BEFORE THE ARIZONA ... AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF SUNZIA TRANSMISSION LLC, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE SUNZIA SOUTHWEST TRANSMISSION PROJECT, WHICH INCLUDES THE CONSTRUCTION OF TWO NEW 500 KV TRANSMISSION LINES AND ASSOCIATED FACILITIES ORIGINATING AT A NEW SUBSTATION (SUNZIA EAST) IN LINCOLN COUNTY, NEW MEXICO, AND TERMINATING AT THE PINAL CENTRAL SUBSTATION IN PINAL COUNTY, ARIZONA. THE ARIZONA PORTION OF THE PROJECT IS LOCATED WITHIN GRAHAM, GREENLEE, COCHISE, PINAL, AND PIMA COUNTIES.	DOCKET NO. L-00000YY-15-0318-00171 Case No. 171

SUNZIA TRANSMISSION, LLC'S NOTICE OF FILING WITNESS SUMMARIES, PRE-FILED TESTIMONY AND HEARING EXHIBITS

Arizona Corporation Commission
DOCKETED
OCT 13 2015
DOCKETED BY

Pursuant to the Procedural Order, in particular Paragraphs 3, 15, 16, 25, 27, and 28, SunZia Transmission, LLC provides notice of filing its witness summaries, pre-filed testimony, hearing exhibits, and proposed Certificate of Environmental Compatibility.

Moreover, as required by Paragraph 12 of the September 11, 2015 Procedural Order, as amended, SunZia copied the parties and potential parties, of which it is aware, contained in its distribution list. The distribution list includes the following:

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RESPECTFULLY SUBMITTED this 13th day of October, 2015.

RYLEY CARLOCK & APPLEWHITE

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Samuel L. Lofland
Ryley Carlock & Applewhite
One N. Central Ave., Suite 1200
Phoenix, Arizona 85004-4417

MUNGERCHADWICK, PLC

By: _____
Lawrence V. Robertson, Jr.
Of Counsel
P.O. Box 1448
Tubac, AZ 85646-1448

CERTIFICATE OF MAILING

Pursuant to A.A.C. R14-3-204, the **ORIGINAL** of the foregoing and 25 copies filed this 13th day of October, 2015, with:

Utilities Division – Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

COPY of the foregoing hand-delivered this 13th day of October, 2015, to:

Chairman Thomas Chenal
Arizona Power Plant and
Transmission Line Siting Committee

COPY of the foregoing mailed this 13th day of October, 2015, to:

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SUNZIA SOUTHWEST TRANSMISSION PROJECT
DOCKET NO. L-00000YY-15-0318-00171
CASE NO. 171

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Sun-2	Witness Summaries
Sun-3	Witness Slides: Wray and Etherton Panel
Sun-4	Witness Slides: Sankaran Panel
Sun-5	Witness Slides: Environmental Panel
Sun-6	Testimony Regarding Public Notice
Sun-7	BLM/ASLD/AGFD/ADOT letter
Sun-8	TEP's Response to Staff's Data Request
Sun-9	SRP's Response to Staff's Data Request
Sun-10	Economic Study (*New Energy Economy in the Desert Southwest*)
Sun-11	Proposed Certificate of Environmental Compatibility
Sun-12	Applicant's Proposed Route Tour and Protocol
Sun-13	Exhibit H/Letters of Response
Sun-14	Application Addendum
Sun-15	Virtual Tour (DVD inside back cover)

APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY FOR THE SUNZIA SOUTHWEST TRANSMISSION PROJECT

Previously filed, September 2, 2015

SunZia Southwest Transmission Project

Docket No. L-00000YY-15-0318-00171

Case No. 171

First Witness Panel

Witness Summaries
Of
Tom Wray and Mark Etherton

The first witness panel will consist of two witnesses, Tom Wray, Project Manager, and Mark Etherton, Engineering Manager, for the SunZia Southwest Transmission Project ("SunZia Project").

Mr. Wray will describe the Applicant and its Proposed Route presented to the Line Siting Committee and the Arizona Corporation Commission ("ACC"). Review of the Proposed Route will include a 'virtual tour' that includes a fly-over of the alignment along with video footage and visual simulations of key interest areas. He will also review the history, public outreach efforts, and the need for and benefits of the SunZia Project.

Mr. Etherton will overview the SunZia Project's inclusion in the ACC's Biennial Transmission Assessment and the Commission's required Ten-Year Plans. Mr. Etherton will describe the project's technical components, benefits to Arizona's EHV system, and future interconnection agreements with Arizona's load serving entities. In addition, he will summarize the project's involvement in various regional transmission planning processes, the project's Accepted Rating from the Western Electricity Coordinating Council, and the project's adherence to the ACC's Guiding Principles for Transmission Adequacy and Reliability.

Additional details concerning the testimony of Mr. Wray and Mr. Etherton are provided in the witness presentation slides, filed concurrently.

SunZia Southwest Transmission Project

Docket No. L-00000YY-15-0318-00171

Case No. 171

Witness Summary
Of
Ravi Sankaran, SunEdison

The second witness panel will consist of one witness, Ravi Sankaran, Senior Director, Power Origination for SunEdison. Mr. Sankaran will describe the proposed wind farm under development by SunEdison that is located near the eastern terminus of the SunZia Southwest Transmission Project ("SunZia Project"). SunZia and SunEdison have a letter of intent to use up to 1,500 MW of SunZia's transmission capacity to deliver SunEdison's wind generation to power markets in the Desert Southwest. Mr. Sankaran will describe the benefits of New Mexico's wind resource in meeting demand for scalable renewable energy, increasing portfolio diversity, and meeting air quality mandates.

Additional details concerning the testimony of Mr. Sankaran are provided in the witness presentation slides, filed concurrently.

SunZia Southwest Transmission Project

Docket No. L-00000YY-15-0318-00171

Case No. 171

Witness Summaries of the Environmental Panel

This witness panel will consist of four witnesses, all members of Environmental Planning Group (EPG), as follows:

Michael Siegel, Project Manager; David Kahrs, Biological Services Manager; Marc Schwartz, Director of Visual Resources; and Dr. Steve Swanson, Cultural Resource Director.

Michael Siegel – Mr. Siegel is the Project Manager for EPG, environmental consultant to SunZia Southwest LLC for the SunZia Southwest Transmission Project (Project). His testimony will include a discussion of alternative routes evaluated by the BLM during the NEPA process, findings with respect to land uses and existing plans, recreation, noise and interference, and an overview of the results of the analyses to address the factors considered in issuing a CEC. More details with respect to Mr. Siegel's testimony are contained in the slide presentation, which has been filed in the docket and provided to the Line Siting Committee.

David Kahrs – Mr. Kahrs is the Manager of Biological Services in the Phoenix office at EPG. His testimony will include a discussion of biological resource studies and results. More details with respect to Mr. Kahrs's testimony are contained in the slide presentation, which has been filed in the docket and provided to the Line Siting Committee.

Marc Schwartz – Mr. Schwartz is the Director of Visual Resources for EPG, and principal investigator for scenic areas (visual resources) associated with the Project. His testimony will include a discussion of the key components of the visual resource analysis, the visual resource inventory, and anticipated effects. Mr. Schwartz will present a summary of the findings with respect to landscape scenery and to public viewing locations. More details with respect to Mr. Schwartz's testimony are contained in the slide presentation, which has been filed in the docket and provided to the Line Siting Committee.

Steve Swanson, PhD. - Dr. Swanson is the Cultural Resources Director for EPG, and is the principal investigator for cultural and historic resources associated with the SunZia Southwest Transmission Project. Dr. Swanson will provide a discussion of the historic and archaeological site and structure analysis. Dr. Swanson will describe the Programmatic Agreement prepared for the Project. More details with respect to Dr. Swanson's testimony are contained in the slide presentation, which has been filed in the docket and provided to the Line Siting Committee.

SunZia

SunZia Southwest
Transmission Project

Testimony Materials of *Tom Wray*

Tom Wray, Project Manager

- **Project Manager for SunZia Southwest Transmission Project**
- **Transmission & Generation Project Manager for SouthWestern Power Group**
  - » Headquartered in Phoenix, AZ since 1999
  - » Develop transmission and generation projects
- **Roles and Responsibility**
  - » Completion of all federal and state permitting processes required to construct the SunZia Project
  - » Overall project management of the work scope, schedule, and budget for the SunZia Project

SunZia Transmission, LLC
Application for a
Certificate of Environmental Compatibility
for the Arizona Portion of the
SunZia Southwest Transmission Project

Case No. 171

Tom Wray, Project Manager

- **Bachelor's Degree – Electrical Engineering, Louisiana State University, 1971**
- **Master's Degree – Business Administration, University of New Mexico, 1984**
- **Master's Degree – Engineering, University of Colorado, 1989**
- **43 Years Experience in Electrical Utility Industry**
  - » 17-year employment at Public Service Company of New Mexico
  - » 15-year employment at SouthWestern Power Group
- **Siting Committee Experience**
  - » Case No. 109, Gila River, 2001
  - » Case No. 112/113, Toltec, 2002
  - » Case No. 118, Bowie, 2002

SunZia Transmission, LLC
Application for a
Certificate of Environmental Compatibility
for the Arizona Portion of the
SunZia Southwest Transmission Project

Case No. 171

Overview

- Applicant Background
- Description of Route/Virtual Tour
- Project History
- Public Outreach
- Project Need and Benefits
- Summary

SunZia Transmission, LLC
Application for a
Certificate of Environmental Compatibility
for the Arizona Portion of the
SunZia Southwest Transmission Project

Case No. 171

SunZia Capacity Allocation

- **Merchant Capacity**
  - » Per the Declaratory Order from the Federal Energy Regulatory Commission (Docket No. EL11-24-000), the Merchant Owners can subscribe up to 50% of the Merchant Capacity to Anchor-Tenants and at least 50% must be made available during an open season auction

- **Utility Capacity**
  - » SRP, TEP, and TGT will make their capacity available in their respective OATTs on file at FERC

Shell Wind Energy

SouthWestern Power/
MMR Group

Tucson Electric Power

Salt River Project

Tri-State G&T

Project Overview

- Total project in New Mexico and Arizona is approximately 515 miles
  - » Arizona Portion is approximately 200 miles
- Typical ROW per 500 kV circuit
- Two interconnections in Arizona
  - » Proposed Willow-500 kV Substation
  - » Existing Pinal Central Substation
- Two configuration options:
  - » Option A – Two 500 kV AC lines
  - » Option B – One 500 kV AC line, one 500 kV DC line
- Project Timeline

Final Alignment – Total Project

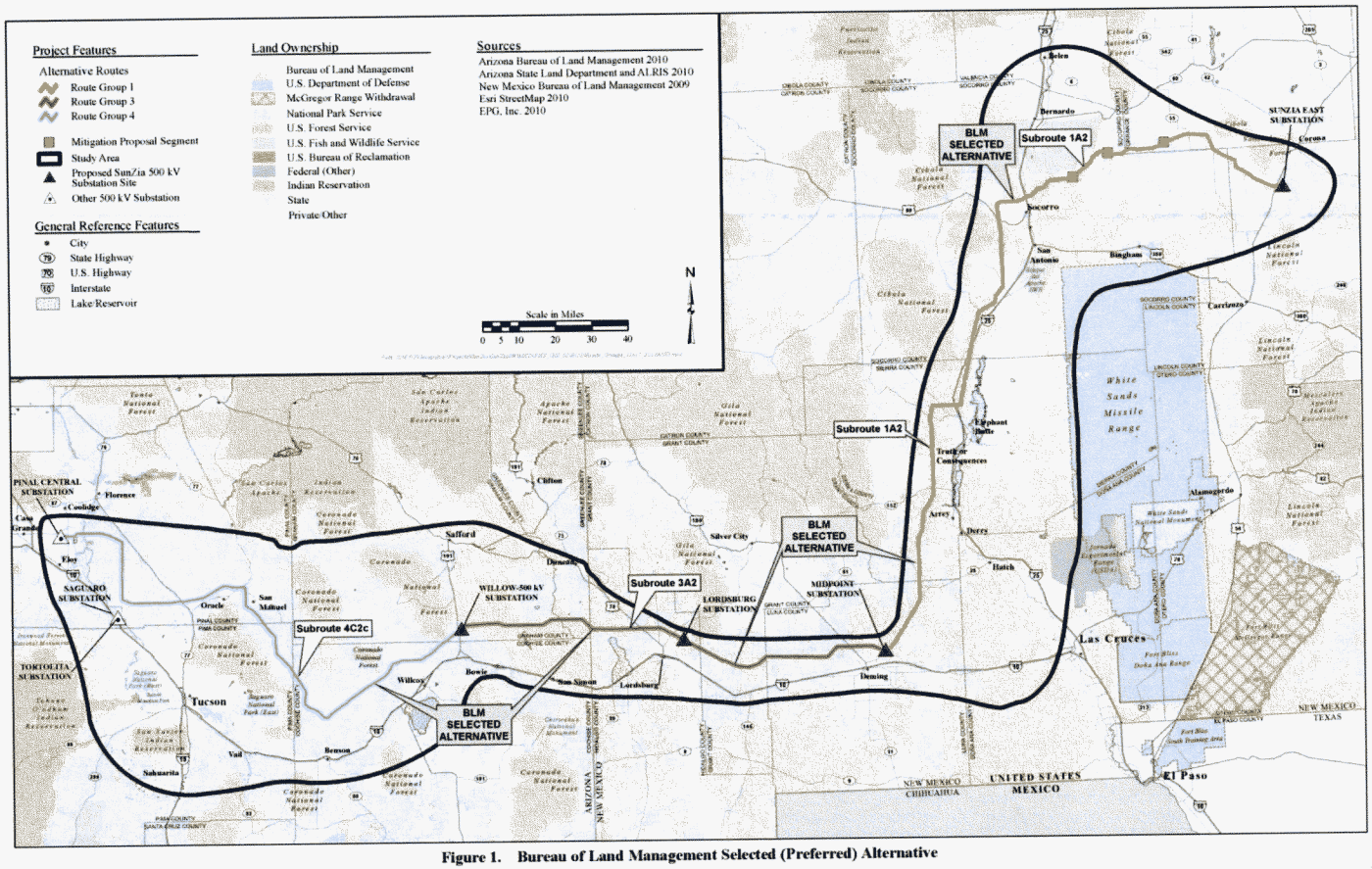
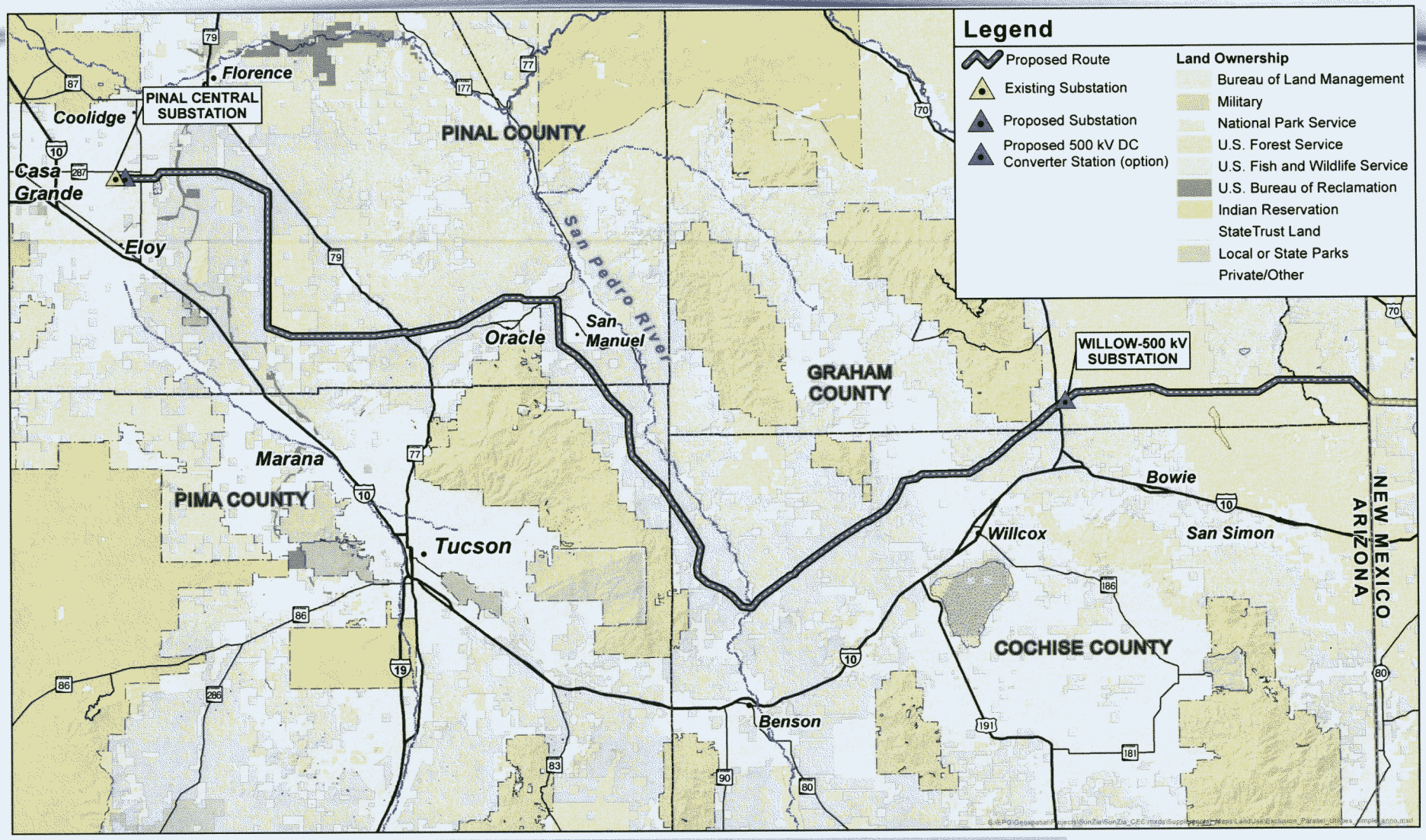


Figure 1. Bureau of Land Management Selected (Preferred) Alternative

Project Overview

- Total project in New Mexico and Arizona is approximately 515 miles
  - » Arizona Portion is approximately 200 miles
- Typical ROW per 500 kV circuit
- Two interconnections in Arizona
  - » Proposed Willow-500 kV Substation
  - » Existing Pinal Central Substation
- Two configuration options:
  - » Option A – Two 500 kV AC lines
  - » Option B – One 500 kV AC line, one 500 kV DC line
- Project Timeline

Proposed Route in Arizona



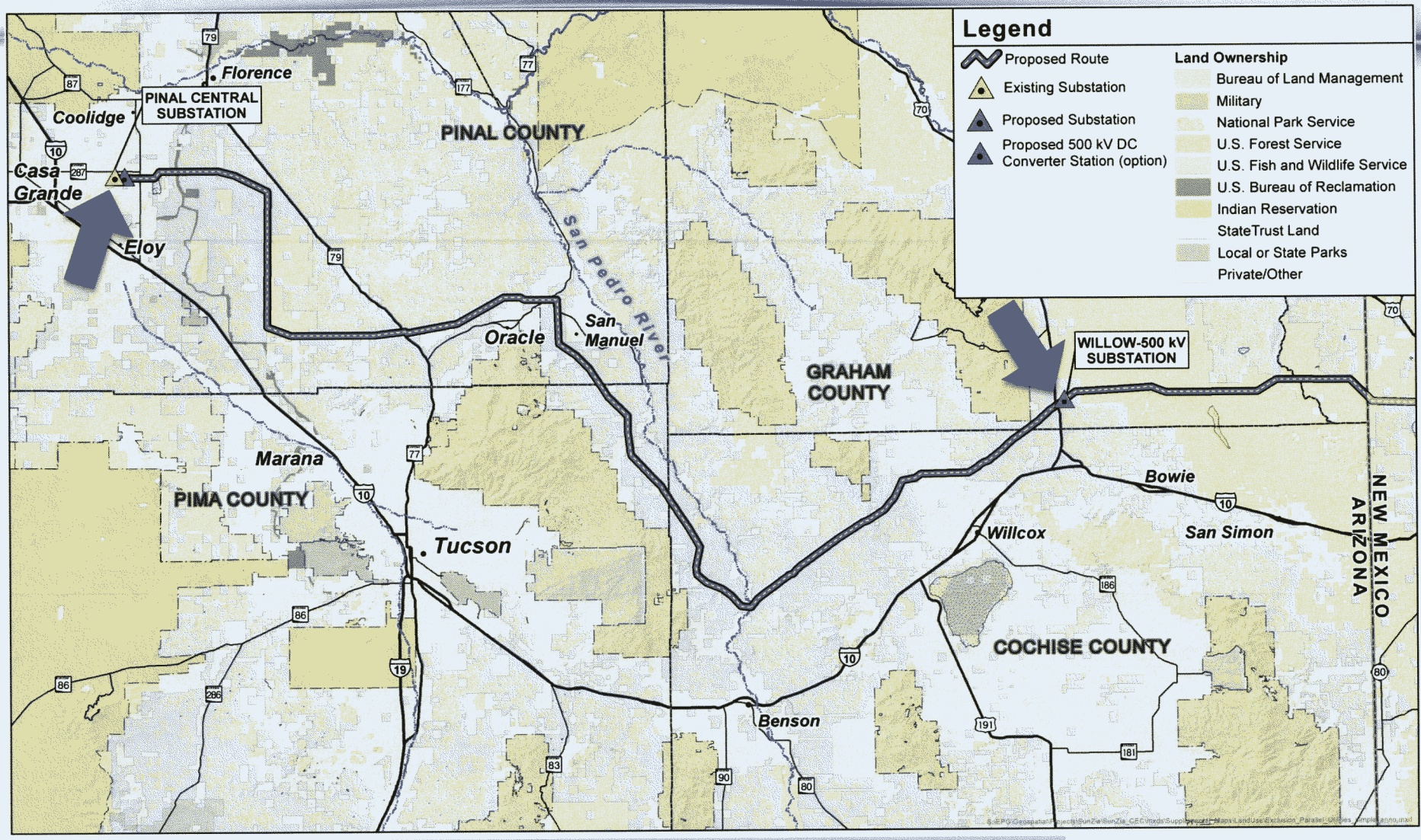
SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-6

Project Overview

- Total project in New Mexico and Arizona is approximately 515 miles
  - » Arizona Portion is approximately 200 miles
- Typical ROW per 500 kV circuit
- Two interconnections in Arizona
  - » Proposed Willow-500 kV Substation
  - » Existing Pinal Central Substation
- Two configuration options:
  - » Option A – Two 500 kV AC lines
  - » Option B – One 500 kV AC line, one 500 kV DC line
- Project Timeline

Two Interconnections in Arizona



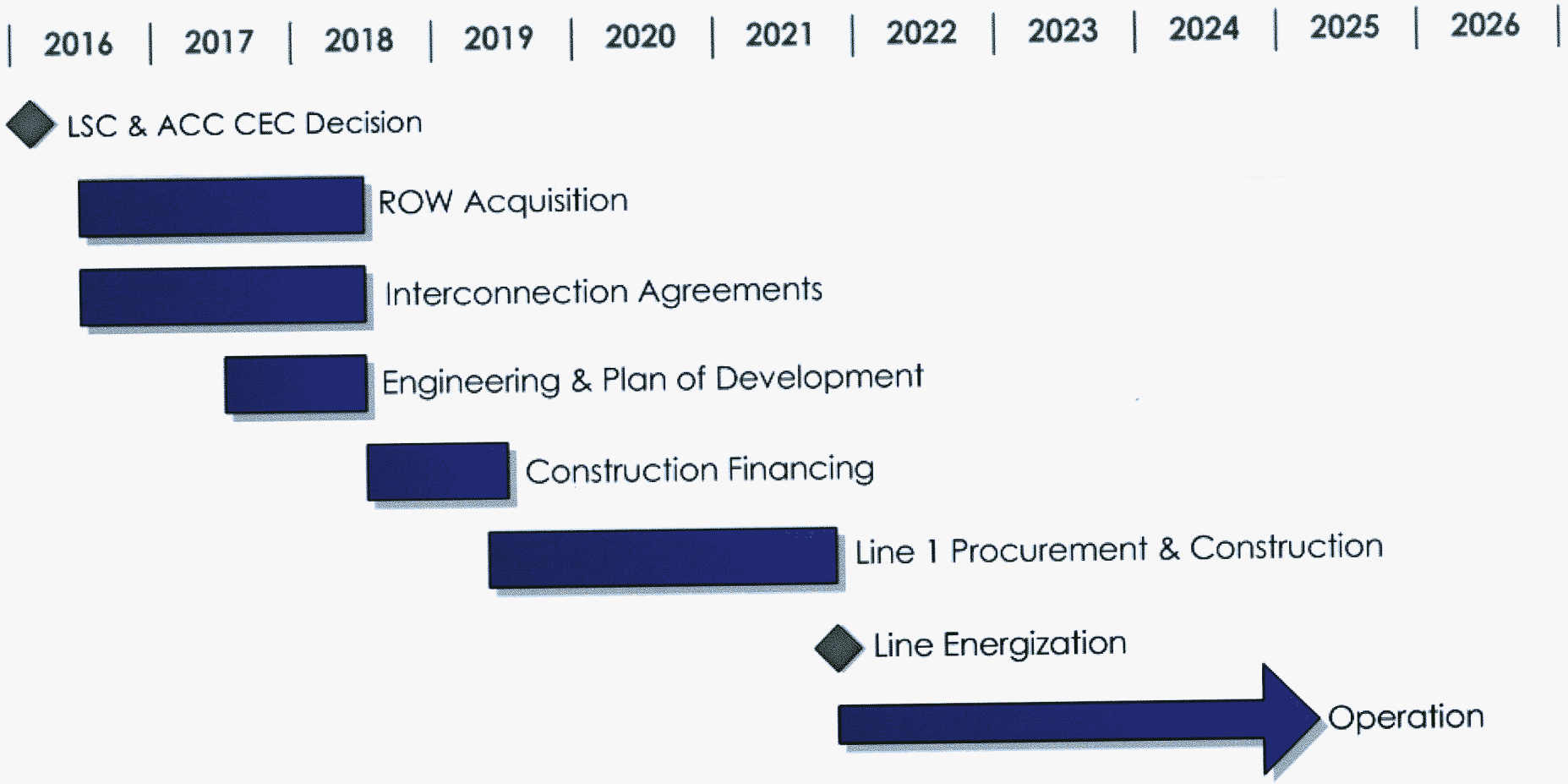
SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-7

Project Overview

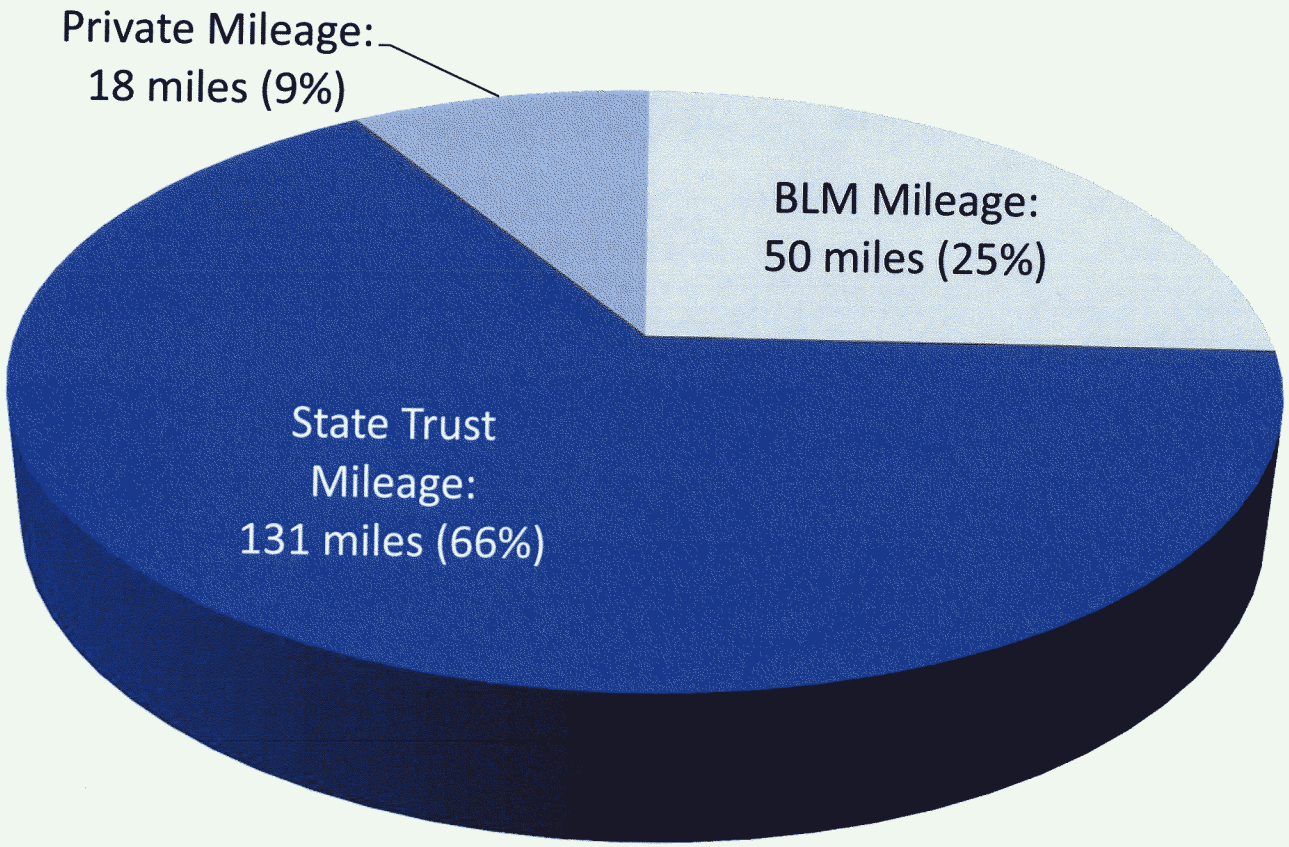
- Total project in New Mexico and Arizona is approximately 515 miles
  - » Arizona Portion is approximately 200 miles
- Typical ROW per 500 kV circuit
- Two interconnections in Arizona
  - » Proposed Willow-500 kV Substation
  - » Existing Pinal Central Substation
- Two configuration options:
  - » Option A – Two 500 kV AC lines
  - » Option B – One 500 kV AC line, one 500 kV DC line
- Project Timeline

Timeline

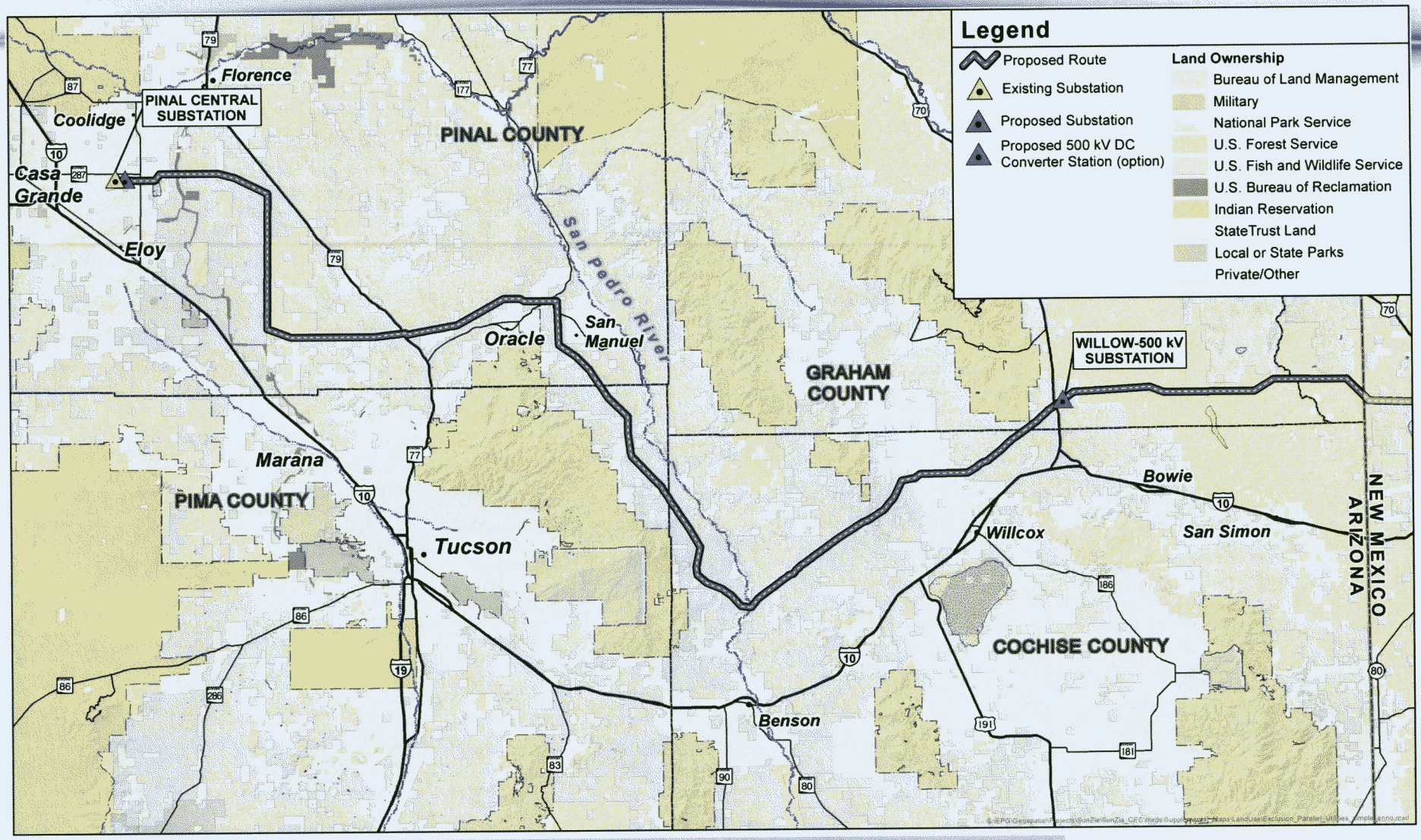

2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
LSC & ACC CEC Decision
ROW Acquisition
Interconnection Agreements
Engineering & Plan of Development
Construction Financing
Line 1 Procurement & Construction
Line Energization
Operation

Land Ownership in Arizona

199 miles



Proposed Route in Arizona



SunZia Southwest Transmission Project

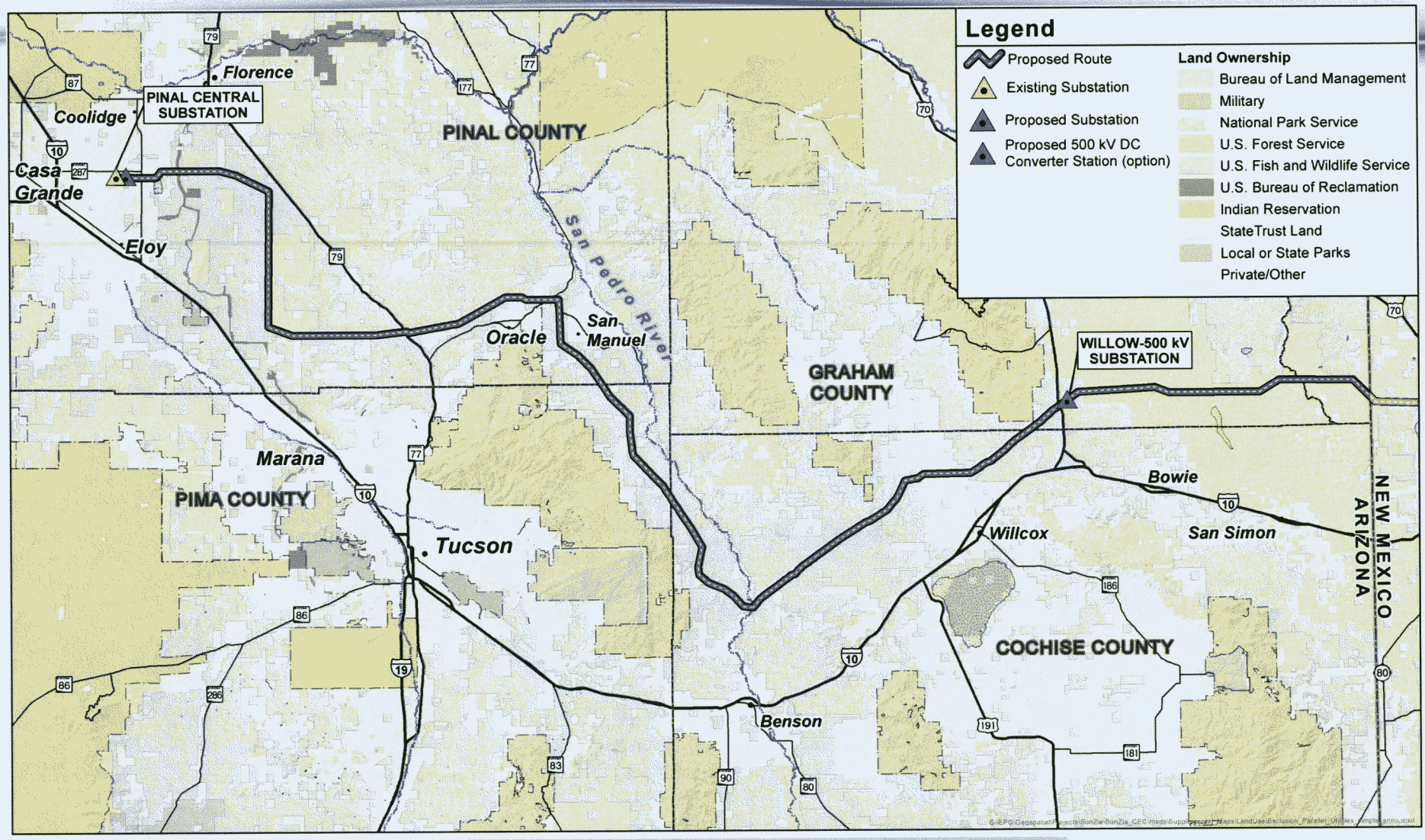
R-9

SunZia

Jurisdiction

JURISDICTION							
	Greenlee County	Graham County	Cochise County	Pima County	Pinal County	City of Coolidge[2]	Total
Miles[1]	9.6	33.1	57.8	16.2	81.8	<0.1	198.5
Percent	4.8	16.7	29.1	8.2	41.2	<0.1	100
	1.Based on approximate location of the proposed transmission line corridor centerline 2.Pinal Central Substation is located in the recently annexed portion of City of Coolidge						

Proposed Route in Arizona



SunZia Southwest Transmission Project

R-10

SunZia

Project History

Project History

Project Schedule

MILESTONE	DATE
Concept emerges in regional planning	Starting 2006
Sponsors sign MOA	April 2008
Submit BLM SF-299 ROW Application	Sept 2008
Initiate Scoping	May 2009
Draft EIS	May 2012
Final EIS	June 2013
Record of Decision	Jan 2015

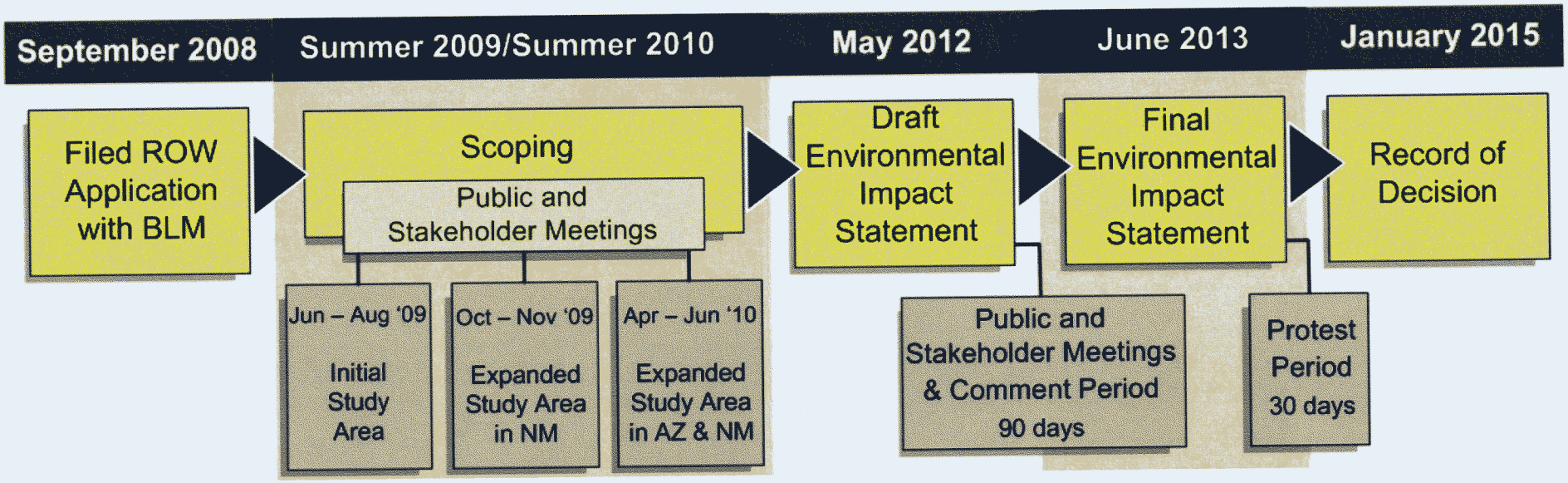
Project Concept Originated in Regional Transmission Planning

- In 2006, Southwest Area Transmission Subregional Planning Group (SWAT) identified the need for EHV transmission expansion between southern NM and southern AZ to:
  - » increase system power transfer limits and import capability requirements
  - » serve growing electrical loads
  - » provide service for the increasing demand for new generation resources, especially renewables

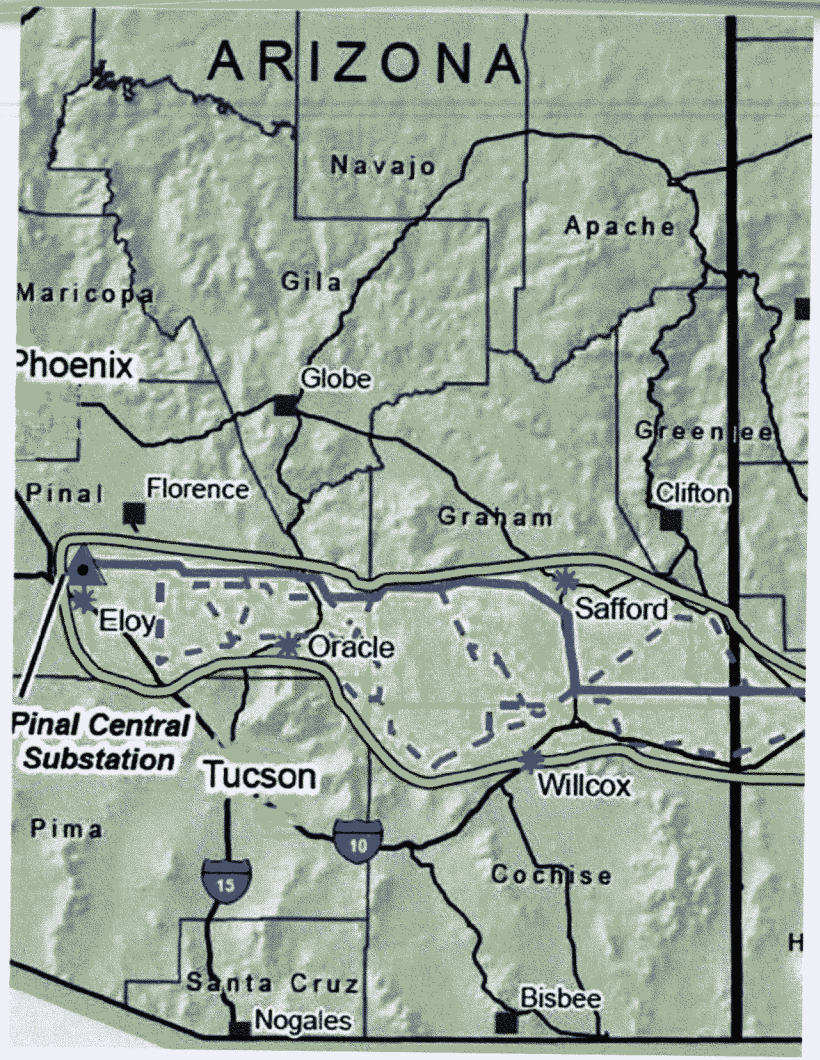
Project Schedule

MILESTONE	DATE
Concept emerges in regional planning	Starting 2006
Sponsors sign MOA	April 2008
Submit BLM SF-299 ROW Application	Sept 2008
Initiate Scoping	May 2009
Draft EIS	May 2012
Final EIS	June 2013
Record of Decision	Jan 2015

Proposed Route in AZ determined after 6.5-year environmental review process

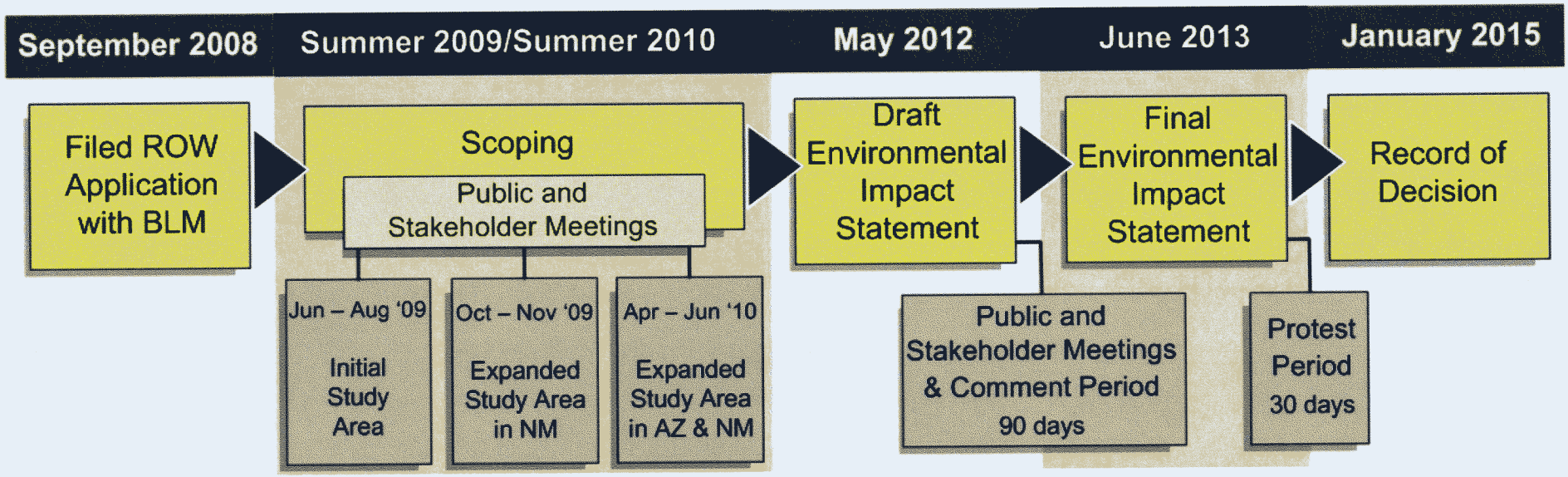


Scoping Period 1



- 45-day public scoping period was initiated on 5/29/2009
- 9 public scoping meetings were held in AZ and NM during June and July 2009
- At the request of the public and organizations, the comment deadline of 7/13/2009 was extended to 8/28/2009

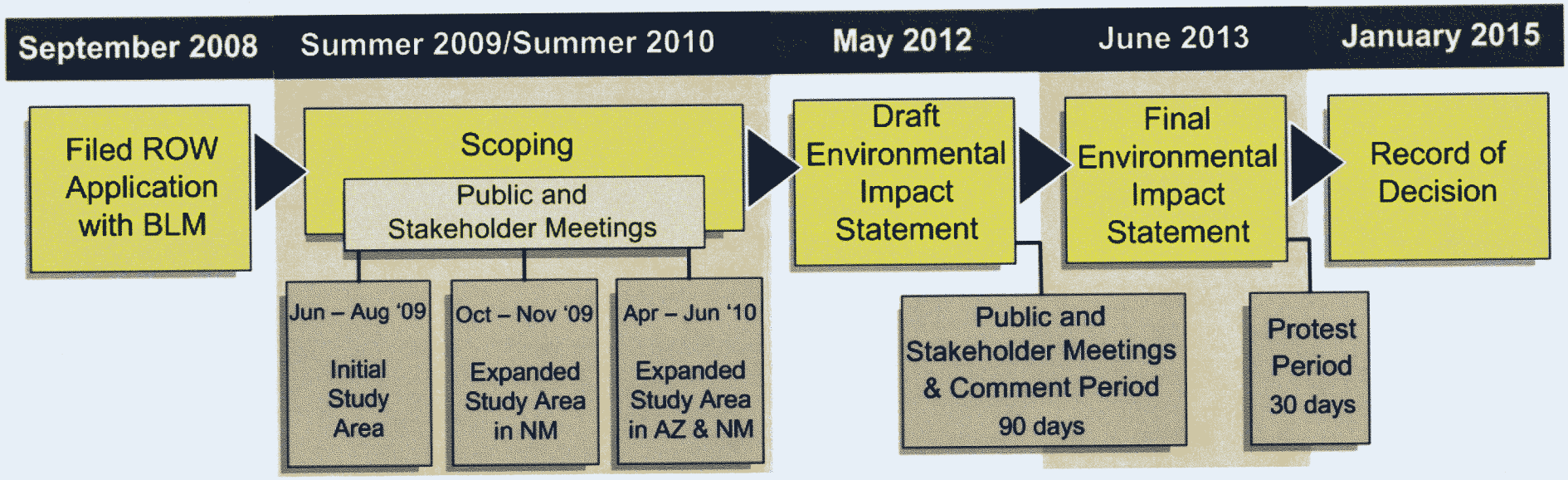
Proposed Route in AZ determined after 6.5-year environmental review process



Scoping Period 3

- In response to comments received during scoping periods 1 & 2, the BLM expanded the study area to evaluate additional routes in AZ & NM
- The BLM held a public meeting in both states during April 2010
- The scoping period officially ended on 6/30/2010

Proposed Route in AZ determined after 6.5-year environmental review process



2,000+ Miles of Routes Studied

(2009-2013)

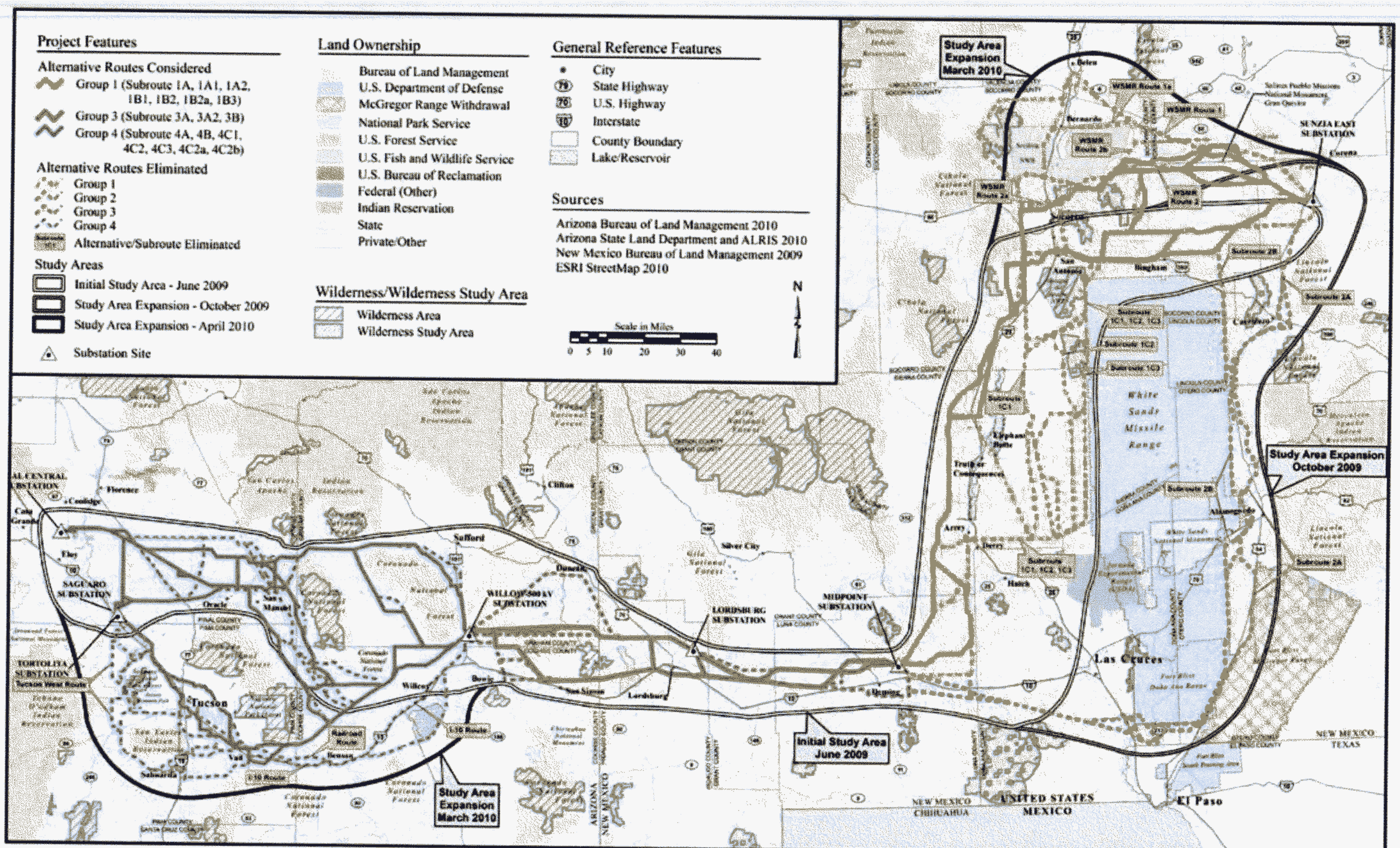
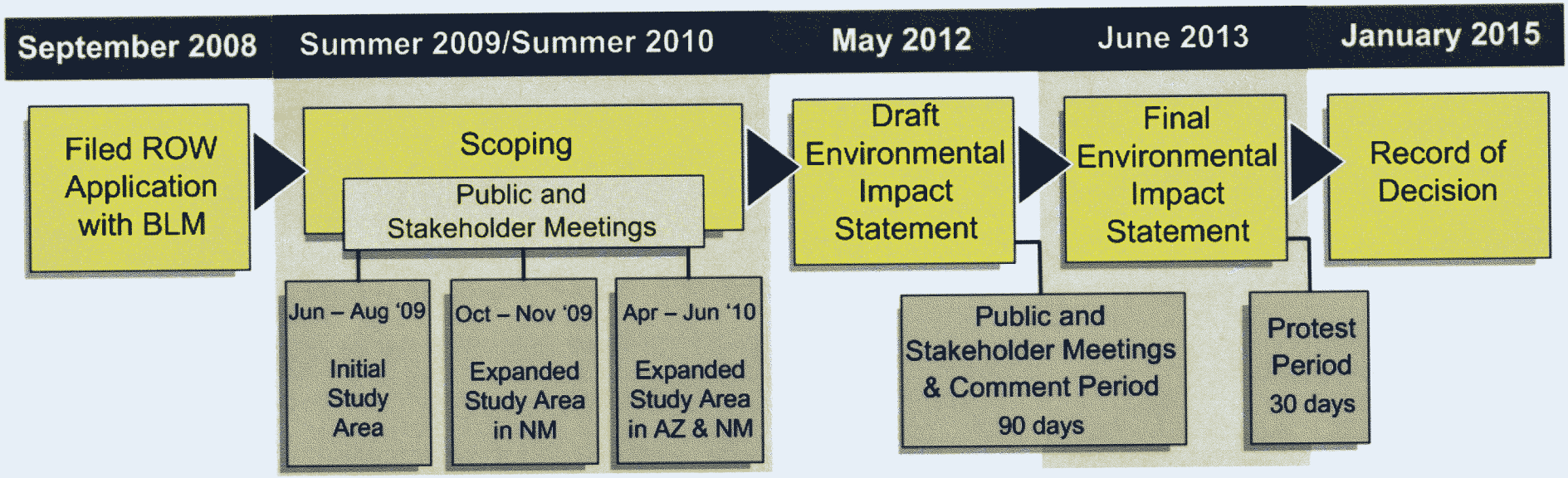


Figure 2-7. Alternatives Considered but Eliminated

SunZia Southwest Transmission Project 2-29 Final Environmental Impact Statement and Proposed RMP Amendments

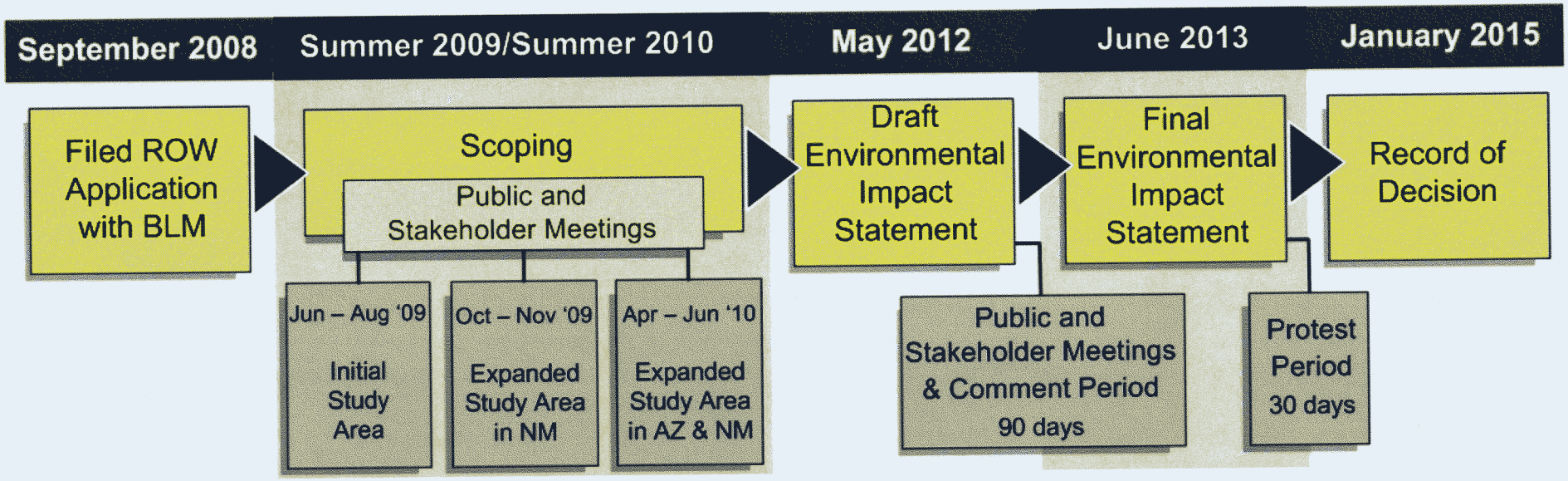
Proposed Route in AZ determined after 6.5-year environmental review process



BLM Cooperating Agencies

1. Arizona State Land Department
2. Arizona Game and Fish Department
3. Arizona Department of Transportation
4. Department of the Army, Fort Huachuca
5. Department of Defense, Energy Siting Clearinghouse
6. Department of the Army, Fort Bliss Army Installation Base
7. Department of the Army, White Sands Missile Range
8. U.S. Air Force, Holloman Air Force Base
9. U.S. Fish & Wildlife Service
10. U.S. Army Corps of Engineers
11. Bureau of Indian Affairs
12. National Park Service
13. New Mexico State Land Office
14. New Mexico Spaceport Authority

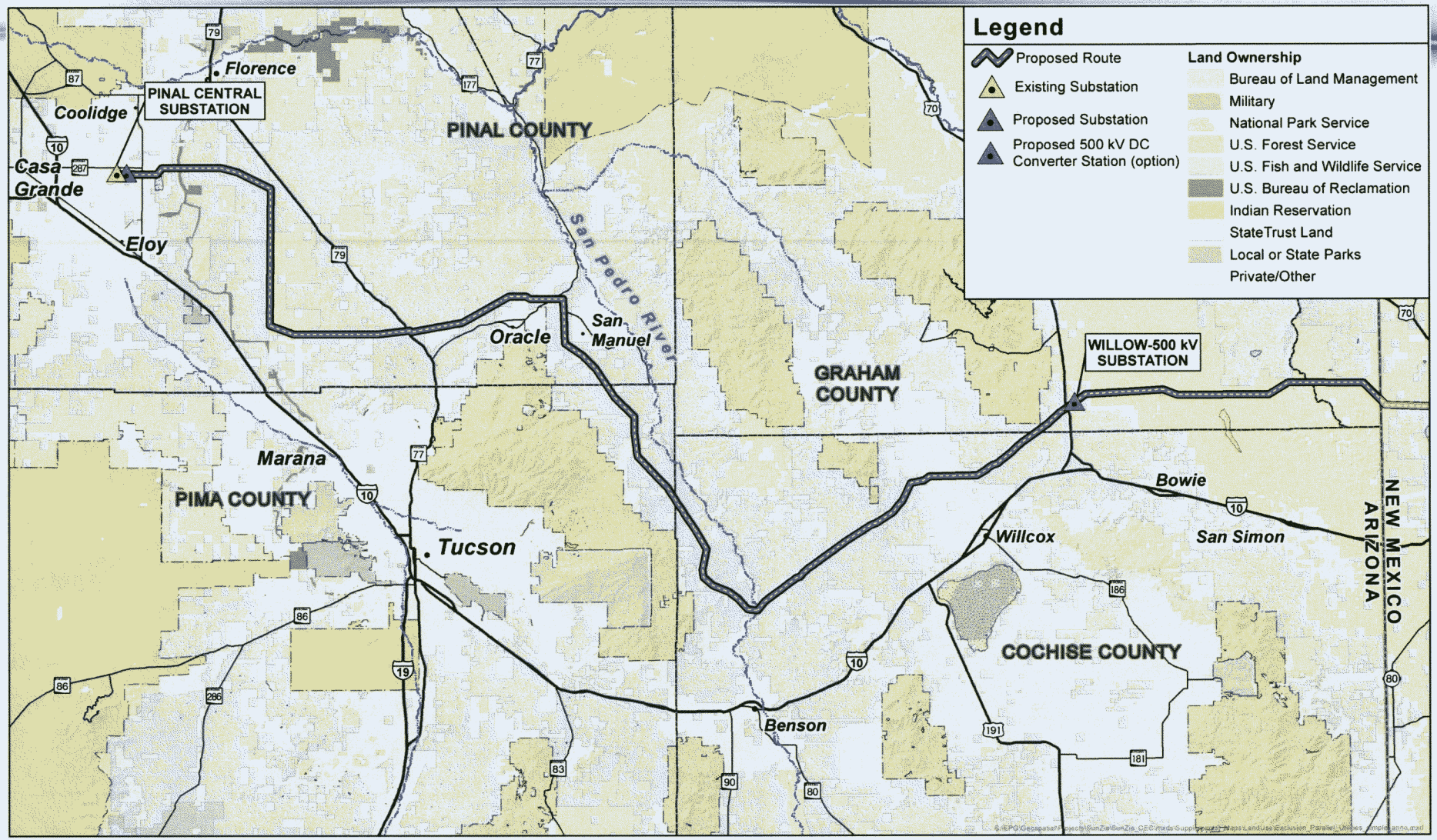
Proposed Route in AZ determined after 6.5-year environmental review process



Project Concept to Operation
15 Years

MILESTONE	DATE
Concept emerges in regional planning	Starting 2006
Sponsors sign MOA	April 2008
Submit BLM SF-299 ROW Application	Sept 2008
Initiate Scoping	May 2009
Draft EIS	May 2012
Final EIS	June 2013
Record of Decision	Jan 2015
State permits	2016
Financial Close	2019
Final Design, ROW Acquisition, Procurement, Construction	2016-2021
Commercial Operation Date	2021

Proposed Route in Arizona



Applicant Outreach Efforts

Applicant Outreach Efforts

Table J-1-8. Interest Groups and Other Stakeholders

Anam, Inc.
Apaches of Aravaipa Canyon
Aravaipa Property Owners Association
Arid Lands Resource Sciences
Arizona Archaeological Council
Arizona Native Plant Society
Blue Goose Alliance
Cascabel Hermitage Association
Cascabel Working Group
Center for Biological Diversity
Center for Desert Archaeology
Coalition for Sonoran Desert Protection
Community Watershed Alliance
Continental Divide Trail Alliance
Duke Energy
Earth Justice
Empire-Fagan Coalition
Eureka Springs Property Owner Association
Freeport Sierrita, Inc.
Friends of Saguaro National Park
Friends of the Aravaipa Region
J-6/Mescal Community Development Organization
Jaguar Habitat Campaign
Lennar Corporation – Tucson Land Division
National Parks Conservation Association – Southwest
National Trust for Historic Preservation
Natural Resources Defense Council
Saguaro Juniper Corporation
Salt River Project
Sierra Club – Grand Canyon Chapter
Sonoran Institute
Southern AZ Hiking Club – Cochise Trails Association
The American Consumer Institute
The Gamez Cemetery
The Nature Conservancy
The Peyote Way Church
The Wilderness Society

Applicant Outreach Efforts

Table J-1-9. Arizona Briefings	
Affiliation	**Name**
Access Arizona	Jim Dinkle
Arizona Congressional District #1	Congresswoman Ann Kirkpatrick (Blanca Varela)
Arizona Congressional District #2	Congresswoman Martha McSally (Sarah Pacheco)
Arizona Congressional District #4	Congressman Paul Gosar (Jim Knupp)
Arizona Corporation Commission	Commissioner Susan Bitter Smith (Laurie Woodall)
Arizona Corporation Commission	Commissioner Bob Stump (Amanda Ho)
Arizona Corporation Commission	Commissioner Bob Burns (Angie Paton)
Arizona Corporation Commission	Commissioner Doug Little (Matt Rowell)
Arizona Corporation Commission	Commissioner Tom Forese (Brandon Nelson)
Arizona Corporation Commission – Utilities Division	Tom Broderick
Arizona Governor Doug Ducey	Chris McIsaac
Arizona Governor Doug Ducey	Hunter Moore
Arizona Governor Doug Ducey	Juan Ciscomani
Arizona Legislative District #11	Senator Steve Smith
Arizona Legislative District #11	Representative Vince Leach
Arizona Legislative District #11	Representative Mark Finchem
Arizona Legislative District #14	Representative David Stevens
Arizona Legislative District #14	Representative David Gowan
Arizona Legislative District #14	Senator Gail Griffin
Arizona Legislative District #8	Representative Frank Pratt
Arizona Legislative District #8	Representative TJ Shope
Arizona Siting Committee	Tom Chenal
Arizona State Land Department	Commissioner Lisa Atkins
Benson Chamber of Commerce	Lupe Diaz
City of Benson – City Manager	Bill Stephens
City of Benson - Mayor	Mayor Toney King
City of Coolidge – City Manager	Bob Flatley
City of Eloy – City Council	Councilmember Belinda Akes
City of Eloy – City Manager	Harvey Krauss
City of Safford – City Manager	Horatio Skeete
City of Safford – Mayor	Mayor Chris Gibbs
City of Willcox – City Council	Mayor and Councilmembers
City of Willcox – City Manager	Ted Soltis
City of Willcox – Mayor	Mayor Bob Irvin

Applicant Outreach Efforts

Cochise County - Board of Supervisors	Supervisor Richard Searle
Cochise County - Board of Supervisors	Supervisor Patrick Call
Cochise County - Board of Supervisors	Supervisor Ann English
Cochise County – County Administrator	Jim Vlahovich
Eastern Arizona College	Kevin Peck
Eastern Arizona Counties Organization	Pascal Berlioux
Eloy Chamber of Commerce	Mark Benner
Graham County – Board of Supervisors	Supervisor Jim Palmer
Graham County – Board of Supervisors	Supervisor Danny Smith
Graham County – Board of Supervisors	Supervisor Drew John
Graham County – County Manager	Terry Cooper
Graham County Chamber of Commerce	Laurabeth Stoner
Greenlee County – Board of Supervisors	Supervisor David Gomez
Greenlee County – Board of Supervisors	Supervisor Ron Campbell
Greenlee County – Board of Supervisors	Supervisor Robert Corbell
Greenlee County – County Administrator	Kay Gale
Greenlee County – Economic Development	Akos Kovach
Pima County – Board of Supervisors	Supervisor Ally Miller
Pima County – Board of Supervisors	Supervisor Ramon Valadez
Pima County – Board of Supervisors	Supervisor Sharon Bronson
Pima County – Board of Supervisors	Supervisor Ray Carroll
Pima County – County Administrator	Chuck Huckelberry
Pinal County – Board of Supervisors	Supervisor Pete Rios
Pinal County – Board of Supervisors	Supervisor Cheryl Chase
Pinal County – Board of Supervisors	Supervisor Todd House
Pinal County – Board of Supervisors	Supervisor Steve Miller
Pinal County – Board of Supervisors	Supervisor Tony Smith
Pinal County – County Manager	Greg Stanley
Senator John McCain	Rick Stilgenbauer
Southeast Arizona Economic Development Group	George Scott
SouthEastern Arizona Governments Organization	Larry Catten
Southern Arizona Business Coalition	Rick Grinnell
Town of Clifton – Town Manager	Ian Mcgaughey
Town of Thatcher – Town Manager	Terry Hinton
Tucson Metropolitan Chamber of Commerce	Michael Varney
Willcox Chamber of Commerce	Alan Baker

Applicant Outreach Efforts

Stakeholder Meeting
January 23, 2010

Tour Stops:

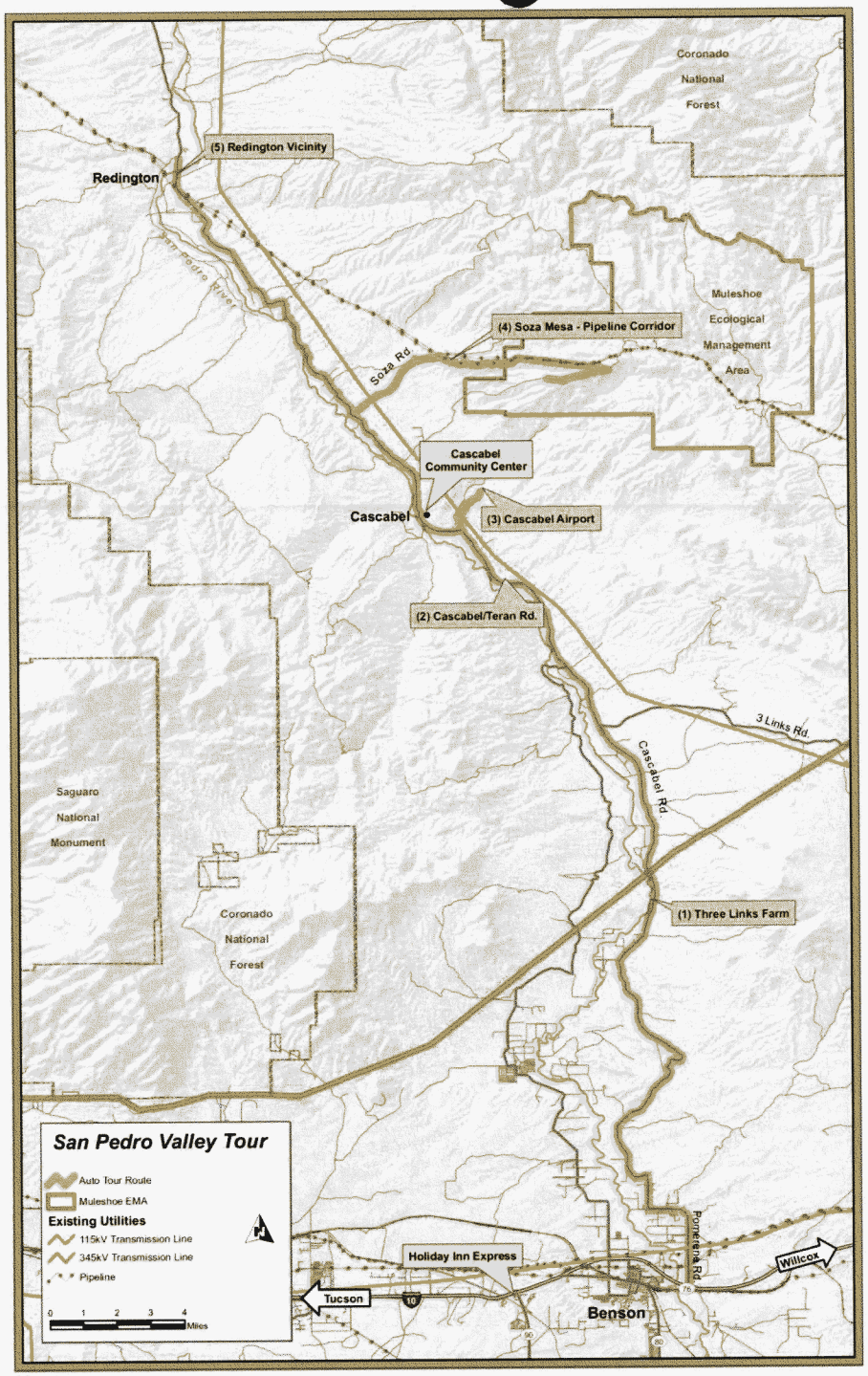
(1) Cascabel Road/TNC Three Links Farm

(2) Cascabel/Teran Road

(3) Cascabel Airport

(4) Soza Mesa/Pipeline Corridor West of Muleshoe

(5) Vicinity of Redington/Pipeline Corridor/River Crossing


Coronado
National
Forest
(5) Redington Vicinity
Redington
San Pedro River
Muleshoe
Ecological
Management
Area
(4) Soza Mesa - Pipeline Corridor
Soza Rd
Cascabel
Community Center
Cascabel
(3) Cascabel Airport
(2) Cascabel/Teran Rd.
3 Links Rd.
Cascabel Rd.
Saguaro
National
Monument
Coronado
National
Forest
(1) Three Links Farm
San Pedro Valley Tour
Auto Tour Route
Muleshoe EMA
Existing Utilities
115kV Transmission Line
345kV Transmission Line
Pipeline
0 1 2 3 4
Miles
Holiday Inn Express
Tucson
10
Benson
Pomerene Rd.
Willcox

SunZia

Stakeholder Meeting
January 23, 2010

Evening Session at Cascabel Community Center

Moderator – Monica Stephens – CWG Member

Tom Wray – Project Presentation
Chester Phillips – Resident

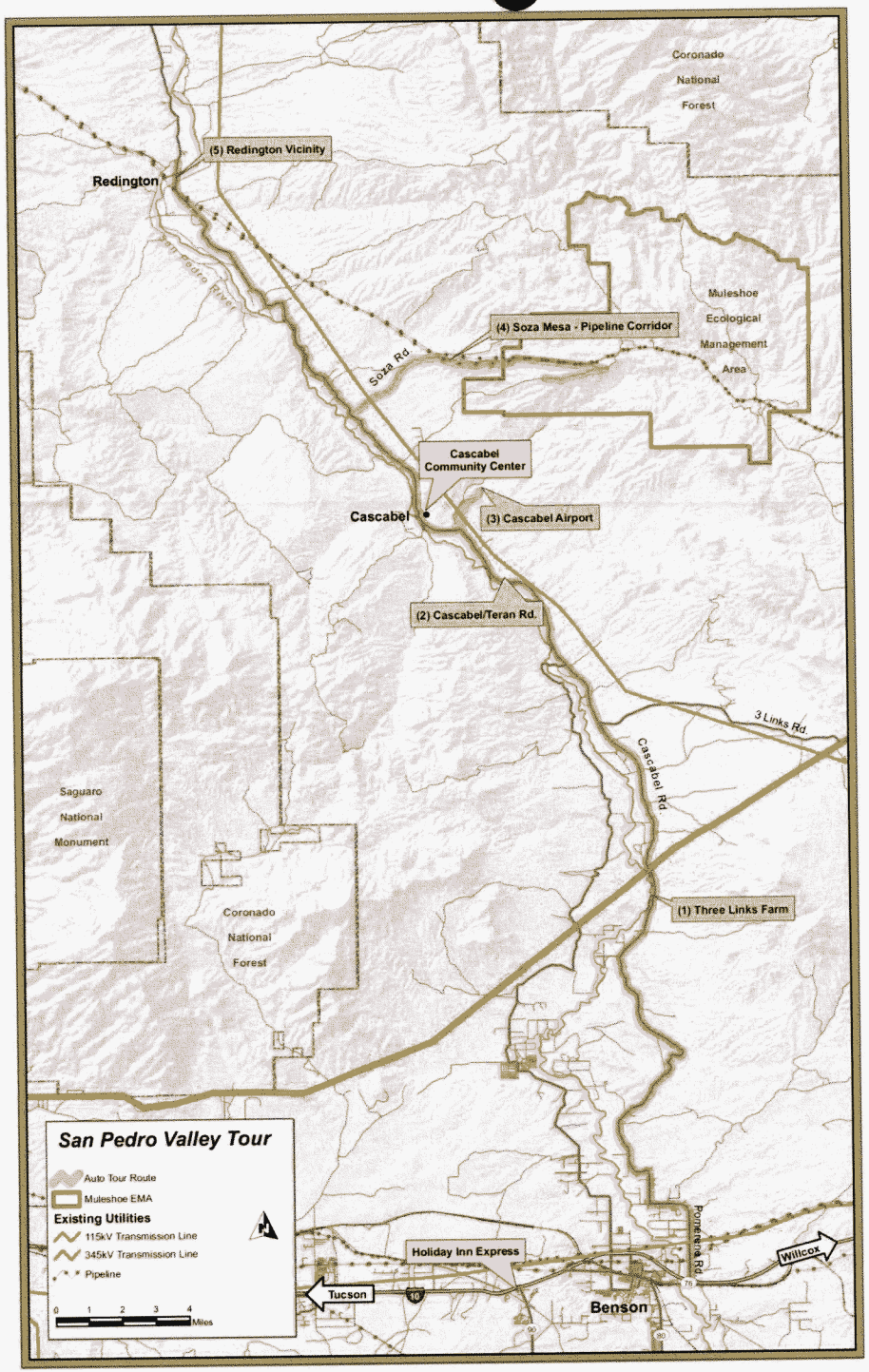
Jacquie Dale – Center for Desert Archaeology, CWG Board Member/Resident

Dave Omick – Cascabel Working Group

Tom Collazo – The Nature Conservancy

Alex Daue – The Wilderness Society

Paul Green – Audubon Society


Coronado
National
Forest
(5) Redington Vicinity
Redington
San Pedro River
Muleshoe
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Soza Rd
Cascabel
Community Center
Cascabel
(3) Cascabel Airport
(2) Cascabel/Teran Rd.
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115kV Transmission Line
345kV Transmission Line
Pipeline
0 1 2 3 4
Miles
Holiday Inn Express
Tucson
Benson
Pomerene Rd
Willcox

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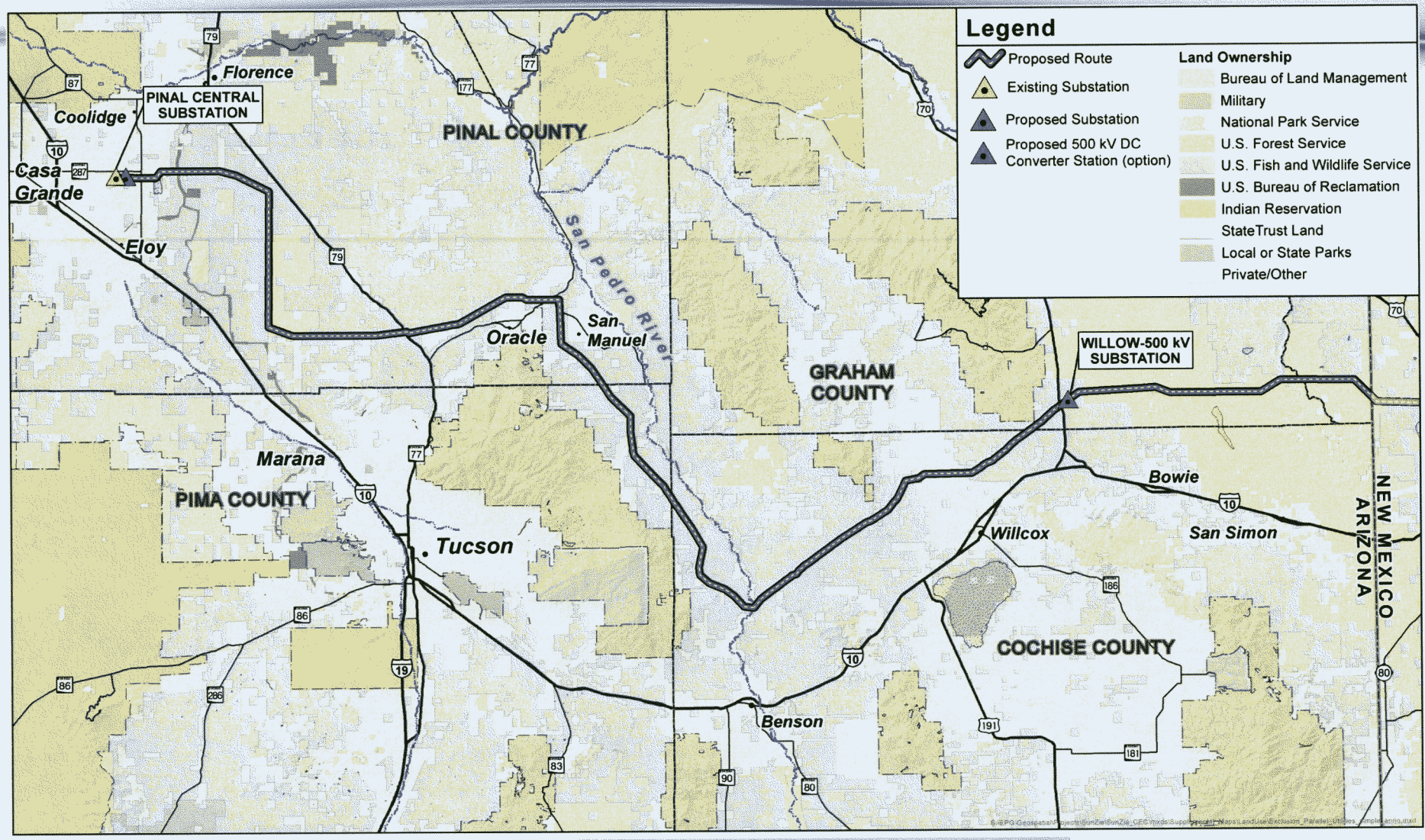
Project Need and Benefits

Project Need and Benefits

Overview of Needs and Benefits

- Creates access to stranded renewable resources
- Provides options to address air quality mandates
- Results in economic benefits
- Additional transmission capacity (transfer capability)
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

Proposed Route in Arizona



Overview of Needs and Benefits

- **Creates access to stranded renewable resources**
- Provides options to address air quality mandates
- Results in economic benefits
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- Resource diversity
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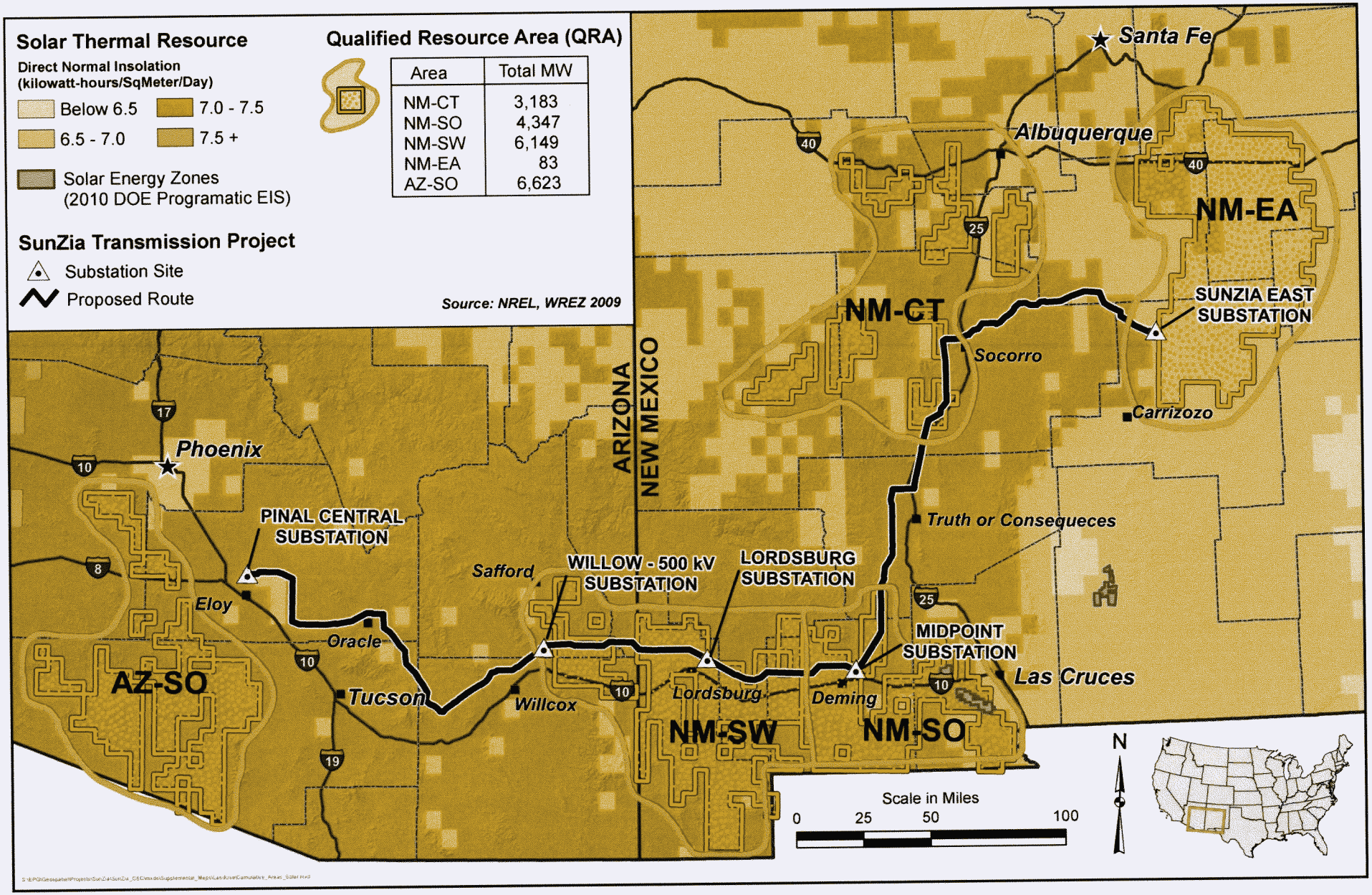
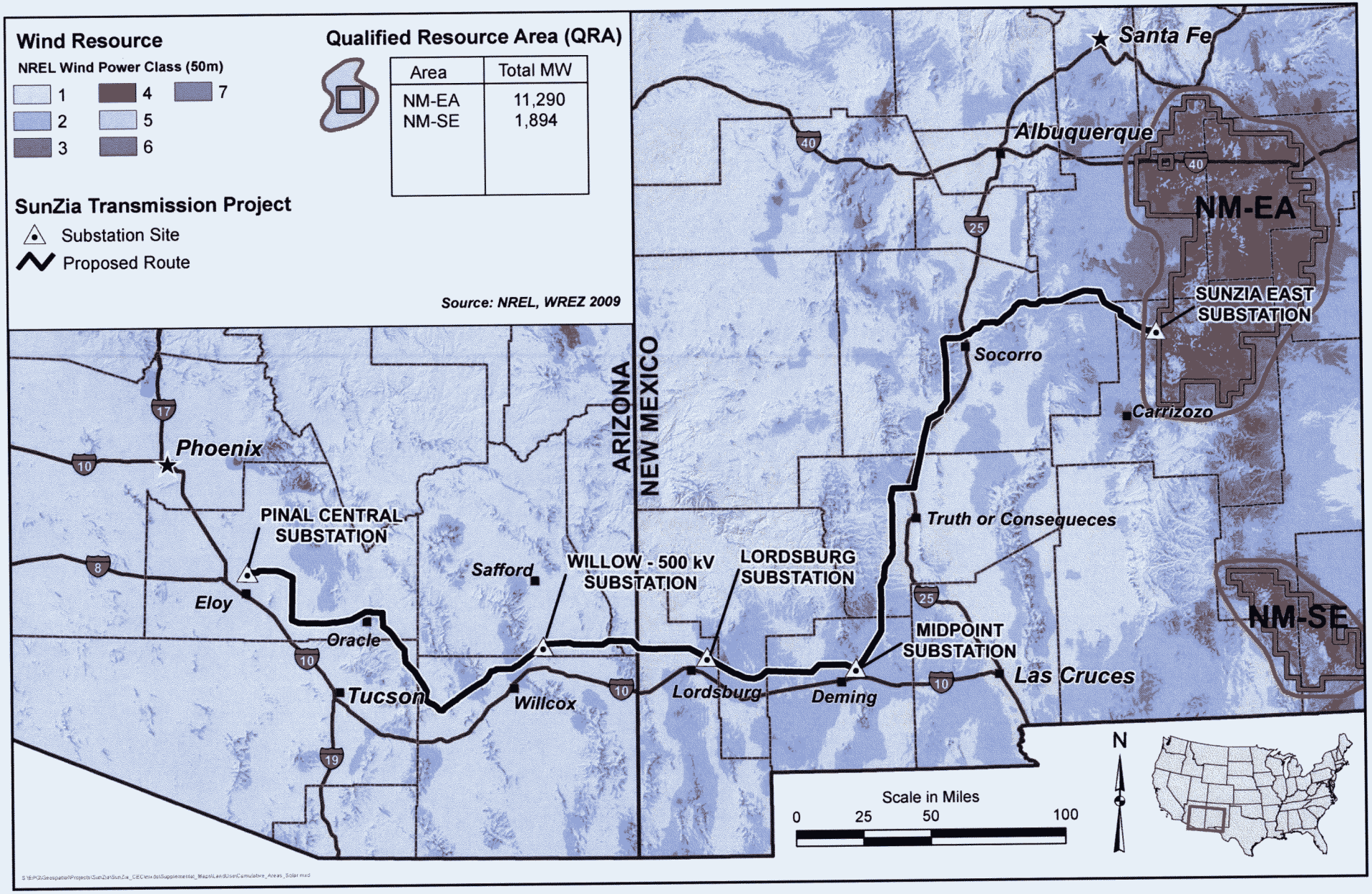


SunZia Southwest Transmission Project

R-27

Overview of Needs and Benefits

- **Creates access to stranded renewable resources**
- Provides options to address air quality mandates
- Results in economic benefits
- Additional transmission capacity (transfer capability)
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

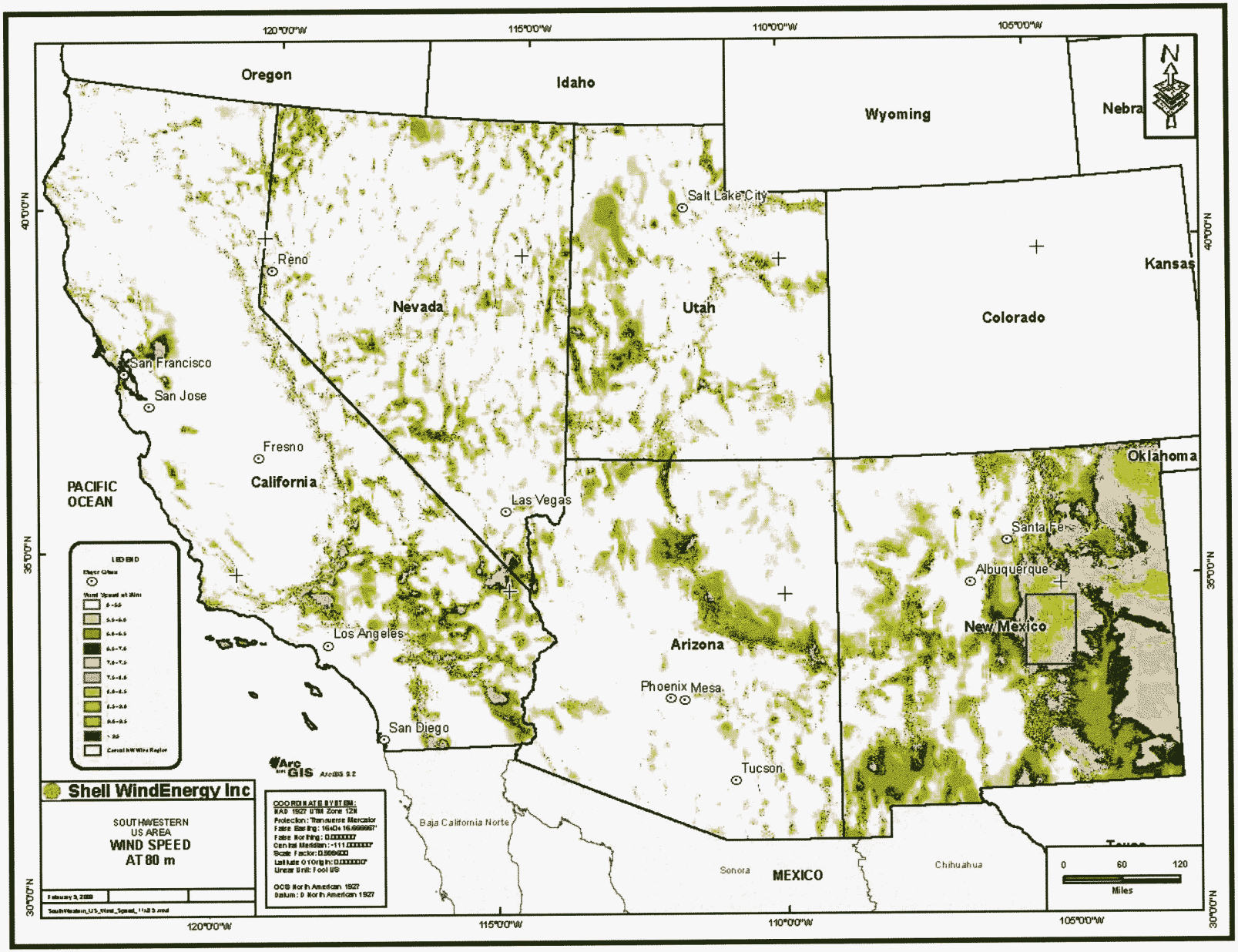


SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-28

Overview of Needs and Benefits

- **Creates access to stranded renewable resources**
- Provides options to address air quality mandates
- Results in economic benefits
- Additional transmission capacity (transfer capability)
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system



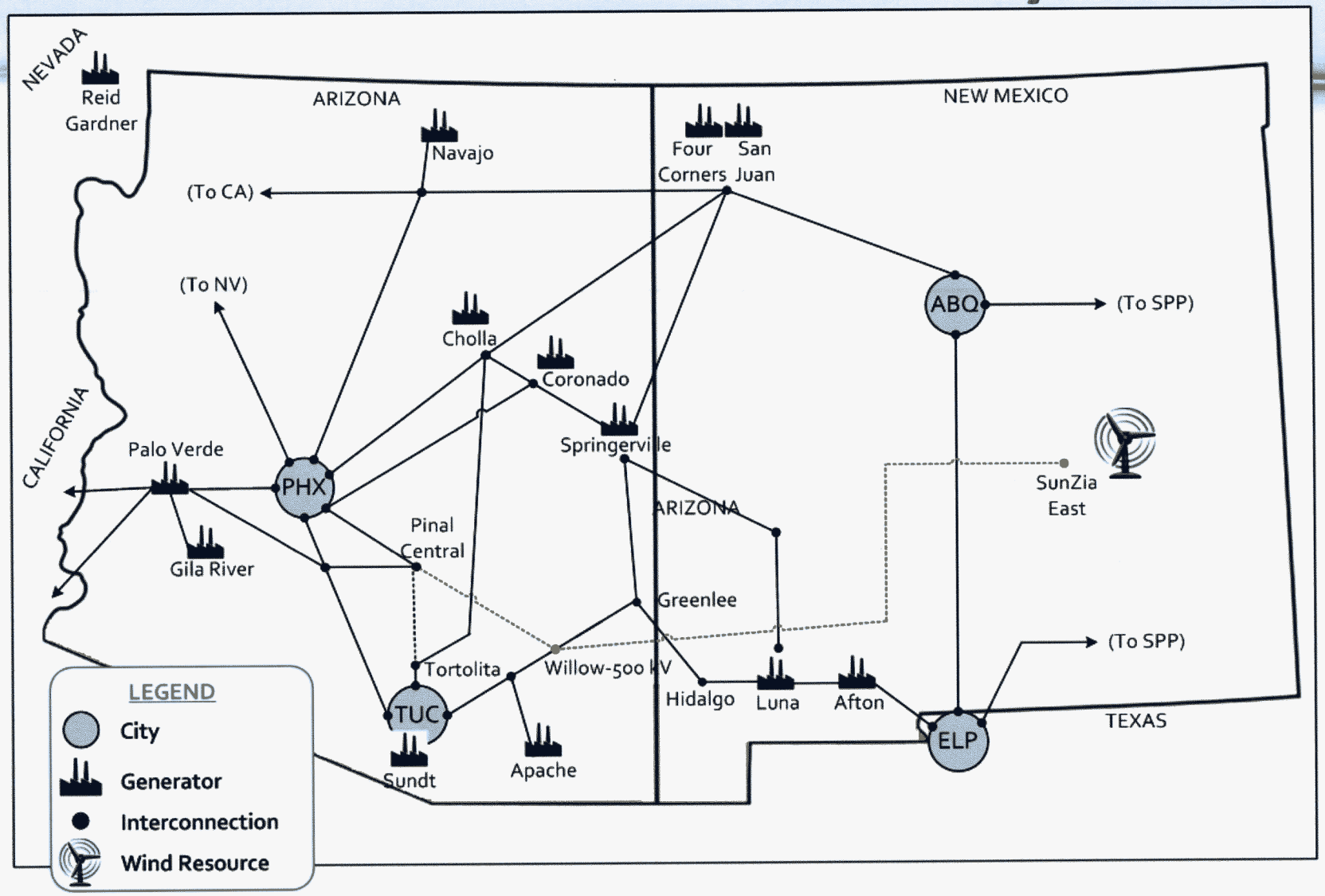
SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-29

Overview of Needs and Benefits

- Creates access to stranded renewable resources
- **Provides options to address air quality mandates**
- Results in economic benefits
- Additional transmission capacity (transfer capability)
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

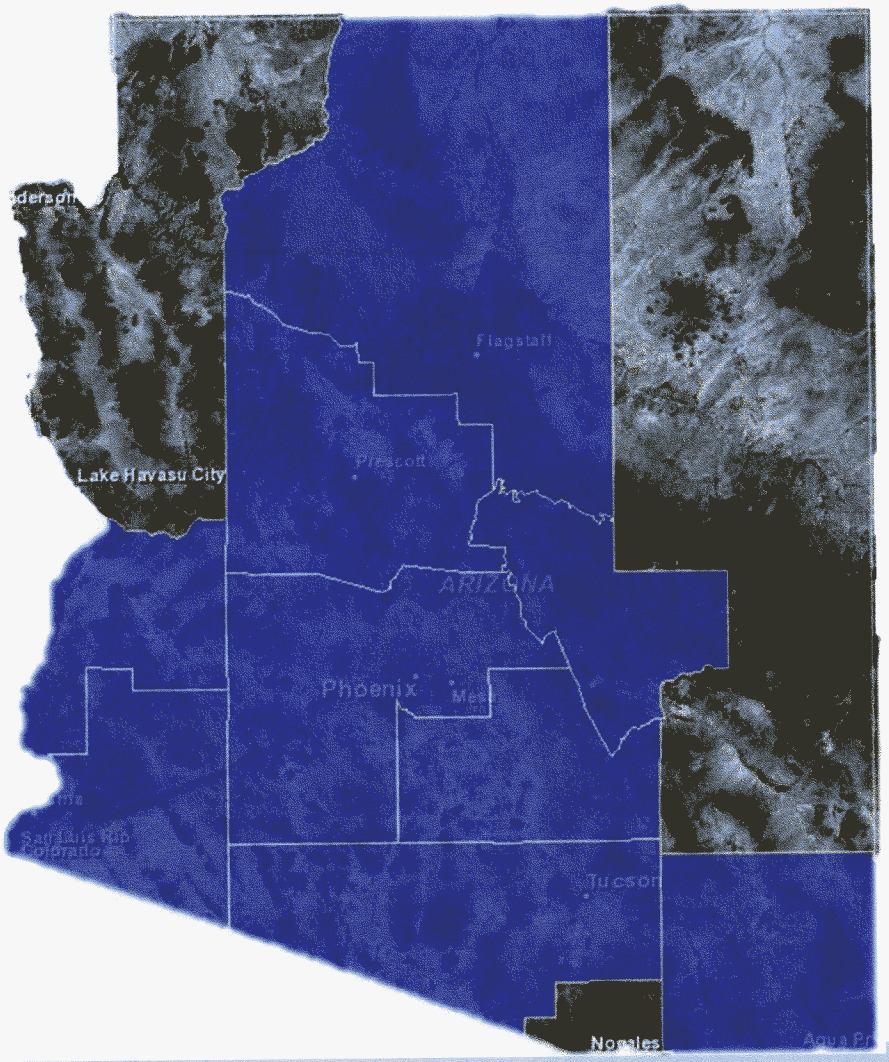
Past Standards Force a Shift Away from Coal



New Standards: Forcing a shift towards renewable generation

- **New Ozone Standard**
  - » Introduction of new gas-fired generation will be difficult
- **Clean Power Plan**

New Ozone Standard



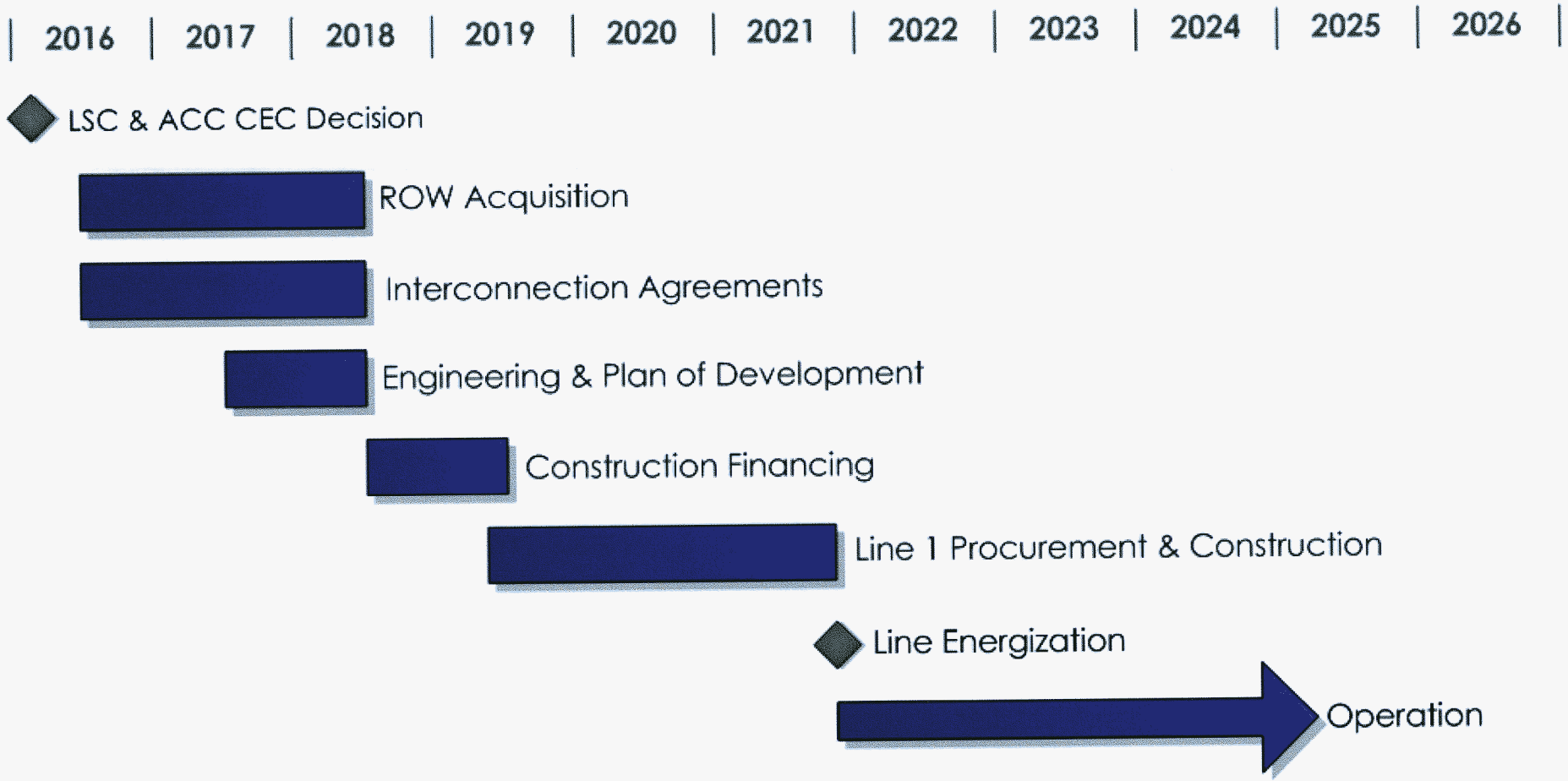
- Lowest Achievable Emission Rate
- Offsets
- Net Benefit Demonstrated
- Permitting Timeline Extended

Arizona Schedule For Clean Power Plan

August 3, 2015	EPA Final Plan
September 6, 2016	Arizona must submit a SIP
September 6, 2018	Arizona granted extensions
2022	Arizona emission reductions must begin
2022-2029	Three interim periods for reductions
2030	Compliance with final goal value

Source: EPA - 40 CFR Part 60

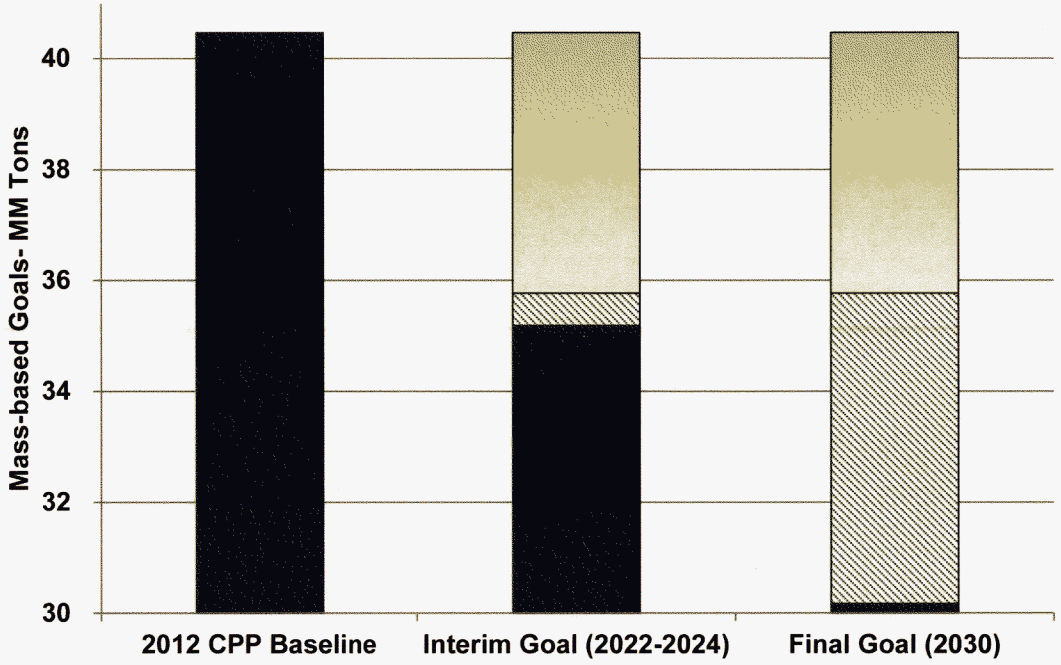
Estimated SunZia Timeline



Provides an Option to Comply with CPP

- Considerable contribution to Arizona CPP emission reduction requirements
- First SunZia line (1500 MW) could achieve:
  - » 89% of first interim goal
  - » 46% of final goal
- Clean Energy Incentives Program: Early bonus allowances can be earned if SunZia is operational by 2021

NM Wind Potential Solution for Arizona's CPP SIP



1,500 MW NM Wind Can Supply Significant % of Mass-Based CPP Emissions Reductions

Clean Power Plan (CPP) Mass-Based Scenarios	Emissions MM Tons	Emissions Reductions Needed	Reductions Achievable by NM Wind[1]	% Reductions Achievable by NM Wind
CPP Baseline (2012)	40.5	---	---	---
CPP Interim Goal (2022-2024)	35.2	5.3	4.7	**89%**
CPP Final Goal (2030)	30.2	10.3	4.7	**46%**

[1]Assumes 1,500 MW Gallo Wind displaces fossil fuel generation proportional to 2012 Baseline generation ratio

SunEdison®

Overview of Needs and Benefits

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- **Results in economic benefits**
- Additional transmission capacity (transfer capability)
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

Economic Impact Assessment

Jointly prepared by:

THE UNIVERSITY OF ARIZONA®

Economic and Business Research Center
Eller College of Management
The University of Arizona
Tucson, Arizona

NM STATE UNIVERSITY

Arrowhead Center, Inc.
New Mexico State University
Las Cruces, New Mexico

Overview of Needs and Benefits

- Creates access to stranded renewable resources
- Provides options to address air quality mandates
- **Results in economic benefits**
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- Reduce congestion on existing facilities
- Resource diversity
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- Part of the long-term plan for AZ EHV system

Economic Benefits for Arizona

	During Construction		During O&M	
	Option A	Option B	Option A	Option B
Jobs	2,200	2,400	80	90
Wages	$145 M	$160 M	$5 M	$6 M
State & Local Taxes	$25 M	$30 M	$1.5 M	$4 M

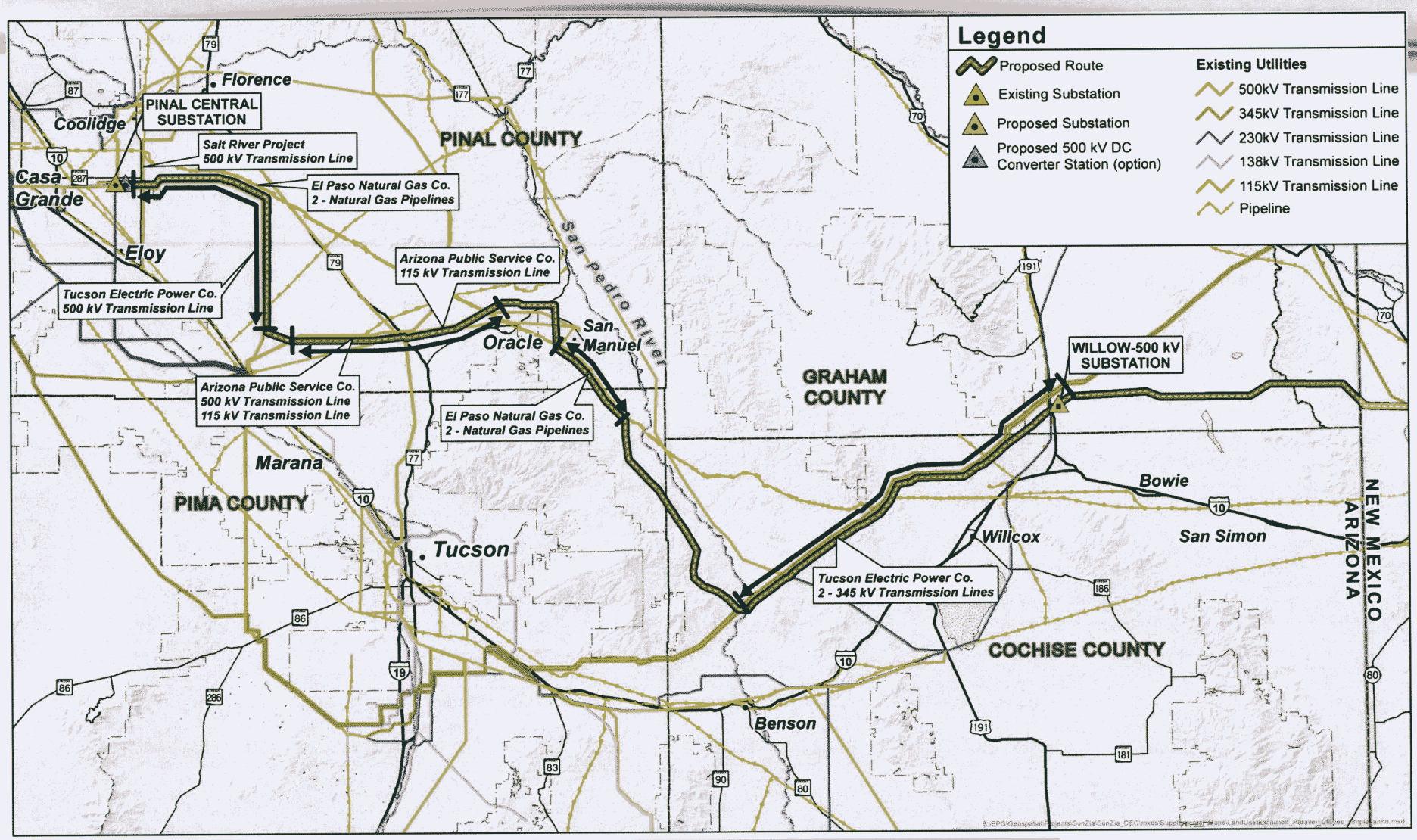
Construction jobs are measured in man-years. For example, 6,200 jobs over four years is equivalent to an average of 1,550 jobs for each of the four years.

SunZia

SunZia Southwest
Transmission Project

Testimony Materials of
Mark Etherton
October 2015

Proposed Route in Arizona



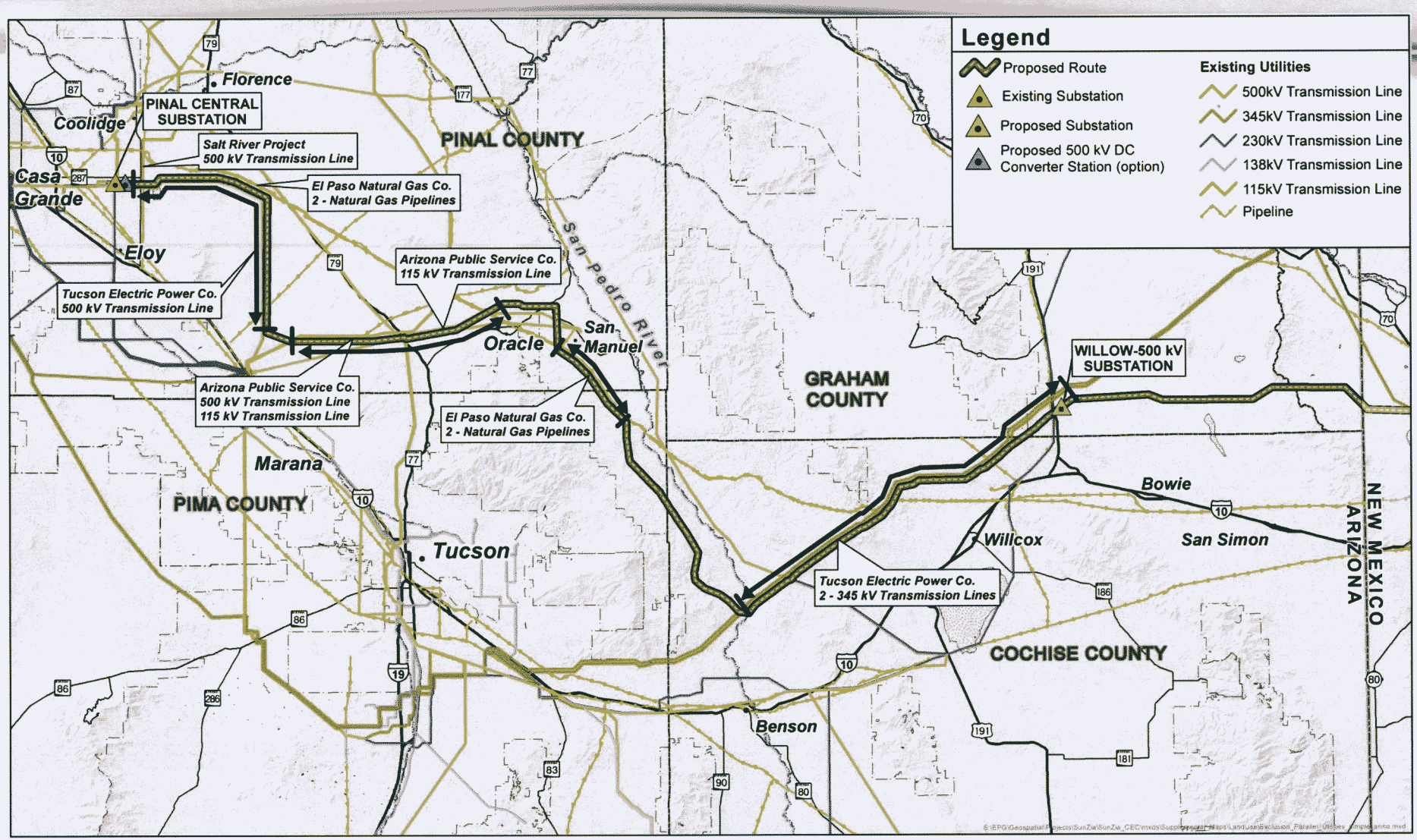
SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia

Mark L. Etherton, P.E.

- **Bachelor of Science Degree – Electrical Engineering, New Mexico State University, 1984**
- **Professional Engineer, State of Arizona, 1990**
- **31 Years Experience in Electrical Utility Industry**
  - 17 Years Salt River Project
  - 14 Years Consulting
- **Siting Committee Testimony Experience**
  - Case #126 Pinal West to Southeast Valley
  - Case #146 Agua Caliente Solar Project Interconnection
  - Case #162 Sonoran Solar Energy Project Interconnection

Proposed Route in Arizona



SunZia Southwest Transmission Project

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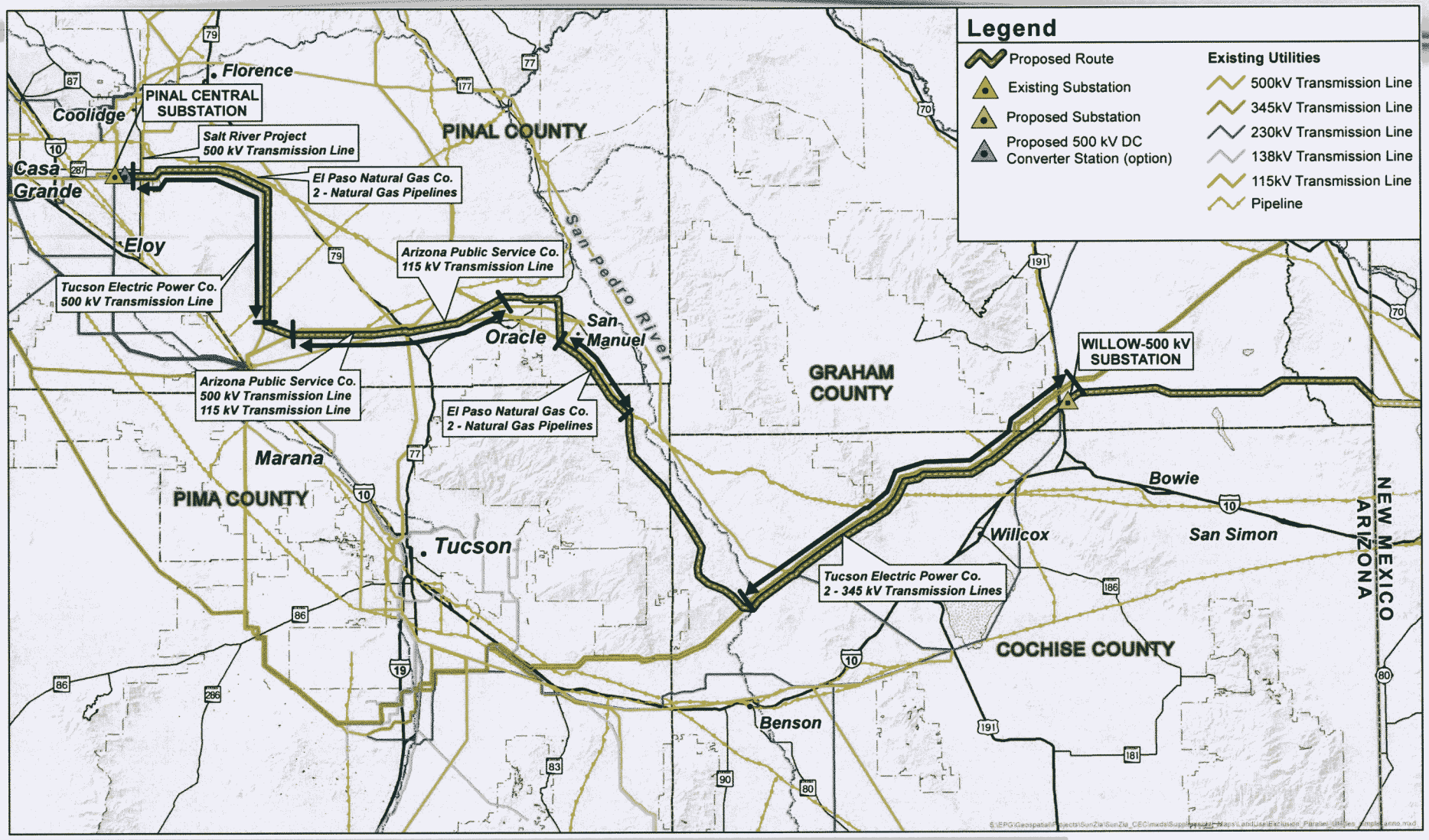
Mark L. Etherton, P.E.

- **President – TransCo.Energy, LLC**
- **Engineering Manager – SWPG (as a Consultant)**
- **SunZia project team since August 2006**
- **Roles and Responsibilities**
  - Pre-Development Project Manager
  - Development Engineering Manager

Proposed Route in Arizona



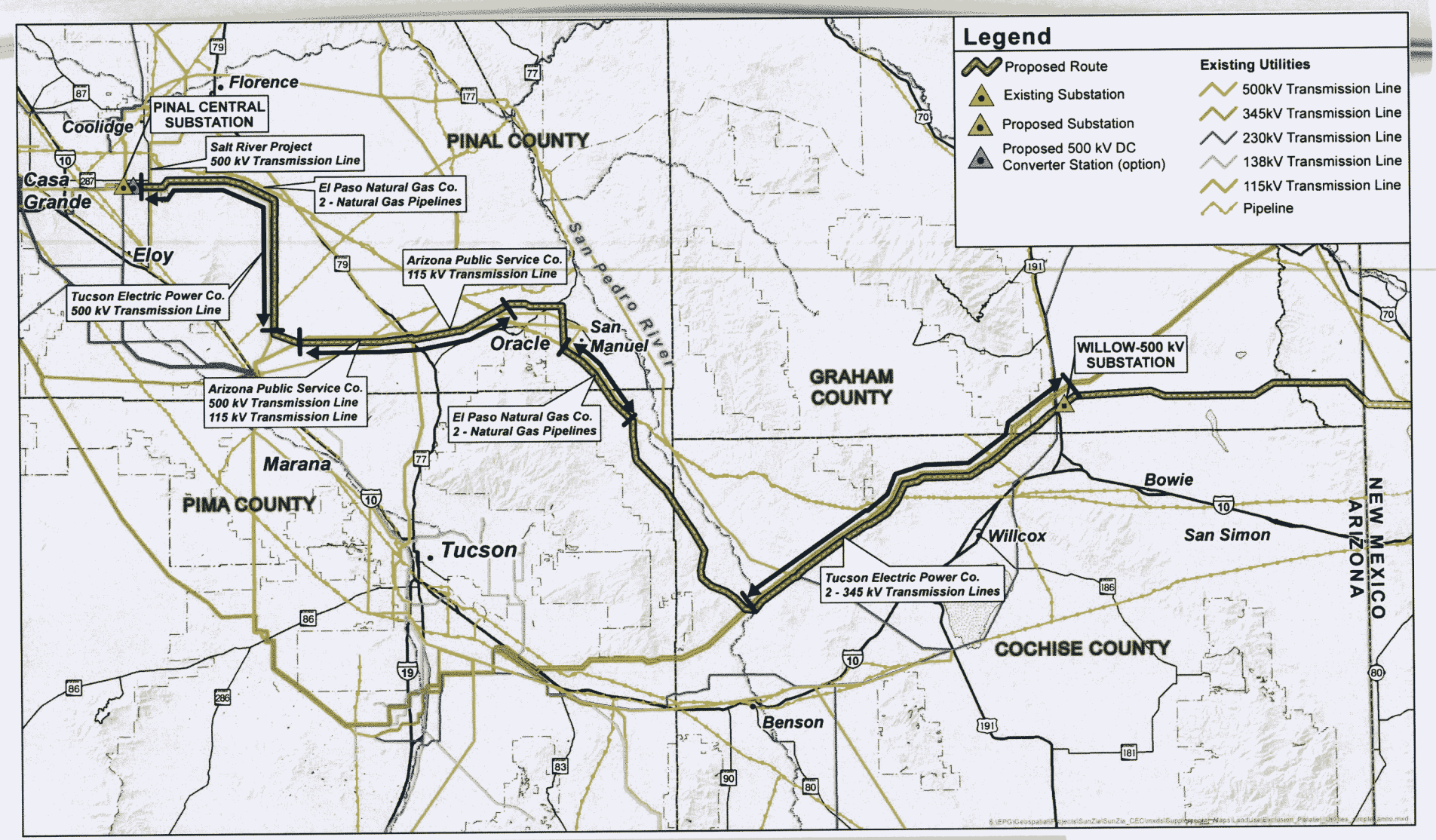
SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia

Summary

- ACC Ten-Year Plan filings and BTA participation
- Project Components (Option A and Option B)
- Wire-Wires Interconnection Plan
- SWAT/WestConnect Regional Planning Participation
- WECC Three Phase Rating and Interconnection Plan
- Summary of the Reliability Benefits
- Adherence to ACC Guiding Principles for Transmission Adequacy and Reliability

Proposed Route in Arizona

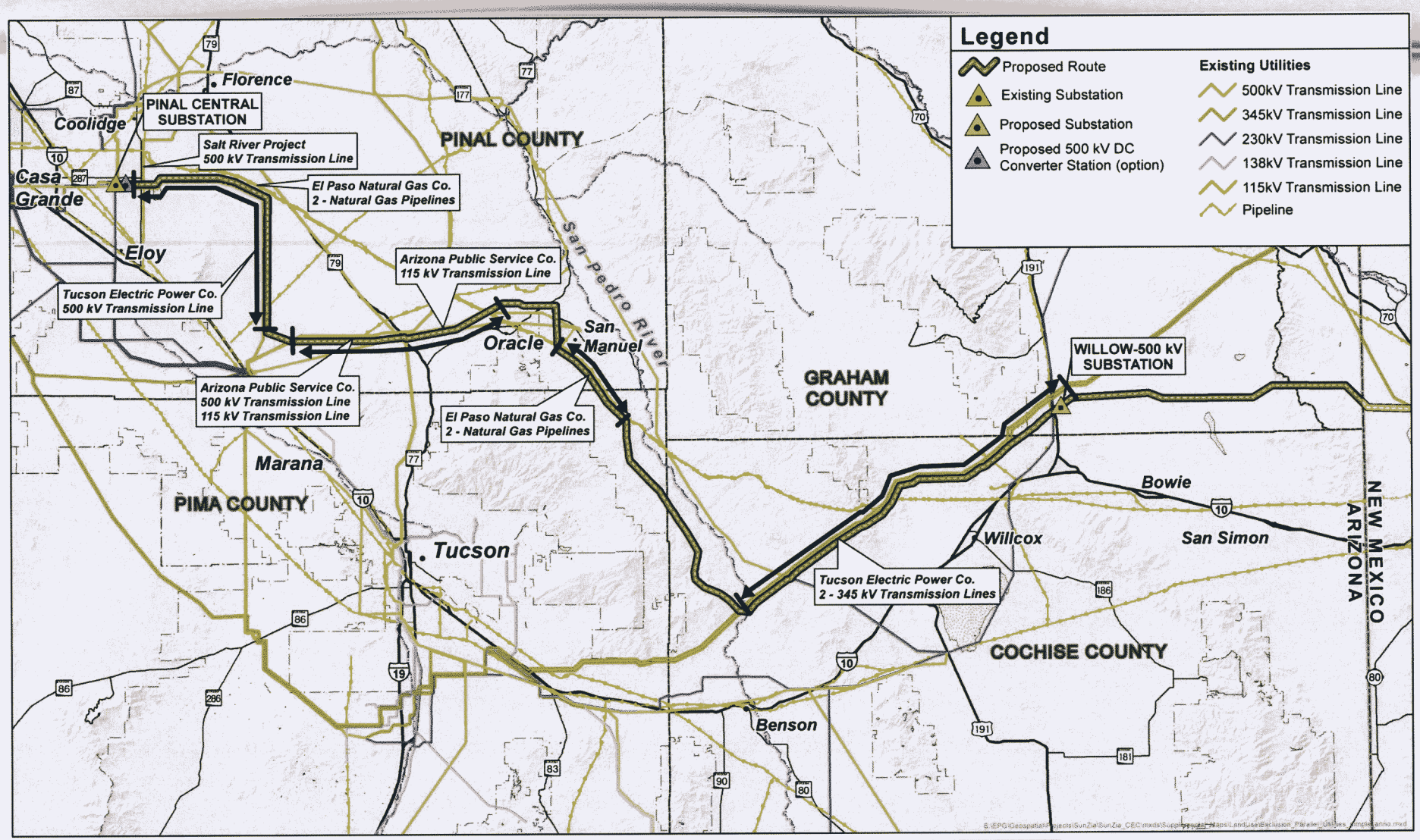


ACC Ten-Year Plan Filings and Participation in the BTA Process

- SunZia has filed ACC Ten-year Plan filings each year since 2009
  - ✓ January 29, 2009
  - ✓ January 28, 2010
  - ✓ January 18, 2011
  - ✓ January 4, 2012
  - ✓ January 16, 2013
  - ✓ January 2, 2014
  - ✓ January 30, 2015

- SunZia has participated in the Biennial Transmission Assessment (BTA) since 2008 (5th – 8th)
  - ✓ ***Support the growth of renewables in Arizona (5th BTA)***
  - ✓ ***Enhancing Arizona's ability to export renewable energy (6th BTA)***
  - ✓ ***Improve the opportunity for interstate commerce (8th BTA)***

Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

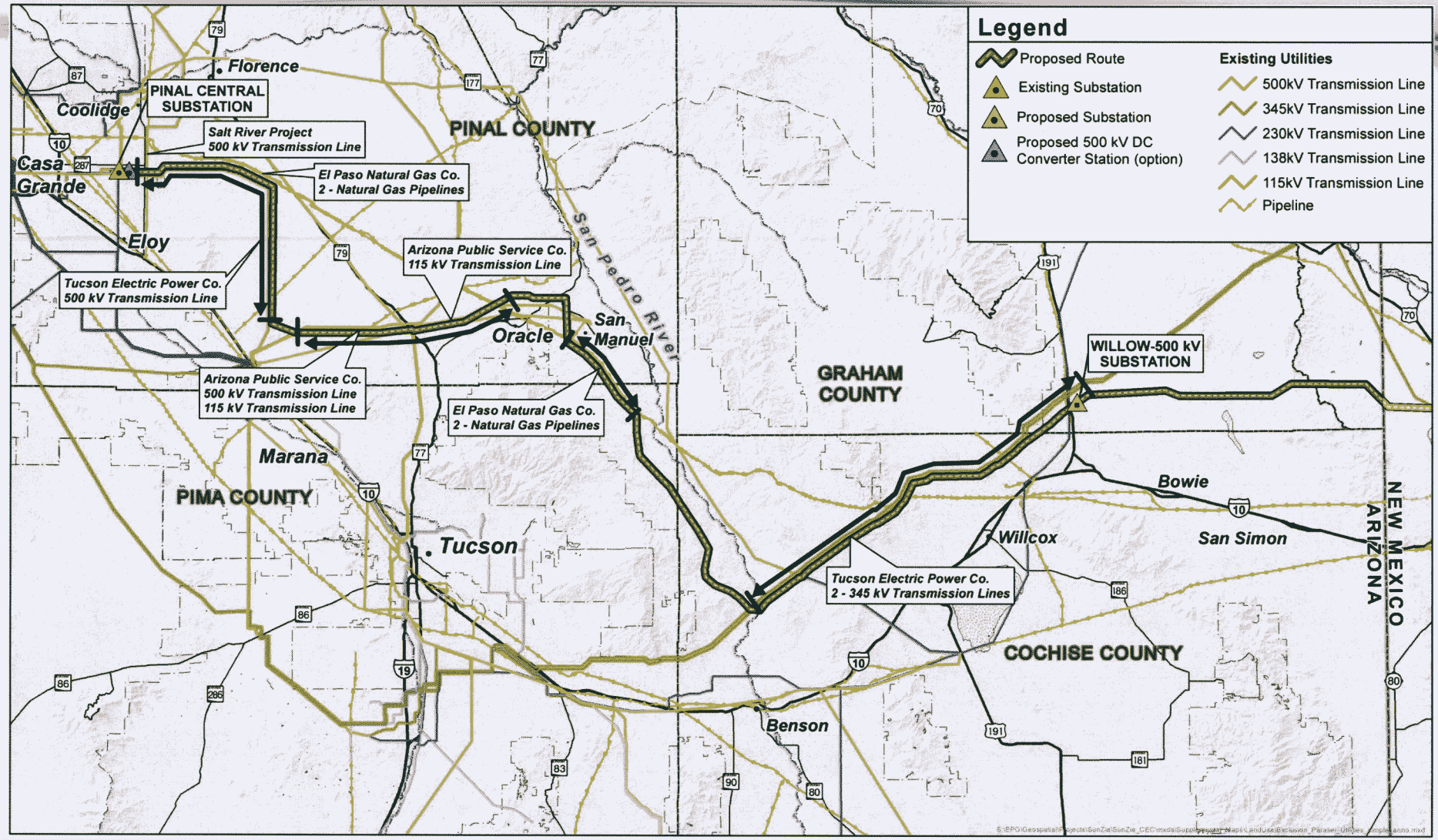
R-40

SunZia

Overview of Project Components (AZ)

- Approximate 200-mile transmission project in Arizona
- Two project configuration options
  - Both options include one AC line as primary component
- One new AC substation at Willow-500 kV
- Project terminates inside existing Pinal Central substation
- New HVDC Converter Station east of Pinal Central (Option B)

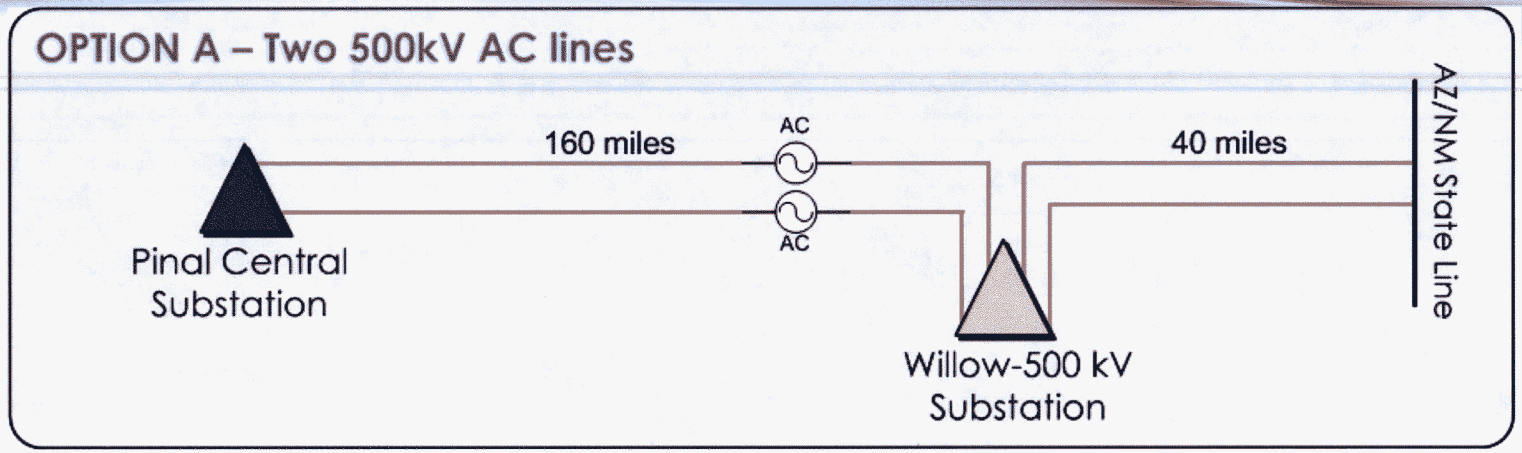
Proposed Route in Arizona

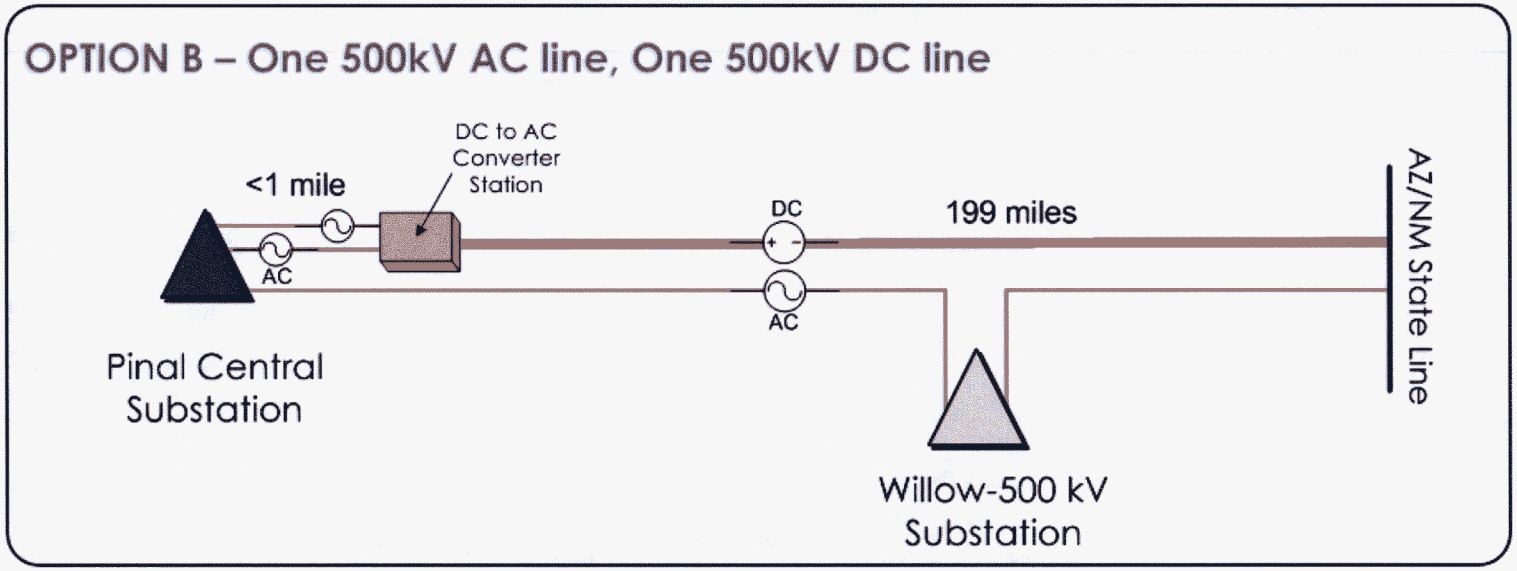


SUNZIA SOUTHWEST TRANSMISSION PROJECT

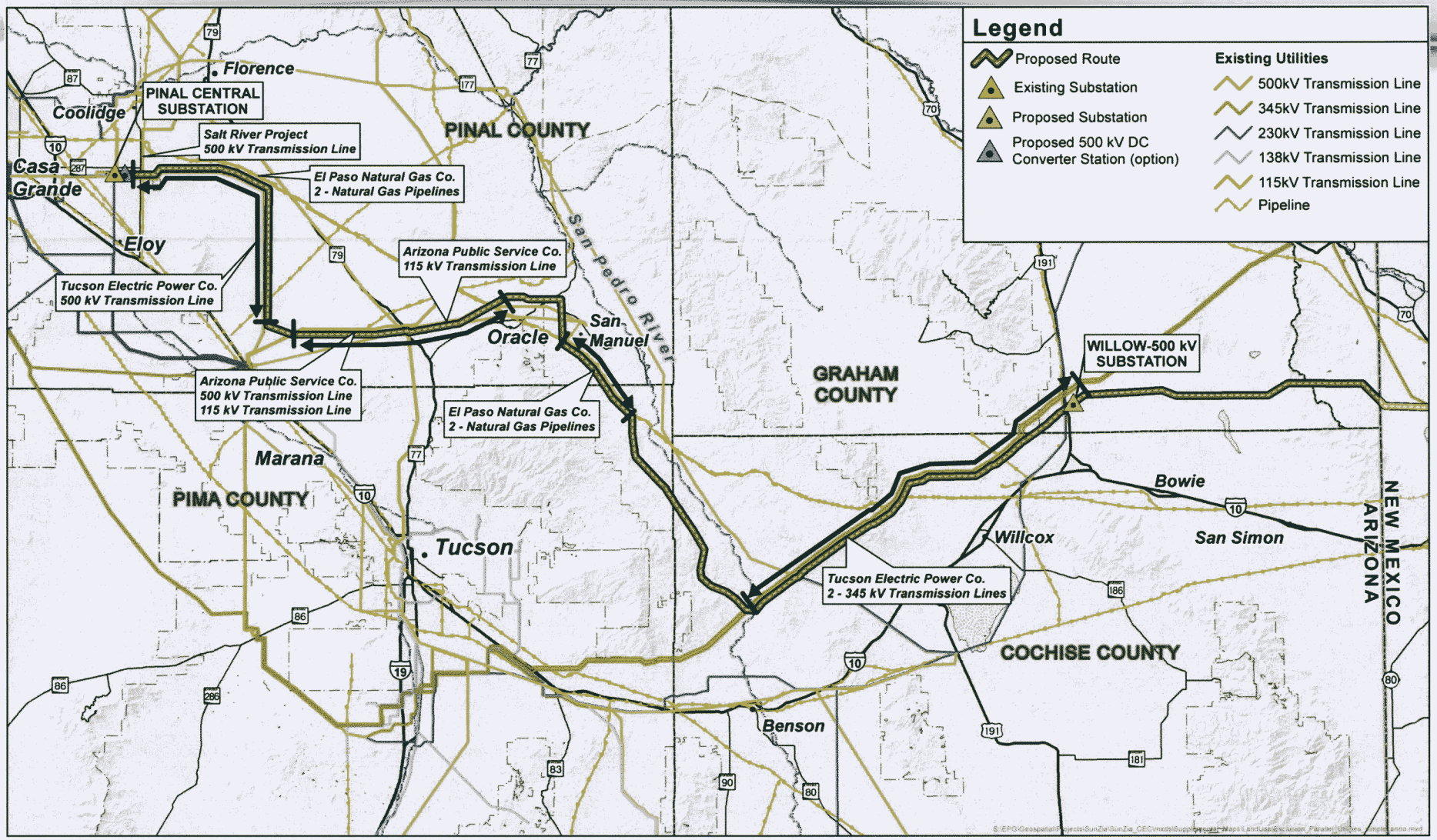
SunZia

Project Configuration Options





Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-42

500 kV AC Transmission Tower Designs

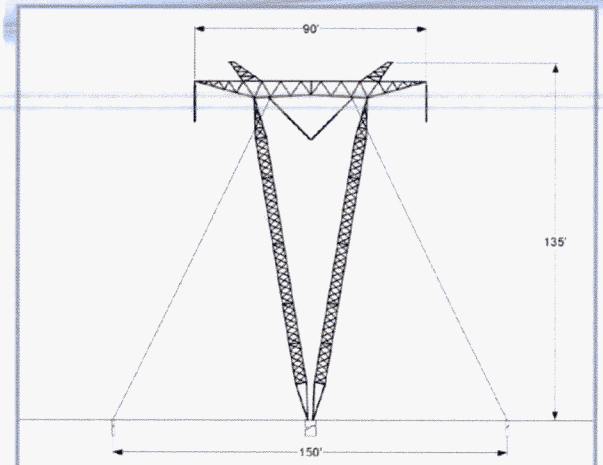
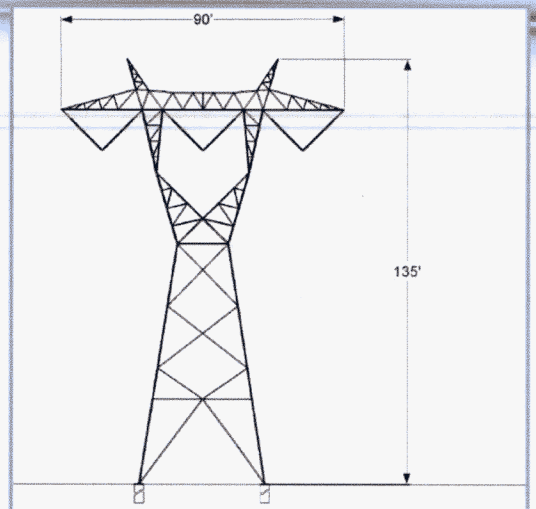
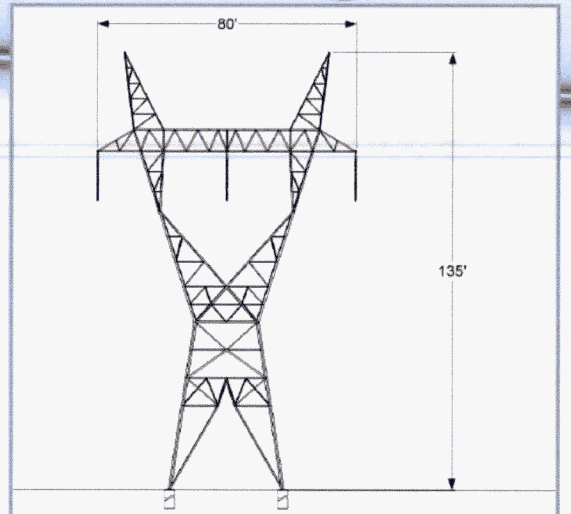


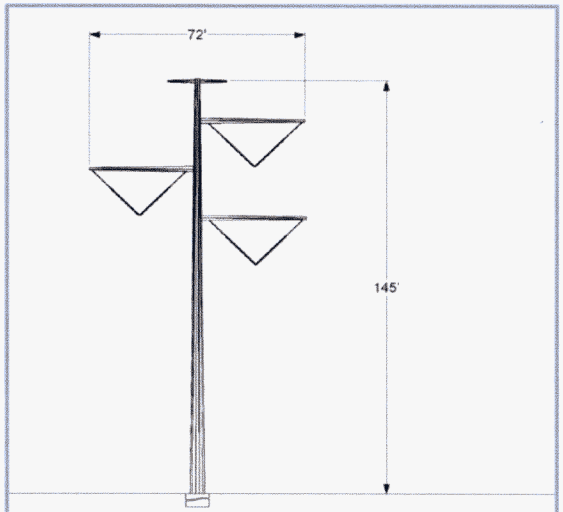
Figure 2-11. Typical AC Guyed "V" Lattice Tangent Structure



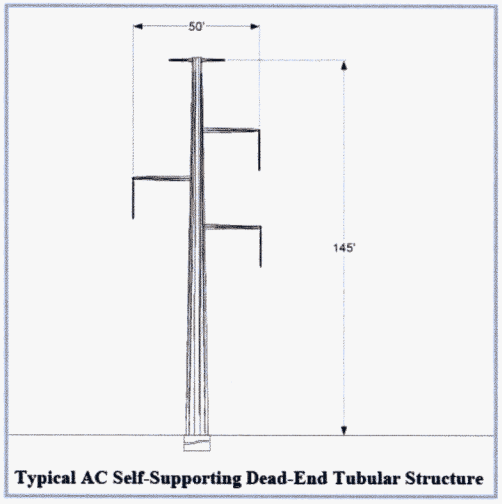
Typical AC Self-Supporting Lattice Tangent Structure



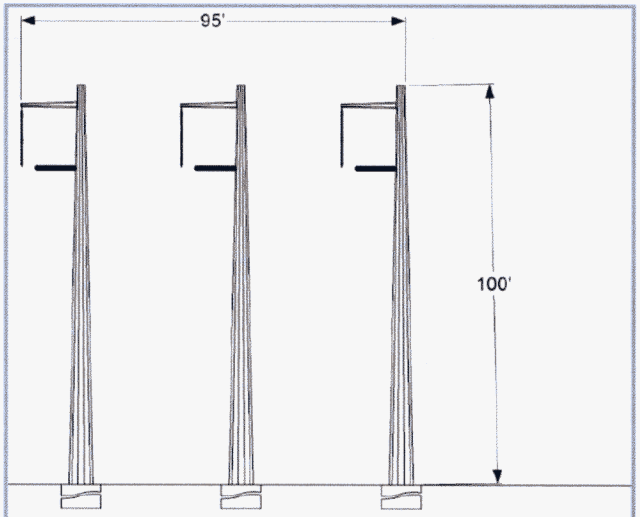
Typical AC Self-Supporting Dead-End Lattice Structure



Typical AC Self-Supporting Tubular Tangent Structure

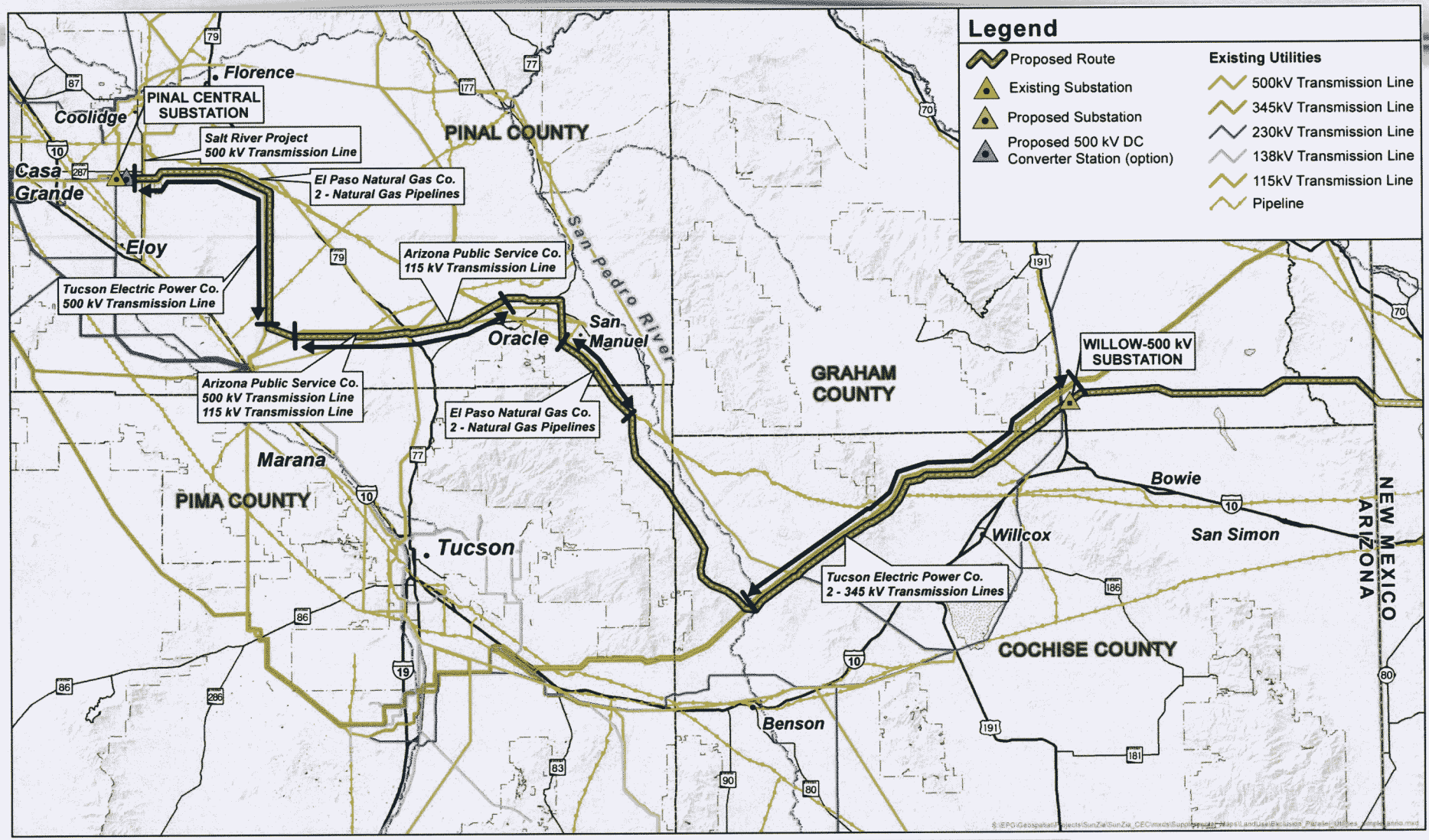


Typical AC Self-Supporting Dead-End Tubular Structure



Typical AC Self-Supporting Dead-End Tubular, 3-Pole Structure

Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia

500 kV DC Transmission Tower Designs

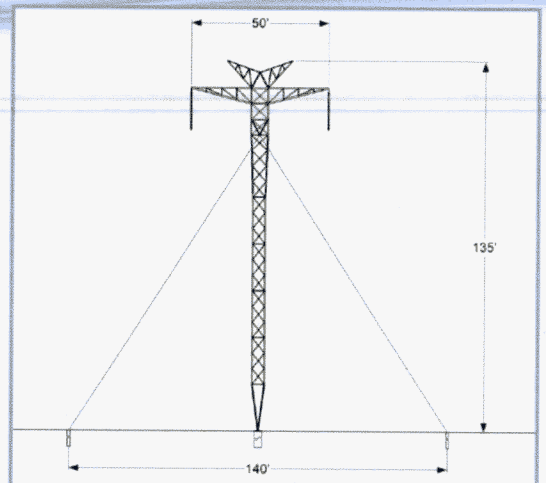
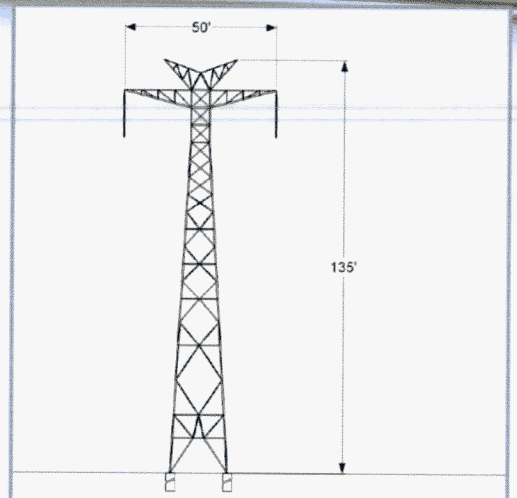
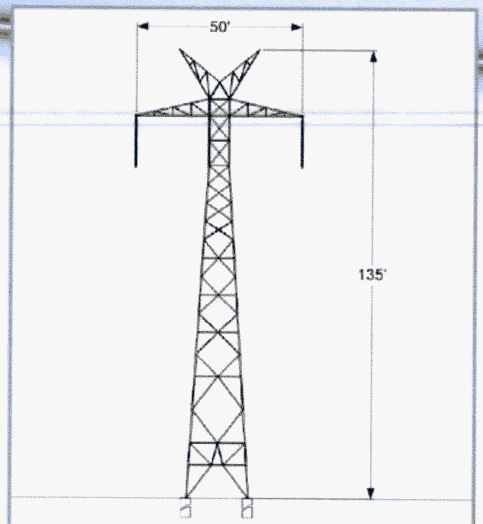


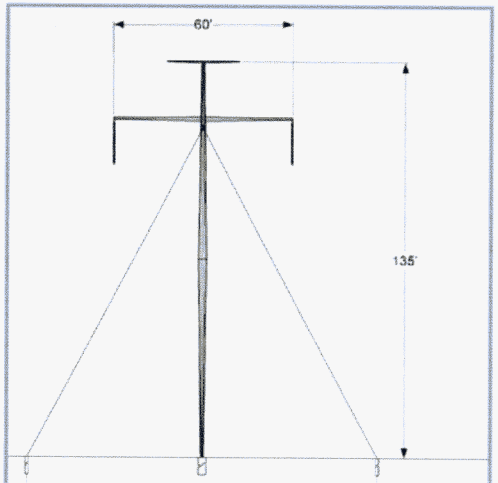
Figure 2-18. Typical DC Guyed Lattice Tangent Structure



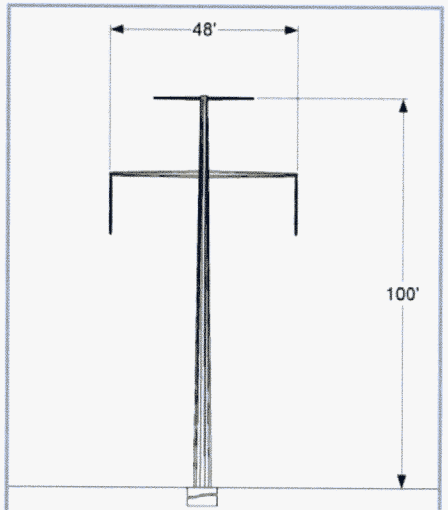
Typical DC Self-Supporting Lattice Tangent Structure



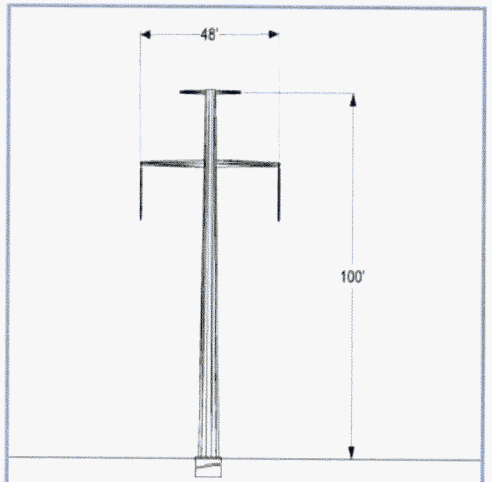
Typical DC Self-Supporting Dead-End Lattice



19. Typical DC Guyed Tubular Tangent Structure

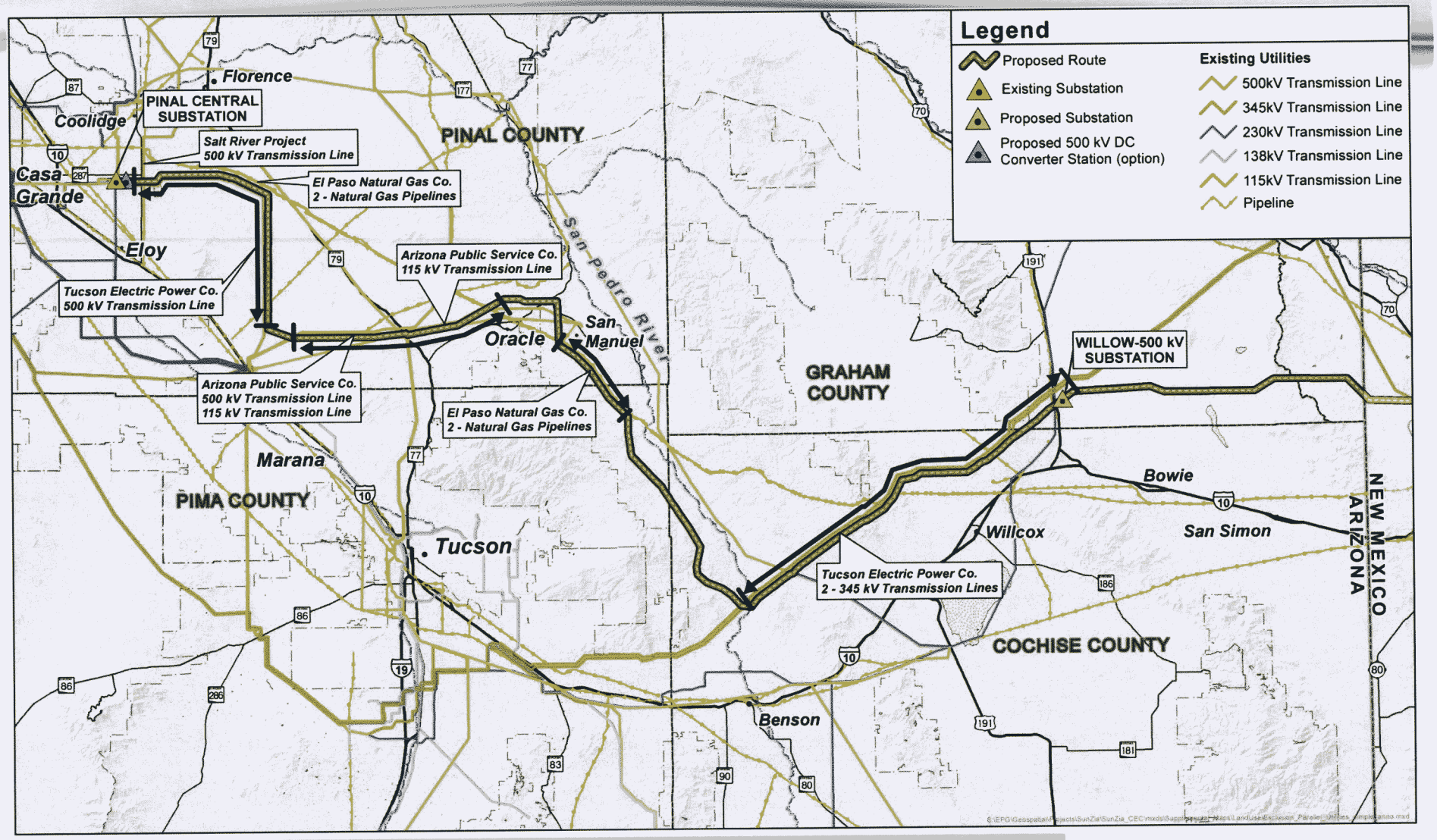


Typical DC Self-Supporting Tubular Tangent



Typical DC Self-Supporting Dead-End Tubular

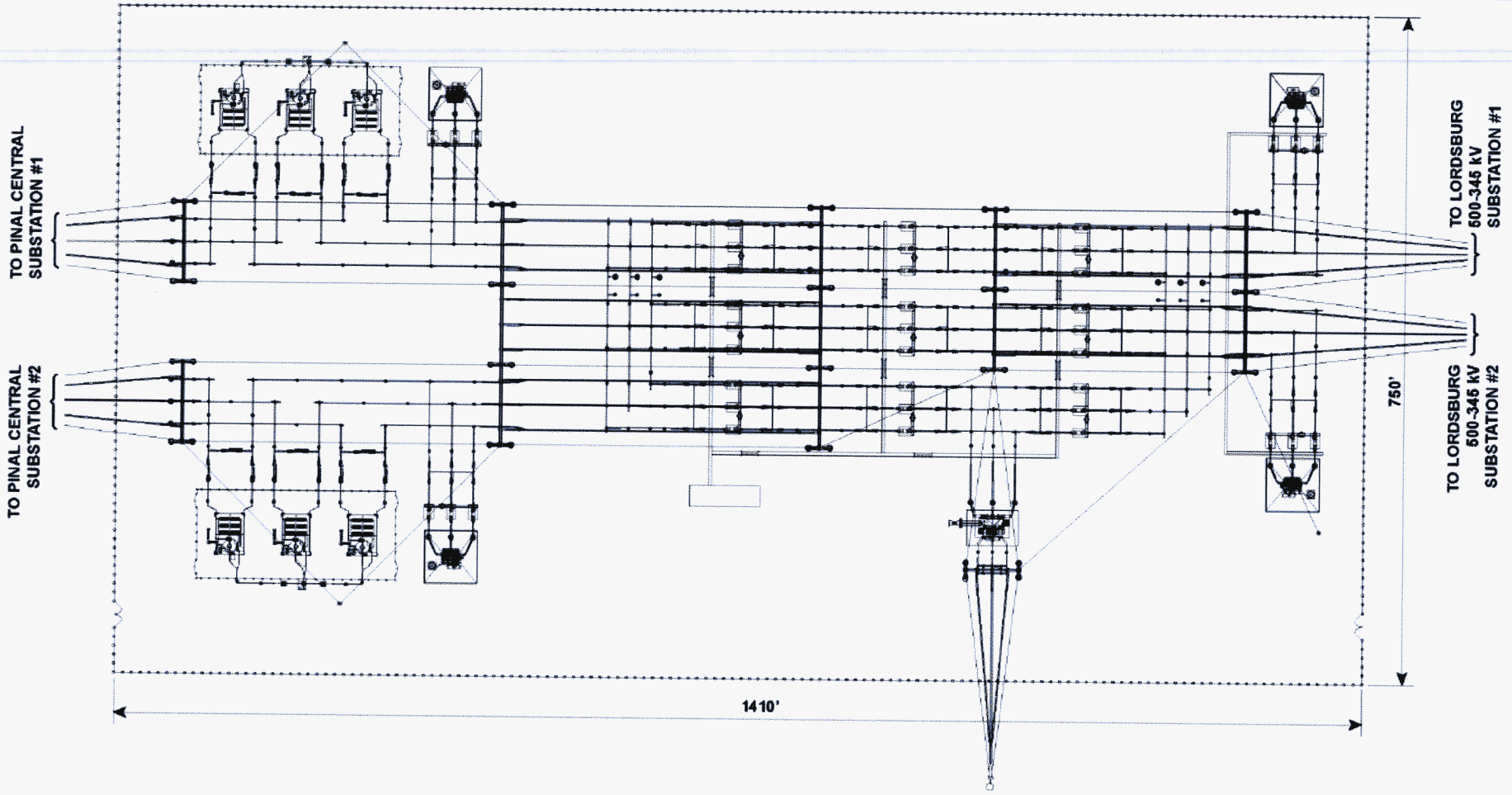
Proposed Route in Arizona



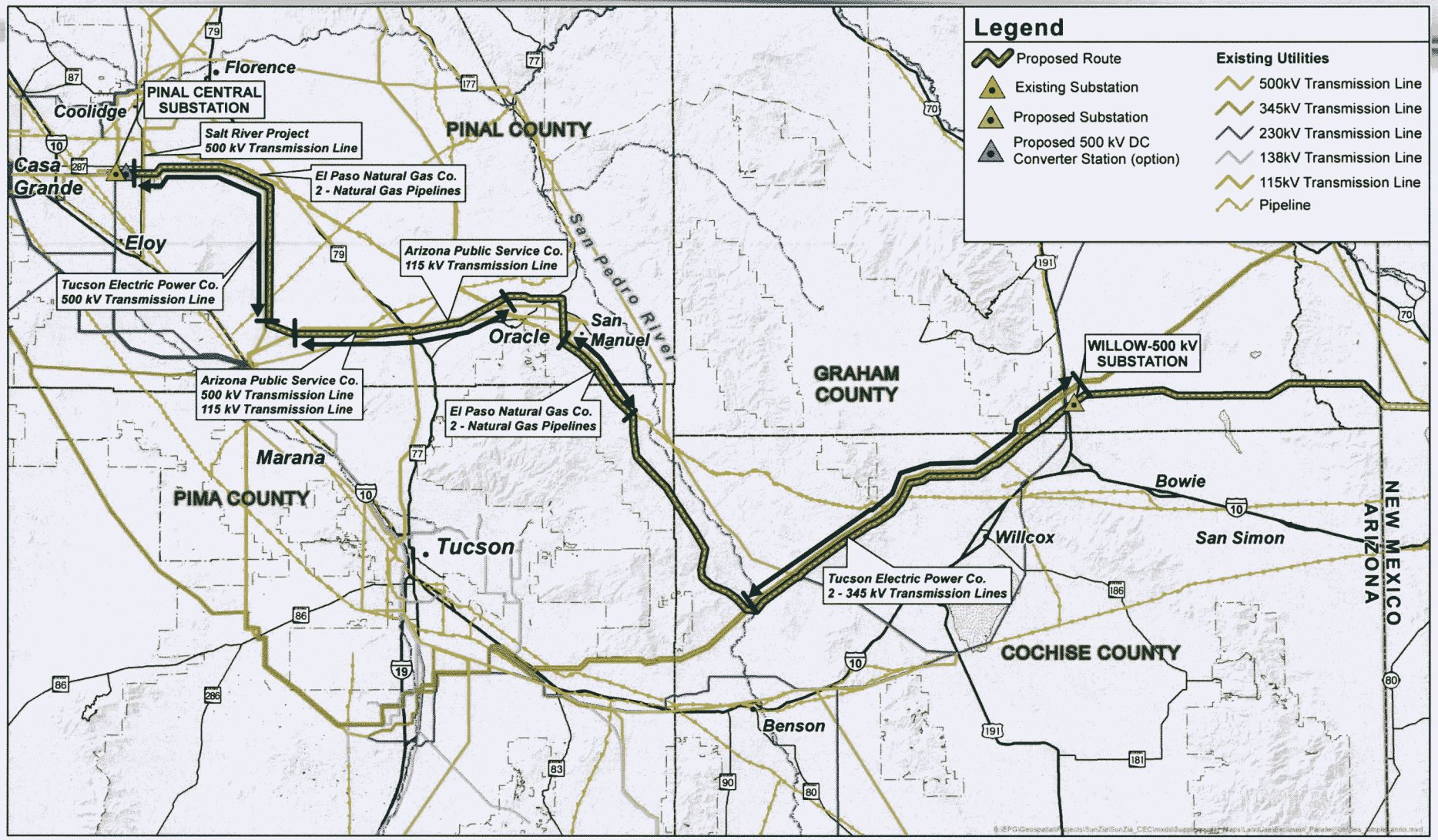
SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia

Willow-500 kV AC Substation (Conceptual Arrangement)



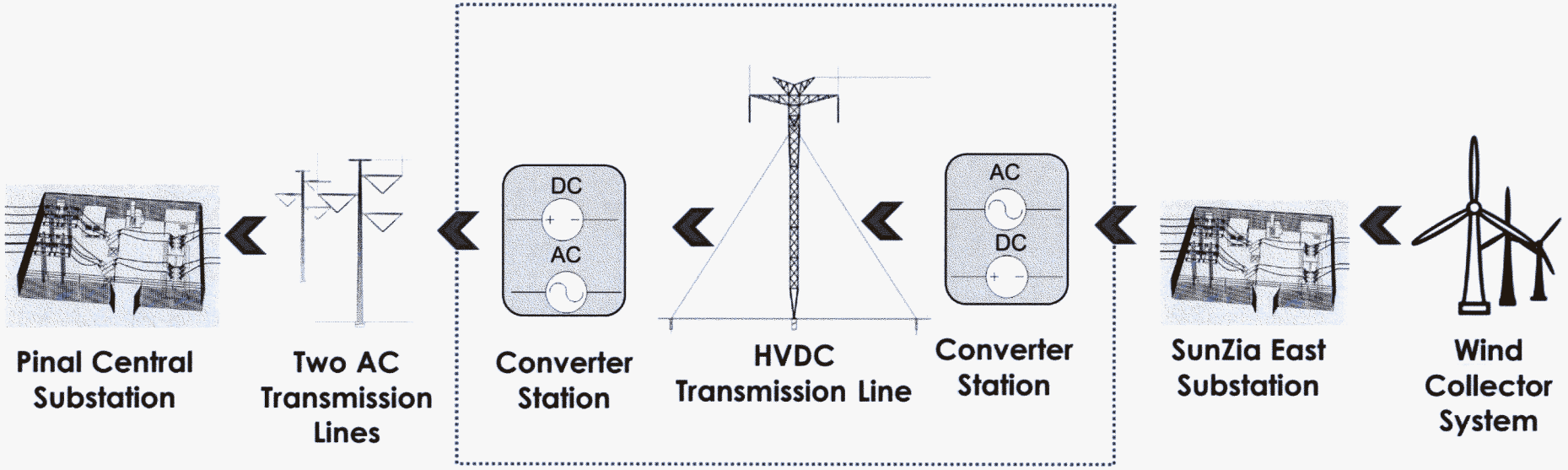
Proposed Route in Arizona



SunZia Southwest Transmission Project

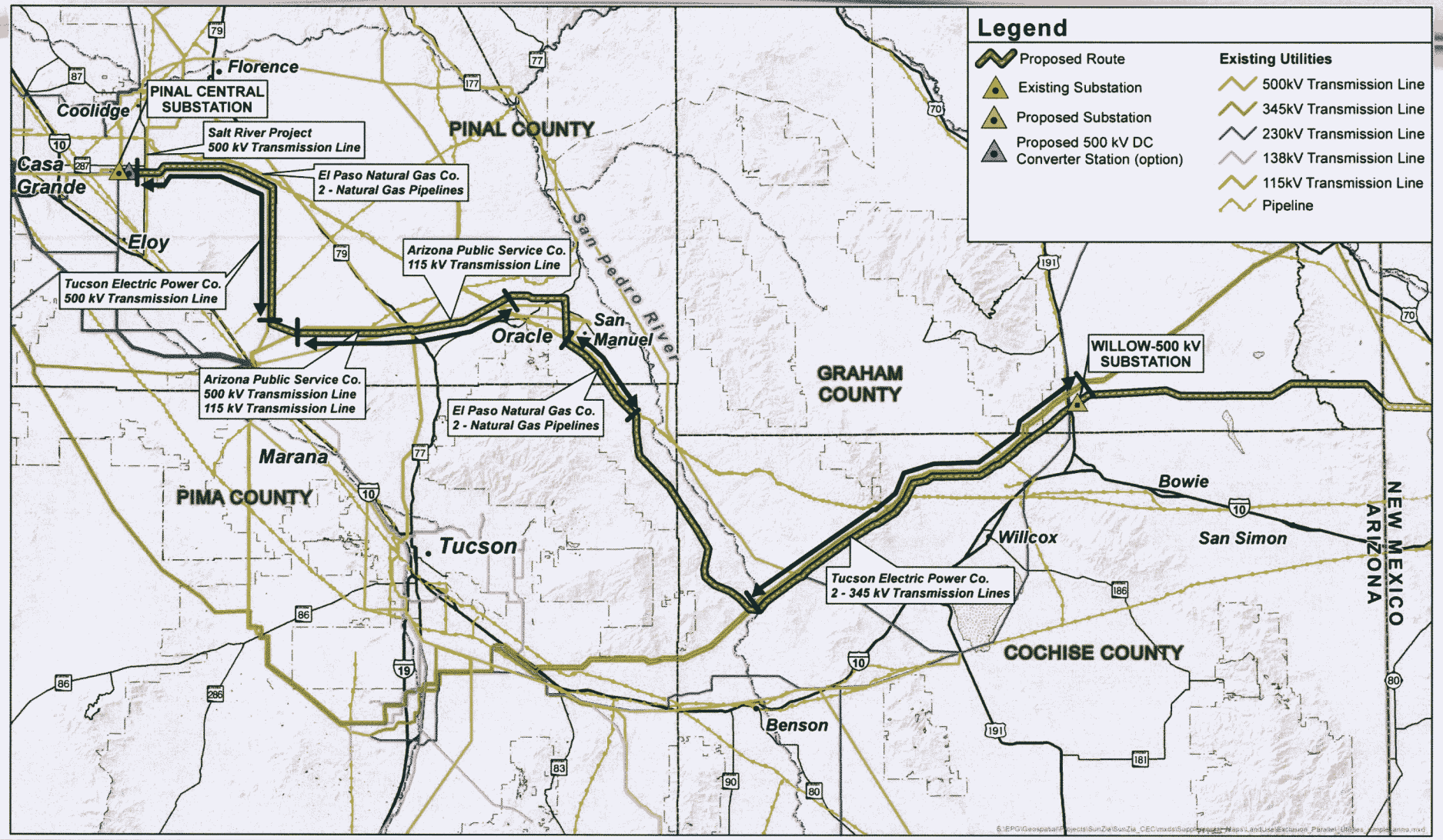
R-45

Option B – HVDC Component



HVDC Line
approximately
515 miles

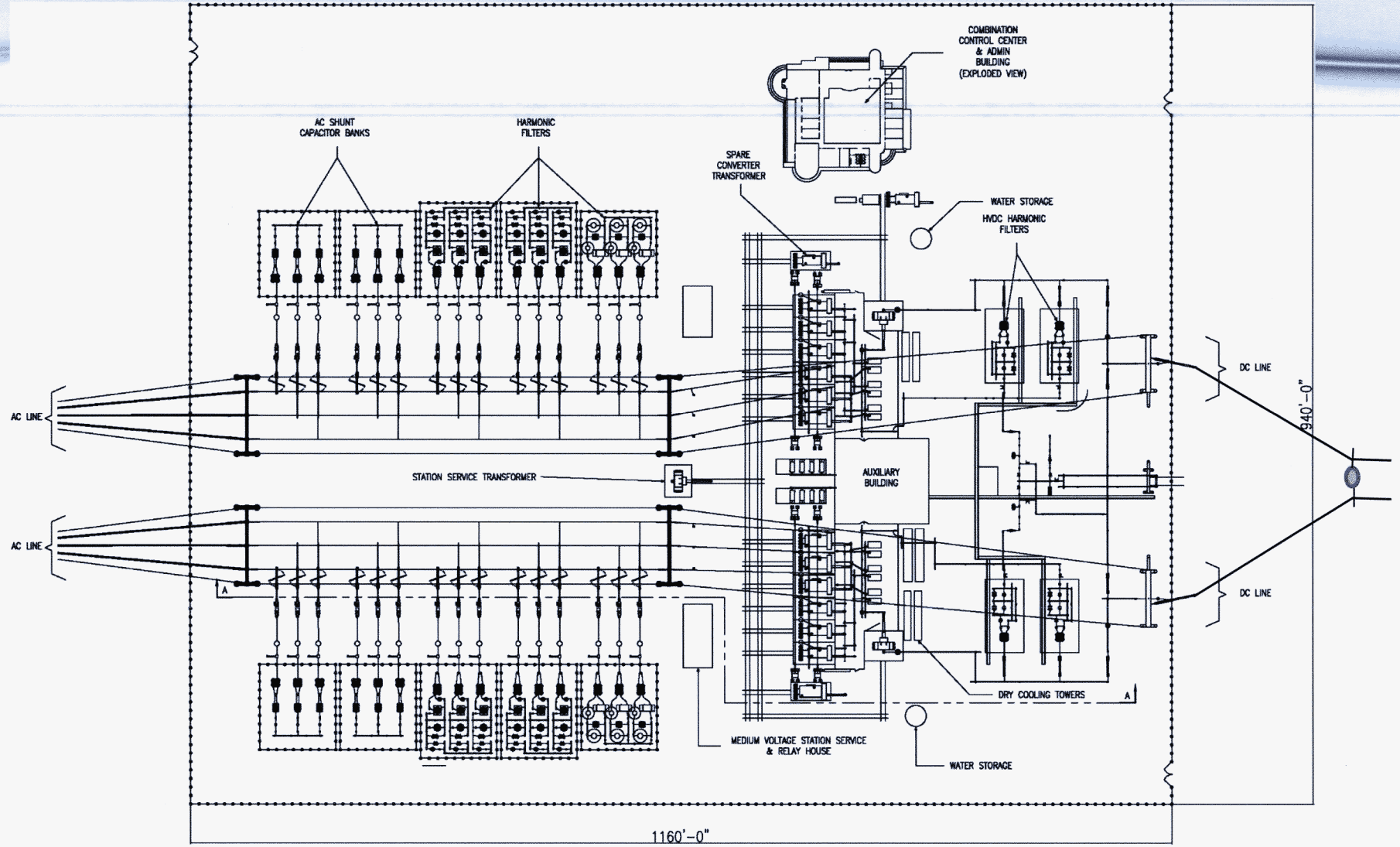
Proposed Route in Arizona



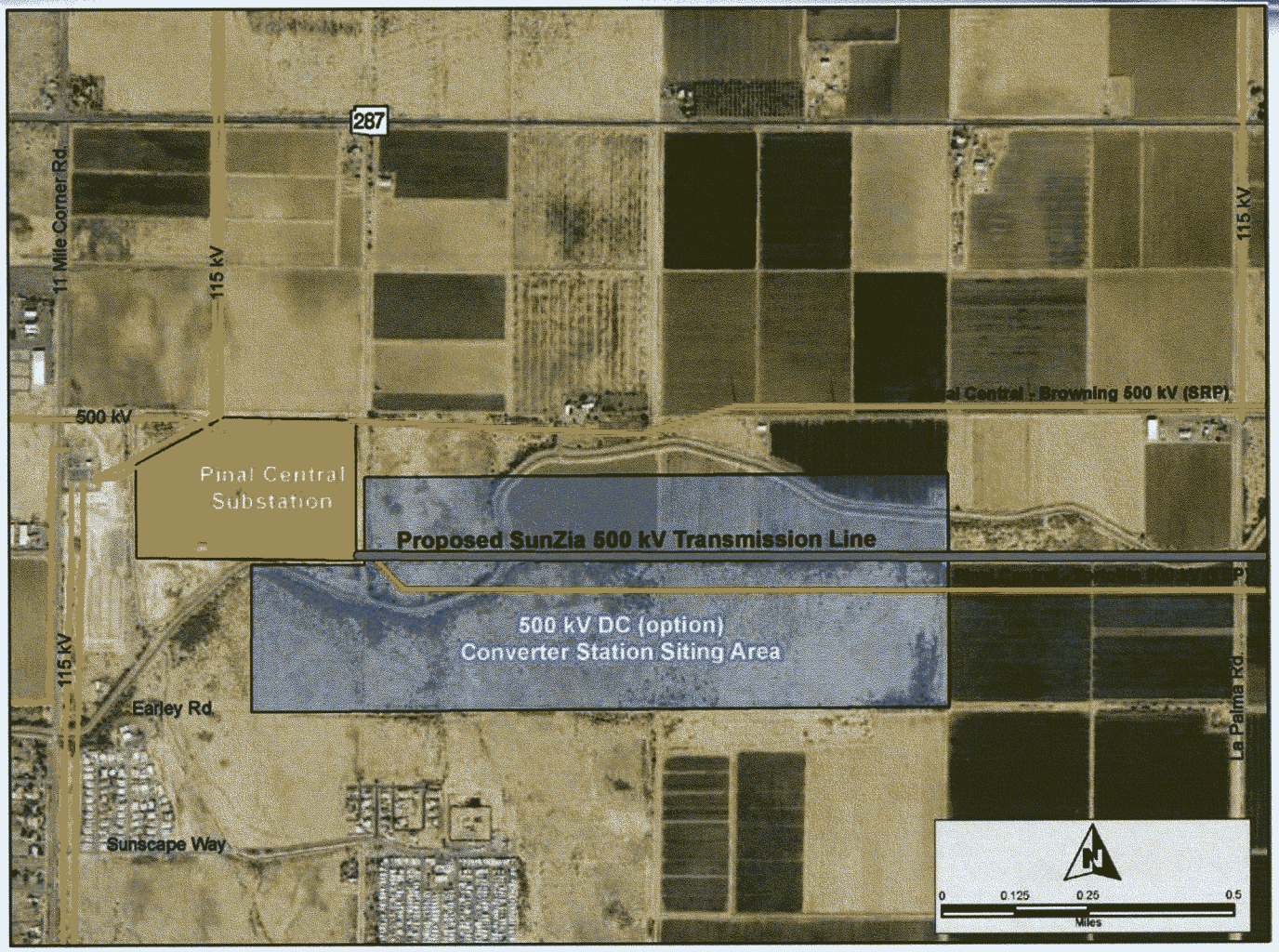
SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia

SunZia HVDC Converter Station



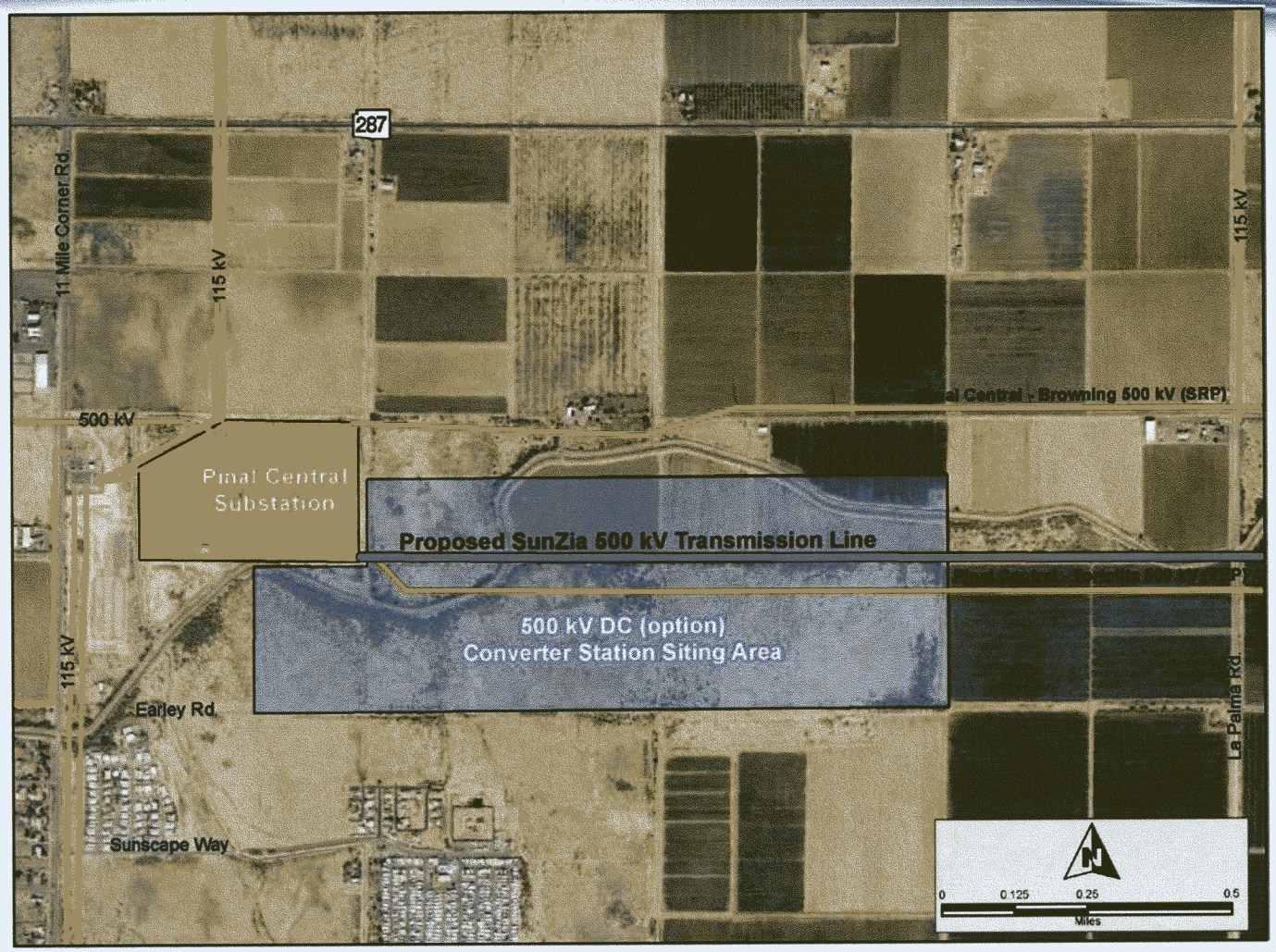
HVDC Converter Siting Area within 1 Mile East of Pinal Central



AC vs. DC Comparison for the Second Line of Either Option

AC Line Attributes	DC Line Attributes
Allows for additional interconnections to the existing AC system	Line losses are approximately ½ of a comparable AC line
Requires "compensation" for long lines greater than 100 miles	Line costs are approximately 25% less than a comparable AC line
Less expensive substation costs than DC	Power "control" for a steady flow of energy
Traditional equipment suppliers for materials and O&M	Line can be operated at a reduced (1/2) output level for converter system maintenance (e.g. mono-pole operation)

HVDC Converter Siting Area within 1 Mile East of Pinal Central



Estimated Costs (AZ Portion Only)

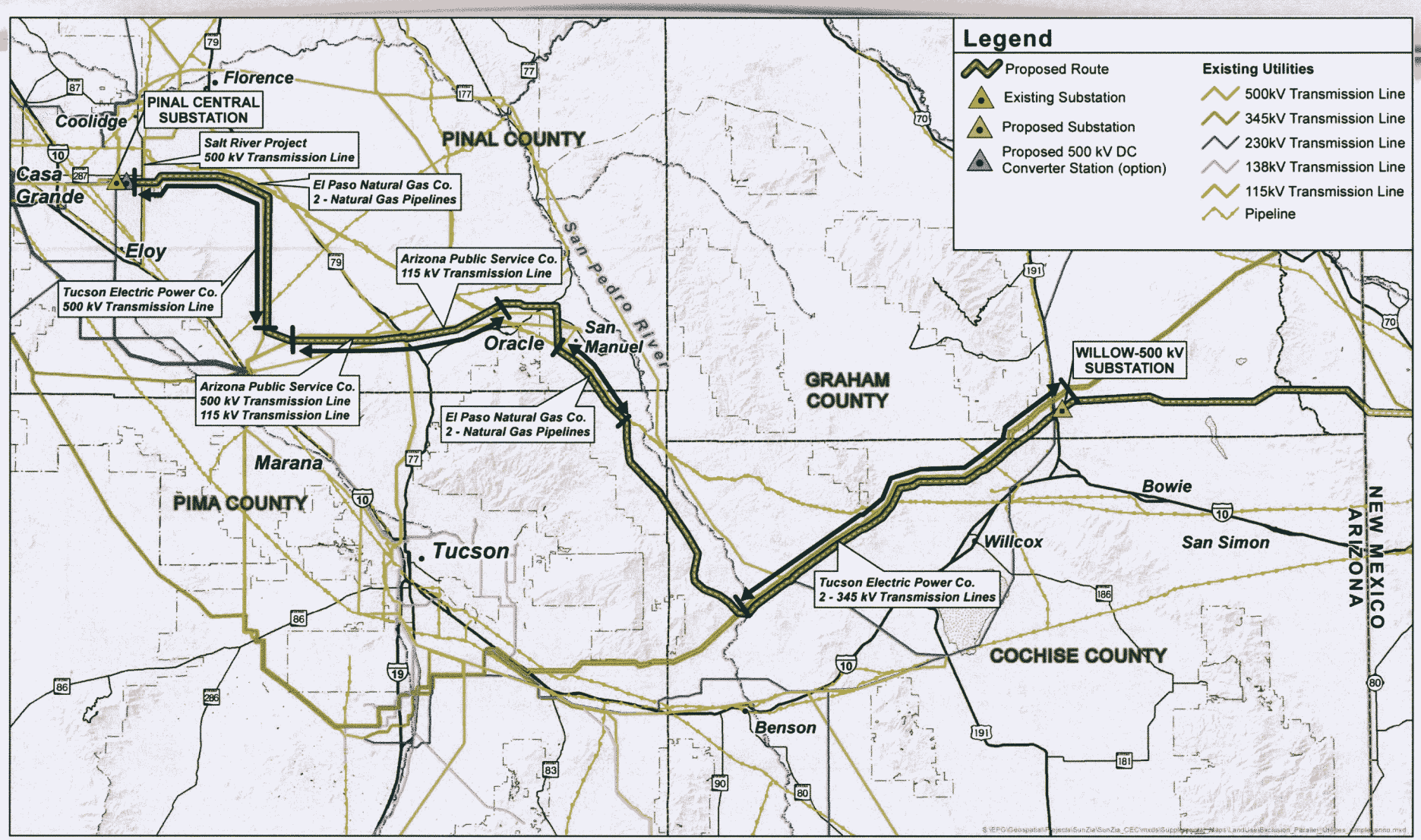
Option A – Two 500 kV AC Lines:

Line Costs	$720M
Substation Costs	$ 90M
ROW Costs	$ 25M
TOTAL	**$835M**

Option B – One 500 kV AC and One 500 kV DC:

Line Costs	$630M
Substation Costs	$330M
ROW Costs	$ 25M
TOTAL	**$985M**

Proposed Route in Arizona



SunZia Southwest Transmission Project

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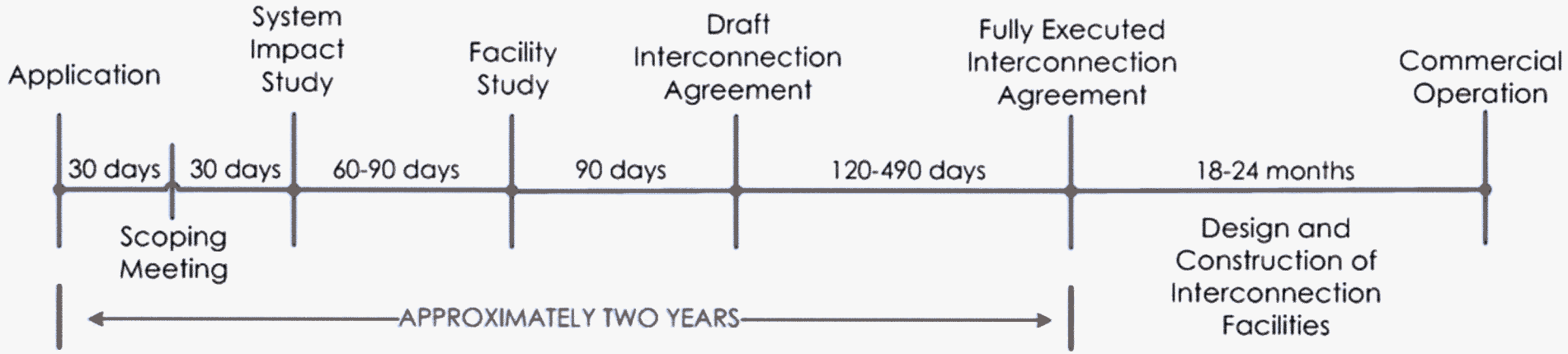
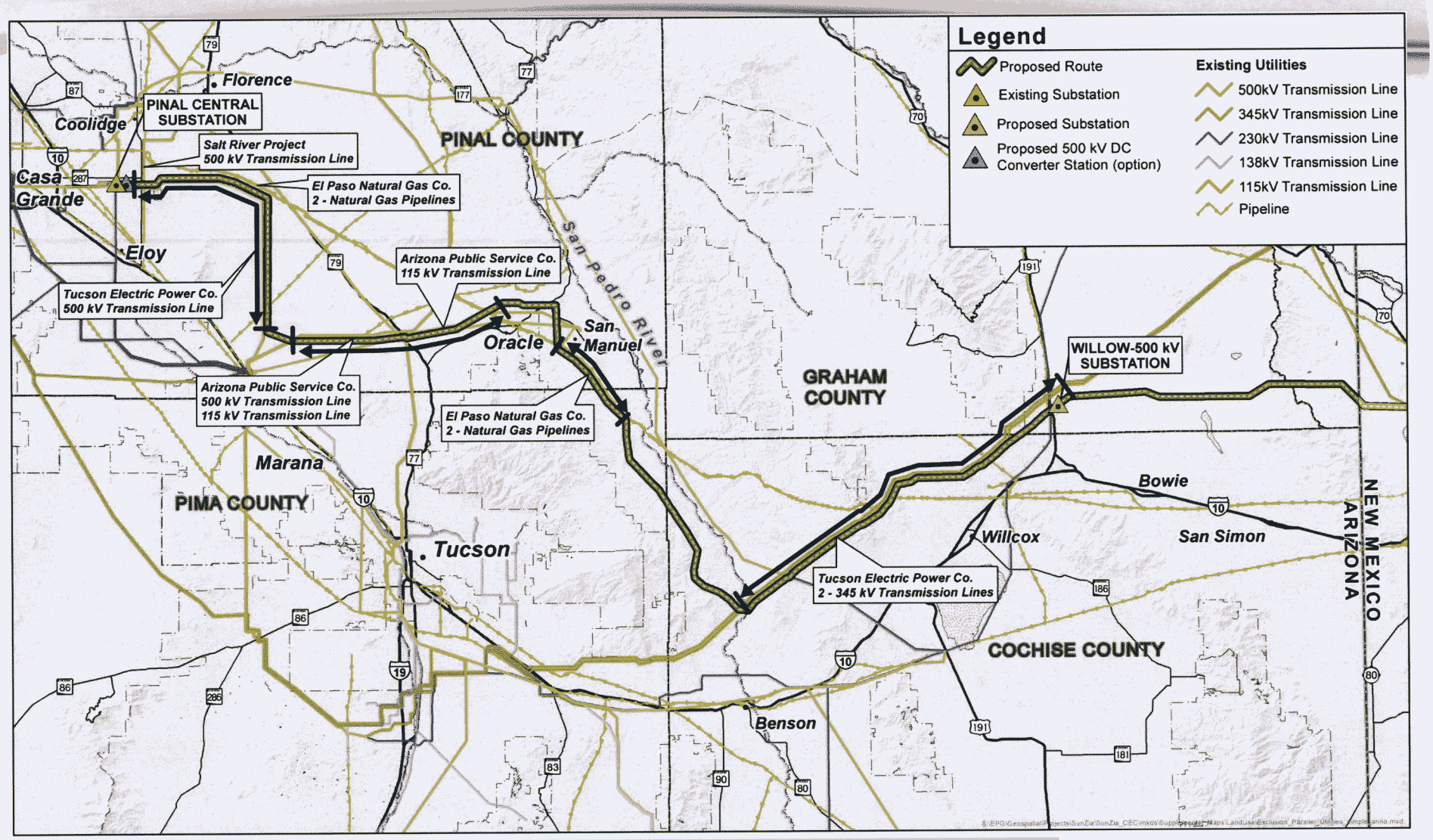
Interconnection Plan

- **Wires – Wires Interconnection Agreement will be required to interconnect at Pinal Central (SRP as lead for participants) and to the TEP system**
- **Agreement covers: Costs and responsibilities, balancing authority related issues, O&M, common bus rights, etc.**
- **Process: Application (and deposit), studies, facilities, costs, Interconnection Agreement**



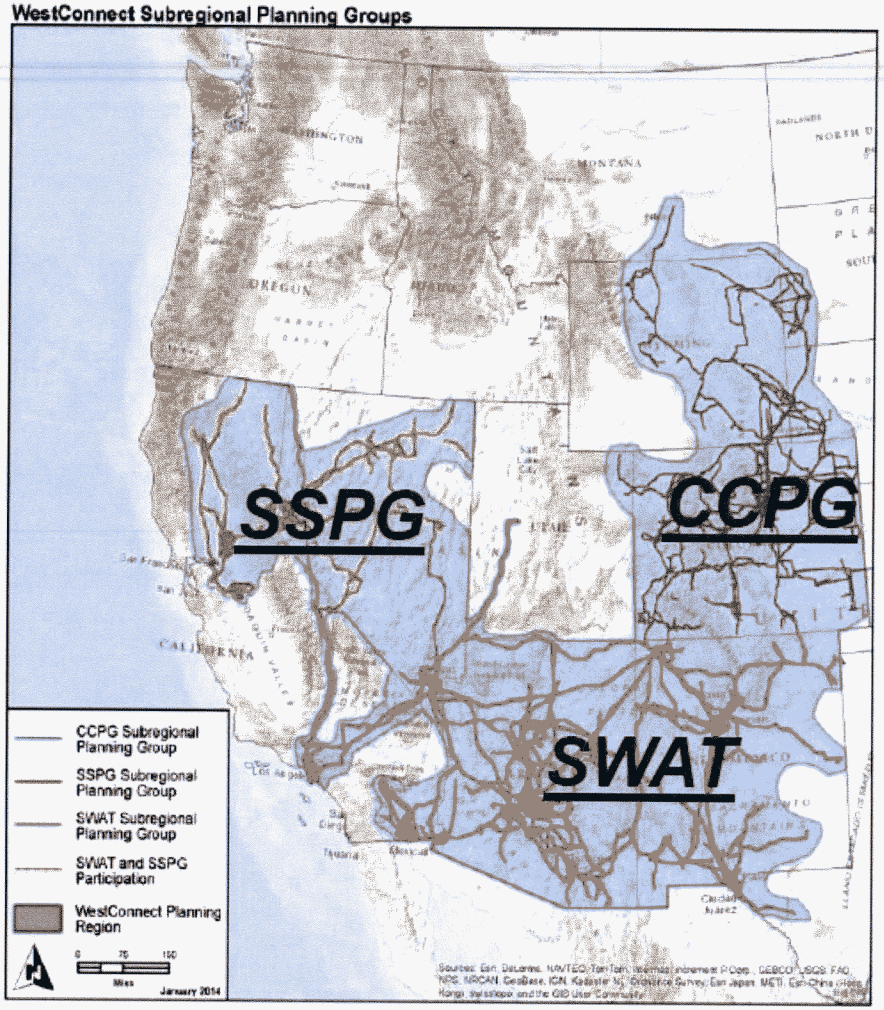
Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

R-50

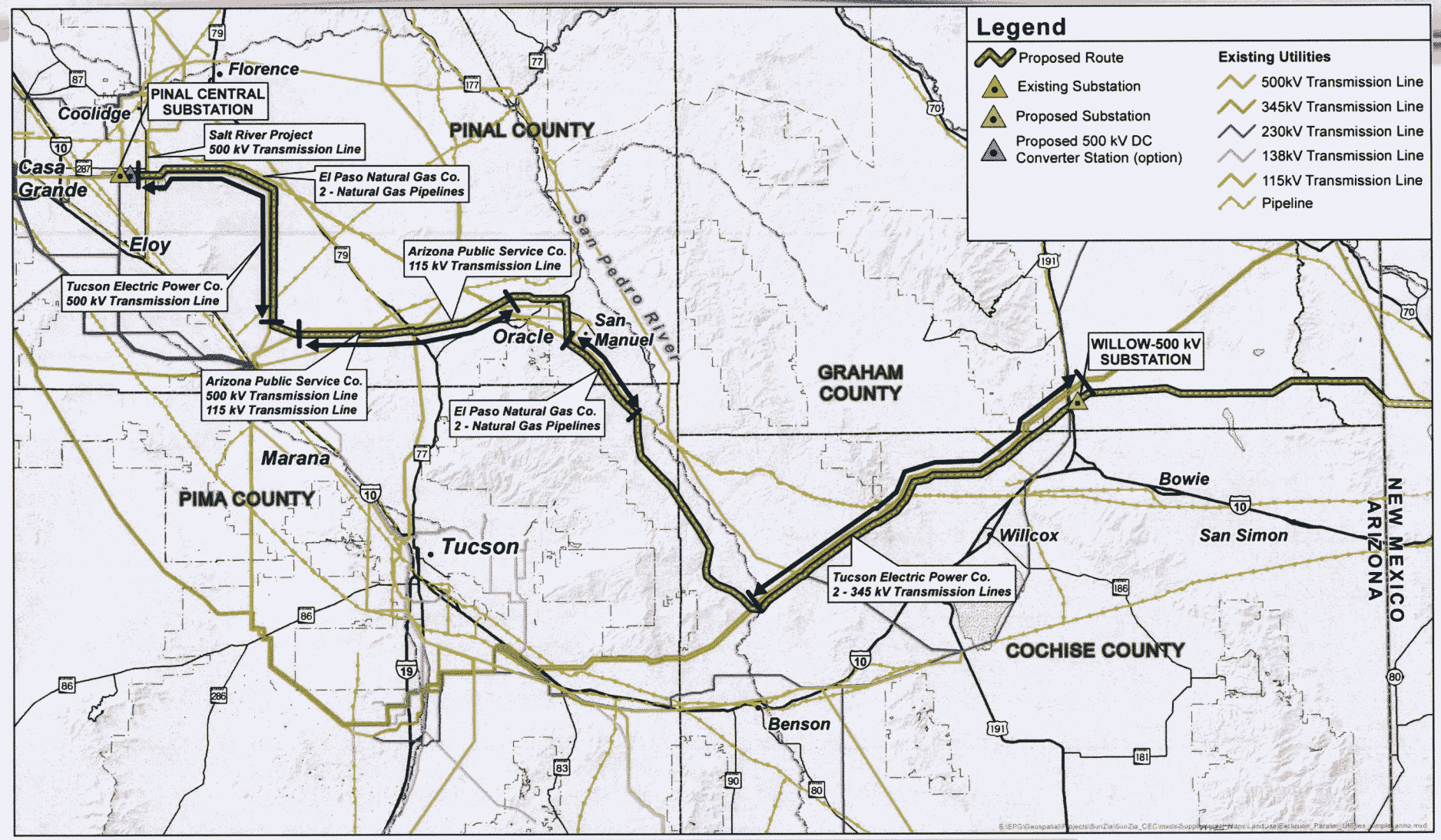
WestConnect Regional Planning



WestConnect Purpose:

- Coordination of regional transmission plans
- Work collaboratively to assess stakeholder needs
- Assess market enhancements
- Development of cost effective enhancements for the region
- Transitioning to FERC Order 1000 requirements
- WestConnect distribution list includes over 700 stakeholders

Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

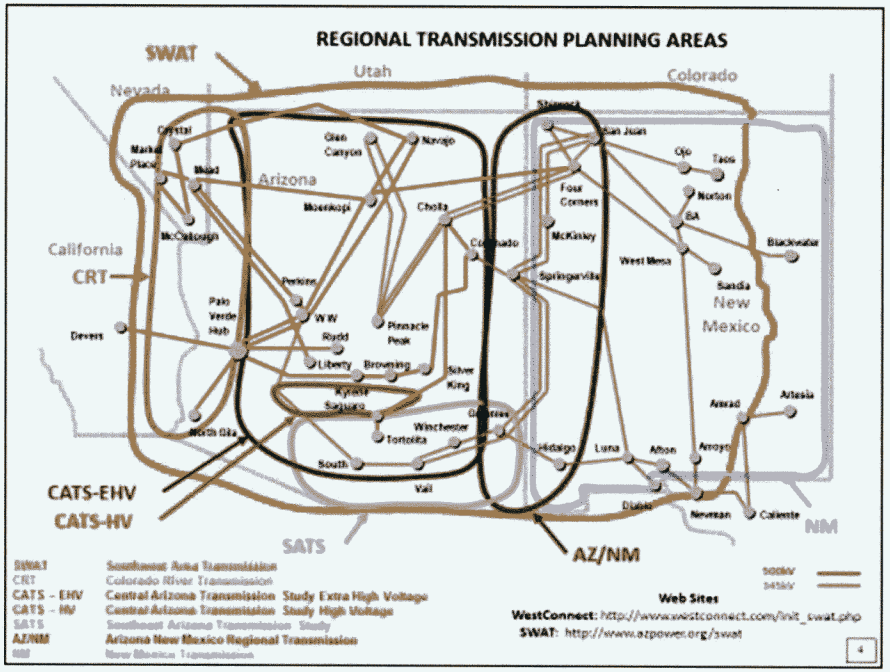
SunZia

Southwest Area Transmission (SWAT) Planning Group

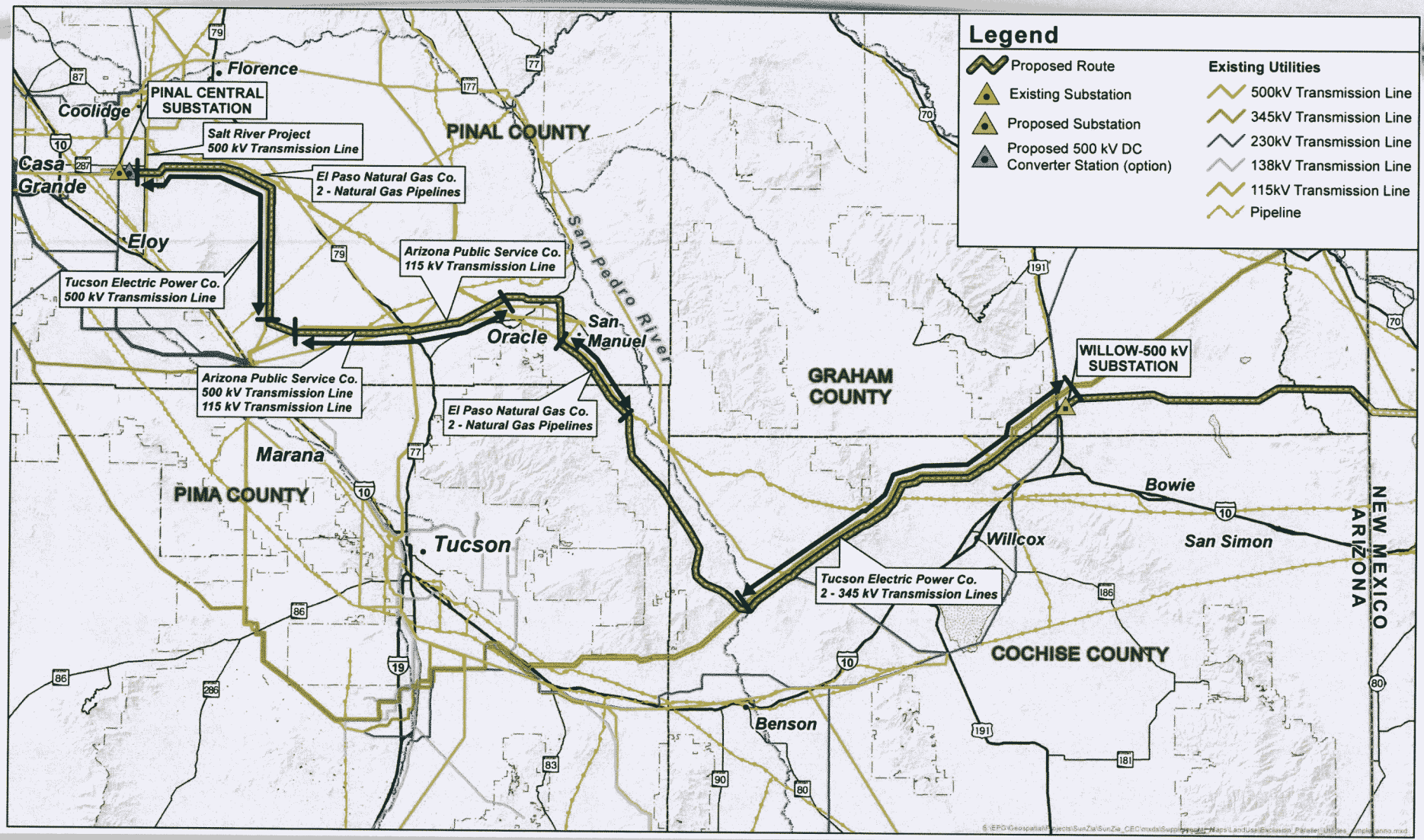
SWAT Purpose:

" To provide an open and collaborative forum where interested parties are encouraged to participate in the planning, coordination, and implementation of a robust transmission system in Arizona, New Mexico, and parts of Colorado, west Texas, southern Nevada, and the Imperial Valley area of California. The open stakeholder participation envisioned in this process is intended to result in transmission expansion plans that meet a variety of needs and have a broad basis of support."

- SWAT distribution list includes over 300 individual stakeholders and interested parties to regional planning



Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

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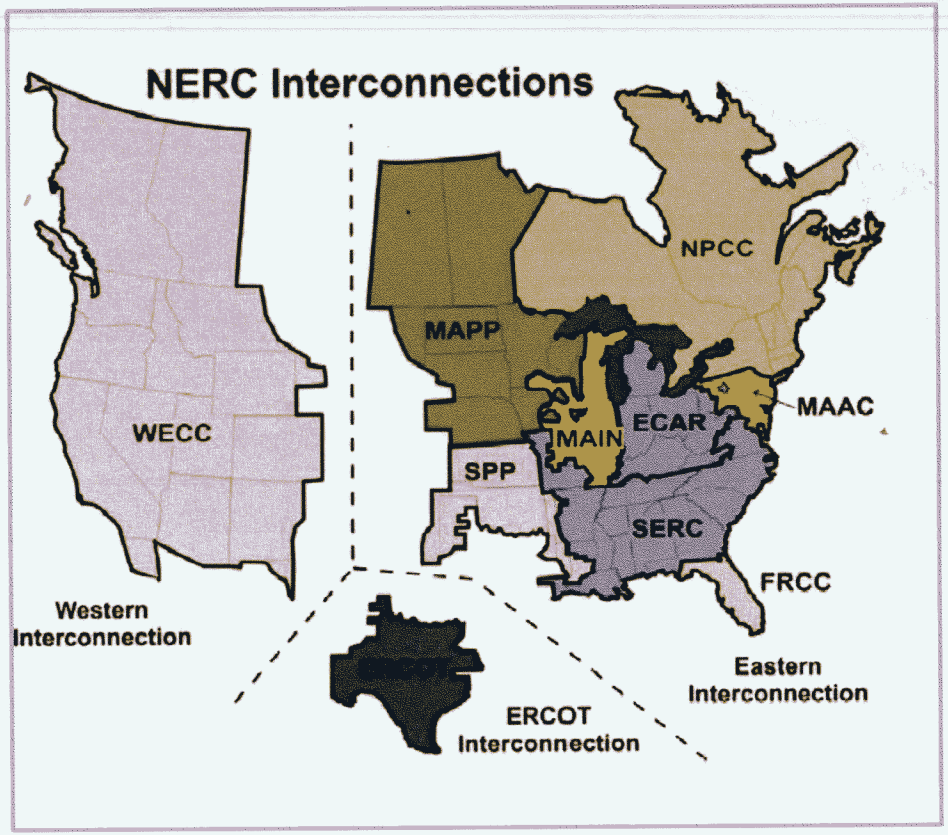
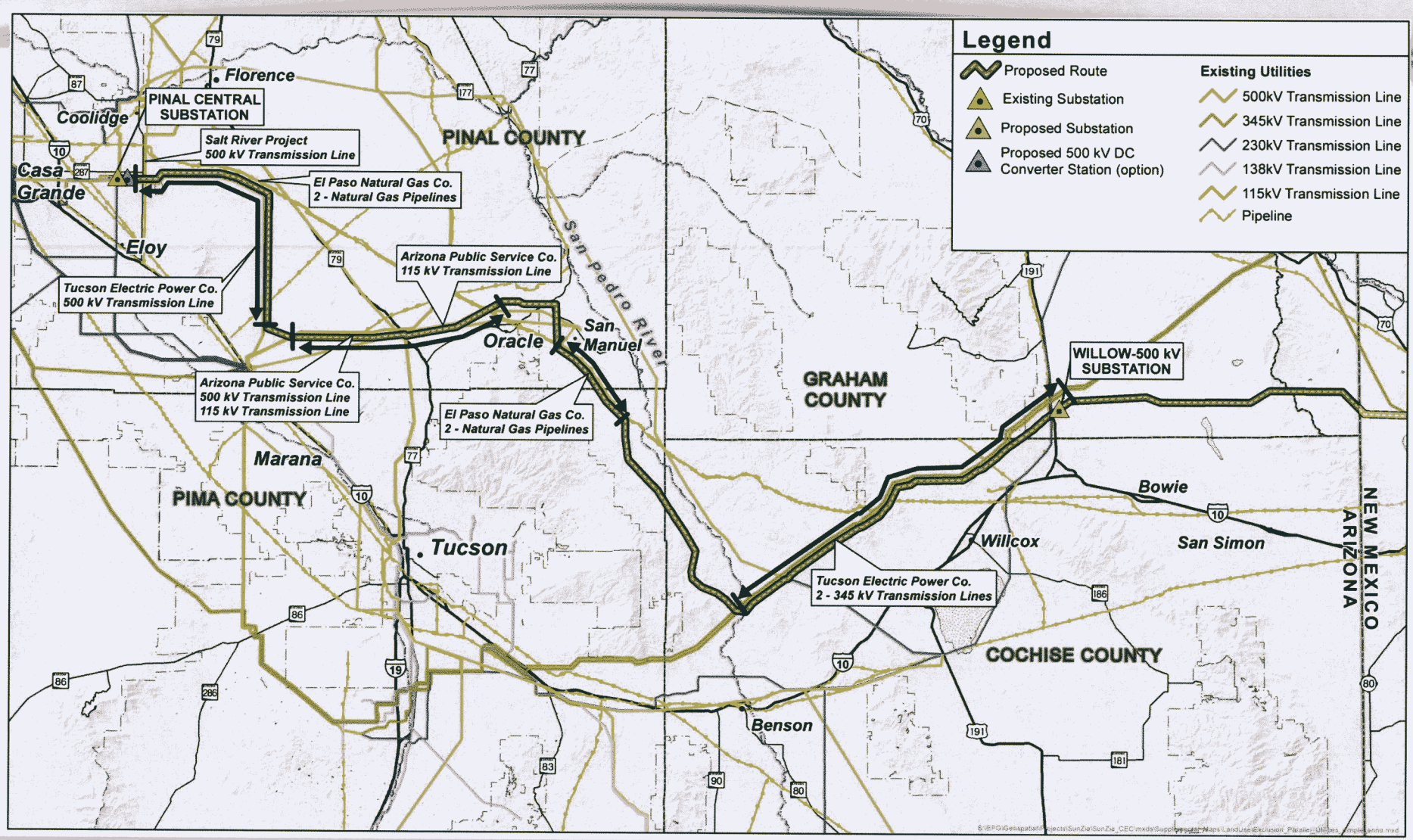
Western Electricity Coordinating Council (WECC)

- **WECC purpose**
  - Reliability Standards
  - NERC Compliance
  - Planning Coordination
- **Member organization of all transmission owners, transmission customers, and state regulatory in the west**



Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

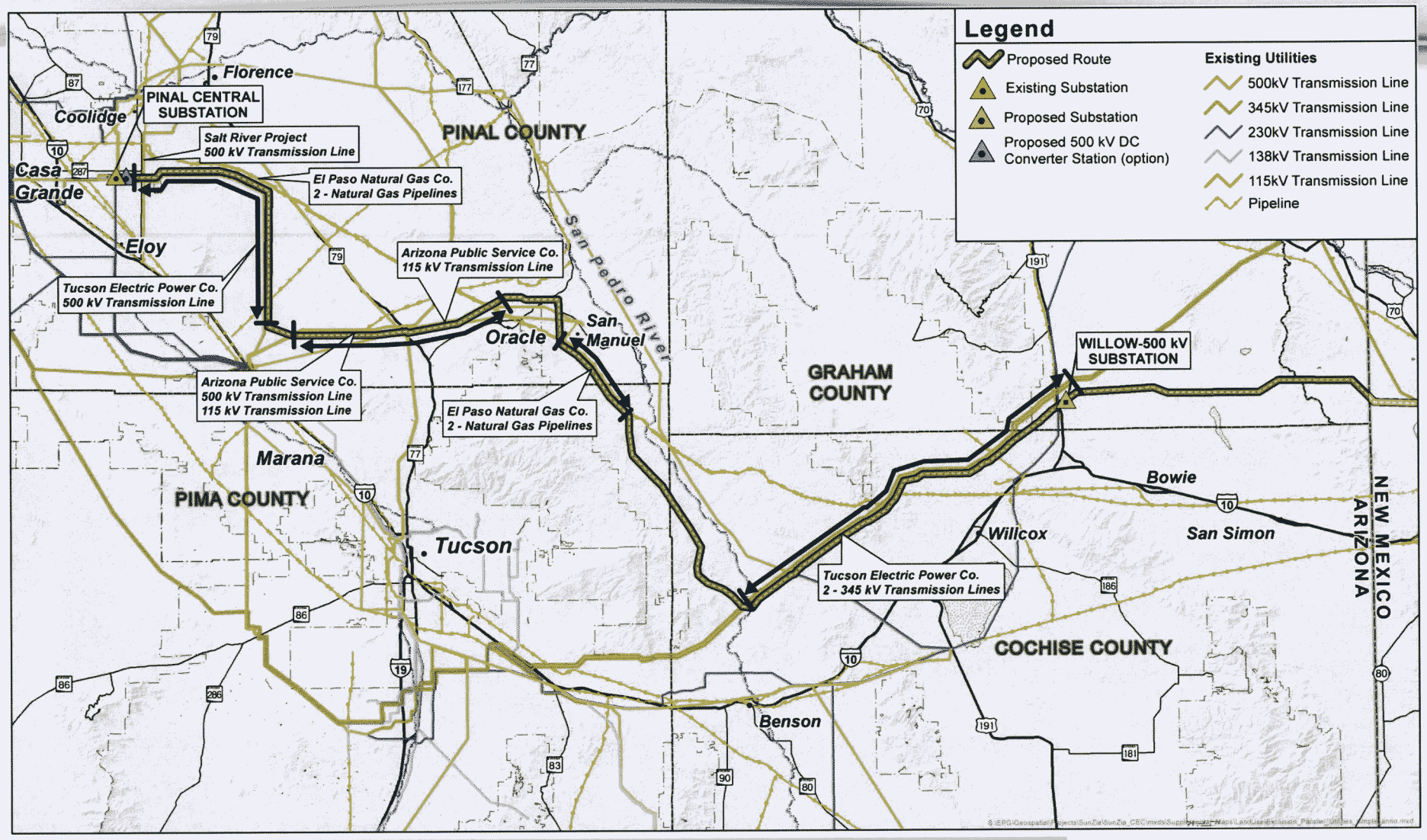
SunZia

WECC Project Coordination and Path Rating Process

- Project coordination among WECC members
- Opportunity to align projects with regional participation
- Peer review of all technical studies (project review group)
- Non-simultaneous and simultaneous interactions with other WECC paths (approximately two years to complete studies)
- Goal to achieve an Accepted Rating (increase transfer capability in a reliable manner, and with peer review)
- At least annual project reports required

- SunZia has an Accepted Rating of 3000MW (Option A)

Proposed Route in Arizona



Summary of SunZia Reliability Benefits

Additional transmission capacity (transfer capability)

- 3000MW WECC rating between NM and AZ
- Renewable resource deliverability to Pinal Central "hub"

Reduce congestion on existing facilities

- Congestion: constraints and/or available transmission capacity

Resource diversity

- Provide generation resource diversity to Pinal Central area

Additional reliability

- Additional transmission provides diverse paths under normal and contingency conditions

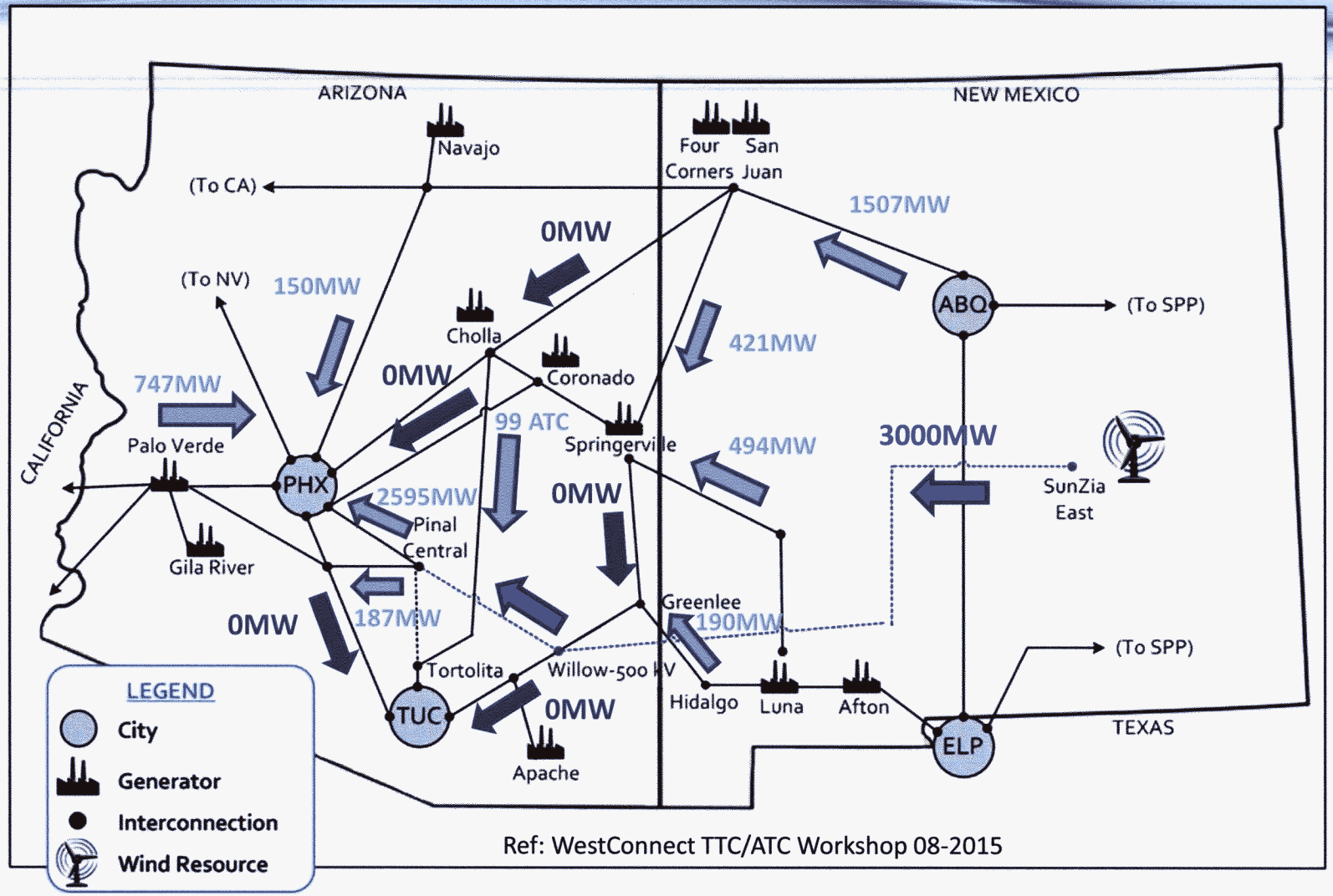
Part of the Long-term plan for AZ EHV system

- CATS/SWAT plan
- Pinal Central testimony defining it as a hub for the central region
- Concept and now what has been built (Winchester, SEV, Pinal Central, etc.)

Summary of SunZia Benefits

- Additional transmission capacity and transfer capability for renewable energy
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

Regional Transmission Available Transmission Capacity (ATC)

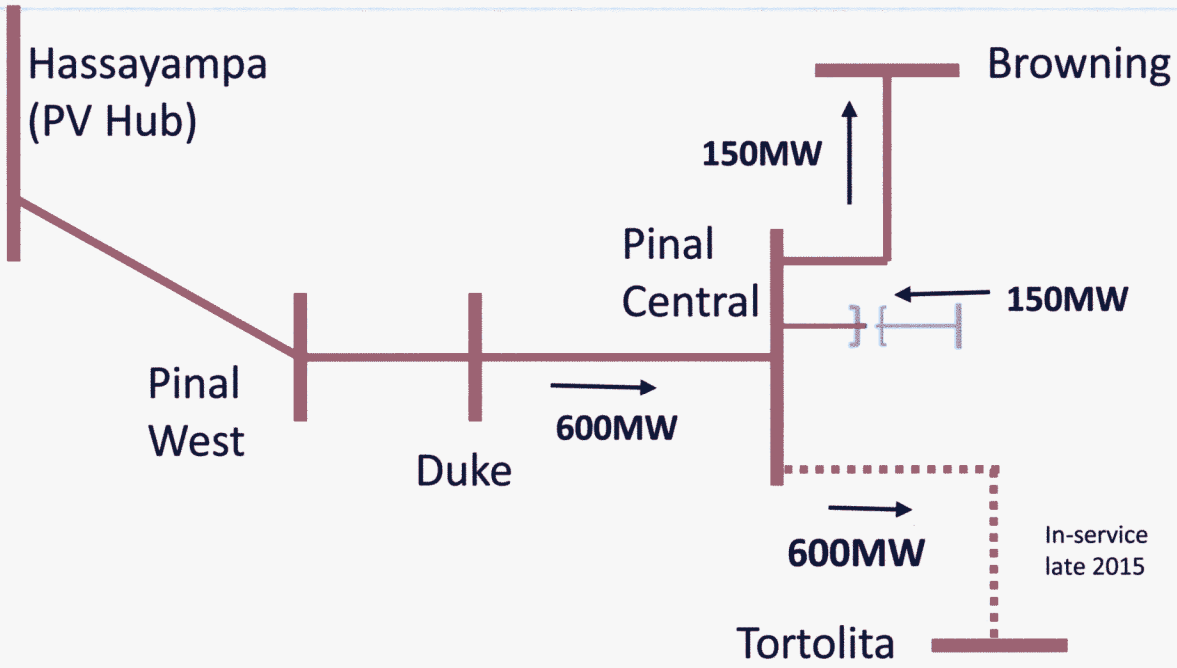


Ref: WestConnect TTC/ATC Workshop 08-2015

Summary of SunZia Benefits

- Additional transmission capacity and transfer capability for renewable energy
- Reduce congestion on existing facilities
- Resource diversity
- Additional reliability
- Part of the long-term plan for AZ EHV system

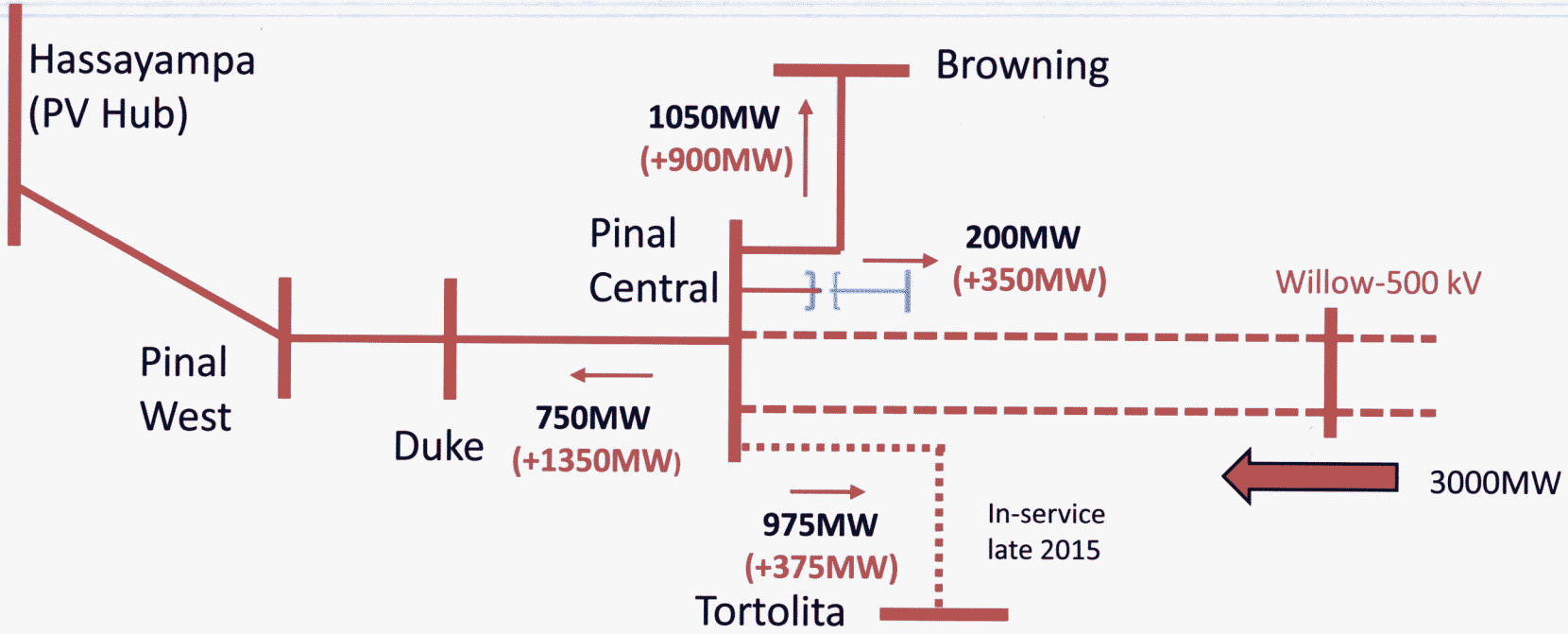
Pinal Central Power Flow (Normal Conditions)



Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- **Resource diversity for serving AZ loads**
- Additional reliability
- Part of the long-term plan for AZ EHV system

Pinal Central Power Flow (Post-SunZia)

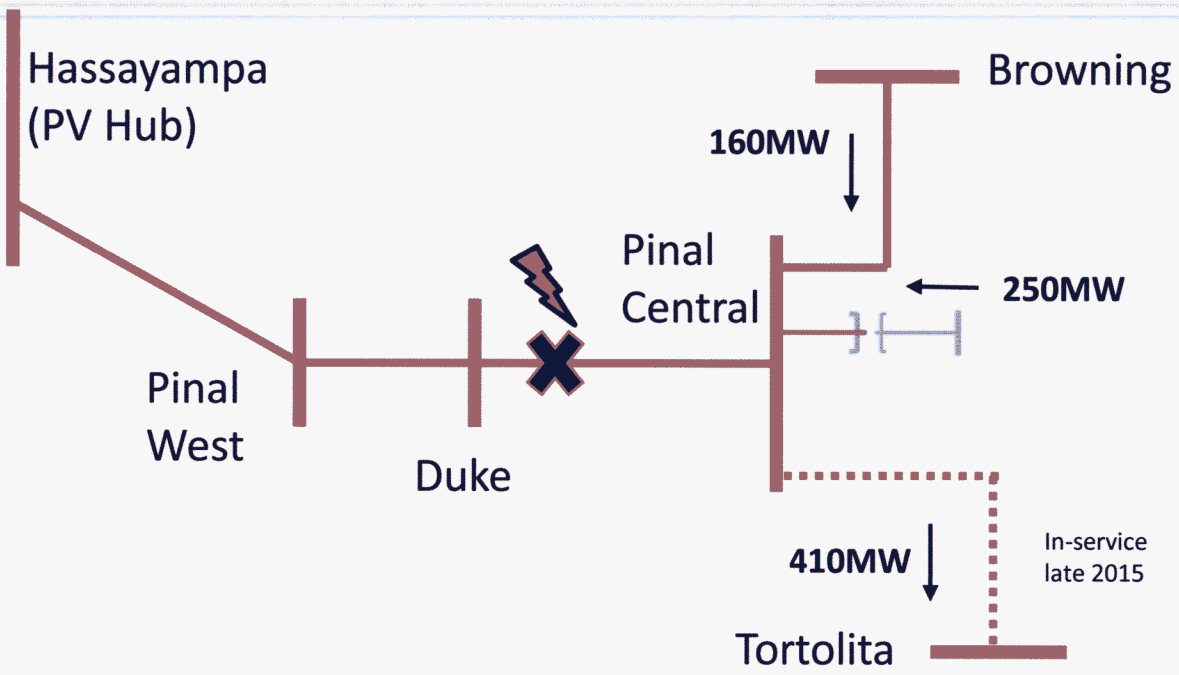


- Increase utilization of existing transmission
- Decrease schedules on Palo Verde East path
- Provide additional capacity for future load growth
- Diversity of generation resources to regional loads

Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- **Resource diversity for serving AZ loads**
- Additional reliability
- Part of the long-term plan for AZ EHV system

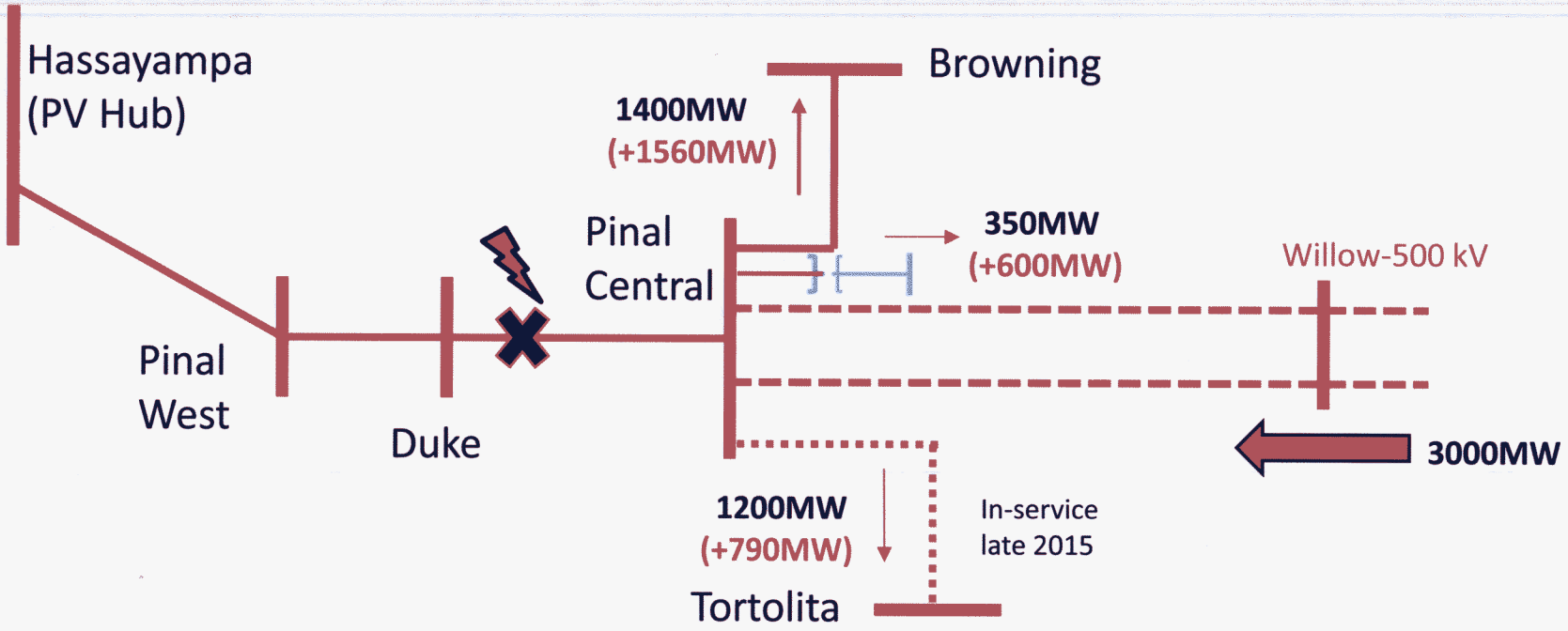
Pinal Central Power Flow Contingency Conditions



Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- Resource diversity for serving AZ loads
- **Additional reliability for the AZ EHV system**
- Part of the long-term plan for AZ EHV system

Pinal Central Power Flow Contingency Conditions (Post-SunZia)

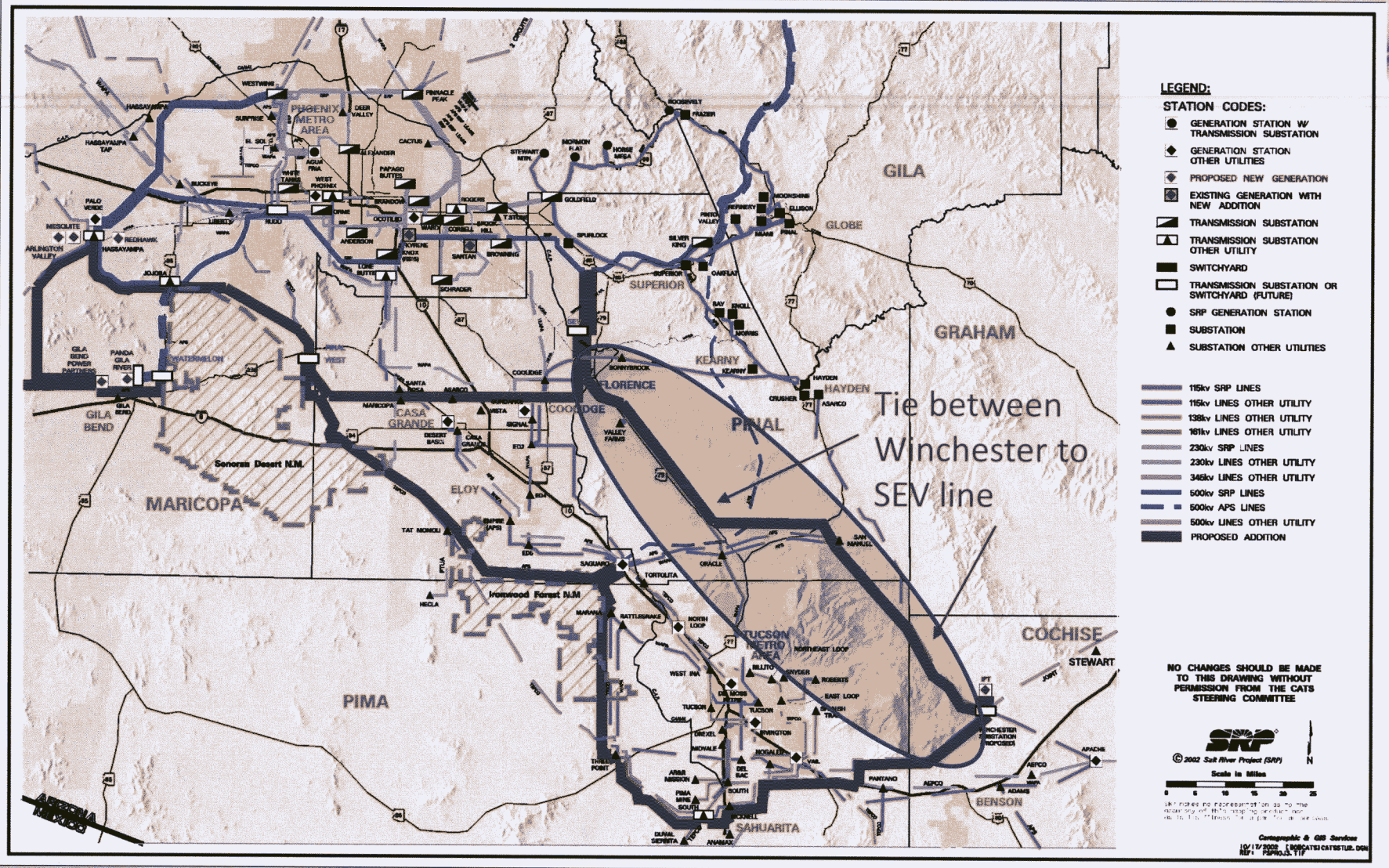


- Additional connectivity to Pinal Central
- Improved reliability for this critical regional substation

Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- Resource diversity for serving AZ loads
- **Additional reliability for the AZ EHV system**
- Part of the long-term plan for AZ EHV system

Central Arizona Long-term Plan



Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- Resource diversity for serving AZ loads
- Additional reliability for the AZ EHV system
- **Part of the long-term plan for AZ EHV system**

ACC Guiding Principles

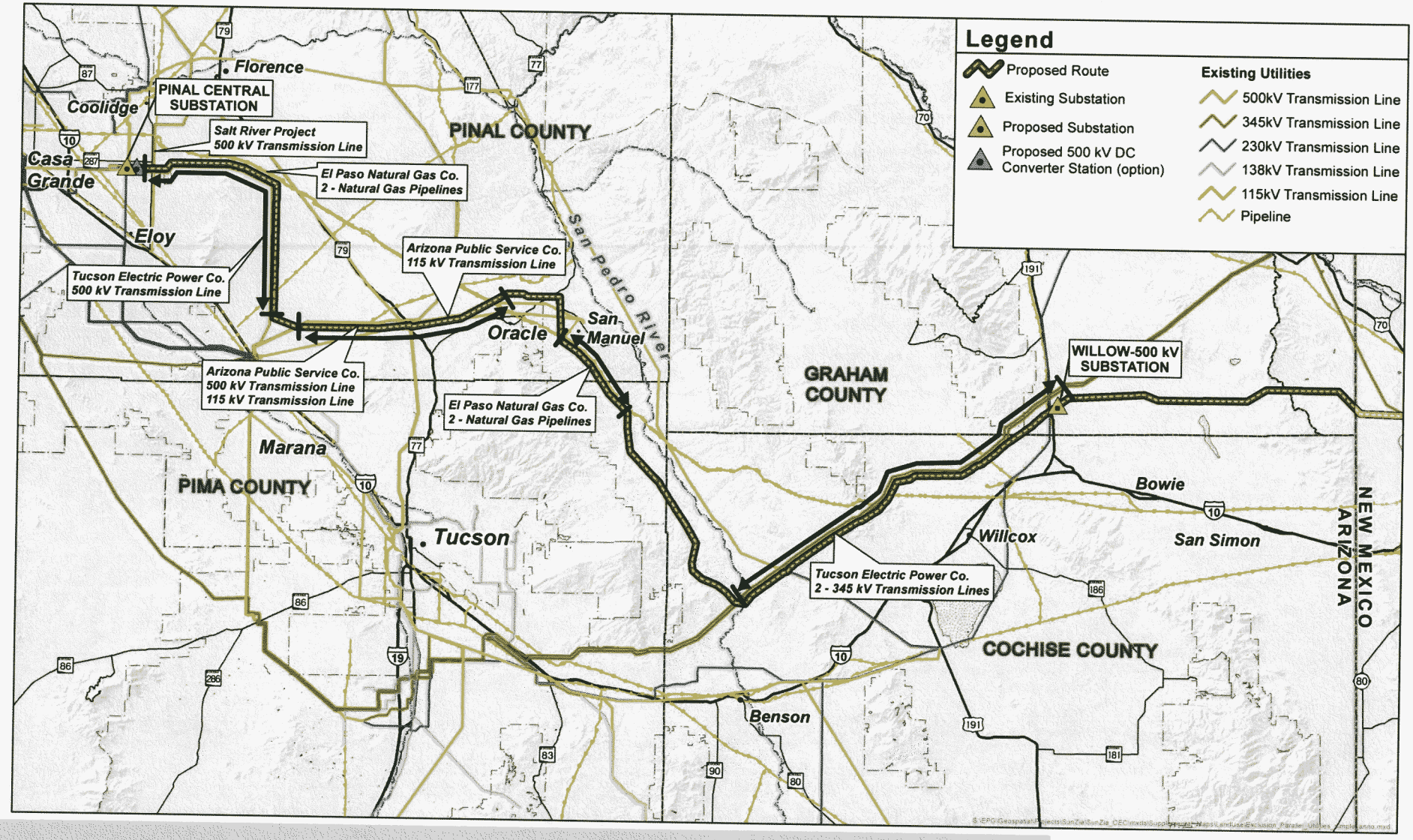
- **T.1: Compliance with NERC, WECC, regional reliability criteria**
  - ✓ Accepted WECC Rating demonstrated 3000MW reliable transfer
- **T.2: Apply electric utility criteria if more restrictive**
  - ✓ Interconnection Agreement will dictate if more restrictive
- **T.3: Requirement for filing a Ten-Year Plan by 1/31 each year**
  - ✓ Have done for several years and will continue until in-service
- **T.4: Participate in state and regional transmission forums**
  - ✓ Have done for several years and will continue until in-service
- **T.5: Follow NERC and WECC as Transmission Owner and Operator**
  - ✓ Interconnection Agreement will dictate additional requirements
- **T.6: Perform electrical induction study(s) if parallel to and within 100 feet of gas lines**
  - ✓ Required by the gas pipeline companies, Condition #18 in Draft CEC

Summary of SunZia Benefits

- Additional transmission capacity and transfer capability
- Reduce congestion on existing facilities
- Resource diversity for serving AZ loads
- Additional reliability for the AZ EHV system
- Part of the long-term plan for AZ EHV system

Proposed Route in CEC Application

- **In comparison with other alternatives evaluated in previous studies, the Proposed Route:**
  - » Maximizes use of existing utility corridors
    - 59% (117 miles) parallels existing utility corridors
    - 74 miles parallels existing transmission lines
  - » Minimizes impacts to sensitive resources
  - » Minimizes impacts at river crossings
  - » Minimizes impacts to residential and commercial uses



SUNZIA SOUTHWEST TRANSMISSION PROJECT

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BLM, ASLD, AZGF, and ADOT Letter

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Arizona State Office
One North Central Avenue, Suite 800
Phoenix, Arizona 85004-4427
www.blm.gov/az

2015 SEP 28 PM 1:

SEP 18 2015

In Reply Refer To:
2800 (9310)
NM114438
AZA35058

Mr. Thomas Chenal, Chairman
Arizona Corporation Commission
Power Plant and Line Siting Committee
1275 West Washington Street
Phoenix, AZ 85007-2926

Re: SunZia Transmission Line Project

Dear Chairman Chenal:

Please accept this correspondence as a summary regarding the extensive cooperation between the Bureau of Land Management (BLM), the respective Arizona State agencies and other Federal cooperators on the SunZia Transmission Project. At a July 22, 2015, meeting with SunZia Transmission, LLC (SunZia) a request was made to the BLM, Arizona State Land Department, Arizona Department of Transportation, and Arizona Game and Fish Department to author a joint letter summarizing the process for the selected route for the project in the BLM's Record of Decision (ROD) dated January 23, 2015, as well as to outline the cooperation that occurred between all the parties involved in the project.

On September 11, 2008, SunZia submitted an application for a right-of-way for an electric transmission line process consisting of two parallel 500 kilovolt overhead transmission lines, approximately 515 miles in length. The proposed line originates in Lincoln County, New Mexico and terminates at the Pinal Central Substation, in Pinal County, Arizona, northwest of Tucson.

As the lead Federal agency, the BLM was responsible for completing an Environmental Impact Statement (EIS) under the authority of the National Environmental Policy Act (NEPA) that analyzed and disclosed the effects of the proposed project on both the natural and human environment. The analysis incorporated valuable input from the public as well as Federal, State, and local agencies having related jurisdiction or special expertise.

Some of the agencies elected to become "Cooperating Agencies", which afforded them the opportunity to participate in the BLM's interdisciplinary team process. The Cooperating Agencies were able to inform the BLM of resource and socio-economic impacts, policies, regulations, and laws of which they may have specific local knowledge. In the SunZia planning process, this cooperation and the significant public input through the public comment period resulted in the identification of four main alternatives and various sub-alternatives in Arizona. Federal agencies participating in this EIS process included the U.S. Fish & Wildlife Service; National Park Service; Fort Huachuca Army Base, AZ; White Sands Missile Range, NM; Holloman Air Force Base, NM; and Fort Bliss Army Base, TX. Arizona State agencies participating as Cooperating Agencies included the State Land Department, Game and Fish Department, and Department of Transportation.

The EIS thoroughly analyzed and disclosed the effects to the natural and human environment on Federal and non-Federal lands. The involvement of local and Federal agencies with jurisdiction and/or special expertise in the analysis was critical in analyzing those impacts to non-Federal lands, as the selected route in Arizona was comprised of a total of 198 miles (crossing 130 miles of State Land, 18 miles of private land, and 50 miles of BLM managed land).

Through this collaborative effort, the route that was ultimately selected resulted in mitigation development that reduced the resource impacts; and

- Optimized the use of existing utility corridors and infrastructure
- Minimized impacts to sensitive resources
- Minimized, to the extent practical, impacts at river crossings

The routes evaluated but not chosen would result in greater impacts to natural, cultural, and sensitive resources. For example, the other routes crossed the San Pedro River at points with critical habitat designated by the Fish and Wildlife Service. Also, those crossings and routes have lower levels of existing disturbance. The construction of a line of this scope and size would introduce new disturbance by aiding access to previously un-fragmented land. Additionally, the northern routes traverse through rugged terrain that contributes to the habitat and ecological function of the Aravaipa wilderness. Other concerns with the northern routes near Mount Graham included Native American Tribal areas of religious and cultural significance. These are a few resources that factored into making the decision of the selected route. While further details are in the Final EIS and the ROD, the BLM in Arizona, along with the State Agencies engaged as Cooperators, stand prepared to answer any questions regarding the NEPA process and the cooperative engagement that resulted in a Record of Decision.

If you have questions, please call me at 602-417-9500.

Sincerely,

Raymond Suazo
State Director

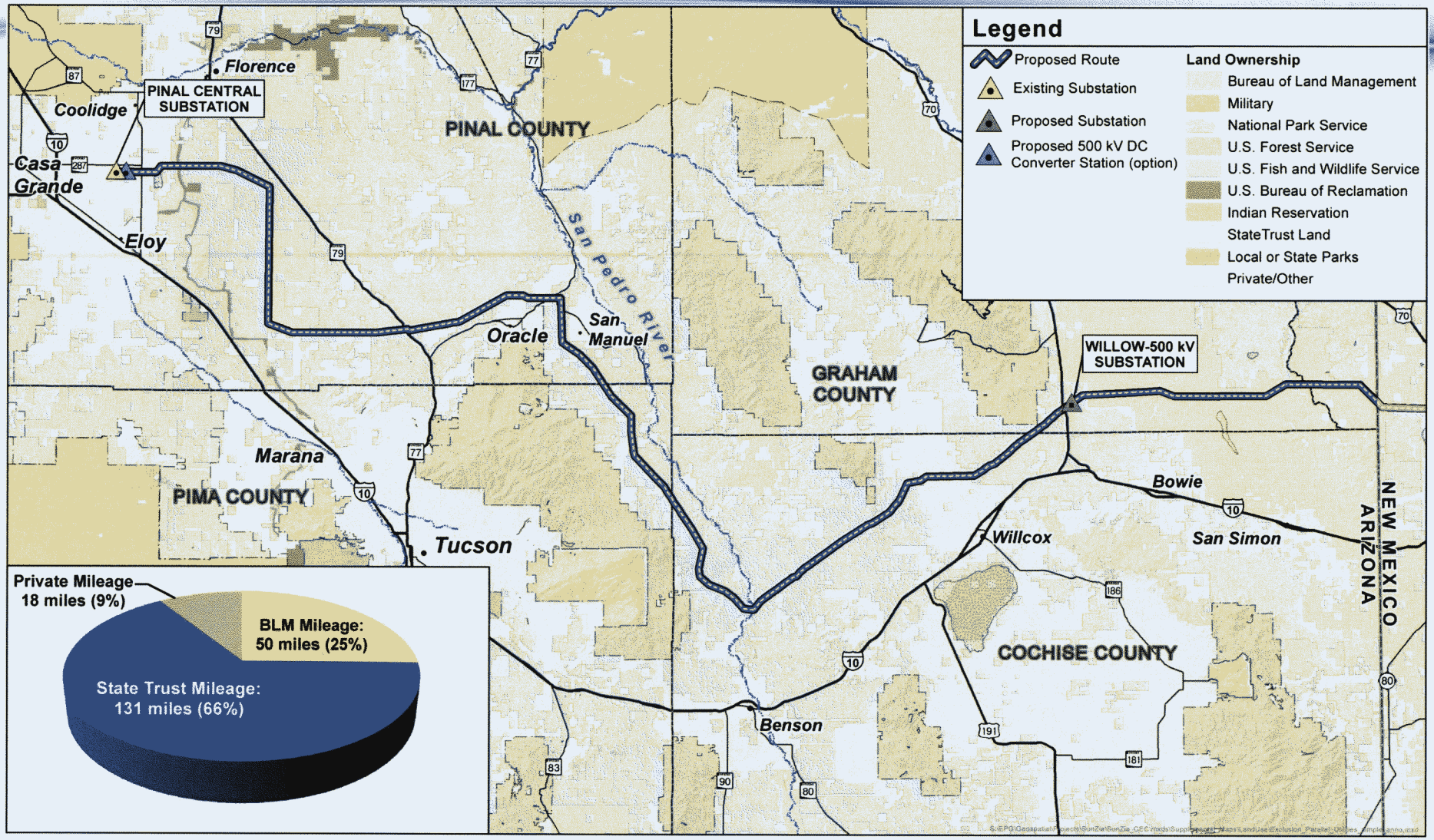
Lisa Atkins
Commissioner
Arizona State Land Department

Larry D. Voyles
Director
Arizona Game and Fish Department

John S. Halikowski
Director
Arizona Department of Transportation

cc: [redacted]
Bureau of Land Management
New Mexico State Office
Attention: Adrian Garcia
301 Dinosaur Trail
Santa Fe, NM 87508

Proposed Route in Arizona



SUNZIA SOUTHWEST TRANSMISSION PROJECT

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SunZia Southwest Transmission Project
Arizona CEC Application

Testimony of Ravi Sankaran, SunEdison

Arizona Transmission Line Siting Committee
October 2015

SunEdison®

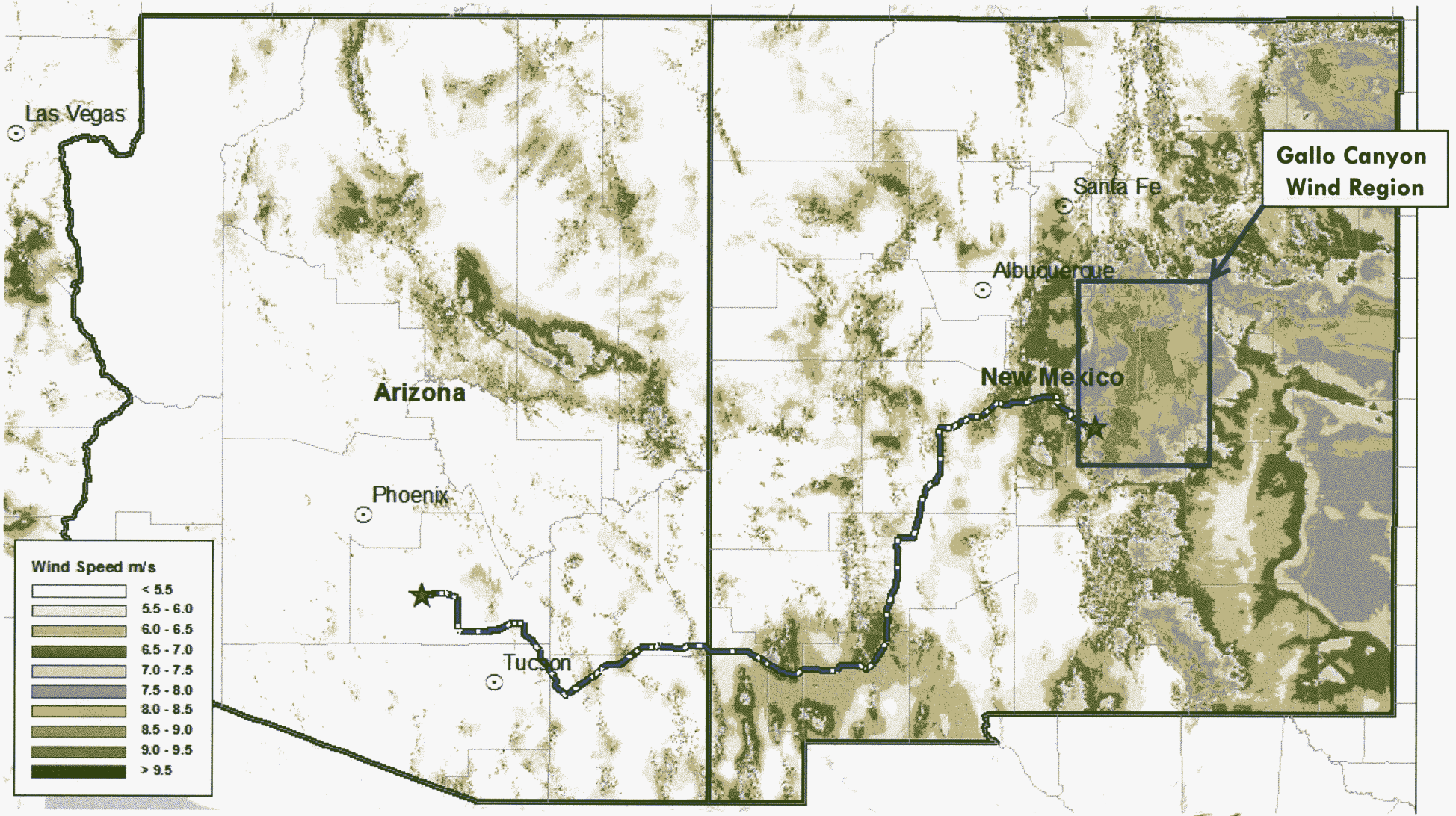
Witness Background

- Ravi Sankaran, Senior Director, Power Origination
  - Renewable energy power marketing throughout the West and Southwest U.S.
  - 9 years experience renewable energy development
  - 3 years experience utility resource planning
- Education
  - BA Mathematics, University of Virginia
  - MBA, University of Texas

SunEdison®

SunZia Line Enables Superior NM Wind Resource

Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



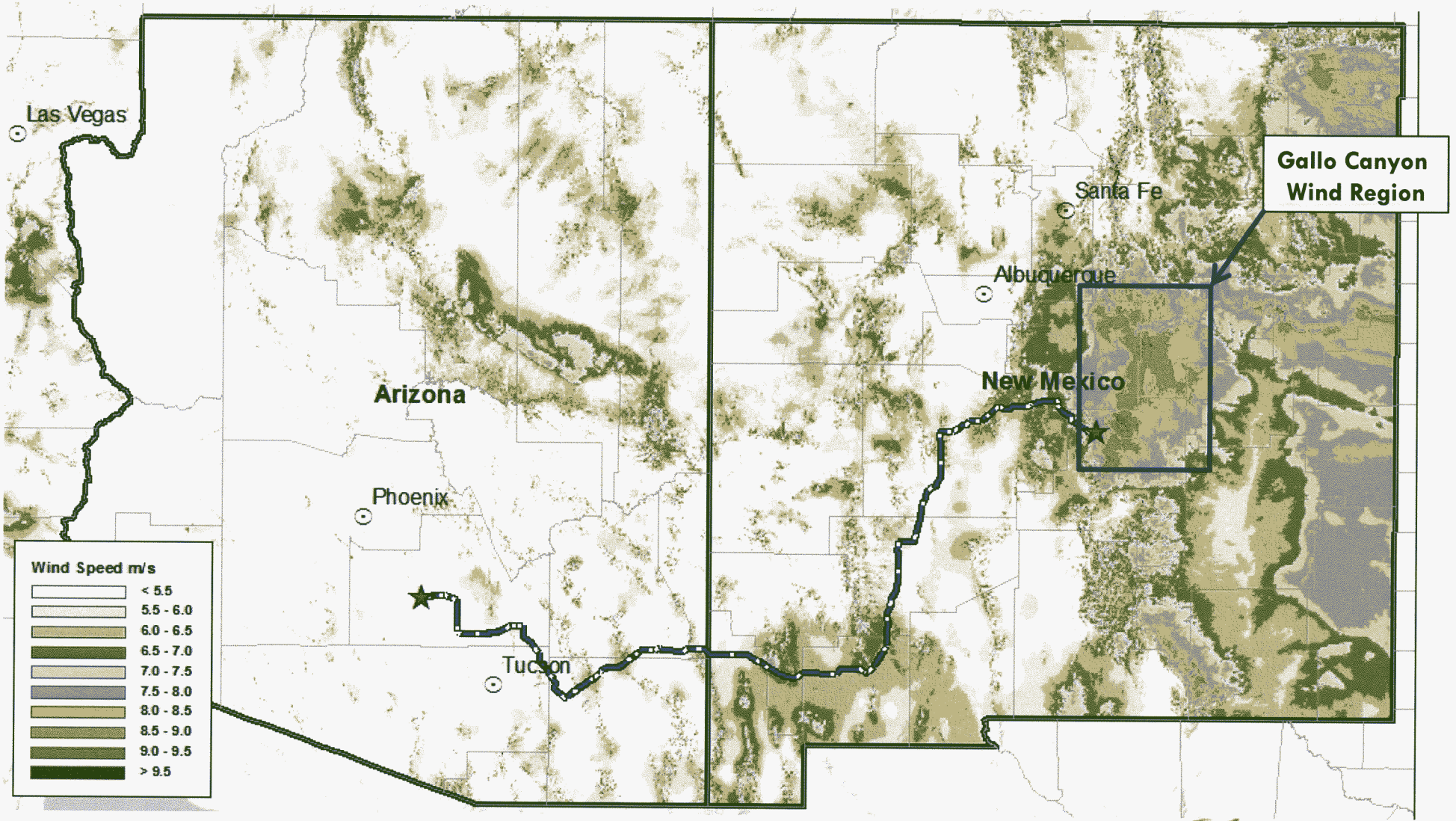
SunEdison®

Overview of Testimony

- SunEdison Company Background
- Gallo Canyon NM Wind Project Background
- Benefits of NM Wind and SunZia Transmission Project
- Summary and Conclusions

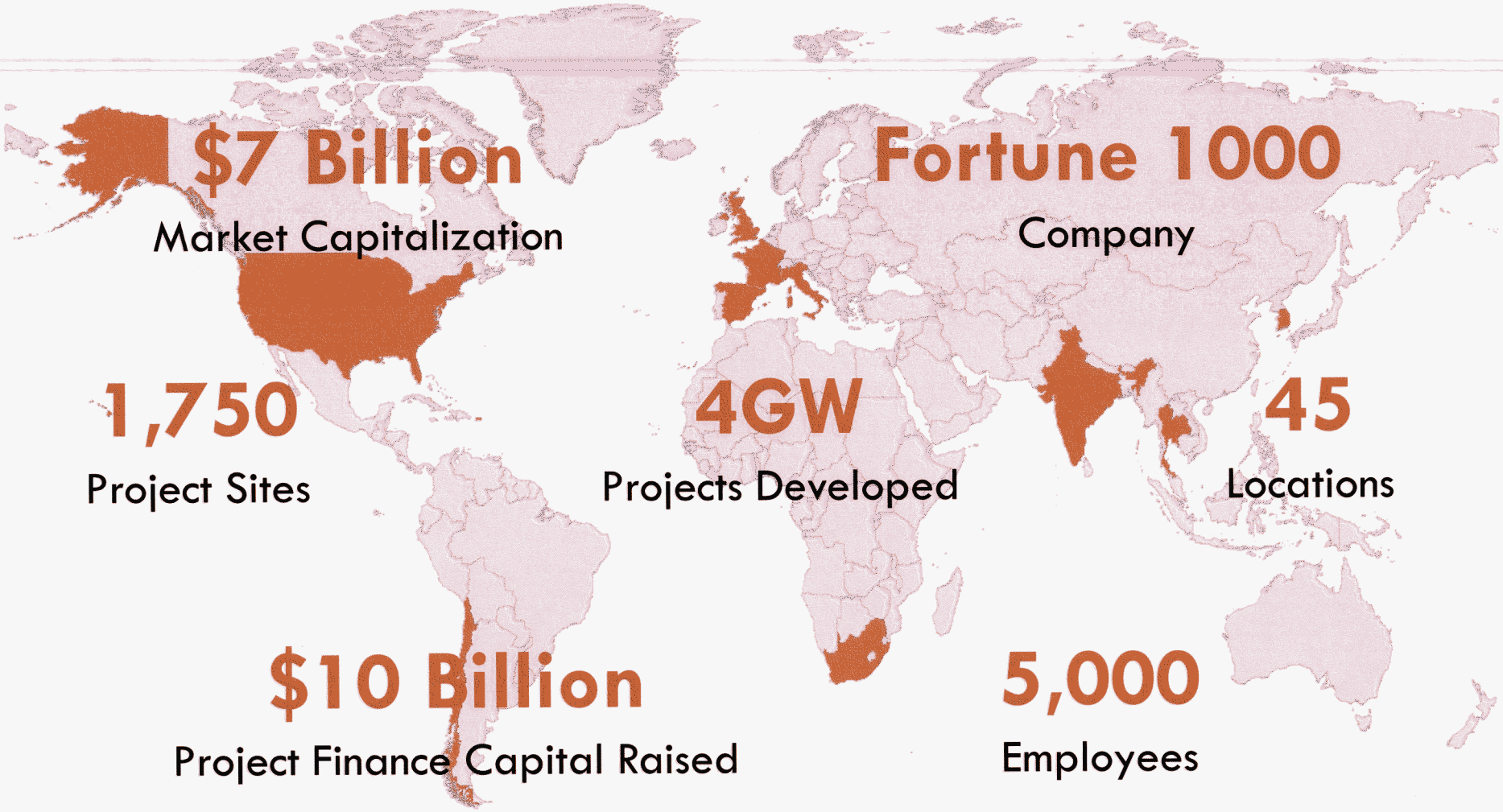
SunZia Line Enables Superior NM Wind Resource

Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



SunEdison®

Introduction to SunEdison



$7 Billion
Market Capitalization

Fortune 1000
Company

1,750
Project Sites

4GW
Projects Developed

45
Locations

$10 Billion
Project Finance Capital Raised

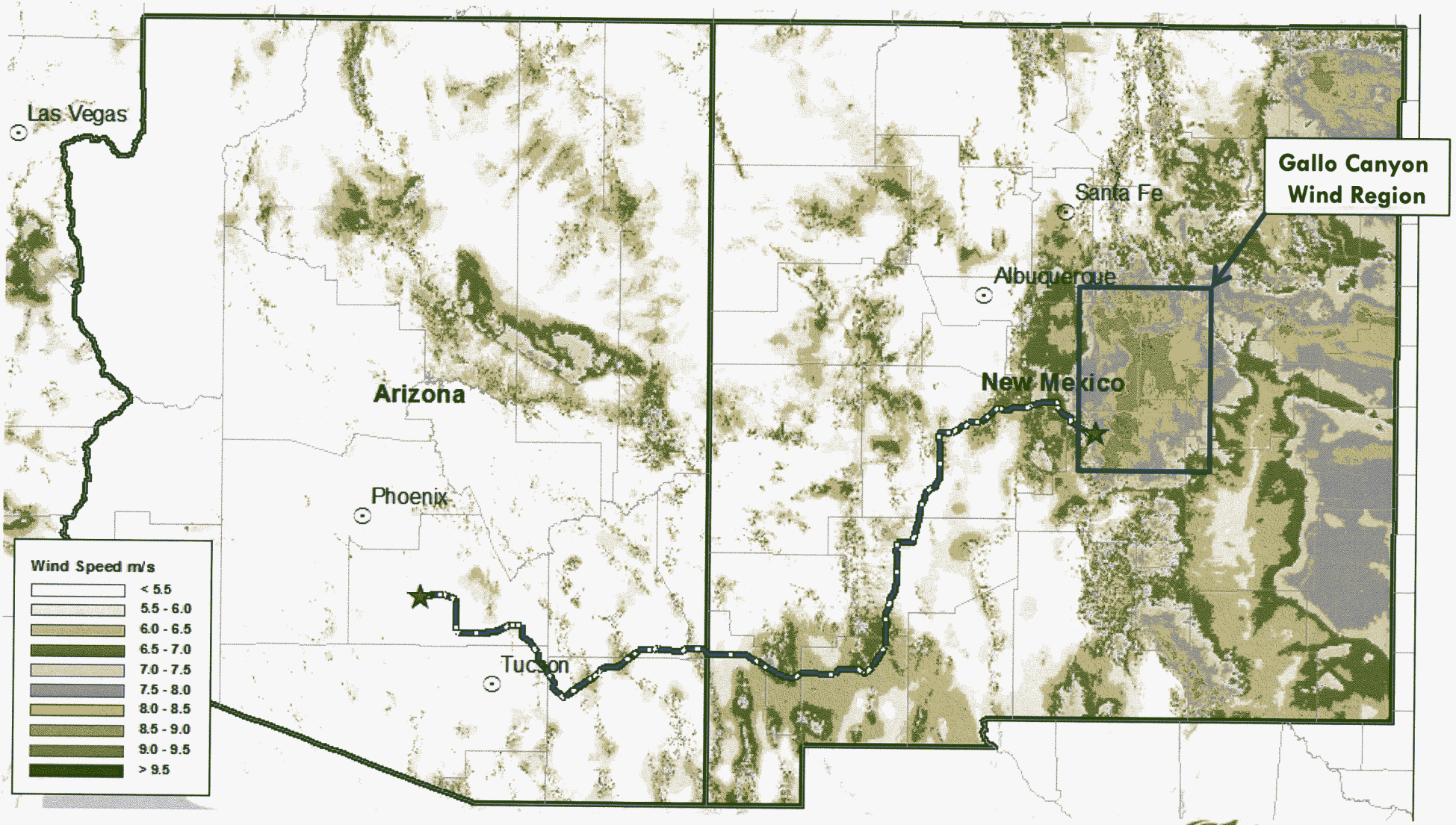
5,000
Employees

Estimates current as of Oct. 1, 2015

SunEdison®

SunZia Line Enables Superior NM Wind Resource

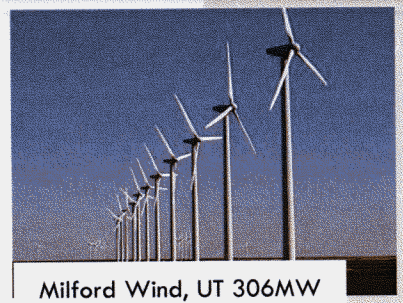
Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



SunEdison®

SunEdison: Leading Solar and Wind Energy Developer in U.S.

Operating Projects by End of 2016 (MWac)



Milford Wind, UT 306MW

Palouse (105mw)

Milford II (102mw)
Milford I (204mw)
Four Brothers (320mw)
Granite Mtn/Iron S. (210mw)
Comanche (120mw)
Alamosa (6mw)

Vega (20mw)
Atwell Is. (20mw)
Regulus (60mw)
Orion (20mw)
Adobe (20mw)
Beacon (87mw)
Cascade (19mw)
AP North Lake (20mw)
Mt. Signal 1 (206mw)

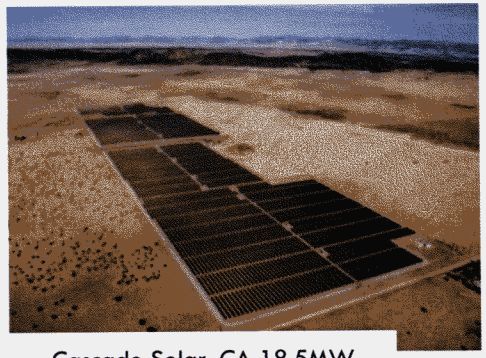
River Mtns. (14mw)
Spectrum (30mw)
Apex (20mw)
Chino Valley (20mw)
Prescott (8mw)
Saddle Mt. (15mw)
Hyder (15mw)
Picture Rocks (20mw)
D-M AFB (13mw)
EPE (22mw)
Xcel SPS (50mw)
Buckthorn (150mw)
Route 66 (150mw)
South Plains (200mw)
Webberville (30mw)
CPS Energy (29mw)

KWP I (30mw)
KWP II (21mw)
Kawailoa (50mw)
Waiawa I (50mw)
Waiawa II (49mw)
Mililani I (20mw)
Mililani II (16mw)

Progress Energy (19mw)
Duke Energy (16mw)
Lakeland (5mw)

Oakfield (150mw)
Rollins (60mw)
Mars Hill (42mw)
Bingham (186mw)
Stetson I (57mw)
Stetson II (26mw)
Sheffield (40mw)
Bowers (48mw)
Hancock (51mw)
Steel Winds I (20mw)
Steel Winds II (15mw)
Cohocton (125mw)
Bull Hill (34mw)

Operating (Wind)
Operating (Solar)
2015 / 16 COD (Wind)
2015 / 16 COD (Solar)



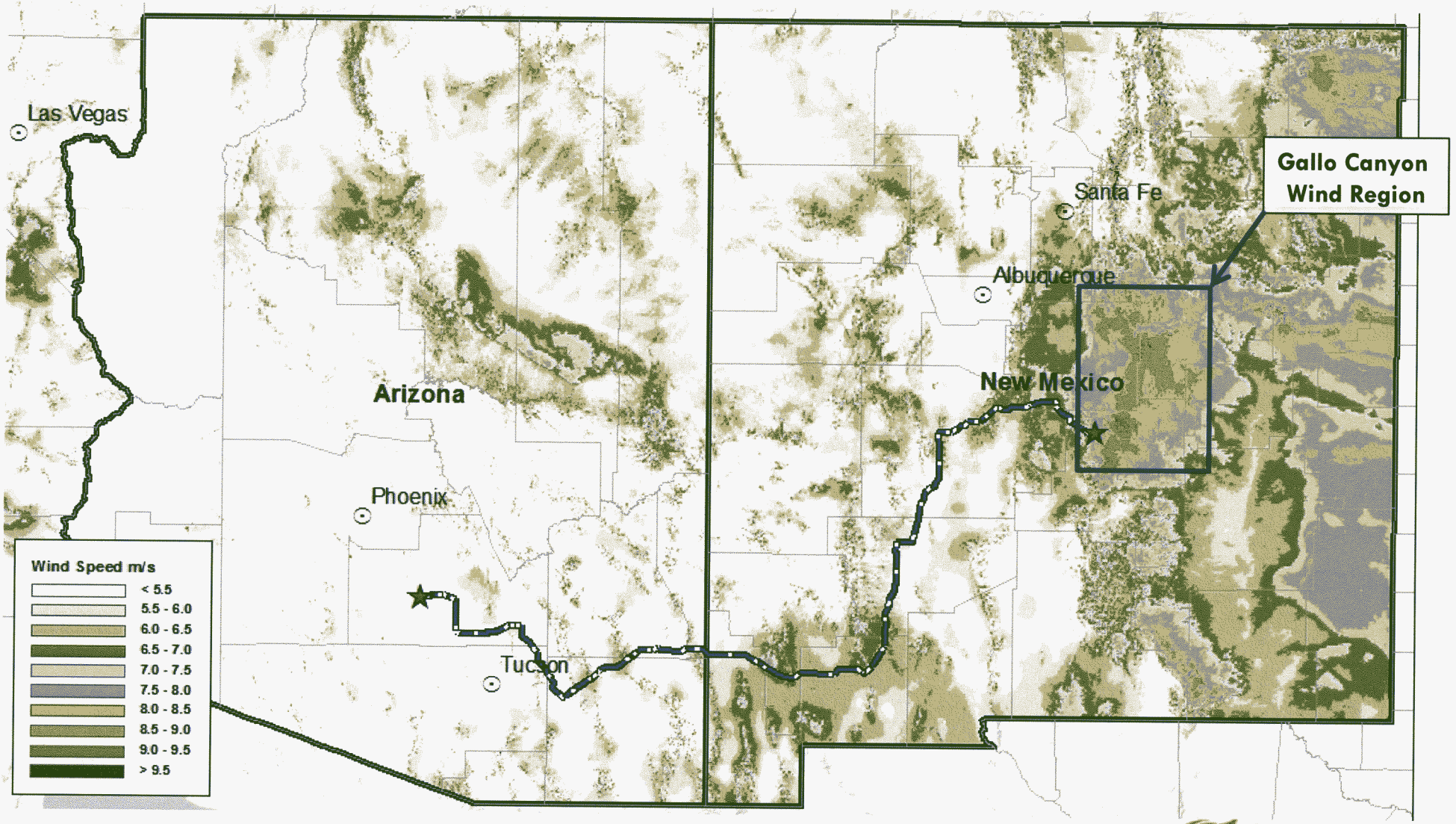
Cascade Solar, CA 18.5MW

SunEdison On Track To Install > 4 GW Utility Solar + Wind by 2016

SunEdison®

SunZia Line Enables Superior NM Wind Resource

Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



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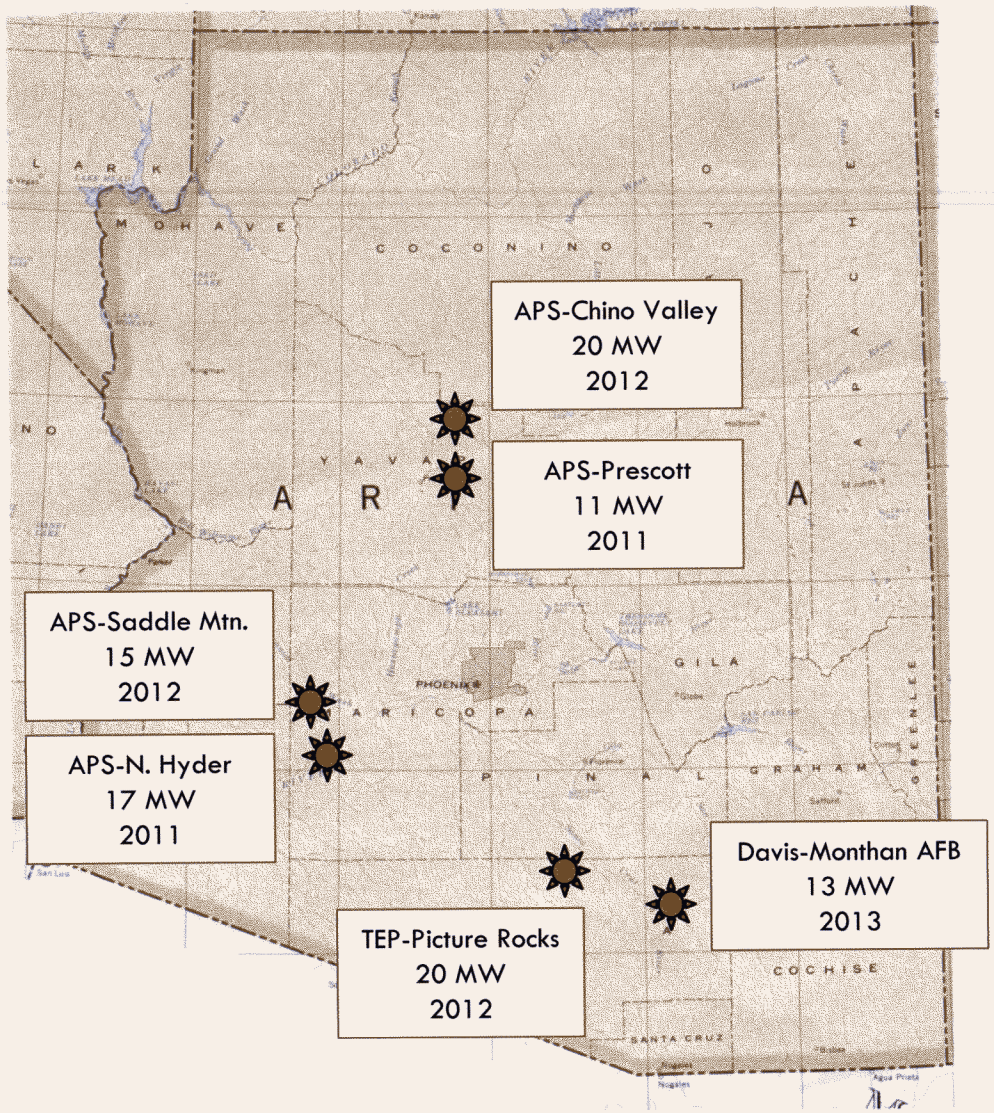
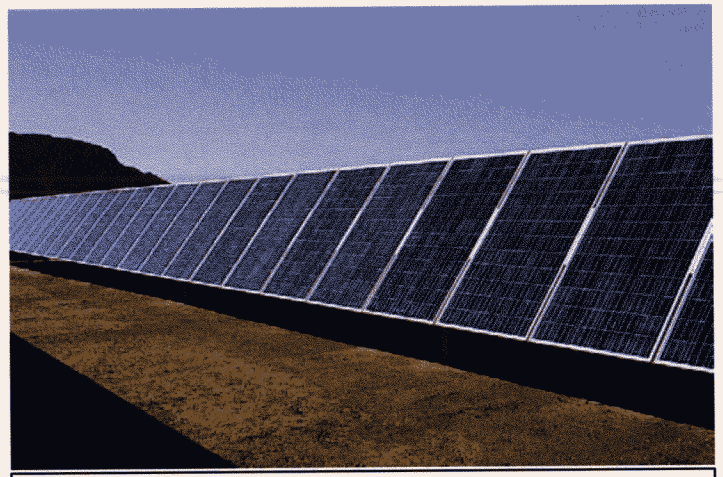
SunEdison's Arizona Solar Projects





APS - N. Hyder 17 MW

TEP - Marana Picture Rocks 20 MW

96 MW AZ Solar Projects Delivering to APS, TEP, Davis Monthan AFB

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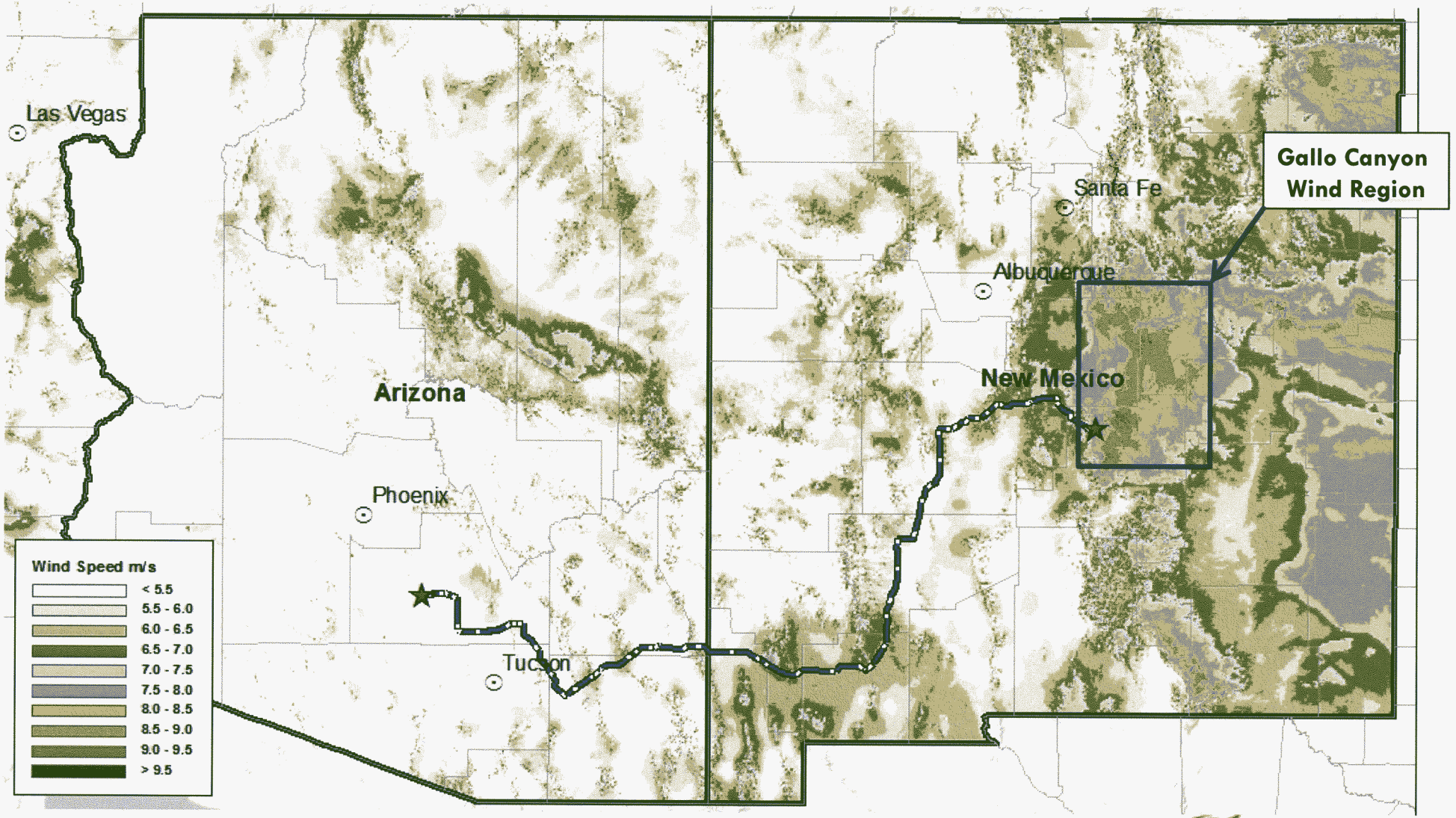

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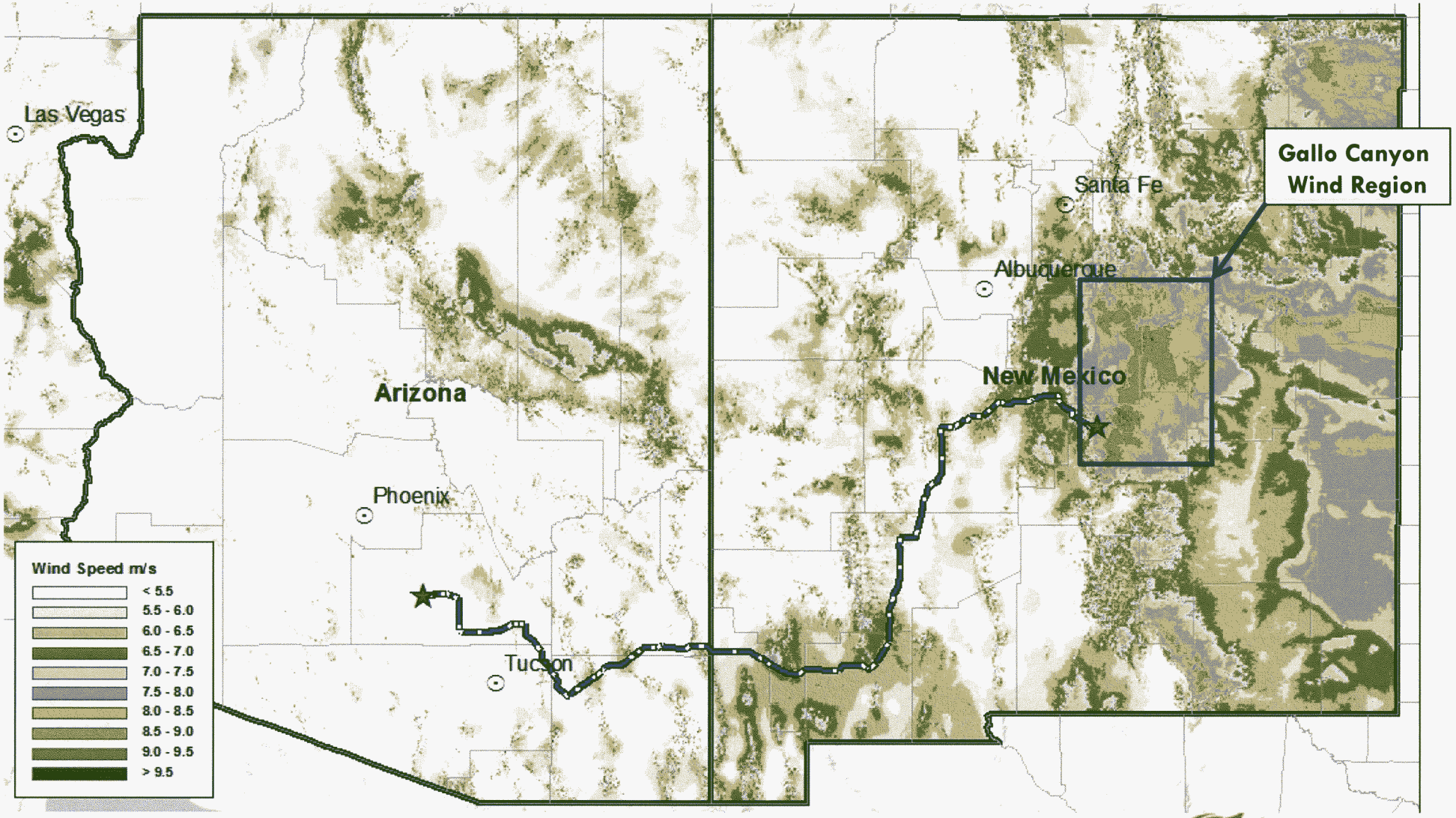
Gallo Canyon Wind Project Overview

- 1,500 MW wind project under development since 2008
- 5+ years of onsite wind data to confirm robust resource
- Land rights secured in Lincoln County, NM
- Plans to install 450-600 state-of-the-art wind turbines
- Expect to commence construction in 2019
- Anticipated commercial operation date 2020-2021

SunZia Line Enables Superior NM Wind Resource

Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



SunEdison®

NM Wind and SunZia Offer AZ Many Benefits

Delivers Scalable, Economic Clean Energy

- NM Wind offers a scalable and economic renewable energy resource
- Competitive without federal tax credits

Promotes Balanced Resource Portfolio

- NM wind profile complements AZ solar
- Alleviates evening "duck curve" energy ramping
- Mitigates natural gas deliverability risks
- Minimizes exposure to natural gas price volatility

Addresses Air Quality Mandates

- Offers solutions for future AZ State Implementation Plan (SIP) for EPA Rule 111(d)
- Alleviates impacts of new EPA ozone regulations

SunEdison®

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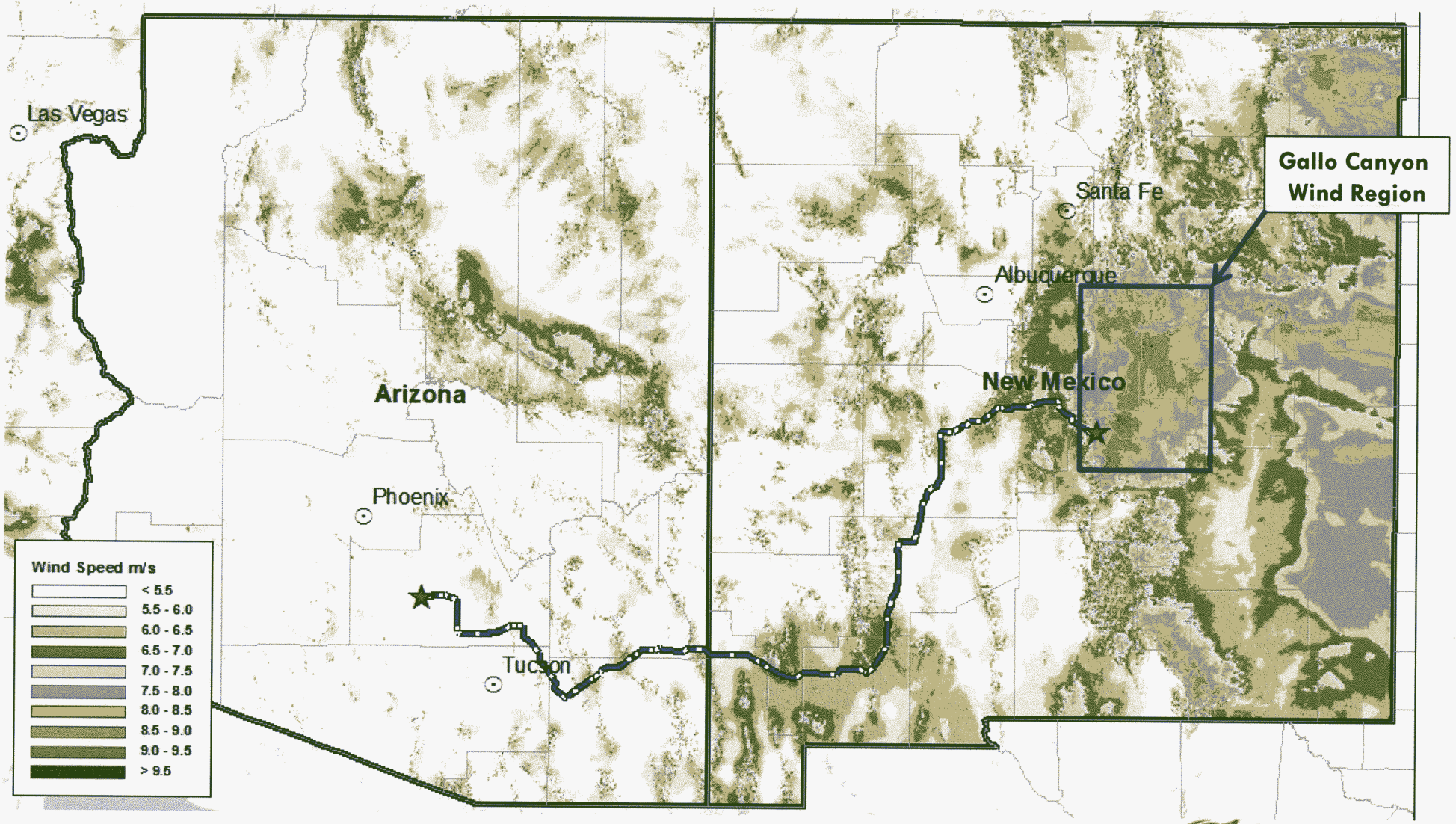

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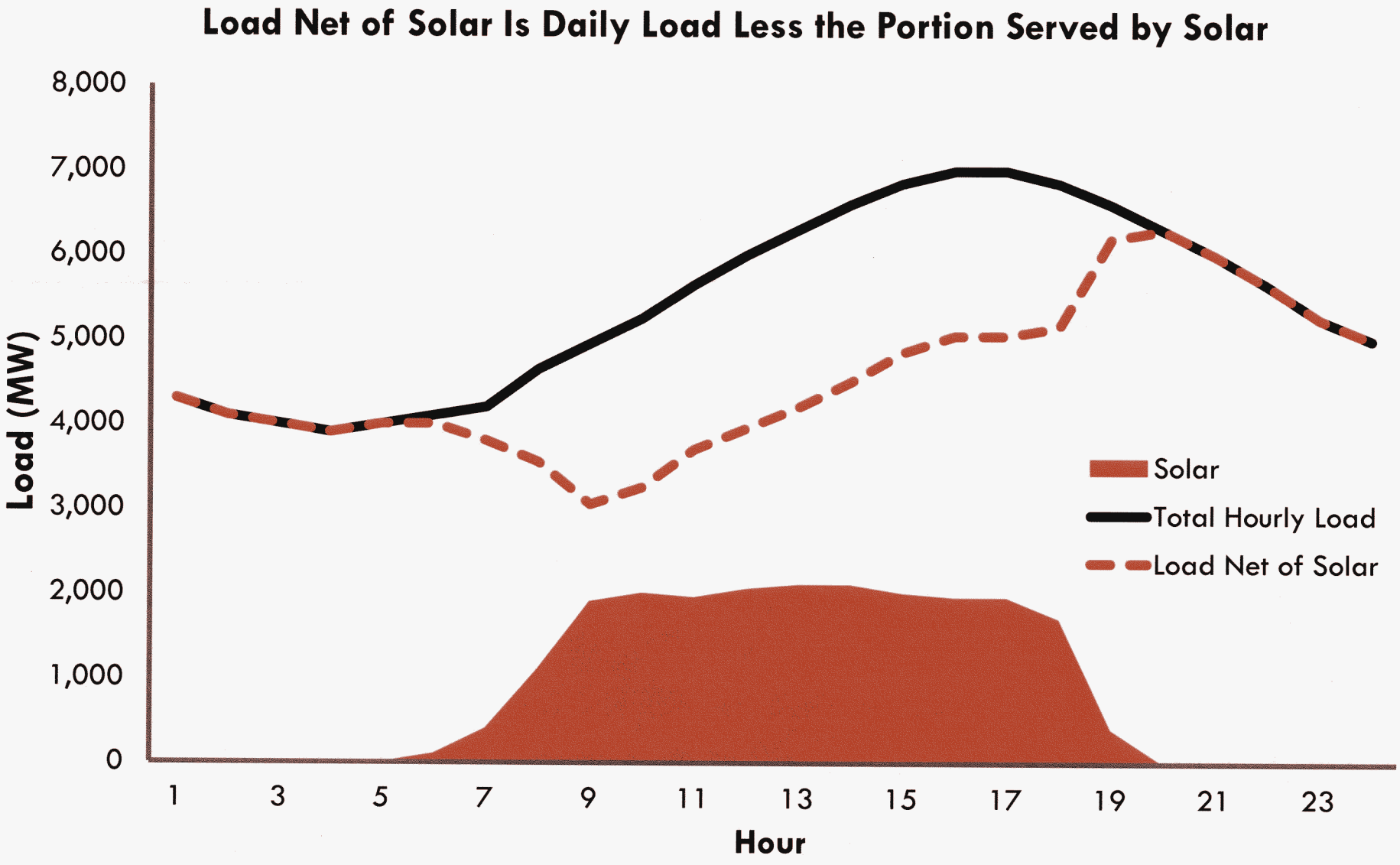
Net Load and Solar Explanation



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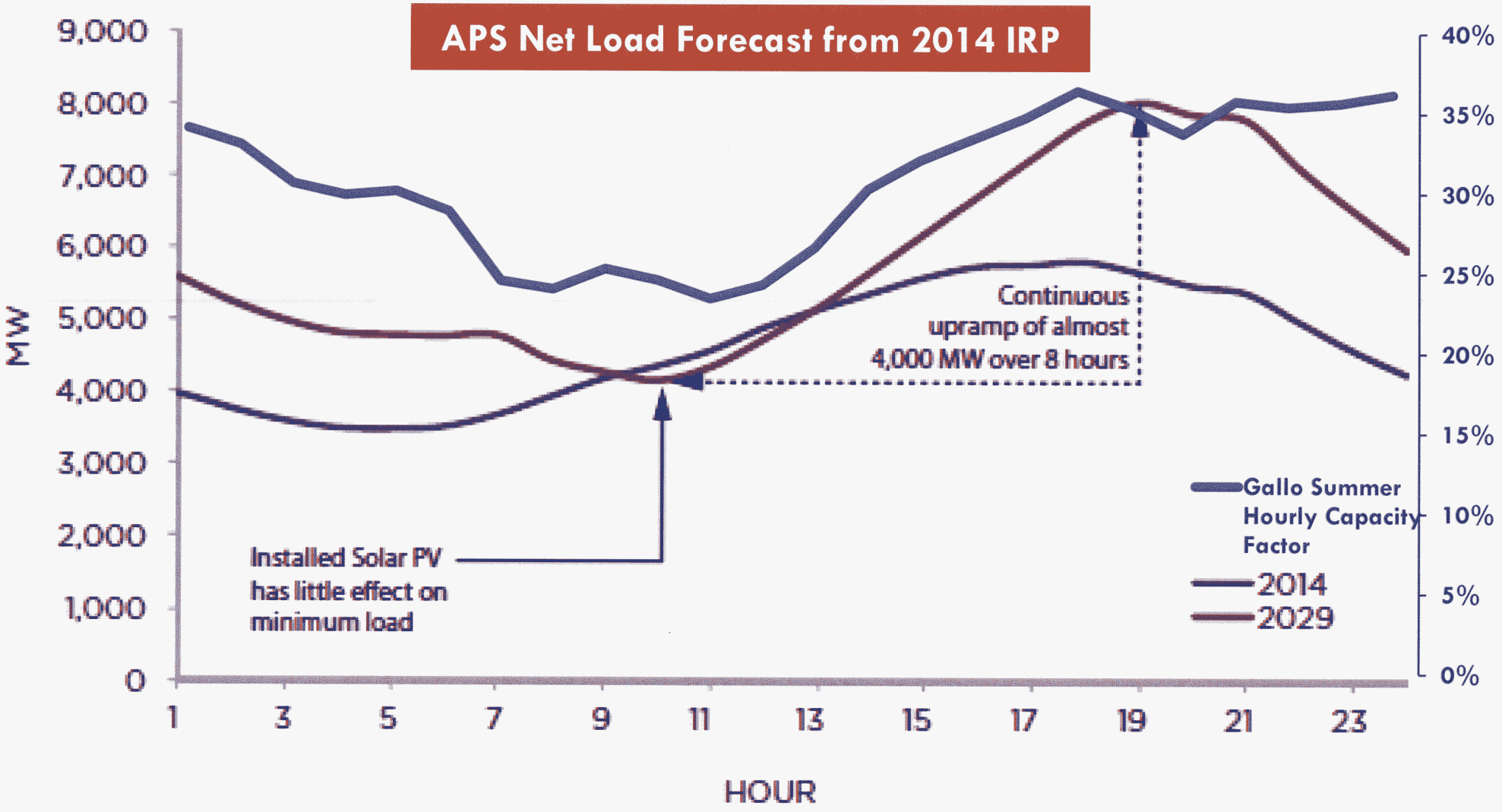
Gallo Wind Production and APS Net Load Curve



Gallo Wind Profile superimposed over APS' 2014 IRP Net Load Forecast shows strong correlation with APS' 2029 Summer Load Net of Solar

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NM Wind and SunZia Offer AZ Many Benefits

Delivers Scalable, Economic Clean Energy	• NM Wind offers a scalable and economic renewable energy resource • Competitive without federal tax credits
Promotes Balanced Resource Portfolio	• NM wind profile complements AZ solar • Alleviates evening "duck curve" energy ramping • Mitigates natural gas deliverability risks • Minimizes exposure to natural gas price volatility
Addresses Air Quality Mandates	• Offers solutions for future AZ State Implementation Plan (SIP) for EPA Rule 111(d) • Alleviates impacts of new EPA ozone regulations

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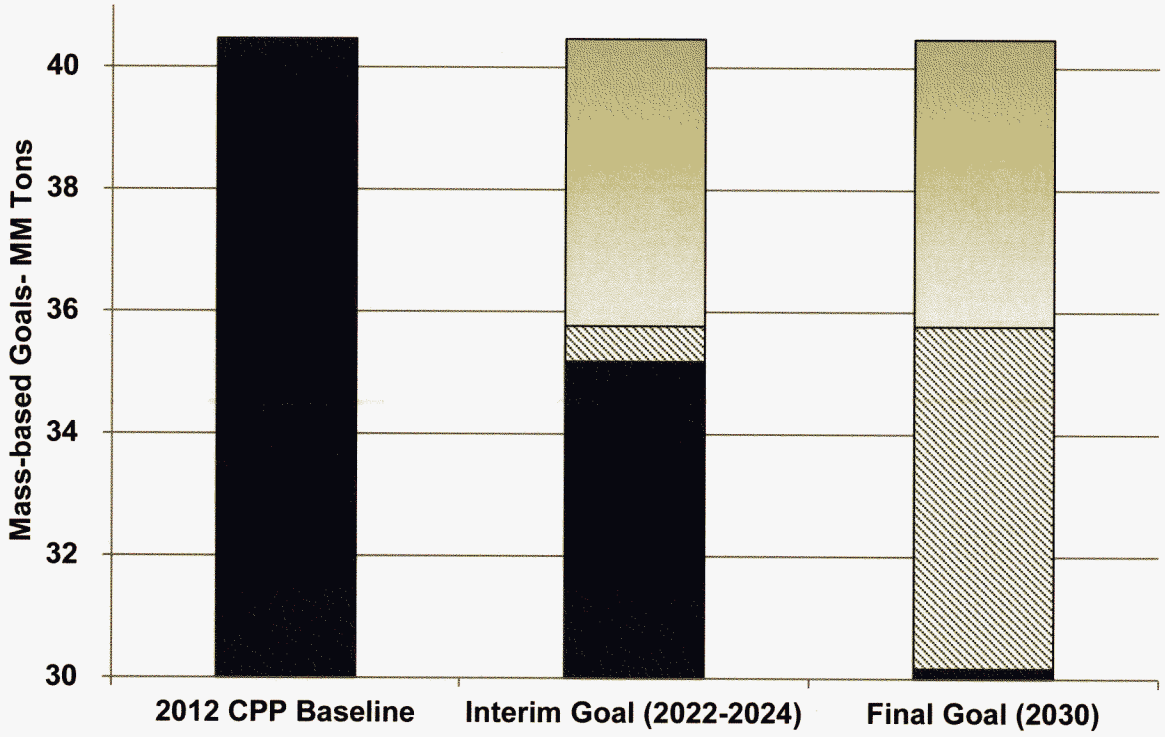
NM Wind Potential Solution for Arizona's CPP SIP



1,500 MW NM Wind Can Supply Significant % of Mass-Based CPP Emissions Reductions

Clean Power Plan (CPP) Mass-Based Scenarios	Emissions MM Tons	Emissions Reductions Needed	Reductions Achievable by NM Wind[1]	% Reductions Achievable by NM Wind
CPP Baseline (2012)	40.5	---	---	---
CPP Interim Goal (2022-2024)	35.2	5.3	4.7	**89%**
CPP Final Goal (2030)	30.2	10.3	4.7	**46%**

[1]Assumes 1,500 MW Gallo Wind displaces fossil fuel generation proportional to 2012 Baseline generation ratio

Sankaran R-10

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NM Wind and SunZia Offer AZ Many Benefits

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- Alleviates impacts of new EPA ozone regulations

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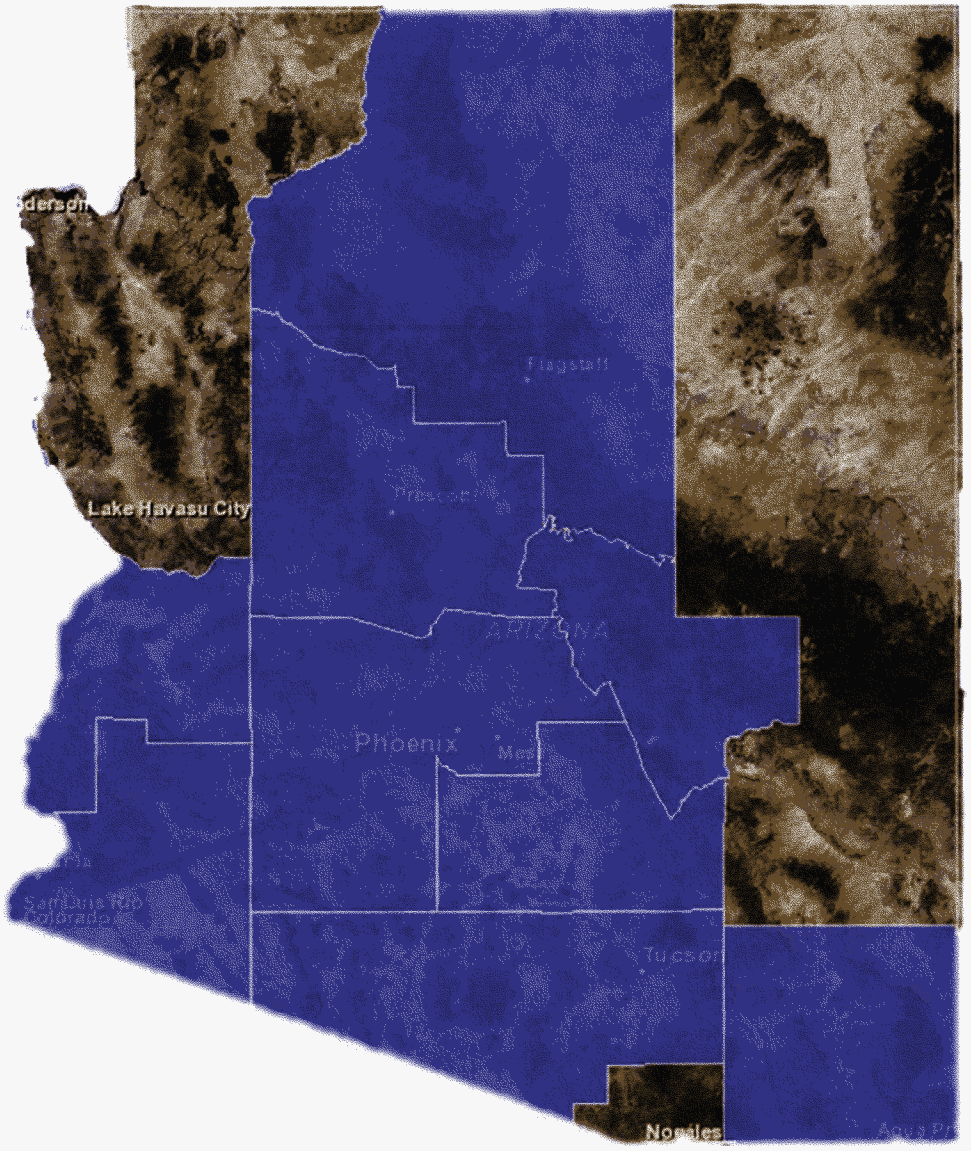
Arizona's Projected Ozone Non-Attainment Areas

Arizona Counties Where Measured Ozone is Above The Proposed Range of Standards



- Proposed EPA ozone standards
- New fossil plants prohibitively expensive
- Net benefit demonstration
- Increasing need for renewables with diverse profile

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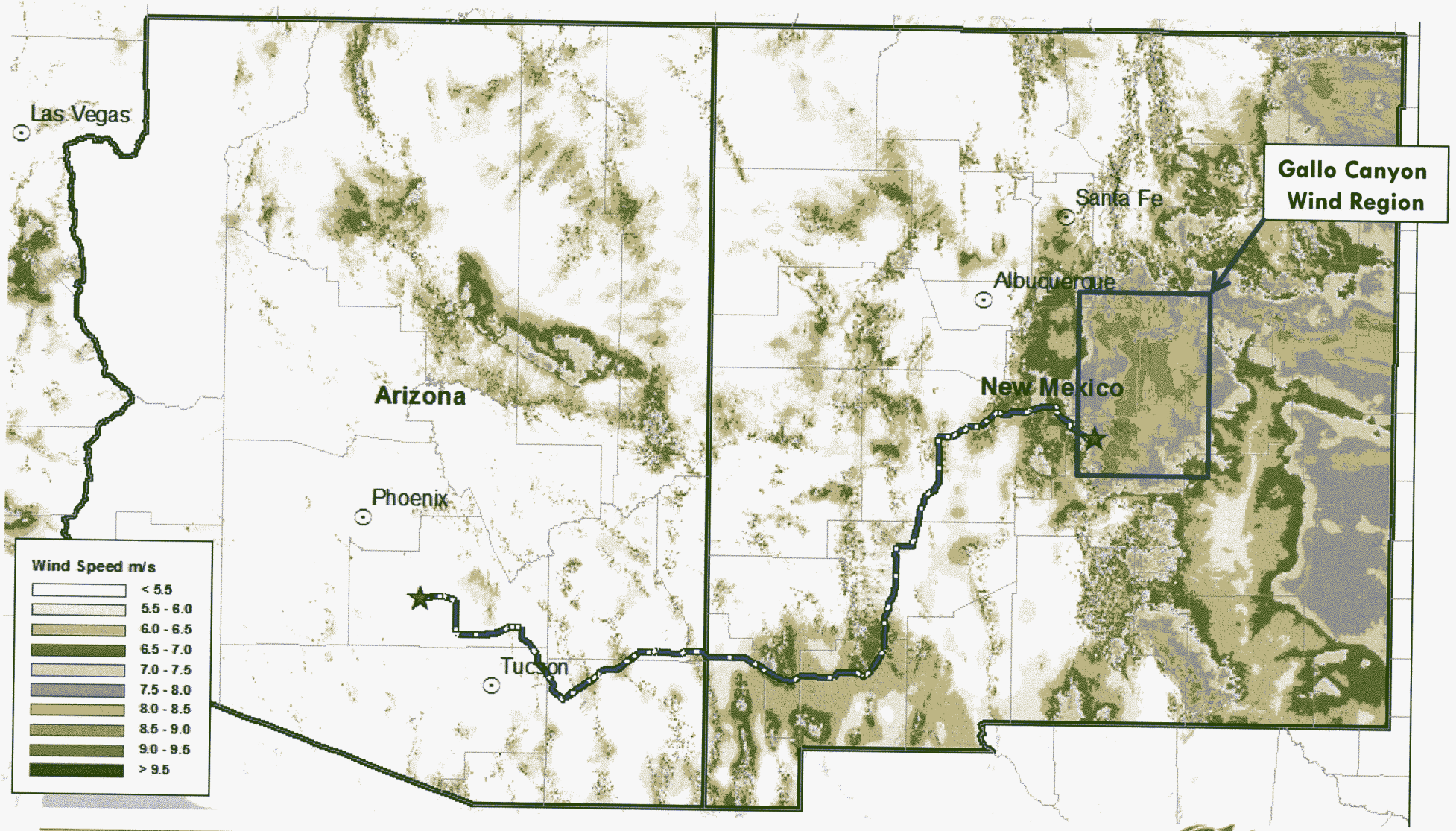
Summary and Conclusions

Benefits of Gallo NM Wind + SunZia Transmission:

- Delivers competitive, clean energy to AZ's doorstep
- Increases Arizona utilities' generation portfolio diversity
- 10+ year development cost and risk borne largely by independent transmission developer SWPG–
  - AZ utilities and ratepayers will benefit if project successful
- Provides viable solution for Arizona to address federal air quality mandates

SunZia Line Enables Superior NM Wind Resource

Gallo Wind Can Deliver up to 3GW Robust Wind to AZ through SunZia



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SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Michael Siegel, Project Manager

epg

Environmental Planning Group (EPG)

- Interdisciplinary environmental planning firm, founded in 1999
- Offices in six western states, headquarters in Phoenix, Arizona
- EPG personnel have provided testimony before the Arizona Power Plant and Transmission Line Siting Committee in over 30 siting cases

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Michael Siegel, Project Manager

epg

Siegel R-1

Michael S. (Mickey) Siegel
Witness Background

Education

- Masters in City and Regional Planning, Illinois Institute of Technology
- BA, University of California, Los Angeles

Experience

- 35 years of experience in environmental planning and electrical facility siting
- Principal of EPG since 1999
- Previously testified before the Siting Committee in 11 cases
- Project Manager, SunZia Southwest Transmission Project – EPG was third-party contractor for BLM

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Michael Siegel, Project Manager

epg

Siegel R-2

Outline of EPG Testimony

- Preparation of CEC Application
- Alternatives analysis
- Factors considered in issuing a Certificate of Environmental Compatibility [A.R.S. 40-360.06]

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Michael Siegel, Project Manager

epg

Siegel R-3

Preparation of CEC Application

Exhibits A, B, C, D, E, F, G, H, I, J

- Reviewed and updated existing information
  - Existing land use and ownership data [Exhibits A-1, A-2]
  - Land use plans [Exhibit A-3, Exhibit H]
- Incorporated previous analyses [Exhibit B]
  - Environmental Impact Statement and Appendices
  - Biological Assessment and Biological Opinion
  - Cultural resource surveys and reports, Programmatic Agreement

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

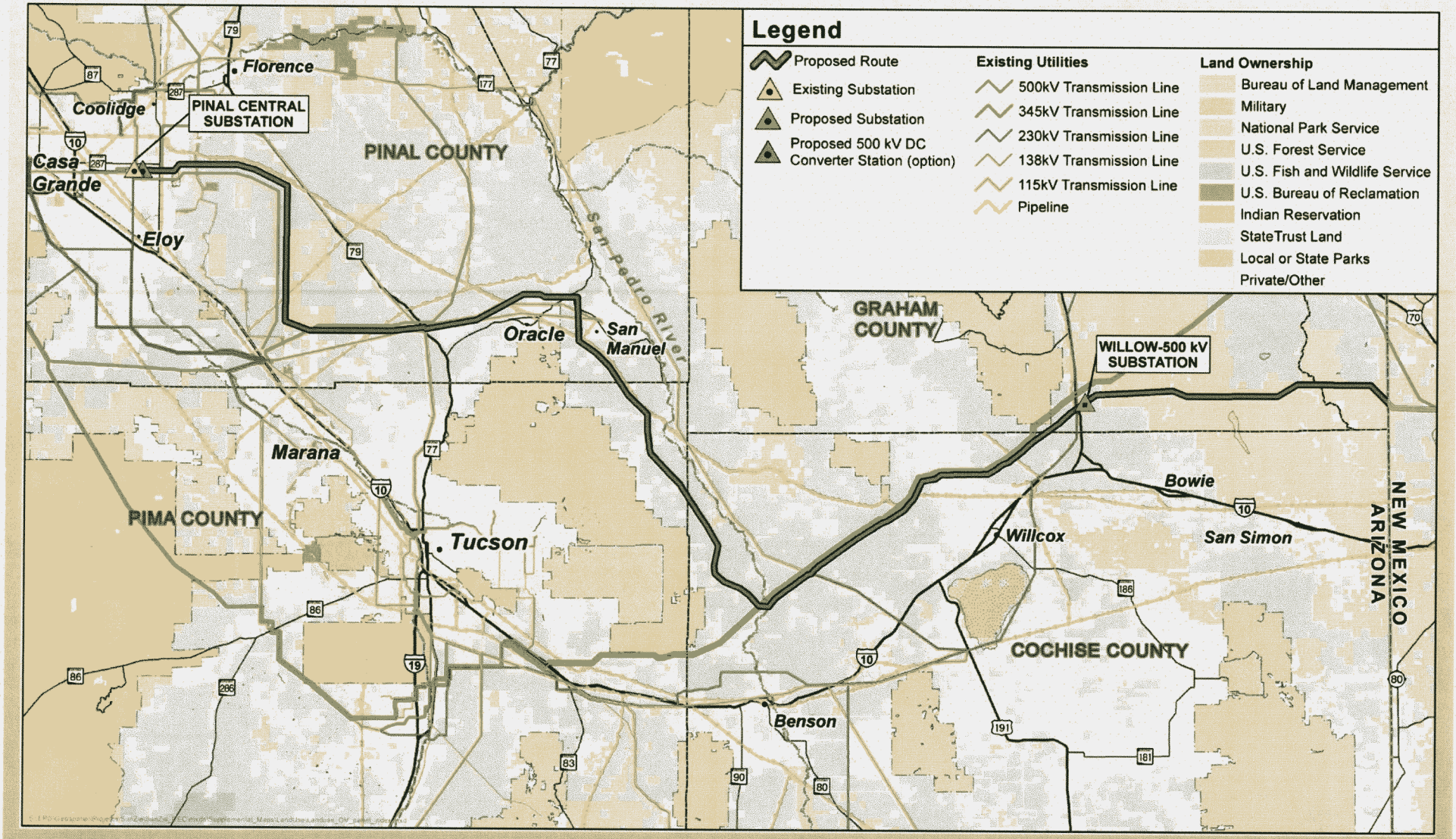
Michael Siegel, Project Manager

epg

Siegel R-4

Siting Study and Alternative Route Analysis

- Opportunities and Constraints Analysis
  - Siting criteria
  - BLM, agencies/stakeholders, and public input
- Scoping
  - Public/stakeholder, agency review and comment
  - Identify reasonable and feasible routes
  - Evaluate and refine reasonable range of alternatives
- Draft EIS – Preferred Route Selection
  - Public/stakeholder, agency review and comment
- Final EIS and Decision – BLM Route Selection


Legend
Proposed Route
Existing Substation
Proposed Substation
Proposed 500 kV DC Converter Station (option)
Existing Utilities
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
138kV Transmission Line
115kV Transmission Line
Pipeline
Land Ownership
Bureau of Land Management
Military
National Park Service
U.S. Forest Service
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
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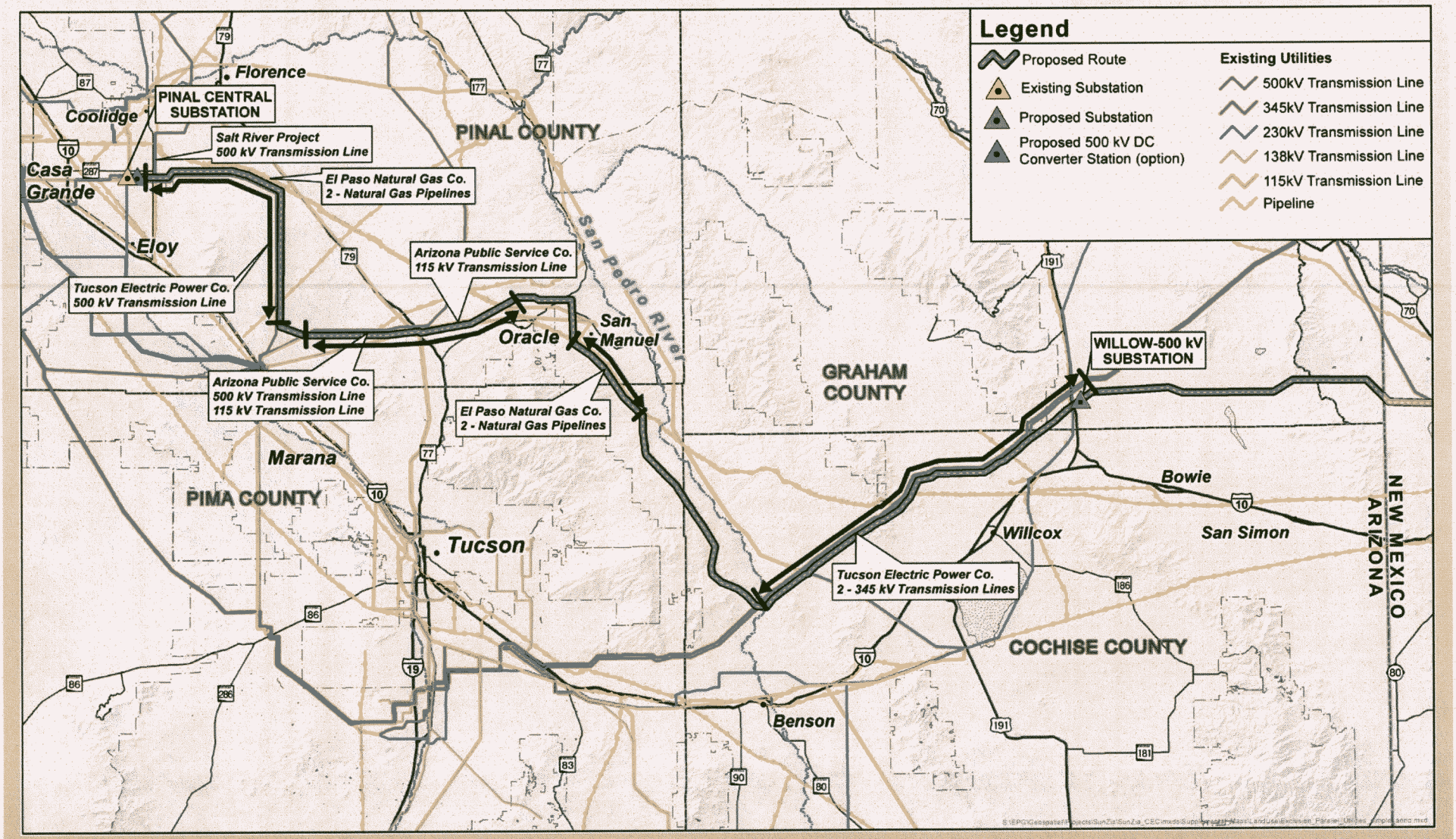
Local or State Parks
Private/Other
Florence
Coolidge
PINAL CENTRAL SUBSTATION
Casa Grande
Eloy
PINAL COUNTY
San Pedro River
Oracle
San Manuel
GRAHAM COUNTY
WILLOW-500 kV SUBSTATION
Marana
PIMA COUNTY
Tucson
Bowie
Willcox
San Simon
NEW MEXICO
ARIZONA
COCHISE COUNTY
Benson

Siegel R-5

Siting Criteria

- Siting Opportunities
  - Existing utilities – previously modified corridors, potential access
  - Designated or planned utility corridors
- Siting Constraints
  - Exclusion
    - Legal prohibition
  - Avoidance
    - Potential conflict with use, construction, and operation factors
    - Unique, highly valued, complex, or protected resources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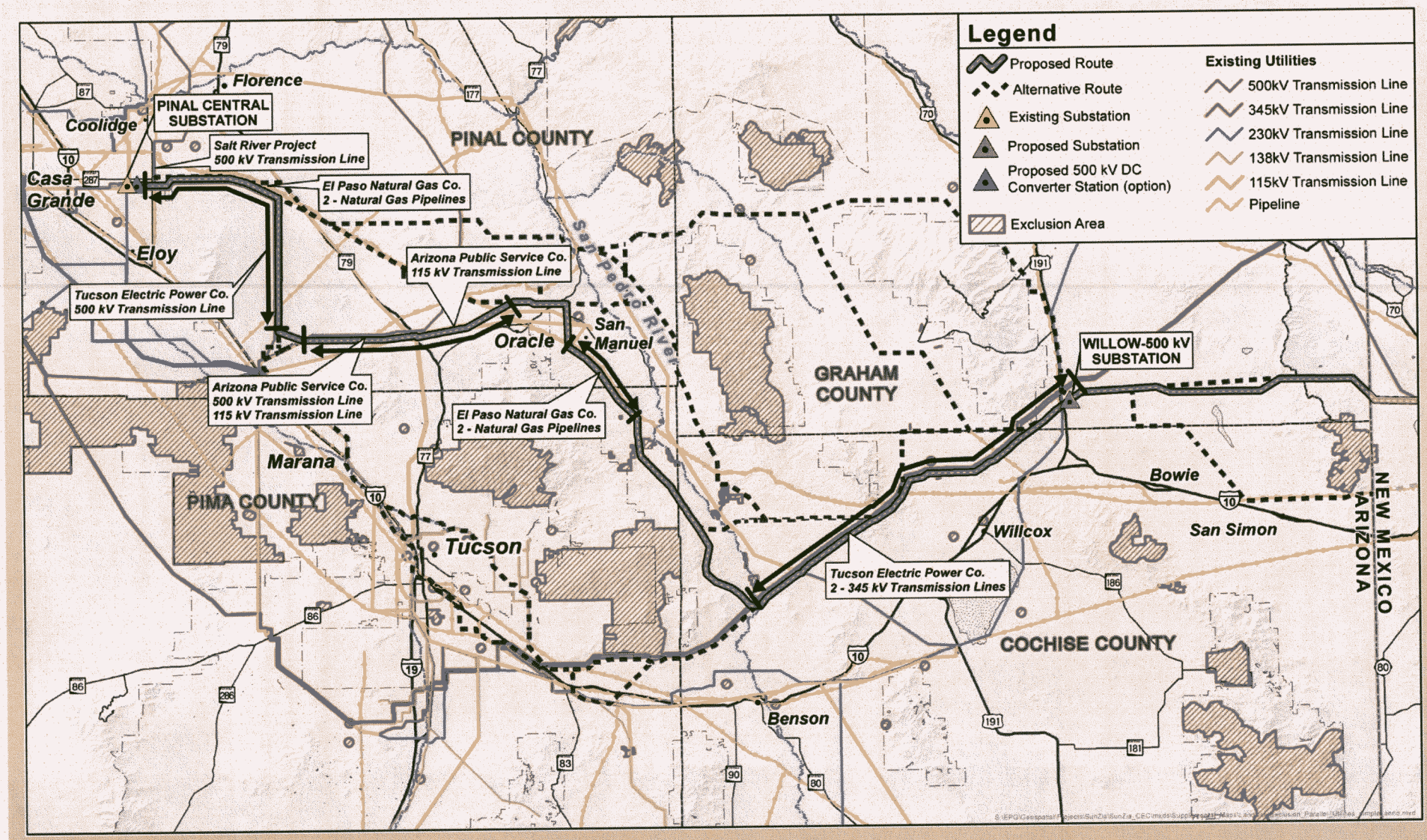
Tucson Electric Power Co. 2 - 345 kV Transmission Lines
Bowie
Willcox
San Simon
COCHISE COUNTY
Benson
NEW MEXICO
ARIZONA

Siegel R-6

Siting Criteria

- Siting Opportunities
  - Existing utilities – previously modified corridors, potential access
  - Designated or planned utility corridors
- Siting Constraints
  - Exclusion
    - Legal prohibition
  - Avoidance
    - Potential conflict with use, construction, and operation factors
    - Unique, highly valued, complex, or protected resources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Proposed Route
Alternative Route
Existing Substation
Proposed Substation
Proposed 500 kV DC Converter Station (option)
Exclusion Area
Existing Utilities
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
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Florence
PINAL CENTRAL SUBSTATION
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Salt River Project 500 kV Transmission Line
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NEW MEXICO
ARIZONA
Benson

Siegel R-7

Siting Criteria

- Siting Opportunities
  - Existing utilities – previously modified corridors, potential access
  - Designated or planned utility corridors
- Siting Constraints
  - Exclusion
    - Legal prohibition
  - Avoidance
    - Potential conflict with use, construction, and operation factors
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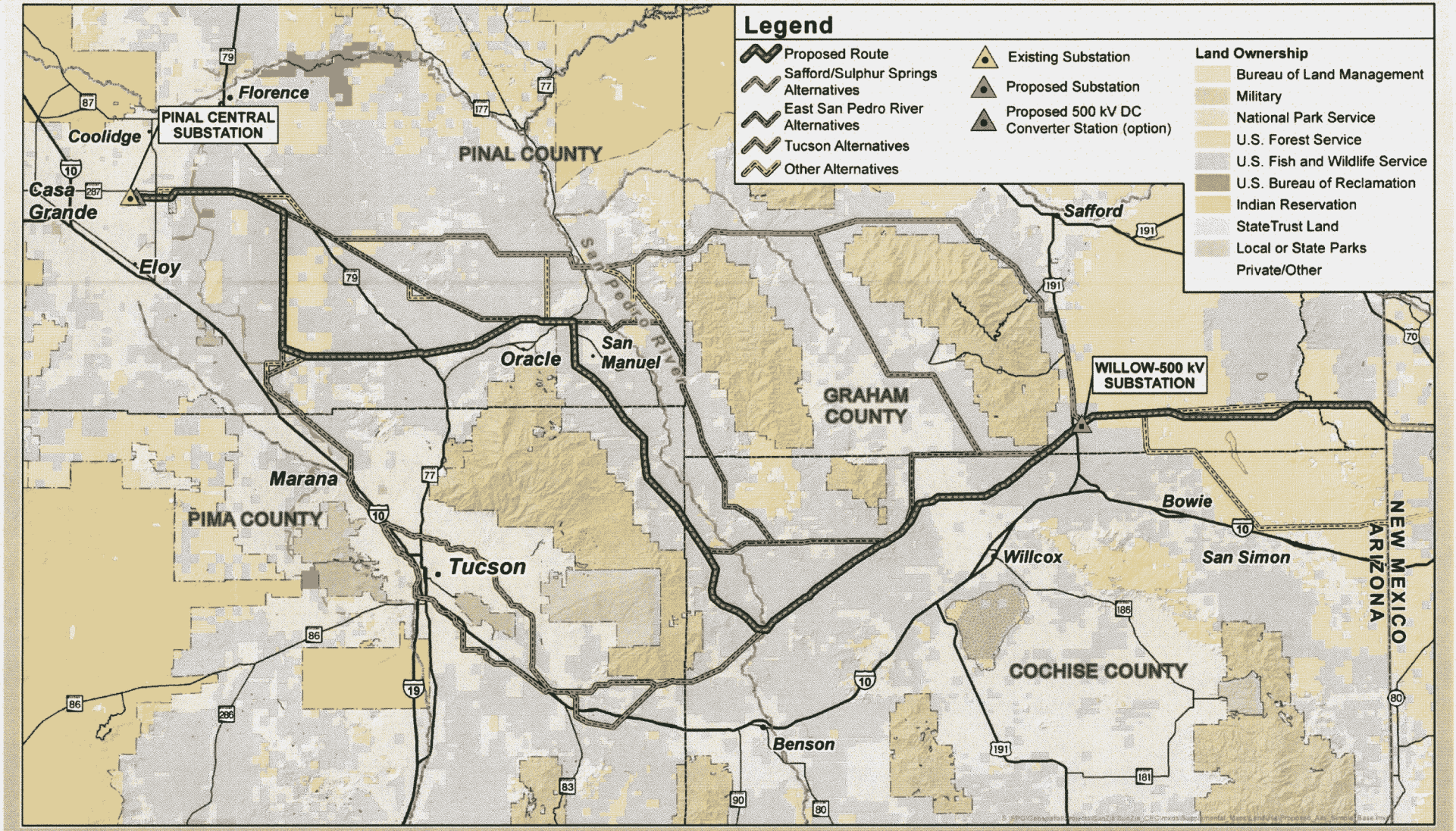
Legend
Proposed Route
Safford/Sulphur Springs Alternatives
East San Pedro River Alternatives
Tucson Alternatives
Other Alternatives
Existing Substation
Proposed Substation
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Land Ownership
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U.S. Forest Service
U.S. Fish and Wildlife Service
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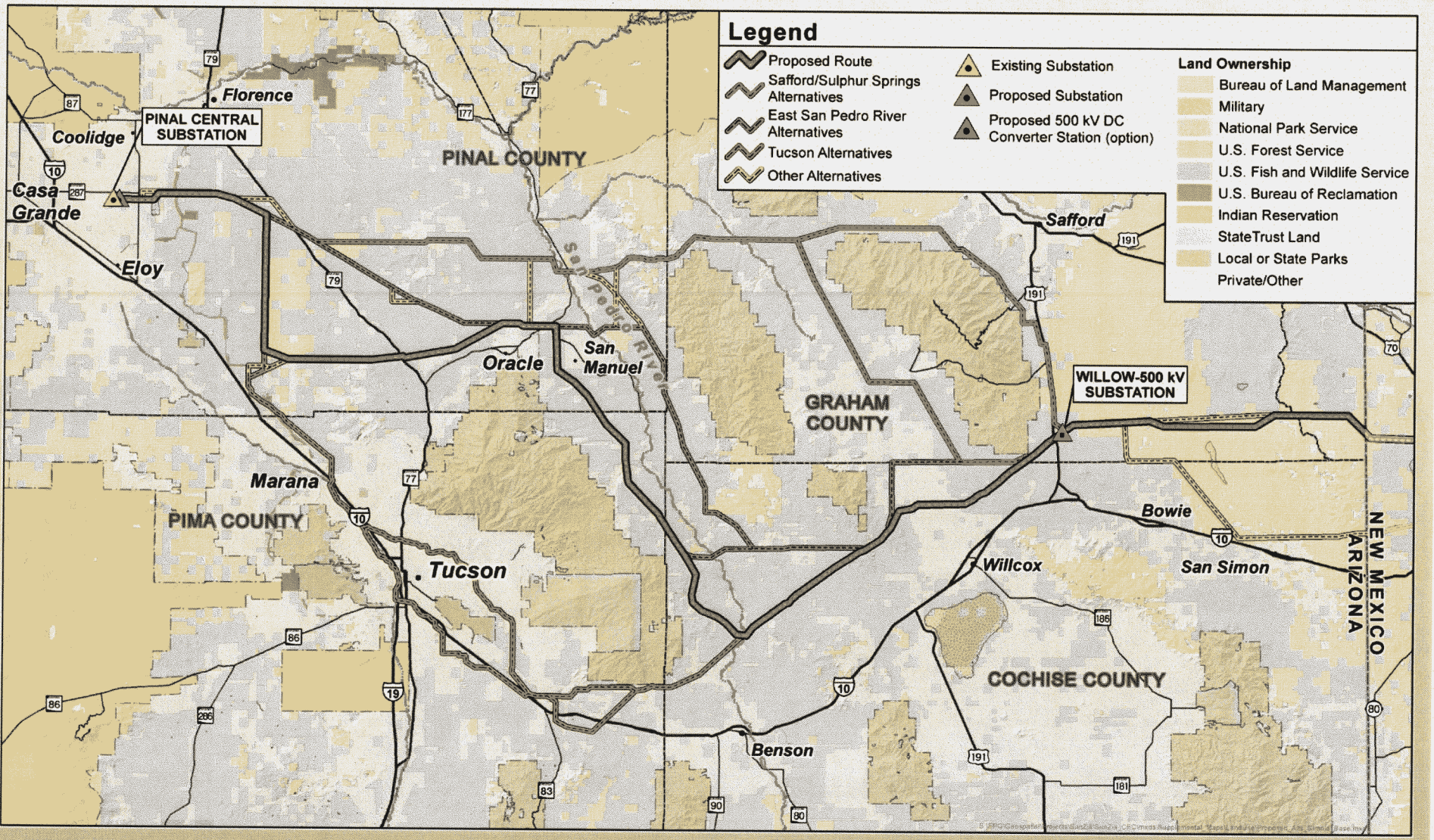
NEW MEXICO
ARIZONA
COCHISE COUNTY
Benson

Siegel R-8

Alternatives Previously Considered

Alternative route groups:

- Safford/Sulphur Springs Routes *(purple)*
- East San Pedro River Routes *(blue)*
- Tucson Routes *(orange)*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San Simon
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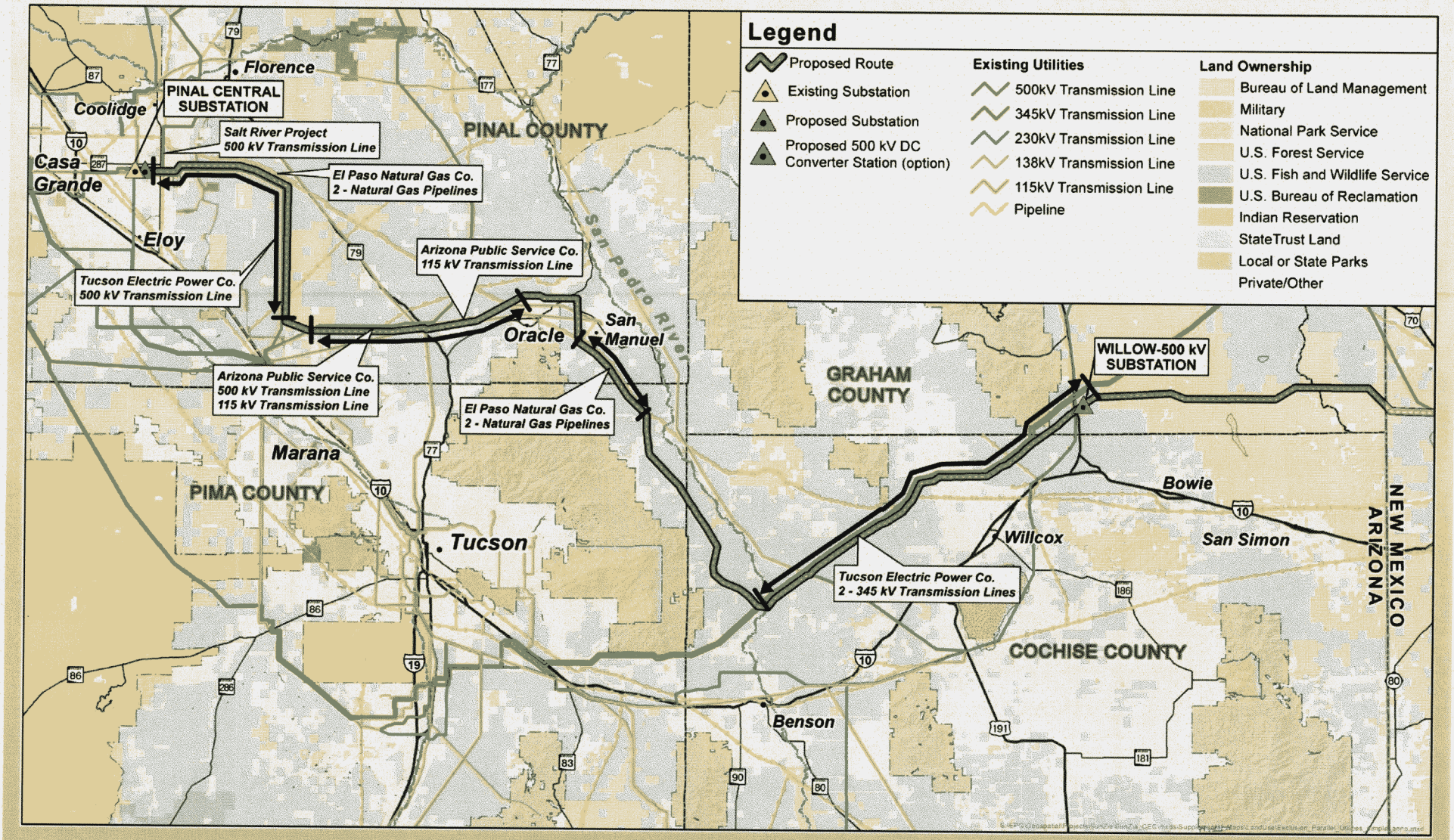
ARIZONA
COCHISE COUNTY
Benson

Siegel R-9

Proposed Route

- Collocation with existing utilities
  - 59% of Proposed Route is parallel to existing utility corridors
- Minimizes impacts to residential and commercial lands
  - 90% of Proposed Route crosses BLM and Arizona State Trust lands
  - Arizona agencies supported the Proposed Route
- Minimizes environmental impacts at the San Pedro River crossing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Siegel R-10

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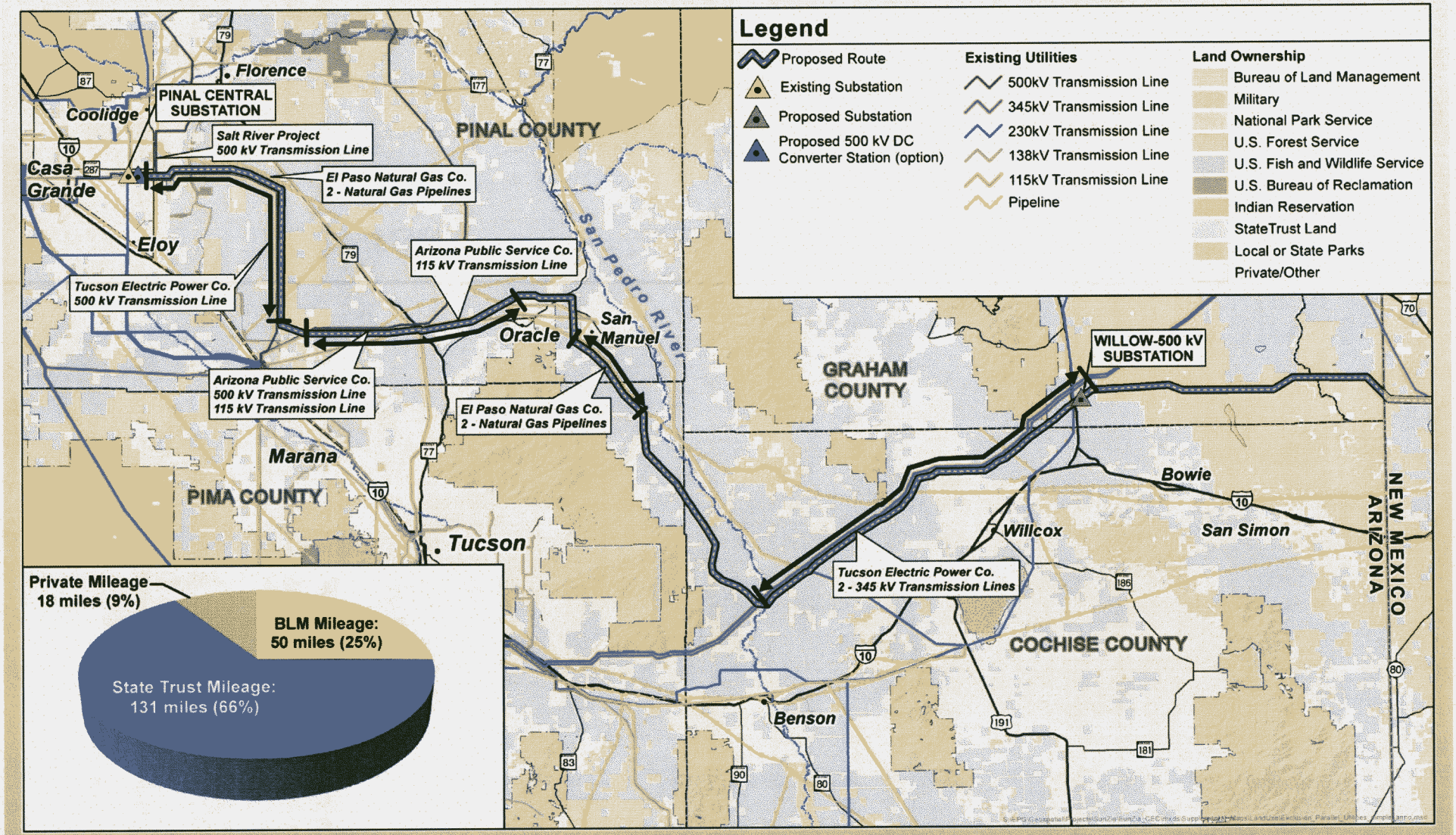
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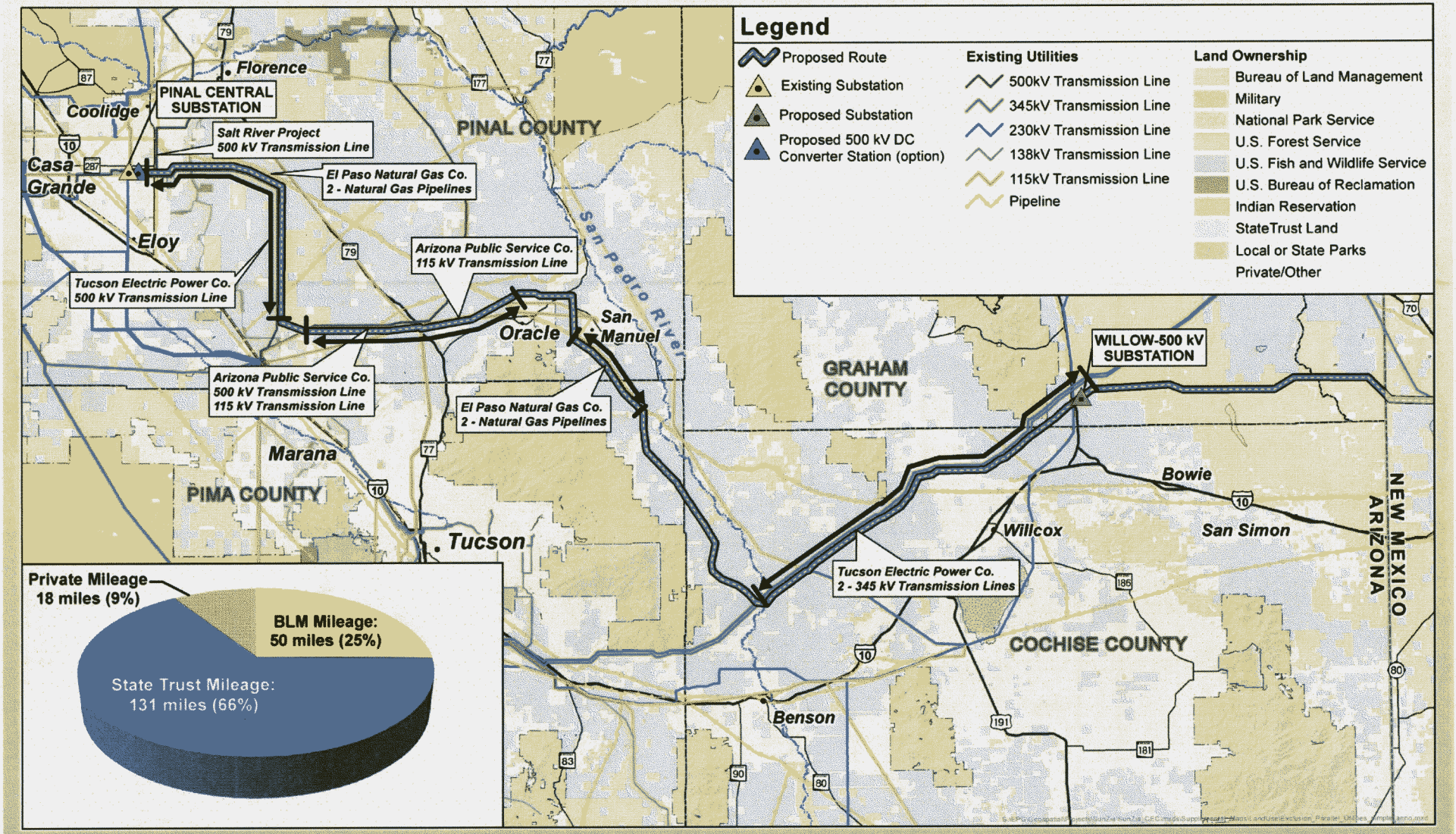
Benson
NEW MEXICO
ARIZONA
Private Mileage 18 miles (9%)
BLM Mileage: 50 miles (25%)
State Trust Mileage: 131 miles (66%)

Siegel R-11

Factors Considered in Issuing a Certificate of Environmental Compatibility [A.R.S. 40-360.06]

1. Existing plans
2. Fish, wildlife and plant life
3. Noise emission and interference
4. Availability for recreational purposes
5. Existing scenic areas, historic and archaeological sites
6. Total environment of the area
7. Technical practicability [Applicant]
8. Estimated cost of facilities [Applicant]
9. Additional factors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PIMA COUNTY
GRAHAM COUNTY
COCHISE COUNTY
NEW MEXICO
ARIZONA
San Pedro River
Private Mileage 18 miles (9%)
BLM Mileage: 50 miles (25%)
State Trust Mileage: 131 miles (66%)

Siegel R-12

1. Existing plans of the state, local government, and private entities for other development at or in the vicinity of the proposed site [Exhibit A-3, Exhibit H]

- Requested planning information from 20 state and local governments and private entities
- Reviewed city/county plans: cities of Coolidge, Eloy, Benson, Casa Grande, Tucson, Safford, Willcox; Town of Marana; Greenlee, Graham, Cochise, Pima, and Pinal counties; and planned area developments
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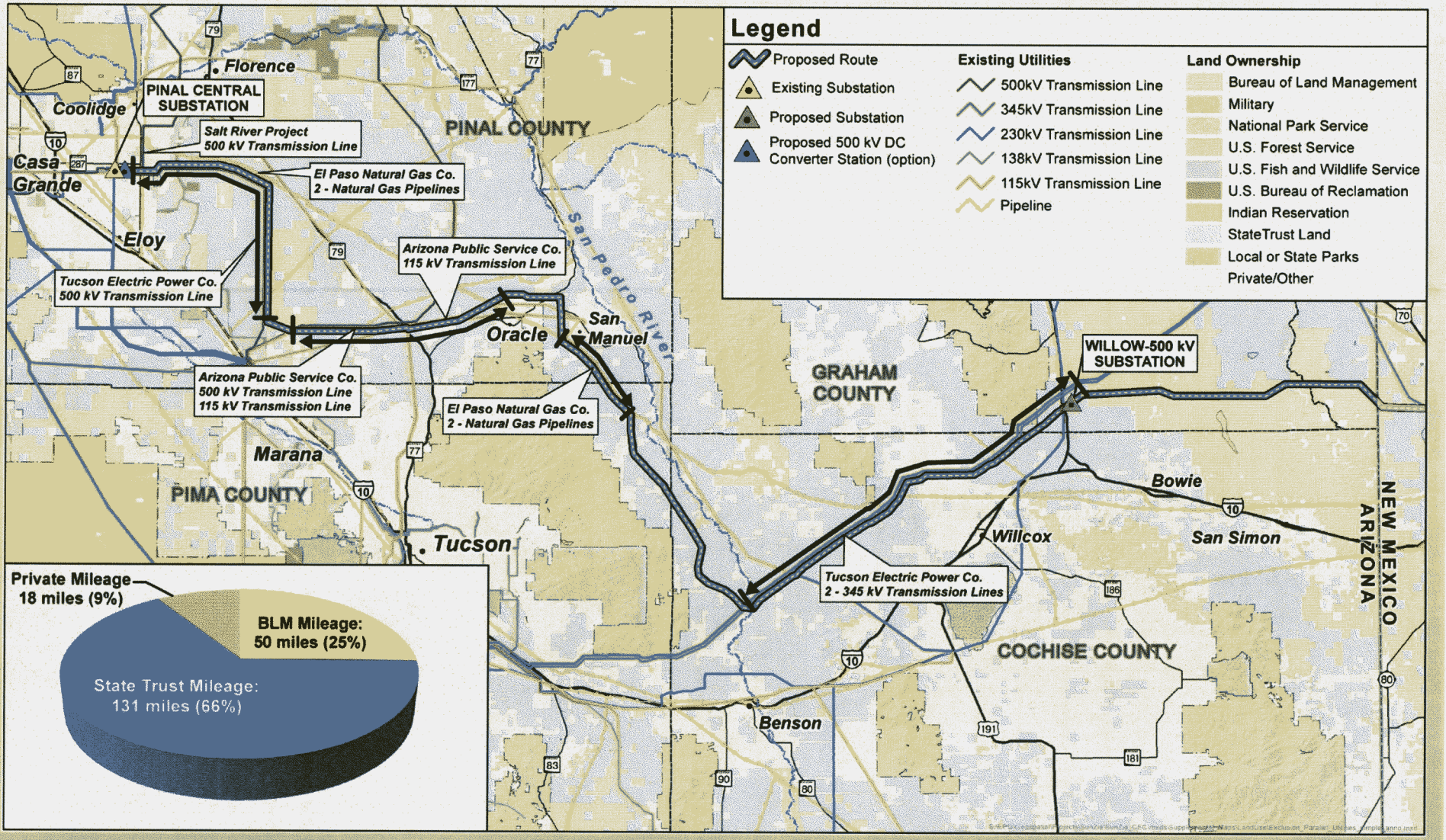
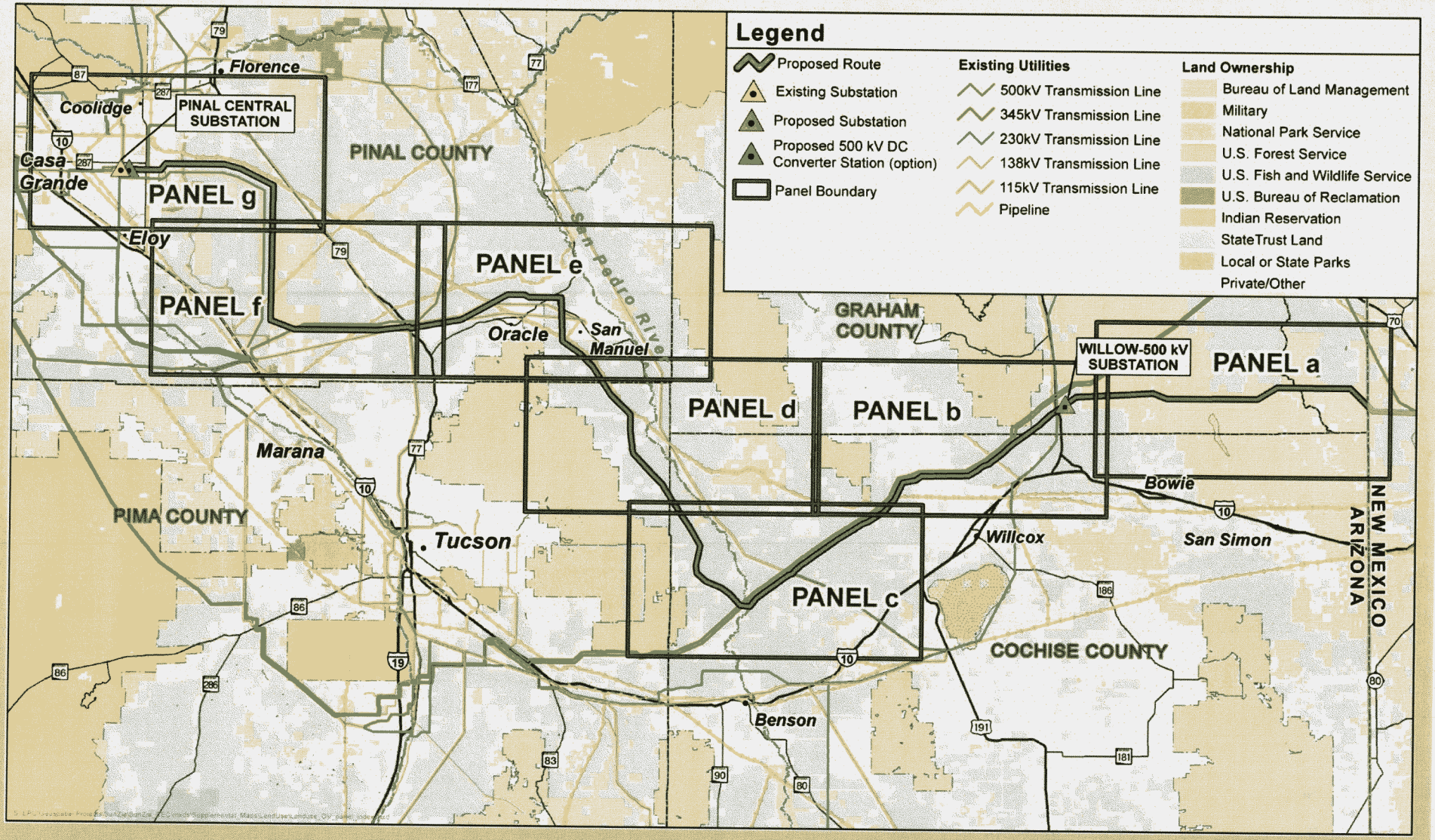
- Project is consistent with state, city, and county plans


Legend
Proposed Route
Existing Substation
Proposed Substation
Proposed 500 kV DC Converter Station (option)
Existing Utilities
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
138kV Transmission Line
115kV Transmission Line
Pipeline
Land Ownership
Bureau of Land Management
Military
National Park Service
U.S. Forest Service
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
Indian Reservation
StateTrust Land
Local or State Parks
Private/Other
Florence
PINAL CENTRAL SUBSTATION
Coolidge
Salt River Project 500 kV Transmission Line
PINAL COUNTY
Casa Grande
El Paso Natural Gas Co. 2 - Natural Gas Pipelines
Eloy
Arizona Public Service Co. 115 kV Transmission Line
Tucson Electric Power Co. 500 kV Transmission Line
San Pedro River
Oracle
San Manuel
Arizona Public Service Co. 500 kV Transmission Line 115 kV Transmission Line
El Paso Natural Gas Co. 2 - Natural Gas Pipelines
WILLOW-500 kV SUBSTATION
GRAHAM COUNTY
Marana
PIMA COUNTY
Tucson
Bowie
Willcox
San Simon
NEW MEXICO
ARIZONA
Tucson Electric Power Co. 2 - 345 kV Transmission Lines
COCHISE COUNTY
Benson
Private Mileage 18 miles (9%)
BLM Mileage: 50 miles (25%)
State Trust Mileage: 131 miles (66%)

Siegel R-13

1. Existing plans of the state, local government, and private entities for other development at or in the vicinity of the proposed site [Exhibit A-3, Exhibit H]

- Requested planning information from 20 state and local governments and private entities
- Reviewed city/county plans: cities of Coolidge, Eloy, Benson, Casa Grande, Tucson, Safford, Willcox; Town of Marana; Greenlee, Graham, Cochise, Pima, and Pinal counties; and planned area developments
- Response from Arizona cooperating agencies was consistent, concurred with BLM on selected route
- Project is consistent with state, city, and county plans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Proposed Route
Existing Substation
Proposed Substation
Proposed 500 kV DC Converter Station (option)
Panel Boundary
Existing Utilities
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
138kV Transmission Line
115kV Transmission Line
Pipeline
Land Ownership
Bureau of Land Management
Military
National Park Service
U.S. Forest Service
U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
Indian Reservation
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Coolidge
PINAL CENTRAL SUBSTATION
PINAL COUNTY
Casa Grande
PANEL g
Eloy
PANEL e
PANEL f
San Pedro River
Oracle
San Manuel
GRAHAM COUNTY
WILLOW-500 kV SUBSTATION
PANEL a
PANEL d
PANEL b
Marana
Bowie
PIMA COUNTY
Tucson
Willcox
San Simon
NEW MEXICO
ARIZONA
PANEL c
COCHISE COUNTY
Benson

Siegel R-14

1. Existing plans of the state, local government, and private entities for other development at or in the vicinity of the proposed site [Exhibit A-3, Exhibit H]

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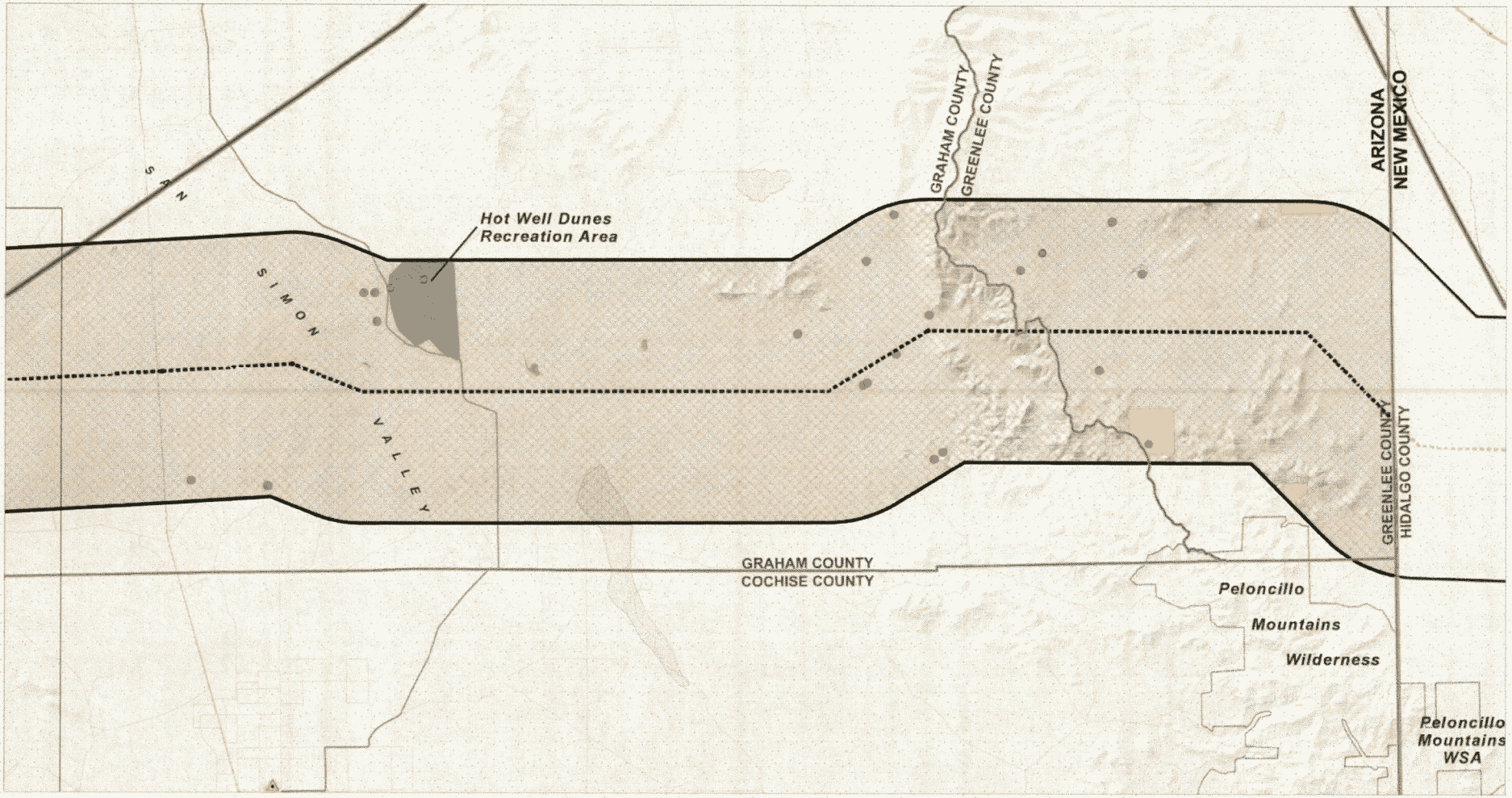
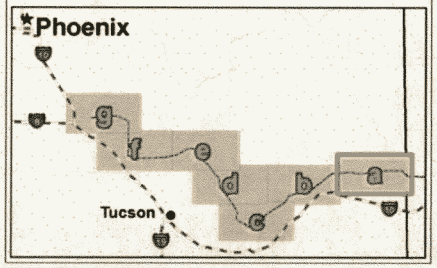


Planned Land Use - Panel a



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities
- Utilities
- Scenic/Historic Road
- Arizona National Scenic Trail
- Recreation Trail
- Trailhead

The Nature Conservancy

- TNC Easement-Private Fee
- Conservation Lands-BLM
- Private-Full Fee
- Forest Legacy Parcels

Pinal County

- Proposed Regional Park/ Open Space
- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
- Grazing Lease - Arizona State Trust Land (Cochise County)

Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
- Low-Density Residential/Rural (Cochise County)

- Existing Substation
- Proposed Willow 500 kV Substation
- Proposed 500 kV DC Converter Station (option)
- 500 kV Transmission Line
- 345 kV Transmission Line
- 230 kV Transmission Line
- 138 kV Transmission Line
- 115 kV Transmission Line
- Future 230 kV Transmission Line (Permitted)
- Pipeline
- Canal

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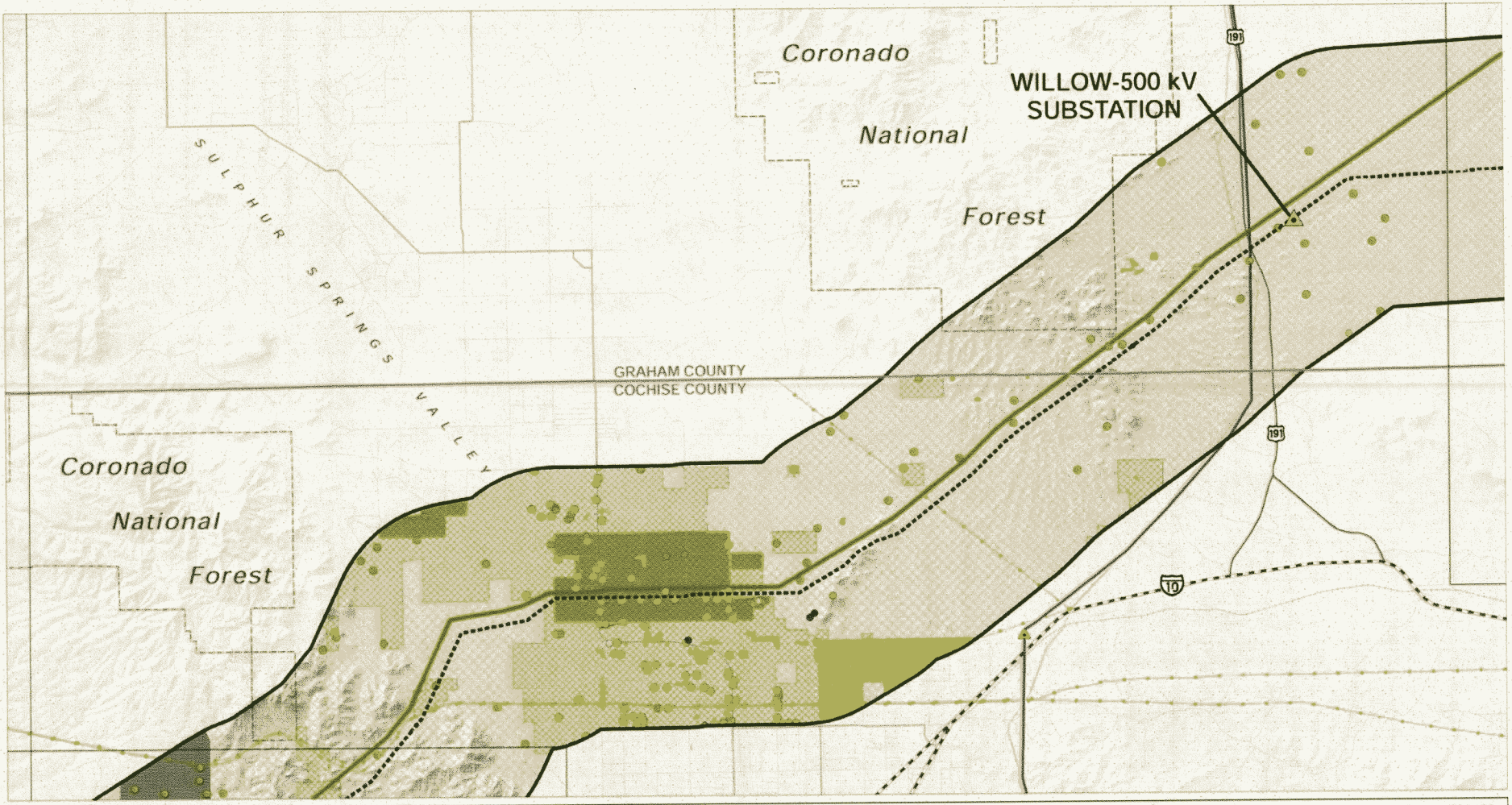
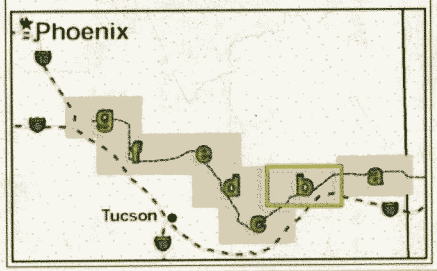


Planned Land Use - Panel b



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities
- Utilities
- Scenic/Historic Road
- Arizona National Scenic Trail
- Recreation Trail
- Trailhead

The Nature Conservancy

- TNC Easement-Private Fee
- Conservation Lands-BLM
- Private-Full Fee
- Forest Legacy Parcels

Pinal County

- Proposed Regional Park/ Open Space
- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
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Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
- Low-Density Residential/Rural (Cochise County)

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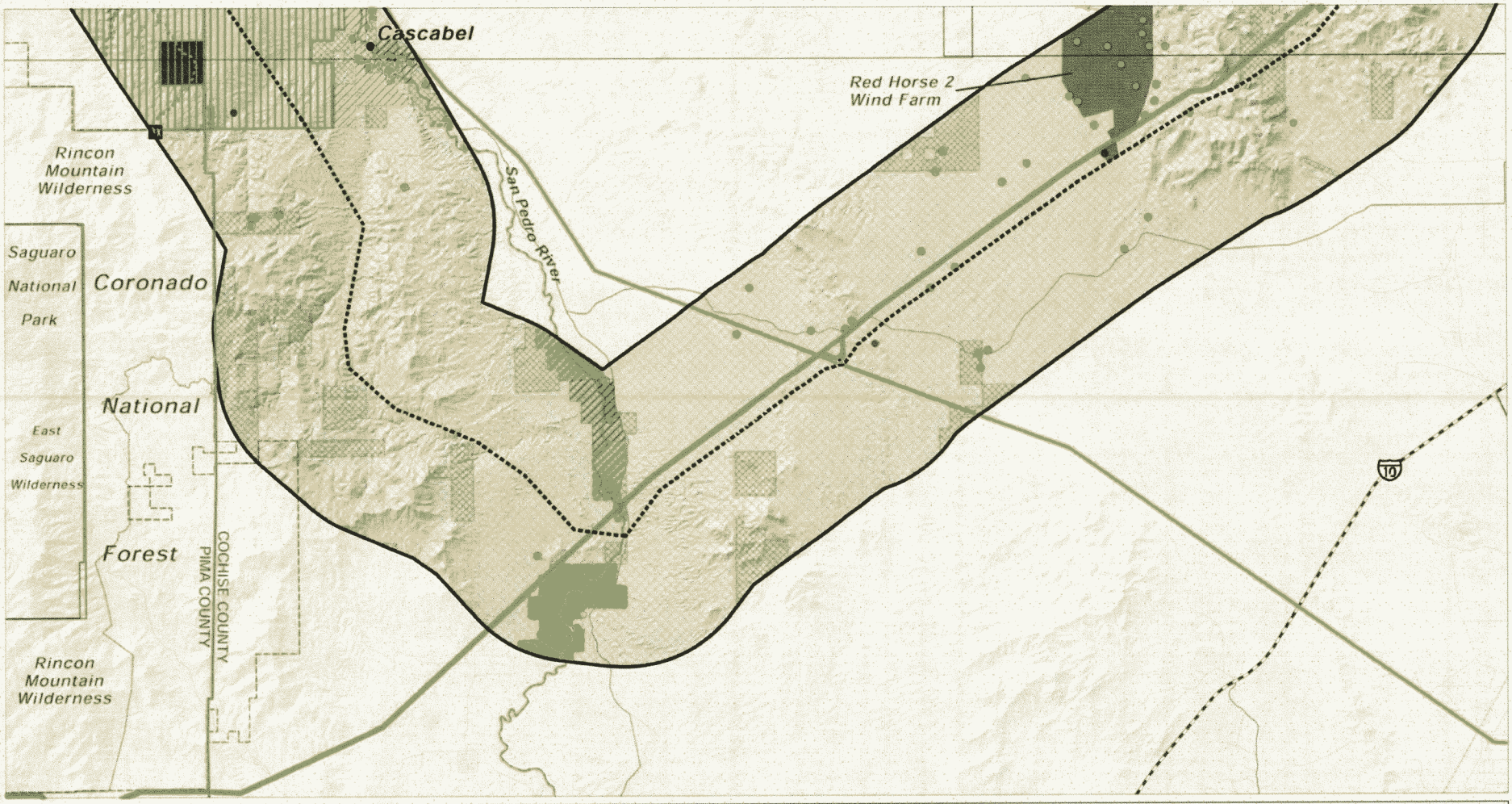
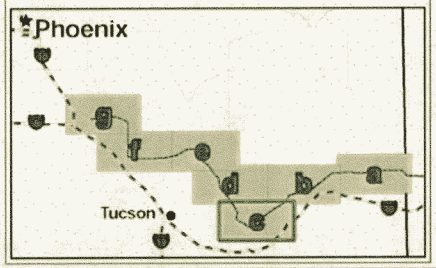


Planned Land Use - Panel c



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities
- Utilities
- Scenic/Historic Road
- Arizona National Scenic Trail
- Recreation Trail
- Trailhead

The Nature Conservancy

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- Conservation Lands-BLM
- Private-Full Fee
- Forest Legacy Parcels

Pinal County

- Proposed Regional Park/ Open Space
- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
- Grazing Lease - Arizona State Trust Land (Cochise County)

Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
- Low-Density Residential/Rural (Cochise County)

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- Pipeline
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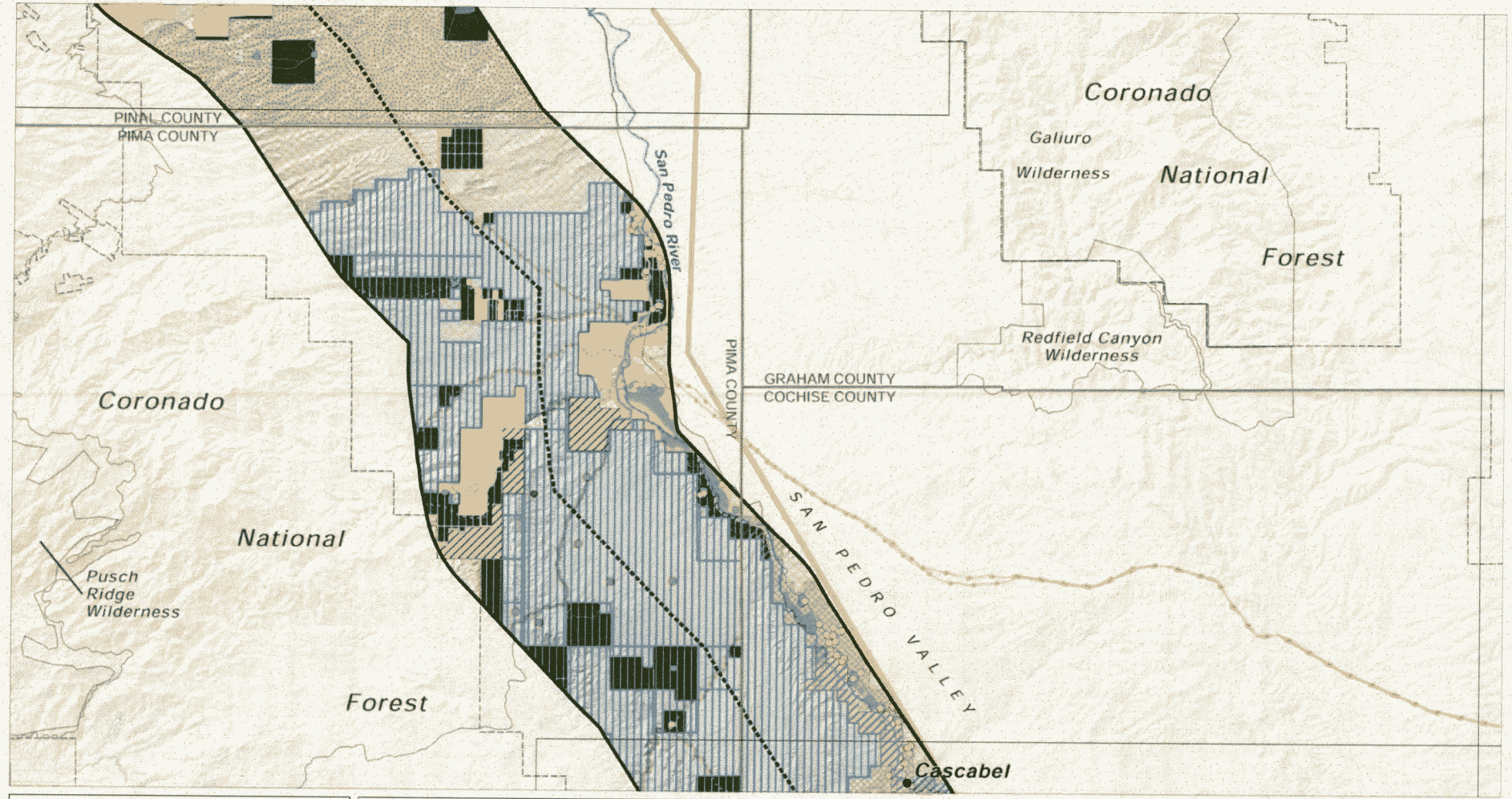
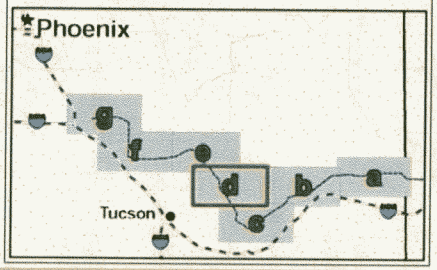


Planned Land Use - Panel d



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities
- Utilities
- Scenic/Historic Road
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- Trailhead

The Nature Conservancy

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- Conservation Lands-BLM
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- Forest Legacy Parcels

Pinal County

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- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
- Grazing Lease - Arizona State Trust Land (Cochise County)

Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
- Low-Density Residential/Rural (Cochise County)

- Existing Substation
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- 500 kV Transmission Line
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- Future 230 kV Transmission Line (Permitted)
- Pipeline
- Canal

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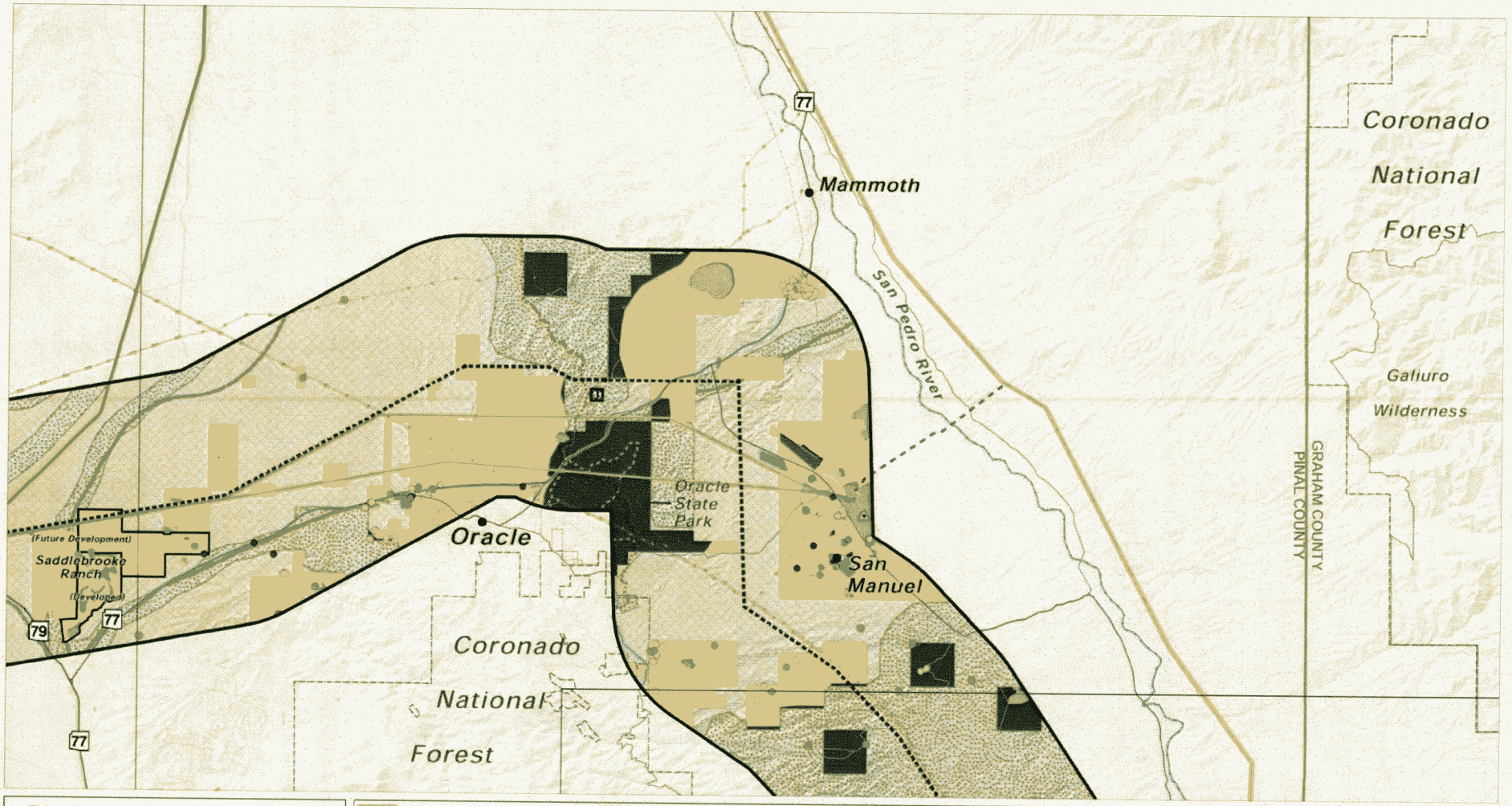
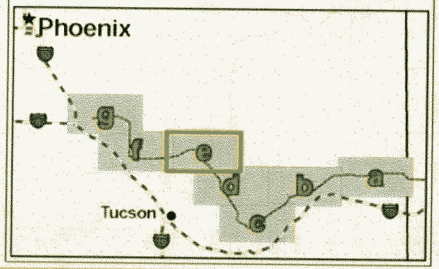


Planned Land Use - Panel e



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities
- Utilities
- Scenic/Historic Road
- Arizona National Scenic Trail
- Recreation Trail
- Trailhead

The Nature Conservancy

- TNC Easement-Private Fee
- Conservation Lands-BLM
- Private-Full Fee
- Forest Legacy Parcels

Pinal County

- Proposed Regional Park/ Open Space
- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
- Grazing Lease - Arizona State Trust Land (Cochise County)

Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
- Low-Density Residential/Rural (Cochise County)

- Existing Substation
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- 500 kV Transmission Line
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- 115 kV Transmission Line
- Future 230 kV Transmission Line (Permitted)
- Pipeline
- Canal

1. Existing plans of the state, local government, and private entities for other development at or in the vicinity of the proposed site [Exhibit A-3, Exhibit H]

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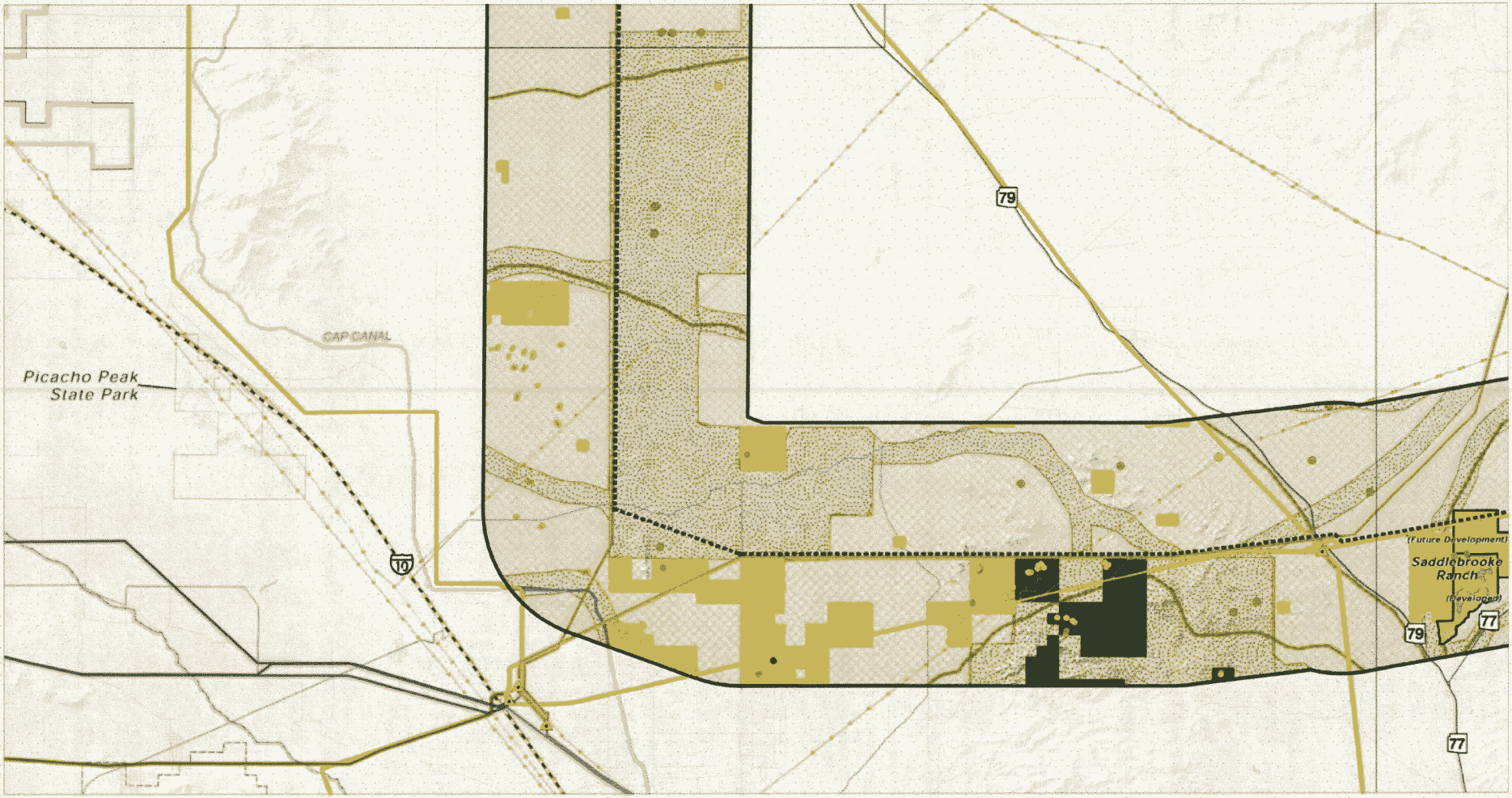
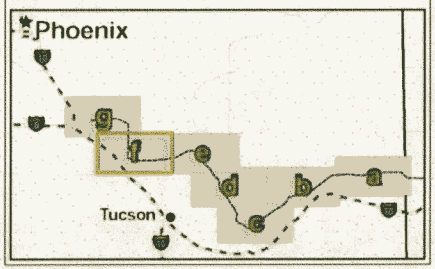


Planned Land Use - Panel f



- Agriculture
- Air Facilities
- Commercial
- Communication Facilities
- Industrial
- Parks/Preservation
- Public/Quasi-Public
- Recreation
- Residential
- Educational Facilities

- Utilities
- Scenic/Historic Road
- Arizona National Scenic Trail
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- Trailhead

The Nature Conservancy

- TNC Easement-Private Fee
- Conservation Lands-BLM
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- Forest Legacy Parcels

Pinal County

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- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
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Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
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- 230 kV Transmission Line
- 138 kV Transmission Line
- 115 kV Transmission Line

- Future 230 kV Transmission Line (Permitted)
- Pipeline
- Canal

1. Existing plans of the state, local government, and private entities for other development at or in the vicinity of the proposed site [Exhibit A-3, Exhibit H]

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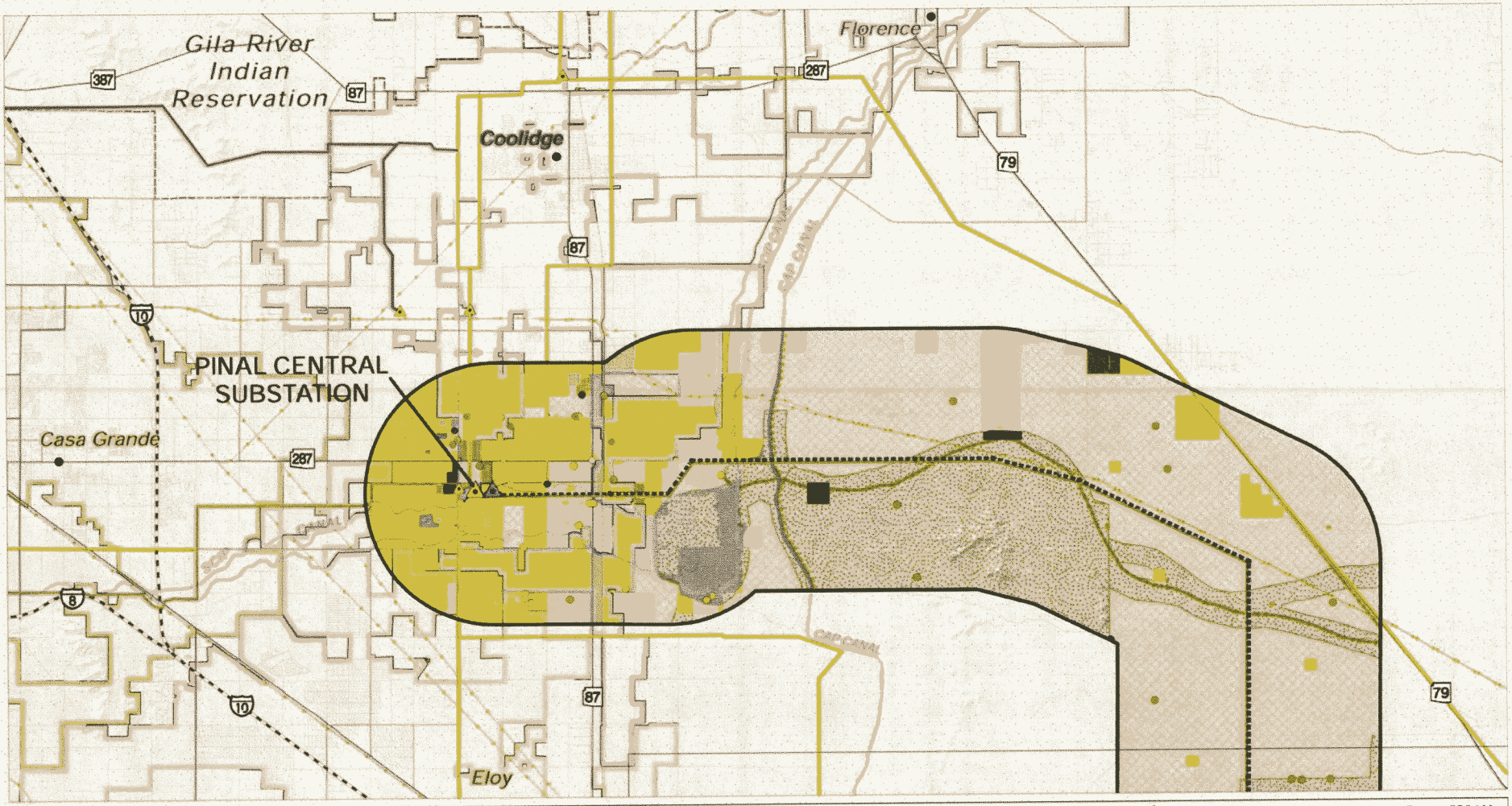
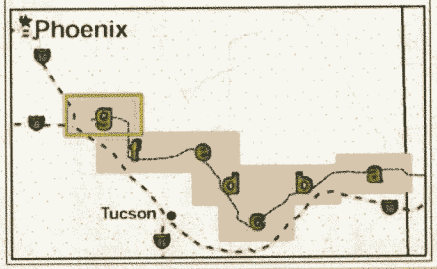


Planned Land Use - Panel g



- Agriculture
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- Parks/Preservation
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- Recreation Trail
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The Nature Conservancy

- TNC Easement-Private Fee
- Conservation Lands-BLM
- Private-Full Fee
- Forest Legacy Parcels

Pinal County

- Proposed Regional Park/ Open Space
- Proposed Trail

Pima County/San Pedro Planning Area

- Low Intensity Rural
- Resource Conservation
- Grazing Lease - Arizona State Trust Land (Cochise County)

Grazing/Multi-Use/Vacant

- Grazing/Multi-Use/Vacant
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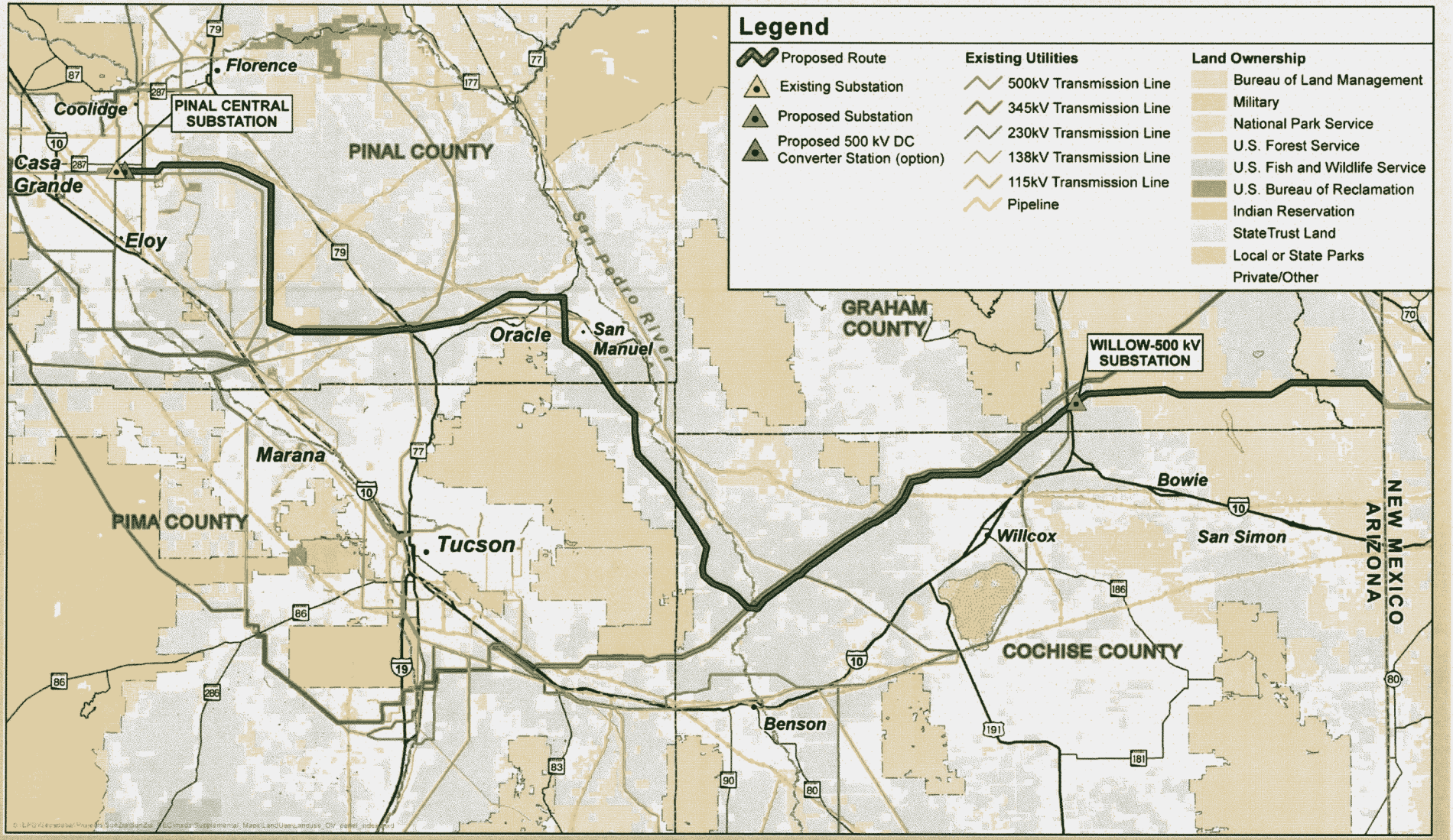
- 230 kV Transmission Line
- 138 kV Transmission Line
- 115 kV Transmission Line
- Future 230 kV Transmission Line (Permitted)
- Pipeline
- Canal

2. Fish, wildlife, and plant life and associated forms of life upon which they are dependent. [Exhibits C and D]

- Summary of impacts to biological resources
  - USFWS Biological Opinion: The Project would not jeopardize the continued existence of any ESA-listed species and would not destroy or adversely modify critical habitat for any ESA-listed species.
- The Plan of Development provides effective mitigation
  - Restoration, rehabilitation, and monitoring
  - Minimize impacts to ESA-listed and special-status species
  - Migratory Bird Conservation Plan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NEW MEXICO
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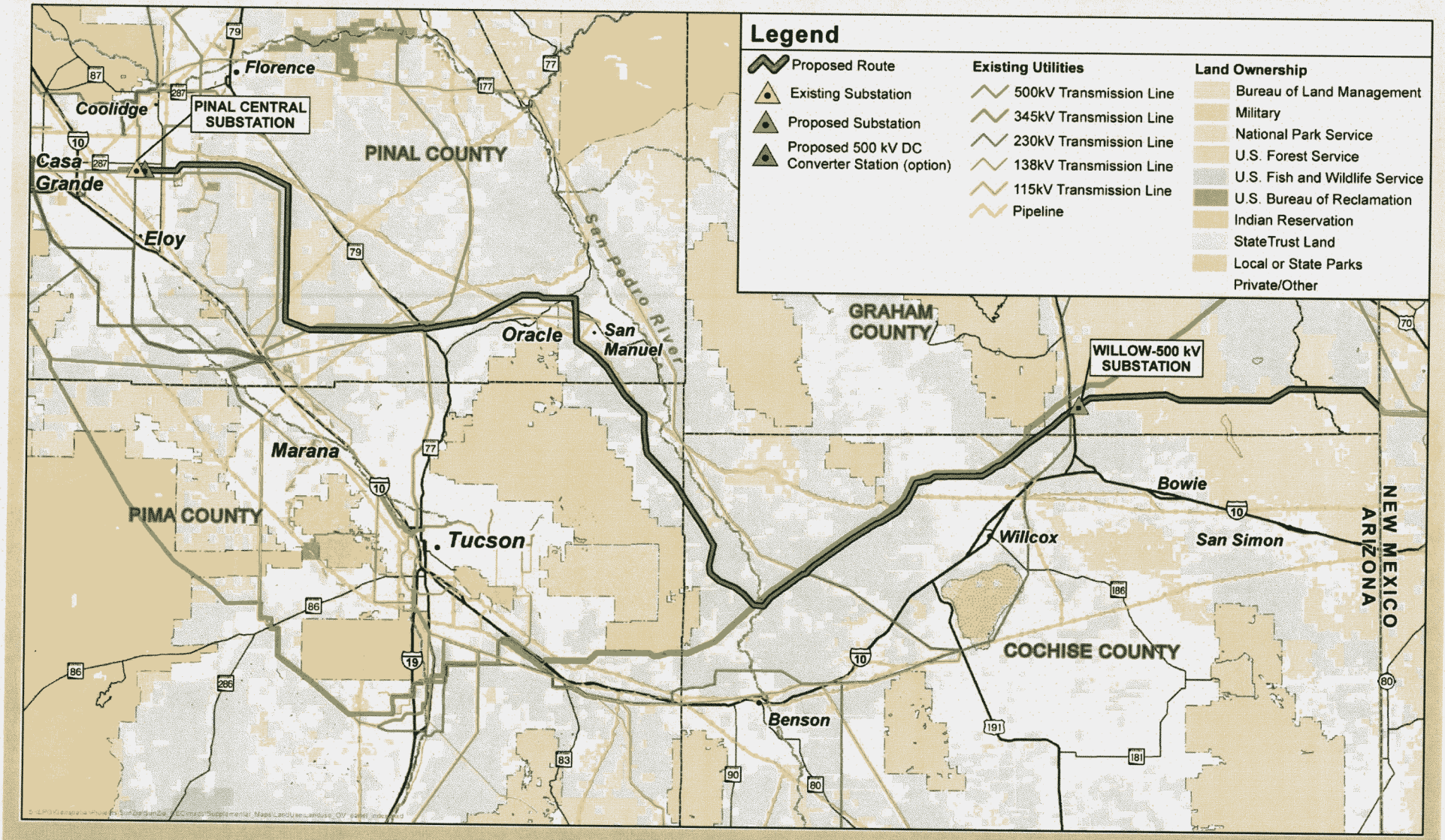
Benson

Siegel R-22

3. Noise emission levels and interference with communication signals. [Exhibit I]

- Noise levels would be below EPA and HUD guidelines
- Communications interference is not anticipated as a result of Project operations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Marana
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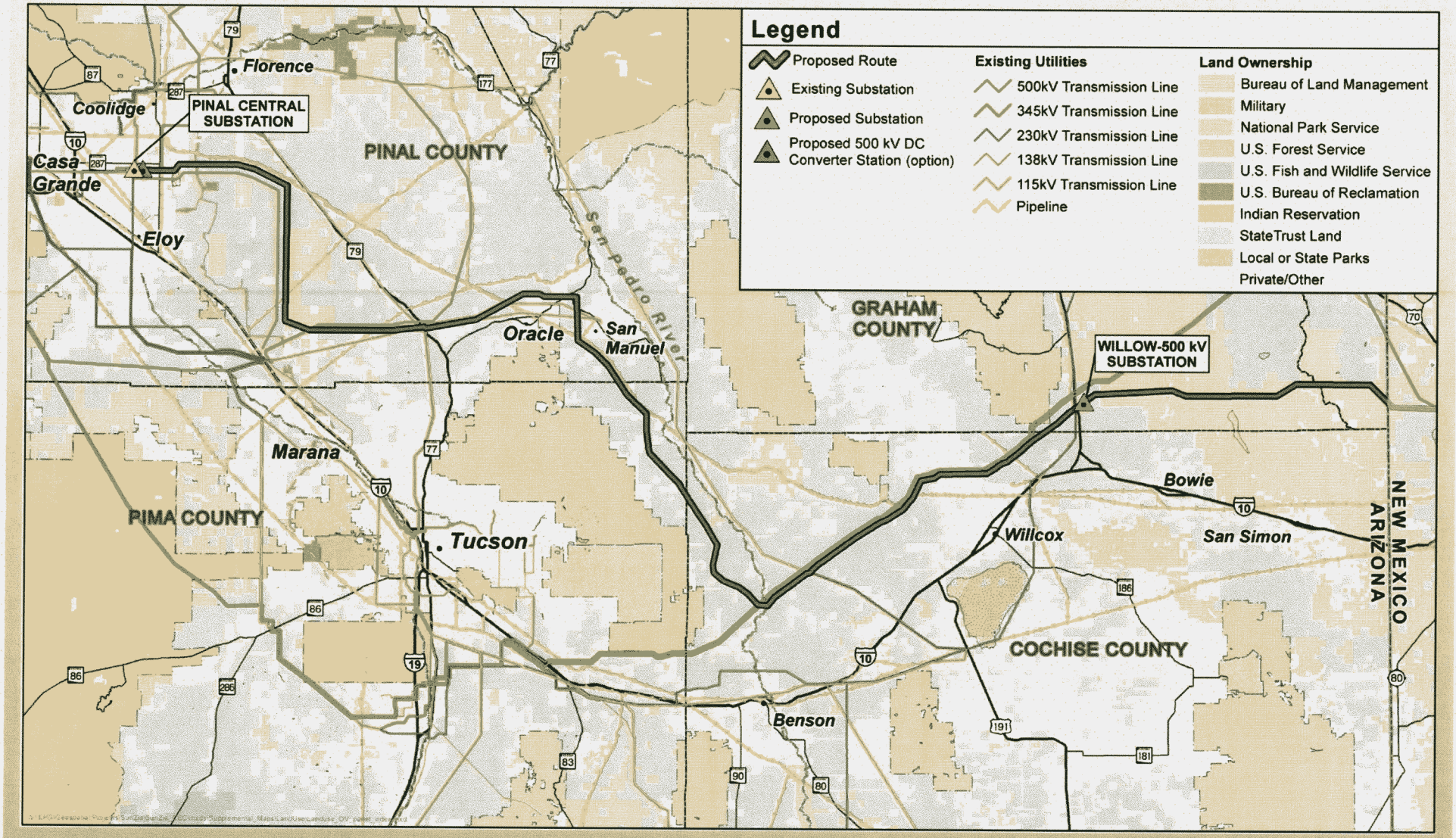
Willcox
San Simon
NEW MEXICO
ARIZONA
COCHISE COUNTY
Benson

Siegel R-23

4. The proposed availability of the site to the public for recreational purposes, consistent with safety considerations and regulations. [Ex. A-2, Exhibit F]

- The Project would not restrict recreational activities such as hiking, horseback riding, and off-highway vehicles within the proposed corridor.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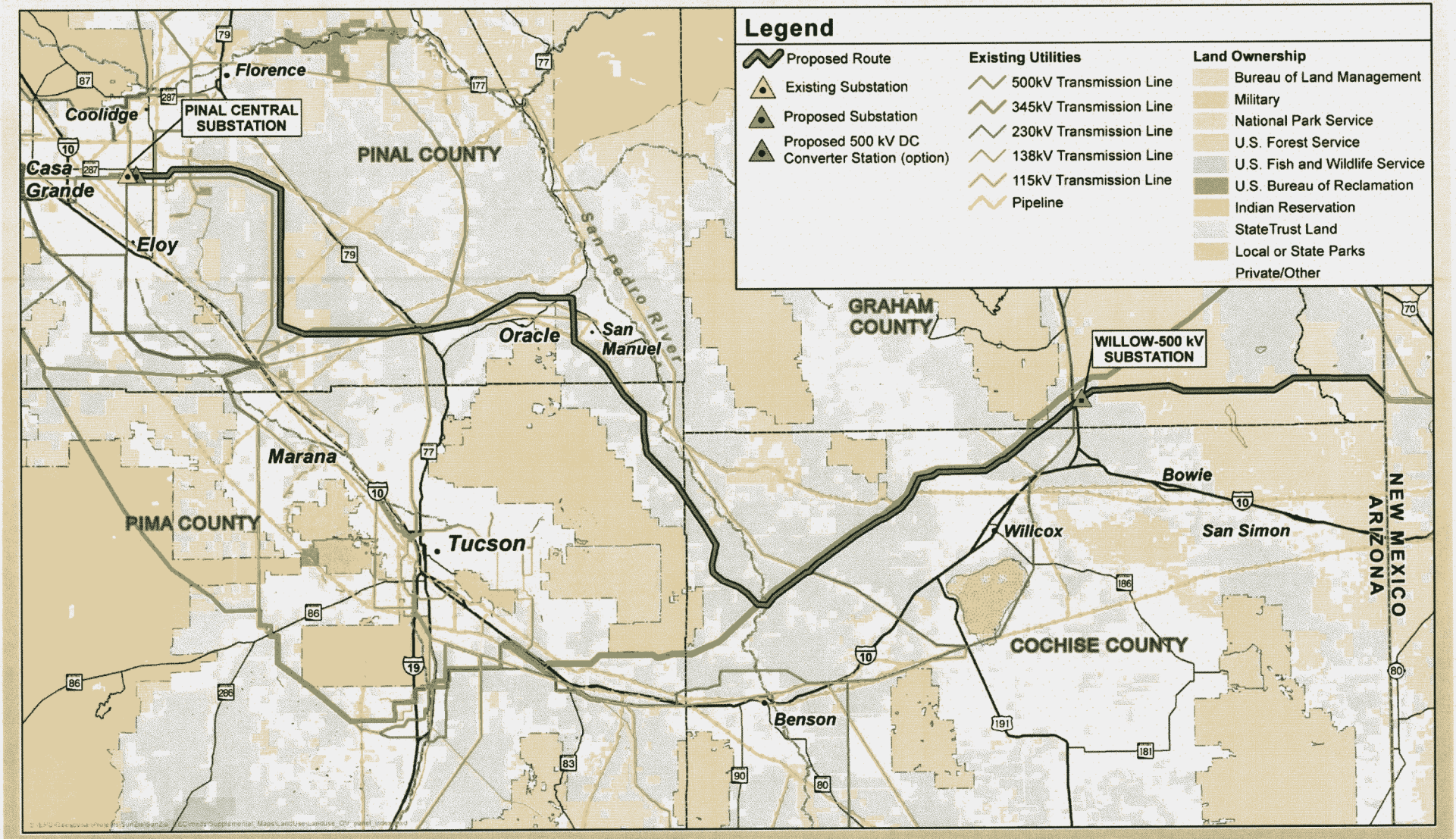
PIMA COUNTY
Tucson
Bowie
Willcox
San Simon
COCHISE COUNTY
Benson
NEW MEXICO
ARIZONA

Siegel R-24

5. Existing scenic areas, historic sites, and structures or archaeological sites at or in the vicinity of the proposed site.

[Exhibit E-1 - Scenic Areas]

- Class A scenery, examples – San Pedro River Crossing, Buehman Canyon
- Project crosses primarily Class B and Class C landscapes
- Lower impacts occur where the Project crosses landscapes modified by existing transmission and pipeline corridors, roads, and other cultural (human) developments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Existing Substation
Proposed Substation
Proposed 500 kV DC Converter Station (option)
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345kV Transmission Line
230kV Transmission Line
138kV Transmission Line
115kV Transmission Line
Pipeline
Land Ownership
Bureau of Land Management
Military
National Park Service
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U.S. Fish and Wildlife Service
U.S. Bureau of Reclamation
Indian Reservation
StateTrust Land
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Private/Other
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WILLOW-500 kV SUBSTATION
PINAL COUNTY
GRAHAM COUNTY
PIMA COUNTY
COCHISE COUNTY
Florence
Coolidge
Casa Grande
Eloy
Oracle
San Manuel
Marana
Tucson
Benson
Willcox
Bowie
San Simon
San Pedro River
NEW MEXICO
ARIZONA

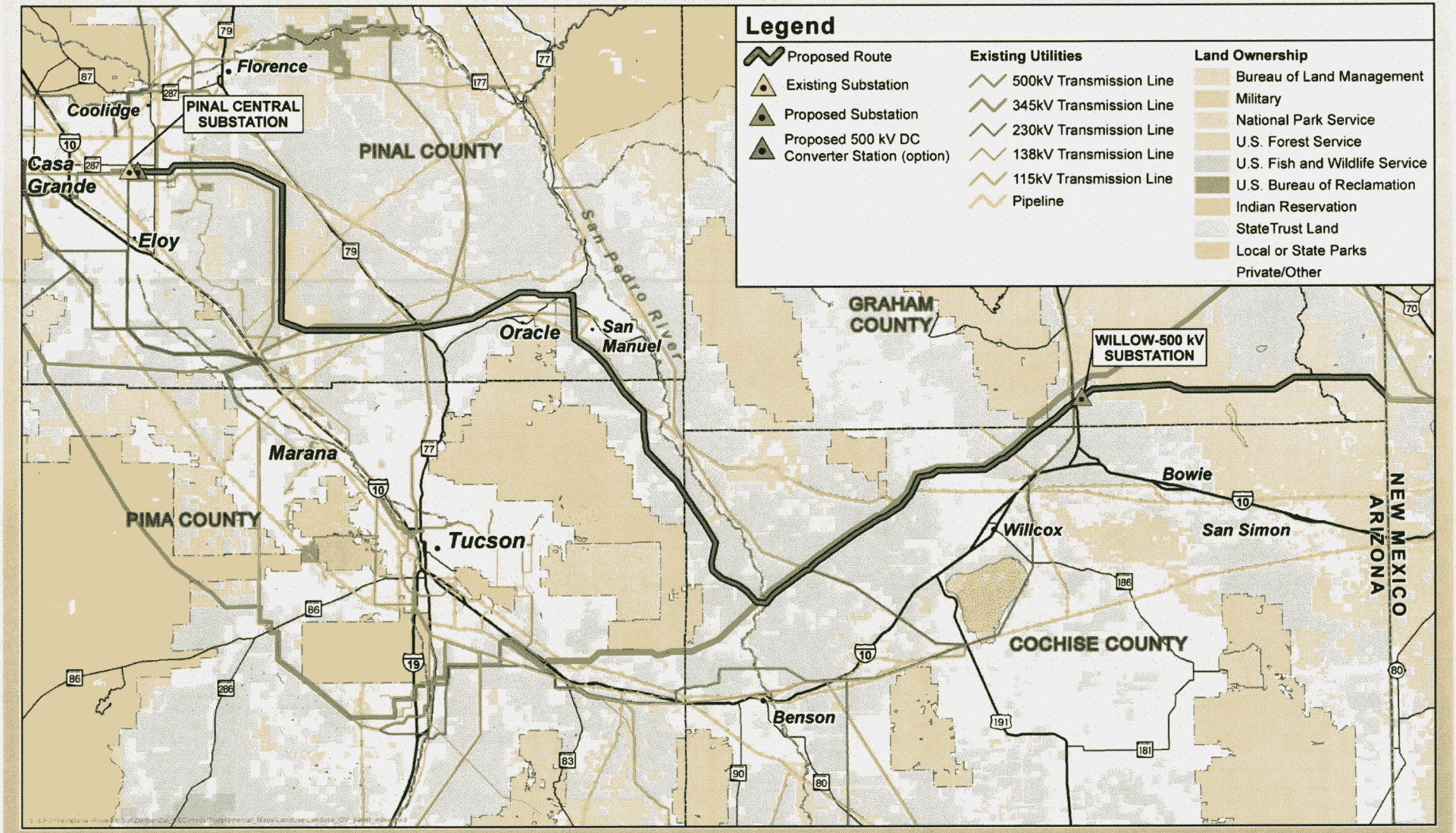
Siegel R-25

5. Existing scenic areas, historic sites, and structures or archaeological sites at or in the vicinity of the proposed site.

[Exhibit E-2 - Historic Sites and Structures or Archaeological Sites]

- Programmatic Agreement (PA): Participants include Arizona State Historic Preservation Officer, SunZia, BLM, tribes, cooperating federal and state agencies

- Purpose of the PA: resolves any potential adverse effects to historic sites or structures, or archaeological sites, that may result from construction of the Project.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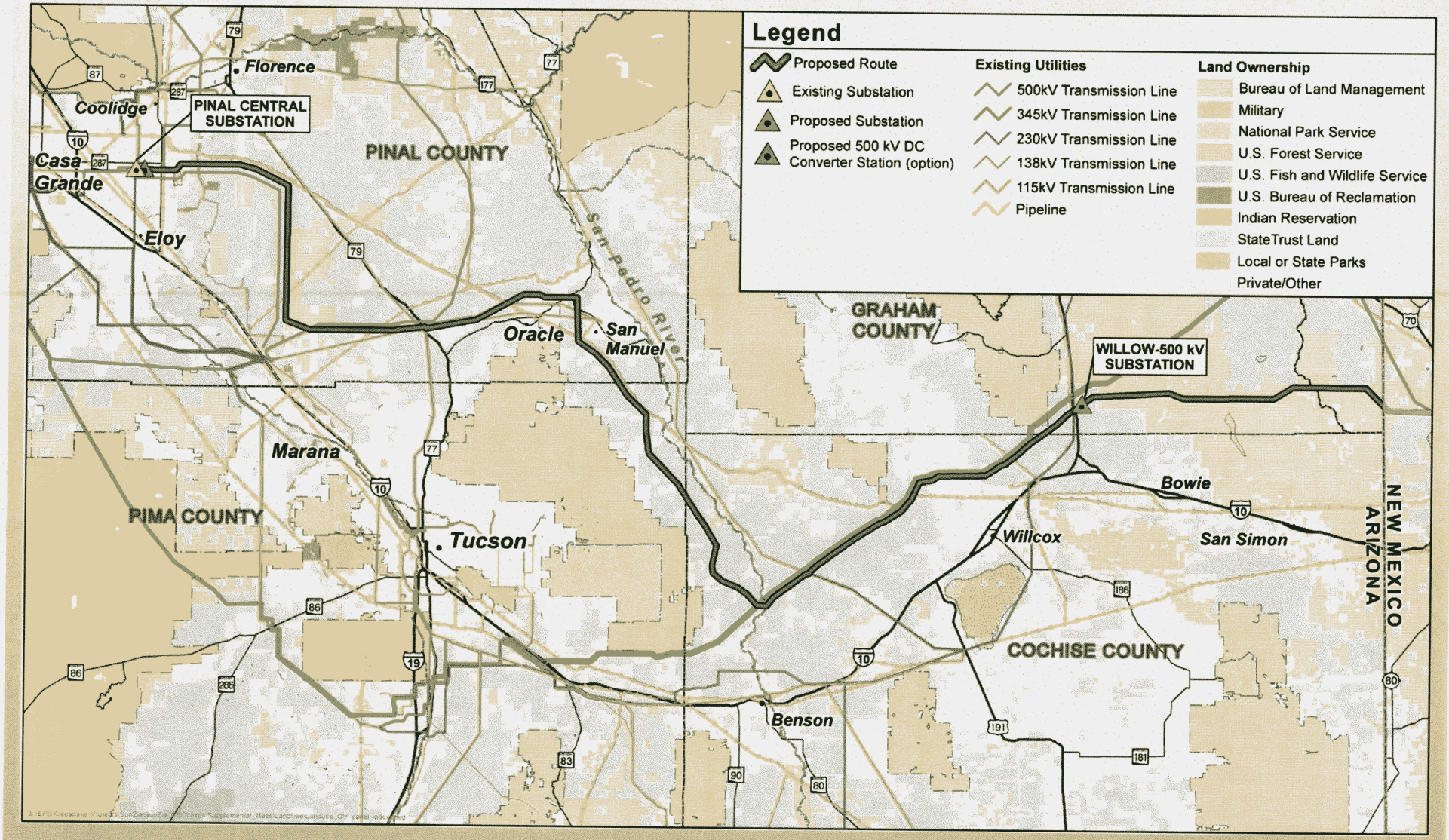
ARIZONA

Siegel R-26

6. The total environment of the area.

- Environmental studies evaluated a complete range of alternatives; the Proposed Route (BLM Preferred Route) was selected following a process that included the public, Arizona state agencies, and other stakeholders
- The environmental studies were updated; results are reflected in the Application for CEC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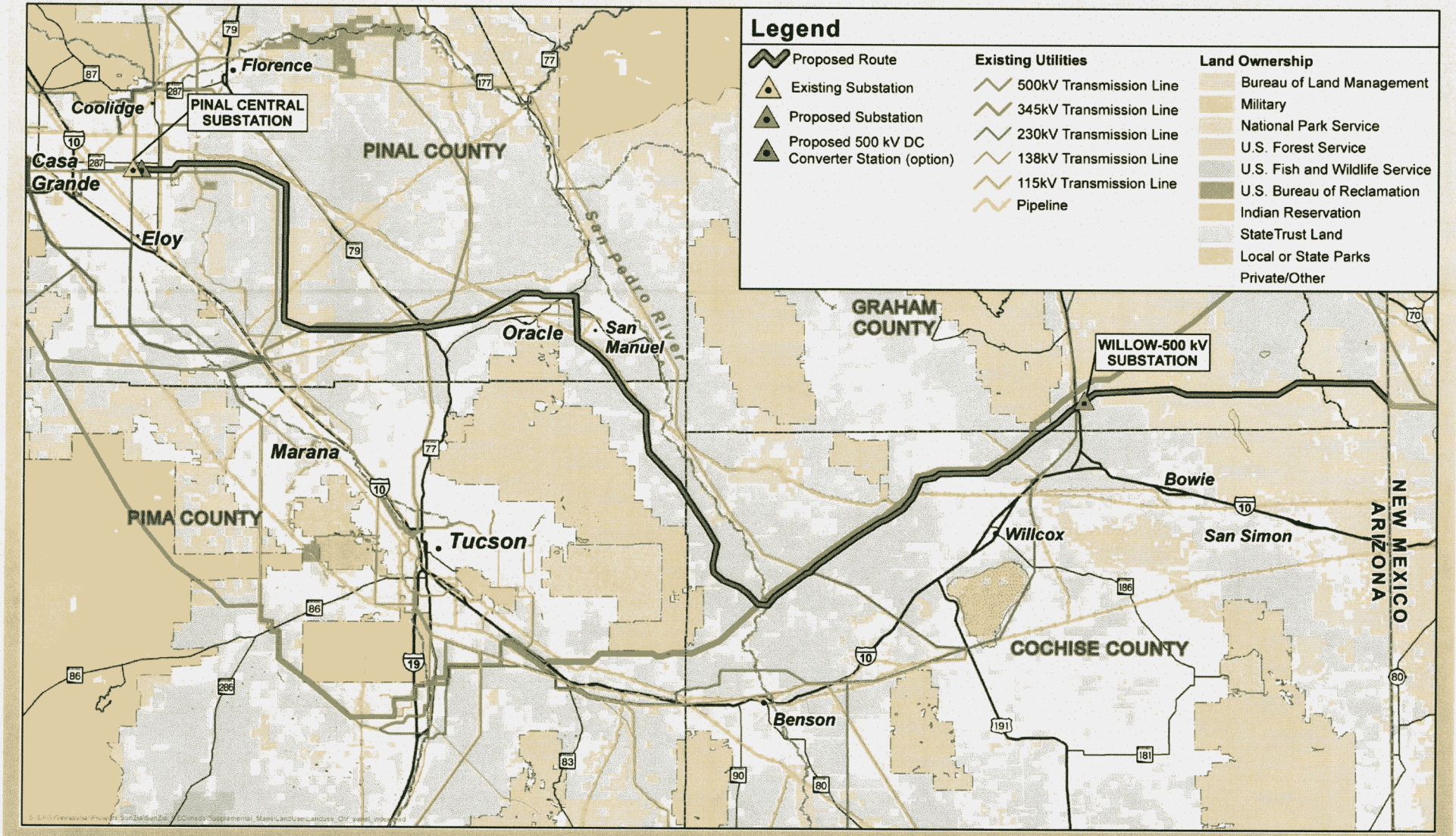
San Simon
NEW MEXICO
ARIZONA
COCHISE COUNTY
Benson

Siegel R-27

9. Any additional factors that require consideration under applicable federal and state laws pertaining to any such site. [Exhibit J - Public Participation]

- NEPA process
  - Public Scoping: June 2009 – June 2010 – meetings in Eloy, Oracle, Safford, Willcox, and Tucson; over 200 attended
  - Draft EIS Review: May-August 2012; meetings in Safford, Benson, Tucson, San Manuel, and Eloy; over 160 attended
- Consultation by BLM with state, federal, and local agencies; organizations; and tribal governments
  - National Historic Preservation Act (Section 106)
  - Endangered Species Act (Section 7)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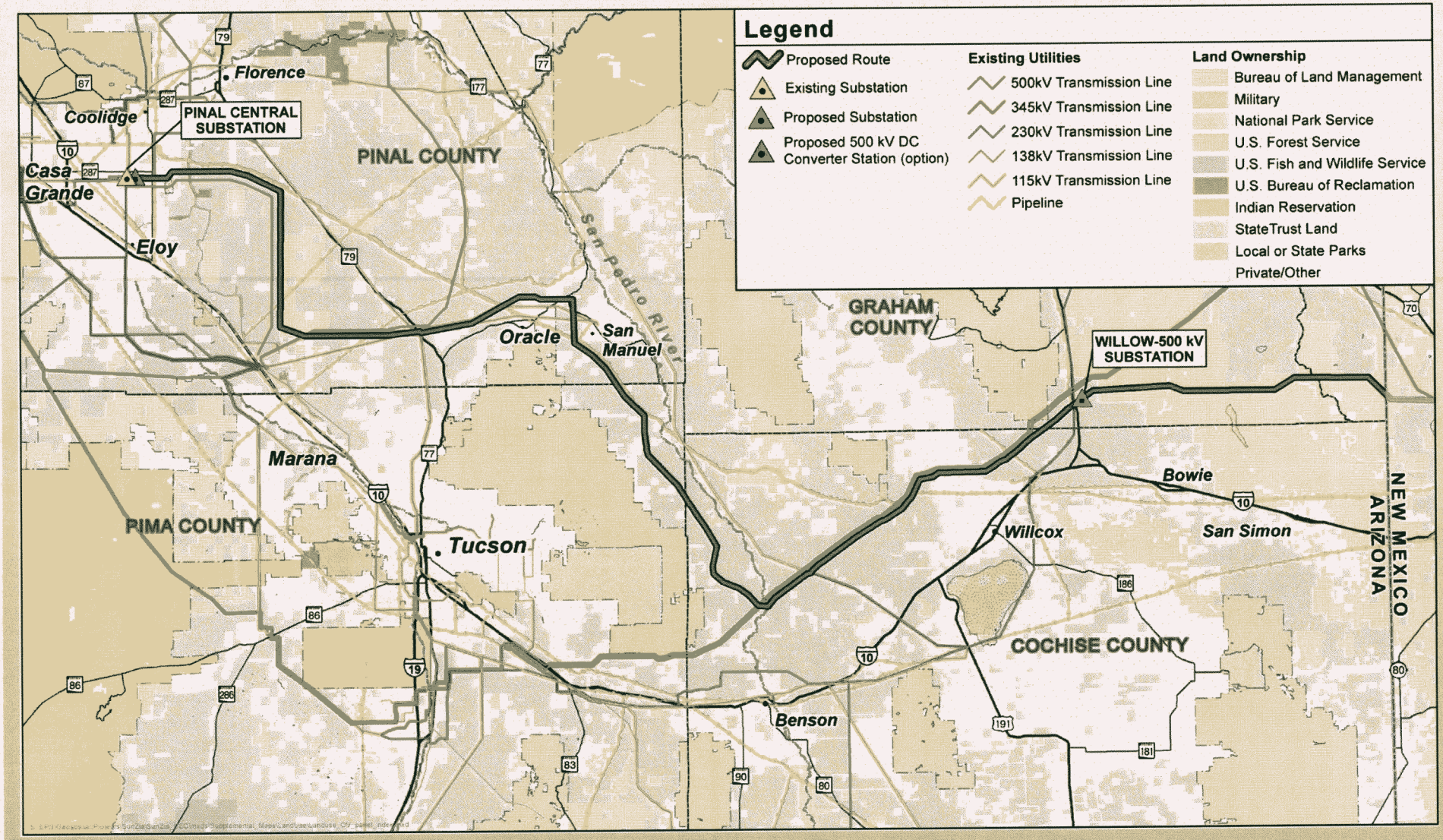
Benson
NEW MEXICO
ARIZONA

Siegel R-28

Factors Considered in Issuing a Certificate of Environmental Compatibility [A.R.S. 40-360.06] Conclusion

- Environmental studies evaluated a complete range of alternatives, the Proposed Route (BLM Preferred Route) was selected following a six-year process that included Arizona state agencies, the public, and other stakeholders
- Applicant has committed to a full range of mitigation measures to reduce or avoid significant environmental effects
- Construction of the SunZia Southwest Transmission Project with the Proposed Route would be environmentally compatible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Benson

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

David Kahrs, Manager of Biological Services

epg

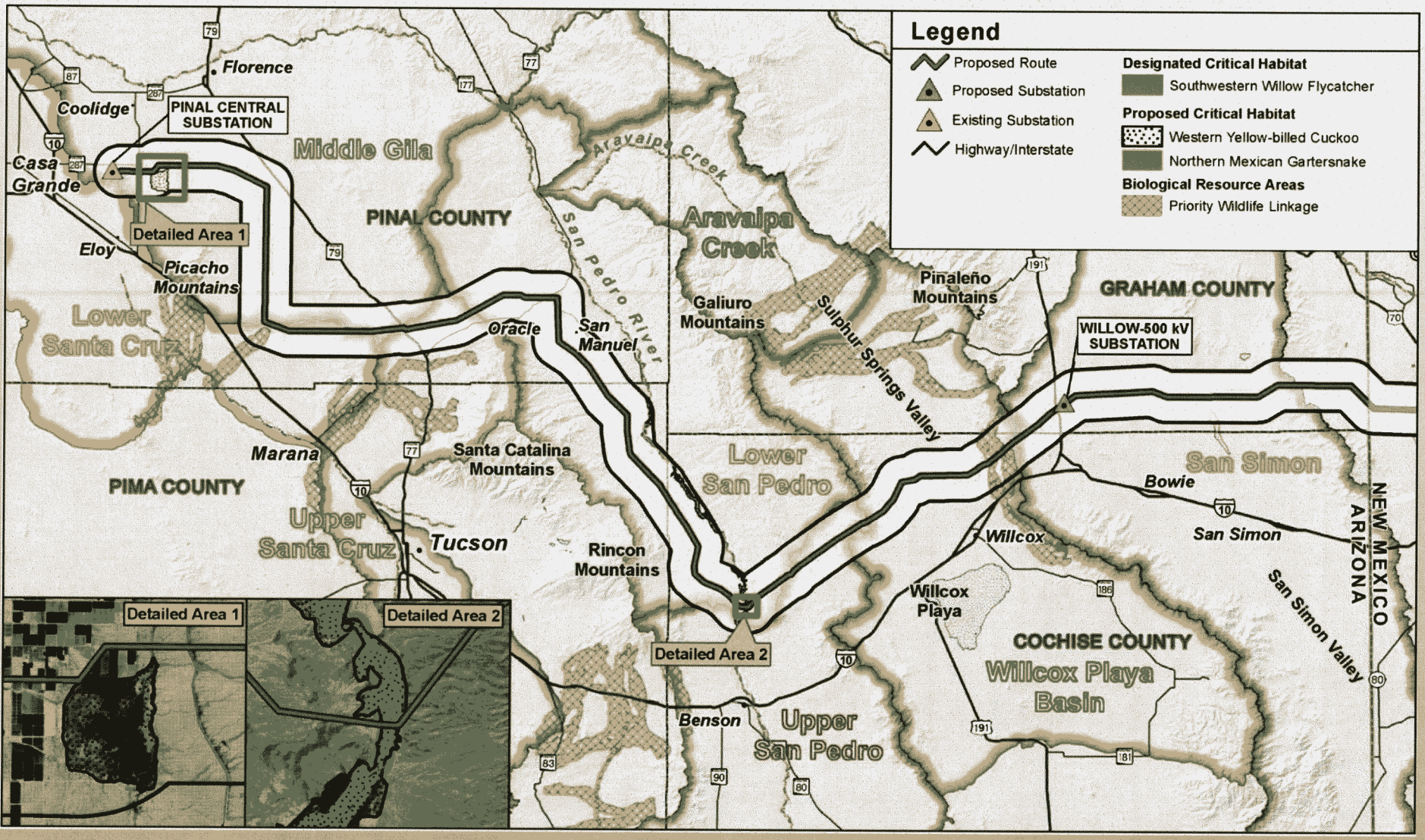
David A. Kahrs, MSc
Witness Background

Education

- MSc, Wildlife Conservation and Management: University of Arizona, 2008
  - Aquatic community ecology
  - Endangered amphibians and fish, invasive species

Professional Experience

- 7 years of experience in research and education
- 6 years of experience in environmental consulting
  - Large-scale energy project planning and permitting
  - Endangered Species Act (ESA) Section 7 consultation
  - Migratory birds
  - Sensitive species surveys
- Manager of Biological Services, EPG Southwestern Region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Highway/Interstate
Designated Critical Habitat
Southwestern Willow Flycatcher
Proposed Critical Habitat
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Northern Mexican Gartersnake
Biological Resource Areas
Priority Wildlife Linkage
Florence
Coolidge
PINAL CENTRAL SUBSTATION
Casa Grande
Middle Gila
Aravaipa Creek
PINAL COUNTY
Detailed Area 1
Eloy
Picacho Mountains
Lower Santa Cruz
San Pedro River
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Galiuro Mountains
Pinaleño Mountains
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ARIZONA
Willcox Playa
San Simon Valley
Detailed Area 1
Detailed Area 2
Detailed Area 2
COCHISE COUNTY
Willcox Playa Basin
Benson
Upper San Pedro

Kahrs R-1

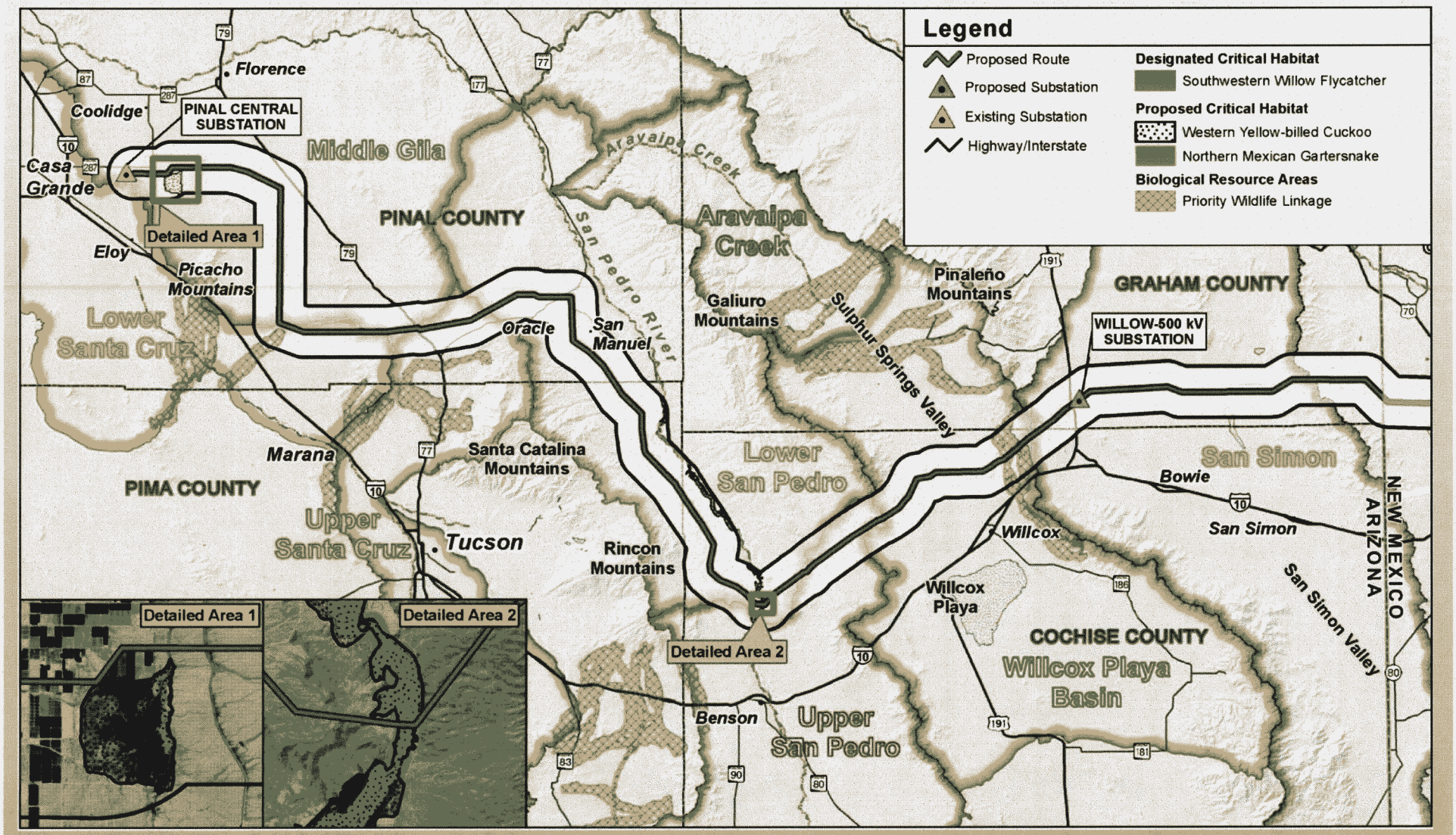
Preparation of CEC Application: Biological Resources

Incorporated previous analyses

- Final EIS and Appendices
- Biological Assessment and Biological Opinion
- Migratory bird conservation planning

Reviewed and updated existing information

- Change in species status under ESA
- New information about species distribution and management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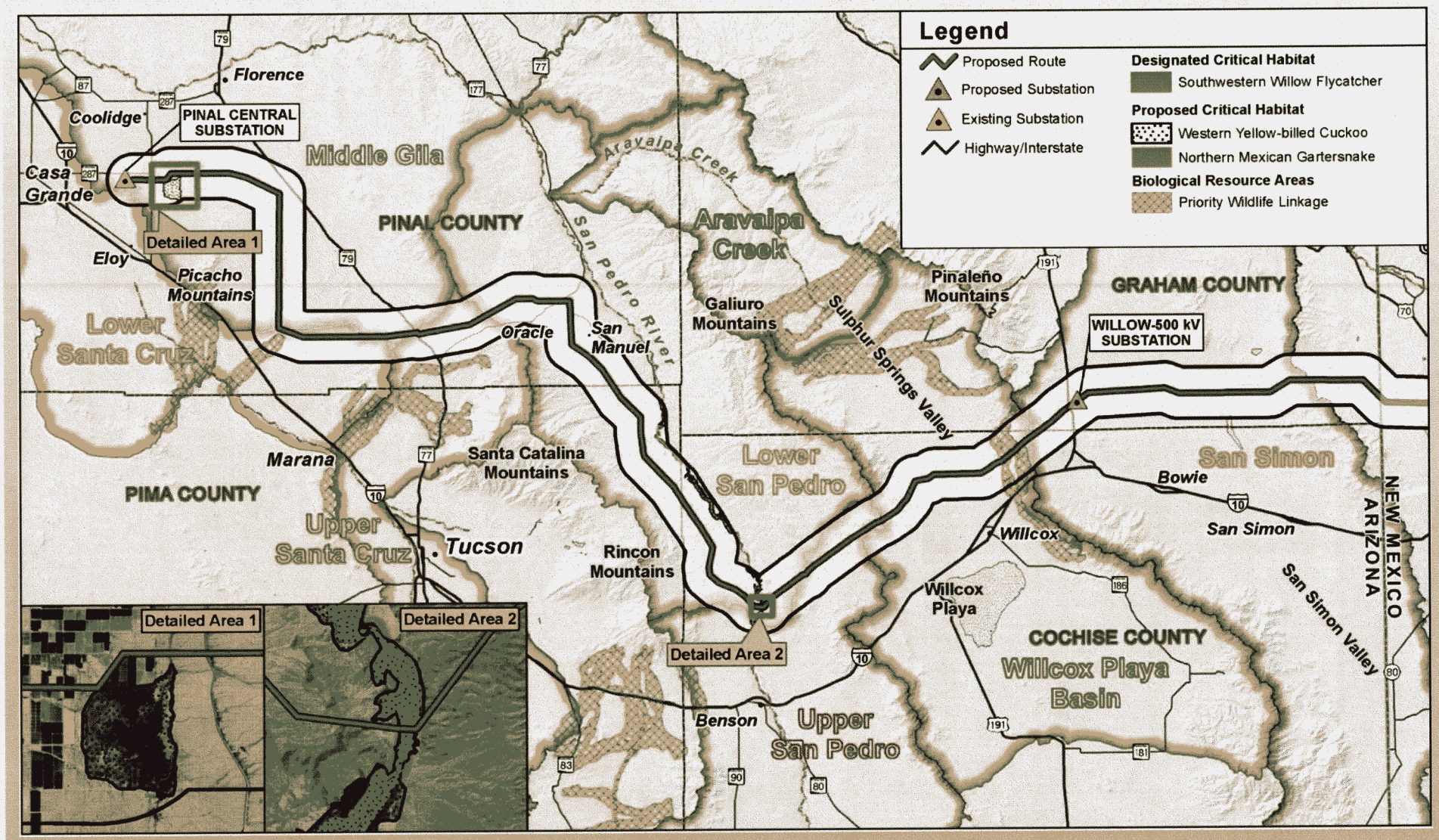
COCHISE COUNTY
Willcox Playa Basin
Detailed Area 2
Benson
Upper San Pedro
Detailed Area 1
Detailed Area 2

Kahrs R-2

Exhibit C: Areas of Biological Wealth

Areas unique because of biological wealth

- San Pedro River crossing
- Sensitive sites in Pima County's Conservation Lands System
- Wildlife Linkages
- Sulphur Springs Valley
- Picacho Reservoir area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COCHISE COUNTY
Willcox Playa Basin
Benson
Upper San Pedro

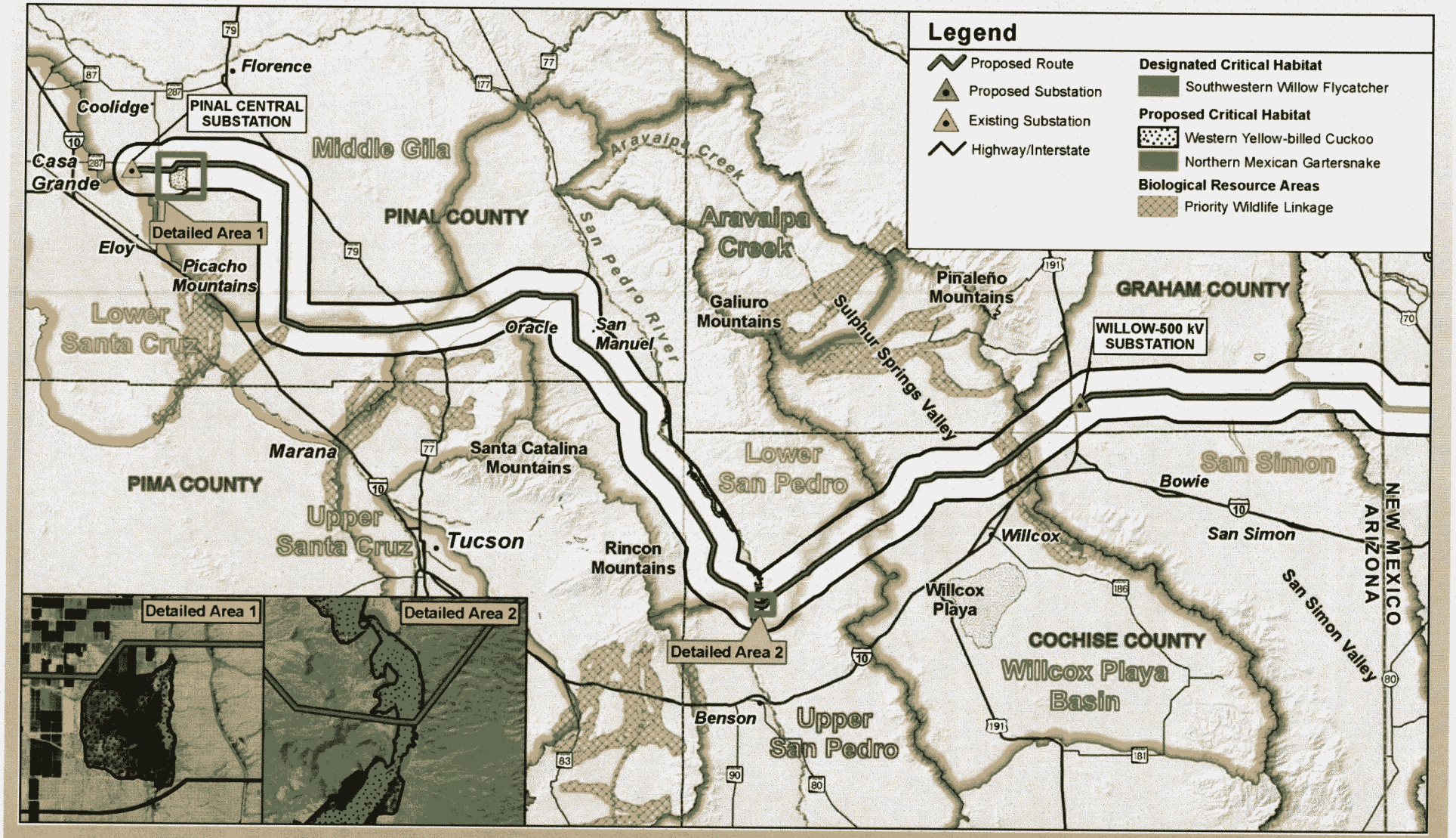
Kahrs R-3

Exhibit C: Areas of Biological Wealth

Endangered Species and Habitat [ARS 40-360.06(B)]

Threatened and endangered species:

- Lesser Long-nosed Bats
  - No net loss of forage plants
- Southwestern Willow Flycatchers, Western Yellow-billed Cuckoos, Yuma Clapper Rail
  - Seasonal and spatial avoidance
- Jaguar, Ocelot, Northern Mexican Gartersnake
  - No mitigation required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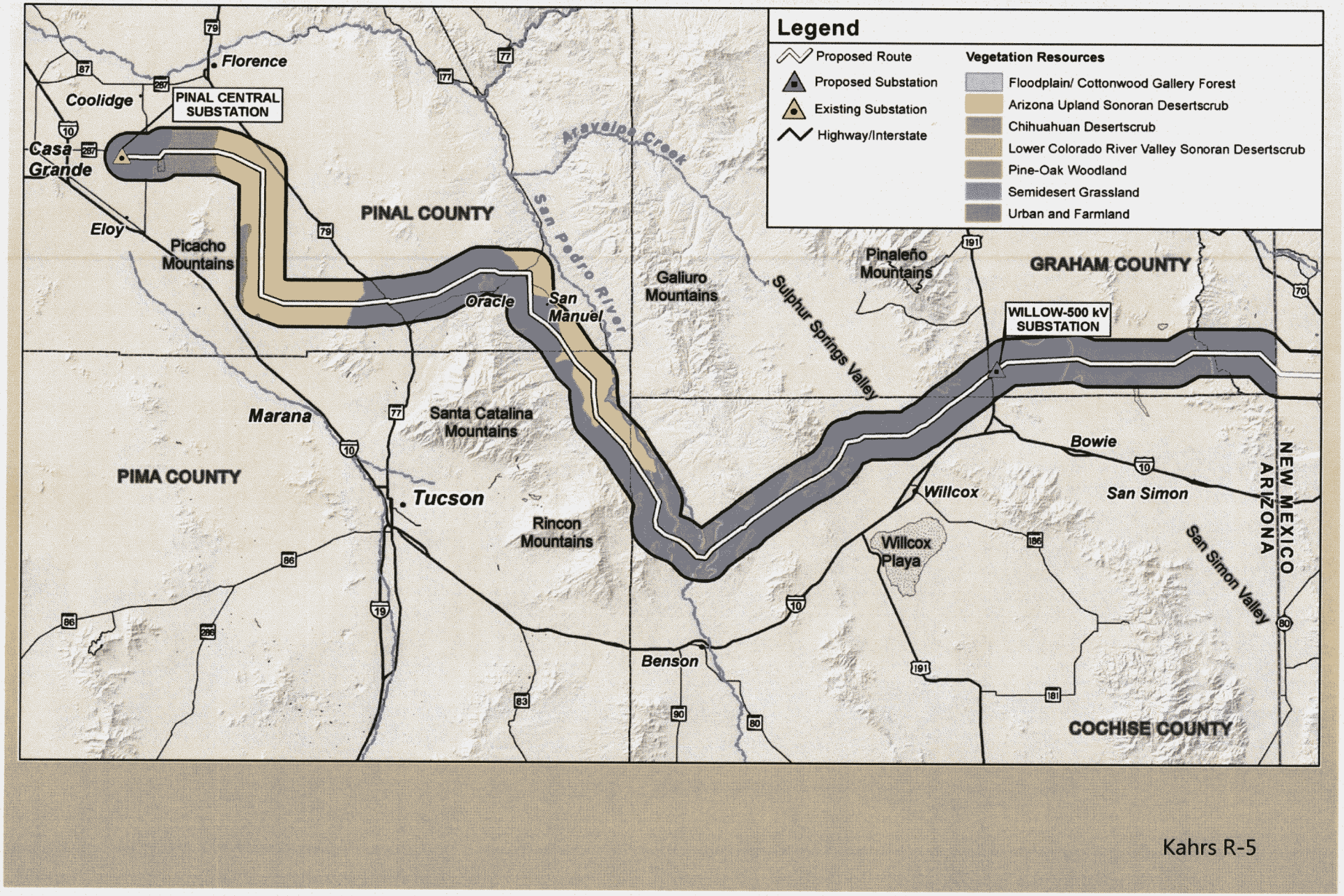
Willcox Playa Basin
Detailed Area 1
Detailed Area 2
Detailed Area 2
Benson
Upper San Pedro

Kahrs R-4

Exhibit D: Biological Resources

Summary of wildlife and vegetation community diversity along Proposed Route

- Proposed Route primarily crosses grasslands, Chihuahuan Desert, Sonoran Desert
  - Avoids montane forests
  - Avoids riparian forests and wetlands
- Exhibit D provides list of all vertebrate wildlife likely to be present along Proposed Route
  - Southeastern Arizona has high mammal, bird, reptile, amphibian diversity
  - Many species restricted to individual mountain ranges, avoided by Proposed Route
  - Many bird species are infrequent or occasional visitors from Mexico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Vegetation Resources
Floodplain/ Cottonwood Gallery Forest
Arizona Upland Sonoran Desertscrub
Chihuahuan Desertscrub
Lower Colorado River Valley Sonoran Desertscrub
Pine-Oak Woodland
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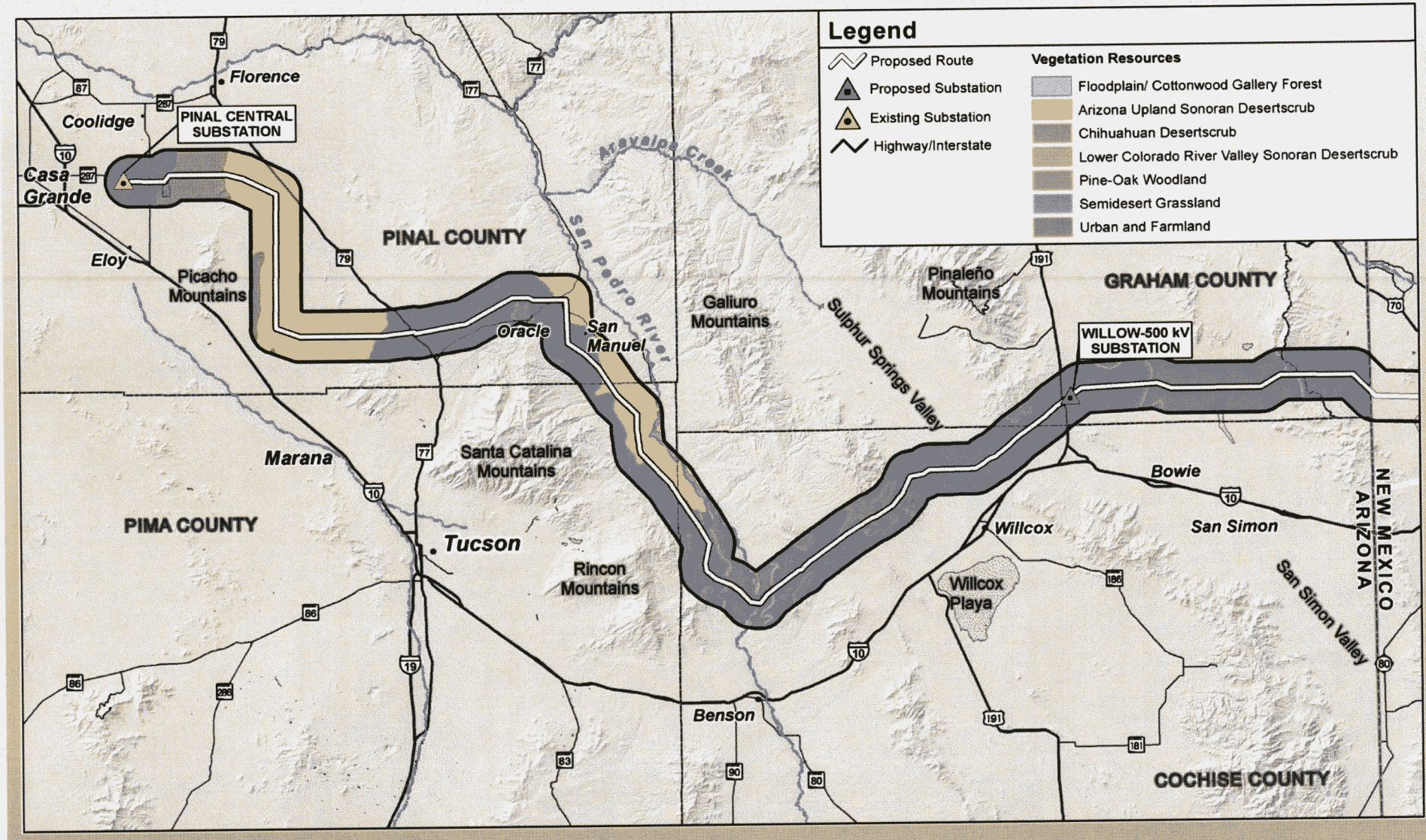
NEW MEXICO
ARIZONA
Benson
COCHISE COUNTY

Kahrs R-5

Exhibit D: Biological Resources

Summary of impacts to wildlife and vegetation communities from Proposed Route

- Construction:
  - Ground disturbance, noise, and habitat loss
- Operation and maintenance:
  - Intermittent, short-term noise and activity
  - Presence of access roads
  - Bird collision risk
- Mitigation
  - Biological monitors and preconstruction surveys
  - Seasonal avoidance when necessary
  - Bird collision mitigation
  - Reclamation and restoration of temporarily disturbed areas
  - Access control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ARIZONA
Benson
COCHISE COUNTY

Kahrs R-6

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Marc D. Schwartz, Director – Visual Resources

epg

Marc Schwartz
Witness Background

Education

- BS, Forestry – Ecosystem Science and Management, Northern Arizona University
- Masters (coursework complete) – Landscape Architecture, University of Arizona
- BLM Visual Resource Management – BLM Training Headquarters, Phoenix, Arizona

Professional Experience

- 15 years as manager and director of the Visual Resources Group at EPG
- Principal investigator for 35+ energy projects throughout the western United States
- Managed the preparation of over 400 visual simulations and virtual tours

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

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Marc D. Schwartz, Director – Visual Resources

epg

Schwartz R-1

Related Project Experience

Served as principal visual resource investigator and/or prepared testimony for the following projects:

- Devers-Palo Verde No 2 500kV EIS and CEC
- Rosemont Copper Mine 138kV CEC
- Palo Verde Hub to North Gila 500kV EA and CEC
- North Gila to TS-8 to Yucca 230kV CEC
- North Valley 230kV CEC
- DeMoss Petrie to Tucson Substation 138kV CEC
- Pinal Central to Tortolita 500kV CEC
- Hassayampa to Jojoba 500kV CEC
- Crossroads Solar CEC
- Sonoran Solar 500kV CEC
- Southwest Valley 500kV CEC
- Energy Gateway South 500kV EIS
- Sigurd to Red Butte 345kV EIS
- Boardman to Hemingway 500kV EIS
- Mona to Oquirrh 345/500kV EIS

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

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epg

Schwartz R-2

Exhibit E-1 – Scenic Areas

- Scenic Areas Inventory:
  - Scenery (scenic quality) designated as Class A, B, and C
  - Sensitive Viewers (residences, recreation, and travel routes)
- Project Effects:
  - Considers the visual contrast or change to scenery (scenic quality) and sensitive viewers

Class A Landscape Example

Schwartz R-3

Exhibit E-1 – Scenic Areas

- Scenic Areas Inventory:
  - Scenery (scenic quality) designated as Class A, B, and C
  - Sensitive Viewers (residences, recreation, and travel routes)
- Project Effects:
  - Considers the visual contrast or change to scenery (scenic quality) and sensitive viewers

Class B Landscape Example

Schwartz R-4

Exhibit E-1 – Scenic Areas

- Scenic Areas Inventory:
  - Scenery (scenic quality) designated as Class A, B, and C
  - Sensitive Viewers (residences, recreation, and travel routes)
- Project Effects:
  - Considers the visual contrast or change to scenery (scenic quality) and sensitive viewers

Class C Landscape Example

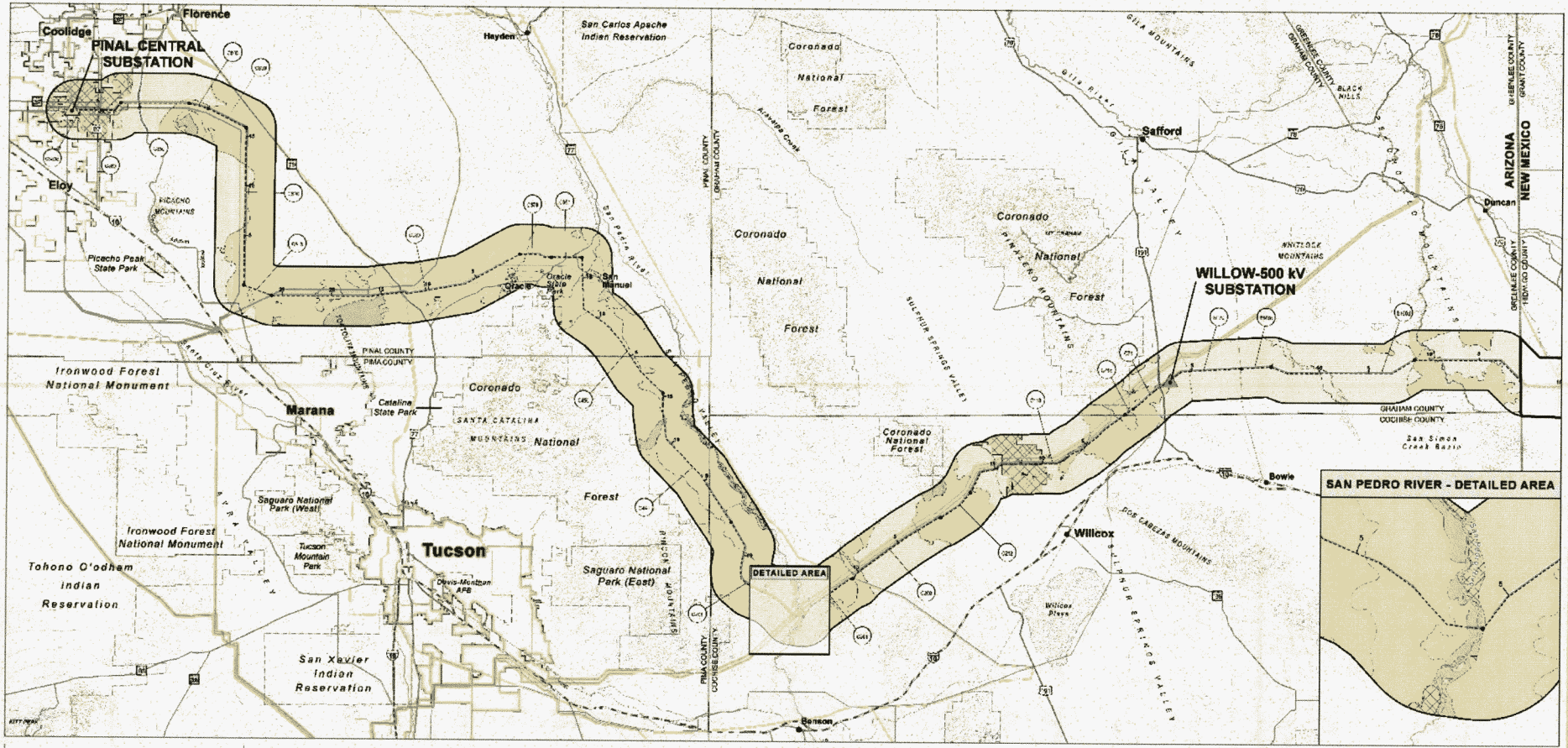
Schwartz R-5

Summary of the Scenery Inventory

Scenery crossed by the Project was primarily identified as Class B and Class C scenery

- Mountain Foothills (Peloncillo, Pinaleño, Gaillero, Catalina, Tortolita)
- Agricultural lands on the east and west sides of the Project
- San Pedro River Valley
- Picacho Mountains Bajada

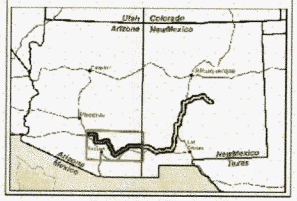
Class A scenery is crossed by the Project at the San Pedro River and Beuhman Canyon



Scenery

SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia



Scenic Quality Classification

- Class A
- Class B
- Class C
- Agriculture (Class B)
- Developed

Existing Transmission Line

- 115kV Transmission Line
- 138kV Transmission Line
- 230kV Transmission Line
- 345kV Transmission Line
- 500kV Transmission Line

Reference Features

- City/Town
- State Highway
- US Highway
- Interstate
- Railroad
- State Boundary
- County Boundary
- Jurisdictional Boundary
- River/Stream
- Central Arizona Project

City/Town Boundary

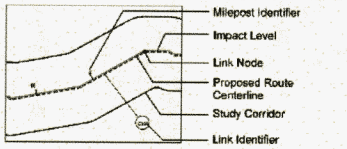
- City of Casa Grande
- City of Coolidge
- City of Eloy
- Town of Florence
- Town of Marana
- City of Tucson

Project Features

- Existing Substation
- Proposed Willow 500 kV Substation

Impact Levels

- Moderate - High
- Moderate
- Low - Moderate
- Low



Sources

Arizona Bureau of Land Management 2014
Arizona State Land Department 2014
Esri StreetMap 2013
EPG LLC 2015
United States Geological Survey, National Elevation Dataset 2012

Contour Interval = 50 Meters

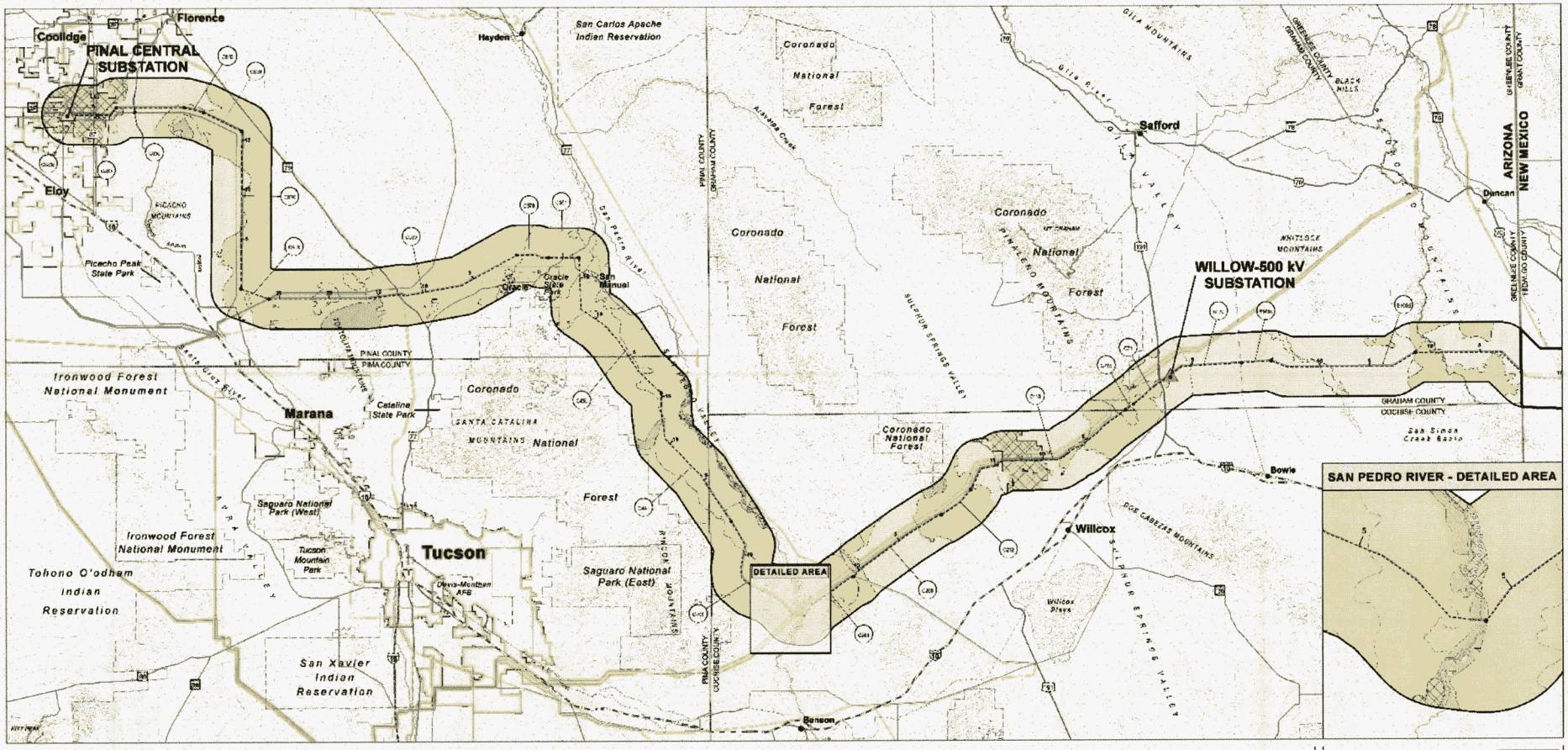
0 4 8 12 16 20

Miles

Schwartz R-6

Summary of Potential Impacts on Scenery

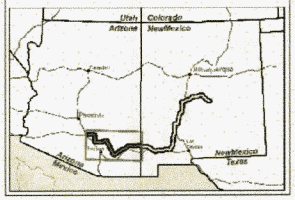
- Impacts on scenery would occur where the Project crosses intact landscapes with a variety of topographic features and vegetation
- Reduced impacts on scenery would occur where the Project crosses landscapes modified by existing transmission and pipeline corridors, roads, and other development



Scenery

SUNZIA SOUTHWEST TRANSMISSION PROJECT

SunZia



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- Class A
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- Agriculture (Class B)
- Developed

Existing Transmission Line

- 115kV Transmission Line
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- 500kV Transmission Line

Reference Features

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City/Town Boundary

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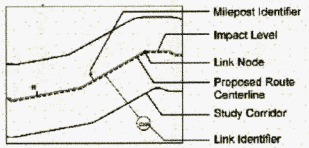
- City of Coolidge
- City of Eloy
- Town of Florence
- Town of Marana
- City of Tucson

Project Features

- Existing Substation
- Proposed Willow 500 kV Substation

Impact Levels

- Moderate - High
- Moderate
- Low - Moderate
- Low



Sources

Arizona Bureau of Land Management 2014
Arizona State Land Department 2014
Esri StreetMap 2013
EPG LLC 2015
United States Geological Survey, National Elevation Dataset 2012

Contour Interval = 50 Meters

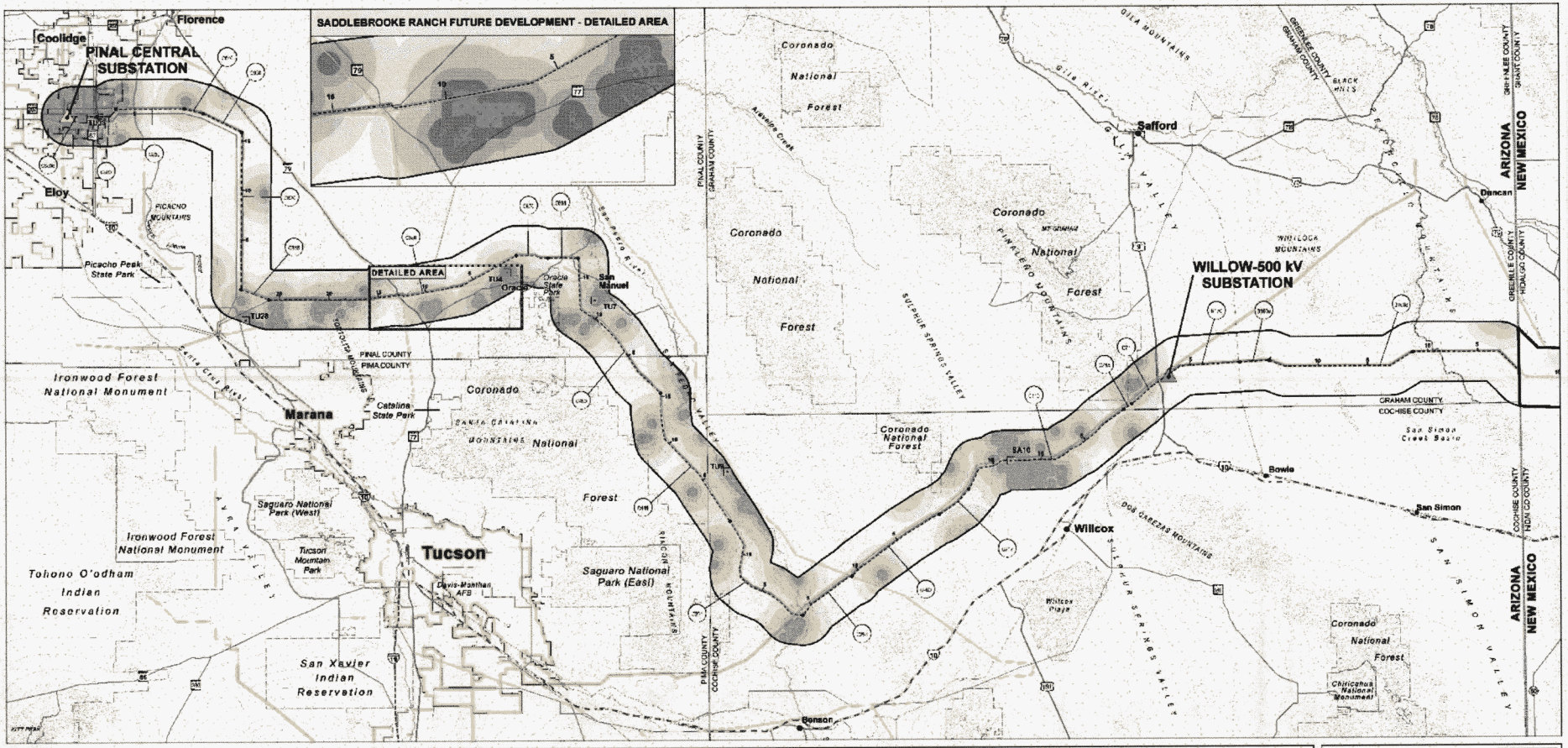
0 4 8 12 16 20

Miles

Schwartz R-7

Summary of the Sensitive Viewer Inventory

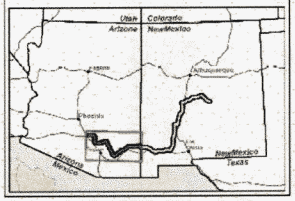
- Residences – North of Willcox, San Pedro River Valley, Oracle area, and North of Eloy
- Recreation areas – Arizona National Scenic Trail, Oracle State Park, and Hot Well Dunes
- Travel Routes – Arizona Scenic Highway SR79, Pima County Scenic Redington Road, and Mount Lemmon Highway (Control Road FR38)



Viewing Locations and Key Observation Points

Residences and Other Land Use Types

SUNZIA SOUTHWEST TRANSMISSION PROJECT



Resource Inventory

- Residences - Existing (High)
- Residence - Planned (High)

Key Observation Points and Simulation Locations

- KOP
- KOP/Simulation

Residential Distance Zones

- 5 - High (0-1/2 mile)
- 4 - Moderate/High (1/2-1 mile)
- 3 - Moderate (1-2 miles)
- 2 - Weak/Moderate (2-3 miles)
- 1 - Weak (3-5 miles)

Existing Transmission Line

- 115kV Transmission Line
- 138kV Transmission Line
- 230kV Transmission Line
- 345kV Transmission Line
- 500kV Transmission Line

Reference Features

- City/Town
- State Highway
- US Highway
- Interstate
- Railroad
- State Boundary
- County Boundary
- Jurisdictional Boundary
- River/Stream
- Central Arizona Project

City/Town Boundary

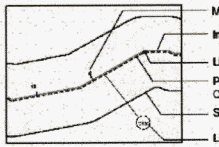
- City of Casa Grande
- City of Coolidge
- City of Eloy
- Town of Florence
- Town of Marana
- City of Tucson

Project Features

- Existing Substation
- Proposed Willow 500 kV Substation

Impact Levels

- High
- Moderate - High
- Moderate
- Low - Moderate
- Low



Sources

epg

Arizona Bureau of Land Management 2014
Arizona State Land Department 2014
Esri StreetMap 2013
EPG LLC 2015
United States Geological Survey, National Elevation Dataset 2012

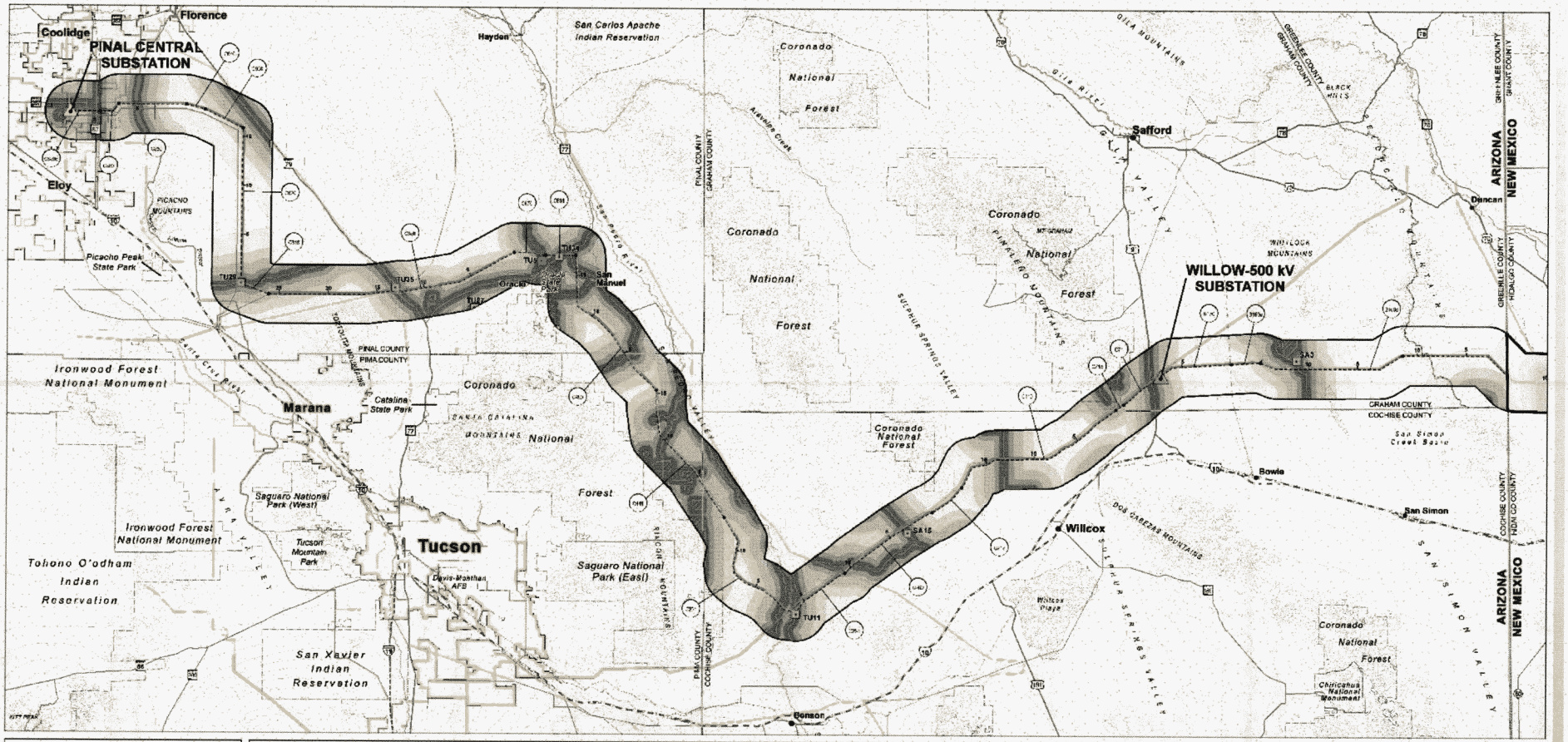
Contour Interval = 50 Meters

0 4 8 12 16 20
Miles

Schwartz R-8

Summary of Potential Impacts on Sensitive Viewers

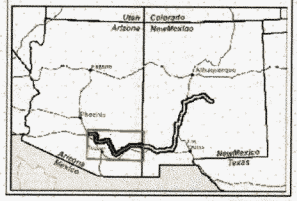
- Higher impacts to viewers occur where the Project is located within ½ mile from viewers (e.g., isolated residences, trails, and travel routes)
- Reduced impacts to viewers occur where the Project is viewed in context with existing transmission and pipeline corridors, roads, and other development
- Reduced impacts where vegetation, development, and topography screen views of the Project from viewing locations



Viewing Locations and Key Observation Points

Recreation and Travel Routes

SUNZIA SOUTHWEST TRANSMISSION PROJECT



Resource Inventory

Viewing Locations and Associated Concern Levels

Recreation / Travel Routes
- Recreation (High)
- Trail (High)
- Road (High)
- Recreation (Moderate)
- Road (Moderate)

Future Viewing Locations
- Trail (High)

Key Observation Points and Simulation Locations
- KOP
- KOP/Simulation

Residential Distance Zones
- 5 - High (0-1/2 mile)
- 4 - Moderate/High (1/2-1 mile)
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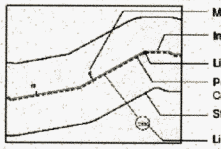
- Central Arizona Project

City/Town Boundary
- City of Casa Grande
- City of Coolidge
- City of Eloy
- Town of Florence
- Town of Marana
- City of Tucson

Project Features
- Existing Substation
- Proposed Willow 500 kV Substation

Impact Levels
- High
- Moderate - High
- Moderate
- Low - Moderate
- Low



Sources

United States Department of Transportation, National Scenic Byways Program 2009
Coronado National Forest 2005; Arizona Bureau of Land Management 2009
Arizona State Parks 2009; Pima County 2010
Safford Field Office Resource Management Plan 2009

Arizona Bureau of Land Management 2014
Arizona State Land Department 2014
Esri StreetMap 2013
EPG LLC 2015
United States Geological Survey, National Elevation Dataset 2012

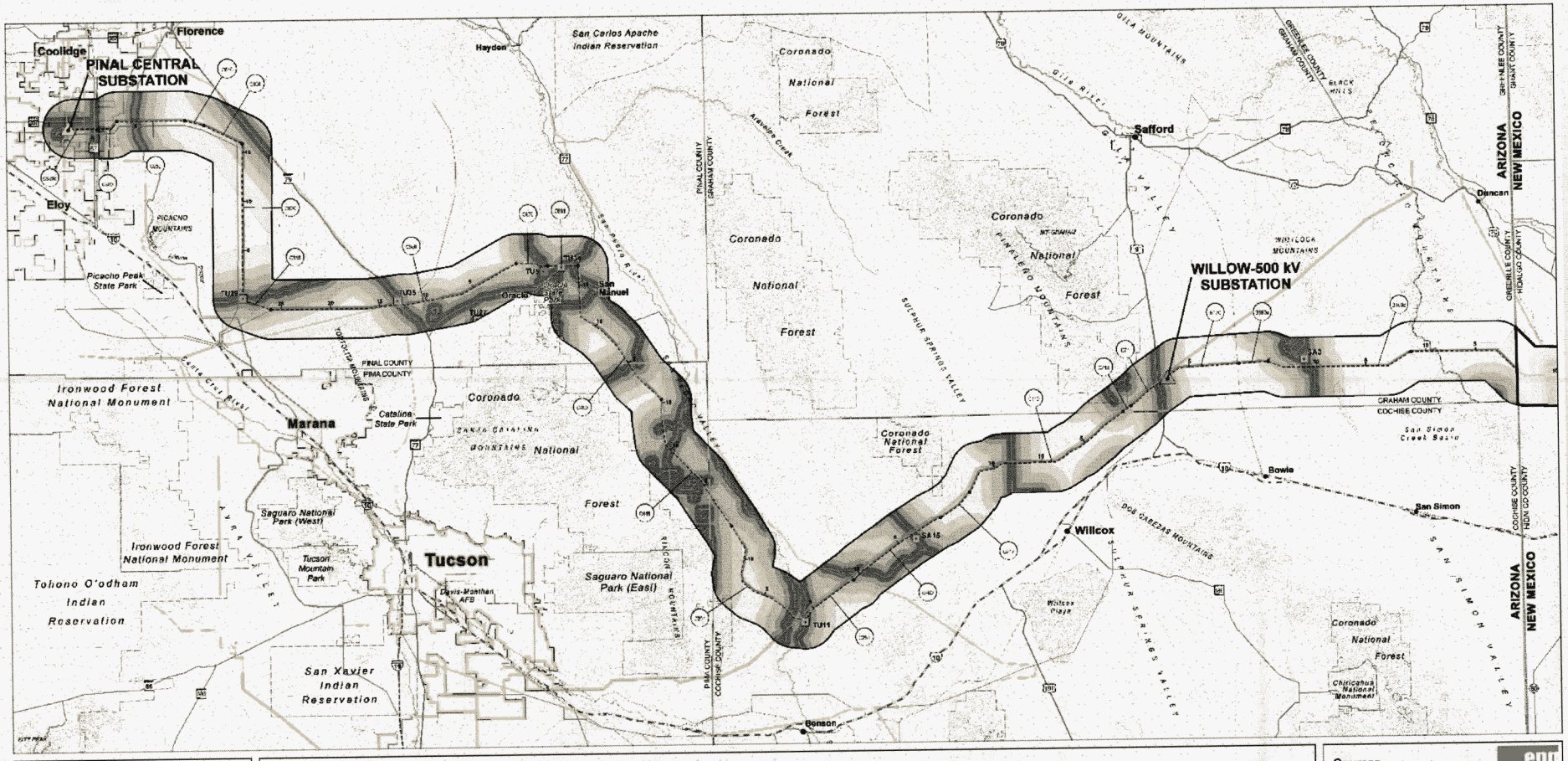
Contour Interval = 50 Meters

0 4 8 12 16 20
Miles

Schwartz R-9

Mitigation to Reduce Effects to Scenery and Sensitive Viewers

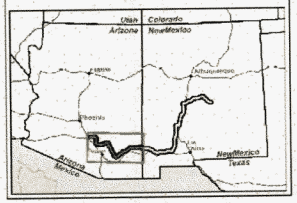
- Use of non-specular conductors
- Match spans of existing high voltage transmission line structures as feasible
- Placement of transmission line structures at the greatest feasible distances when crossing high sensitivity roads or trails
- Use existing access roads to the greatest extent practicable to construct and maintain the Project
- Reclaim disturbed areas with natural vegetation
- Locate proposed route parallel to existing linear facilities to reduce contrast



Viewing Locations and Key Observation Points

Recreation and Travel Routes

SUNZIA SOUTHWEST TRANSMISSION PROJECT



Resource Inventory

Viewing Locations and Associated Concern Levels

Recreation / Travel Routes
- Recreation (High)
- Trail (High)
- Road (High)
- Recreation (Moderate)
- Road (Moderate)

Future Viewing Locations
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City/Town Boundary
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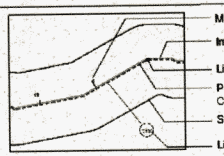
- City of Eloy
- Town of Florence
- Town of Marana
- City of Tucson

Project Features

- Existing Substation
- Proposed Willow 500 kV Substation

Impact Levels
- High
- Moderate - High
- Moderate
- Low - Moderate
- Low



Sources

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Arizona Bureau of Land Management 2014
Arizona State Land Department 2014
Esri StreetMap 2013
EPG LLC 2015
United States Geological Survey, National Elevation Dataset 2012

Contour Interval = 50 Meters

0 4 8 12 16 20
Miles

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Dr. Steve Swanson, Director – Cultural Resources

epg

Dr. Steve Swanson
Witness Background

Education

- BA Anthropology – University of Washington
- MA Anthropology – University of Oklahoma
- PhD Anthropology – Arizona State University

Professional Experience

- Archaeologist working in Arizona and New Mexico since 1993
- Adjunct Professor at ASU since 2009
- Director of SunZia cultural studies since 2009
- Experienced preparer of Arizona CEC applications

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Dr. Steve Swanson, Director – Cultural Resources

epg

Preparation of CEC Application: Cultural Resources

Oversaw preparation of Exhibit E

- Exhibit E; "…Existing…historic sites and structures or archaeological sites at or in the vicinity…" [ARS 40-360.06(A)(5)]

Incorporated previous analyses

- Final EIS and Appendices

Updated existing information

- Recently recorded historic sites, structures, and archaeological sites

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Dr. Steve Swanson, Director – Cultural Resources

epg

Swanson R-2

Information Sources

- State and National Registers
- Archaeology Southwest*
- AZSITE Database*
- Arizona State Museum*
- Historic maps
- Census records
- Tribes
- Stakeholders

SunZia Southwest
TRANSMISSION PROJECT

New Mexico State Line to Pinal Central Substation

Case No. 171

Dr. Steve Swanson, Director – Cultural Resources

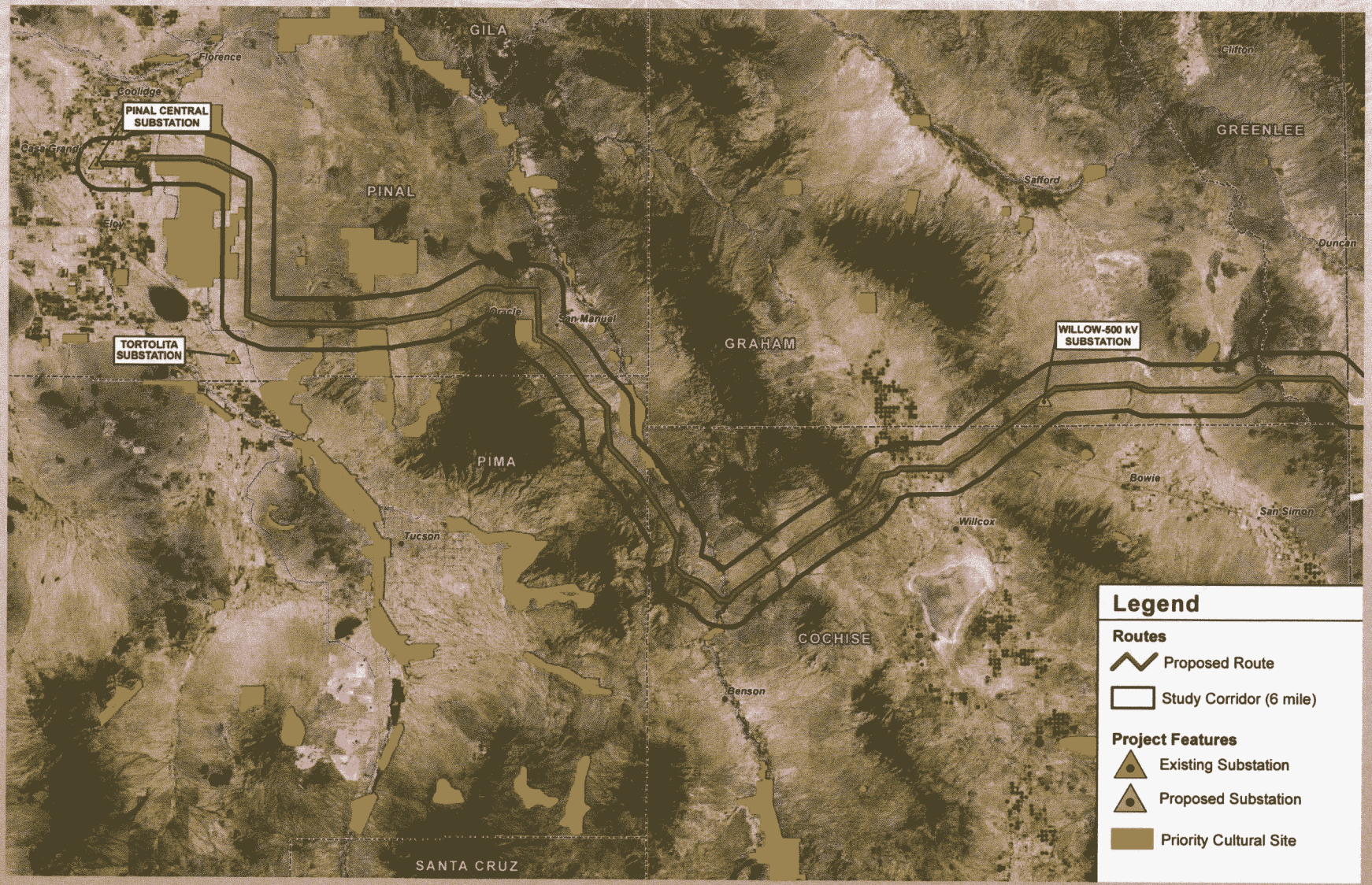
epg

Swanson R-3

Priority Cultural Sites

- Archaeology Southwest sponsored workshops to identify priority historic and archaeological sites
- Over 50 Priority Cultural Sites identified along SunZia alternatives
- BLM Preferred Alternative avoids all but two:
  - Edgar Canyon petroglyph area
  - Picacho Mountains SunZia crosses at narrowest part, where there is existing development

Priority Cultural Sites



Swanson R-4

Programmatic Agreement (PA)

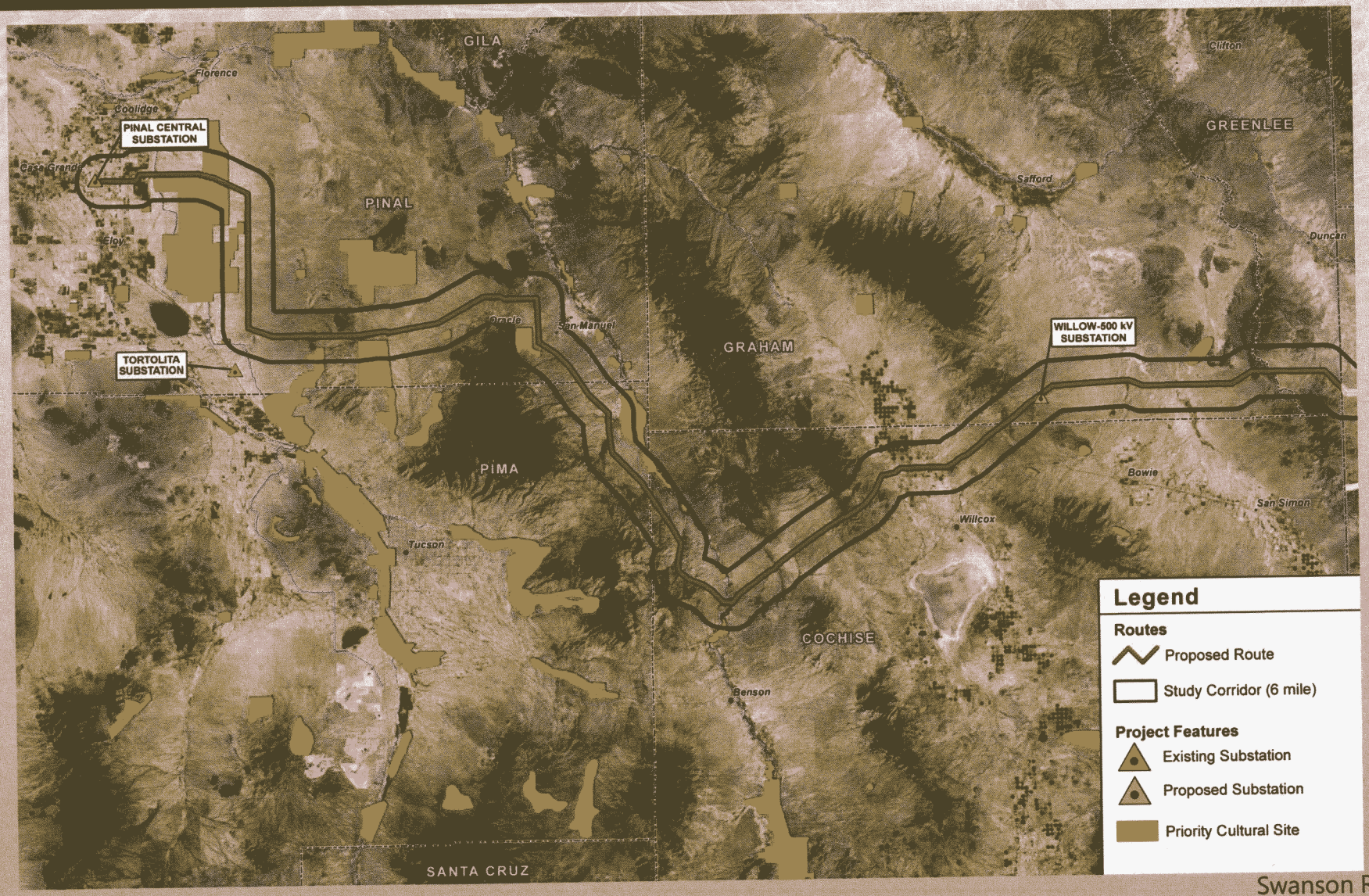
- PA establishes detailed process to identify and protect sites
- Numerous stakeholders contributed and will have input over the life of the project:

Pueblo of Zuni
Hopi Tribe
Tohono O'odham Nation
Gila River Indian Community
Salt River Pima-Maricopa Indian Community
Ak-Chin Indian Community
San Carlos Apache
Fort Sill Apache
Mescalero Apache
Pueblo of Isleta
Pueblo of Ysleta del Sur

Army Corps of Engineers
Arizona State Land Department
Arizona State Parks
Bureau of Indian Affairs
Arizona State Museum
National Park Service
Camino Real Trail Association
Arizona Archaeological Council
National Trust for Historic Preservation

Archaeology Southwest
Cascabel Working Group
White Sands Missile Range
Alliance for Regional Military Support
New Mexico State Historic Preservation Office
New Mexico State Land Office
New Mexico Archaeological Council
Advisory council on Historic Preservation
Sun Zia

Priority Cultural Sites

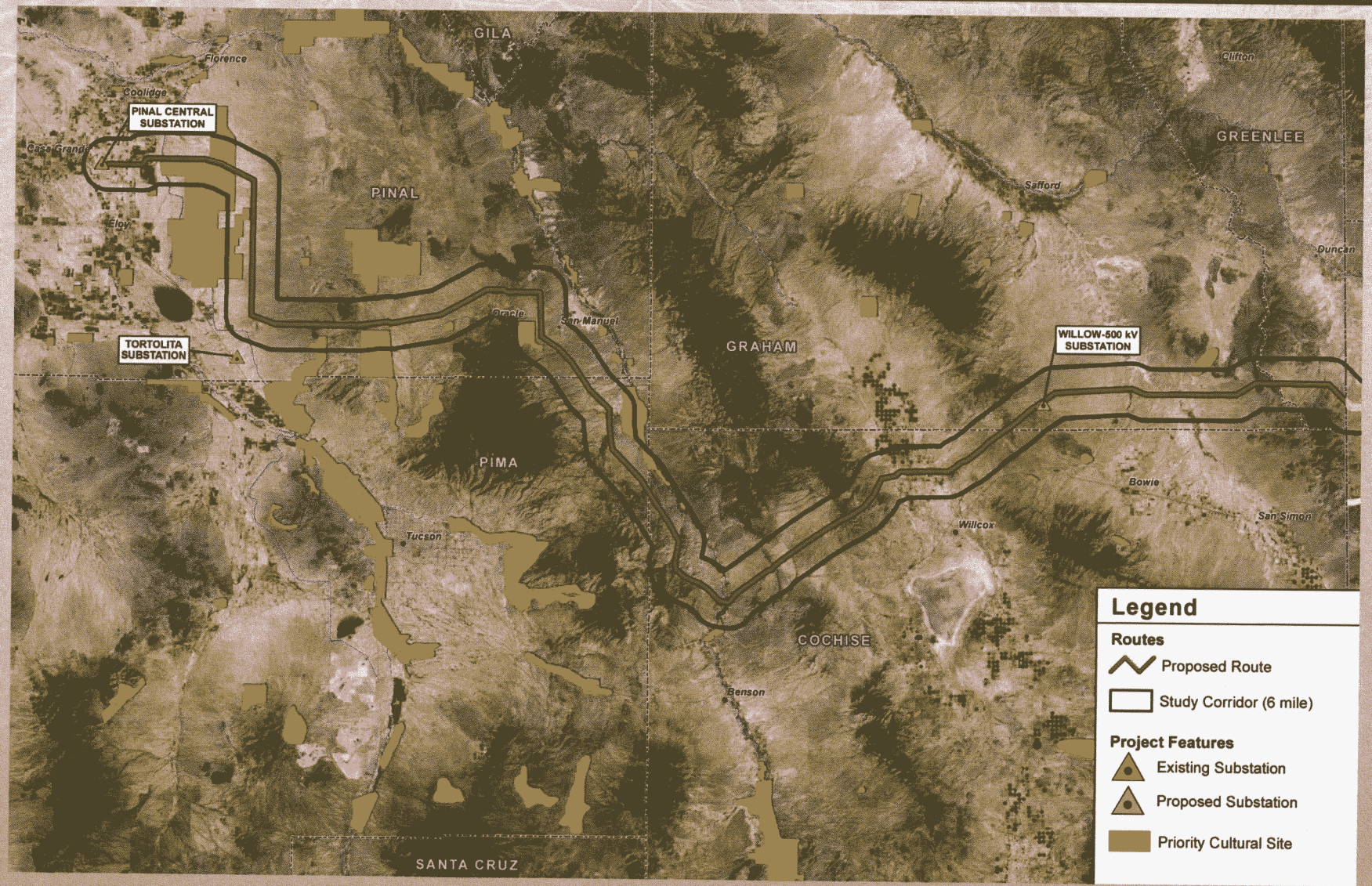


Swanson R-5

Potential Impacts

- Potential impacts of the project to historic sites and structures or archaeological sites at or in the vicinity of the proposed site are addressed by the PA for the project
- All impacts will be avoided or mitigated
  - Impacts to sites will be avoided where possible, and may be subjected to ongoing monitoring to ensure no impacts occur
  - Impacts to unavoidable sites will be mitigated in accordance with a Historic Properties Treatment Plan (HPTP) to be prepared with input from consulting parties

Priority Cultural Sites



Swanson R-6

DIRECT TESTIMONY OF MICHAEL SIEGEL
RELATING TO PUBLIC NOTICE OF THE CEC APPLICATION HEARING
FOR THE SUNZIA SOUTHWEST TRANSMISSION PROJECT

Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS

A: Michael Siegel, EPG, 4141 N 32nd St., Suite 102, Phoenix, AZ 85018

Q: DID YOU OVERSEE THE PUBLIC NOTICE ACTIVITIES CONDUCTED IN SUPPORT OF THE APPLICATION OF SUNZIA TRANSMISSION, LLC, FOR A CERTIFICATE OF ENVIRONMENTAL COMPABITILITY?

A: Yes.

Q: HOW WAS THE PUBLIC NOTIFIED OF THE COMING CEC HEARING?

A: The Project published the Chairman's Notice of Hearing that was approved by the Chairman in the following newspapers (Exhibit 1 to Exhibit SUN-6):

Publication	**Dates**
The Arizona Republic	9/10/2015 and 9/11/2015
Arizona Daily Star	9/11/2015 and 9/12/2015
Arizona Range News	9/9/2015
San Pedro Valley News Sun	9/9/2015
Eastern Arizona Courier	9/12/2015
San Manuel Miner	9/9/2015
Copper Basin News	9/9/2015
Casa Grande Dispatch	9/10/2015

Q: WERE SIGNS POSTED TO PROVIDE ADDITIONAL NOTICE?

A: Yes, signs were installed in the field containing the same Notice of Hearing at or near locations approved by the Chairman.

Signs were posted at the following general locations (Sign Posts [SP]):

SP1a – SW corner of intersection of Eleven Mile Corner Rd and RT 287 in Coolidge

SP2a – NW corner of intersection of E Earley Rd and RT 87 in Coolidge

SP3a – West side of SR 77 (0.1) miles south of intersection of SR 77 and SR 79 near Oracle Junction

SP4a – East side of North Pomerene Rd. (2) miles north of Interstate 10 in Benson

SP5a – NE corner of intersection of Fort Grant rd. and Hardy Rd. north of Willcox

The sign contents, map, and photos of actual sign placement are included as Exhibit 2 to Exhibit SUN-6

Q: PLEASE IDENTIFY THE AFFECTED AREAS OF JURISDICTION TO WHOM NOTICE OF THE HEARING WAS PROVIDED VIA CERTIFIED MAIL.

A: A Notice of Hearing was provided via certified mail to the following jurisdictions:

Pinal County

Pima County

Cochise County

Graham County

Greenlee County

City of Coolidge

Copies of the Application have been provided to three libraries including:

Casa Grande Public Library located at 449 North Drylake Street, Casa Grande, AZ 85122;

Elsie S. Hogan Community Library located at 100 North Curtis Avenue, Willcox, AZ, 85643;

Benson Public Library located at 300 South Huachuca Street, Benson, AZ 85602.

Copies of the Application were also provided to:

ACC Docket Control Center Phoenix Office located at 1200 West Washington Street, Suite 108, Phoenix, AZ 85007 and;

ACC Tucson Office located at 400 West Congress Street #221, Tucson, AZ 85701.

The Application can be downloaded from the project website: www.sunzia.net.

Exhibit 1 to Exhibit SUN-6

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ORIGINAL

BEFORE THE ARIZONA POW[illegible]

AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF SUNZIA TRANSMISSION LLC, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE SUNZIA SOUTHWEST TRANSMISSION PROJECT, WHICH INCLUDES THE CONSTRUCTION OF TWO NEW 500 KV TRANSMISSION LINES AND ASSOCIATED FACILITIES ORIGINATING AT A NEW SUBSTATION (SUNZIA EAST) IN LINCOLN COUNTY, NEW MEXICO, AND TERMINATING AT THE PINAL CENTRAL SUBSTATION IN PINAL COUNTY, ARIZONA. THE ARIZONA PORTION OF THE PROJECT IS LOCATED WITHIN GRAHAM, GREENLEE, COCHISE, PINAL, AND PIMA COUNTIES.	DOCKET NO. L-00000YY-15-0318-00171 Case No. 171

Arizona Corporation Commission
DOCKETED
SEP 04 2015
DOCKETED BY
RTU
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2015 SEP -4 A 9:39
AZ CORP COMMISSION
DOCKET CONTROL

NOTICE OF HEARING

A PUBLIC HEARING WILL BE HELD before the Arizona Power Plant and Transmission Line Siting Committee ("Committee") regarding the application of SunZia Transmission, LLC for a Certificate of Environmental Compatibility ("Certificate") authorizing the SunZia Southwest Transmission Project (the "Project") in Arizona. The Arizona portion of the Project consists of two new 500 kilovolt (kV) transmission lines and associated facilities originating in Greenlee County at the New Mexico state line and terminating at the existing Pinal Central Substation in Pinal County, Arizona.

The hearing will commence at the Willcox Community Center, 312 W. Stewart St., Willcox, AZ 85463 on October 19, 2015, at 1:00 p.m., and will continue on October 20, 2015, through October 21, 2015, as necessary, beginning at 9:00 a.m. on each day, unless a tour is taken. If a tour is taken, it will begin on October 21, 2015, at 8:00 a.m. or an

alternative date and time set by the Chairman of the Committee.

The hearing will thereafter commence at the Tucson Convention Center, 260 S Church Ave., Tucson, AZ 85701, on October 22, 2015, and will continue on October 23, 2015, November 2, 2015, and November 3, 2015, as necessary, beginning at 9:00 a.m. on each day, unless a tour is taken. If a tour is taken, it will begin on November 3, 2015, at 8:00 a.m. or an alternative date and time set by the Chairman of the Committee.

The hearing will thereafter commence at the Holiday Inn Casa Grande, 777 N Pinal Ave., Casa Grande, AZ 85122, on November 4, 2015 and will continue on November 5, 2015, as necessary, beginning at 9:00 a.m. on each day.

Additional hearing days, as necessary, will be held on November 16, 2015 through November 20, 2015, at the Holiday Inn Florence, 240 West Highway 287, Florence, Arizona 85132, beginning at 9:00 a.m. on each day. If the hearing dates in Florence are necessary, or if any other revisions to the hearing schedule are necessary, it will be noticed on the Project website at: http://sunzia.net/, and on the Arizona Corporation Commission ("ACC") website at: http://azcc.gov/AZ_Power_Plant/linesiting-calendar.asp.

PUBLIC COMMENT WILL BE TAKEN IN SPECIAL EVENING SESSIONS ON OCTOBER 19, 2015, BEGINNING AT 6:00 P.M., AT THE WILLCOX COMMUNITY CENTER; ON OCTOBER 22, 2015, BEGINNING AT 6:00 P.M., AT THE TUCSON CONVENTION CENTER; AND ALSO ON NOVEMBER 4, 2015, BEGINNING AT 6:00 P.M., AT THE HOLIDAY INN CASA GRANDE. PUBLIC COMMENT MAY ALSO BE TAKEN AT THE BEGINNING OF EACH HEARING DAY, OR AT OTHER TIMES DURING THE HEARING, AT THE DISCRETION OF THE CHAIRMAN OF THE COMMITTEE.

The Chairman of the Committee may, at his discretion, recess the hearing to a time and place to be announced during the hearing, or to be determined after the recess. The date, time, and place at which the hearing will be resumed will be posted on the above-noted Project website and the ACC website. **NOTE: NOTICE OF ANY SUCH**

RESUMED HEARING WILL BE GIVEN; HOWEVER, PUBLISHED NOTICE OF SUCH A RESUMED HEARING IS NOT REQUIRED.

The Committee may conduct a tour of the Project area. The map and itinerary of any such tour will be available at the hearing and posted on the Project website. Members of the public may follow the Committee on the tour. During the tour, the Committee may hear testimony at stops on the tour concerning where the stops are located, what is visible at the stops, and the relevance of the location and view to the Application and Project. No other discussion or deliberation concerning the Application will occur during the tour. A court reporter or recording device will record any testimony taken on the tour for transcription.

Maps and detailed information about the Project are contained in the Application, which is available for inspection at the following locations:

- ACC Docket Control Center, Phoenix Office, 1200 West Washington Street, Suite 108, Phoenix, AZ 85007
- ACC Tucson Office, 400 West Congress Street #221, Tucson, AZ 85701
- Casa Grande Public Library, 449 North Drylake Street, Casa Grande, AZ 85122
- Elsie S. Hogan Community Library, 100 North Curtis Avenue, Willcox, AZ, 85643
- Benson Public Library, 300 South Huachuca Street, Benson, AZ 85602
- The Project website: http://sunzia.net/

Each county, municipal government, and state agency interested in the Project that desires to be a party to the proceedings shall, not less than ten days before October 19, 2015, file a Notice of Intent to Become a Party with the Director of Utilities, ACC, 1200 West Washington Street, Phoenix, AZ 85007.

Any domestic non-profit corporation or association formed in whole or in part to promote conservation or natural beauty; to protect the environment, personal health or other biological values; to preserve historical sites; to promote consumer interests; to represent commercial and industrial groups; or to promote the orderly development of the

area in which the Project is located that desires to become a party to the proceedings shall not less than ten days before October 19, 2015, file a Notice of Intent to Become a Party with the Director of Utilities, ACC, 1200 West Washington Street, Phoenix, AZ 85007.

The Committee or the Chairman, at any time deemed appropriate, may make other persons parties to the proceedings. Any person may make a limited appearance at a hearing by filing a statement in writing with the Director of Utilities, ACC, 1200 West Washington Street, Phoenix, AZ 85007, not less than five days before October 19, 2015. A person making a limited appearance will not be a party or have the right to present testimony or cross-examine witnesses.

This proceeding is governed by Arizona Revised Statutes Sections 40-360 to 40-360.13 and Arizona Administrative Code Rules R14-3-201 to R14-3-220. No substantive communication not in the public record may be made to any member of the Committee. The written decision of the Committee will be submitted to the ACC pursuant to A.R.S. § 40-360.07. Any person intending to be a party to the proceedings on the matter before the ACC must be a party to the proceedings before the Committee.

ORDERED this 4th day of September, 2015.

Thomas K. Chenal, Chairman
Arizona Power Plant and
Transmission Line Siting Committee
Assistant Attorney General

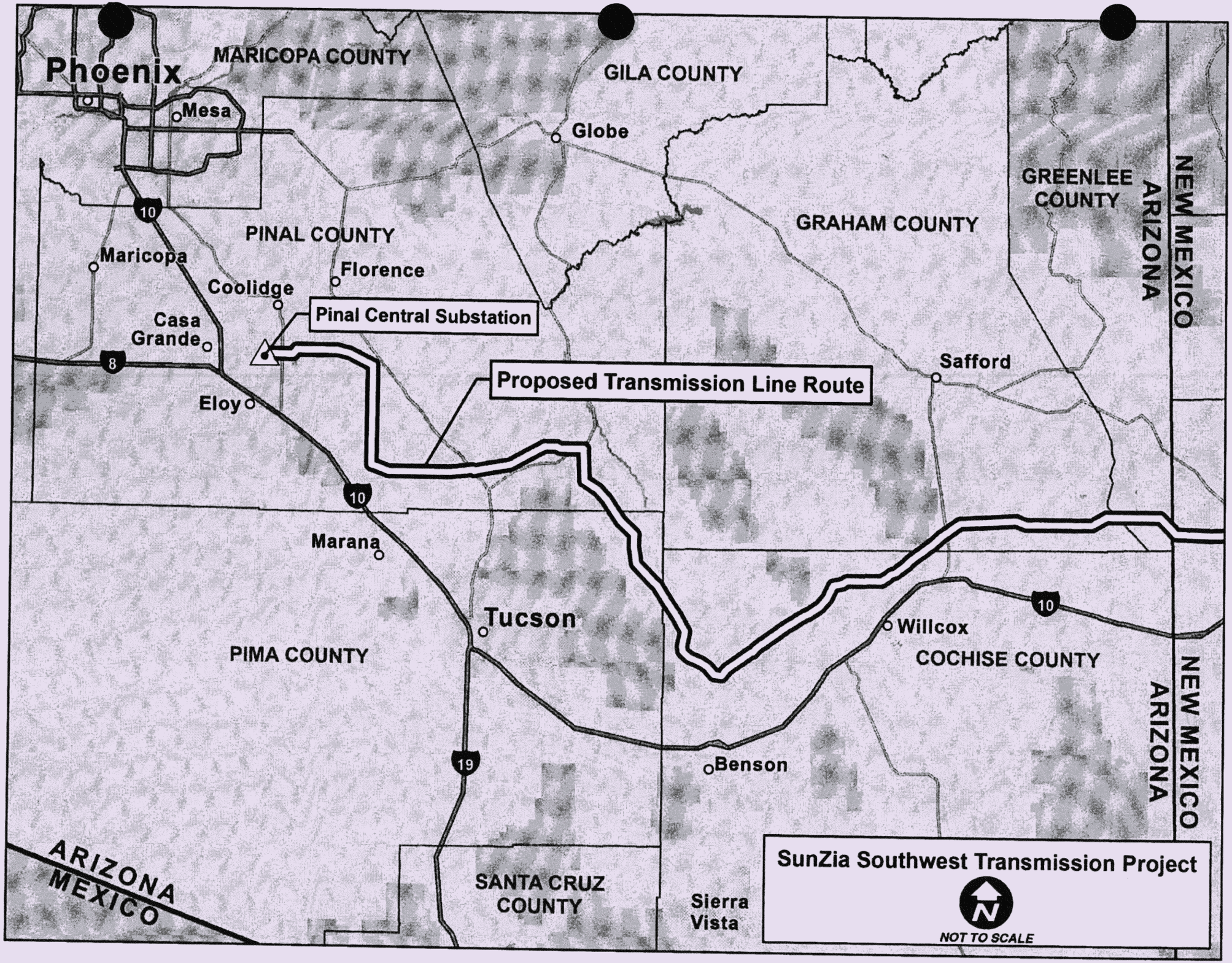
Phoenix
MARICOPA COUNTY
Mesa
GILA COUNTY
Globe
GREENLEE COUNTY
ARIZONA
NEW MEXICO
10
PINAL COUNTY
GRAHAM COUNTY
Maricopa
Florence
Coolidge
Pinal Central Substation
Casa Grande
8
Safford
Proposed Transmission Line Route
Eloy
10
Marana
Tucson
Willcox
10
PIMA COUNTY
COCHISE COUNTY
NEW MEXICO
ARIZONA
19
Benson
ARIZONA
MEXICO
SANTA CRUZ COUNTY
Sierra Vista
SunZia Southwest Transmission Project
N
NOT TO SCALE

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Exhibit 2 to Exhibit SUN-6

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NOTICE OF PUBLIC HEARING

SunZia Southwest Transmission Project

Proposed 500 kV transmission lines and associated facilities originating at a new substation (SunZia East) in Lincoln County, New Mexico, and terminating at the Pinal Central Substation in Pinal County, Arizona.

Arizona Corporation Commission Docket No.
L-00000YY-15-0318-00171

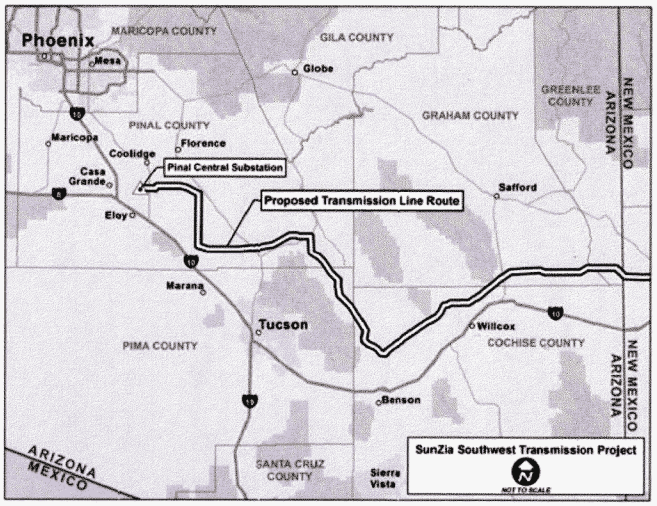
The public is invited to participate at a public hearing before the Arizona Power Plant and Transmission Line Siting Committee. Public hearing dates, times, and locations are listed below.

Date	Time	Location
October 19, 2015	1:00 pm	Willcox Community Center 312 W. Stewart St., Willcox, AZ 85643
The following dates, times, and places will be added as necessary.		
October 20, 2015, through October 21, 2015*	9:00 am	Willcox Community Center 312 W. Stewart St., Willcox, AZ 85643
October 22, 2015, through October 23, 2015, and November 2, 2015, through November 3, 2015*	9:00 am	Tucson Convention Center 260 S. Church Ave., Tucson, AZ 85701
November 4, 2015, through November 5, 2015	9:00 am	Holiday Inn Casa Grande 777 N. Pinal Ave., Casa Grande, AZ 85122
November 16, 2015, through November 20, 2015	9:00 am	Florence Holiday Inn Express and Suites 240 W. Highway 287, Florence, AZ 85132
***Site tours may take place on October 21, 2015 and/or November 3, 2015.**		

PUBLIC COMMENT MAY BE TAKEN AT THE BEGINNING OF EACH HEARING DAY OR AT OTHER TIMES DURING THE HEARING AT THE DISCRETION OF THE CHAIRMAN OF THE COMMITTEE.

Revisions to the hearing schedule and additional hearing days, if necessary, will be noticed on the Arizona Corporation Commission website. The ACC website is: www.azcc.gov/AZ_Power_Plant/LineSiting-Calendar.asp

Contact Information:
Ian Calkins
ian@copperstate.net
Project Website: www.sunzia.net



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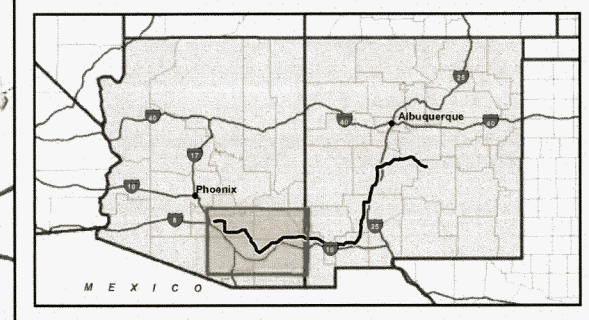
SUNZIA SOUTHWEST TRANSMISSION PROJECT

Public Notice Signs

SunZia



SP-1/SP-1a

PINAL CENTRAL SUBSTATION

SP-2/SP-2a

SP-3

SP-3a

WILLOW-500 kV SUBSTATION

SP-6

SP-5/SP-5a

SP-4

SP-4a

Florence
Coolidge
Casa Grande
Eloy
Picacho Peak State Park
Oracle
Oracle State Park
San Manuel
Marana
Catalina State Park
Tucson
Saguaro National Park (West)
Tucson Mountain Park
Davis-Monthan AFB
Saguaro National Park (East)
Ironwood Forest National Monument
Tohono O'odham Indian Reservation
San Xavier Indian Reservation
Sahuarita
Safford
Bowie
Willcox
Willcox Playa
Benson
Chiricahua National Monument
San Simon
San Carlos Apache Indian Reservation
Coronado National Forest
Gila River Indian Reservation
Gila River
San Pedro River
Aravaipa Creek
San Simon Creek Basin

GILA COUNTY
PINAL COUNTY
GRAHAM COUNTY
GREENLEE CO.
HIDALGO CO.
PINAL COUNTY
PIMA COUNTY
GRAHAM COUNTY
COCHISE COUNTY
PIMA COUNTY
SANTA CRUZ COUNTY
COCHISE COUNTY
HIDALGO COUNTY
ARIZONA
NEW MEXICO

Sources

Resource Data:
Arizona State Land Department 2014
New Mexico Bureau of Land Management 2014

Base Data:
United States Geological Survey, National Elevation Dataset 1999-2010
Arizona Bureau of Land Management 2014
Arizona State Land Department 2010
New Mexico Bureau of Land Management 2009
ESRI StreetMap 2014
EPG LLC. 2015

epg

Contour Interval 50 Meters

Scale in Miles

0 6 12 18 24

N

S:\EPG\GeospatialProjects\SunZia\SunZia_CEC\mxds\Public Notice_signs Map.mxd (29 Sep 2015)

Legend

Routes
- Proposed Route

Project Features
- Sign Point (SP) Proposed
- Sign Point (SP) Actual (a)
- Existing Substation
- Proposed Substation
- Proposed 500 kV DC Converter Station (option)

Reference Features
- Interstate
- US Highway
- State Highway
- Railroad
- State Boundary
- County Boundary
- Jurisdictional Boundary
- Lake/Reservoir
- River/Stream

Figure 1: SP-1a SW corner of intersection of Eleven Mile Corner Rd and RT 287 in Coolidge

Figure 2: SP-2a NW corner of intersection of E Earley Rd and RT 87 in Coolidge

Figure 3: SP-3a West side of SR 77 (0.1) miles south of intersection of SR 77 and SR 79 near Oracle Junction

Figure 4: SP-4a East side of North Pomerene Rd. (2) miles north of Interstate 10 in Benson

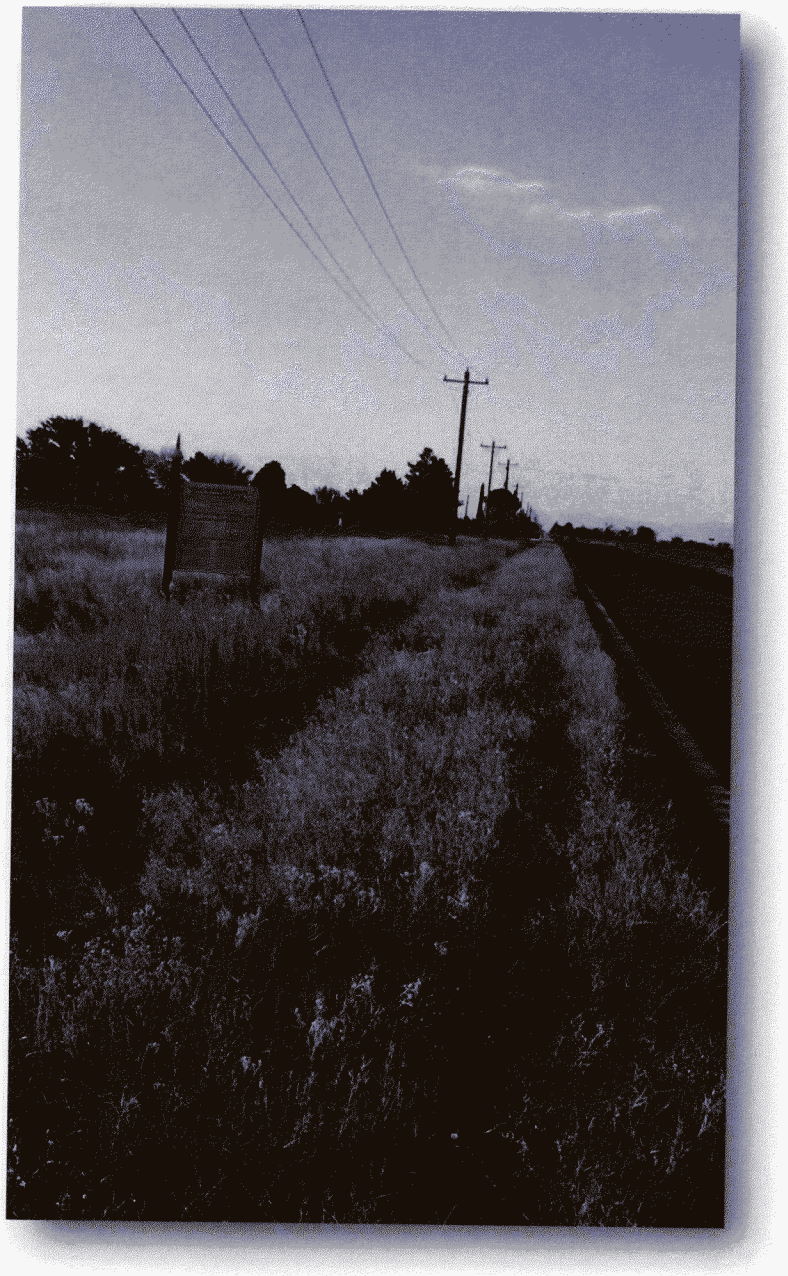


Figure 5: SP-5a NE corner of intersection of Fort Grant rd. and Hardy Rd. north of Willcox

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Arizona State Office
One North Central Avenue, Suite 800
Phoenix, Arizona 85004-4427
www.blm.gov/az

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SAN

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In Reply Refer To:
2800 (9310)
NM114438
AZA35058

Mr. Thomas Chenal, Chairman
Arizona Corporation Commission
Power Plant and Line Siting Committee
1275 West Washington Street
Phoenix, AZ 85007-2926

Re: SunZia Transmission Line Project

Dear Chairman Chenal:

Please accept this correspondence as a summary regarding the extensive cooperation between the Bureau of Land Management (BLM), the respective Arizona State agencies and other Federal cooperators on the SunZia Transmission Project. At a July 22, 2015, meeting with SunZia Transmission, LLC (SunZia) a request was made to the BLM, Arizona State Land Department, Arizona Department of Transportation, and Arizona Game and Fish Department to author a joint letter summarizing the process for the selected route for the project in the BLM's Record of Decision (ROD) dated January 23, 2015, as well as to outline the cooperation that occurred between all the parties involved in the project.

On September 11, 2008, SunZia submitted an application for a right-of-way for an electric transmission line process consisting of two parallel 500 kilovolt overhead transmission lines, approximately 515 miles in length. The proposed line originates in Lincoln County, New Mexico and terminates at the Pinal Central Substation, in Pinal County, Arizona, northwest of Tucson.

As the lead Federal agency, the BLM was responsible for completing an Environmental Impact Statement (EIS) under the authority of the National Environmental Policy Act (NEPA) that analyzed and disclosed the effects of the proposed project on both the natural and human environment. The analysis incorporated valuable input from the public as well as Federal, State, and local agencies having related jurisdiction or special expertise.

Some of the agencies elected to become "Cooperating Agencies", which afforded them the opportunity to participate in the BLM's interdisciplinary team process. The Cooperating Agencies were able to inform the BLM of resource and socio-economic impacts, policies, regulations, and laws of which they may have specific local knowledge. In the SunZia planning process, this cooperation and the significant

public input through the public comment period resulted in the identification of four main alternatives and various sub-alternatives in Arizona. Federal agencies participating in this EIS process included the U.S. Fish & Wildlife Service; National Park Service; Fort Huachuca Army Base, AZ; White Sands Missile Range, NM; Holloman Air Force Base, NM; and Fort Bliss Army Base, TX. Arizona State agencies participating as Cooperating Agencies included the State Land Department, Game and Fish Department, and Department of Transportation.

The EIS thoroughly analyzed and disclosed the effects to the natural and human environment on Federal and non-Federal lands. The involvement of local and Federal agencies with jurisdiction and/or special expertise in the analysis was critical in analyzing those impacts to non-Federal lands, as the selected route in Arizona was comprised of a total of 198 miles (crossing 130 miles of State Land, 18 miles of private land, and 50 miles of BLM managed land).

Through this collaborative effort, the route that was ultimately selected resulted in mitigation development that reduced the resource impacts; and

- Optimized the use of existing utility corridors and infrastructure
- Minimized impacts to sensitive resources
- Minimized, to the extent practical, impacts at river crossings

The routes evaluated but not chosen would result in greater impacts to natural, cultural, and sensitive resources. For example, the other routes crossed the San Pedro River at points with critical habitat designated by the Fish and Wildlife Service. Also, those crossings and routes have lower levels of existing disturbance. The construction of a line of this scope and size would introduce new disturbance by aiding access to previously un-fragmented land. Additionally, the northern routes traverse through rugged terrain that contributes to the habitat and ecological function of the Aravaipa wilderness. Other concerns with the northern routes near Mount Graham included Native American Tribal areas of religious and cultural significance. These are a few resources that factored into making the decision of the selected route. While further details are in the Final EIS and the ROD, the BLM in Arizona, along with the State Agencies engaged as Cooperators, stand prepared to answer any questions regarding the NEPA process and the cooperative engagement that resulted in a Record of Decision.

If you have questions, please call me at 602-417-9500.

Sincerely,

Raymond Suazo
State Director

Lisa Atkins
Commissioner
Arizona State Land Department

Larry D. Voyles
Director
Arizona Game and Fish Department

John S. Halikowski
Director
Arizona Department of Transportation

cc: Mr. Aden Seidlitz, Acting State Director
Bureau of Land Management
New Mexico State Office
Attention: Adrian Garcia
301 Dinosaur Trail
Santa Fe, NM 87508

TUCSON ELECTRIC POWER COMPANY'S RESPONSE TO STAFF'S FIRST SET OF DATA REQUESTS REGARDING ITS SUNZIA TRANSMISSION LLC APPLICATION
DOCKET NO. l-00000YY-15-0318-00171
September 29, 2015

STF 1.1

Please explain the reason(s) for Tucson Electric Power Company's participation in the SunZia Project.

RESPONSE:

In December of 2007 TEP committed to participate in permitting activities for the SunZia Project. The SunZia Project was being developed to deliver renewable energy from New Mexico to Arizona and California. TEP saw an opportunity for the potential to meet some of its renewable needs through the project, and the potential to realize reliability benefits by having an additional EHV transmission line connected to its system.

The SunZia Project offered an opportunity for TEP to contribute to funding of the permitting effort up to a capped dollar amount. Participation gave TEP an opportunity to participate in ownership of the project during the next phase of development if TEP saw value. If TEP chose not to continue with the project, but others did, TEP would be refunded its investment. If the project was abandoned, TEP's cost was a fixed dollar value.

RESPONDENT:

Ed Beck

Defined Terms:
Arizona Corporation Commission ("Commission")
SunZia Transmission, LLC ("SunZia")
Tucson Electric Power Company ("TEP" or the "Company")

TUCSON ELECTRIC POWER COMPANY'S RESPONSE TO STAFF'S FIRST SET OF DATA REQUESTS REGARDING ITS SUNZIA TRANSMISSION LLC APPLICATION
DOCKET NO. l-00000YY-15-0318-00171
September 29, 2015

STF 1.2

Does an ownership share in the Project result in any right or preference for having capacity on the line one it is operational?

RESPONSE:

Yes. TEP is party to the "Memorandum of Agreement for Phase I of the SunZia Southwest Transmission Project," dated April 30, 2009. The agreement provides TEP the right, but not the obligation, to future participation in the development of the "Phase II" agreements covering ownership and, ultimately, the right to ownership of the project up to TEP's pro-rata investment in the Phase I permitting process.

RESPONDENT:

Ed Beck

Defined Terms:
Arizona Corporation Commission ("Commission")
SunZia Transmission, LLC ("SunZia")
Tucson Electric Power Company ("TEP" or the "Company")

TUCSON ELECTRIC POWER COMPANY'S RESPONSE TO STAFF'S FIRST SET OF DATA REQUESTS REGARDING ITS SUNZIA TRANSMISSION LLC APPLICATION
DOCKET NO. I-00000YY-15-0318-00171
September 29, 2015

STF 1.3

If the Project for some reason lost money for those holding an ownership interest in it, what exposure do TEP ratepayers have to such losses?

RESPONSE:

TEP's investment in the project is capped at an amount determined in the Phase I memorandum of understanding (just under $200,000). Any recovery of that investment will be determined in a future transmission rate case at the Federal Energy Regulatory Commission since the costs are related to transmission.

RESPONDENT:

Ed Beck

Defined Terms:
Arizona Corporation Commission ("Commission")
SunZia Transmission, LLC ("SunZia")
Tucson Electric Power Company ("TEP" or the "Company")

SRP's Response to ACC Staff's First Set of Data Requests
SunZia 500kV Transmission Project
Docket No. L-00000YY-15-0318-00171
October 2, 2015

BGG 1.1 **Please explain the reason(s) for SRP's participation in the Sun Zia Project.**

SRP joined as a participant in the effort to permit the Sun Zia Project in 2008. We were interested in the project primarily for two reasons. First, at that time our strategy for the procurement of renewable energy was focused on a mix of renewable generation resources located both inside and outside the State of Arizona. As such, we had potential interest in renewable projects, mostly wind, located in New Mexico. Over time as the price of various types of renewable generation has changed, SRP's focus has narrowed to mostly renewable resources located close to the load we serve, primarily solar projects in the Phoenix metropolitan area. Second, there is a long-term interest to develop additional transmission from existing generation sources located in eastern Arizona to serve load in central Arizona. The Sun Zia Project presents an opportunity to develop a portion of that transmission and improves reliability of the regional transmission system.

BGG 1.2 **Does an ownership share in the Project result in any right or preference for having capacity on the line once it is operational?**

Yes. Pursuant to the participant agreement for the permitting of the Project any ownership interest would result in a commensurate level of transmission capacity on the line.

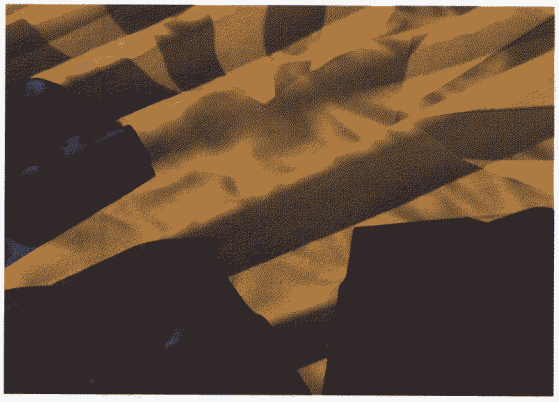
BGG 1.3 **How does SRP anticipate that power arriving at the Pinal Central substation from the Project would then move to California or possible destinations within Arizona? Is there capacity to continue the movement of the full 3,000 MW capacity of the Project from Pinal Central to California or possible destinations within Arizona?**

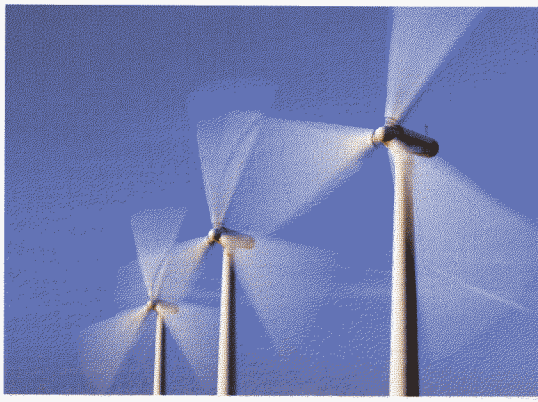
SRP's interest, to the extent we choose to participate in the development of the Project, would be to move the energy acquired through the line to serve our load in the Valley. Once the energy reaches Pinal Central, we have the capability of moving our capacity to serve our load. The use of the Project to deliver energy further west to California would require additional transmission studies which we have not done.

SunZia

New Energy Economy in the Desert Southwest

Powering jobs, economic development and renewable energy in Arizona





About the SunZia Southwest Transmission Project in Arizona

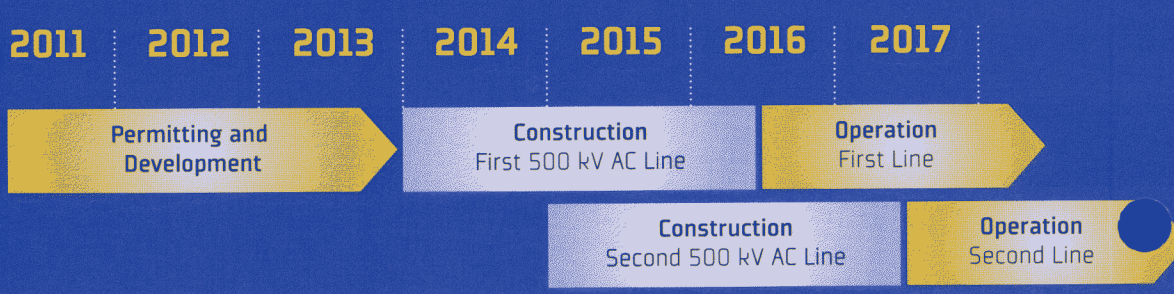
The SunZia Southwest Transmission Project ("SunZia" or "the Project") will consist of two, new 500 kilovolt (kV), alternating current (AC) transmission lines that will be capable of delivering up to 3,000 megawatts (MW) from new, renewable generation projects, which could power more than 1,000,000 homes or a city the size of 2.5 million people. The Project includes five proposed electrical substations, of which, two are located in Arizona. The substations will interconnect with the existing transmission system and provide on and off ramps for delivery of electricity from wind, solar, and geothermal projects. The estimated cost to construct two 500 kV transmission lines — each crossing a distance of over 150 miles within Arizona — and two substations is over $450 million.

The National Electric Transmission Congestion Study (US Department of Energy, December 2009) characterizes the need to resolve current transmission congestion as "urgent," as demonstrated by the large number of both wind and solar projects that have applied for interconnection to the transmission grid, but cannot be built due to insufficient transmission capacity.

New electric transmission lines bring significant economic contributions to the regional area where they are built. SunZia will benefit several counties in Arizona (See Map). These counties rely heavily on agriculture and related activities, tourism, mining, utilities, or the presence of state or federal government activities. The economies of these counties have been particularly affected by the economic downturn. Construction and operation of SunZia will create millions of dollars in local investment and thousands of new jobs.

Development of wind, solar, and geothermal projects will result in the creation of jobs, substantial local investment, and sources of sustainable energy. The Desert Southwest contains substantial amounts of stranded, undeveloped renewable energy. SunZia will interconnect Arizona's renewable energy resources with customers throughout the West and enhance the reliability of the existing transmission system.

PROJECT TIMELINE



Generating Local Investment

SunZia itself will create significant investment in local and regional economies through its construction and operation:

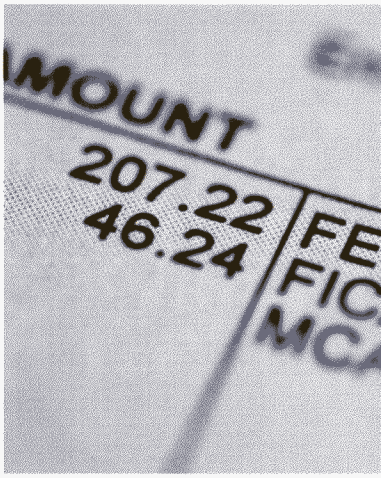
- Over $145 million in estimated wages and salaries (including benefits) during construction
- Over $25 million in state and local taxes during construction
- Over $5 million per year in wages and salaries during operation
- Over $1.5 million in property tax revenues[2] during the first year of operation

The development of 610 MW[3] of renewable energy projects could result in:

- Over $980 million in wages and salaries during construction
- Over $70 million in state and local taxes during construction
- Over $11 million per year in wages and salaries during operation
- Over $12 million in property tax revenues[2] during the first year of operation

SunZia is evaluating an option to build one of the two lines as a direct current (DC) line, which will enable the Project to deliver 4,500 MW. If a DC line is constructed, SunZia itself will create the following contributions:

- Over 2,400 construction jobs,[1] $160 million in wages and salaries, and $30 million in state and local tax revenues during construction of the line and substations
- Over 90 permanent jobs, $6 million in wages and salaries, and $4 million in property taxes[2] per year during operation of the line and substations
- Capacity for 360 MW[4] of renewable energy projects, which could add:
  - Over 8,900 jobs[1], $540 million in wages and salaries, and $40 million in state and local taxes during the construction of more renewable projects
  - Over 100 permanent jobs, $5 million in wages and salaries, and $7 million in property taxes[2] per year during operation of the renewable projects

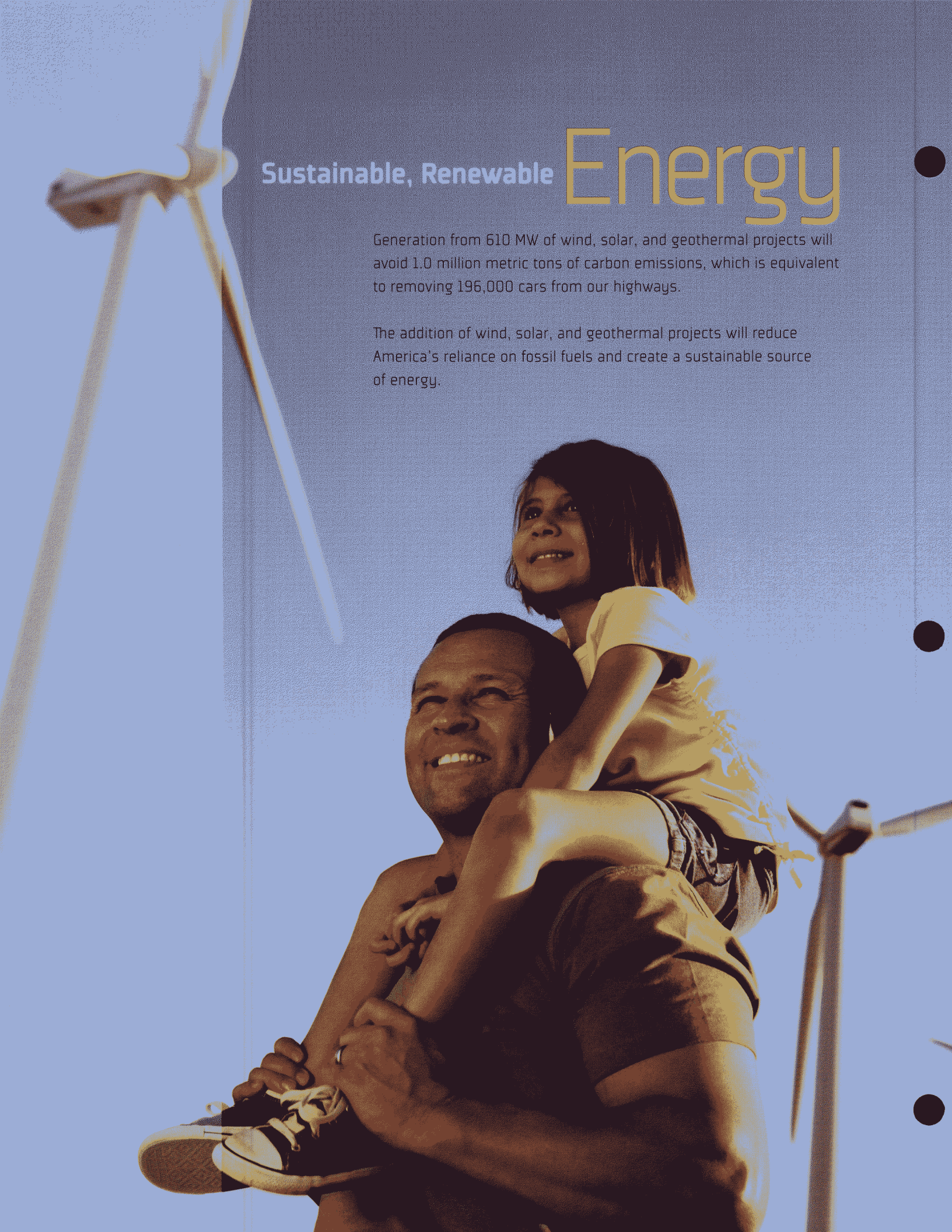


New electric transmission lines bring significant economic contributions to the regional area where they are built.

Sustainable, Renewable Energy

Generation from 610 MW of wind, solar, and geothermal projects will avoid 1.0 million metric tons of carbon emissions, which is equivalent to removing 196,000 cars from our highways.

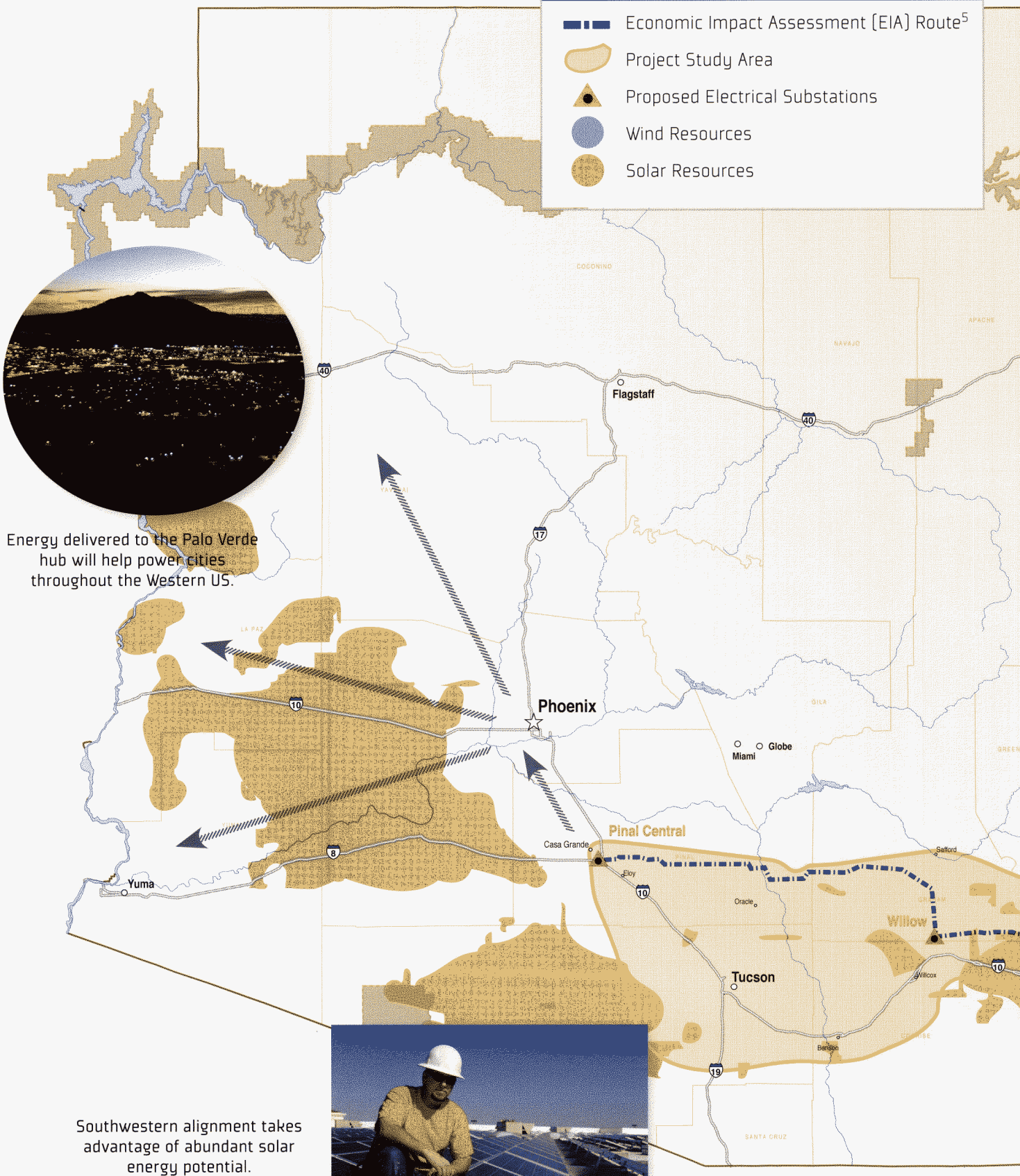
The addition of wind, solar, and geothermal projects will reduce America's reliance on fossil fuels and create a sustainable source of energy.



SunZia Project Overview

Energy delivered to the Palo Verde hub will help power cities throughout the Western US.

Southwestern alignment takes advantage of abundant solar energy potential.



The University of Arizona and New Mexico State University identified positive economic impacts created by SunZia (see the full Economic Impact Assessment reports at www.SunZia.net).

Powering Jobs

...Unemployment rates of the counties that may be impacted ... ranged from 8.4 to 12.0 percent.

Since the end of 2007, one out of 10 jobs in Arizona no longer exists. In 2010, the unemployment rates of the counties that may be impacted by the SunZia project ranged from 8.4 to 12.0 percent.

SunZia itself will create:

- Over 2,200 jobs[1] during a four-year construction period
- Over 80 permanent jobs

SunZia will enable the development of renewable generation projects.

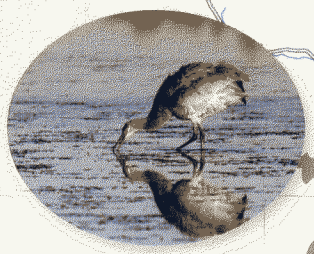
The development of 610 MW[3] of renewable generation projects could create:

- Over 16,000 jobs[1] during a 2-year construction period
- Over 190 permanent jobs, depending on the number and type of projects

SunZia plans to start construction of the first line in 2013 and the second line in 2014. SunZia estimates a 2 ½ year construction period for each line.

The Project will consist of two adjacent lines, either both AC, or an AC/DC combination.

Eastern terminus sited to take advantage of abundant wind energy potential.



Working with agencies to minimize impacts to wildlife and their habitats.

Significant geothermal energy potential also exists throughout this region.

SunZia will foster economic development throughout the communities along the corridor.

The Western Renewable Energy Zone study identified 11,300 MW of potential wind resources near the eastern terminus of the Project and 10,500 MW of solar potential in southeast Arizona and southwest New Mexico, but notes that "lack of cost effective transmission access was, and remains, the greatest impediment to the rapid development" of these resources. (Western Governors' Association and Department of Energy 2009)

Economic Contributions[5] at a Glance

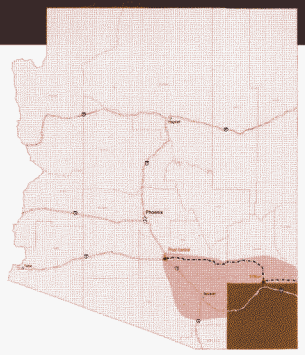
DURING CONSTRUCTION

SunZia Alone		Renewable Projects		AC/AC		AC/DC		Renewable Projects		SunZia Alone
2,200	+	16,000	=	**18,200**	JOBS	**11,300**	=	8,900	+	2,400
$145M	+	$980M	=	**$ 1.12B**	WAGES & SALARIES	**$ 700M**	=	$540M	+	$160M
$ 25M	+	$ 70M	=	**$ 95M**	STATE & LOCAL TAXES	**$ 70M**	=	$40M	+	$30M

DURING OPERATIONS AND MAINTENANCE (per year)

SunZia Alone		Renewable Projects		AC/AC		AC/DC		Renewable Projects		SunZia Alone
80	+	190	=	**270**	JOBS	**190**	=	100	+	90
$ 5M	+	$ 11M	=	**$ 16M**	WAGES & SALARIES	**$ 11M**	=	$5M	+	$6M
$ 1.5M	+	$ 12M	=	**$ 13.5M**	PROPERTY TAXES	**$ 11M**	=	$7M	+	$4M

These figures present the values associated with the Project and the cumulative values for Project + 610 MW (AC/AC) and Project + 360 MW (AC/DC).



Cochise County

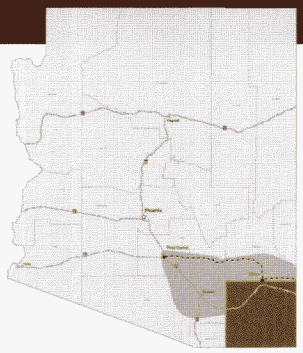
SunZia will enable delivery of Cochise County's renewable resources. Renewable energy projects enabled by SunZia could request interconnection to SunZia at any point. The University of Arizona and New Mexico State University identified positive economic impacts within Cochise County created by SunZia. The following table presents the estimated economic contributions associated with four types of potential renewable projects[3] in Cochise County.

ECONOMIC CONTRIBUTIONS[3] AT A GLANCE

		Solar PV 100MW	Solar Thermal 160MW	Wind 100MW	Geothermal 50MW
DURING CONSTRUCTION	Jobs[1]	1,420	1,050	500+	500+
	Wages & Salaries	$95.9 million	$69.3 million	$31.3 million	$33.5 million
	Local Tax Revenues	$1.2 million	$1.1 million	$0.6 million	$0.6 million
DURING OPERATION	Jobs	12	28	9	24
	Annual Wages & Salaries	$0.8 million	$1.7 million	$0.6 million	$1.7 million
	Local Property Taxes[2]	$12 million	$18.6 million	$6.2 million	$5.7 million

SunZia

Arizona



Since 2007, one out of 10 jobs in Arizona no longer exists, and Cochise County's unemployment rate was 8.4 percent in 2010. As an example of the opportunity created by SunZia and based on the table on the reverse, if the County attracts the development of 300 MW of solar PV and 160 MW of solar thermal projects, then the following economic contributions could occur:

- **Over 5,310 jobs[1] during construction**
- **Over $355 million in estimated wages and salaries (including benefits) during construction**
- **Over $4.5 million in local tax revenues during construction**
- **Nearly 65 jobs during operation**
- **Over $4 million in estimated wages and salaries (including benefits) during operation**
- **Nearly $55 million in local property tax revenues[2]**

"Southeast Arizona is ideal territory for the development of renewable energy projects. We have abundant resources, inexpensive land and an available workforce. All that's needed are transmission projects like SunZia that will allow independent generation projects to connect with the grid and deliver electricity to the marketplace. And the project's own construction and revenue impacts will be a big boost to our local economy."
George Scott, Southeast Arizona Economic Development Group

SunZia will create job opportunities through construction of two transmission lines, as well as fostering the development of local renewable energy projects.

See the full Economic Impact Assessment[4] reports at www.SunZia.net

[1] Construction jobs are measured in man-years.

[2] Accumulated during construction and the first 5 years of operation.

[3] Because the number, location and type of potential renewable generation projects are unknown, the economic impact analysis analyzed four specific example projects to estimate economic contributions.

[4] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

SunZia®

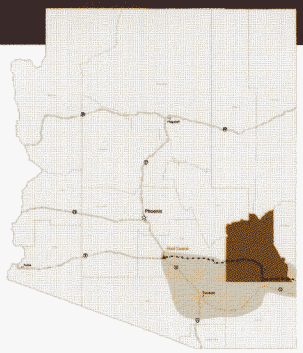
Economic Impact Assessment prepared by

THE UNIVERSITY OF ARIZONA®

The University of Arizona
Tucson, Arizona

NM STATE UNIVERSITY

New Mexico
State University
Las Cruces, New Mexico



SunZia in Graham County

The University of Arizona and New Mexico State University identified positive economic impacts within Graham County created by SunZia, including:

- **Over 810 jobs[1] during construction**
- **$60 million in estimated wages and salaries (including benefits) during construction**
- **Over $3 million in local tax revenues during construction**
- **Over $6 million in local property tax revenues[2]**

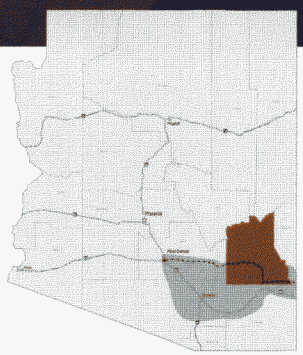
Since 2007, one out of 10 jobs in Arizona no longer exists, and Graham County's unemployment rate was 13.5 percent in 2010. Within Graham County, SunZia will create job opportunities through construction of two transmission lines and a proposed substation, and through SunZia's ability to foster development of local renewable energy projects. The following table presents the estimated economic contributions associated with four types of potential renewable projects[3] in Graham County.

ECONOMIC CONTRIBUTIONS[3] AT A GLANCE

		Solar PV 100MW	Solar Thermal 160MW	Wind 100MW	Geothermal 50MW
DURING CONSTRUCTION	Jobs[1]	1,465+	1,085+	500+	495+
	Wages & Salaries	$96.9 million	$69.4 million	$32.1 million	$34.3 million
	Local Tax Revenues	$1.0 million	$0.9 million	$0.5 million	$0.5 million
DURING OPERATION	Jobs	12	30	9	26
	Annual Wages & Salaries	$0.8 million	$1.7 million	$0.6 million	$1.7 million
	Local Property Taxes[2]	$7.3 million	$11.3 million	$3.8 million	$3.4 million

SunZia®

Arizona



SunZia will enable delivery of Graham County's renewable resources.

Renewable energy projects enabled by SunZia could request interconnection to SunZia at any point. Additionally, SunZia includes a proposed substation in Graham County, where renewable energy projects could interconnect to SunZia.

As an example of the opportunity created by SunZia and based on the table on the reverse, if the County attracts the development of 300 MW of solar PV and 160 MW of solar thermal projects, then the following jobs could be created:

- **Over 5,480 construction jobs**[1]
- **Over 65 permanent jobs**

SunZia will create job opportunities through construction of two transmission lines and a proposed substation, and through SunZia's ability to foster development of local renewable energy projects.

"This is precisely the kind of project that must be built to make solar and other renewable energy sources more viable... It would provide critically needed transmission capacity through New Mexico and Arizona. I strongly support such enhanced transmission as an essential component of a comprehensive strategy to develop the abundant renewable energy resources of the Southwest."
U.S. Rep. Gabrielle Giffords, Arizona Range News, 2/10/10

See the full Economic Impact Assessment[4] reports at www.SunZia.net

[1] Construction jobs are measured in man-years.

[2] Accumulated during construction and the first 5 years of operation.

[3] Because the number, location and type of potential renewable generation projects are unknown, the economic impact analysis analyzed four specific example projects to estimate economic contributions.

[4] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

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Economic Impact Assessment prepared by

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Tucson, Arizona

NM STATE UNIVERSITY
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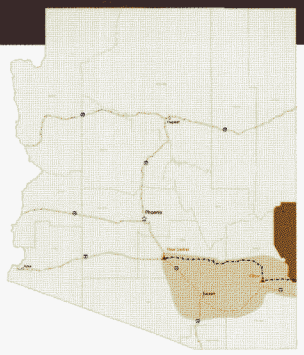
State University
Las Cruces, New Mexico



SunZia in Greenlee County

The University of Arizona and New Mexico State University identified positive economic impacts within Greenlee County created by SunZia, including:

- **Nearly 50 jobs[1] during construction**
- **Over $4 million in estimated wages and salaries (including benefits) during construction**
- **Over $50 thousand in local tax revenues during construction**
- **Nearly $0.5 million in local property tax revenues[2]**

Since 2007, one out of 10 jobs in Arizona no longer exists, and Greenlee County's unemployment rate was 11.1 percent in 2010. Within Greenlee County, SunZia will create job opportunities through construction of two transmission lines, and through SunZia's ability to foster development of local renewable energy projects. The following table presents the estimated economic contributions associated with four types of potential renewable projects[3] in Greenlee County.

ECONOMIC CONTRIBUTIONS[3] AT A GLANCE

		Solar PV 100MW	Solar Thermal 160MW	Wind 100MW	Geothermal 50MW
DURING CONSTRUCTION	Jobs[1]	1,130+	710	320+	340+
	Wages & Salaries	$91.3 million	$61.8 million	$29.9 million	$32.1 million
	Local Tax Revenues	$0.2 million	$0.2 million	$0.1 million	$0.1 million
DURING OPERATION	Jobs	10	25	7	20
	Annual Wages & Salaries	$0.7 million	$1.6 million	$0.5 million	$1.6 million
	Local Property Taxes[2]	$8.4 million	$13.1 million	$4.4 million	$4 million

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Arizona

SunZia will enable delivery of Greenlee County's renewable resources.

Renewable energy projects enabled by SunZia could request interconnection to SunZia at any point.

As an example of the opportunity created by SunZia and based on the table on the reverse, if the County attracts the development of 300 MW of solar PV and 160 MW of solar thermal projects, then the following jobs could be created:

- **Over 4,100 construction jobs**[1]
- **Over 55 permanent jobs**

SunZia will create job opportunities through construction of two transmission lines, and through SunZia's ability to foster development of local renewable energy projects.

"This is precisely the kind of project that must be built to make solar and other renewable energy sources more viable... It would provide critically needed transmission capacity through New Mexico and Arizona. I strongly support such enhanced transmission as an essential component of a comprehensive strategy to develop the abundant renewable energy resources of the Southwest."
U.S. Rep. Gabrielle Giffords,
Arizona Range News, 2/10/10

See the full Economic Impact Assessment[4] reports at www.SunZia.net

[1] Construction jobs are measured in man-years.

[2] Accumulated during construction and the first 5 years of operation.

[3] Because the number, location and type of potential renewable generation projects are unknown, the economic impact analysis analyzed four specific example projects to estimate economic contributions.

[4] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

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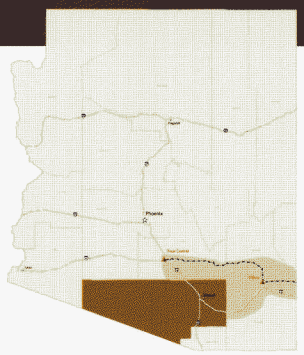

Pima County

The University of Arizona and New Mexico State University identified positive economic impacts within Pima County created by SunZia, including:

- **30 permanent jobs during operation**
- **Over $1.5 million per year in wages and salaries during operation**

Since 2007, one out of 10 jobs in Arizona no longer exists, and Pima County's unemployment rate was nine percent in 2010. Within Pima County, SunZia will create job opportunities through a proposed maintenance base, and through SunZia's ability to foster development of local renewable energy projects. The following table presents the estimated economic contributions associated with four types of potential renewable projects[3] in Pima County.

ECONOMIC CONTRIBUTIONS[3] AT A GLANCE

		Solar PV 100MW	Solar Thermal 160MW	Wind 100MW	Geothermal 50MW
DURING CONSTRUCTION	Jobs[1]	1,630+	1,250+	590+	590+
	Wages & Salaries	$107.3 million	$80.7 million	$37.8 million	$39.7 million
	Local Tax Revenues	$1.6 million	$1.4 million	$0.7 million	$0.7 million
DURING OPERATION	Jobs	15	34	11	30
	Annual Wages & Salaries	$1.0 million	$1.9 million	$0.7 million	$1.9 million
	Local Property Taxes[2]	$11.4 million	$17.8 million	$6 million	$5.4 million

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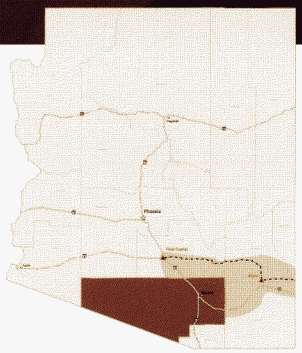

SunZia will enable delivery of Pima County's renewable resources.

Renewable energy projects enabled by SunZia could request interconnection to SunZia at any point.

As an example of the opportunity created by SunZia and based on the table on the reverse, if the County attracts the development of 400 MW of solar PV projects, then the following economic contributions could occur:

- **Over 6,520 jobs[1] during construction**
- **Nearly $430 million in estimated wages and salaries (including benefits) during construction**
- **Over $6 million in local tax revenues during construction**
- **60 jobs during operation**

SunZia will create job opportunities through a proposed maintenance base, and through SunZia's ability to foster development of local renewable energy projects.

"This is precisely the kind of project that must be built to make solar and other renewable energy sources more viable... It would provide critically needed transmission capacity through New Mexico and Arizona. I strongly support such enhanced transmission as an essential component of a comprehensive strategy to develop the abundant renewable energy resources of the Southwest."
U.S. Rep. Gabrielle Giffords,
Arizona Range News, 2/10/10

See the full Economic Impact Assessment[4] reports at www.SunZia.net

[1] Construction jobs are measured in man-years.

[2] Accumulated during construction and the first 5 years of operation.

[3] Because the number, location and type of potential renewable generation projects are unknown, the economic impact analysis analyzed four specific example projects to estimate economic contributions.

[4] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

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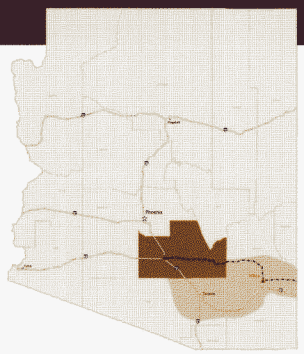

SunZia in Pinal County

The University of Arizona and New Mexico State University identified positive economic impacts within Pinal County created by SunZia, including:

- **Over 430 jobs[1] during construction**
- **$35.5 million in estimated wages and salaries (including benefits) during construction**
- **Over $2.5 million in local tax revenues during construction**
- **Over $4.5 million in local property tax revenues[2]**

Since 2007, one out of 10 jobs in Arizona no longer exists, and Pinal County's unemployment rate was 12 percent in 2010. Within Pinal County, SunZia will create job opportunities through construction of two transmission lines and a substation, and through SunZia's ability to foster development of local renewable energy projects. The following table presents the estimated economic contributions associated with four types of potential renewable projects[3] in Pinal County.

ECONOMIC CONTRIBUTIONS[3] AT A GLANCE

		Solar PV 100MW	Solar Thermal 160MW	Wind 100MW	Geothermal 50MW
DURING CONSTRUCTION	Jobs[1]	1,370	990	450+	460+
	Wages & Salaries	$96.7 million	$71 million	$32.8 million	$35 million
	Local Tax Revenues	$1.5 million	$1.3 million	$0.7 million	$0.7 million
DURING OPERATION	Jobs	11	28	8	24
	Annual Wages & Salaries	$0.8 million	$1.7 million	$0.6 million	$1.7 million
	Local Property Taxes[2]	$9.6 million	$14.9 million	$5 million	$4.5 million

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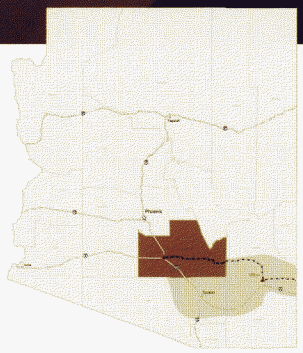

SunZia will enable delivery of Pinal County's renewable resources.

Renewable energy projects enabled by SunZia could request interconnection to SunZia at any point.

As an example of the opportunity created by SunZia and based on the table on the reverse, if the County attracts the development of 400 MW of solar PV projects, then the following jobs could be created:

- **Over 5,480 construction jobs**[1]
- **Over 40 permanent jobs**

SunZia will create job opportunities through construction of two transmission lines and a substation, and through SunZia's ability to foster development of local renewable energy projects.

"This is precisely the kind of project that must be built to make solar and other renewable energy sources more viable... It would provide critically needed transmission capacity through New Mexico and Arizona. I strongly support such enhanced transmission as an essential component of a comprehensive strategy to develop the abundant renewable energy resources of the Southwest."
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[1] Construction jobs are measured in man-years.

[2] Accumulated during construction and the first 5 years of operation.

[3] Because the number, location and type of potential renewable generation projects are unknown, the economic impact analysis analyzed four specific example projects to estimate economic contributions.

[4] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

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Footnotes

[1] Construction jobs are measured in man-years. For example, 6,200 jobs over four years is equivalent to an average of 1,550 jobs for each of the four years.

[2] Indicates property tax revenues during the first year of operation. Property tax revenues decline 4% per year thereafter.

[3] The 610 MW generation scenario assumes six renewable energy projects within Arizona. The remaining capacity of the Project is assumed to be consumed by renewable generation projects in New Mexico and "other" generation sources in either state. The potential contributions are underestimated since the analysis did not analyze contributions for the "other" generation. The estimated construction cost of six renewable projects is $2.7 billion.

[4] The 360 MW generation scenario assumes three renewable energy projects within Arizona. The remaining capacity of the Project is assumed to be consumed by renewable generation projects in New Mexico and "other" generation sources in either state. The potential contributions are underestimated since the analysis did not analyze contributions for the "other" generation. The estimated construction cost of three renewable projects is $1.6 billion.

[5] The information presented herein is based on Scenario 2 and the route combination of Arizona Route A and New Mexico West Route (shown in the Economic Impact Assessment alignment map) within the Economic Impact Assessment report dated April 2011. Economic impact information pertaining to the potential energy generation projects is based on the Economic Impact Assessment Supplement dated April 2011.

BEFORE THE
ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF SUNZIA TRANSMISSION LLC, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE SUNZIA SOUTHWEST TRANSMISSION PROJECT, WHICH INCLUDES THE CONSTRUCTION OF TWO NEW 500 KV TRANSMISSION LINES AND ASSOCIATED FACILITIES ORIGINATING AT A NEW SUBSTATION (SUNZIA EAST) IN LINCOLN COUNTY, NEW MEXICO, AND TERMINATING AT THE PINAL CENTRAL SUBSTATION IN PINAL COUNTY, ARIZONA. THE ARIZONA PORTION OF THE PROJECT IS LOCATED WITHIN GRAHAM, GREENLEE, COCHISE, PINAL, AND PIMA COUNTIES.	DOCKET NO. L-00000YY-15031800171 Siting Case No. 171 **CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY**

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

A. Introduction

Pursuant to notice given as provided by law, the Arizona Power Plant and Transmission Line Siting Committee ("Committee") held public hearings on October 19-21, 2015, in Willcox, Arizona, on October 22-23 and November 2-3, 2015, in Tucson, Arizona, on November 4-5, 2015, in Casa Grande, Arizona, and on November 16-20, 2015, in Florence, Arizona in conformance with the requirements of Arizona Revised Statutes ("A.R.S.") §§ 40-360 *et seq.* for the purpose of receiving evidence and deliberating on the September 2, 2015 Application of SunZia Transmission, L.L.C. ("Applicant") for a Certificate of Environmental Compatibility ("Certificate") in the above-captioned case ("Project").

The following members and designees of members of the Committee were present at one or more of the hearings for the evidentiary presentations and/or the deliberations:

Thomas K. Chenal	Chairman, Designee for Arizona Attorney General, Mark Brnovich
Steve Olea	Designee of the Chairman, Arizona Corporation Commission
Ian Bingham	Designee for Director, Arizona Department of Environmental Quality
Lisa Williams	Designee for Director Arizona Department of Water Resources
Jack Haenichen	Appointed Member
David L. Eberhart	Appointed Member
Mary Hamway	Appointed Member
Jeff McGuire	Appointed Member
Patricia Noland	Appointed Member
Jim Palmer	Appointed Member

The Applicant was represented by Albert H. Acken and Samuel Lee Lofland, Ryley Carlock & Applewhite, and Lawrence V. Robertson, Jr., Of Counsel to Munger Chadwick, P.L.C. The following parties were granted intervention pursuant to A.R.S. § 40-360.05: _____.

At the conclusion of the hearings, the Committee, after considering the (i) Application, (ii) evidence, testimony and exhibits presented by the Applicant and intervenors and (iii) comments of the public, and being advised of the legal requirements of A.R.S. §§ 40-360 through 40-360.13, upon motion duly made and seconded, voted __ to __ to grant the Applicant this Certificate for construction of the Project.

B. <u>Overview Project Description</u>

The Project includes the construction and operation of two new 500 kilovolt (kV) interstate transmission lines and associated Project facilities originating at a new substation (SunZia East) in Lincoln County, New Mexico and terminating at the Pinal Central Substation in Pinal County, Arizona. This Certificate approves construction of the Project within the State of Arizona. The Project as approved herein consists of two (2) new, single-circuit 500 kV transmission lines and associated facilities including a new 500kV

substation ("500 kV Willow Substation"), and a direct current (DC) converter station. All Project components are located within Greenlee, Graham, Cochise, Pima and Pinal counties and the City of Coolidge. A general location map of the Project is depicted in Exhibit A to the Application.

The approved right-of-way for each transmission line is a 200 foot wide right-of-way within a 2,500 foot wide corridor. There will typically be a 50-foot separation between the two (2) rights-of-way. However, in some locations the separation may be up to 1,000 feet to avoid or traverse adjacent terrain features or heavy equipment limitations, and to preserve critical habitat, existing land uses and important cultural resources. At least one of the two 500 kV transmission lines will be constructed and operated as an alternating current (AC) facility; the other transmission line will be either an AC or DC facility. As contemplated and provided for in this Certificate, the two (2) transmission lines may be constructed at different points in time.

In addition, the Project includes construction of the new 500 kV Willow Substation on lands managed by the Arizona State Land Department (ASLD) in Graham County, Arizona. The location of the 500 kV Willow Substation is approximately three miles north of the Cochise County line and approximately 1.1 miles east of US Highway 191 as depicted in Exhibit A to the Application. The Project terminates at the existing Pinal Central Substation, which was approved by the Arizona Corporation Commission ("Commission") in 2005 (Siting Case No. 126 Decision No. 68093) and thereafter constructed by Salt River Project. The Pinal Central Substation is located approximately 7.5 miles east of Interstate 10 on privately owned land within the City of Coolidge, Arizona. These two (2) substations will provide Arizona utilities and load centers with access to renewable energy transmitted on the Project's two (2) transmission lines.

Finally, a DC converter station will be required if the 500kV DC transmission line option is utilized, in order to convert the flow of electricity from DC to AC, and thereby allow the DC line to deliver energy to the Pinal Central Substation. The converter station herein approved would be constructed within a fenced parcel of up to 45 acres, located

within the 2,500 foot wide corridor, no more than 1 mile east of the Pinal Central Substation, as depicted in Exhibit G, Figure G-3-3. The interconnection between the Pinal Central Substation and the DC converter station would require two (2) 500kV AC transmission lines, which also would be constructed within the 2,500 foot wide corridor.

Typical Project design features and details, including structure diagrams anticipated for the Project, are provided in Exhibit G to the Application.

C. Approved Project Route Description

The route herein approved (Route) is a total of 199 miles in length within Arizona, and will be parallel to approximately 117 miles of existing or designated utility corridors. The Route crosses the New Mexico-Arizona state line from Hidalgo County, New Mexico into Greenlee County, Arizona, approximately three miles north of the Cochise County line. The Route then proceeds east to west for approximately 37 miles from the state line into Graham County south of the Hot Well Dunes Recreation Area, and continues through the San Simon Valley to the Willow-500 kV Substation, located approximately 3 miles north of the Cochise County line and 1 mile east of US Highway 191 in Graham County, Arizona.

The Route then proceeds southwest from the Willow-500 kV Substation, parallel to two(2) 345 kV transmission lines operated by Tucson Electric Power Company (TEP) for approximately 47 miles, and crosses two (2) pipelines and US Route 191. The Route then crosses the TEP 345 kV lines approximately 1 mile west of the San Pedro River and turns northwest and continues through the northeast corner of Pima County into Pinal County, of which approximately 12 miles will be parallel to an existing pipeline corridor. The Route then turns and heads west approximately 2 miles west of San Manuel. The route crosses SR 77 approximately 2 miles north of the community of Oracle, and parallels a 115 kV transmission line for approximately 10 miles to the southwest, to a point adjacent to the Oracle Junction Substation. The Route then proceeds parallel to Arizona Public Service Company's Cholla-Saguaro 500kV transmission line and a Southwest Transmission Cooperative 115kV transmission line for approximately 14 miles and crosses SR 79. The

Route then proceeds northwest, then north and parallel to TEP is Pinal Central-Tortolita 500kV transmission line for approximately 16 miles (Siting Case No. 165, Decision No. 73282). The Route then turns northwest, then west, continuing to parallel the Pinal Central-Tortolita 500kV line and a pipeline corridor for approximately 6 miles. As the Route then heads west, it crosses a Central Arizona Project canal and SR 87 before it proceeds to the Pinal Central Substation, located on the southeast corner of SR 287 and Eleven Mile Corner Road, paralleling the Pinal Central-Tortolita 500 kV line for an additional 12 miles. If one of the lines is constructed as a DC facility, then the Project will include construction of a new DC converter station, which will be located within the requested 2500 foot corridor at a location no more than 1 mile east of the Pinal Central Substation.

CONDITIONS

This Certificate is granted upon the following conditions:

1. The Applicant shall comply with all existing applicable statutes, ordinances, master plans and regulations of any governmental entity having jurisdiction during the construction of the Project, including the United States of America, the Counties of Greenlee, Graham, Cochise, Pima and Pinal, and the City of Coolidge. [CEC Siting Case No. 170]

2. Applicant shall comply with the notice and salvage requirements of the Arizona Native Plant Law (A.R.S. §§ 3-901, et seq.) and shall, to the extent feasible, minimize the destruction of native plants during Project construction. [CEC Siting Case No. 170]

3. Applicant shall comply with the Arizona Game and Fish Department ("AGFD") guidelines for handling protected animal species, should any be encountered during construction. [CEC Siting Case No. 168]

4. The Applicant shall design the transmission lines to incorporate reasonable measures to minimize impacts to raptors. Such design will likely be accomplished through Applicant's compliance with its Avian Protection Plan ("APP"), which will be developed pursuant to the Record of Decision ("ROD") issued by the United States Bureau of Land Management ("BLM") on January 23, 2015. Once completed, the APP will become part

of, and be incorporated into, this Certificate. [CEC Siting Case No. 170]

5. The ROD issued by BLM requires the Applicant to prepare a Plan of Development ("POD") outlining and detailing the relevant construction, mitigation, and restoration requirements for the Project prior to commencing construction on any portion thereof. Where practicable, the POD shall specify that the Applicant (a) use existing roads for construction and access, (b) minimize impacts to wildlife, (c) minimize vegetation disturbance outside of the Project right-of-way, and (d) re-vegetate, unless re-vegetation is waived by the landowner, native areas following construction disturbance. [CEC Siting Case No. 170]

6. The POD shall specify the Applicant's plans for coordination with AGFD and the State Historic Preservation Office ("SHPO"). The Applicant shall use existing roads for construction and access where practicable, consistent with the requirements of the ROD, on any lands traversed within the Arizona portion of the Project. [CEC Siting Case No. 165]

7. Pursuant to the ROD, the Applicant will respond to complaints of line generated radio or television interference by promptly investigating the complaints and implementing appropriate mitigation measures. In addition, the transmission line(s) will be evaluated on a regular basis so that damaged insulators or other line materials that could cause interference are timely repaired or replaced.

8. If any archaeological site, paleontological site, historical site or an object that is at least fifty years old is discovered on state, county or municipal land during the construction of the Project, the Applicant or its representative in charge shall promptly report the discovery to the Director of the Arizona State Museum ("ASM"), and in consultation with the Director, shall immediately take all reasonable steps to secure and maintain the preservation of the discovery, pursuant to A.R.S. § 41-844. Such steps will likely be accomplished through compliance with the Historic Properties Treatment Plan ("HPTP") for archaeological and historical sites, and the Paleontological Resources Monitoring Plan ("PRMP") for paleontological sites, both which will be developed pursuant to the ROD.

Once completed, the HPTP and the PRMP will become part of, and be incorporated into, this Certificate. [CEC Siting Case No. 170]

9. If human remains and/or funerary objects are encountered on private land during the course of any ground-disturbing activities related to the construction of the Project, Applicant shall cease work on the affected area of the Project and notify the Director of the ASM as required by A.R.S. § 41-865. [CEC Siting Case No. 170]

10. Applicant will comply with the HPTP to be developed pursuant to the Programmatic Agreement ("PA") entered into on December 17, 2014, to ensure that pre-construction archaeological testing and monitoring of all ground clearing and disturbing construction activities that may affect historical or cultural sites that are listed, or eligible for listing, on the Arizona Register of Historic Places ("Register") are conducted in full compliance with Arizona and Federal law. In the event a listed or listing-eligible site is discovered, the Applicant will ensure that approved mitigation measures are implemented according to the PA. Applicant shall share results of any archaeological work and findings with the appropriate Tribes. [CEC Siting Case No. 169]

11. Before construction of the Project may commence, the Applicant shall file a copy of each of the following documents with the Commission's Docket Control: (a) PA, (b) HPTP, (c) PRMP, (d) POD and (e) ROD, including any amendments to any of such documents subsequent to the granting of this Certificate. Further, in addition to compliance with the conditions set forth in this Certificate, the Applicant shall comply with the provisions of these documents as applicable to the Arizona portion of the Project.

12. Within one hundred twenty (120) days of the Commission decision approving this Certificate, the Applicant will post signs in or near public rights-of-way giving notice of the Project corridor to the extent authorized by law. The Applicant shall place such signs in prominent locations at reasonable intervals (no more than one-half mile, subject to obtaining permission from the landowner) so that the public is notified along the full length of the Project until the transmission structures are constructed. To the extent practicable, within forty-five (45) days of securing easements or rights-of-way for the Project, the

Applicant shall erect and maintain signs providing public notice that the property is the site of a future transmission line or substation. Such signage shall be no smaller than a normal roadway sign. The signs shall advise:

(a) That the site has been approved for the construction of Project facilities;

(b) The expected date of completion of the Project facilities;

(c) A phone number for public information regarding the Project;

(d) The name of the Project

(e) The name of the Applicant; and

(f) The website of the Project. [CEC Siting Case No. 170]

13. Within one hundred twenty (120) days of the Commission decision granting this Certificate, the Applicant shall make good faith efforts to commence discussions with private landowners, on whose property the Project corridor is located, to identify the specific location for the Project's right-of-way and placement of poles. A description of the good faith efforts and discussions shall be included in the annual compliance-certification letter. [CEC Siting Case No. 170]

14. The Applicant will pursue reasonable efforts to work with private landowners on whose property the Project right-of-way will be located, to mitigate the impacts of the location, construction, and operation of the Project on private land. A description of these reasonable efforts shall be included in the annual compliance certification letter. [CEC Siting Case No. 170]

15. At least ninety (90) days, but not more than three hundred sixty-five (365) days before construction commences on the Project, the Applicant shall provide known homebuilders and developers who are building upon or developing land within a half-mile of the Project with a written description of the Project. The written description shall identify the location of the Project and contain a pictorial depiction of the Project. The Applicant shall also encourage the developers and homebuilders to include this information in their disclosure statements. [CEC Siting Case No. 170]

16. The Applicant shall use non-specular conductor and non-reflective surfaces for the Project's transmission line structures. [CEC Siting Case No. 170]

17. The Applicant will follow the most current Western Electricity Coordinating Council/North American Electric Reliability Corporation planning standards, as approved by the Federal Energy Regulatory Commission, and National Electrical Safety Code construction standards. [CEC Siting Case No. 170]

18. With respect to the Project, the Applicant shall participate in good faith in state and regional transmission study forums to coordinate transmission expansion plans related to the Project and to resolve transmission constraints in a timely manner. [CEC Siting Case No. 170]

19. When Project facilities are located parallel to and within 100 feet of any existing natural gas or hazardous pipeline, the Applicant shall:

a) Ensure grounding and cathodic protection measurements are performed to show that the Project's location parallel to and within 100 feet of such pipeline results in no material adverse impacts to the pipeline or to public safety when both the pipeline and the Project are in operation. The Applicant shall take appropriate steps to ensure that any material adverse impacts are mitigated. The Applicant shall provide to the Commission Staff and file with Docket Control, a copy of the measurements performed and additional mitigation, if any, that was implemented as part of its annual compliance-certification letter; and

b) Ensure that measurements are taken during an outage simulation of the Project that may be caused by the collocation of the Project parallel to and within 100 feet of the existing natural gas or hazardous liquid pipeline. The measurements should either: (i) show that such simulated outage does not result in customer outages; or (ii) include operating plans to minimize any resulting customer outages. The Applicant shall provide a copy of the measurement results to the Commission Staff and file it with Docket Control as part of its annual compliance-certification letter. [CEC Siting Case No. 170]

20. The Applicant shall submit a compliance certification letter annually, identifying progress made with respect to each condition contained in this Certificate, including which conditions have been met. Each letter shall be submitted to Commission's Docket Control commencing on January 31, 2017. Attached to each certification letter shall be documentation explaining how compliance with each condition was achieved. Copies of each letter, along with the corresponding documentation, shall be submitted to the Arizona Attorney General and the Governor's Office of Energy Policy. The requirement for the compliance certification letter shall expire on the date the Project is placed into operation. [CEC Siting Case No. 170]

21. The Applicant shall provide copies of this Certificate to the Counties of Greenlee, Graham, Cochise, Pima and Pinal, the City of Coolidge, SHPO and AGFD. [CEC Siting Case No. 170]

22. This authorization to construct the Project shall expire at two (2) different points in time, unless extended by the Commission, as provided below:

a) The Certificate for the first 500 kV transmission line and related facilities and the 500 kV Willow Substation shall expire ten (10) years from the date this Certificate is approved by the Commission, with or without modification.

b) The Certificate for the second 500 kV transmission line and related facilities shall expire twenty (20) years from the date this Certificate is approved by the Commission, with or without modification.

Construction of each line shall be complete, such that the line is in service within the applicable timeframe. However, prior to the expiration of either time period, the Applicant may request that the Commission extend either or both time limitation(s). [CEC Siting Case No. 170]

23. In the event that the Project requires an extension of either or both term(s) of this Certificate prior to completion of construction, the Applicant shall use reasonable means to notify all landowners and residents within a half-mile radius of the area of the Project, all persons who made public comment at this proceeding who provided a mailing address, and

all parties to this proceeding of the request and the date, time and place of the hearing or Open Meeting during which the Commission will consider the request for extension. [CEC Siting Case No. 170]

24. Any transfer or assignment of this Certificate shall require the assignee or successor to assume in writing all responsibilities of the Applicant listed in this Certificate and its conditions as required by A.R.S. § 40-360.08(A) and R14-3-213(F) of the Arizona Administrative Code. [CEC Siting Case No. 170]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This Certificate incorporates the following Findings of Fact and Conclusions of Law:

1. The Project aids the state and the southwest region in meeting the need for an adequate, economical and reliable supply of electric power. [CEC Siting Case No. 168]

2. The Project aids the state in preserving a safe and reliable electric transmission system. [CEC Siting Case No. 168]

3. The Project will assist the state in meeting the goal of increasing the use of renewable energy in the state. [CEC Siting Case No. 167]

4. The Project and the conditions placed on the Project in this Certificate effectively minimize the Project's impact on the environment and ecology of the state. [CEC Siting Case Nos. 168 and 170]

5. The conditions placed on the Project in this Certificate resolve matters concerning balancing the need for the Project with its impact on the environment and ecology of the state arising during the course of the proceedings, and, as such, serve as findings and conclusions on such matters. [CEC Siting Case No. 168]

6. The Project is in the public interest because the Project's contribution to meeting the need for an adequate, economical and reliable supply of electric power outweighs the minimized impact of the Project on the environment and ecology of the state. [CEC Siting Case No. 170]

///

DATED this ___ day of _____, 2015.

THE ARIZONA POWER PLANT AND
TRANSMISSION LINE SITING COMMITTEE

By: _____
Thomas K. Chenal, Chairman

SUNZIA SOUTHWEST 500 KV
TRANSMISSION LINE PROJECT
APPLICANT'S PROPOSED ROUTE TOUR SCHEDULE AND PROTOCOL

The Chairman has identified, and requested the development of two separate tour routes:

- Willcox Area Tour (October 21, 2015) and,
- Pinal Central-Oracle Area Tour (November 3, 2015).

The Siting Committee will travel in a chartered coach provided by the Applicant (SunZia), with a driver who will lead the route tour. Mr. Tom Wray, SunZia Project Manager, will provide testimony and be available to answer questions at the points of interest identified below and in the maps included herewith. The attached route tour maps show the tour path and points of interest along the Proposed Route. There will be a 20 minute stop at each point of interest.

Willcox Area Tour - October 21, 2015

The Willcox Area Tour will begin at the Willcox Community Center located at the intersection of N. Austin Blvd., and W. Stewart St. in Willcox, Arizona.

Start of Tour: 8:00 a.m.
Willcox Community Center
312 W. Stewart St. Willcox, AZ 85643 **First Stop #W-1 – 30 minutes**

POINT OF INTEREST #W-1 (32°28'39.72"N 109°39'12.19"W) **8:30 am to 8:50 am**
Proposed Willow-500 kV Substation, 1.1 miles east of US 191, Graham County

- From 312 W. Stewart St., travel to intersection with N. Austin Blvd.
- Turn right (NE) onto N. Austin Blvd. and travel 0.7 miles to W. Rex Allen Dr.
- Turn left and continue on W. Rex Allen Dr. for approximately 0.75 miles to Interstate 10 (I-10).
- Turn right to enter I-10 eastbound, travel approximately 12 miles to Exit 352 US 191.
- At end of ramp turn left (north) towards Safford.
- Follow US 191 for approximately 8 miles to location of the crossing of the Proposed Route.
- Proposed Willow-500 kV Substation will be 1.1 miles to the east.
- Turn around, and travel south on US 191 and proceed to enter I-10 westbound.

Next Stop #W-2 – 35 minutes

POINT OF INTEREST #W-2 (32°21'20.61"N 109°55'37.53"W) **9:25 am to 9:45 am**
Bonita Area/Fort Grant Rd, Cochise County north of Willcox

- Travel on I-10 west for approximately 12 miles to Exit 340, Fort Grant Rd. in Willcox.

- At end of ramp turn right (north).
- Follow Fort Grant Rd. 10 miles to intersection with Proposed Route (transmission line will cross just north of Hardy Rd./Fort Grant Rd. intersection).
- Turn right (east) onto Hardy Rd. and continue (Proposed Route will run parallel to Hardy Rd., on your left) to Nickels Rd.
- Turn right (south) on Nickels Rd. and continue to rejoin Fort Grant Rd., turn left at intersection (south) and continue to enter Interstate 10 westbound.

Next Stop #W-3 – 60 minutes

POINT OF INTEREST #W-3 (32°8'2.04"N 110°17'11.27"W) 10:45 am to 11:05 am

San Pedro River Crossing/N. Cascabel Rd. Cochise County

- Follow Interstate 10 westbound for approximately 30 miles to Exit 306 Pomerene Rd. in Benson.
- At end of ramp turn right and proceed north.
- Travel north on N. Pomerene Rd. for approximately 2 miles. N. Pomerene Rd. will then turn west.
- Travel approximately 0.75 miles, and then turn right to follow N. Pomerene Rd., which will become N. Cascabel Rd.
- Continue on N. Cascabel Rd. for approximately 11 miles to intersection with Proposed Route.

Next Stop #W-4 – 35 minutes

POINT OF INTEREST #W-4 (32°17'28.48"N 110°22'48.53"W) 11:40 am to 12:00 pm

Cascabel Community Center, N. Cascabel Rd. Cochise County

- Continue north on N. Cascabel Rd. on unpaved road for approximately 8 miles. Cascabel Community Center will be on the right.
- Proposed Route will be located generally parallel approximately 3 miles to your left (west).
- Follow N. Cascabel Rd. (south) back to N. Pomerene Rd. and Interstate 10.
- Enter I-10 eastbound and continue for approximately 30 miles to Exit 340 in Willcox, turn right onto W. Rex Allen Dr., and turn right onto N. Austin Blvd to return to the Willcox Community Center.

End Tour: Willcox Community Center – 70 minutes

End Tour at 1:10 pm.

Pinal Central-Oracle Area Tour - November 3, 2015

The Pinal Central-Oracle Area Tour will begin at the Tucson Convention Center located approximately 0.2 miles south of the intersection of S. Church St. and W. Congress St. in Tucson, Arizona.

Start of Tour: 8:00 a.m.
Tucson Convention Center
260 S. Church St. Tucson, AZ 85701 **First Stop #PC-1 – 60 minutes**

POINT OF INTEREST #PC-1 (32°52'8.45"N 111°33'10.33"W) **9:00 am to 9:20 am**

Pinal Central Substation, Eleven Mile Corner Rd. Pinal County

- Exit Tucson Convention Center onto S. Church St. and turn left (north).
- Travel approximately 0.2 miles to W. Congress St. and turn left (west).
- Continue on W. Congress St. for approximately 0.4 miles to Interstate 10.
- Turn right onto Interstate 10 westbound.
- Travel on I-10 west for approximately 47 miles to Exit 211 SR 87 North towards Coolidge and Florence.
- Follow SR 87 for approximately 11 miles to Highway 287 and turn left.
- Travel for approximately 3 miles to Eleven Mile Corner Rd. The Proposed Route will be parallel to Highway 287 approximately 0.75 miles to your left (south).
- At Eleven Mile Corner Rd., turn left (south) and travel 0.5 miles to Pinal Central Substation.

Next Stop #PC-2 – 15 minutes

POINT OF INTEREST #PC-2 (32°52'47.37"N 111°26'39.20"W) **9:35 am to 9:55 am**

Central Arizona Project Canal (CAP) crossing, Pinal County

- Return to Highway 287 and turn right.
- Travel for approximately 3 miles to S. Arizona Blvd (SR 87). The Proposed Route will be parallel to the right (south) approximately 0.75 miles.
- Continue straight across SR 87 onto E. Steele Rd. and travel approximately 3 miles to N. Wheeler Rd.
- The Proposed Route will be overhead in this location running east/west and will cross the CAP canal approximately 1 mile due east.
- The CAP canal crossing is not accessible by car in this location.

Next Stop #PC-3 – 45 minutes

POINT OF INTEREST #PC-3 (32°36'59.28"N 111°15'28.90"W) 10:40 am to 11:00 am

Park Link Rd./Tortolita-Pinal Central Transmission Line, Pinal County

- Turn around at Wheeler Rd. and continue on E. Steele Rd. back to SR 87 and turn left (south).
- Follow SR 87 south for approximately 11 miles to Interstate 10.
- Enter I-10 eastbound towards Tucson and travel approximately 15.5 miles to Exit 226 Red Rock.
- At end of ramp take a left and travel 0.2 miles to take another left to cross over the freeway.
- Cross over I-10 and turn left (north) at E. Camino Adelante Rd.
- Follow approximately 1.5 miles to E. Park Link Rd. and turn right (east).
- Follow E. Park Link Rd for approximately 5.25 miles to location of Proposed Route crossing.

Next Stop #PC-4 – 30 minutes

POINT OF INTEREST #PC-4 (32°36'20.46"N 110°59'6.24"W) 11:30 am to 11:50 am

Highway 79 intersection, Pinal County

- Continue east on E. Park Link Rd. for approximately 13 miles to its intersection with SR 79. (Proposed Route will be generally parallel at varying distances between approximately 0.2 and 4.3 miles).
- Turn right (south) onto SR 79 and follow for approximately 5.75 miles to location where the Proposed Route crosses the highway.
- Continue south on SR 79 for 4.5 miles to Oracle Junction and intersection with SR 77.

Next Stop #PC-5 – 10 minutes

POINT OF INTEREST #PC-5 (32°35'26.45"N 110°55'15.47"W) 12:00 pm to 12:20 pm

Saddlebrooke Ranch, Hwy 77, Pinal County

- Turn left onto SR 77 towards Oracle.
- Follow SR 77 for 2 miles to the Saddlebrooke Ranch Master Planned Community.
- Turn left onto Saddlebrooke Ranch Dr. to enter the community.
- Pass Gatehouse and continue approximately 0.4 miles towards the Clubhouse.
- Turn left before entering Clubhouse parking lot.
- This road will quickly become unpaved.

- Follow around to the north end of the property approximately 1 mile and turn right to loop back around to Saddlebrooke Ranch Dr.; an additional 2.5 miles. (The Proposed Route will pass approximately 1 mile north of this portion of the property).
- Turn left back onto Saddlebrooke Ranch Dr. to exit the community.
- Turn left onto SR 77 when reached.

Next Stop #PC-6 – 15 minutes

POINT OF INTEREST #PC-6 (32°39'2.38"N 110°43'52.00"W) 12:35 pm to 12:55 pm

Arizona National Trail – Trailhead, Pinal County

- Follow SR 77 for approximately 11 miles passing Oracle to Tiger Mine Rd.
- Turn left onto Tiger Mine Rd.
- Follow for approximately 1.5 miles to the Arizona National Trailhead.
- Follow back to SR 77 and turn right (west).
- **Lunch:** Follow SR 77 for 1 mile and turn left to travel through Oracle on Old Hwy 77, where choices for lunch can be found **(1:05 pm to 2:05 pm)**.
- After lunch, continue west on Old Hwy 77 to intersection with SR 77 and turn left.
- Follow SR 77 towards Oracle Junction for approximately 7 miles.
- At Oracle Junction, continue to follow SR 77 south towards Oro Valley and Tucson for approximately 22 miles to W. Miracle Mile (which is the continuation of SR 77).
- Turn right (west) on W. Miracle Mile and follow for approximately 1.5 miles to I-10.
- Cross over freeway to enter I-10 eastbound and travel approximately 3 miles to Exit 258 Congress St./Broadway Blvd.
- Continue on Broadway Blvd. to S. Church St. approximately 0.5 miles and turn right to return to the Tucson Convention Center.

End Tour: Tucson Convention Center – 50 minutes

With lunch stop in Oracle

End at 2:55 pm

Willcox Area Tour			
From	**To**	**Distance (Miles)***	**Drive Time (Minutes)***
Willcox Community Center	#W-1	20	30
#W-1	#W-2	30	35
#W-2	#W-3	53	60
#W-3	#W-4	13.5	35
#W-4	Willcox Community Center	56.5	70
Total		**173**	**230 (3 hrs 50 min)****

*Times and Distances are Estimated

**Without 20 minute stop at each point of interest

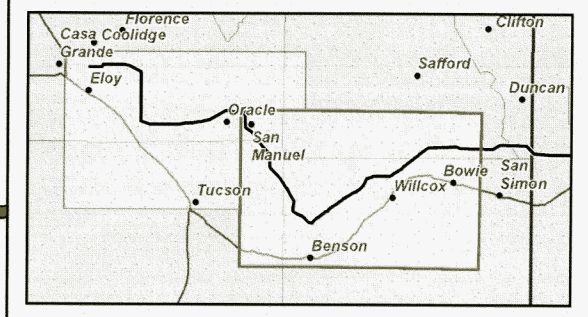
Pinal Central - Oracle Area Tour			
From	**To**	**Distance (Miles)***	**Drive Time (Minutes)***
Tucson Convention Center	#PC-1	61	60
#PC-1	#PC-2	6	15
#PC-2	#PC-3	36	45
#PC-3	#PC-4	18.75	27
#PC-4	#PC-5	6.5	8
#PC-5	#PC-6	12.5	17
#PC-6	Tucson Convention Center	36.5	50
Total		**177.25**	**222 (3 hrs 42 min)****

*Times and Distances are Estimated

**Without 20 minute stop at each point of interest

SUNZIA SOUTHWEST TRANSMISSION PROJECT

Willcox Tour



National Forest

Coronado National Forest

GALIURO MOUNTAINS

PINALEÑO MOUNTAINS

DOS CABEZAS MOUNTAINS

SULPHUR SPRINGS VALLEY

RINCON MOUNTAINS

San Manuel

Bowie

Willcox

Benson

Saguaro National Park (East)

Coronado National Forest

Willcox Playa

PIMA COUNTY

GRAHAM COUNTY

COCHISE COUNTY

Fort Grant Rd.

San Pedro River

Cascabel Rd.

E. 3 Links Rd.

WILLOW-500 kV SUBSTATION

W-1

W-2

W-3

W-4

Start/End

STOP

191

10

186

Sources

Base Data:
United States Geological Survey, National Elevation Dataset 1999-2010
Arizona Bureau of Land Management 2014
Arizona State Land Department 2010
ESRI StreetMap 2014
HERE LLC 2015

epg

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Miles

N

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Legend

Bus Tour
- Direction of Route
- Point of Interest

Routes
- Proposed Route

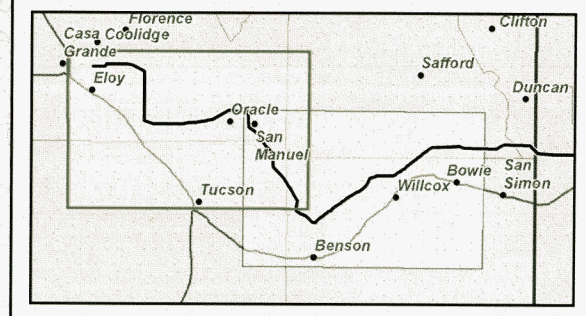
Project Features
- Proposed Substation
- Existing Substation

Reference Features
- Interstate
- US/State Highway
- Local Road
- Railroad
- State Boundary
- County Boundary
- Jurisdictional Boundary
- Lake/Reservoir
- River/Stream
- Canal

SUNZIA SOUTHWEST TRANSMISSION PROJECT

Pinal Central - Oracle Tour

SunZia



PINAL CENTRAL SUBSTATION

PC-1 STOP

PC-2 STOP

PC-3 STOP

PC-4 STOP

PC-5 STOP

PC-6 STOP

Start/End STOP

Casa Grande

Eloy

Picacho Peak State Park

PICACHO MOUNTAINS

Central Arizona Project

Park Link Dr

TORTOLITA MOUNTAINS

Oracle

Oracle State Park

San Manuel

San Pedro River

Coronado National Forest

GALIURO MOUNTAINS

PINAL COUNTY

PIMA COUNTY

GRAHAM COUNTY

COCHISE COUNTY

Ironwood Forest National Monument

Santa Cruz River

Marana

Catalina State Park

Saguaro National Park (West)

Tucson Mountain Park

Tucson

W Selma Hwy

W Roper Rd

N Estrella Rd

S 11 Mile Corner Rd

W Alsdorf Rd

S Toltec Rd

S Sunland Gin Rd

W Harmon Rd

S Sunshine Blvd

W Greene Reservoir Rd

E Baumgartner Rd

Sasco Rd

79

87

10

77

Legend

Bus Tour
- Direction of Route
- Point of Interest

Routes
- Proposed Route

Project Features
- Proposed Substation
- Existing Substation

Reference Features
- Interstate
- US/State Highway
- Local Road
- Railroad
- State Boundary
- County Boundary
- Jurisdictional Boundary
- Lake/Reservoir
- River/Stream
- Canal

Sources

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Arizona Bureau of Land Management 2014
Arizona State Land Department 2010
ESRI StreetMap 2014
EPG LLC 2015

epg

Contour Interval 50 Meters

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SEP 18 2015

GRAHAM COUNTY PLANNING & ZONING/COMMUNITY DEVELOPMENT
921 Thatcher Boulevard, Safford, AZ 85546
Phone: (928) 428-0410
Fax: (928) 428-8825

18 August 2015

Mickey Siegel, Project Manager
Environmental Planning Group
4141 N. 32nd St., Ste 102
Phoenix, AZ 85018

RE: SunZia Transmission, LLC

Mr. Siegel,

This letter is to inform you that Graham County has no comments or additional information to include in SunZia's application for a Certificate of Environmental Compatibility for the SunZia Southwest Transmission Project.

Further, Graham County will not be intervening.

Sincerely,

Joe Goodman, Planning & Zoning Director
Graham County

Cc: Terry Cooper, County Manager

Arizona State Parks

Douglas A. Ducey
Governor

Sue Black
Executive Director

State Parks Board
R.J. Cardin, Chairman
Kay Daggett, Vice-Chairman
Mark Brnovich, Phoenix
Alan Everett, Sedona
Shawn Orme, Mayer
Orme Lewis, Jr., Phoenix
Lisa Atkins, State Land Commissioner

August 28, 2015

Mickey Siegel
Environmental Planning Group
4141 North 32nd Street, Suite 102
Phoenix, Arizona 85018

Re: SunZia Southwest Transmission Project

Dear Mr. Siegel:

Thank you for the opportunity to comment regarding development plans along the proposed transmission route. Arizona State Parks ("Parks") appreciates the ability to discuss the SunZia Southwest Transmission Project ("Project").

Parks' mission is to manage and conserve Arizona's natural, cultural, and recreational resources for the benefit of the people, both in our parks and through our partners. Given this role, we must responsibly assess all potential impacts to the Parks System.

In consideration of Parks' mission and its interests in the vicinity of the Project, we respectfully request that any forthcoming activities adhere to all applicable laws and are conducted after obtaining the proper permits and authorizations.

In addition, we respectfully advise that Oracle State Park is in the vicinity of the Project. Importantly, after much community effort, the International Dark-Sky Association has named Oracle State Park a Dark Sky Place. This designation has been awarded only forty-two times internationally, and Oracle State Park is one of four certified locations in Arizona. We respectfully request that this important certification be considered, should activities related to the Project occur in the vicinity of Oracle State Park.

Arizona State Parks appreciates being included in this process and welcomes further discussion regarding this matter.

Respectfully,

Sue Black
Executive Director
Arizona State Parks

1300 W. Washington Street • Phoenix, AZ 85007
(602) 547-4174 • Fax (602) 542-4188
AZStateParks.com AZStateParks

Robson COMMUNITIES

SEP 11 2015

Peter M. Gerstman
Executive Vice President
General Counsel
(480) 895-4297
Email: Peter.Gerstman@Robson.com

September 8, 2015

Environmental Planning Group
4141 North 32nd Street, Suite 102
Phoenix, AZ 85018
Attention: Mickey Siegel, Project Manager

Re: SunZia Southwest Transmission Project
ACC Docket No. L-00000YY-15-0318-00171

Dear Mr. Siegel:

I am writing this letter on behalf of Robson Ranch Mountains, LLC ("Robson") in response to your August 12, 2015 letter concerning the SunZia Southwest Transmission Project. As I discussed with Tony De Luca of your company and as I explained in my letter dated August 13, 2012, to the Bureau of Land Management, New Mexico State Office, a portion of the BLM's preferred routing for the proposed SunZia Southwest Transmission Lines goes right through SaddleBrooke Ranch, which is a master planned active adult community. SaddleBrooke Ranch is located north of Oracle Junction in Pinal County, Arizona, between Arizona Highway 77 and Arizona State Highway 79. An aerial photo of the area at issue is attached. The BLM's proposed route in this area is part of the sub-route identified in the BLM's draft environmental impact statement for this project as sub-route 4C2c.

As the developer of SaddleBrooke Ranch, Robson has already invested tens of millions of dollars in the community. The SaddleBrooke Ranch property encompasses more than 2500 acres and upon build-out will include more than 5,000 homes. The vast majority of the SaddleBrooke Ranch property, including the portion of SaddleBrooke Ranch that the BLM-preferred route crosses, has been zoned, is subject to a planned area development overlay district, and is subject to a Phased Protected Development Right Plan with Pinal County.

SaddleBrooke Ranch currently includes, among other things, a sales and design center with 11 furnished models, an 18-hole championship golf course with putting green and driving range, an extensive pickleball complex with 24 courts, a fitness center and spa with over 40,000 square feet that include indoor and outdoor swimming pools, men's and women's hair salons, massage rooms, aerobics and yoga facilities, a learning center, a creative arts room, billiards, and lighted tennis courts. In addition, a Robson affiliate has invested millions of dollars to construct a wastewater treatment facility that treats raw sewage to drinking water standards for recharge to the aquifer and for golf course irrigation. Construction of a large clubhouse is imminent, as is a new Creative Arts Center. Land development work for these new amenities is underway, and vertical construction should begin within a few months. The master plan provides for additional amenities and facilities, including golf and homes, in the vicinity of the area that would be

traversed by the BLM-preferred SunZia route. And, of course, there are hundreds of people living in SaddleBrooke Ranch who have invested significant amounts in their homes for their retirement years.

The addition of two 500 kv transmission lines in the northerly portion of SaddleBrooke Ranch has the potential to significantly affect and impair future development of the project. We understand the general need for appropriate infrastructure to support future development and we support efforts to meet that need. Affiliates of Robson have cooperated fully in the past in the location of electric transmission lines through other Robson Resort Communities when necessary and where appropriate. This, however, is a different case. Without commenting on the vast majority of the BLM's preferred route, there are relatively small adjustments that could be made to the route in the vicinity of SaddleBrooke Ranch that would have significant and positive effects for SaddleBrooke Ranch and for Pinal County.

We understand that there are many considerations and interests the BLM must balance when choosing a route. However, the BLM appears not to have given sufficient consideration to the effect of its preferred route on the SaddleBrooke Ranch master plan, the huge investment being placed at risk by Robson in this project, and the employment considerations relating to SaddleBrooke Ranch. Because of our belief in the long-term potential of the SaddleBrooke Ranch location, as demonstrated by the success of the SaddleBrooke community, which is approximately 7 miles from SaddleBrooke Ranch, Robson made a huge investment in SaddleBrooke Ranch even as other homebuilders were closing shop. Studies performed in the past by the Center for Business Research at the Arizona State University College of Business and by the Center for Economic Development and Research at the University of North Texas have confirmed the tremendous economic benefits of a Robson Resort Community for the local economy. The study prepared by ASU in June, 2000 of the economic contributions of SaddleBrooke and SaddleBrooke Ranch estimates that the combined effects of spending for consumer goods and services by households in these two projects upon build-out and the ongoing operations of the homeowners' associations will generate $1.9 billion in expenditures and $1 billion in earnings *per year* in 1999 dollars, and support 27,500 jobs. This is in addition to all of the direct construction and other jobs during the course of development.

The zoning for the entire SaddleBrooke Ranch master plan is vested by virtue of the golf course, streets, infrastructure, amenities and homes already constructed in the community. Zoning vests for the entire master plan because a developer would never start a project as massive as SaddleBrooke Ranch without some assurance of the ability of completing it. For similar reasons, we believe it is incorrect to think of real property within the SaddleBrooke Ranch master plan as "undeveloped" in the same sense as the neighboring State land and agricultural land. Development has not yet reached the location of the BLM-preferred route in SaddleBrooke Ranch, but the location is part of a large and ongoing construction and development project in accordance with a master plan.

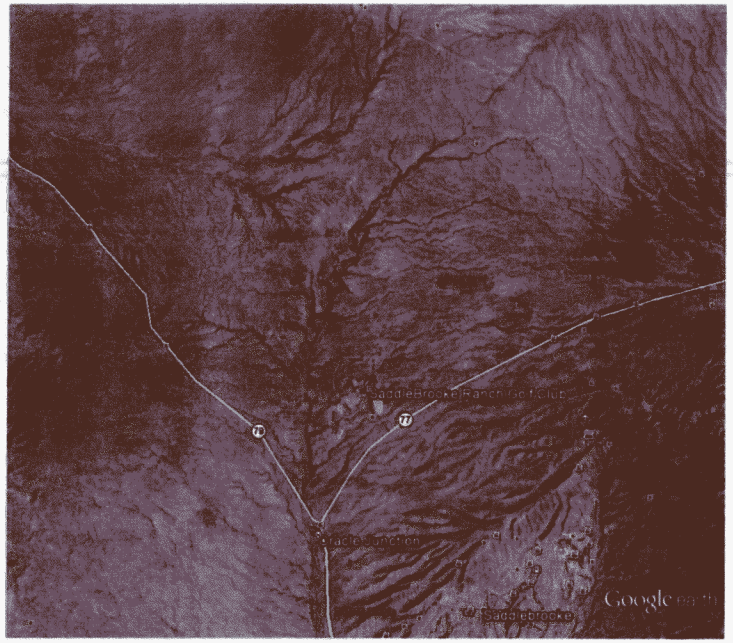
A relatively small adjustment in the routing in the vicinity of SaddleBrooke Ranch, taking the line to the north of SaddleBrooke Ranch before converging with the BLM-preferred route could have a tremendous economic effect, not only for Robson, but also for the County. An example of just one potential change that could have tremendous advantages is indicated in pink in the second attachment to this letter. This change would not have any effect on the route in the

vicinity of the San Pedro River. This adjustment would affect only a very small portion of sub-route 4C2c, meaning that the vast majority of sub-route 4C2c could remain the same. We would appreciate the opportunity to work with the BLM, Pinal County and others to effect this minor modification. Of course, the SunZia-preferred route, as well as many sub-routes in Route Group 4, would avoid SaddleBrooke Ranch entirely.

Sincerely,

Peter M. Gerstman

cc: Edward J. Robson
Pinal County Board of Supervisors
Arizona Corporation Commission
Arizona Power Plant and Transmission Line Siting Committee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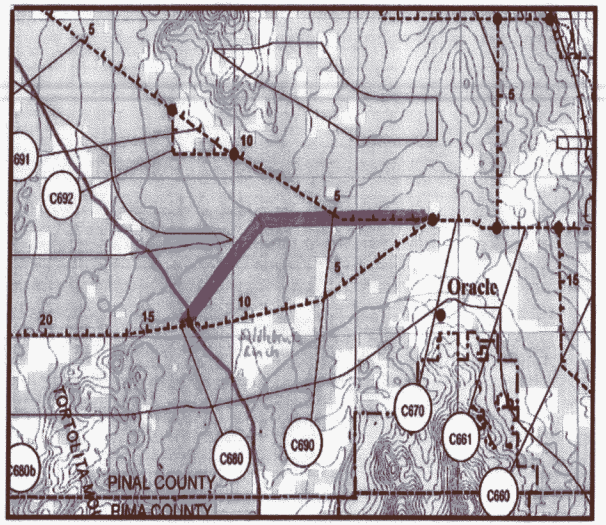
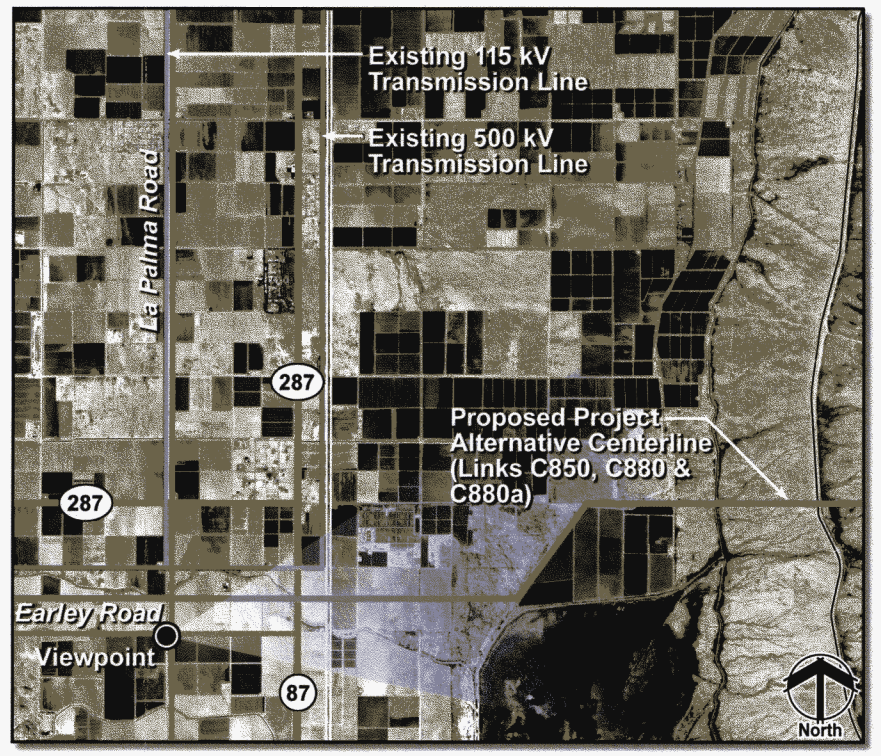

Oracle
C692
C691
C680
C690
C670
C661
C660
PINAL COUNTY
PIMA COUNTY

APPLICATION ADDENDUM

Simulation: Exhibit G4-7

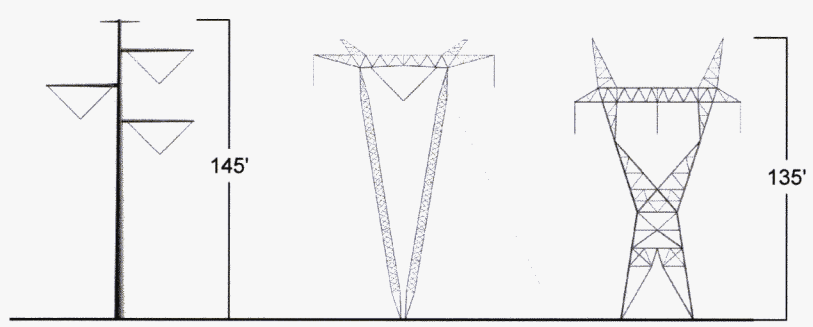
Existing Condition – View northeast toward residences on Earley Road. Existing distribution lines, a 500 kV transmission line, and agriculture modify the landscape setting.



Photograph Location: Viewpoint is approximately 0.4 mile from proposed transmission lines.

Simulation – The Project (see structure diagrams) with typical spans. The Project would be minimally screened and partially skylined.

AC 500 kV TOWER STRUCTURE DIAGRAMS



Typical single-circuit 500 kV galvanized self-supporting tubular tangent transmission tower.

Typical single-circuit 500 kV galvanized guyed-V lattice transmission tower.

Typical single-circuit 500 kV galvanized self-supporting lattice dead-end transmission tower.

Photo Date and Time: 8-27-15, 1:29 p.m. Focal Length: 50mm
(The original photographs were taken at 50mm, then stitched together to create this panorama, resulting in an approximately 47-degree field of view)

Simulations were prepared using three-dimensional structure models provided by the owner's engineer.
Facility locations, colors, and heights will differ based on final engineering and design.

SunZia Southwest Transmission Line Project

Simulation G4-7

October 2015

VIRTUAL ROUTE TOUR PROCESS

- Acquire and process data associated with the Project for incorporation into Google Earth
- Develop Points of Interest (POI) and verify the location once incorporated into Google Earth
- Verify the location of Project components, including centerlines, key geographic features crossed, and key roads
- Add reference data to Google Earth (e.g., ownership and existing utilities) and formal reference data (e.g., symbols, line weights, colors, text, etc.)
- Render video clips, including flyover, static photos, drone imagery and videos, and visual simulations
- Composite final video by incorporating rendered videos and static images in a video editing program

VISUAL SIMULATION PROCESS

- Identify Key Observation Points (KOPs) and obtain photography
- Measure elements in the field for scaling reference (e.g., existing towers, terrain, buildings, etc.)
- Create three-dimensional models of project facilities based on the best available data for the Project
- Integrate three-dimensional models with photography from KOPs
- Render models using real-world textures, lighting, and shadow and prepare final visual simulation

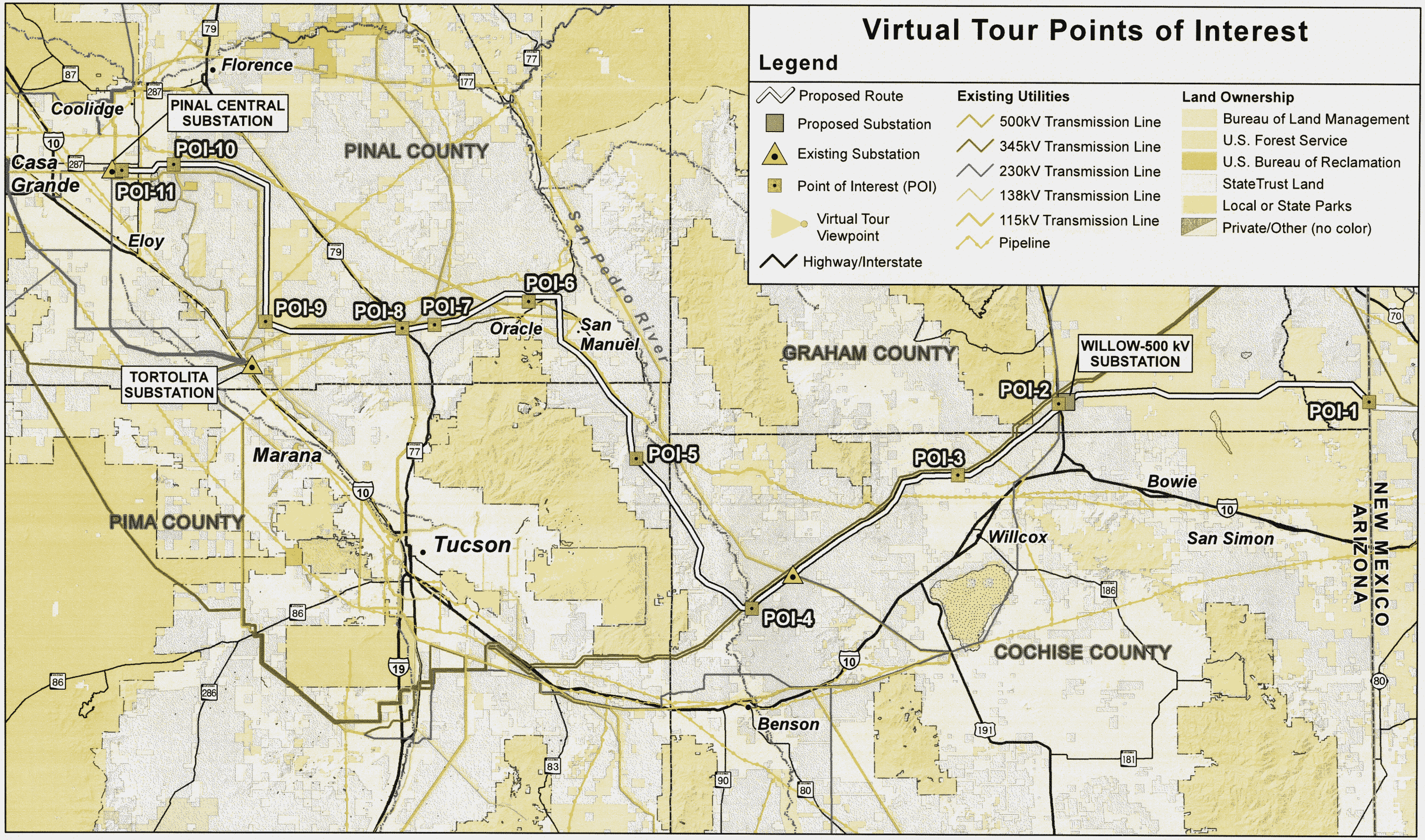
Virtual Tour Points of Interest

Legend

- Proposed Route
- Proposed Substation
- Existing Substation
- Point of Interest (POI)
- Virtual Tour Viewpoint
- Highway/Interstate

Existing Utilities

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 138kV Transmission Line
- 115kV Transmission Line
- Pipeline

Land Ownership

- Bureau of Land Management
- U.S. Forest Service
- U.S. Bureau of Reclamation
- StateTrust Land
- Local or State Parks
- Private/Other (no color)