Merrill to Coolidge 69kV Transmission Line Project

Open House

Welcome

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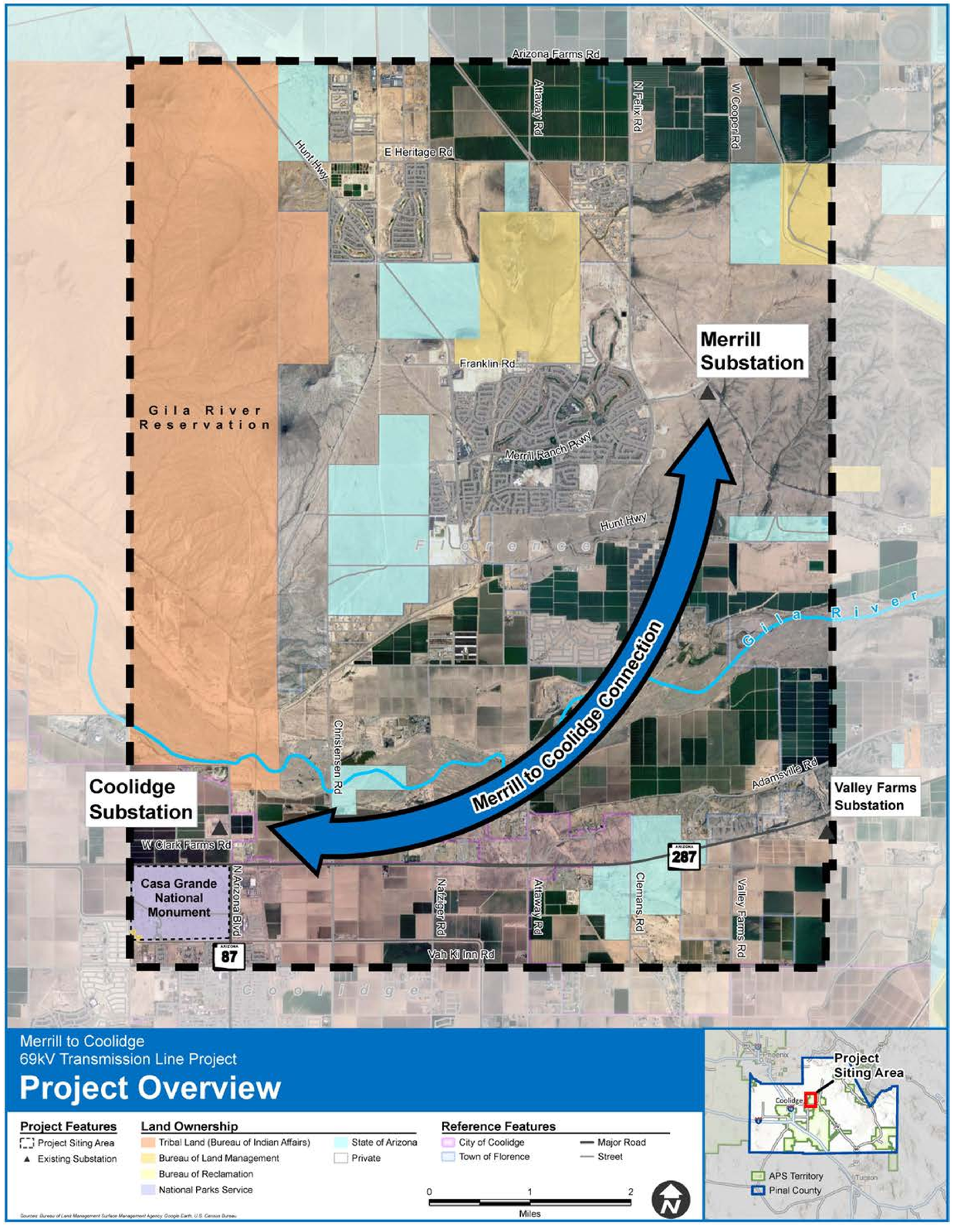
Project Overview and Need

Project Overview

Double circuit 69kV transmission line from the Coolidge Substation, near North Arizona Boulevard and West Clark Farms Road, to the Merrill Substation, east of Merrill Ranch Parkway and North Felix Road.



Project Need

Existing system:

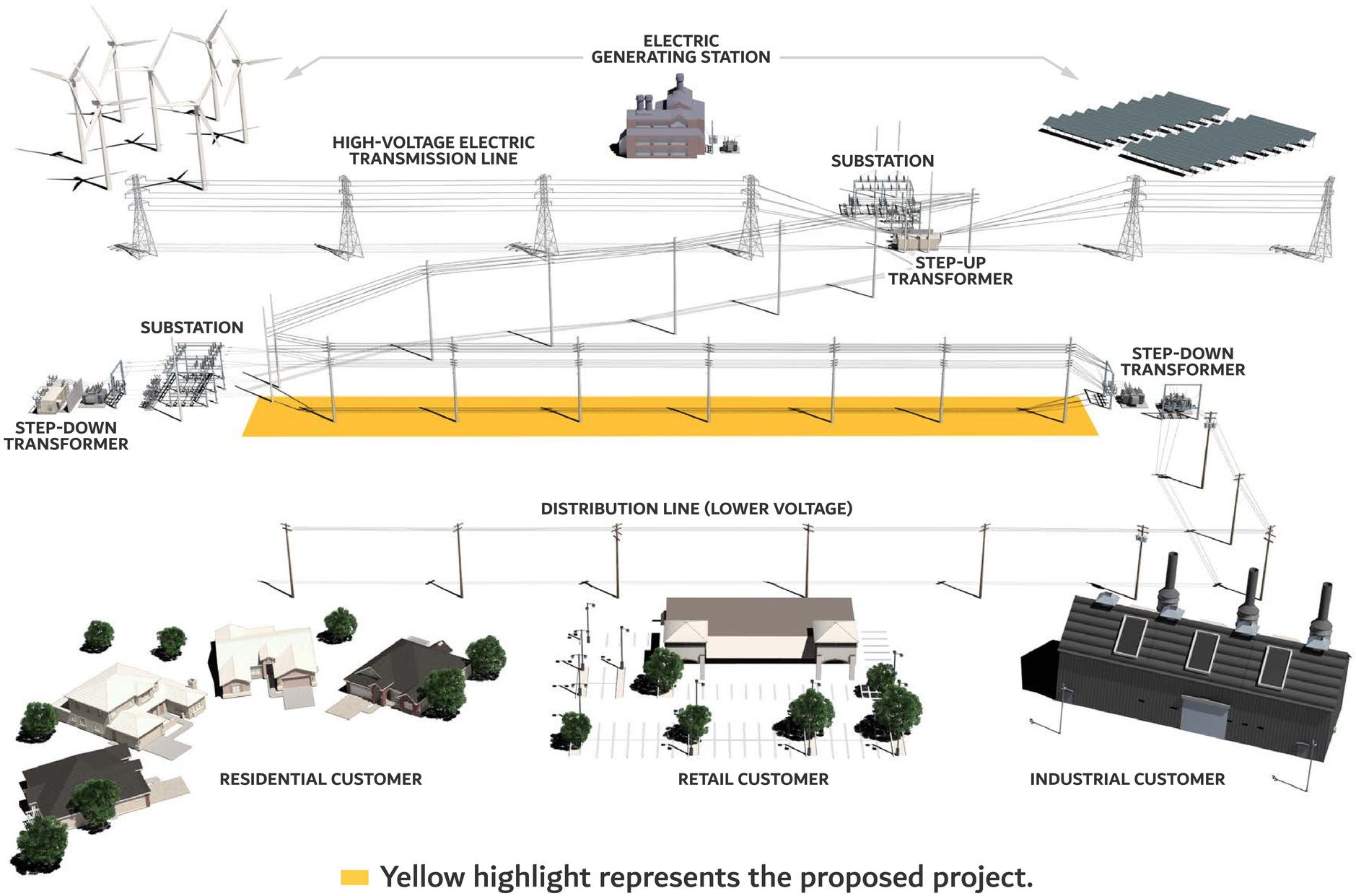
- Existing system may experience low voltage if an outage occurs on the system.
- Low voltage limits the ability of the system to support existing and future demands from APS customers.
- Increase in demand from industrial customers and new development further limits the ability of the system.
- All substations served from the Valley Farms Substation are supplied by a single source of power flowing in one direction; in the event of a system outage, there is a potential supply failure to customers in the area.

Improvement will:

- Connect the Merrill Substation with the Coolidge Substation to create a redundant power source. This will:
    - Increase electric service capacity.
    - Improve electric transmission system reliability.

Typical Infrastructure

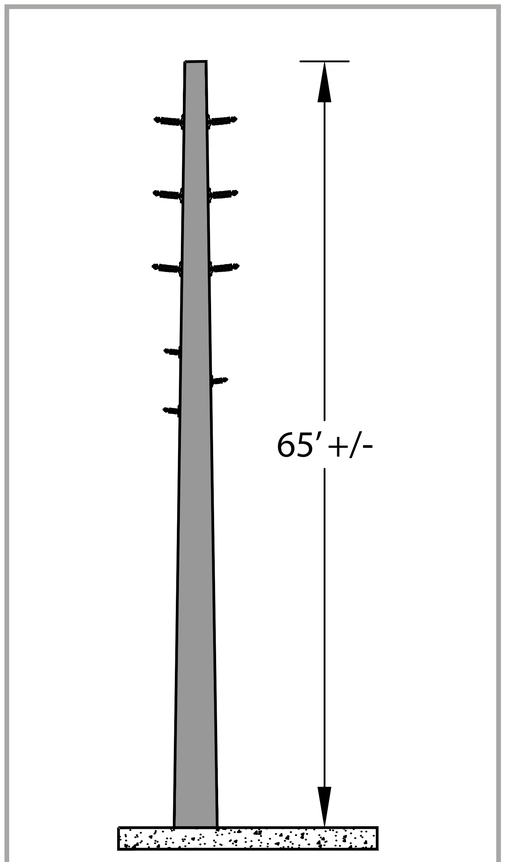
Electricity: From the Generating Source to the Customer



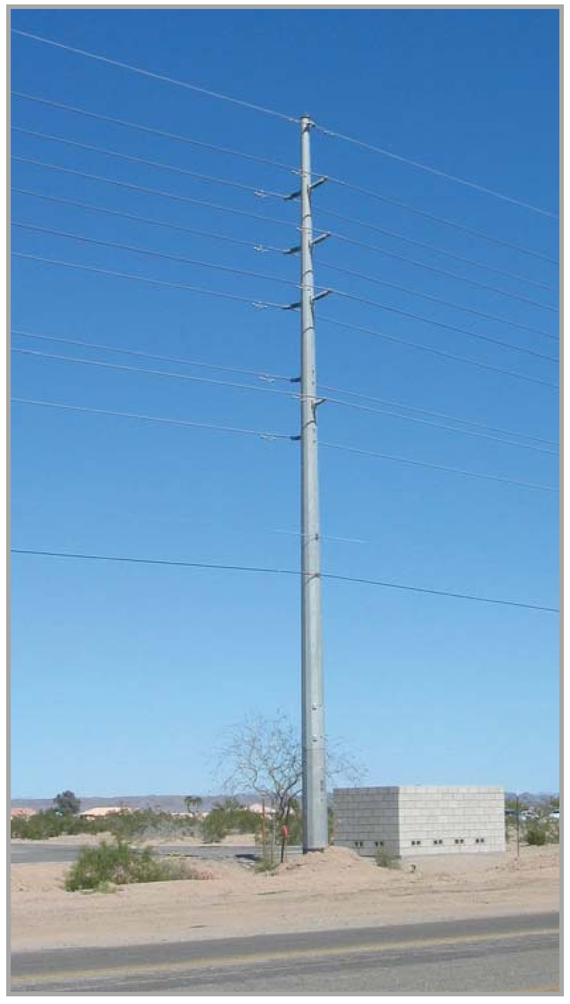
Yellow highlight represents the proposed project.

Typical Structures

- Voltage: 69kV *(one 69kV circuit initially second future 69kV circuit and 12kV distribution underbuild)*
- Type of structure: Steel monopole
- Length: Approximately 8-12 miles
- Height of monopoles: Approximately 65 feet *(depends on design requirements)*
- Span between monopoles: 250-350 feet *(15-20 structures per mile)*
- Right of way width: 60 feet



Double-circuit 69kV
with 12kV underbuild



Simulation: Viewpoint 1

Date: 11/01/2023 **Time:** 11:53 am
Viewing Direction: Southwest

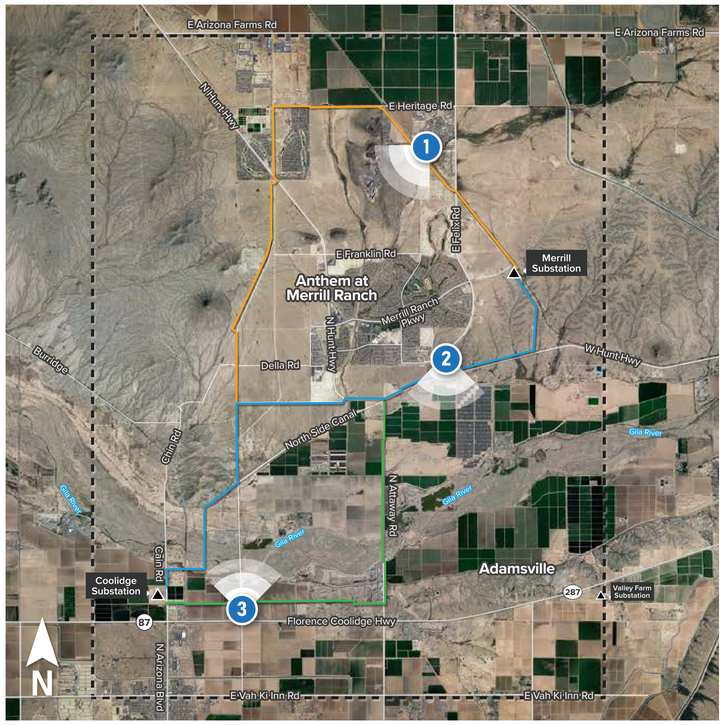
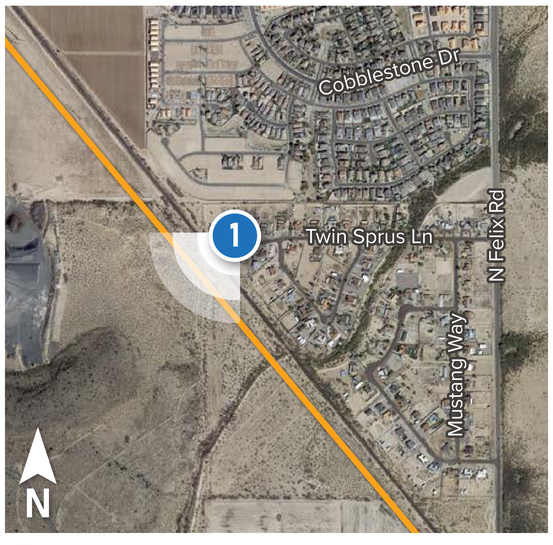


Photo Location Map

1 Viewpoint Location ▲ Existing Substation ⬚ Project Siting Area

Preliminary Route Alternatives: North Central South



1 Photo Location Preliminary Route Alternative: North

EXISTING CONDITIONS

PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Simulation: Viewpoint 2

Date: 11/01/2023 **Time:** 11:15 am
Viewing Direction: South

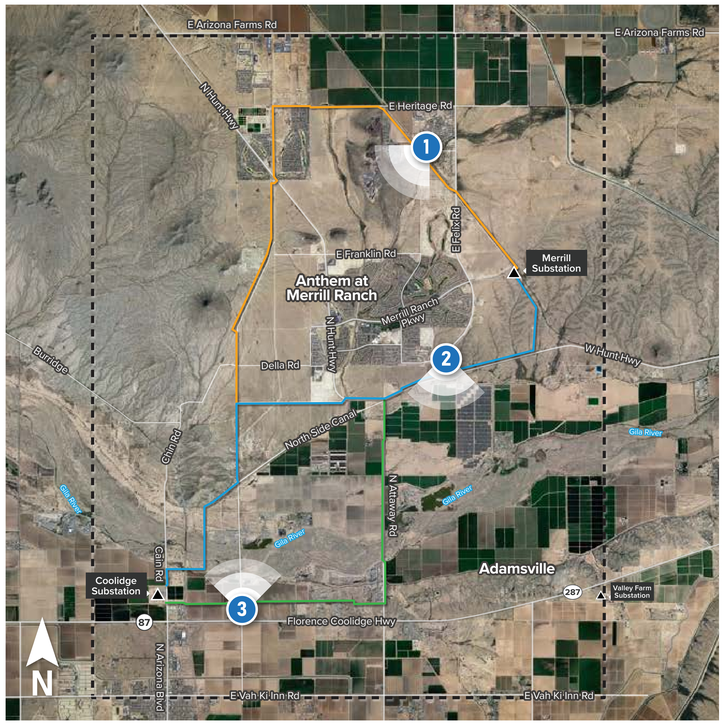
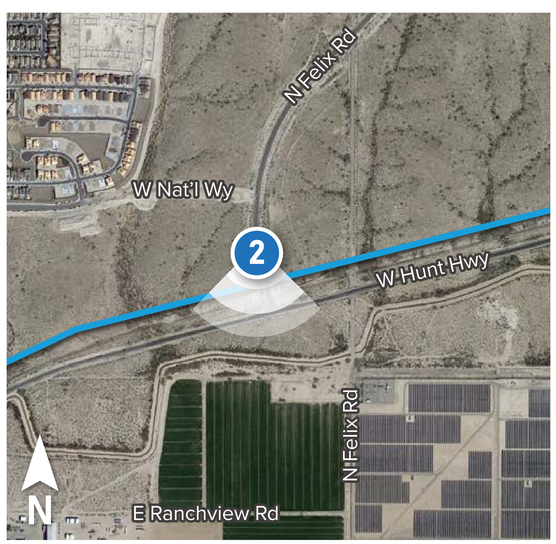


Photo Location Map

1 Viewpoint Location ▲ Existing Substation ⬚ Project Siting Area

Preliminary Route Alternatives: North Central South



2 Photo Location Preliminary Route Alternative: Central

EXISTING CONDITIONS

PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Simulation: Viewpoint 3

Date: 11/01/2023 **Time:** 9:32 am
Viewing Direction: North

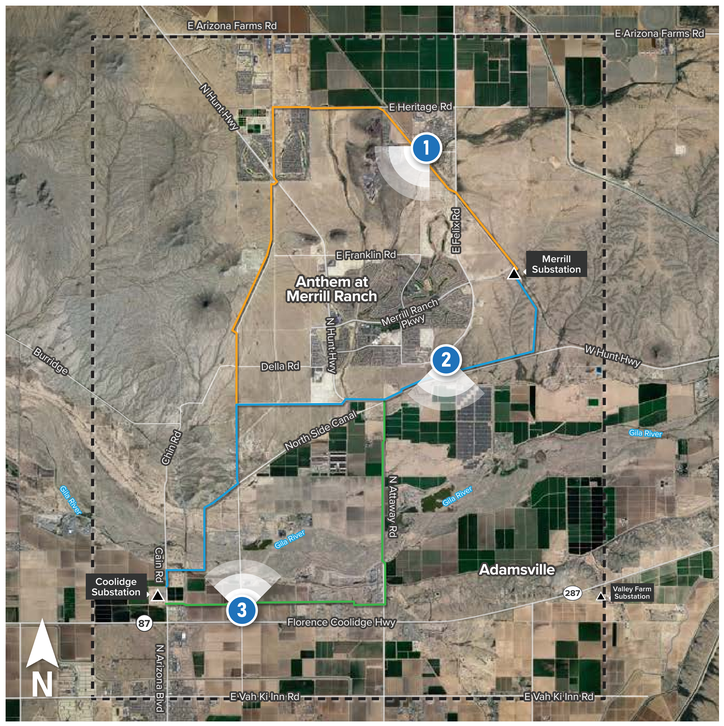
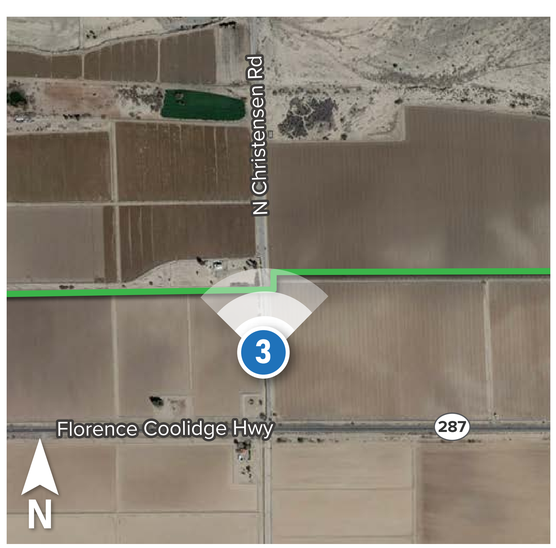


Photo Location Map

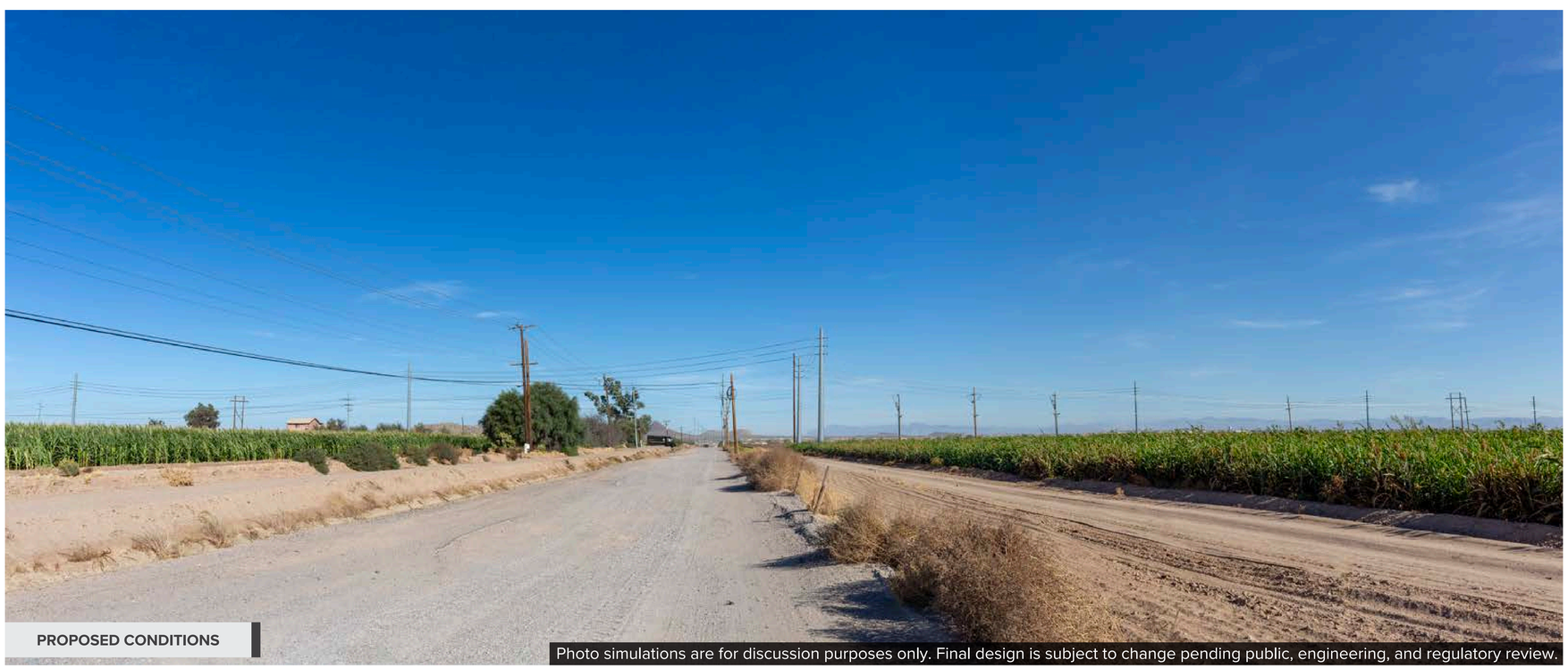
1 Viewpoint Location Existing Substation Project Siting Area

Preliminary Route Alternatives: North Central South



3 Photo Location Preliminary Route Alternative: South

EXISTING CONDITIONS



PROPOSED CONDITIONS

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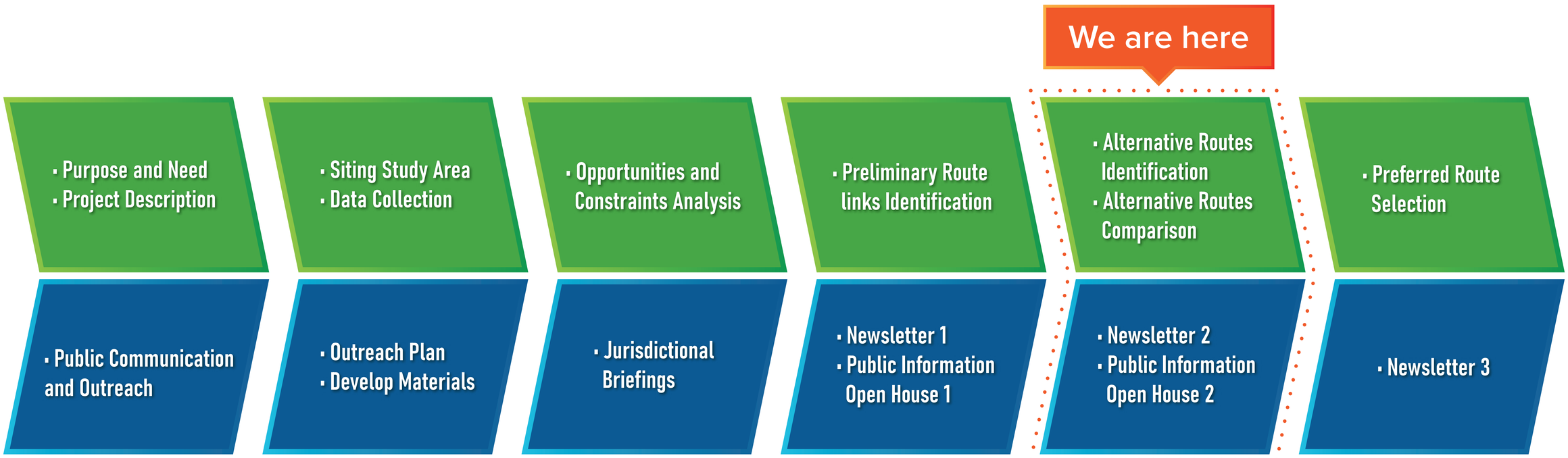
Planning Process

Siting Study Approach

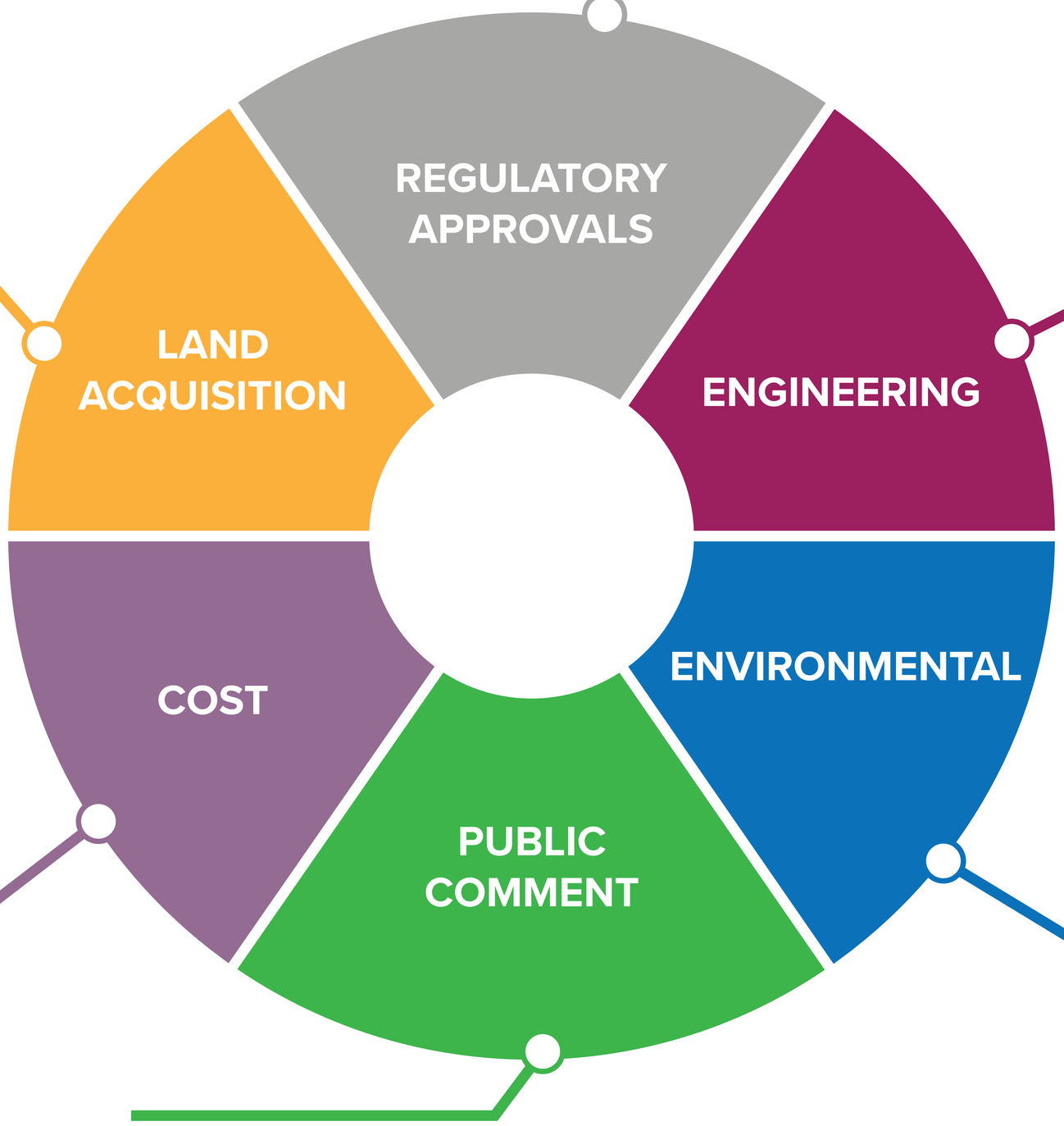


Factors Considered in Route Identification

When siting new electrical facilities, we strive to minimize impacts to sensitive resource areas (i.e., residential developments, airports, etc.) and maximize use of siting opportunities, including location near existing linear facilities and/or compatible land uses (i.e., transmission lines, roads, railroads, canals, etc.). Factors that APS must consider include the following:

REGULATORY APPROVALS:
The ability of APS to obtain the necessary approvals for the construction project. These approvals will include a variety of permits from federal, state and local agencies.

LAND ACQUISITION:
The ability of APS to obtain the necessary land rights (right-of-way) for the safe construction, operation and maintenance of the project.



ENGINEERING:
Constraints that represent challenges for the design and construction of the project. Constraints may include routes that lack access, present challenging terrain or cross large drainage areas.

COST:
The total cost of the project. Costs include permitting, materials, labor and land rights necessary to construct the project.

ENVIRONMENTAL:
Impacts the project may have on environmental conditions including land uses, visual resources, cultural resources and biological resources.

PUBLIC COMMENT:
Comments from affected jurisdictions, agencies, property owners and residents, expressing an opinion about the project.

Environmental Studies Overview

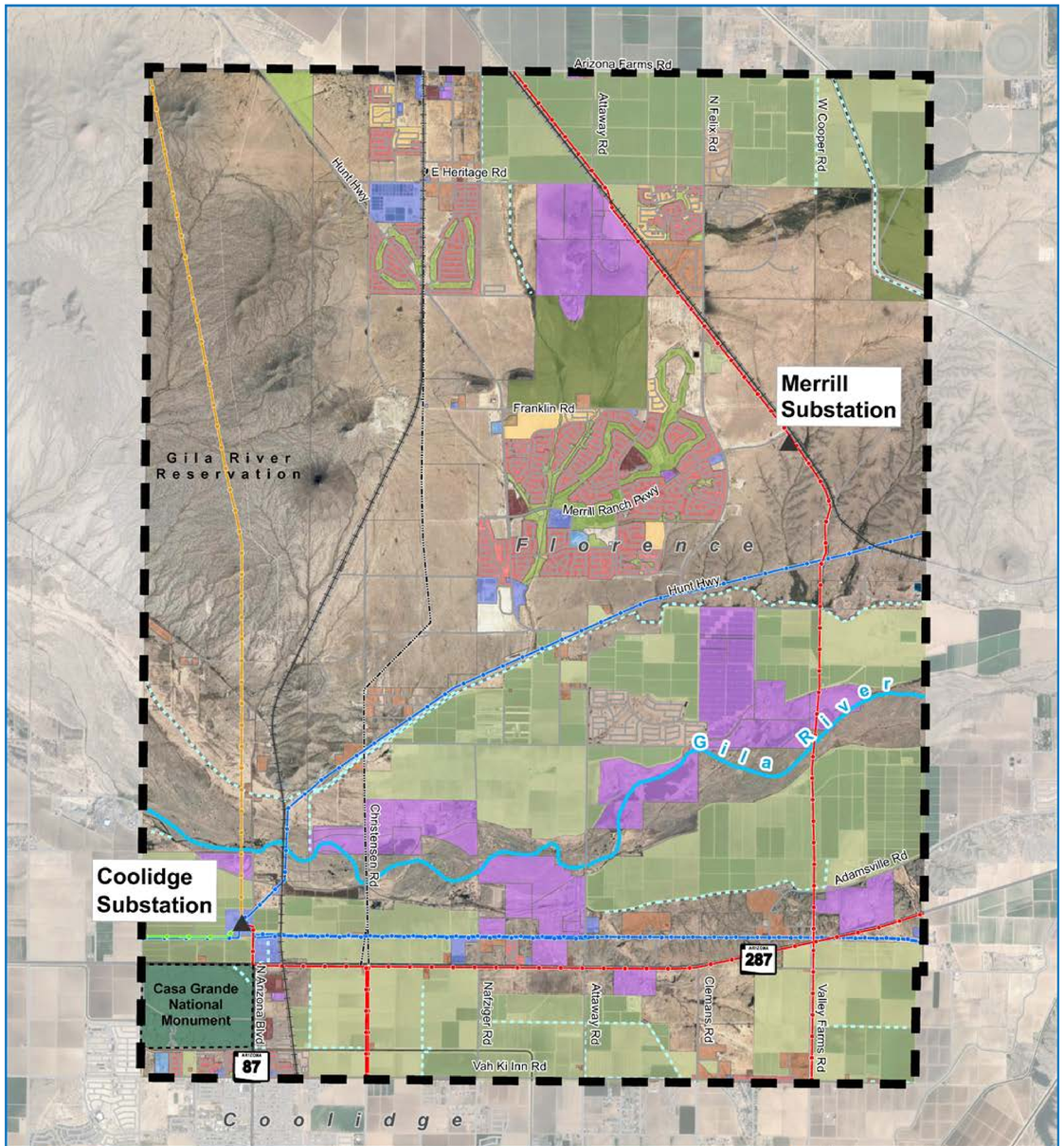
- **Land Use:** existing and planned land use and jurisdictional planning guidelines.

- **Visual/Aesthetics:** the appearance of transmission line in the landscape to sensitive viewers (residences, parks, travel routes).

- **Biology:** special status species (endangered, threatened, candidate species) and critical wildlife habitat.

- **Cultural:** the presence of cultural resources (National Register of Historic Places, National Historic Landmarks, National Historic Trails).

Existing Land Use and Future Land Use



Merrill to Coolidge
69kV Transmission Line Project

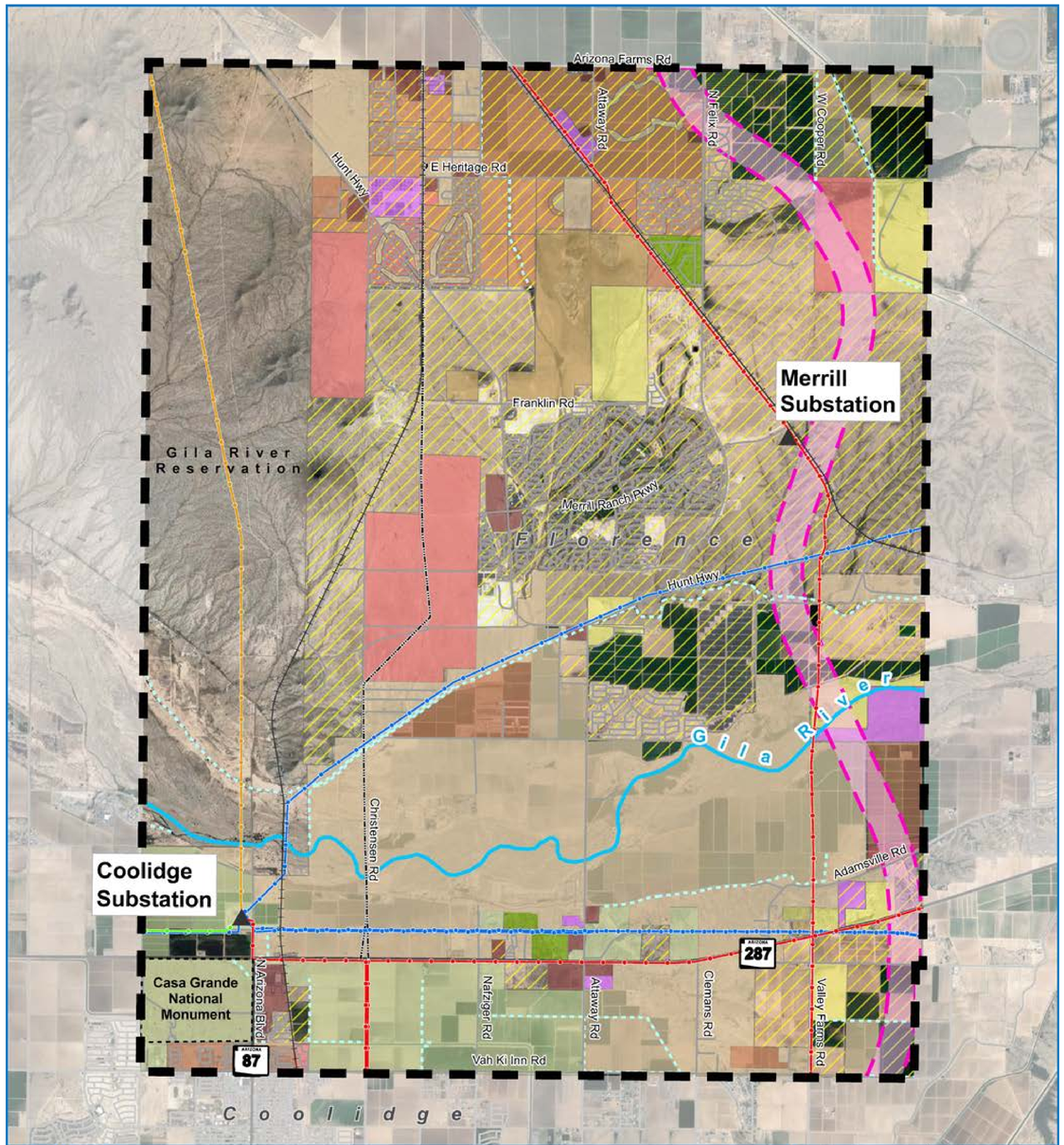
Existing Land Use

Existing Land Use
- Agriculture/Dairy
- Commercial
- Industrial
- School/Educational Facilities
- Public/Semi-Public (Church, Cemetery, Utility, Government)
- Residential - High/Medium Density
- Residential - Low Density
- Residential - Multi-Family
- Residential - Under Construction
- Active and Passive Open Space/ Recreation
- Public Land
- Parks/Preservation
- Vacant/Undeveloped

Existing Utility
- Existing 500 kV Transmission
- Existing 230 kV Transmission
- Existing 115 kV Transmission
- Existing 69 kV Transmission
- Natural Gas Pipeline
- Existing Substation

Reference Features
- Project Siting Area
- Major Road
- Street
- Railroad
- Canal

0 1 2 Miles



Merrill to Coolidge
69kV Transmission Line Project

Future Land Use

Zoning

Pinal County
- Commercial/Business
- Industrial
- Multiple Residence
- Single Residence
- Manufactured Home/RV/Transitional Housing
- Rural
- Undesignated
- Planned Area Development (PAD)

City of Coolidge
- Agricultural
- Commercial
- Single Family Residential
- Multi - Family Residential
- Manufactured Home
- Planned Area Development (PAD)

Town of Florence
- Downtown and Highway Business
- Light Industrial
- Neighborhood Multi-Family Residential
- Single Family Residential
- Single Family Ranchette
- Rural Agriculture
- Residential Agriculture
- Planned Unit Development (PUD)

Existing Utility
- Existing 500 kV Transmission
- Existing 230 kV Transmission
- Existing 115 kV Transmission
- Existing 69 kV Transmission
- Natural Gas Pipeline
- Existing Substation

Reference Features
- Project Siting Area
- AZDOT North-South Corridor (1,500-foot corridor)
- City of Coolidge
- Town of Florence
- Major Road
- Street
- Railroad
- Canal

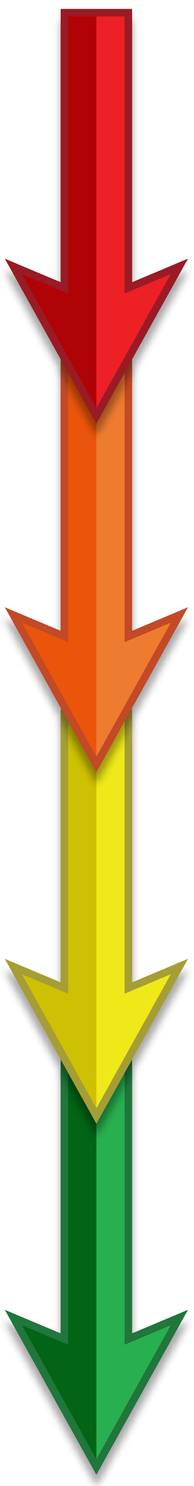
0 1 2 Miles

Opportunities and Constraints Analysis

Resource Sensitivity Levels: Land Use

What is sensitivity?
The measure of the probable adverse response to direct and indirect effects associated with construction, operation, maintenance and abandonment of the transmission.

Less Suitable
(Constraint)



More Suitable
(Opportunity)

Exclusion: Areas where the legal status would either prohibit or most likely prohibit the location of a transmission line. Locations of exclusion areas are considered to be the maximum constraint and undesirable for the location of the proposed transmission line.

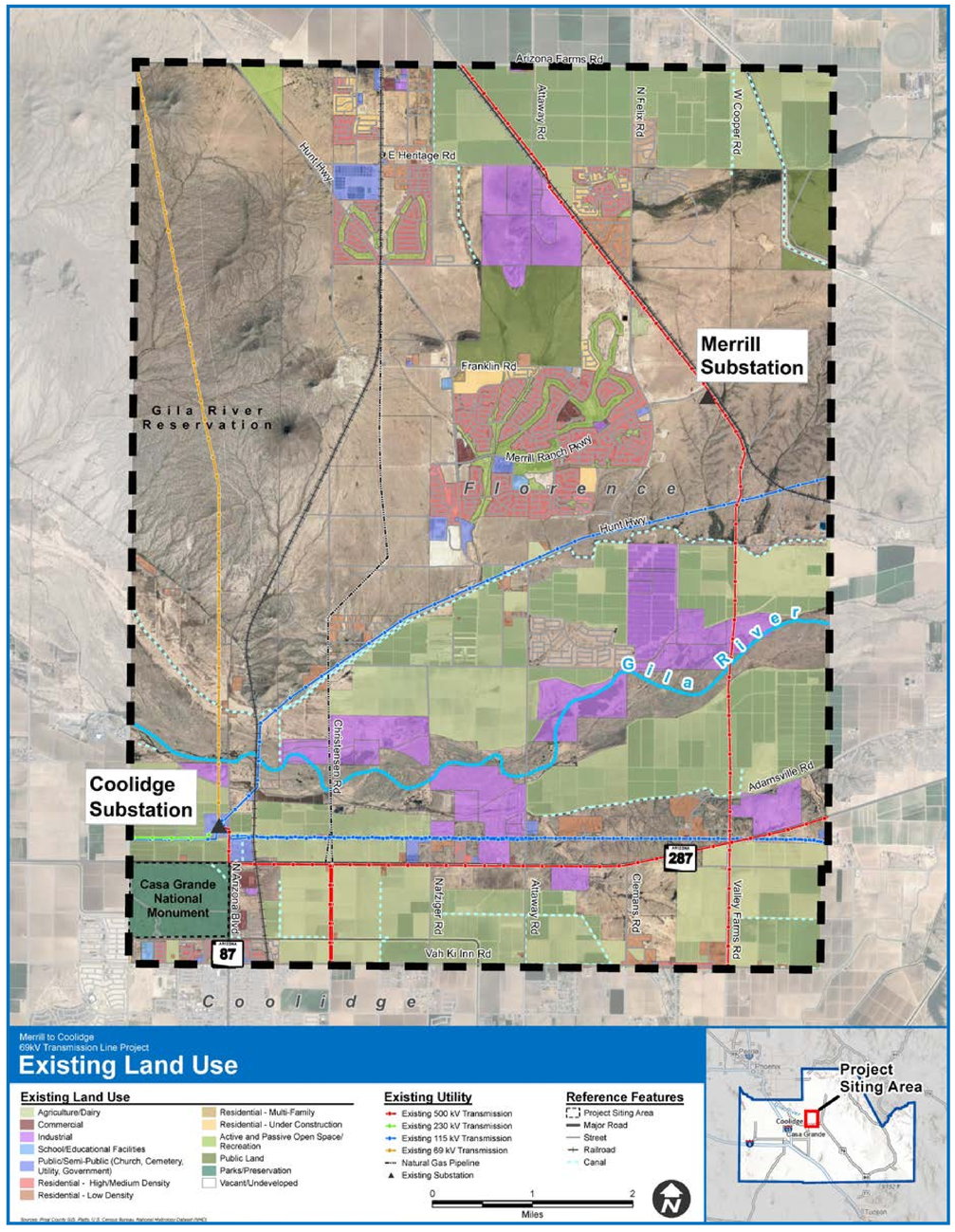
High Sensitivity: Areas determined to be less suitable because of unique, highly valued, complex, historic, or protected resources, ownership and significant potential conflict with existing or planned land use, or areas posing substantial hazards to the construction and operation of the transmission line. Locations of high sensitivity are considered to be high constraints or are least desirable for the location of the proposed transmission line.

Moderate Sensitivity: Areas where potential environmental effects on important, valued resources, resources assigned a special status or some conflict with use. Locations of moderate sensitivity are considered to be moderate constraint areas and less desirable for siting the proposed transmission line.

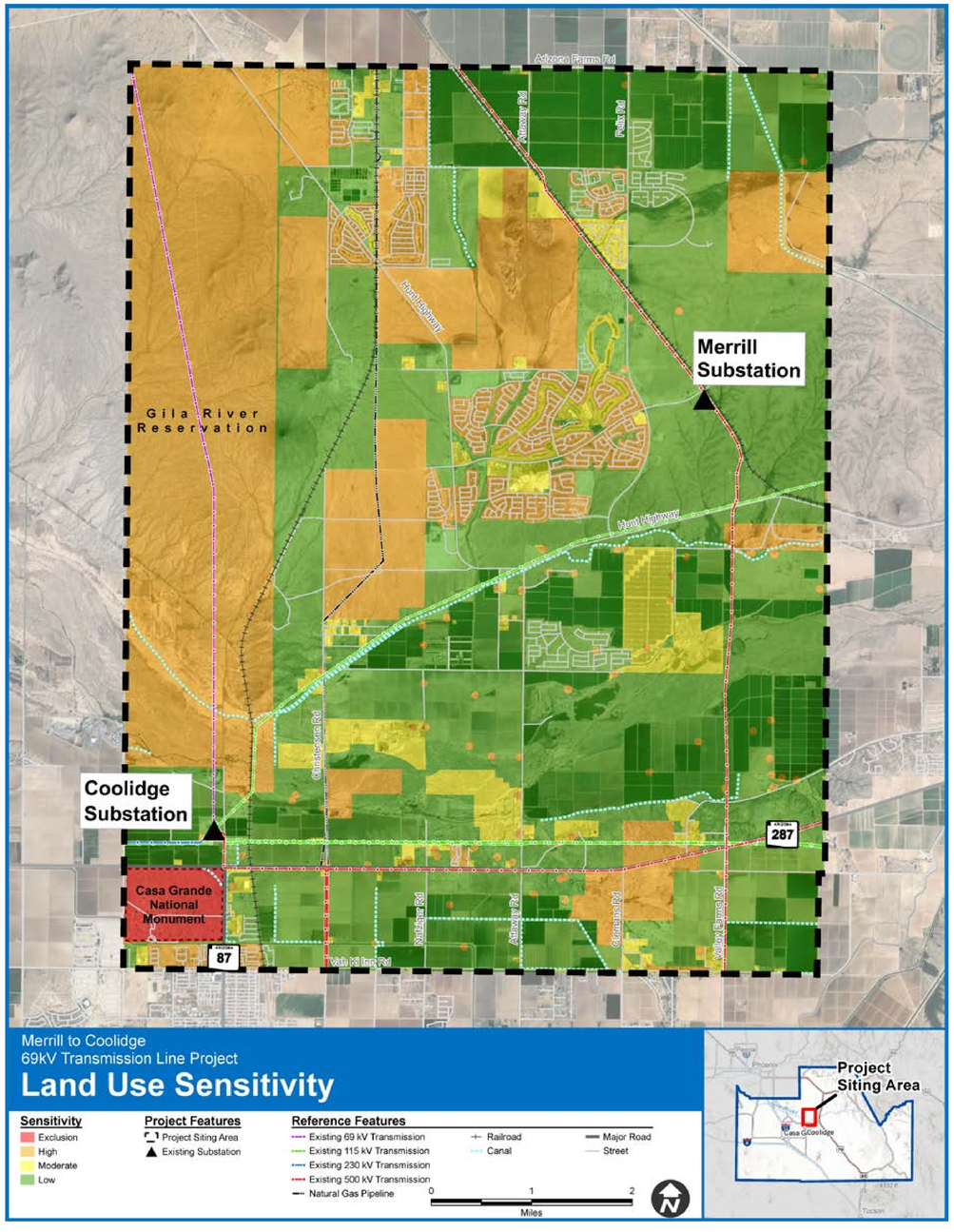
Low Sensitivity: Areas where resource conflicts are minimal. These areas of low sensitivity are considered to be of minimal constraint for locating the proposed transmission line and generally indicate opportunities for routing the proposed transmission line.

RESOURCE CATEGORY	SENSITIVITY / CONSTRAINT LEVEL	OPPORTUNITY AREA
Airport/Airstrip/Heliports	Exclusion *(incompatible)*	
Commercial Flight Path	Exclusion *(incompatible)*	
Military Air Space	Exclusion *(incompatible)*	
National Monument	Exclusion *(incompatible)*	
Tribal Lands	High	
Federal/Bureau of Land Management (BLM) Lands	High	
State Lands	High	
Parks, Recreation & Open Space	Moderate	
Residential – Low Density *(Including Rural Residential in Agricultural Areas)*	High *(displacement of homes)*	
	Moderate *(use of property for ROW)*	
Residential – Medium Density	High *(displacement of homes)*	
	Moderate *(use of property for ROW)*	
Residential – High Density	High *(displacement of homes)*	
	Moderate *(use of property for ROW)*	
Agriculture – Vacant / Undeveloped / Rangeland	Low	X
Agriculture – Irrigated	Low	
Commercial Retail	Moderate	
Commercial Business Park / Office	Moderate	
Light Industrial	Low	X
General Industrial	Low	X
Urban Areas	High	
Schools / Educational Facilities	Moderate	
Places of Worship	Moderate	
Cemetery	Moderate	
Land Grants	Moderate	
Mining Areas *(USGS Mines and Minerals Database)*	Moderate	
Communication Facilities *(Federal Communications Commission [FCC] Cell Tower and FCC Antenna Structures)*	Moderate	
Oil and Gas Wells within 200 feet	High	
Water Wells within 200 feet	High	
Transportation Routes *(Interstates, U.S. Highways, State Routes, and County Roads)*	Low	X
Railroads	Low	X
Existing Utility Facilities *(Substations, Water/Wastewater Treatment Plants)*	Low	X
Existing Utility Corridors *(Pipelines, Overhead Transmission Lines ≥ 44 kV)*	Low	X
Solar Energy Facilities	Moderate	
Superfund Sites	High	

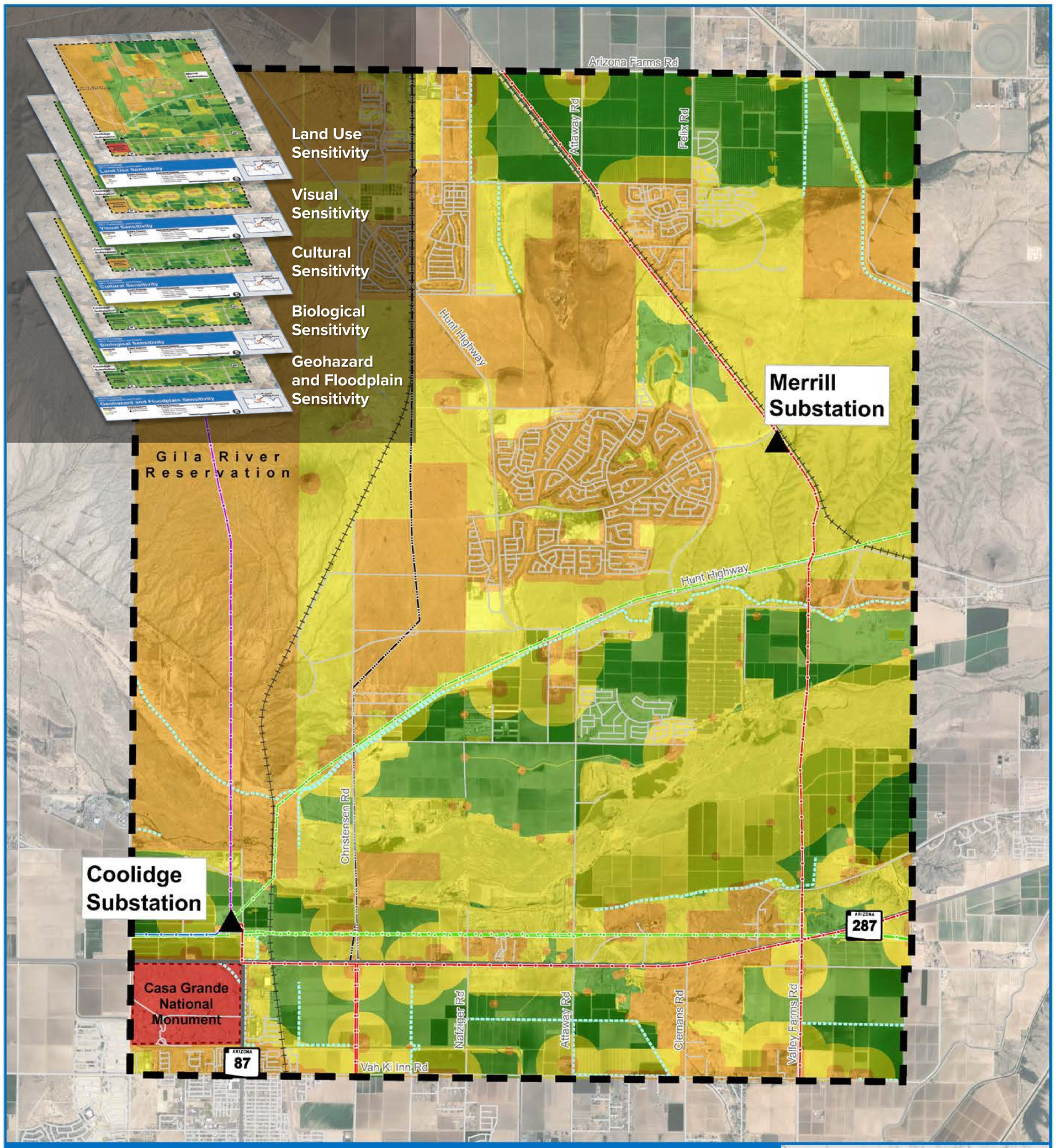
Resource Sensitivity Analysis



Apply Sensitivity Levels



Composite Sensitivity



Alternative Route Development

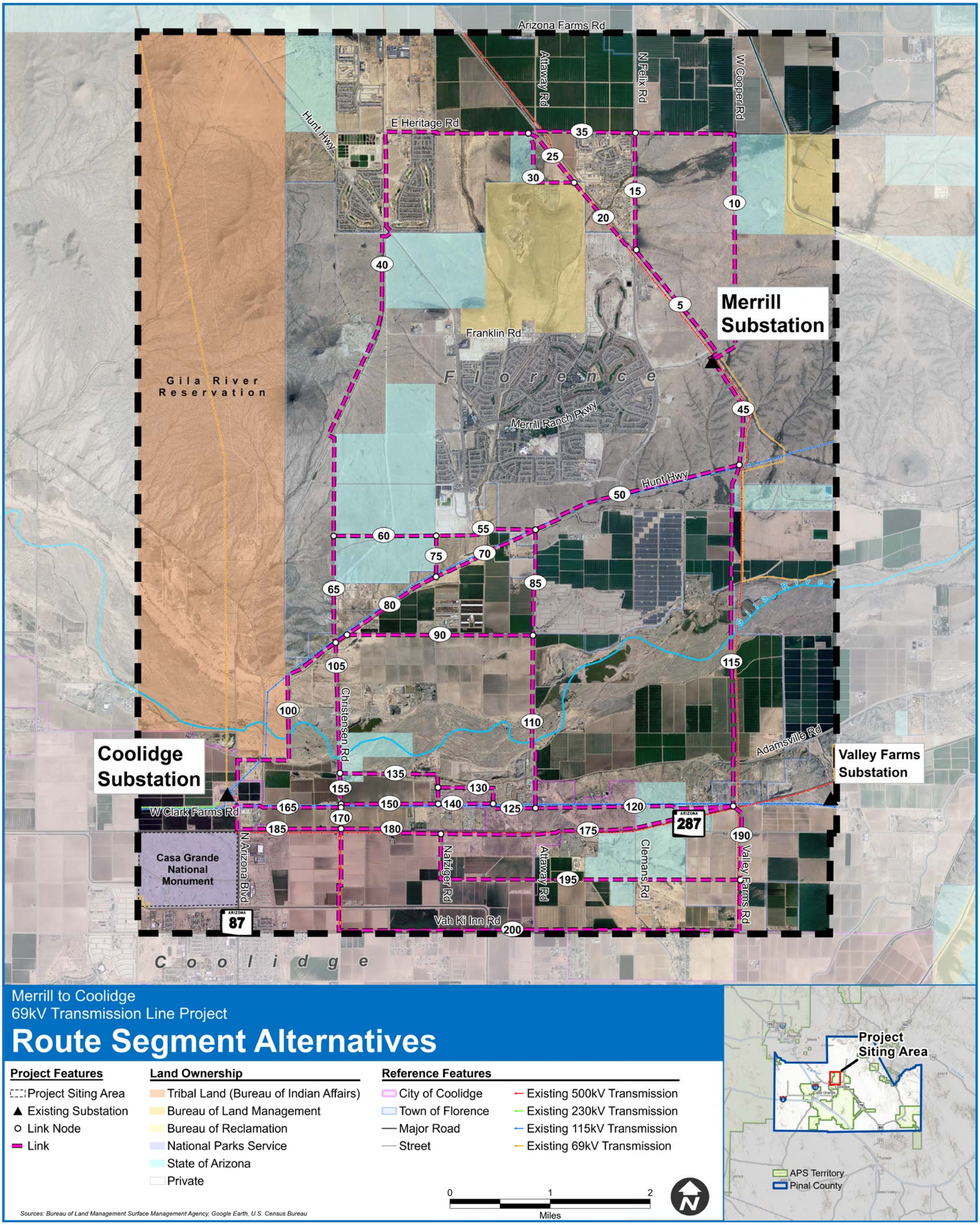
Developing Preliminary Route Links

- A link is defined as a discrete segment of a route sharing common end points. Each link has a unique identifier or link number.

- Preliminary links typically are identified in areas of high opportunity/low constraint.

- Once the links are developed, they are analyzed individually and either eliminated or retained, based on how the links compare to each other, using the evaluation criteria.

- The remaining links are then combined, end-to-end, to create alternative routes to carry forward for further analysis.


Arizona Farms Rd
Attaway Rd
N Felix Rd
W Cooper Rd
Hunt Hwy
E Heritage Rd
35
25
30
15
10
20
40
5
Merrill Substation
Franklin Rd
Gila River Reservation
F l o r e n c e
Merrill Ranch Pkwy
45
Hunt Hwy
50
60
55
75
70
65
85
80
90
Gila River
105
115
Christensen Rd
100
110
Coolidge Substation
Adamsville Rd
Valley Farms Substation
135
155
130
165
150
140
125
120
W Clark Farms Rd
170
ARIZONA 287
185
180
175
190
Casa Grande National Monument
N Arizona Blvd
Nafziger Rd
Attaway Rd
195
Clemans Rd
Valley Farms Rd
ARIZONA 87
Vah Ki Inn Rd
200
C o o l i d g e
Merrill to Coolidge
69kV Transmission Line Project
Route Segment Alternatives
Project Features
Project Siting Area
Existing Substation
Link Node
Link
Land Ownership
Tribal Land (Bureau of Indian Affairs)
Bureau of Land Management
Bureau of Reclamation
National Parks Service
State of Arizona
Private
Reference Features
City of Coolidge
Town of Florence
Major Road
Street
Existing 500kV Transmission
Existing 230kV Transmission
Existing 115kV Transmission
Existing 69kV Transmission
0
1
2
Miles
Sources: Bureau of Land Management Surface Management Agency, Google Earth, U.S. Census Bureau
Project Siting Area
APS Territory
Pinal County

Summary of Public Comments

- Project is needed to meet growth
- Potential environmental impacts
- Visual/Aesthetic effects
- Land use restrictions *(e.g., agriculture)*
- Constraints on planned development
- Recreation opportunity *(trail along transmission line)*
- Audible noise
- Potential effects on property value
- Health and safety
- Underground vs. overhead

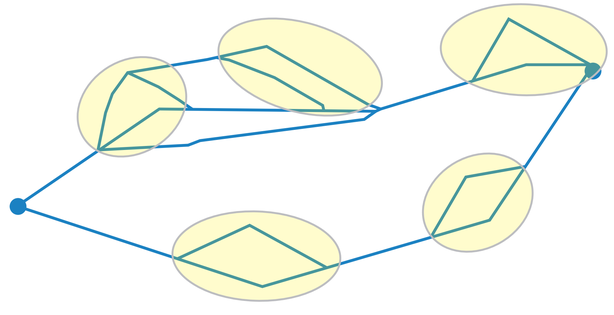
Screening and Comparison Process

- Provides a systematic rationale for comparing/narrowing routes and making a decision based on issues.

- Approach:
  - Organize routes logically into groups of alternative routes
  - Compare and rank alternatives
  - Three levels of comparison

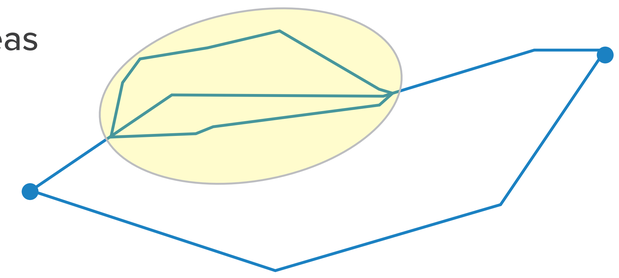
Level 1:

Compare Local Areas



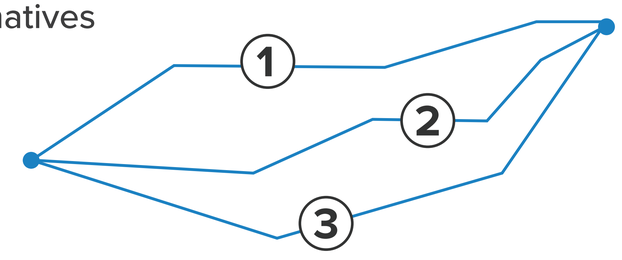
Level 2:

Compare Subregional Areas



Level 3:

Compare and Rank Alternatives



Merrill to Coolidge 69kV Transmission Line Project

Preliminary Route Alternatives

Preliminary Route Alternatives
- North
- Central
- South

Project Features
- Project Siting Area
- Existing Substation
- 10 Link Number
- Link Node

Land Ownership
- Tribal Land (Bureau of Indian Affairs)
- Bureau of Land Management
- Bureau of Reclamation
- National Parks Service
- State of Arizona
- Private

Reference Features
- City/Town Boundary
- Water Body

0 1 2 Miles

Sources: Bureau of Land Management Surface Management Agency, Google Earth, U.S. Census Bureau

Steps Completed, Steps Remaining

- ✓ Completed resource inventory ..... **February - March 2023**
- ✓ Completed constraints and opportunities analysis ..... **April - May 2023**
- ✓ Preliminary route links identification ..... **May - June 2023**
- ✓ Compile, respond to and document public comments ..... **Ongoing**
- ✓ Alternative routes evaluation and comparison ..... **Fall 2023**
- ○ Final route selection ..... **Spring 2024**

Public Outreach and Engagement

Public Outreach and Engagement

Fact Sheet

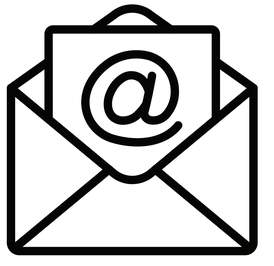
Website
aps.com/merrillcoolidge

Information Phone Line
1-602-812-5829
or toll free at 1-888-687-2144

Stakeholder Briefings

Notifications/ Mailing List

Open House Meetings
September 14, 2023
December 7, 2023



Email
MerrilltoCoolidge@aps.com

Next Steps

- **Provide Your Input:** The following methods can be used to provide your input by December 22, 2023:
  - **Comment Form:** Complete and return a comment form this evening or mail to the address on the form, or download a comment form from the project website at **www.aps.com/merrillcoolidge**.
  - **Email:** Email Lupe Martinez, APS Siting Consultant, at **MerrilltoCoolidge@aps.com**
  - **Phone Line:** 1 (602) 812-5829 or toll free at 1 (888) 687-2144
- **Preferred Route Selection:** Anticipated Spring 2024
- **Project updates:** Visit www.aps.com/merrillcoolidge