ROSEMONT 138KV TRANSMISSION LINE SITING STUDY PROJECT

Public Open House Meeting #4

November 17, 2010

Rancho Resort Clubhouse
5:30pm – 8:00pm
Presentation and Question and Answer
6:30pm – 7:00pm

Project Overview

- Tucson Electric Power (TEP), as a part of its obligation to serve, is proposing to construct and operate a new 138kV transmission line for the proposed Rosemont Copper operations
- Planning process includes environmental studies and public input conducted to assist in identification and comparison of alternative transmission line routes and environmental impacts. Similar to any customer requesting service at the transmission voltage, Rosemont is paying for the transmission line siting study.
- Project area is south of I-10 and east of I-19, with lands managed by Arizona State Land Department in conjunction with the University of Arizona, Forest Service, Bureau of Land Management, and privately-owned lands under the planning jurisdictions of the Town of Sahuarita and Pima County.
- Project requires review by the Arizona Corporation Commission's (ACC) Power Plant and Transmission Line Siting Committee resulting in a recommendation to, and a final determination by, the ACC prior to construction.

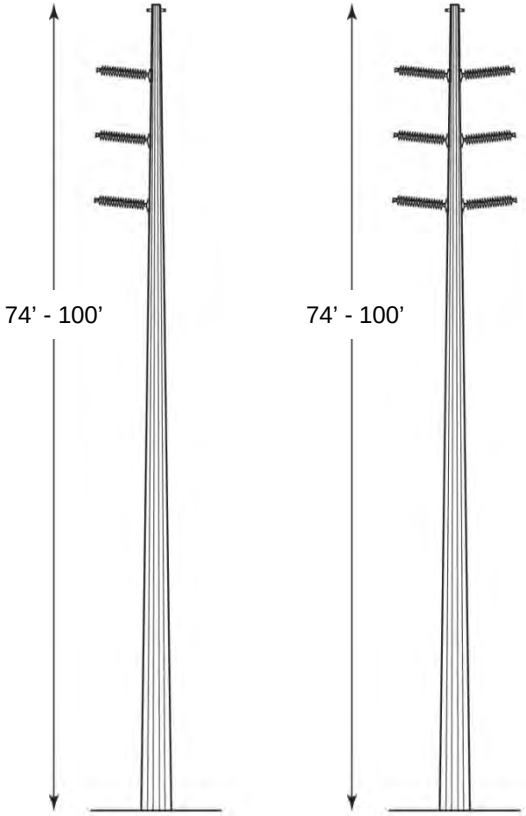
Purpose and Need

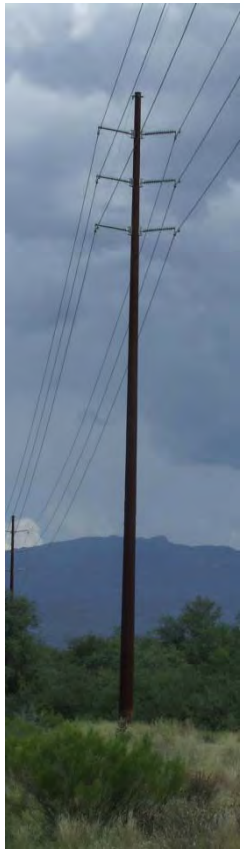
- Electric utilities are required by the State of Arizona to provide electrical service to customers, upon request.
- Rosemont Copper Company has requested TEP to provide electric power to the Rosemont Copper operations.
- The primary purpose and need for the proposed transmission line is to provide adequate and reliable power for the proposed Rosemont Copper operations.
- Currently, there are no existing transmission lines and substations to serve this proposed operation.

Project Description

- Up to approximately 20 miles of 138kV transmission line
- A 500-foot-wide corridor will be requested, and within that corridor a 100-foot-wide right-of-way would be obtained
- Approximately 3+ acres of land for construction, operation, and maintenance for the proposed Rosemont Substation, westernmost switchyard/substation, Greaterville Substation, Helvetia Road/46kV temporary interconnection
- Three connection points:
  - New switchyard/substation for connection to TEP system
  - New Rosemont switchyard/substation at Rosemont Copper operations
  - Greaterville Substation or temporary switchyard/substation interconnection (Helvetia Road & 46kV intersection) for construction power and possible long-term reliability purposes

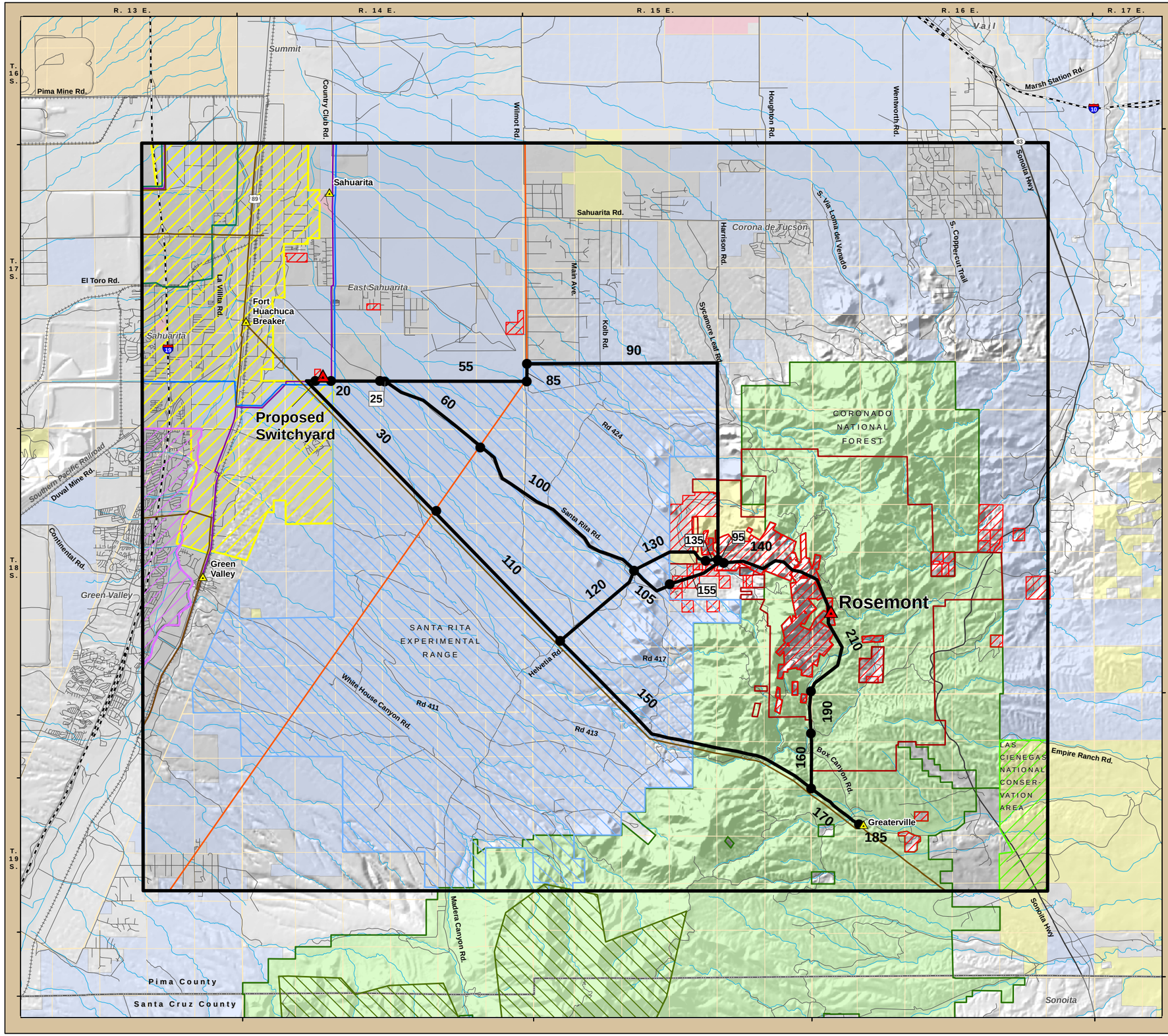
Proposed Structure Type(s)





Proposed Switchyard/Substation

- Photograph is of a typical TEP switchyard that resembles the proposed switchyard/substation(s)
- Proposed facility for interconnection with the existing TEP transmission system
- Approximately 3+ acres in size
- Located on private land



Tucson Electric Power

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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Jurisdiction and Ownership

Legend

10 — Link Identification Number
Link Node
Preliminary Alternative Link

Land Managing Areas
- U.S. Forest Service
- Bureau of Land Management
- Indian Reservation
- Arizona State Land
- Local Park (Pima County)
- Unincorporated Pima County

Planning Jurisdictions
- Green Valley Planning Area
- Sahuarita Incorporated Boundary

Special Management Areas
- Mt. Wrightson Wilderness
- Santa Rita Experimental Range
- Las Cienegas National Conservation Area

Rosemont Copper Facilities
- Private Lands
- Claim Boundary

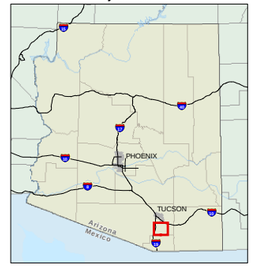
Notes: Not all of the preliminary alternative links shown on the map will be constructed.

Project study area boundary has been updated as of July 2009

All links are preliminary and may be modified based on agency and public input.

General Reference Features
- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary
- Section Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

Working Draft
April 8, 2010

epg

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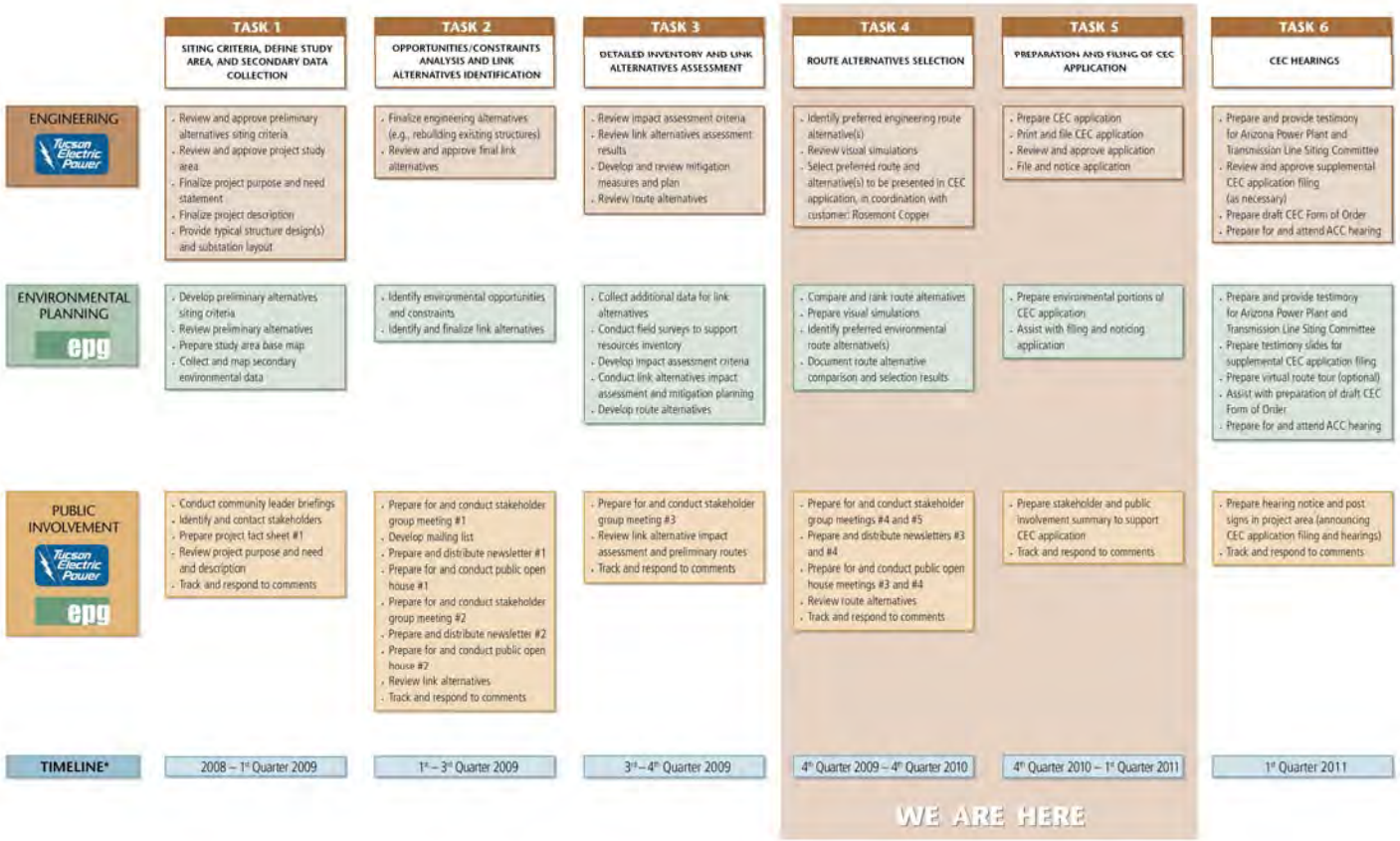
Planning Process

- Comprehensive planning process consisting of six key tasks. Studies include environmental and engineering analysis, along with agency/public input .
- Identification and evaluation of alternatives that meet project purpose and need
- TEP will identify a preferred route(s), as well as alternative routes, for permitting and construction.
- TEP will prepare and file a Certificate of Environmental Compatibility (CEC) application to be reviewed by the Arizona Power Plant and Transmission Line Siting Committee.
- The ACC will make a final decision to approve or deny the CEC application (with any conditions).

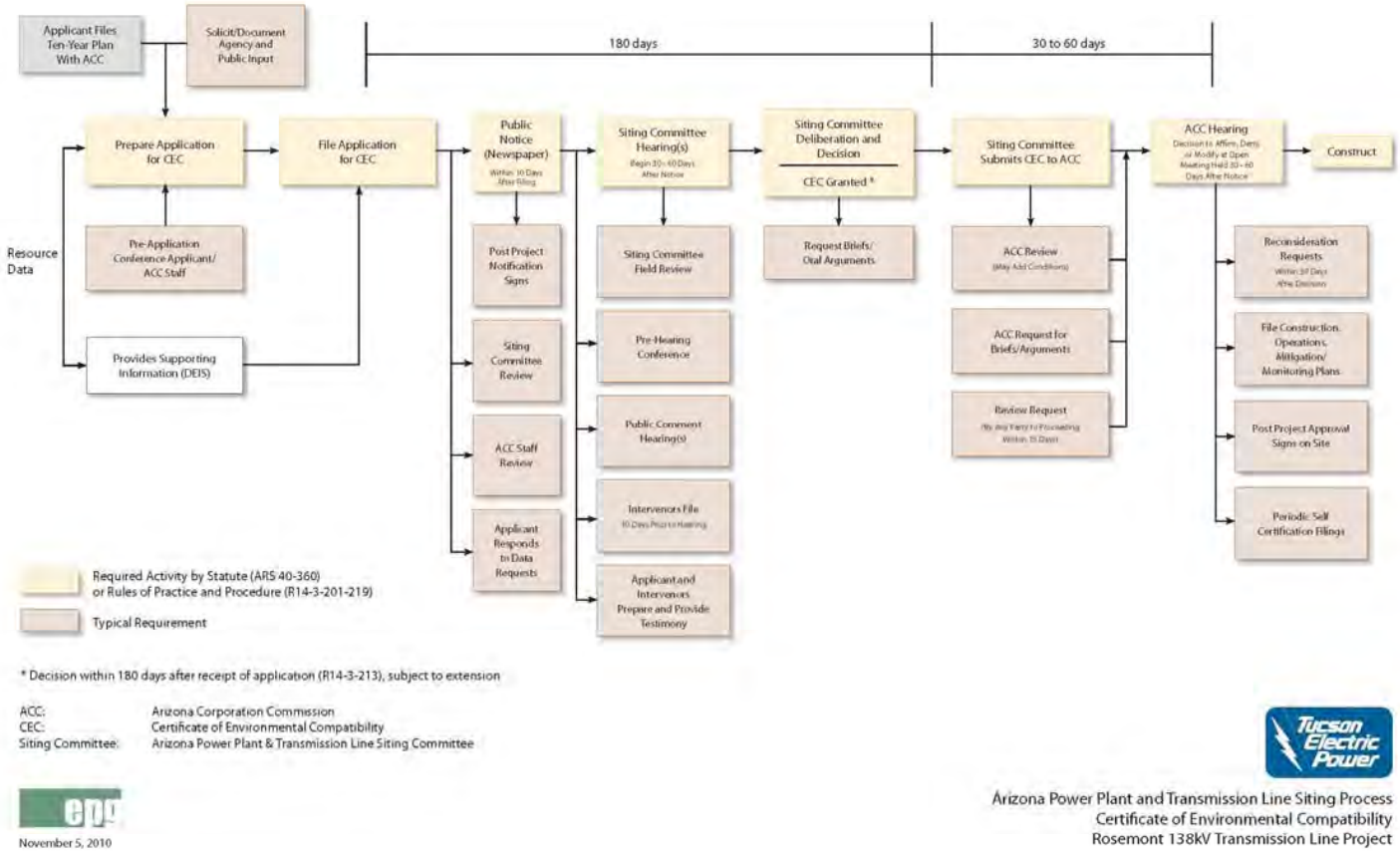
Planning Process Chart



*Timeline is estimated

Planning Process and Responsibilities
Rosemont 138kV Transmission Line Project

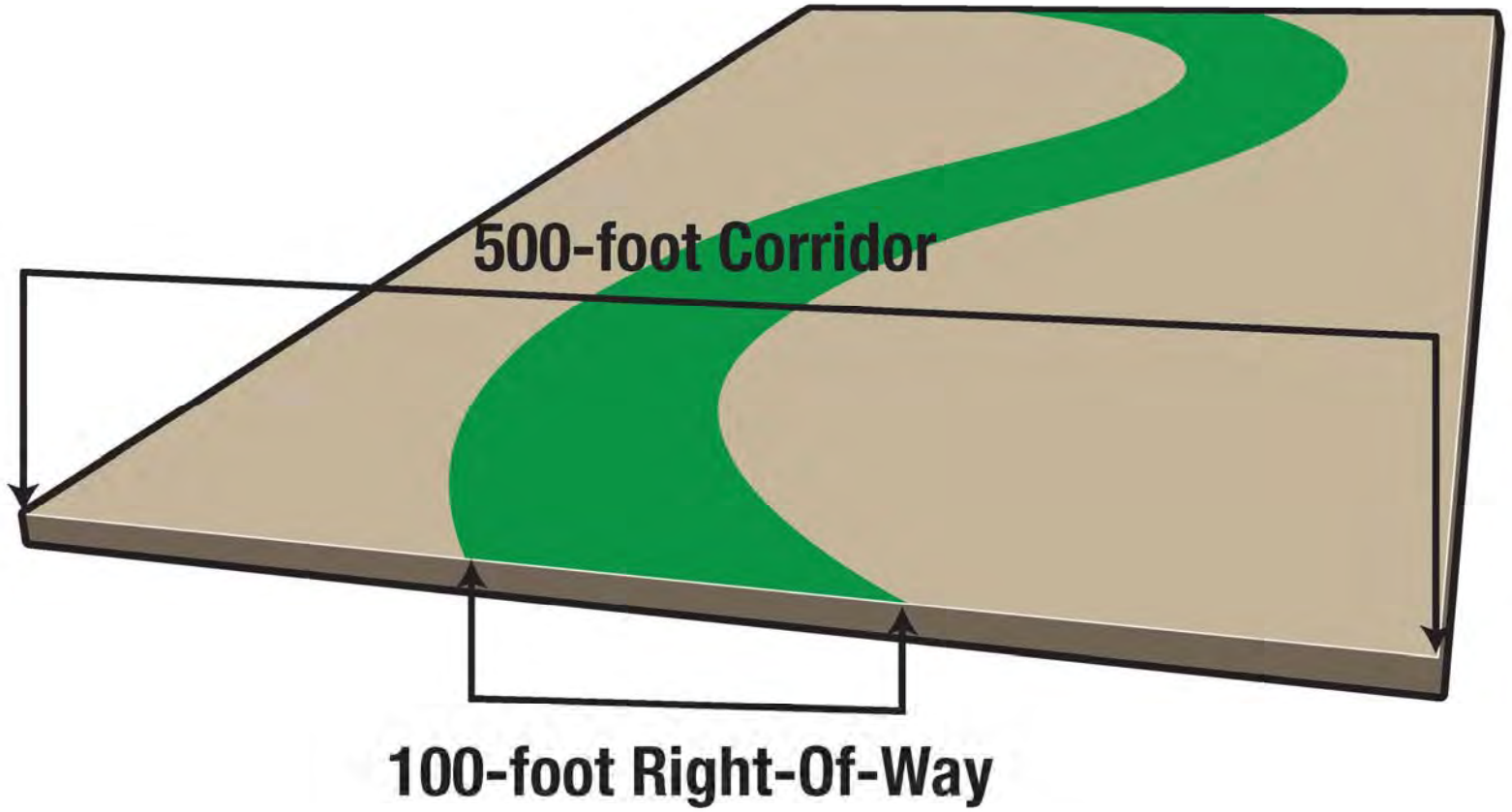
Certificate of Environmental Compatibility Application Process



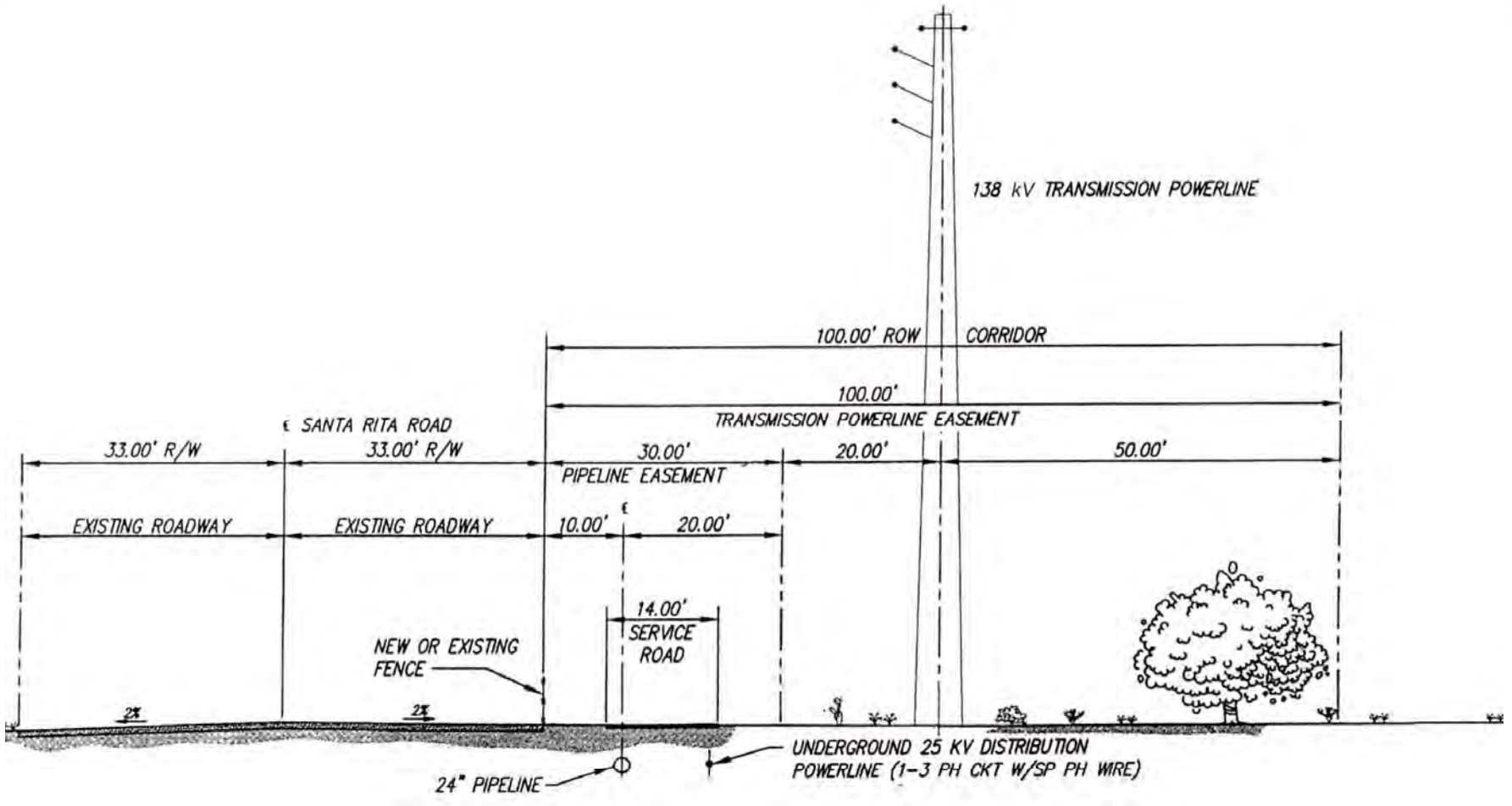
Key Considerations for Selection of Recommended Routes

- Project construction and operation power needs
- Minimizing environmental impacts
- Electrical system planning requirements and timeframes
- Engineering
  - Constructability
  - Cost
  - Right-of-way
- Public and agency input
- Regulatory permits
- One or more alternative routes may be carried forward in application for a CEC to be submitted to the Siting Committee and ACC

Example Corridor and Right-of-Way Configuration



Example Section of Transmission Line and Pipeline Right-of-Way



Environmental Analysis Summary

Land Use

- Existing land use
- Future land use

Visual Resource

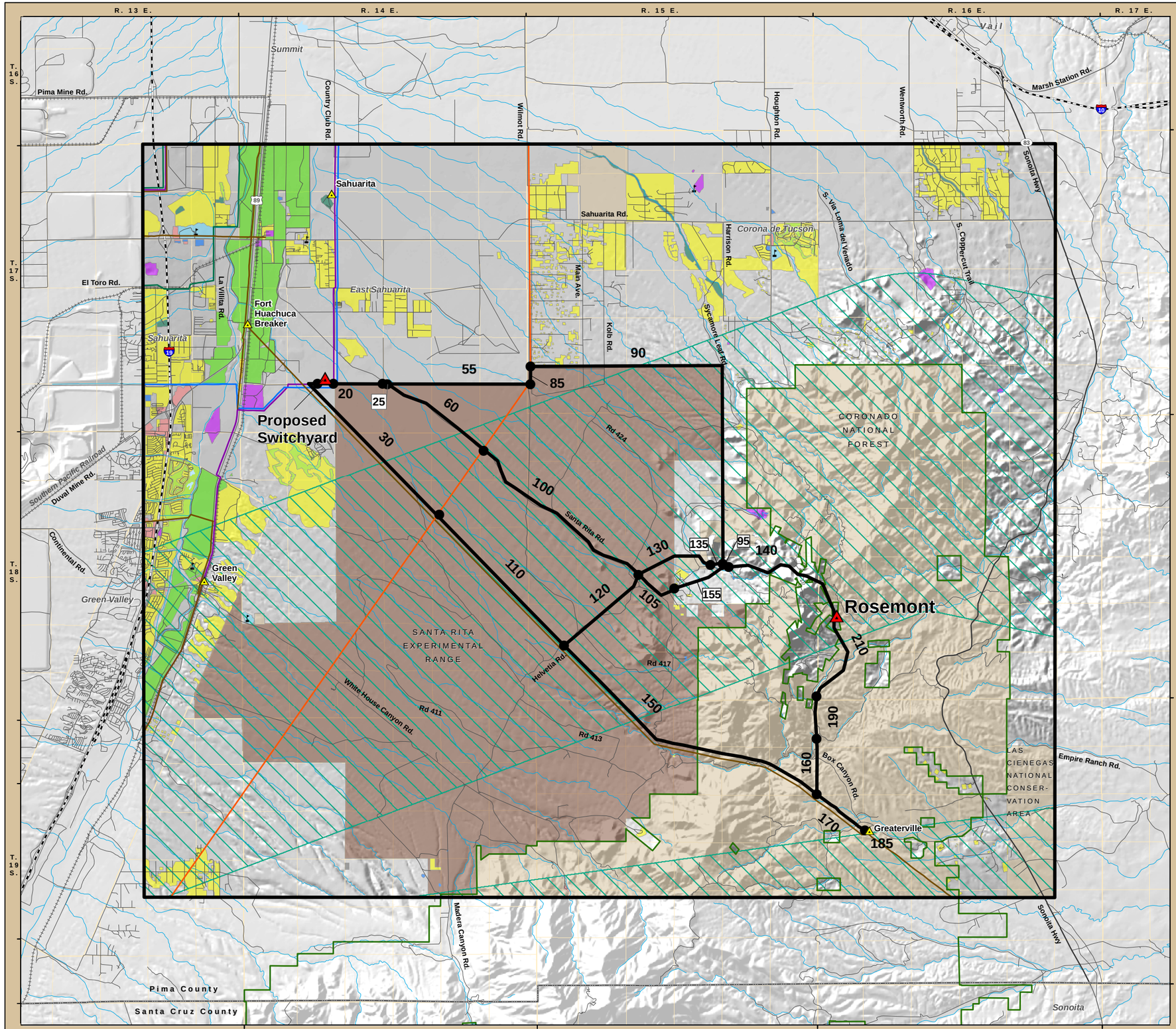
- Landscape scenic quality
- Sensitive viewers (residences, roads/trails, trailheads)
- Scenic management guidelines

Cultural Resource

- Known historic properties considered
  - Eligible
  - Not eligible
  - Not evaluated

Biological Resource

- Biological conservation areas
- Vegetation
- Wildlife



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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Existing Land Use

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

Land Use

- Agriculture
- Commercial
- Industrial
- Parks/Preservation
- Public Land
- Public/Quasi-Public
- Recreation
- Residential
- Santa Rita Experimental Range
- School/Educational Facilities
- Utilities
- Vacant/Undeveloped
- School
- Military Low-level Training Flight Path

Notes: Not all of the preliminary alternative links shown on the map will be constructed.

Project study area boundary has been updated as of July 2009

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General Reference Features

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- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary
- Section Boundary

Project Location

Sources

StreetMap USA 2008; TEP 2008;
University of Arizona, Santa Rita Experimental Range, 2009;
EPG 2008

0 0.5 1 2 Miles

Working Draft
April 6, 2010

epg

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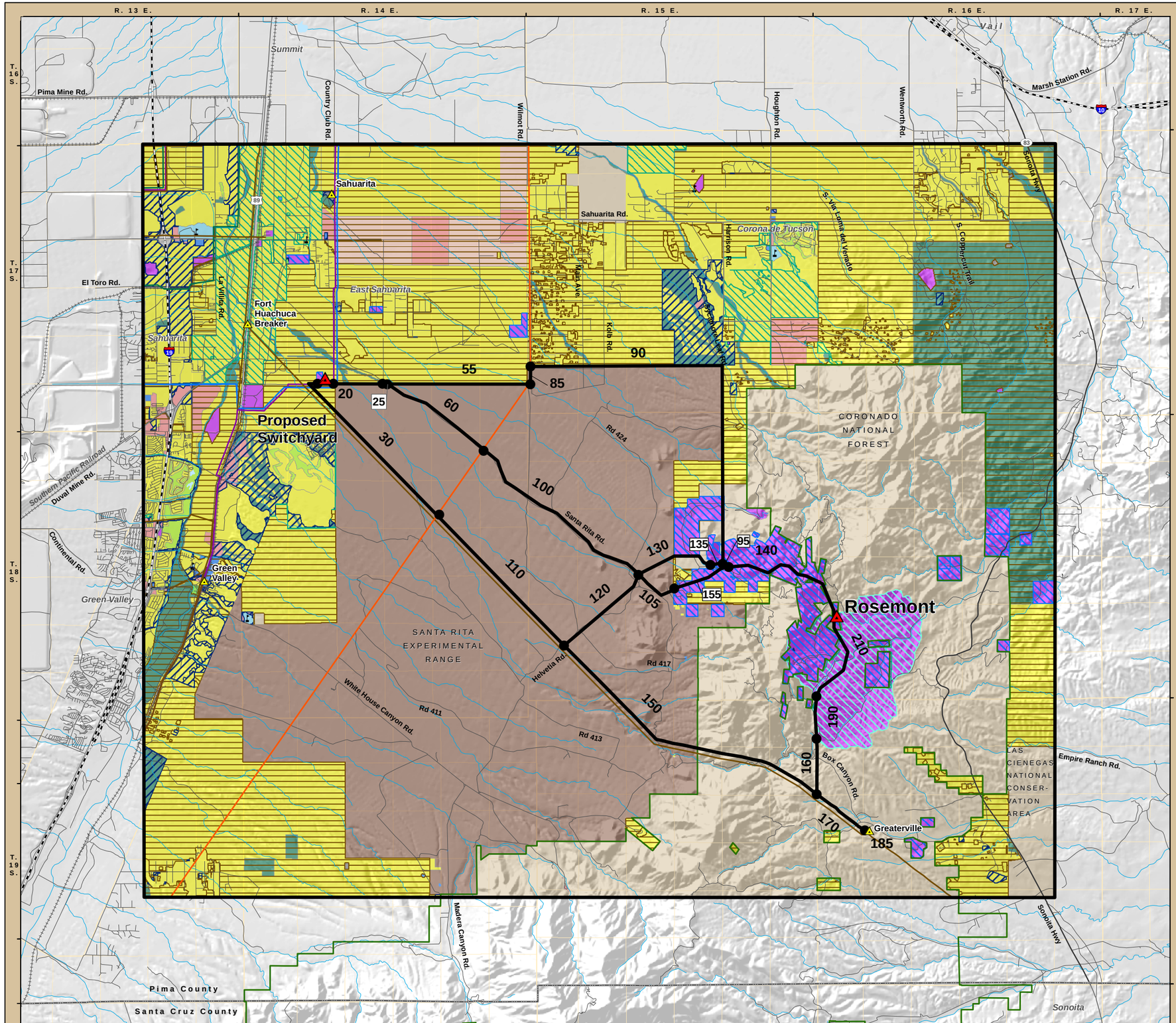

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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Future Land Use

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link
- School

Land Use

- Public/Quasi-Public
- Recreation
- Residential
- Santa Rita Experimental Range
- School/Educational Facilities
- Utilities
- Agriculture
- Commercial
- Industrial
- Mixed Use
- Parks/Preservation
- Public Land

Status

- Plat Approved
- Zoning Approved
- Conceptual/General/Comprehensive Plan
- Future Use Under the Mining Act
- NEPA Process Ongoing

Notes:

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Conceptual/General/Comprehensive Plan Status land uses are guides for future land uses as defined by Pima County and Town of Sahuarita and may not reflect actual development.

Non-Status land uses are existing

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- Highway
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- Railroad
- River / Wash
- Township Boundary
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Project Location

Sources

StreetMap USA 2008; TEP 2008; Sahuarita, 2008; Houghton Area Master Plan, 2005; EPG, 2008; Pima County, 2008; City of Tucson 2008.

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Working Draft
April 13, 2010

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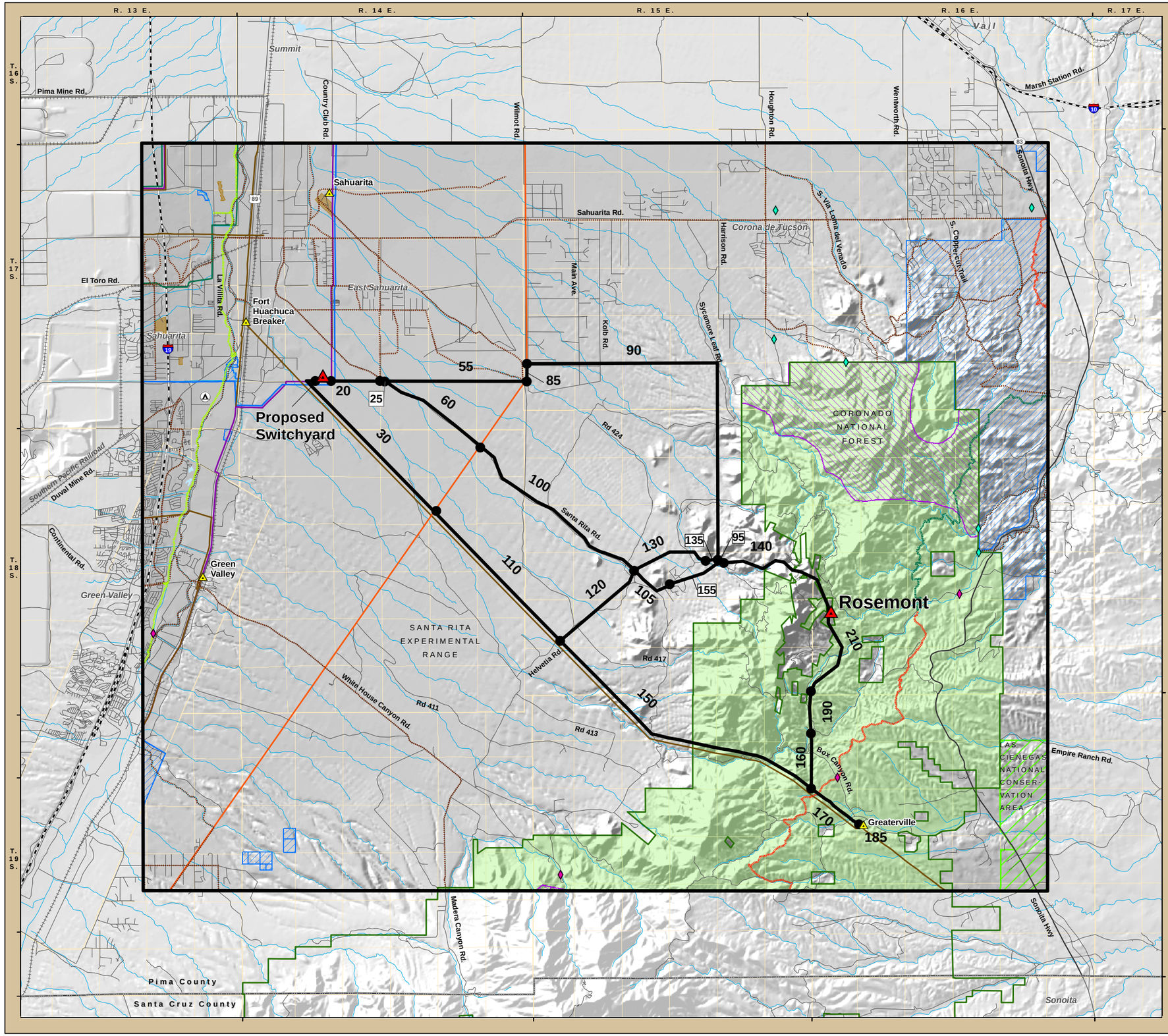

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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Parks, Open Space, Recreation

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link
- Existing Trailhead
- Proposed Trailhead
- Campground
- Arizona Trail
- Proposed Arizona Trail
- Anza National Historic Trail
- Proposed Pima County Trail
- Pima County Proposed Park
- Las Cienegas National Conservation Area
- Pima County Park
- Coronado National Forest
- Inventoried Roadless Area

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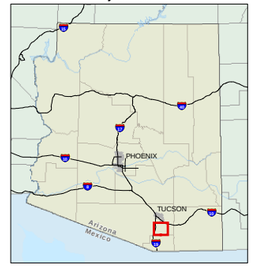
Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG 2008;
Pima County, 2008; Coronado National Forest, 2009

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April 7, 2010

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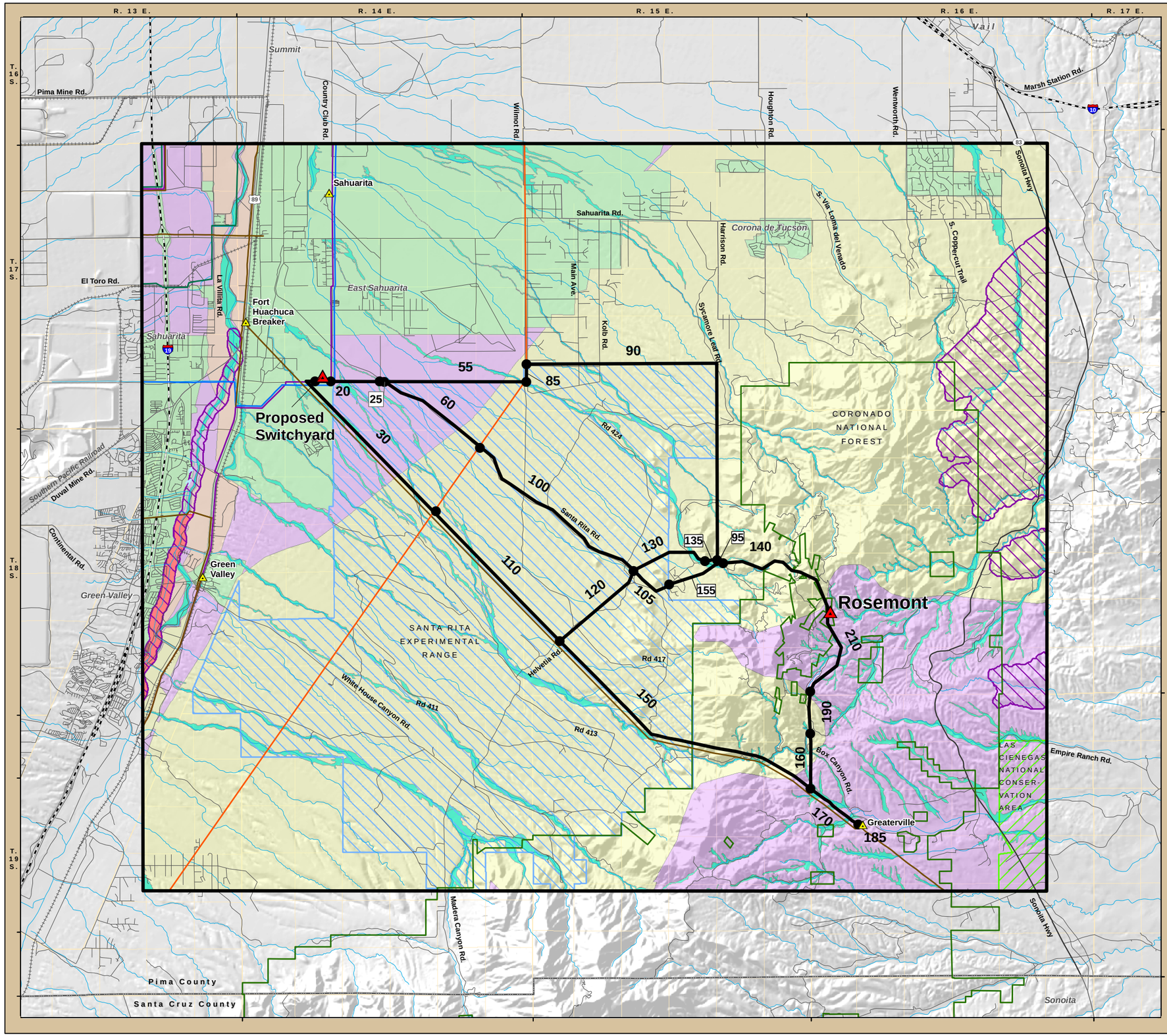

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Rosemont 138kV Transmission Line Project

Prliminary Transmission Line Link Alternatives with Biological Resources

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link
- Las Cienegas National Conservation Area
- Biologically Sensitive Area

Pima County Conservation Lands System

- Biological Core Management Areas
- Important Riparian Areas
- Multiple Use Management Areas
- Agriculture Inholdings Within Conservation Lands System
- Areas Outside Conservation Lands System
- Santa Rita Experimental Range
- Pima County Wildlife Corridors

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- Railroad
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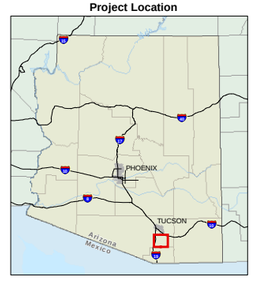
- Township Boundary
- Section Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008; Pima County, 2008

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Working Draft
April 8, 2010

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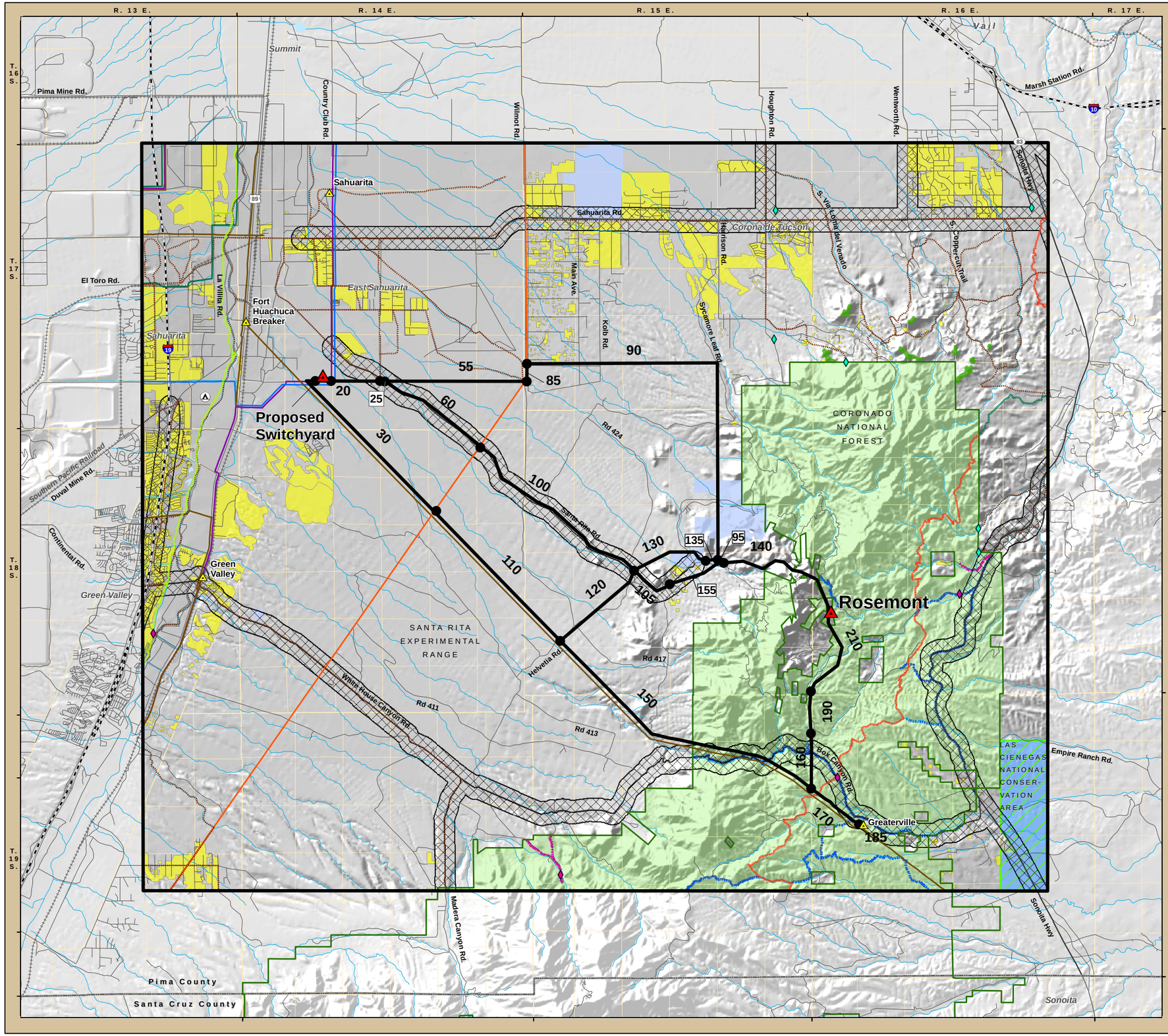

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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Visual Resources

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link
- Existing Trailhead
- Proposed Trailhead
- Campground
- Arizona Trail
- Proposed Arizona Trail
- Anza National Historic Trail
- Proposed Pima County Trail
- Las Cienegas National Conservation Area
- Designated Scenic Road
- Existing Residential Area
- Pima County Level 1 Restricted Peaks and Ridges
- Coronado National Forest

Concern Level Roads (National Forest)

- Coronado Concern Level 1 Road (Includes Arizona Trail)
- Coronado Concern Level 2 Road

Visual Resource Management (BLM)

- Class II
- Class III

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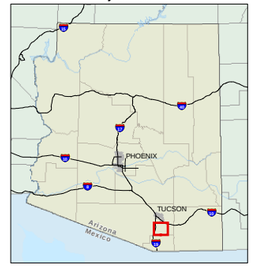
Project Location



Sources

StreetMap USA 2008; TEP 2008; Pima County 2008; Coronado National Forest 2009; EPG 2009

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Working Draft
April 9, 2010

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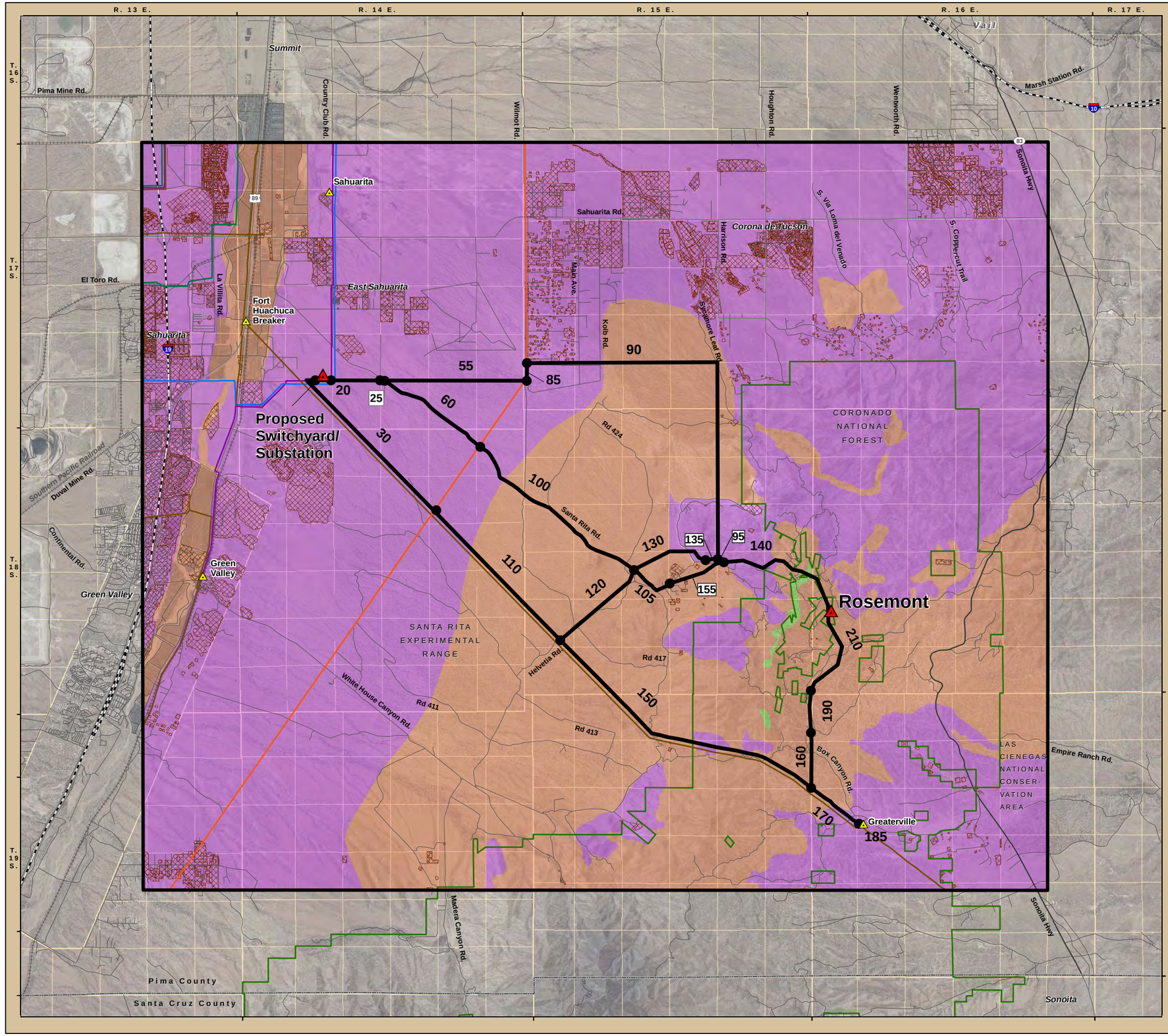

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Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives with Scenic Quality

Legend

10 — Link Identification Number
Link Node
Preliminary Alternative Link

Scenic Quality

- A
- B
- C
- Developed

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- Railroad
- River / Wash
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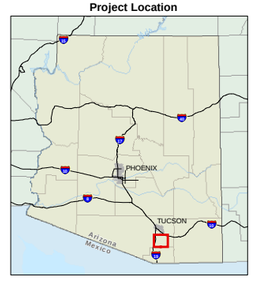
- Section Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008; Coronado NF;

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Working Draft
April 12, 2010

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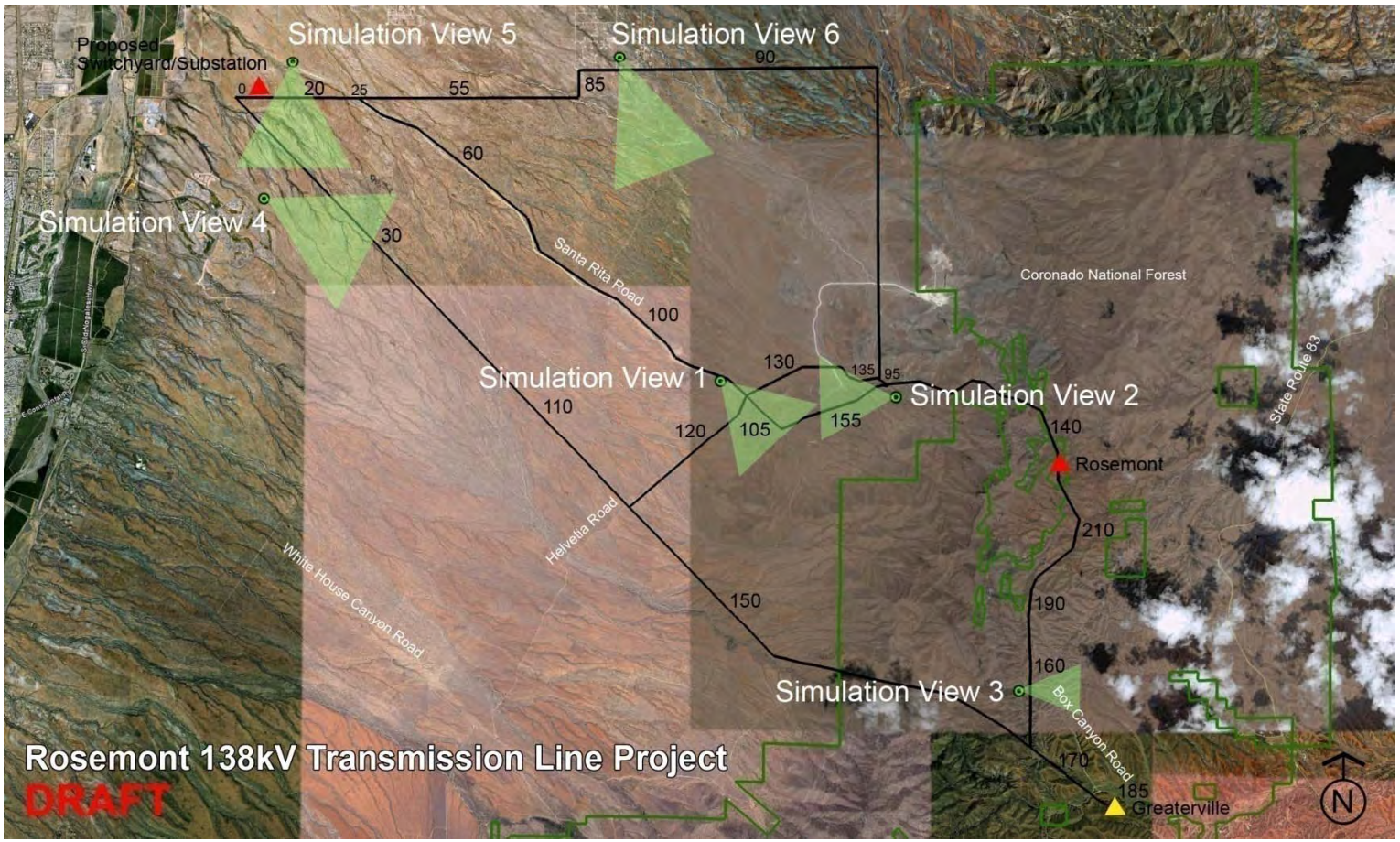
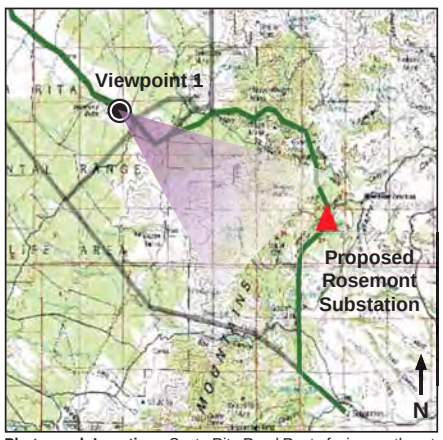
Simulations



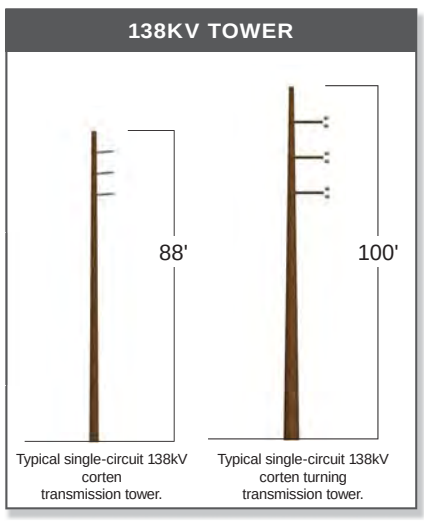
Existing Condition – Santa Rita Road within the Santa Rita Experimental Range

Simulated Condition – Proposed 138kV corten steel single-circuit transmission lines and water pipeline with shared access road

Simulated Condition – Proposed 138kV galvanized steel single-circuit transmission lines and water pipeline with shared access road



Photograph Location: Santa Rita Road Route facing southeast on Santa Rita Road.



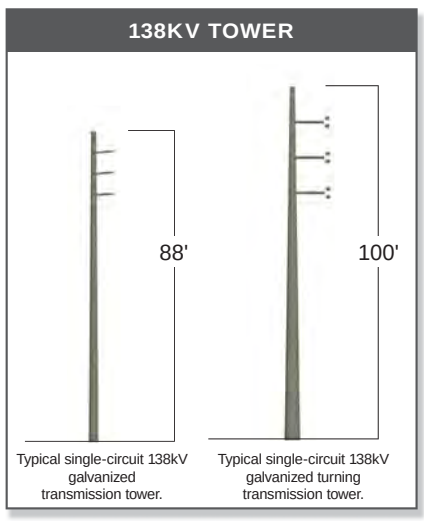


Photo Date and Time: 11-11-09, 2:14 p.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP. Pipeline information provided by Rosemont Copper.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

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Rosemont Copper Transmission Line Project
Simulation 1 - Preferred Route

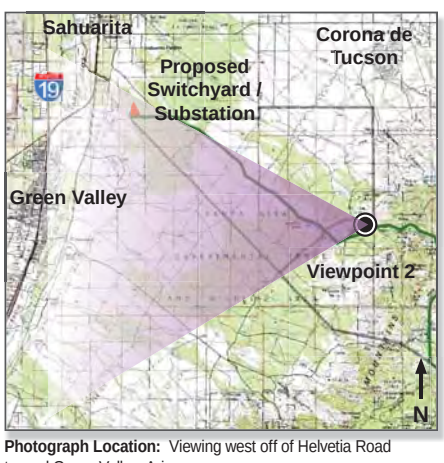
DRAFT

November 16, 2010

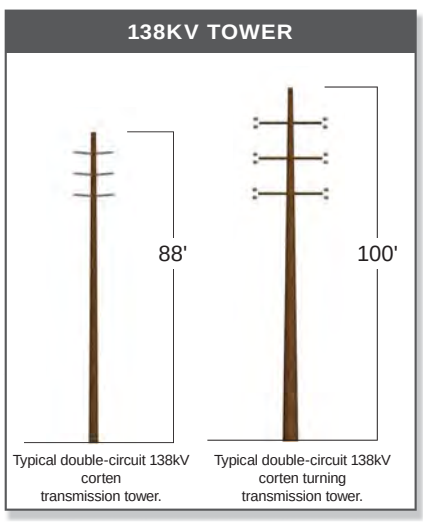
Existing Condition – Existing distribution lines and residences along Helvetia Road

Simulated Condition – Proposed 138kV corten steel double-circuit transmission line and water pipeline with shared access road

Simulated Condition – Proposed 138kV galvanized steel double-circuit transmission line and water pipeline with shared access road



Photograph Location: Viewing west off of Helvetia Road toward Green Valley, Arizona.
Photo point is approximately 0.3 mile from nearest transmission line.



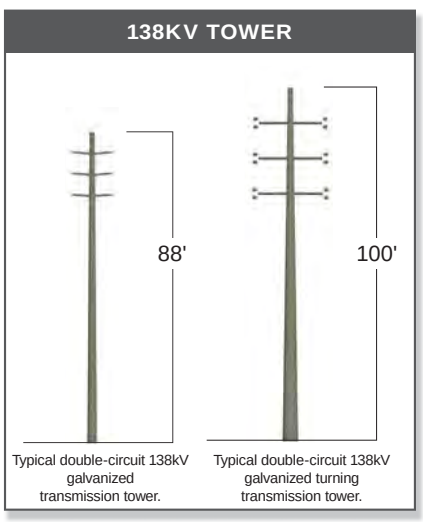


Photo Date and Time: 1-25-10, 10:50 a.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP. Pipeline information provided by Rosemont Copper.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

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Rosemont Copper Transmission Line Project
Simulation 2 - Preferred Route

DRAFT

November 16, 2010

Existing Condition – Box Canyon Road within the Santa Rita Mountains

Simulated Condition – Proposed 138kV corten steel single-circuit transmission line

Simulated Condition – Proposed 138kV galvanized steel single-circuit transmission line

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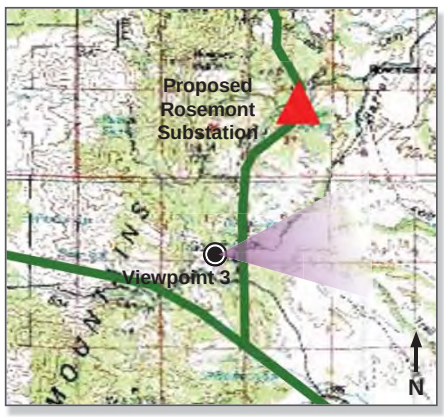
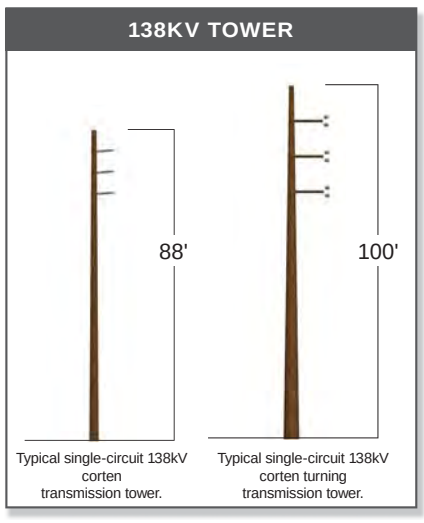


Photograph Location: Box Canyon facing east down Box Canyon Road. Photo point is approximately 0.14 mile from nearest transmission line. Simulation location and viewpoint selected by Coronado National Forest Landscape Architect.



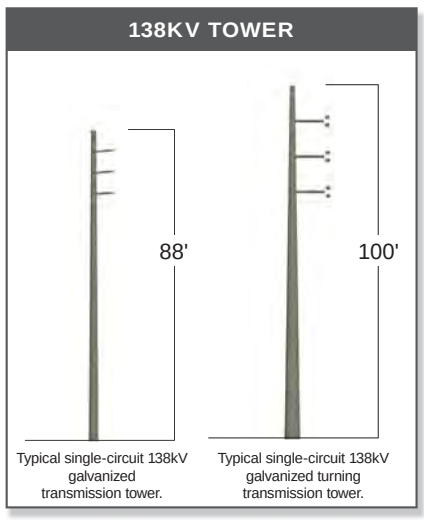


Photo Date and Time: 1-25-10, 12:59 p.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

epg

Rosemont Copper Transmission Line Project
Simulation 3 - Preferred Route, Alternative 1, Alternative 4

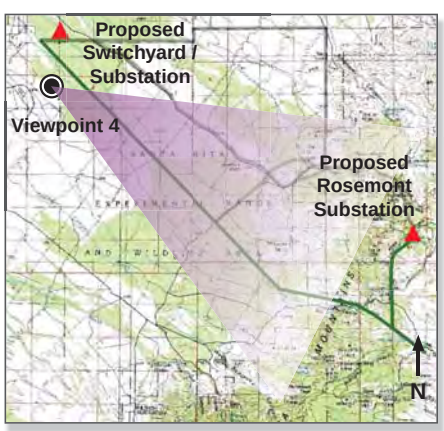
DRAFT

November 16, 2010

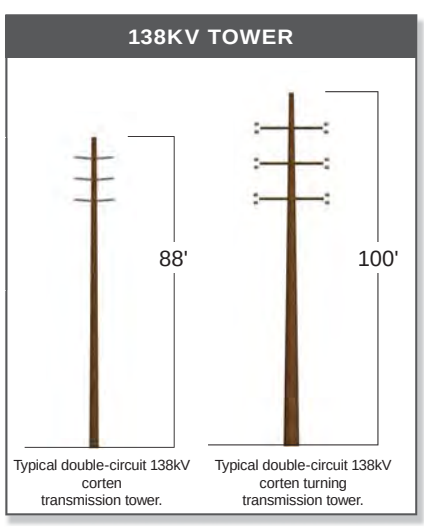
Existing Condition – Quail Creek Community Golf Course and existing 46kV transmission lines

Simulated Condition – Proposed consolidated 138kV corten steel double-circuit transmission line with co-located 46kV line

Simulated Condition – Proposed consolidated 138kV galvanized steel double-circuit transmission line with co-located 46kV line



Photograph Location: Viewing southeast off Quail Creek Community Golf Course.
Photo point is approximately 0.9 mile from nearest transmission line.



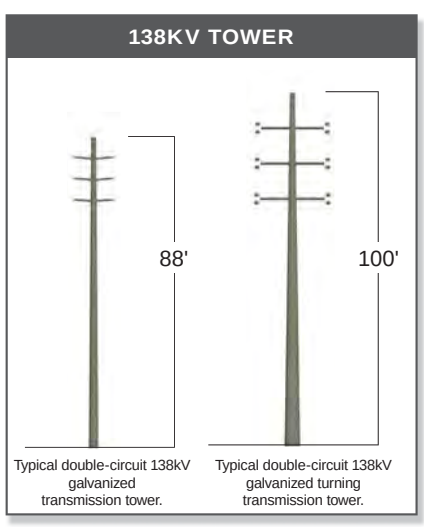


Photo Date and Time: 2-18-10, 2:37 p.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

epg

Rosemont Copper Transmission Line Project
Simulation 4 - Alternative 4

DRAFT

November 16, 2010

Existing Condition – Sahuarita Highlands residences along East Broadwater Way, Santa Rita Road, and Santa Rita Mountains

Simulated Condition – Proposed 138kV corten steel single-circuit transmission lines

Simulated Condition – Proposed 138kV galvanized steel single-circuit transmission lines

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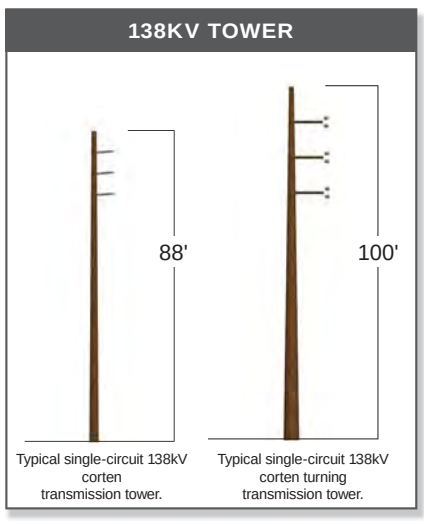
Photograph Location: Viewing south from Sahuarita Highlands on East Broadwater Way toward Santa Rita Road.
Photo point is approximately 0.50 mile from nearest transmission line.



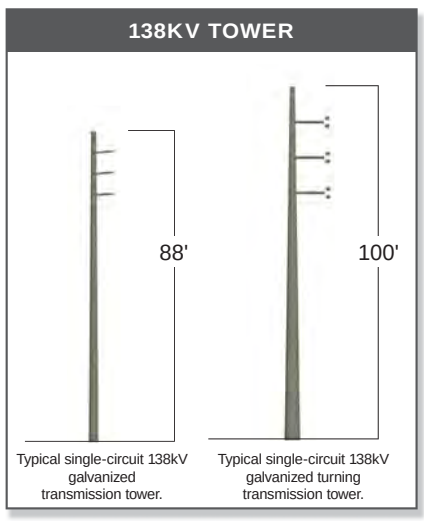


Photo Date and Time: 1-26-10, 11:45 a.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

epg

Rosemont Copper Transmission Line Project
Simulation 5 - Preferred Route Alternative 1
November 16, 2010

DRAFT

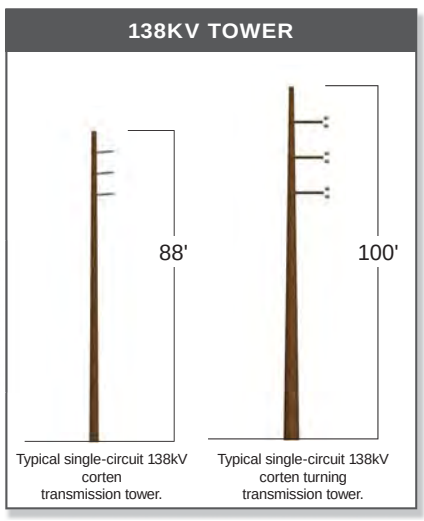
Existing Condition – Residences near Corona de Tucson, north of S. Kolb Road with views of the Santa Rita Experimental Range and Santa Rita Mountains

Simulated Condition – Proposed 138kV corten steel single-circuit transmission line

Simulated Condition – Proposed 138kV galvanized steel single-circuit transmission line

---

Photograph Location: Viewing southeast from residences, north of S. Kolb Road, toward the Santa Rita Mountains. Photo point is approximately 0.2 mile from nearest transmission line.



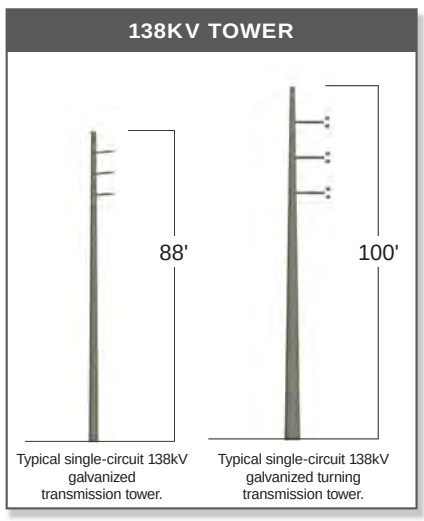


Photo Date and Time: 1-26-10, 1:19 p.m. Focal Length: 50mm

Structure models that were used in the simulations were created using diagrams provided by TEP.

This simulation represents a schematic concept design that will be refined and finalized. Actual final structure sizes, heights, materials, and conductor sag will vary on a case-by-case basis.

epg

Rosemont Copper Transmission Line Project
Simulation 6 - Northern Route
Option 3 (Eliminated)
November 16, 2010

DRAFT

DRAFT

Rosemont 138kV Transmission Line Project

Preliminary Transmission Line Link Alternatives

Legend

- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

- Adjacent 46kV Route Family
- Santa Rita Road Route Family
- North Route Family
- Construction power options for each alternative route family

- Temporary Interconnection

- Updated Project Study Area Boundary
- Santa Rita Experimental Range
- Coronado National Forest Boundary

Notes: Not all of the preliminary alternative links shown on the map will be constructed. Project study area boundary has been updated as of July 2009

Links 120, 105, 155 and 130 may be temporary for construction power based on which alternative route is preffered.

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad

Project Location

Sources

StreetMap USA 2008; TEP 2008; EPG 2008; Pima County 2008; Arizona Game and Fish Department 2001

0 0.5 1 2 Miles

Working Draft
March 4, 2009

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Rosemont 138kV Transmission Line Project

Transmission Line Alternative Routes

R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E.

T. 16 S. T. 17 S. T. 18 S. T. 19 S.

Summit Vail Pima Mine Rd. Country Club Rd. Wilmot Rd. Houghton Rd. Wentworth Rd. Marsh Station Rd. Sonoita Hwy

Sahuarita Sahuarita Rd. East Sahuarita Corona de Tucson S. Via Loma del Venado S. Coppercut Trail Main Ave. Kolb Rd. Harrison Rd. El Toro Rd. La Villita Rd. Duval Mine Rd.

Fort Huachuca Breaker

Proposed Switchyard/ Substation

15 45 20 25 60 30 100 Santa Rita Rd. 130 135 95 140 110 120 105 155 150 Helvetia Rd. Rd 424 Rd 417 Rd 411 Rd 413 White House Canyon Rd.

Rosemont 210 190 160 Box Canyon Rd. Greaterville 170

CORONADO NATIONAL FOREST

SANTA RITA EXPERIMENTAL RANGE

Green Valley Green Valley Southern Pacific Railroad

Empire Ranch Rd. Madera Canyon Rd. Sonoita Hwy Sonoita

Pima County Santa Cruz County

Legend

- Preferred Route
- Alternative Route 1
- Alternative Route 2
- Alternative Route 3
- Alternative Route 4
- Construction Power Options
- Link Node
- Construction Power Interconnection
- Updated Project Study Area Boundary
- Santa Rita Experimental Range
- Coronado National Forest
- Bureau of Land Management

Rosemont Facilities

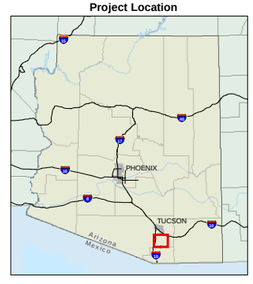
- Claim Boundary
- Private Land

Notes: Not all of the preliminary alternative links shown on the map will be constructed. Project study area boundary has been updated as of July 2009.

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG 2008; Pima County 2008; Arizona Game and Fish Department 2001

0 0.5 1 2 Miles

November 16, 2010

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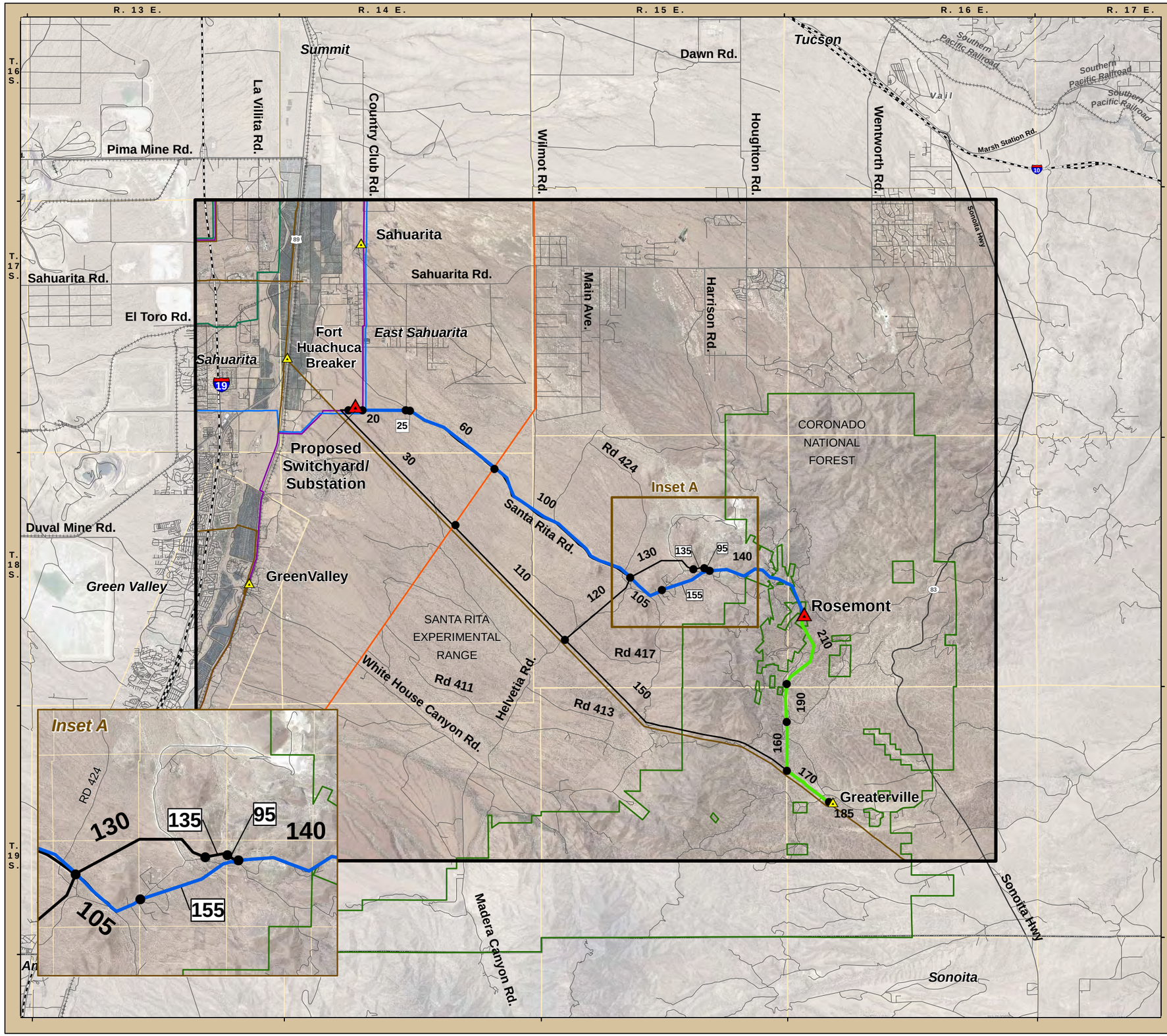
Alternative Routes Summary Table

Alternative Routes	Links Included	Approximate Length (in miles)		Route Considerations
		Permanent Power	Construction Power*	
Preferred Route	20, 25, 60, 100, 105, 155, 140, 170*, 160*, 190*, 210*	12.9	5.3 (separate from permanent power route)	• Permanent line co-located with proposed water pipeline • Preferred by Santa Rita Experimental Range and Arizona State Land Department • Santa Rita Road designated scenic route by Pima County (February 2010) • Residences near link 155
Alternative 1	20, 25, 60, 100, 130, 135, 95, 140, 170*, 160*, 190*, 210*	12.8	5.3 (separate from permanent power route)	• Permanent line co-located with proposed water pipeline • Majority of route supported by Santa Rita Experimental Range and Arizona State Land Department, with the exception of link 130 • Santa Rita Road designated scenic route by Pima County (February 2010) • Link 130, 135: new corridor, no co-location with pipeline, farther from residences
Alternative 2	30, 110, 120*, 105*, 155*, 140*	15.1	7.2 (common with permanent power route)	• Co-located with and replaces 46kV structures to link 120 • Requires new access for a portion of link 120 and temporary disturbance for interconnection • Co-located with proposed water pipeline at Santa Rita Road • Santa Rita Experimental Range concern for impacts associated with link 120 as well as links 30 and 110, prefers co-location with proposed pipeline • Residences near link 155
Alternative 3	30, 110, 120*, 130*, 135*, 95*, 140*	15	7.1 (common with permanent power route)	• Co-located with and replaces 46kV structures to link 120 • Requires new access for a portion of link 120 and temporary disturbance for interconnection • Co-located with proposed water pipeline at Santa Rita Road • Santa Rita Experimental Range concern for impacts associated with link 120 and 130, as well as links 30 and 110, prefers co-location with proposed pipeline • Link 130, 135: new corridor, no co-location with pipeline, farther from residences
Alternative 4	30, 110, 150, 170*, 160*, 190*, 210*	19.5	5.3 (common with permanent power route)	• Co-located with and replaces 46kV structures to Greaterville • Preferred by Town of Sahuarita • Coronado National Forest stated least preferred for visual impacts • Coronado National Forest concern with link 150 within Box Canyon Area • New access required for link 160, which crosses Box Canyon Road (designated scenic road) • Longest route

*Connection for construction power

Alternative Routes Recommended to be Carried Forward

- **Preferred Route** (Santa Rita Road – option 1)
  - Uses links 105, 155, Greaterville for construction interconnection
- **Alternative 1** (Santa Rita Road – option 3)
  - Uses links 130, 135, Greaterville for construction interconnection
- **Alternative 2** (Adjacent 46kV Line – option 1)
  - Uses links 105,155, Helvetia Road/46kV for construction interconnection
- **Alternative 3** (Adjacent 46kV Line – option 2)
  - Uses links 120,130,135, Helvetia/46kV for construction interconnection
- **Alternative 4** (Adjacent 46kV Line – option 4)
  - Uses link 150, Greaterville for construction interconnection



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Rosemont 138kV Transmission Line Project

Preferred Route

Legend

- Operation Power (20, 25, 60, 100, 105, 155, 140)
- Construction Power Option (170, 160, 190, 210)
- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary

Project Location

Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

November 16, 2010

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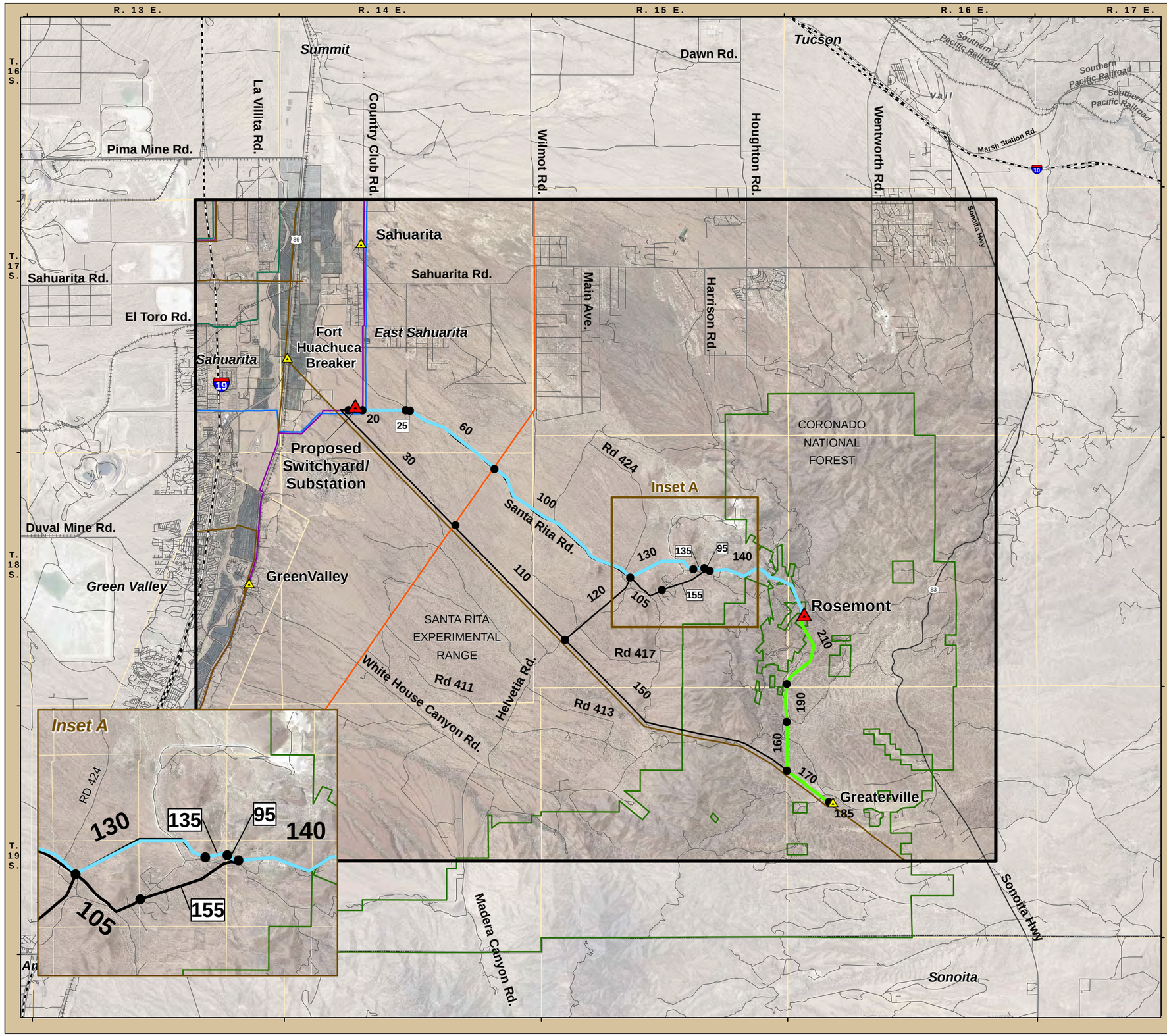

Tucson Electric Power

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Rosemont 138kV Transmission Line Project

Alternative 1

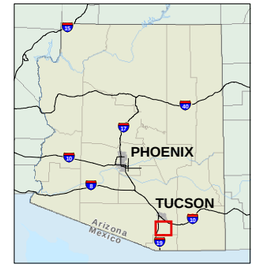
Legend

- Operation Power (20, 25, 60, 100, 130, 135, 95, 140)
- Construction Power Option (170, 160,190, 210)
- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

November 16, 2010

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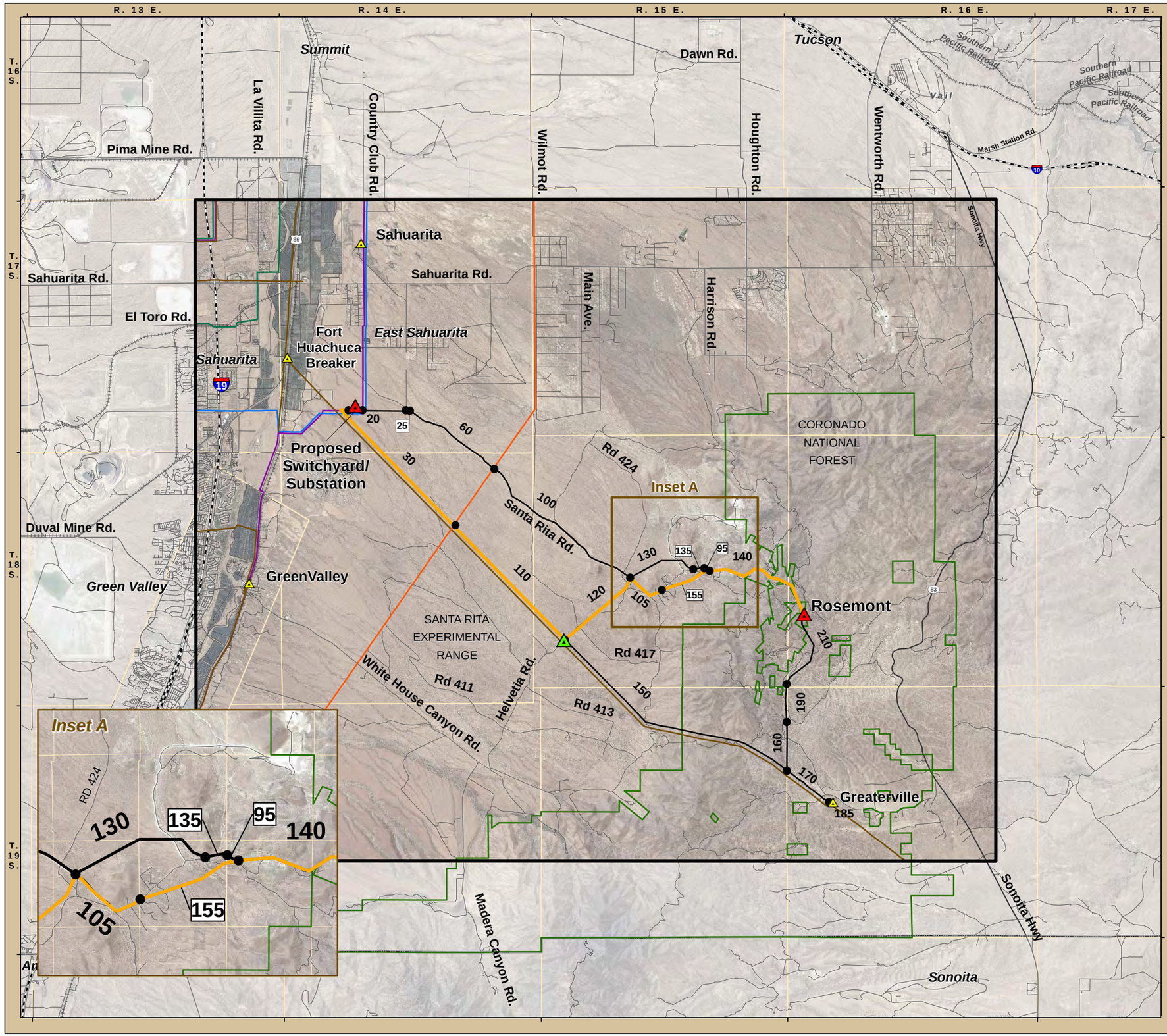


Tucson Electric Power

DRAFT

Rosemont 138kV Transmission Line Project

Alternative 2

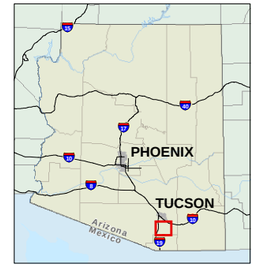
Legend

- Operation Power (30, 110, 120, 105, 155, 140)
- Construction Power Interconnection
- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

November 16, 2010

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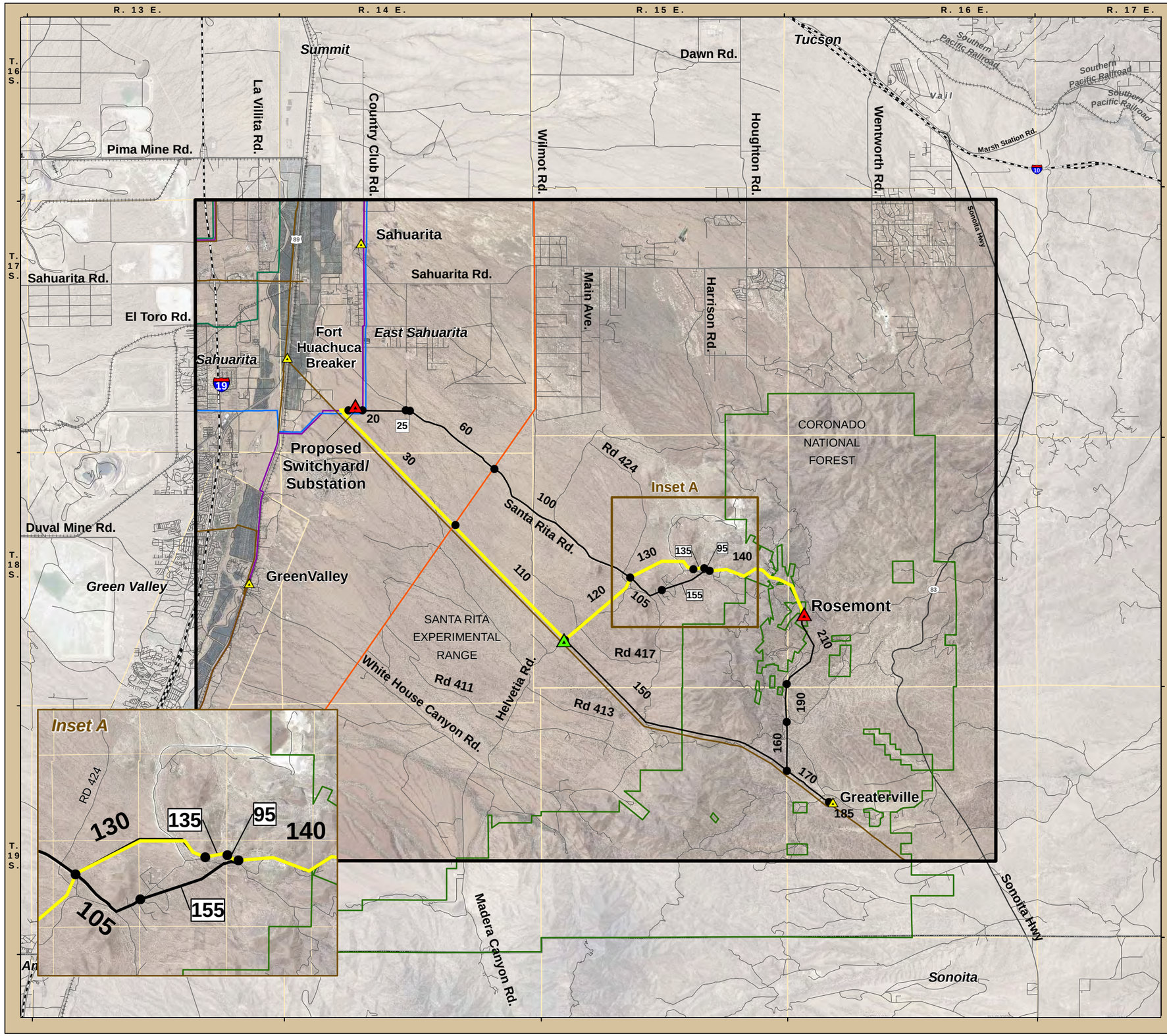


Tucson Electric Power

DRAFT

Rosemont 138kV Transmission Line Project

Alternative 3

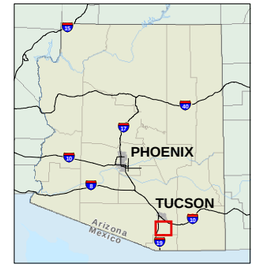
Legend

- Operation Power (30, 110, 120, 130, 135, 95, 140)
- Construction Power Interconnection
- 10 — Link Identification Number
- Link Node
- Preliminary Alternative Link

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary

Project Location



Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

November 16, 2010

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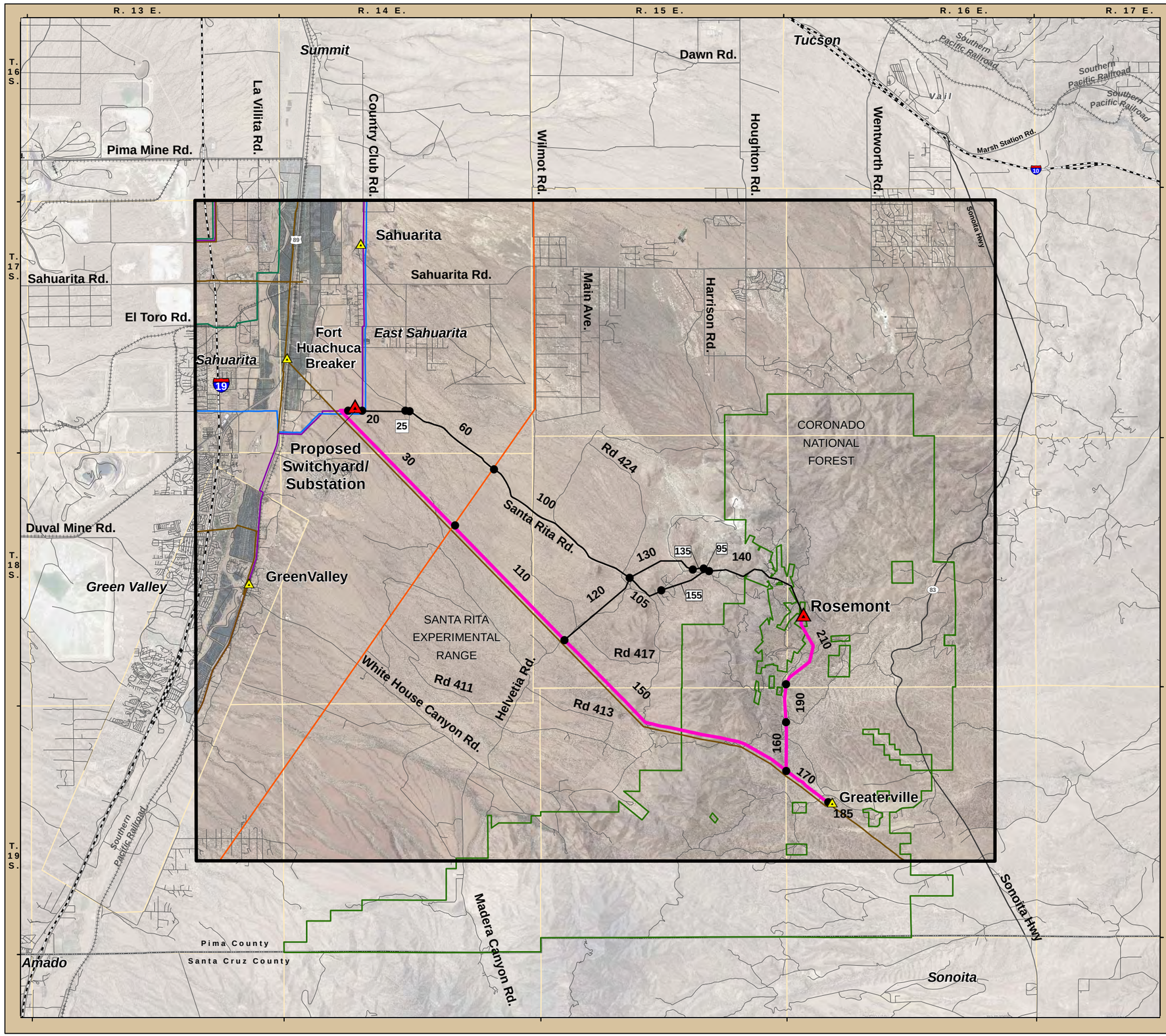

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Rosemont 138kV Transmission Line Project

Alternative 4

Legend

Operation Power
(30, 110, 150, 170, 160, 190, 210)

10 Link Identification Number
Link Node
Preliminary Alternative Link

General Reference Features

- Existing Substation
- Proposed Switchyard/Substation
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 138kV Transmission Line
- Existing 115kV Transmission Line
- Existing 46kV Transmission Line
- National Forest Boundary
- Updated Project Study Area Boundary
- County Boundary
- Interstate
- Highway
- Secondary Road
- Railroad
- River / Wash
- Township Boundary

Project Location

Sources

StreetMap USA 2008; TEP 2008; EPG, 2008, Pima County 2008, Rosemont Copper Company 2008

0 0.5 1 2 Miles

November 16, 2010

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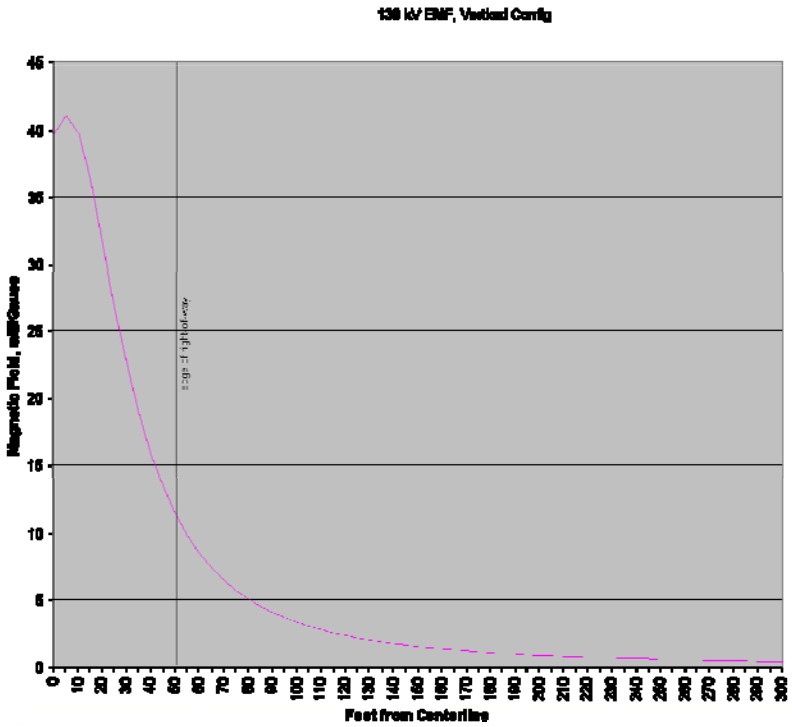
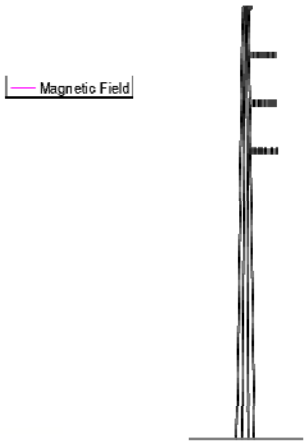
Electric and Magnetic Fields (EMF)



EMF STRENGTH OF VARIOUS ELECTRICAL SOURCES AT VARIOUS DISTANCES

EMF Source[1]	Distance	Strength	Distance	Strength	Distance	Strength
Microwave Oven	0.5 feet	200 mG	1.0 feet	4 mG	4.0 feet	2 mG
Vacuum Cleaner	0.5 feet	300 mG	1.0 feet	60 mG	4.0 feet	1 mG
Hair Dryer	0.5 feet	300 mG	1.0 feet	1 mG	4.0 feet	0 mG
Electric Shaver	0.5 feet	100 mG	1.0 feet	20 mG	4.0 feet	0 mG
138 kV Transmission Line, vertical[2]	0 feet	40 mG	50 feet	11 mG	300 feet	0.4 mG

[1] Appliance magnetic field strengths are median values in milliGauss (mG) for typical 60 Hz electric current (source: USNIEHS, DOE 1995)
[2] 138kV power-line right-of-way is 100 ft wide, 0 feet values represent directly below the lines at lowest point of sag.



Additional EMF information resources are available from:

Environmental Health Information Service:
http://www.niehs.nih.gov/health/topics/agents/emf/

World Health Organization: *www.who.int/emf*

Agency and Public Participation Activities

- Agency briefings
- Stakeholder group meetings
- Field trip
- Public open house meetings
- Community briefings
- Newsletters
- Telephone information line
- Website (TEP)

Public Participation Opportunities

- Public open house meetings
- Telephone information line (866) 632-5944
- TEP website: www.tep.com/company/news/rosemont
- Arizona siting committee FAQs website:

  www.cc.state.az.us/Divisions/Utilities/Electric/LineSiting-FAQs.asp
- Media briefings
- Comment forms

Comments

- Your comments will be reviewed and incorporated into the siting process.
- A court reporter is available tonight to record in writing your verbal comments on the proposed project, if you desire.
- Comments may also be submitted on the comment forms provided at the open house meetings or submitted electronically at the TEP website. Please submit comments by December 6, 2010.

TEP Decision Elements

- Purpose and need
- Environmental analysis
- Public/agency input
- Permits
- Engineering analysis
- Ability to obtain right-of-way
- Overall cost

Next Steps

- Finalize routes to be carried forward in CEC application
- File CEC application – first quarter 2011

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