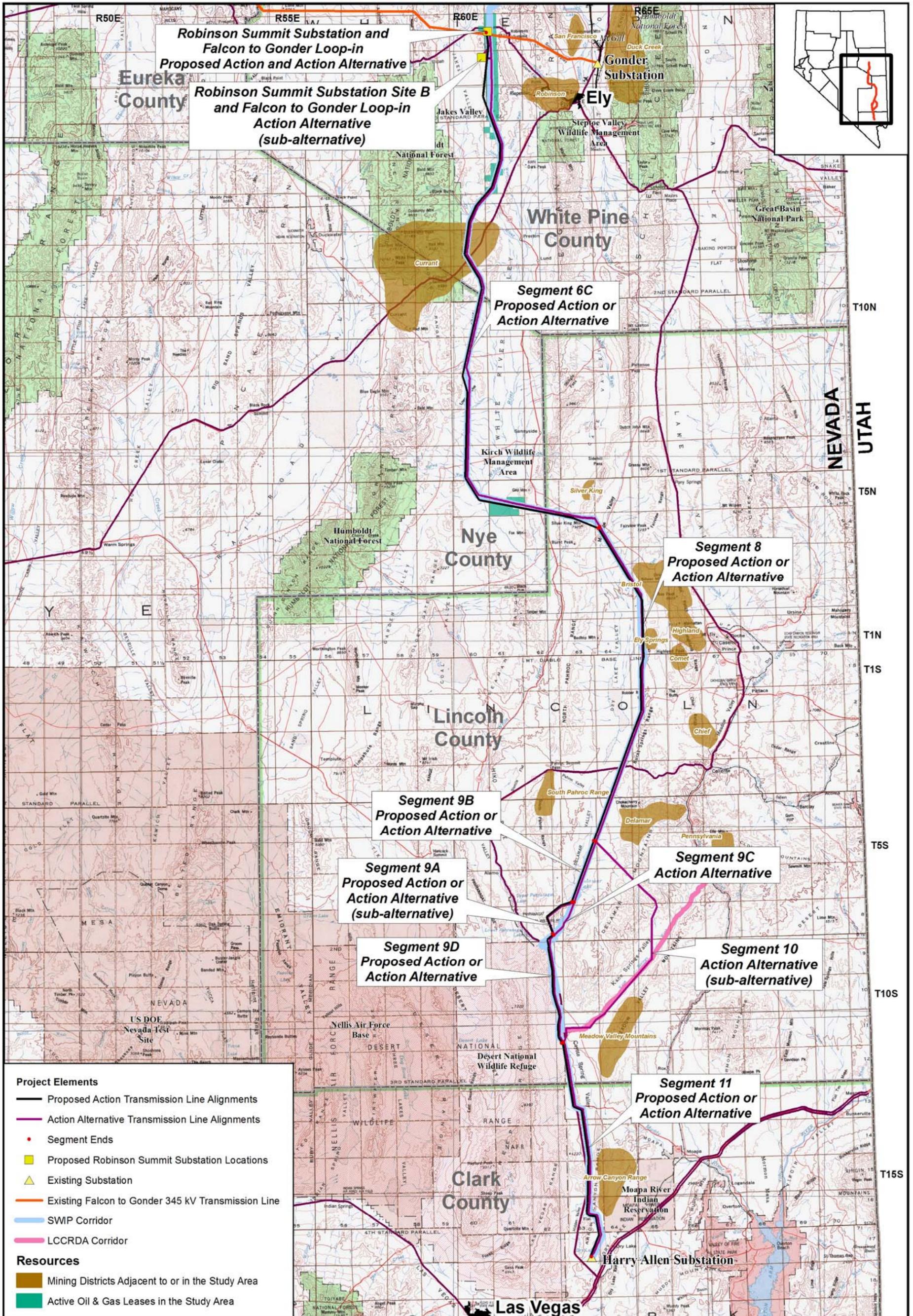


FIGURE 3.3-2b
GEOLOGICAL RESOURCES
ON LINE PROJECT

EXPLANATION OF GEOLOGIC MAP UNITS

CENEZOIC	QUATERNARY	<p>Qa, ALLUVIAL DEPOSITS</p> <p>Qp, PLAYA, MARSH, AND ALLUVIAL-FLAT DEPOSITS, LOCALLY ERODED</p> <p>Ta1, ANDESITE AND RELATED ROCKS OF INTERMEDIATE COMPOSITION</p> <p>Ta2, ANDESITE AND RELATED ROCKS OF INTERMEDIATE COMPOSITION</p> <p>Ta3, ANDESITE AND RELATED ROCKS OF INTERMEDIATE COMPOSITION</p> <p>Tb, BASALT FLOWS</p> <p>Tba, ANDESITE AND BASALT FLOWS</p> <p>Tbr, BRECCIA</p> <p>Tgr, GRANITIC ROCKS</p> <p>Tmi, INTRUSIVE ROCKS OF MAFIC AND INTERMEDIATE COMPOSITION</p> <p>Tr1, RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS</p> <p>Tr2, RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS</p> <p>Tr3, RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS</p> <p>Tri, RHYOLITIC INTRUSIVE ROCKS</p> <p>Trt, ASH-FLOW TUFFS, RHYOLITIC FLOWS, AND SHALLOW INTRUSIVE ROCKS</p> <p>Ts1, SEDIMENTARY ROCKS</p> <p>Ts2, TUFFACEOUS SEDIMENTARY ROCKS</p> <p>Ts3, TUFFACEOUS SEDIMENTARY ROCKS</p> <p>Tt1, WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS</p> <p>Tt2, WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS</p> <p>Tt3, WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS</p> <p>Tts, ASH-FLOW TUFFS AND TUFFACEOUS SEDIMENTARY ROCKS</p> <p>TKs, CONTINENTAL SEDIMENTARY ROCKS</p> <p>TKsu, CONTINENTAL SEDIMENTARY ROCKS</p>
	TERTIARY	
MESOZOIC	CRETACEOUS	<p>Kgr, GRANITIC ROCKS</p>
	JURASSIC	<p>Jgr, SILVER CREEK</p> <p>JTRa, AZTEC SANDSTONE</p>
	TRIASSIC	<p>TRch, CHINLE FORMATION</p> <p>TRmt, MOENKOPI FORMATION AND THAYNES FORMATION</p>
PALEOZOIC	PERMIAN	<p>Psc, ARCTURUS (NORTH) / COCONINO (SOUTH)</p> <p>Pc, REIPE SPRINGS LINEDSTONE / RIBHILL SANDSTONE</p>
	PENNSYLVANIAN	<p>PPc, ELY Limestone (NORTH) / BIRD SPRINGS FORMATION (SOUTH)</p>
	MISSISSIPPIAN	<p>Mc, PILOT SHALE / JOANA Limestone / CHAINMAN SHALE (NORTH) / MONTICRISTO Limestone (SOUTH)</p> <p>MDs, UNDIFFERENTIATED MISS / DEV SHALE, SILTSTONE, SANDSTONE, CONGLOMERATE</p>
	DEVONIAN	<p>Dc, GUILMETTE FORMATION</p> <p>DCc, UNDIFFERENTIATED DEVONIAN / CAMBRIAN DOLOMITE AND Limestone</p>
	SILURIAN	<p>Sc, LAKETOWN DOLOMITE</p> <p>SOc, FISH HAVEN (NORTH) / LAKETOWN DOLOMITE (SOUTH)</p>
	ORDOVICIAN	<p>Oc, KANOSH SHALE / LEHMAN FORMATION / EUREKA QUARTZITE</p> <p>OCc, UNDIFFERENTIATED ORD / CAMBRIAN DOLOMITE AND Limestone</p>
	CAMBRIAN	<p>Cc, PIOCHE SHALE AND ELDORADO Limestone</p> <p>Css, PROSPECT QUARTZITE</p>
		<p>CZq, QUARTZITE AND MINOR AMOUNTS OF CONGLOMERATE, PHYLLITIC SILTSTONE, Limestone, AND DOLOMITE</p> <p>Zqs, QUARTZITE, PHYLLITIC SILTSTONE, CONGLOMERATE, Limestone, AND DOLOMITE</p>
PRECAMBRIAN		

FIGURE 3.3-3
EXPLANATION OF GEOLOGIC MAP UNITS
ON LINE PROJECT



Robinson Summit Substation and Falcon to Gonder Loop-in Proposed Action and Action Alternative

Robinson Summit Substation Site B and Falcon to Gonder Loop-in Action Alternative (sub-alternative)

Segment 6C Proposed Action or Action Alternative

Segment 8 Proposed Action or Action Alternative

Segment 9B Proposed Action or Action Alternative

Segment 9A Proposed Action or Action Alternative (sub-alternative)

Segment 9D Proposed Action or Action Alternative

Segment 9C Action Alternative

Segment 10 Action Alternative (sub-alternative)

Segment 11 Proposed Action or Action Alternative

- Project Elements**
- Proposed Action Transmission Line Alignments
 - Action Alternative Transmission Line Alignments
 - Segment Ends
 - Proposed Robinson Summit Substation Locations
 - ▲ Existing Substation
 - Existing Falcon to Gonder 345 kV Transmission Line
 - SWMP Corridor
 - LCCRDA Corridor
- Resources**
- Mining Districts Adjacent to or in the Study Area
 - Active Oil & Gas Leases in the Study Area

Source - Land Ownership: Bureau of Land Management
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno.)

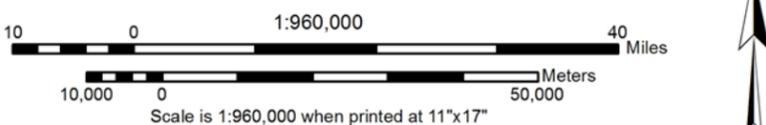


FIGURE 3.3-4 MINING DISTRICTS AND LEASES ON LINE PROJECT

Rate of Long-Term Trend Temperature Change (top; °F per decade) & Precipitation Change (bottom; inches per decade) – FULL YEAR

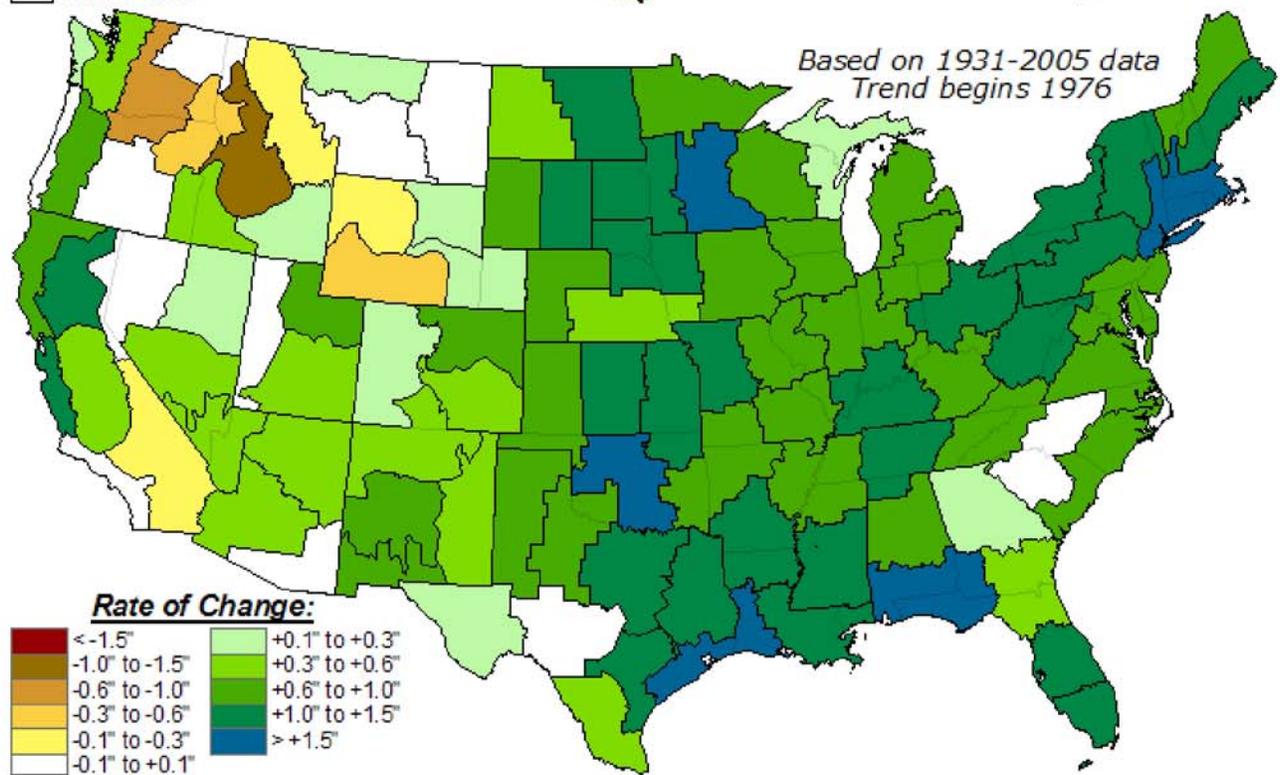
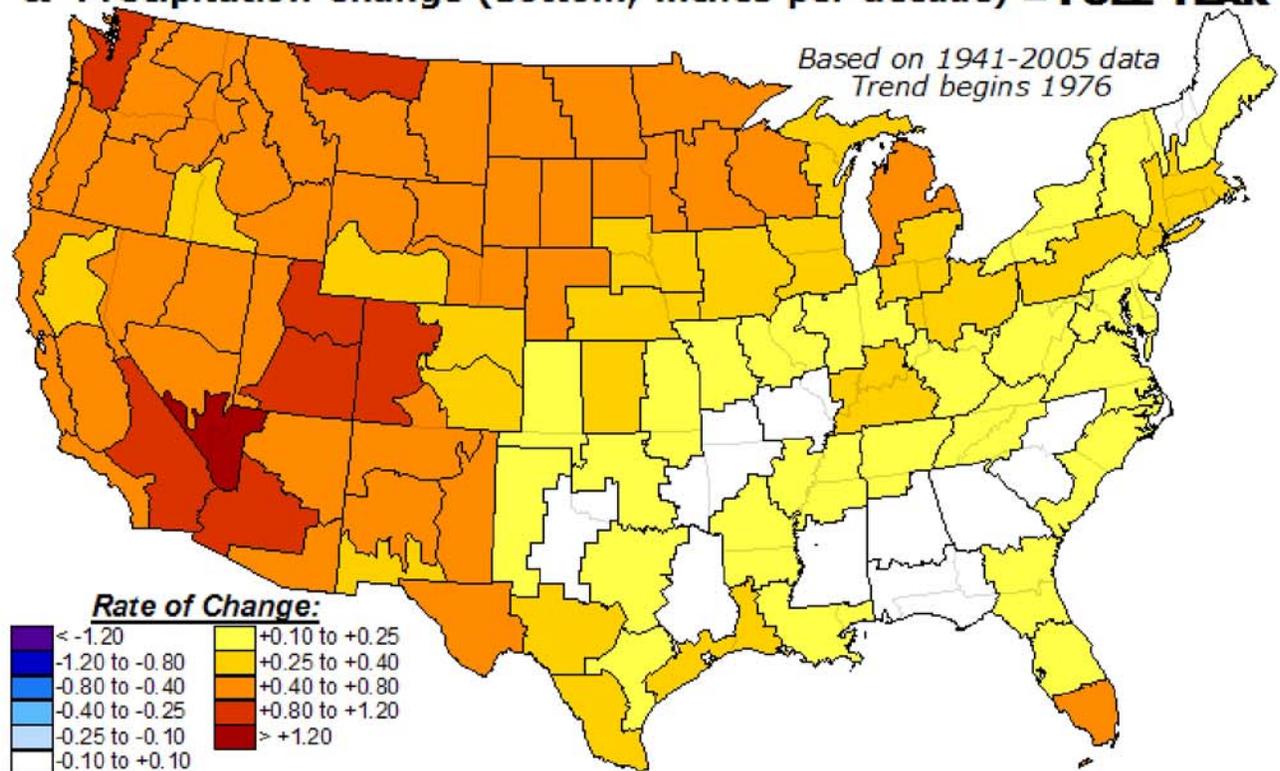
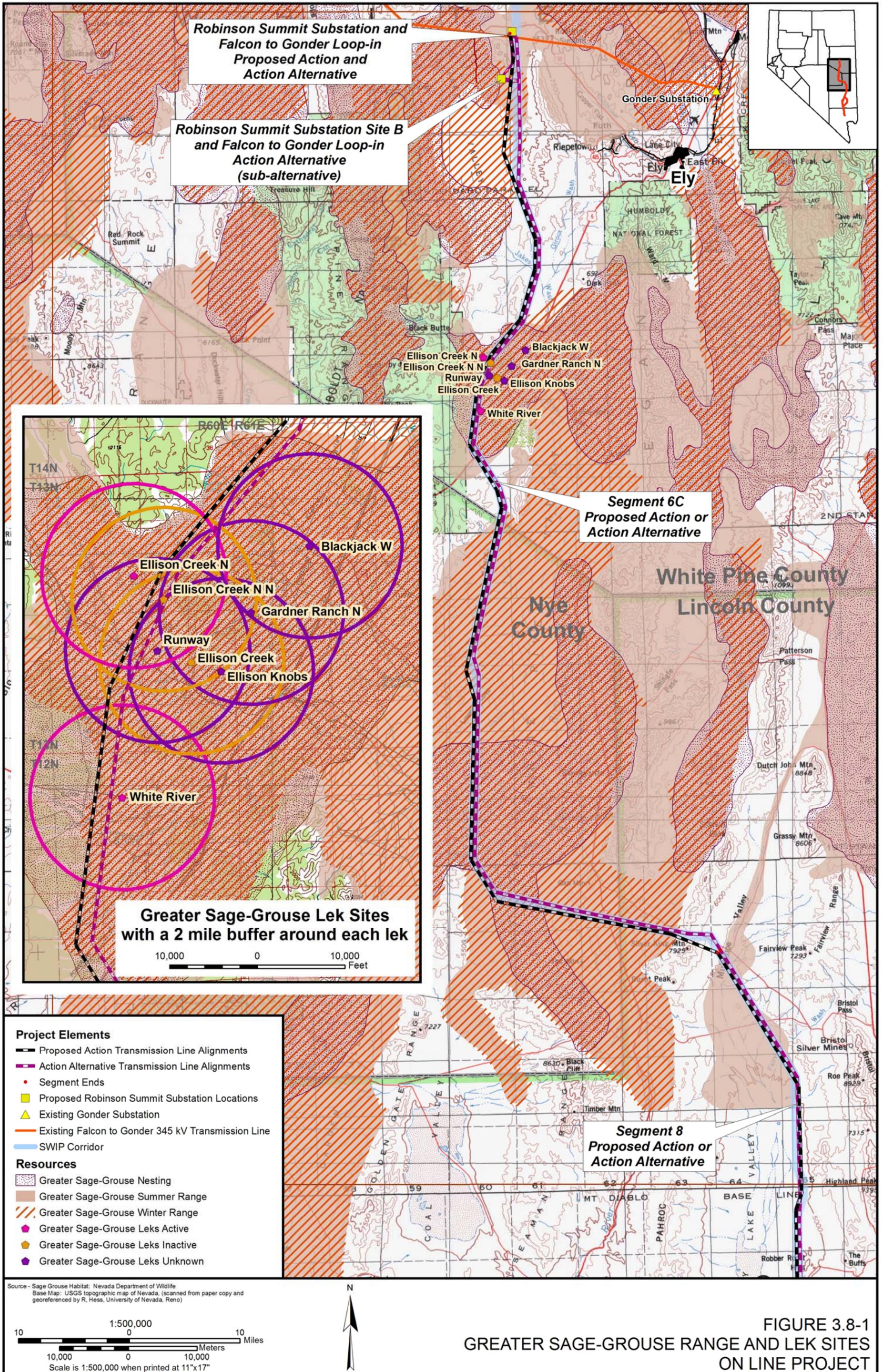


FIGURE 3.6-1
NATIONAL WEATHER SERVICE
LONG-TERM TEMPERATURE TREND DATA
ON LINE PROJECT



Robinson Summit Substation and Falcon to Gonder Loop-in Proposed Action and Action Alternative

Robinson Summit Substation Site B and Falcon to Gonder Loop-in Action Alternative (sub-alternative)

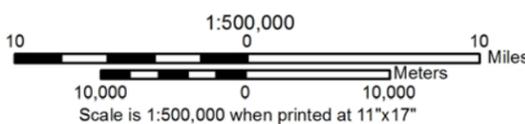
Segment 6C Proposed Action or Action Alternative

Segment 8 Proposed Action or Action Alternative

Greater Sage-Grouse Lek Sites with a 2 mile buffer around each lek

- Project Elements**
- Proposed Action Transmission Line Alignments
 - Action Alternative Transmission Line Alignments
 - Segment Ends
 - Proposed Robinson Summit Substation Locations
 - ▲ Existing Gonder Substation
 - Existing Falcon to Gonder 345 kV Transmission Line
 - SWIP Corridor
- Resources**
- Greater Sage-Grouse Nesting
 - Greater Sage-Grouse Summer Range
 - Greater Sage-Grouse Winter Range
 - ◆ Greater Sage-Grouse Leks Active
 - ◆ Greater Sage-Grouse Leks Inactive
 - ◆ Greater Sage-Grouse Leks Unknown

Source - Sage Grouse Habitat: Nevada Department of Wildlife
 Base Map: USGS topographic map of Nevada, (scanned from paper copy and georeferenced by R. Hess, University of Nevada, Reno)



**FIGURE 3.8-1
 GREATER SAGE-GROUSE RANGE AND LEK SITES
 ON LINE PROJECT**

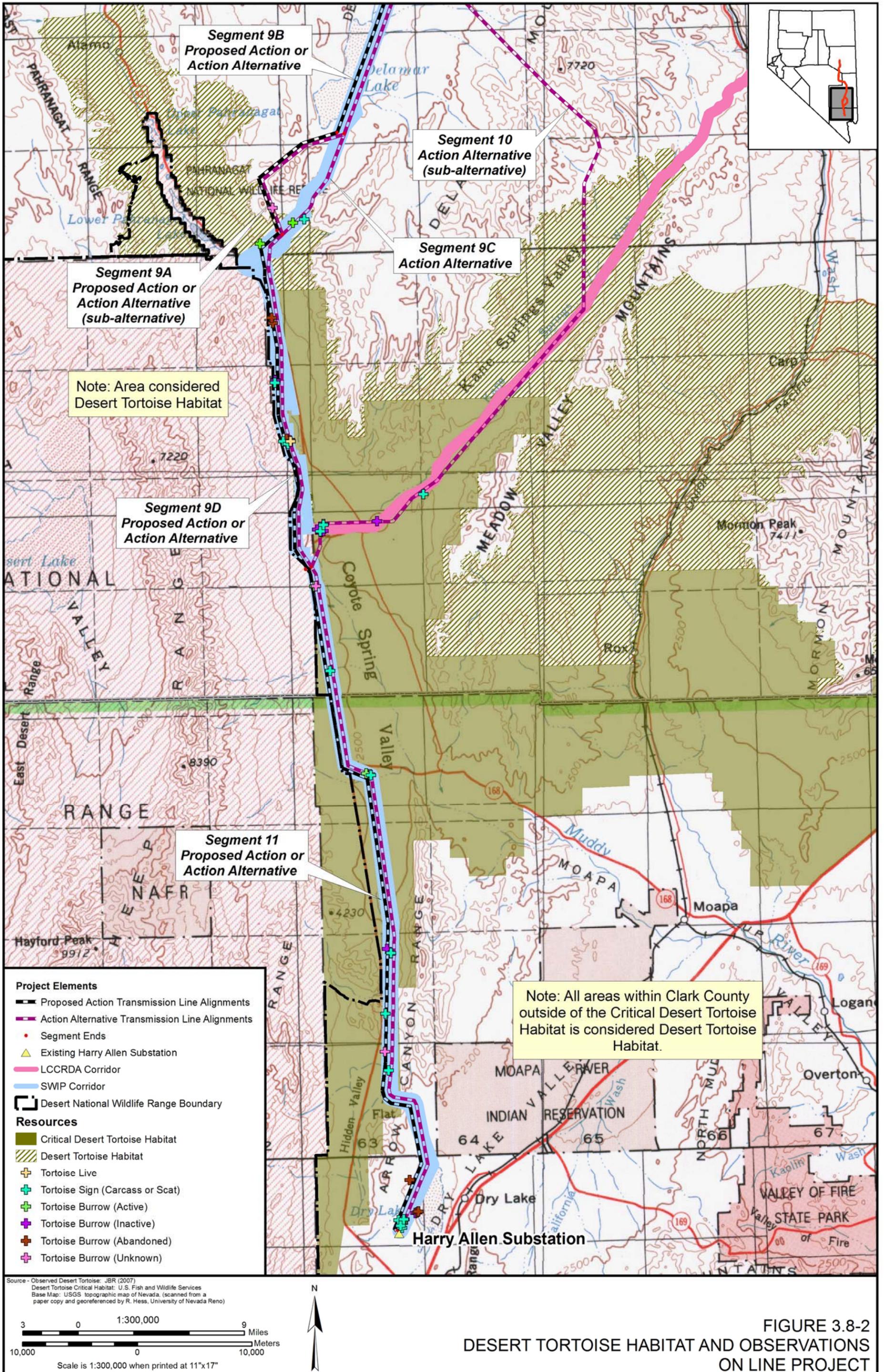


FIGURE 3.8-2
DESERT TORTOISE HABITAT AND OBSERVATIONS
ON LINE PROJECT

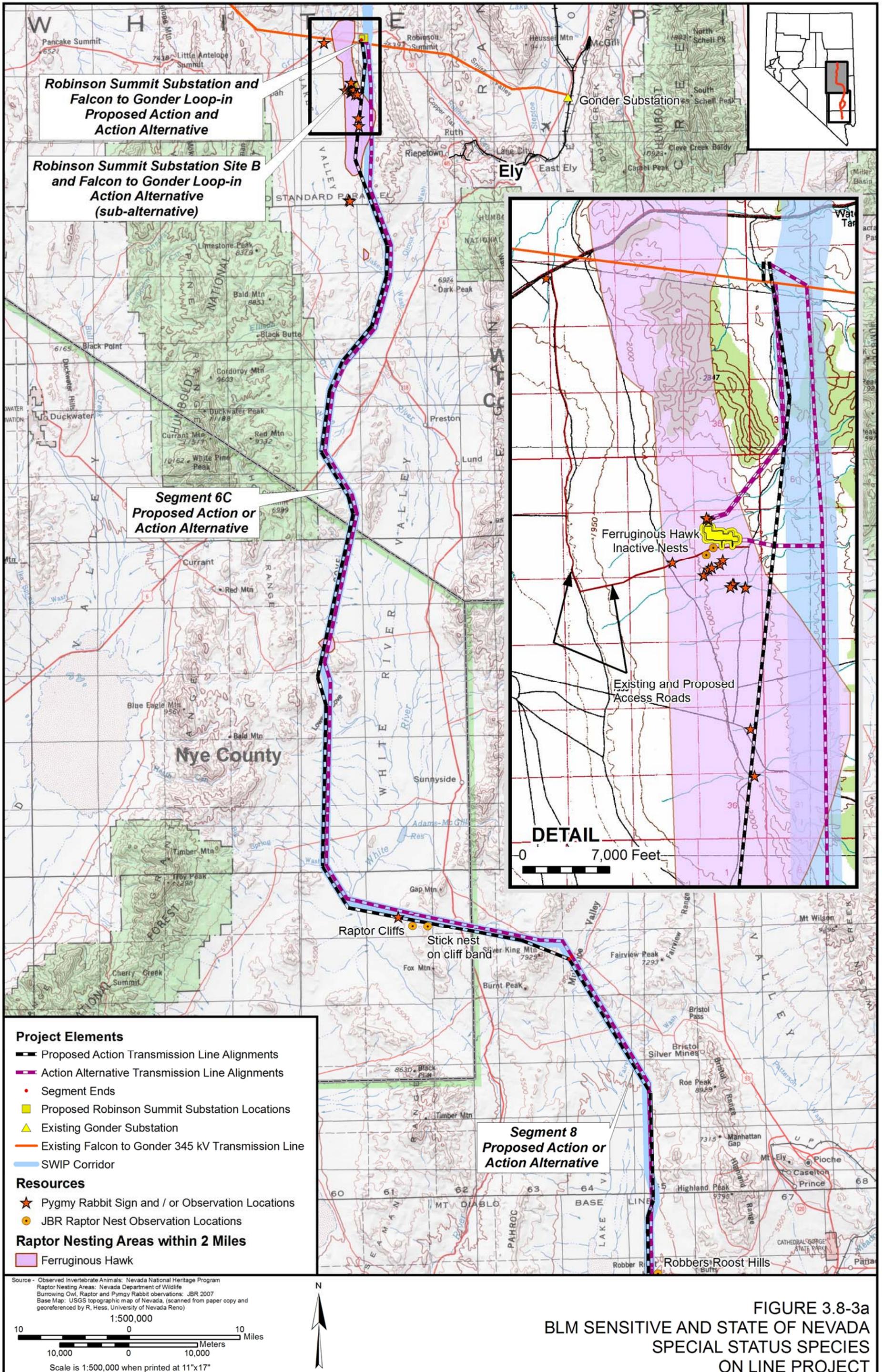
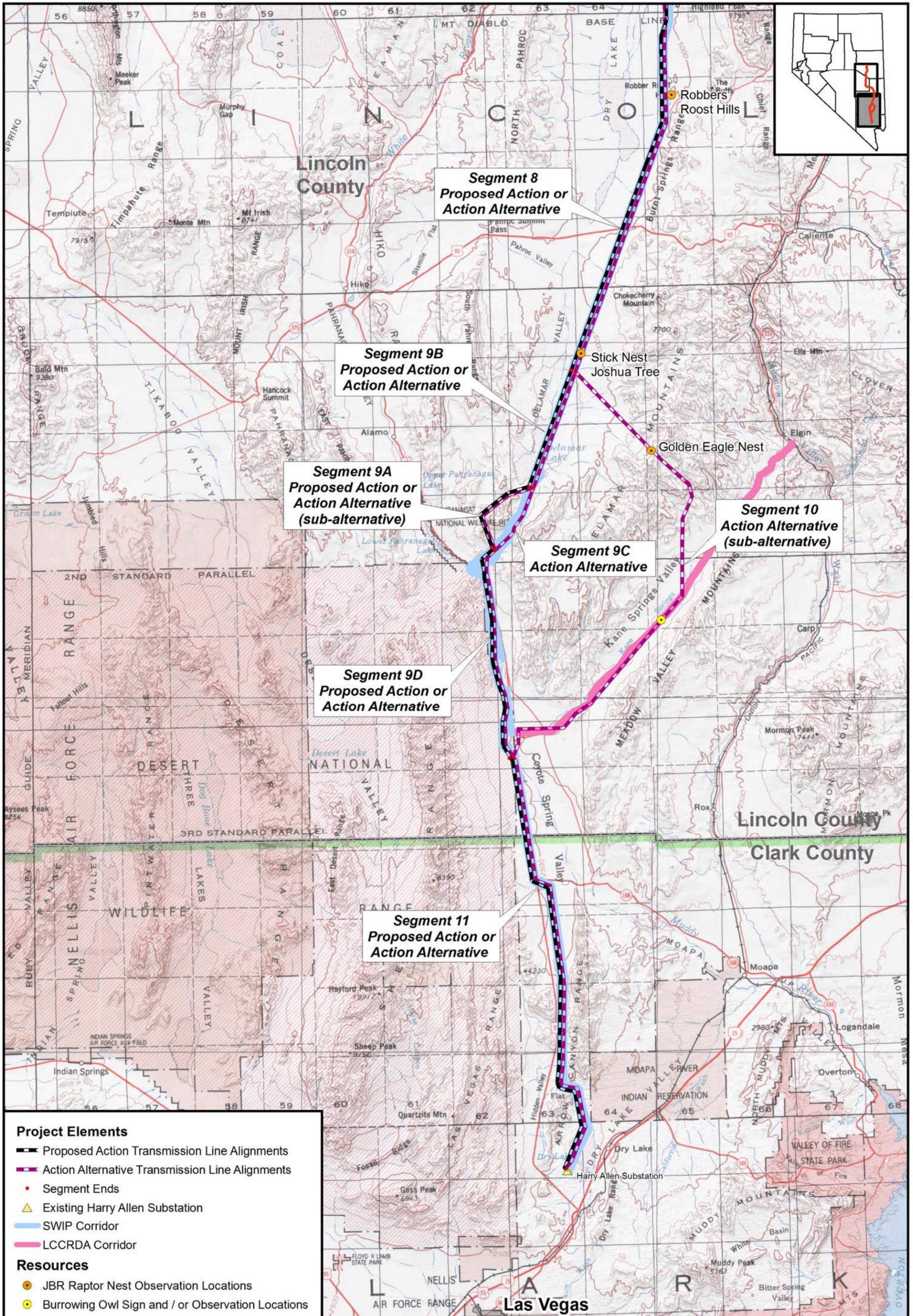


FIGURE 3.8-3a
BLM SENSITIVE AND STATE OF NEVADA
SPECIAL STATUS SPECIES
ON LINE PROJECT



Project Elements

- Proposed Action Transmission Line Alignments
- - - Action Alternative Transmission Line Alignments
- Segment Ends
- ▲ Existing Harry Allen Substation
- SWIP Corridor
- LCCRDA Corridor

Resources

- JBR Raptor Nest Observation Locations
- Burrowing Owl Sign and / or Observation Locations

Source - Observed Invertebrate Animals: Nevada National Heritage Program
 Raptor Nesting Areas: Nevada Department of Wildlife
 Burrowing Owl, Raptor and Pinyon Rabbit observations: JBR 2007
 Base Map: USGS topographic map of Nevada, (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno)

1:500,000

10 0 10 Miles

10,000 0 10,000 Meters

Scale is 1:500,000 when printed at 11"x17"

FIGURE 3.8-3b
BLM SENSITIVE AND STATE OF NEVADA
SPECIAL STATUS SPECIES
ON LINE PROJECT

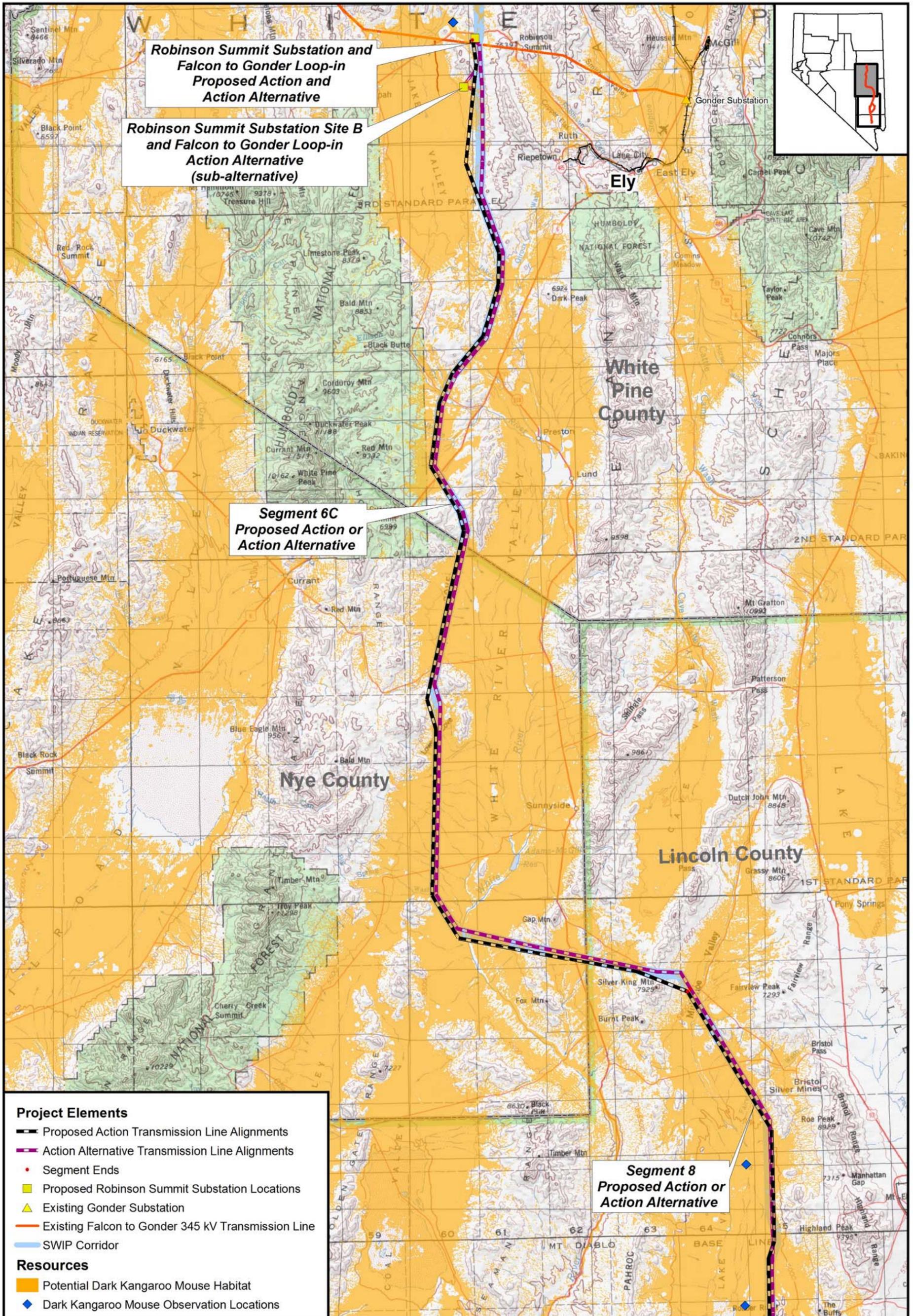
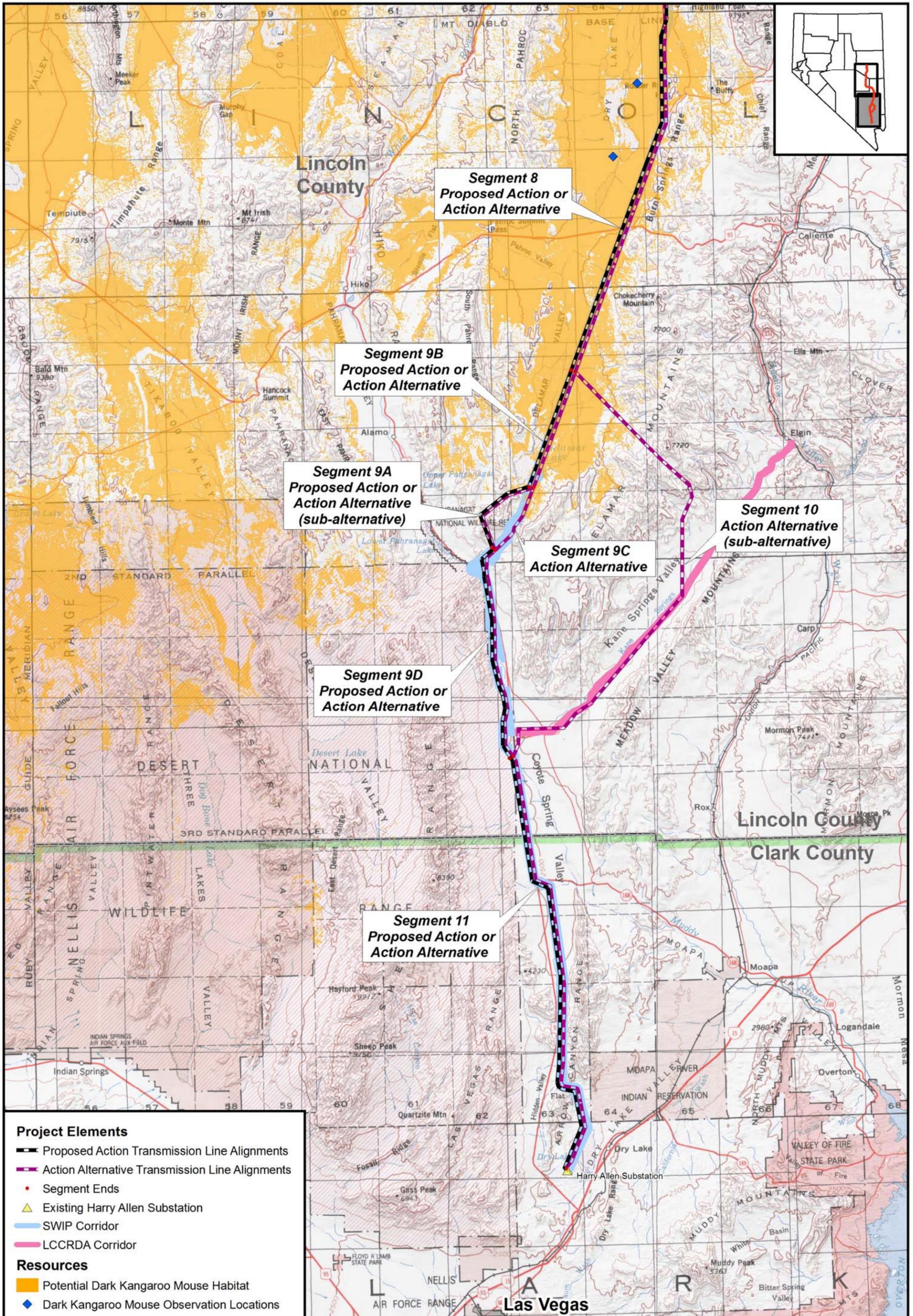


FIGURE 3.8-3c
POTENTIAL DARK KANGAROO MOUSE HABITAT
SPECIAL STATUS SPECIES
ON LINE PROJECT



Project Elements

- Proposed Action Transmission Line Alignments
- Action Alternative Transmission Line Alignments
- Segment Ends
- Existing Harry Allen Substation
- SWIP Corridor
- LCCRDA Corridor

Resources

- Potential Dark Kangaroo Mouse Habitat
- Dark Kangaroo Mouse Observation Locations

Source - Observed Invertebrate Animals: Nevada National Heritage Program
 Raptor Nesting Areas: Nevada Department of Wildlife
 Burrowing Owl, Raptor and Pinyon Rabbit observations: JBR 2007
 Base Map: USGS topographic map of Nevada, (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno)

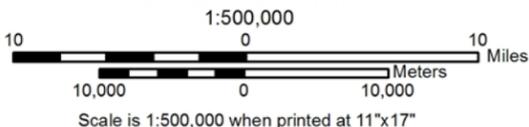
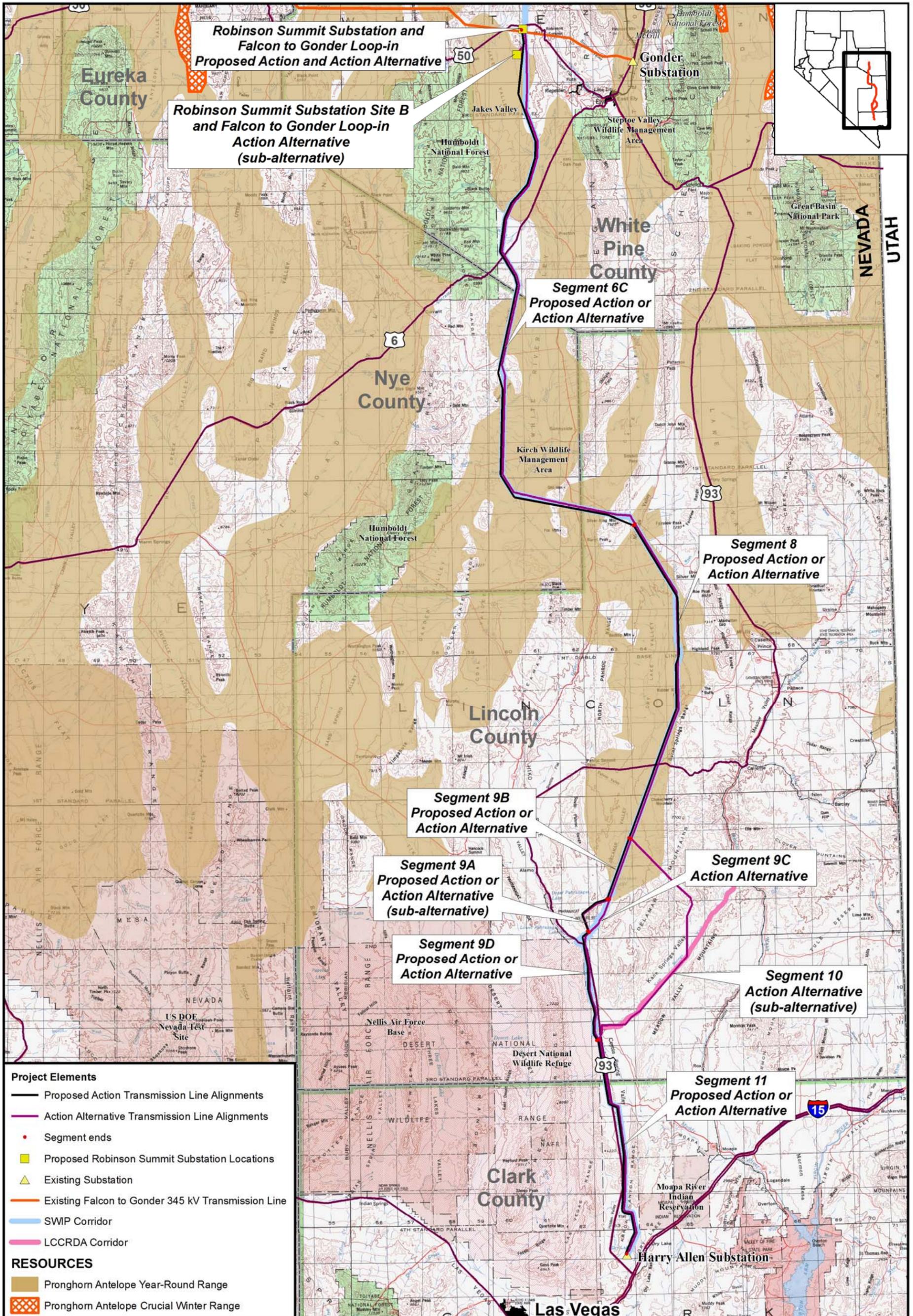


FIGURE 3.8-3d
POTENTIAL DARK KANGAROO MOUSE HABITAT
SPECIAL STATUS SPECIES
ON LINE PROJECT



Robinson Summit Substation and Falcon to Gonder Loop-in Proposed Action and Action Alternative

Robinson Summit Substation Site B and Falcon to Gonder Loop-in Action Alternative (sub-alternative)

Segment 6C Proposed Action or Action Alternative

Segment 8 Proposed Action or Action Alternative

Segment 9B Proposed Action or Action Alternative

Segment 9A Proposed Action or Action Alternative (sub-alternative)

Segment 9C Action Alternative

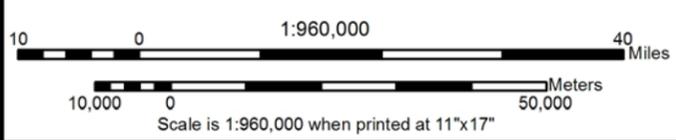
Segment 9D Proposed Action or Action Alternative

Segment 10 Action Alternative (sub-alternative)

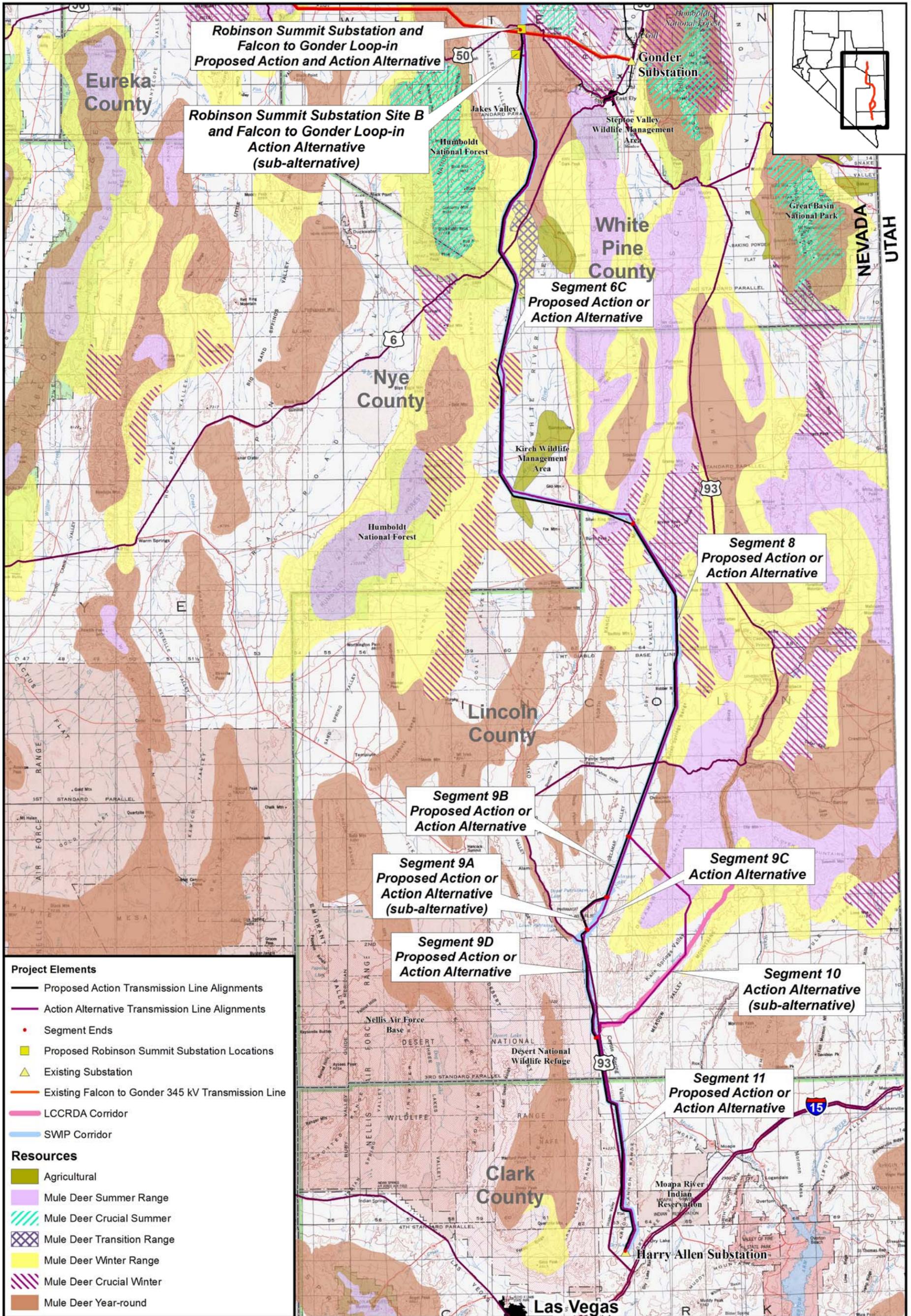
Segment 11 Proposed Action or Action Alternative

- Project Elements**
- Proposed Action Transmission Line Alignments
 - Action Alternative Transmission Line Alignments
 - Segment ends
 - Proposed Robinson Summit Substation Locations
 - ▲ Existing Substation
 - Existing Falcon to Gonder 345 kV Transmission Line
 - SWP Corridor
 - LCCRDA Corridor
- RESOURCES**
- Pronghorn Antelope Year-Round Range
 - Pronghorn Antelope Crucial Winter Range

Source - Mule Deer, Pronghorn Antelope and Big Horn Sheep: Nevada Department of Wildlife
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).



**FIGURE 3.8-4a
 PRONGHORN ANTELOPE
 BIG GAME RESOURCES
 ON LINE PROJECT**



Source - Mule Deer Distribution All from Nevada Department of Wildlife, 2009
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

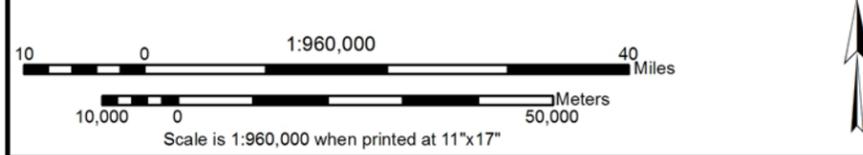
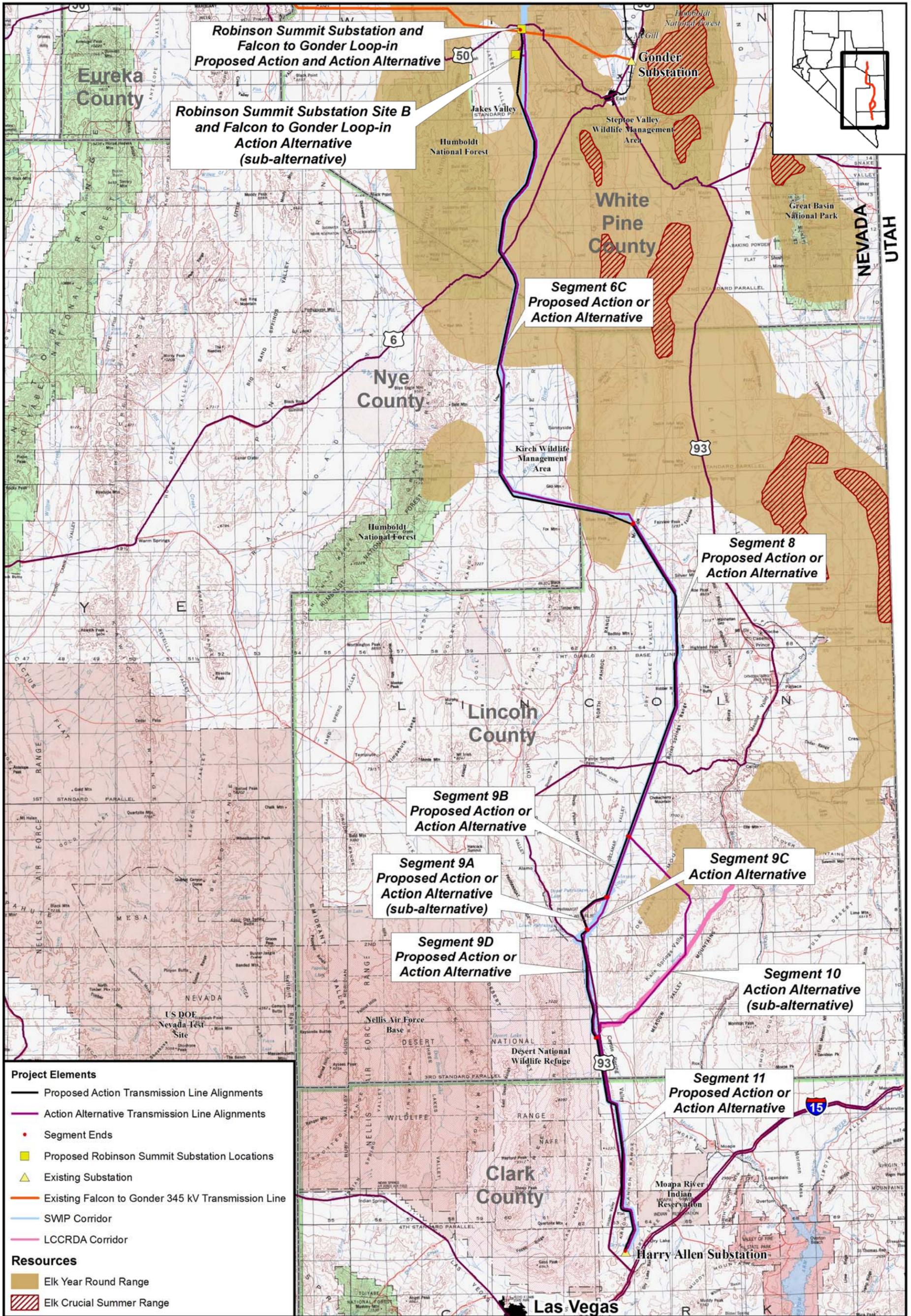


FIGURE 3.8-4b
MULE DEER
BIG GAME RESOURCES
ON LINE PROJECT



Source - Elk: ENSR
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

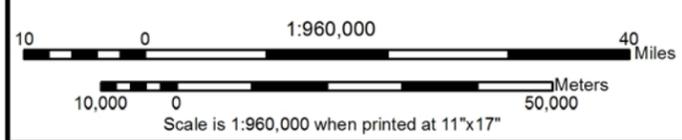
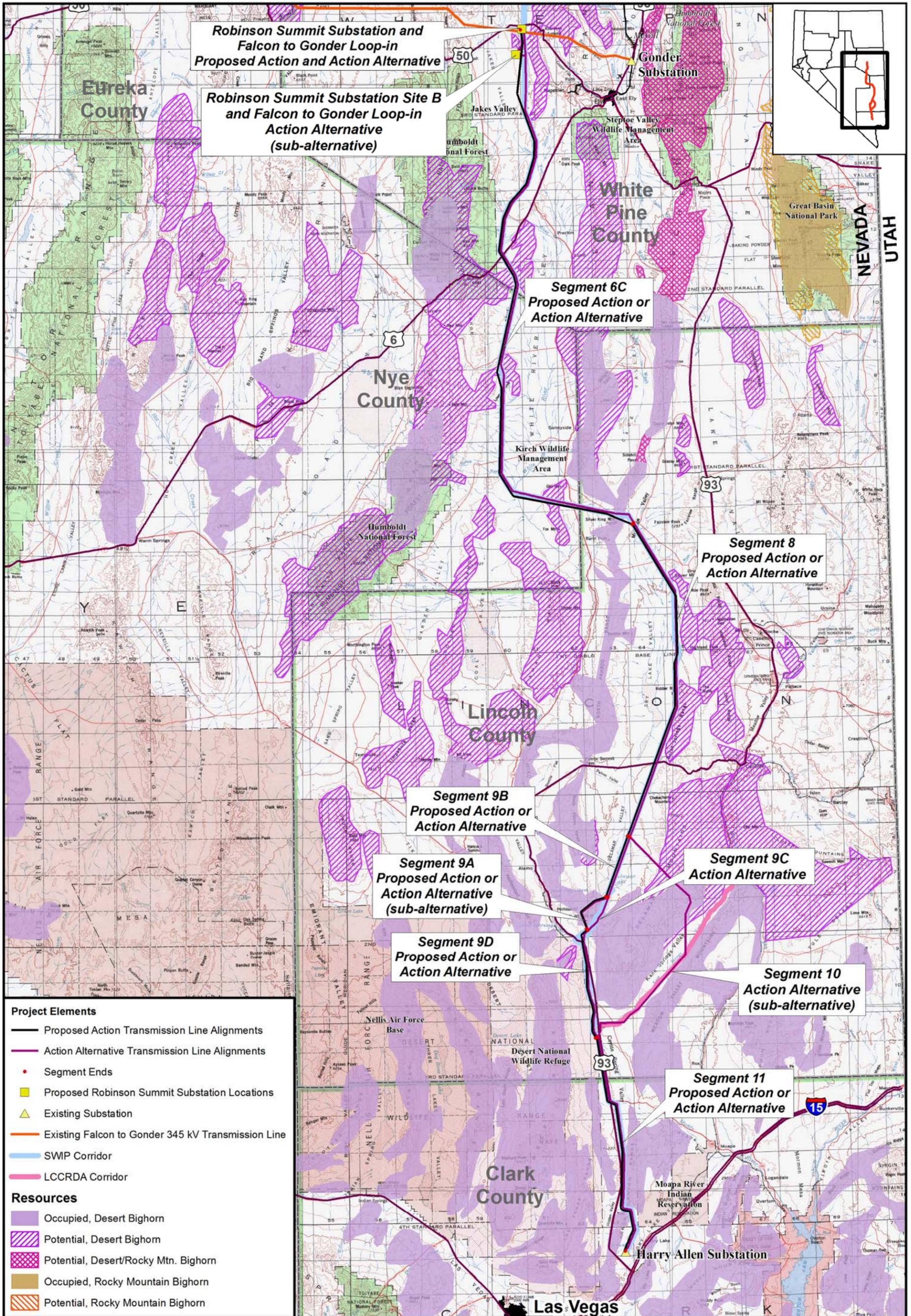


FIGURE 3.8-4c
ELK
BIG GAME RESOURCES
ON LINE PROJECT



Source - Mule Deer, Pronghorn Antelope and Big Horn Sheep: Nevada Department of Wildlife
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

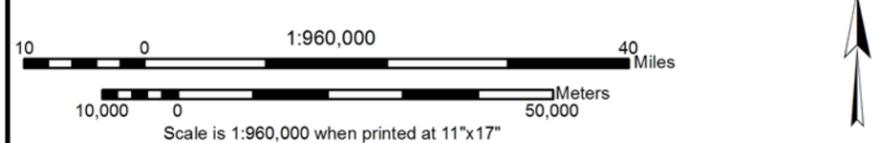
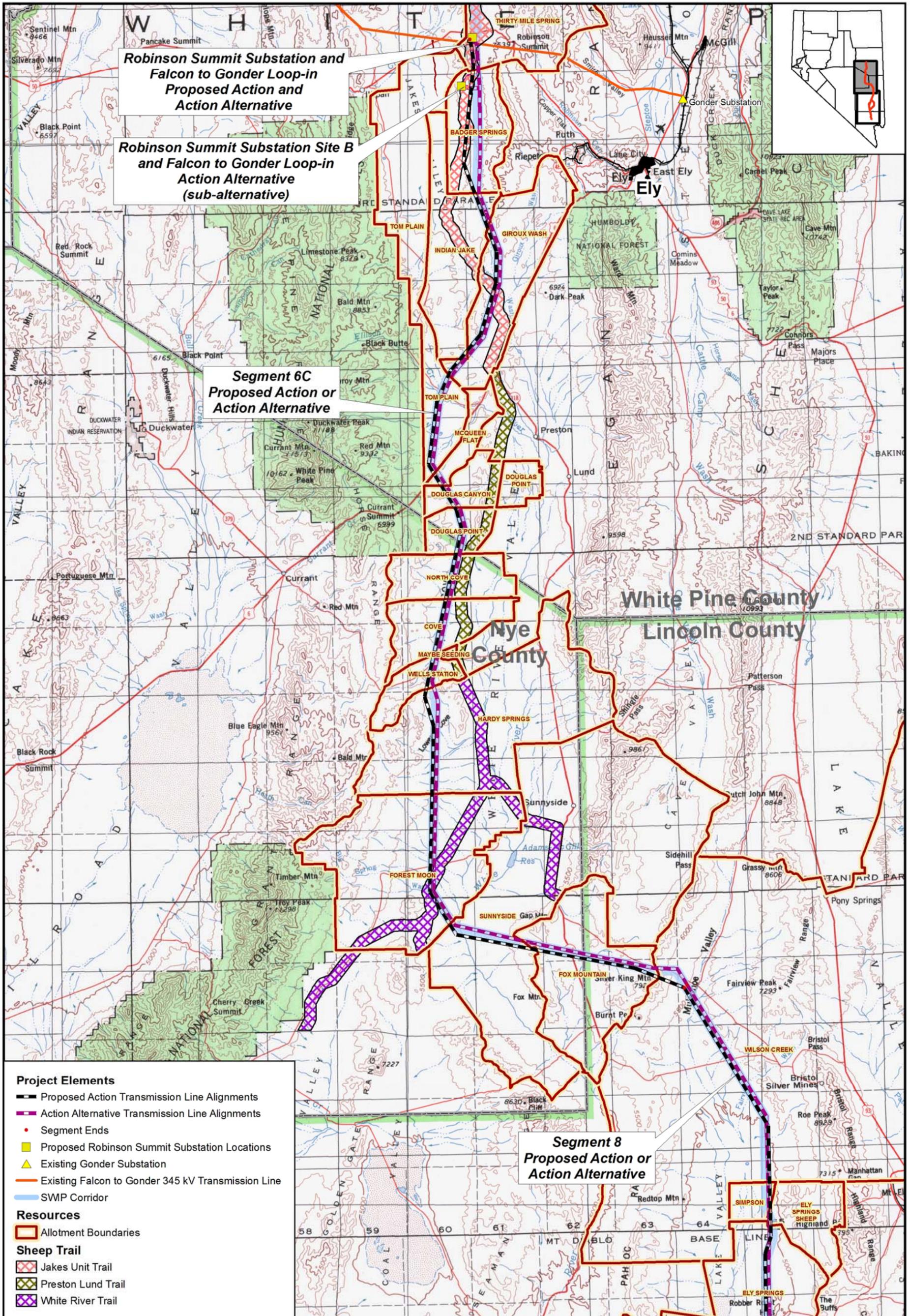


FIGURE 3.8-4d
BIGHORN SHEEP
BIG GAME RESOURCES
ON LINE PROJECT



Source - Allotments: Nevada BLM
 Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

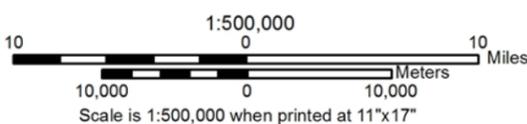
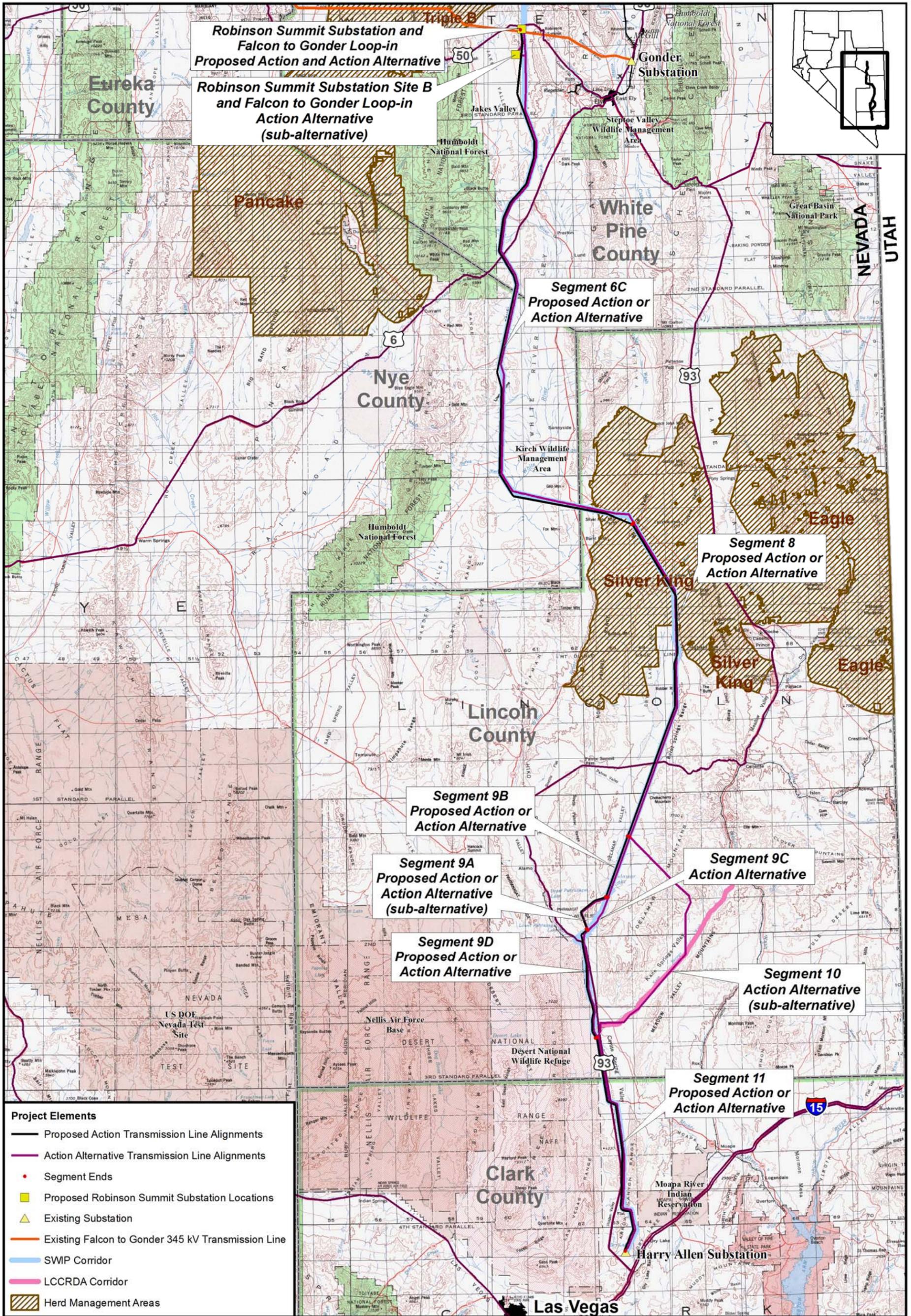


FIGURE 3.9-1a
ALLOTMENT RESOURCES
ON LINE PROJECT



Source - Horse Herd and Horse Herd Management Areas: Nevada BLM Base Map: USGS topographic map of Nevada (scanned from paper copy and georeferenced by R. Hess, University of Nevada Reno).

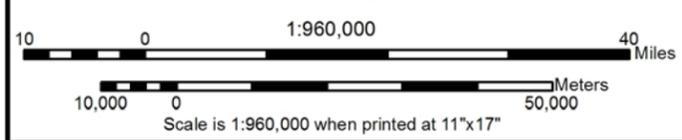


FIGURE 3.9.2
HERD MANAGEMENT AREAS
ON LINE PROJECT

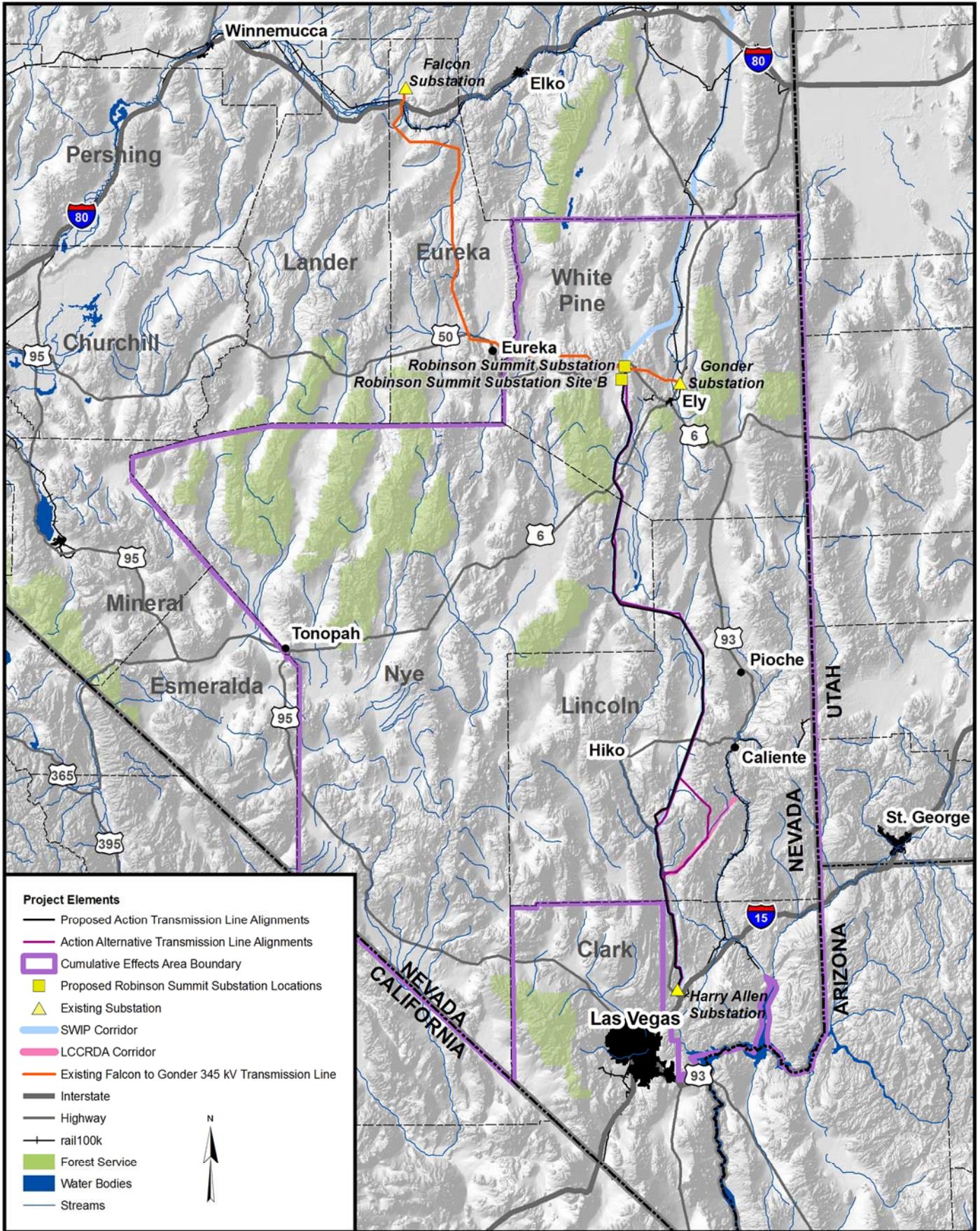
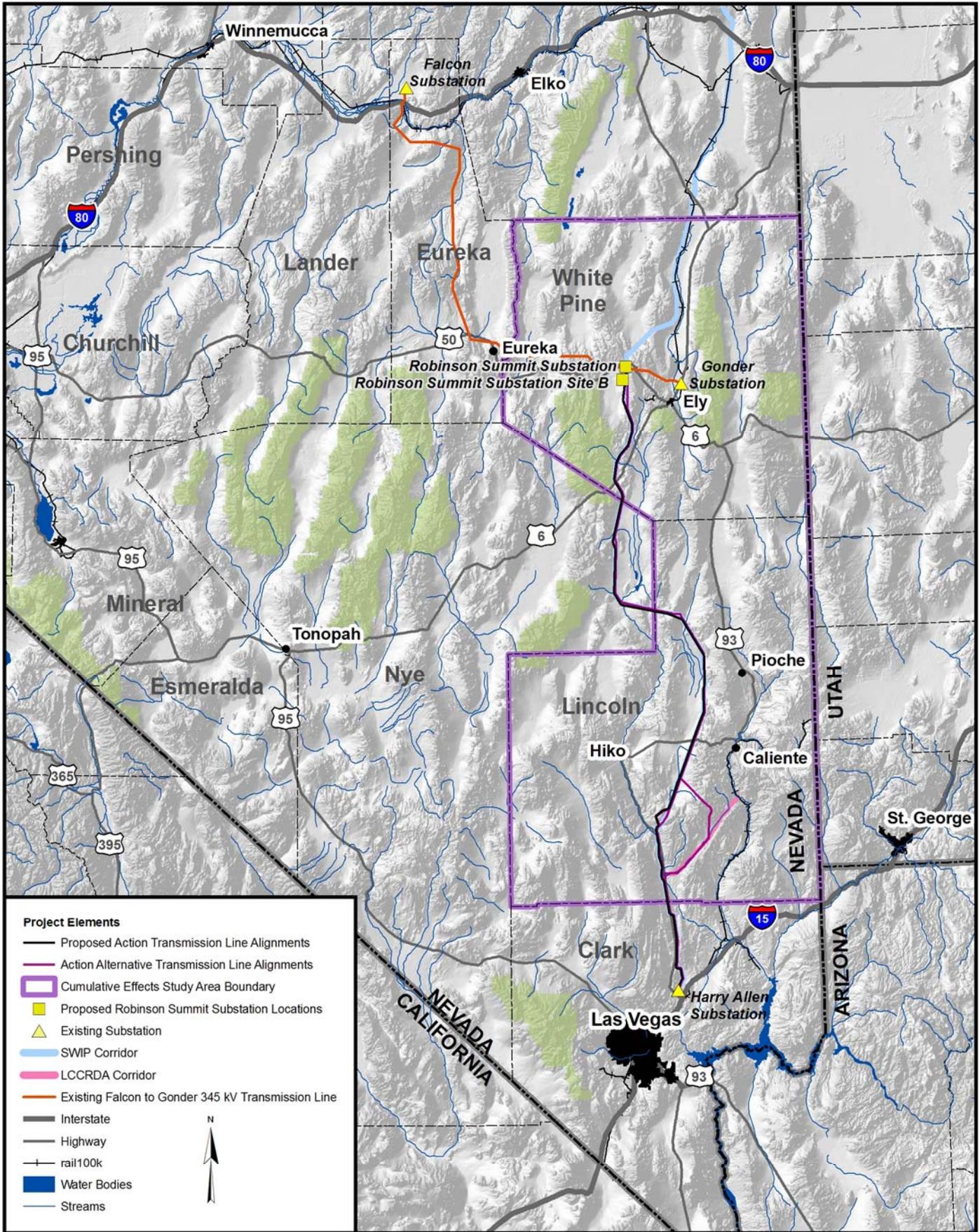


FIGURE 5.12-1
 CUMULATIVE EFFECTS STUDY AREA
 LAND USE
 ON LINE PROJECT



Source - Base Map: ESRI and National Atlas of the United States

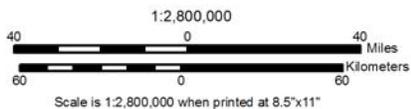
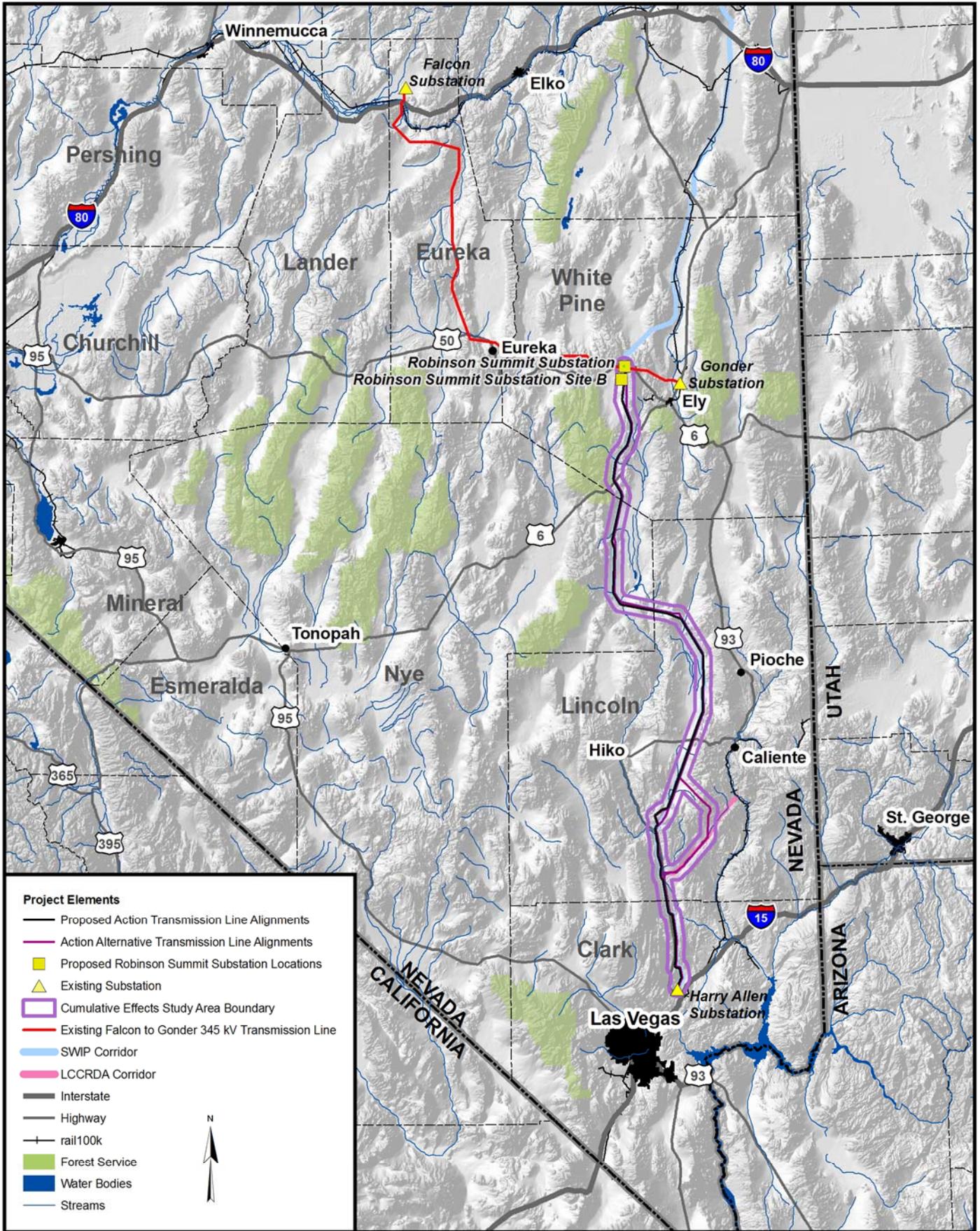


FIGURE 5.17-1
CUMULATIVE EFFECTS STUDY AREA
SOCIOECONOMICS
ON LINE PROJECT



Source - Base Map: ESRI and National Atlas of the United States

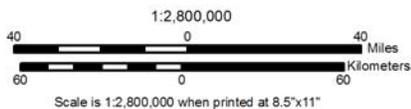


FIGURE 5.2-1
 CUMULATIVE EFFECTS STUDY AREA FOR SURFACE WATER, SOIL, VEGETATION,
 WETLANDS, FISHERIES AND AQUATICS, RECREATION, CULTURAL, VISUAL/AESTHETICS,
 PALEONTOLOGICAL, WILDLIFE, INCLUDING SPECIAL STATUS SPECIES RESOURCES
 ON LINE PROJECT

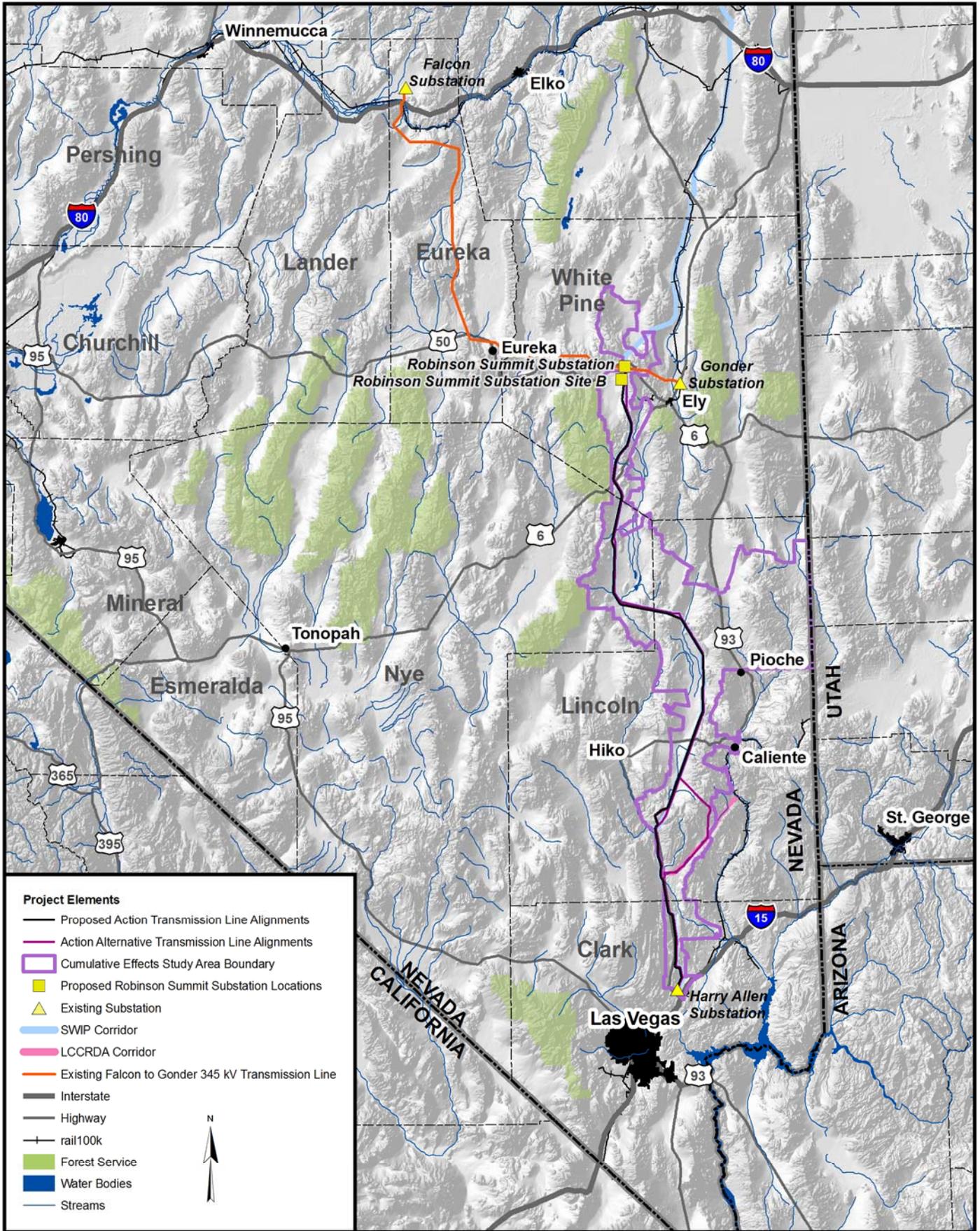


FIGURE 5.9-1
 CUMULATIVE EFFECTS STUDY AREA
 RANGE RESOURCES
 ON LINE PROJECT