Application for a Certificate of Environmental Compatibility

Southeast Power Link 230kV Project

Prepared for:

State of Arizona Power Plant and Transmission Line Siting Committee

Prepared by:

Salt River Project Agricultural Improvement and Power District

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC Arizona Corporation Commission

A.D. Anno Domini

ADOT Arizona Department of Transportation AGFD Arizona Game and Fish Department

AM Amplitude Modulation

APLIC Avian Power Line Interaction Committee

A.R.S. Arizona Revised Statutes

ASLD Arizona State Land Department

ASM Arizona State Museum ASU Arizona State University

AZDA Arizona Department of Agriculture

B.C. Before Christ

BLM Bureau of Land Management BUOW Western Burrowing Owl CAP Central Arizona Project

CEC Certificate of Environmental Compatibility

CFR Code of Federal Regulations
CRM Crumb Rubber Manufacturers

dB Decibels

dBA A-weighted Decibels
DCR Design Concept Report

DNL Day/Night Average Noise Level

ESA Endangered Species Act

FAA Federal Aviation Administration FA&A Federal Airspaces and Airways FHWA Federal Highway Administration

FCDMC Flood Control District of Maricopa County

FM Frequency Modulation

GIS Geographical Information Systems

GLO General Land Office GM General Motors

HOA Home Owners Association

Hz Hertz

IPaC Information for Planning and Consulting

KOP Key Observation Point

kV Kilovolt

LLC Limited Liability Company

LP Limited Partnership

MCDOT Maricopa County Department of Transportation MGSDP Mesa Gateway Strategic Development Plan

MW Megawatt

NEPA National Environmental Policy Act

NERC North American Electric Reliability Corporation

NPL Arizona Native Plant Law

List of Acronyms

NRHP National Register of Historic Places

NSFC No Sunday Futbol Club

P Node or Point

PAD Planned Area Development
PEFA American Peregrine Falcon
PEP Project Evaluation Program
Project Southeast Power Link Project

PSA Project Study Area ROW Right-of-way

RWCD Roosevelt Water Conservation District SGCN Species of Greatest Conservation Need SHPO State Historic Preservation Office

SPL Southeast Power Link

SR State Route

SRP Salt River Project Agricultural Improvement and Power District

T&E Threatened and Endangered TERPS Terminal Instrument Procedures

USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

VNAV Vertical Navigation

VORTAC Very High Frequency Omni-Directional Radio Range Tactical Air Navigation

Aid

WSCA Wildlife of Special Concern in Arizona

WAFB Williams Air Force Base

INTRODUCTION

Pursuant to Arizona Revised Statutes §40-360 *et seq.*, Salt River Project Agricultural Improvement and Power District (SRP), submits this Application for a Certificate of Environmental Compatibility (CEC) for the Southeast Power Link (SPL) Project (Project), a double circuit 230 kilovolt (kV) transmission line and a related 230/69kV substation, to be located generally east of the Phoenix Mesa Gateway Airport, in the City of Mesa, Town of Queen Creek, and Maricopa County.

This Application requests approval for the construction of approximately 7 miles of a new overhead double circuit 230kV transmission line¹. The proposed line will enhance the capacity and reliability of the transmission system by connecting the existing Santan-Browning 230kV transmission line in the City of Mesa, Arizona, to the permitted, but unbuilt Abel-Pfister-Ball² 230kV transmission line in the Town of Queen Creek. Additionally, this request includes a new substation (RS-31) to be located on the east side of the Loop 202 and the planned State Route (SR)-24 interchange in the City of Mesa, Arizona.

Figure 1 illustrates SRP's existing 230kV transmission system, and the area in which the Project will be constructed.

¹ As discussed in this application, it is possible in portions of the project SRP may construct two parallel lines of single circuit poles, to meet Federal Aviation Administration Requirements

² The Abel-Pfister-Ball transmission line (Decision #71441, Case #148) was previously named Abel-Moody. The line was renamed between 2010 and 2011 to Abel-Pfister-Ball.



FIGURE 1: Proposed Additions to 230kV Transmission System

Pursuant to Arizona Administrative Code R14-3-219, Exhibit 1, this CEC Application is structured as follows:

- Exhibit A Project Location and Land Use
- Exhibit B Environmental Studies
- Exhibit C Areas of Biological Wealth
- Exhibit D Biological Resources
- Exhibit E Scenic Areas, Historic Sites and Structures, Archaeological Sites
- Exhibit F Recreational Purposes and Aspects
- Exhibit G Concepts of Typical Facilities
- Exhibit H Existing Plans
- Exhibit I Noise Emissions and Communication Interference
- Exhibit J Special Factors

A list of acronyms is provided following the Table of Contents.

Project Description

SRP proposes to use tubular steel structures (poles). Alternatively, depending on final Federal Aviation Administration (FAA) requirements, SRP may use concrete or wooden poles in an H-frame structure, and/or may construct a portion of the Project using two sets of single circuit structures. The possible types of poles are illustrated in **Exhibit G.** SRP is requesting approval of a corridor 300 to 1,000 feet wide, centered on the centerline of each identified linear feature and will require between a 100 and 205-foot right-of-way (ROW) (where available), depending on final configuration.

SRP requests a ten year term for the CEC. While load is growing in the area and the capacity within the corridor is limited, the nature of the industry in the corridor tends to add load in large blocks and is very dependent on the economy. By granting the ten year term, the Commission will enable SRP to respond to growth as businesses decide to move into the corridor or expand their operations (whether in the near term or mid term). The ten year time period allows SRP to build the facilities as needed while at the same time ensuring that the public has notice of the Project and the City of Mesa and Town of Queen Creek can incorporate the Project into their development plans.

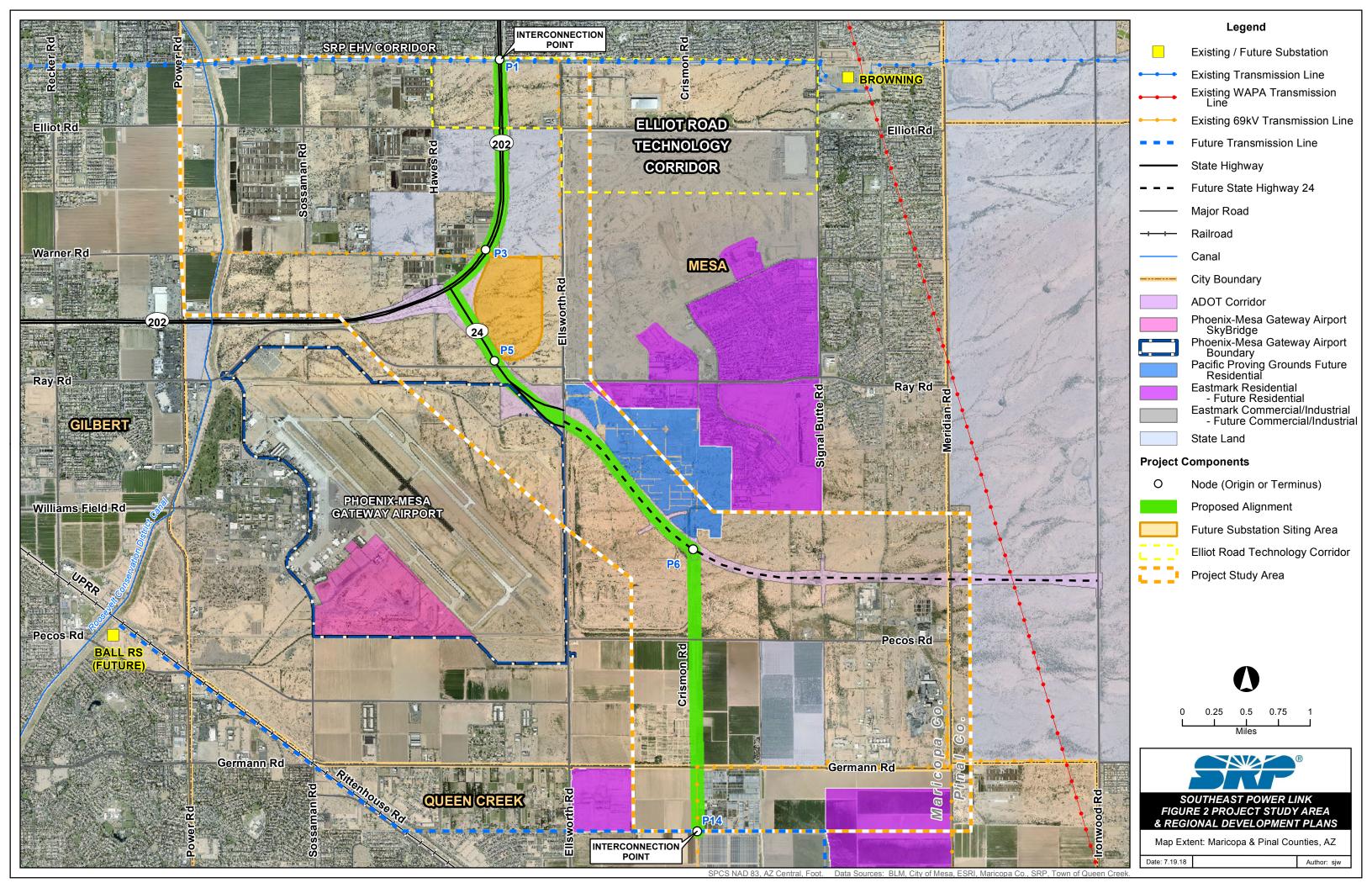
Purpose and Need

The Project provides an opportunity to support the southeast valley's economic outlook using a strategic approach to infrastructure planning. SRP's need for the Project draws on its dual role in the communities it serves – supporting economic development and preserving electric system reliability. In the near-term, SRP needs to site the Project to support current economic development and to coordinate with existing infrastructure projects in the area.

Economic Outlook

The southeast valley is poised for substantial economic growth in a largely undeveloped area anchored by the Phoenix-Mesa Gateway Airport. As the airport enacts plans to expand both passenger and cargo operations, it will serve as a catalyst for broader development in the area. The City of Mesa and the Town of Queen Creek General Plans both identify strategic initiatives underway that will continue to shape development in their respective jurisdictions (see **Figure 2**).

Current plans northeast of the airport emphasize industrial development in the Elliot Road Technology Corridor, which is generally located in the City of Mesa along Elliot Road between Hawes Road and Signal Butte Road. Future high-tech manufacturing, data centers, and other high-load-factor customers will place unique demands on the electric system and will require enhanced reliability. The central region east of the Phoenix-Mesa Gateway Airport will emphasize mixed-use residential and commercial development, whereas locations south of the airport in Mesa and Queen Creek will bring additional heavy industrial, light industrial, business park, and commercial uses. Mesa is actively marketing the entire area as shovel-ready properties capable of supporting rapid development.



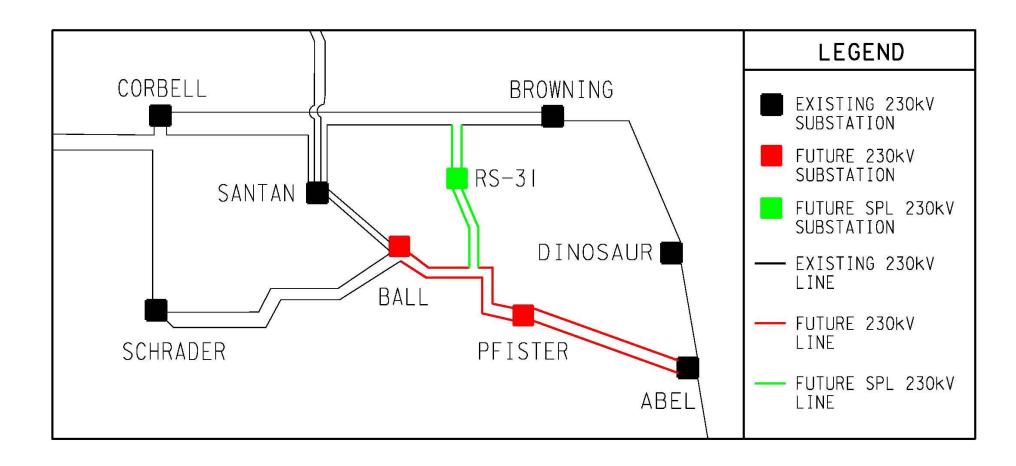
Electric System Reliability

SRP plans and operates its transmission system in accordance with the North American Electric Reliability Corporation (NERC) standards. Currently, SRP serves 212 megawatts (MW) in the Project area with its 69kV system supported by the Browning 230/69kV substation near Signal Butte and Elliot Roads. At SRP's long term forecast of 1,604 MW, SRP cannot satisfy NERC standards in the area without additional 230kV support.

SRP established the Project scope based on a series of internal and independent third-party transmission system studies. These studies considered NERC reliability standards, load growth forecasts, environmental impact, cost, and reliability. In all cases, the study results show that the most cost-effective and reliable means to serve the area is a new double-circuit 230kV transmission line linking the north and south portions of the transmission system.

The proposed Project will connect with two 230kV lines -- the existing Santan-Browning transmission line in the north, and the future Abel-Pfister-Ball transmission line (permitted) in the south. The Project creates a very robust and reliable system with connections to four 230kV substations (Santan, Browning, Ball, and Pfister). A new 230/69kV substation (RS-31) along the new line will serve the local load (see **Figure 3**). The Project is in a central location relative to the load it will serve, reducing the need for 69kV transmission lines and maximizing reliability.

FIGURE 3: Proposed Transmission System Map



Near-Term Need

SRP developed the Project scope based on a long-term load forecast, but has an immediate need to site and likely build the Project. Depending on the location and nature of new load, SRP may continue to bolster its 69kV system, as theoretically the 69kV system can serve up to 370 MW. However, it may be more cost effective to build the 230kV system at an earlier date, to avoid the construction of additional 69kV lines that will not be needed in the long term. As a consequence, SRP has a near-term need to site the Project in order to minimize overall costs and limit the amount of transmission facilities needed to serve load.

SRP has received an unprecedented number of requests from large customers interested in locating industrial facilities in the area. Approximately 80% of the customer-requested load studies SRP performed in 2017 were located in the area and represent approximately 500 MW of prospective load growth. To date, one project is under development which will add approximately 106 MW of new load.

By siting this Project now: (i) municipalities and communities can use the new electric system capacity to attract additional economic development and (ii) SRP can coordinate transmission-line siting activities with other infrastructure projects planned for the region, including the Phoenix-Mesa Gateway Airport expansion and the new SR-24, and (iii) SRP can be ready to serve new load in the event that it develops quickly. These infrastructure plans are still in their early stages and offer a natural corridor for the proposed Project (see **Figure 2**). They also provide an opportunity for SRP to design and construct its facilities in concert with other construction, minimizing overall disruption to nearby communities.

SRP wants to ensure that landowners, developers, and others have certainty with respect to the location of its transmission projects. The scope of this Project ensures that SRP can support the short-term and long-term development needs in the southeast valley. The timing of the Project will ensure SRP can minimize costs and its impact on nearby communities.

Proposed Alignment

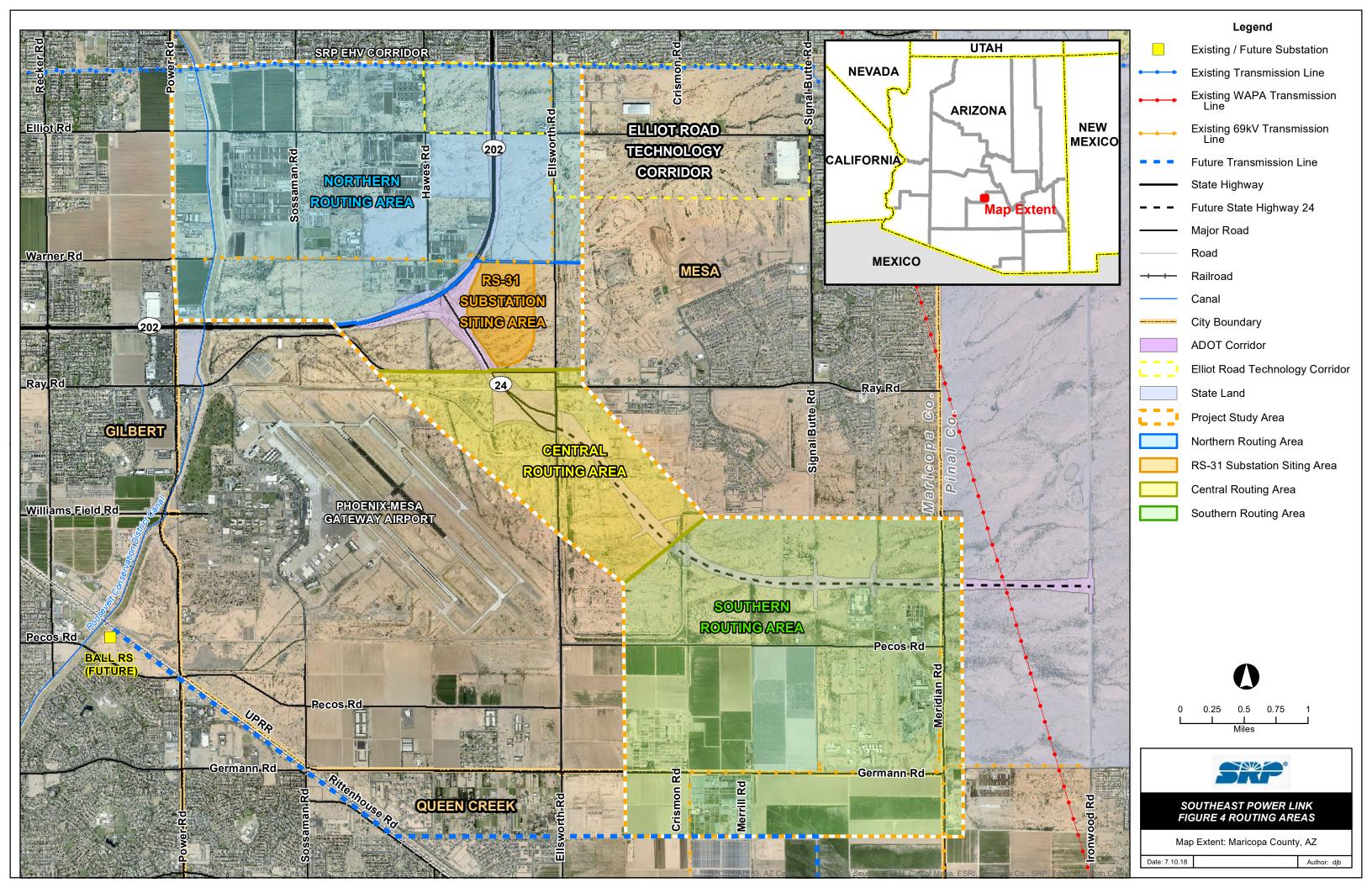
SRP developed and evaluated multiple potential alignments that would achieve the Project objectives. The alignments were designed to be centrally located relative to the most likely areas in which development will occur. In addition, the alignments were generally selected to follow strong linear features that provided the best opportunities to route a transmission line, such as the freeways in the area. These opportunities were evaluated with regard to numerous environmental and socioeconomic criteria to determine those alignments that would be least impactful. Based on the Project Study Area (PSA) having development constraints, like the airport to the west and residential development to the east, and very strong linear features to follow, there were very apparent and limited routing options.

After soliciting input during the public involvement process, working closely with stakeholders and property owners, and evaluating the potential alignments, SRP was able to select one general alignment, which has some options for placement of the transmission line along the linear features that it follows. Additionally, SRP has identified a Substation Siting Area for the new

RS-31 substation. In recognition of the strong linear features of the 202 Freeway and the existing/future SR-24 Freeway, and in recognition of the strong opposition to other possible alignments, it was the decision of SRP to eliminate from this application those alignments that were generally subject to strong opposition. This left the freeway alignments, with some optionality regarding the two sides of the freeways. As discussed below, the SR-24 alignment is less than ideal because of the FAA issues that it presents. However, all of the alternatives to this alignment would have greater public impact.

To more effectively evaluate potential routes, the Project was divided into four distinct geographic areas depicted on **Figure 4**:

- Northern Routing Area (in blue);
- RS-31 Substation Siting Area (in orange);
- Central Routing Area (in yellow); and the
- Southern Routing Area (in green).



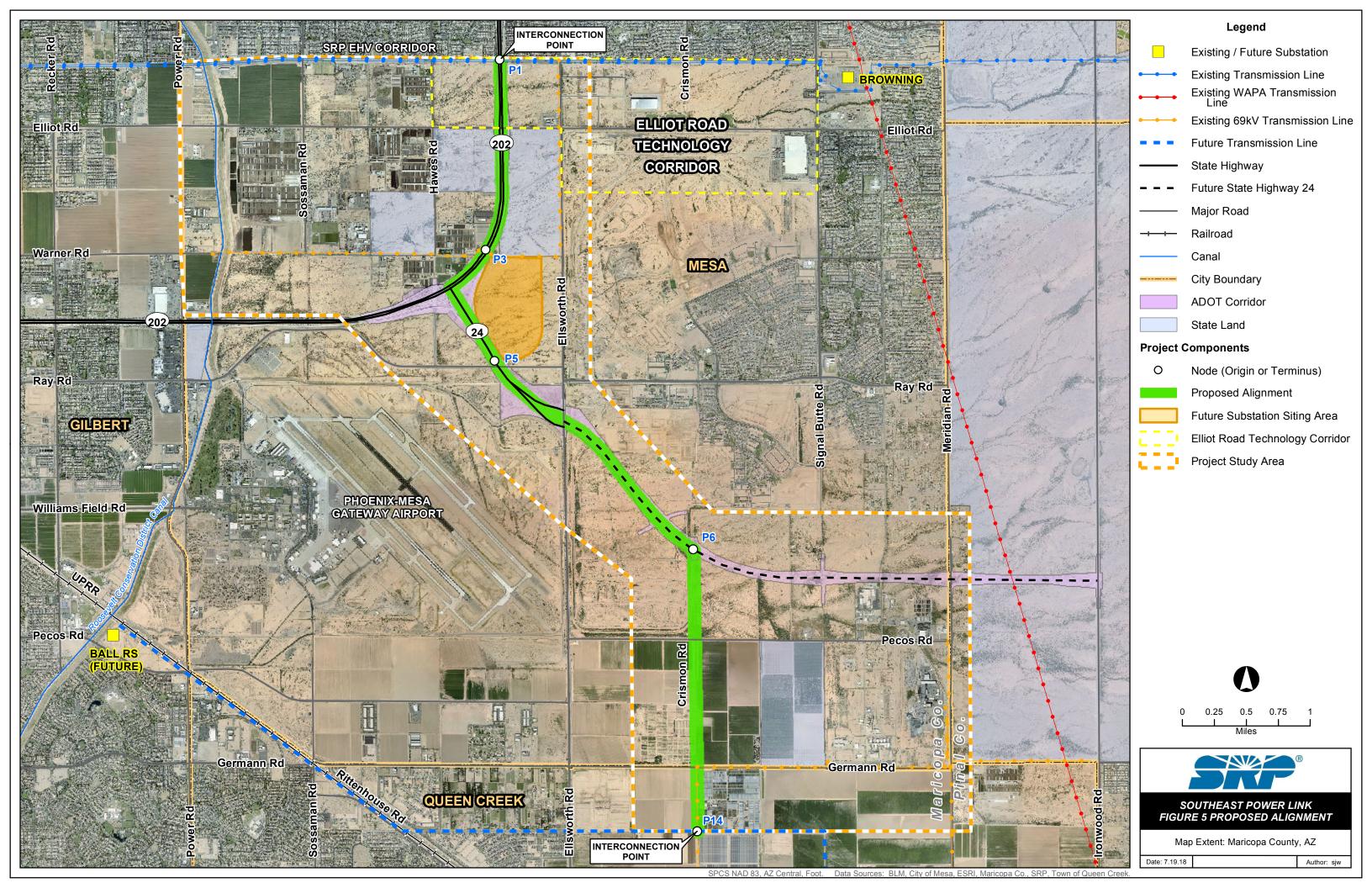
The Northern Routing Area originates at the northern interconnection point with the existing Santan-Browning 230kV transmission line and connects the proposed transmission line with the Substation Siting Area to the south.

The RS-31 Substation Siting Area is generally located on the eastern side of the Loop 202/SR-24 interchange.

The Central Routing Area exits the RS-31 Substation Siting Area and generally follows the future SR-24 alignment to the southeast.

The Southern Routing Area connects the proposed transmission line along SR-24 to the interconnection points with the permitted, future Abel-Pfister-Ball 230kV transmission line to the south.

The Proposed Alignment is comprised of segments that are denoted with node numbers or points (P). Points designate a segment origin, turning point, or terminus. On **Figure 5**, the Proposed Alignment is identified in green. The RS-31 Substation Siting Area is depicted as an orange polygon.



Northern Alignment

Loop 202 Proposed Alignment

Starting at the existing Santan-Browning 230kV transmission line, at the intersection with Loop 202, the Proposed Alignment travels south along either the east or west side of Loop 202 to the RS-31 Substation Siting Area (P1 – P3). The Proposed Alignment total length is 1.55 miles (east side of Loop 202) to 1.67 miles (west side of Loop 202) and the width of the corridor requested is 500 feet on either side of the Loop 202 ROW. The Proposed Alignment closely follows an existing linear feature (the Loop 202) and is the shortest and least-cost option. It also will require traversing parcels owned by the Arizona State Land Department (ASLD) regardless of whether the route is located on the east or west side of the freeway.

Applicant understands that if the Proposed Alignment is chosen, that the Committee may specify construction on either the east or west side of the Loop 202. Applicant is willing to accept such conditions, as construction on either side is feasible. If the Committee specifies construction on the west side of the Loop 202, the line may need to cross the freeway up to 1,500 feet north of Warner Road to meet current FAA height restrictions.

RS-31 Substation Siting Area

The RS-31 Substation Siting Area is generally located on the eastern side of the Loop 202/SR-24 interchange. The RS-31 Substation Siting Area encompasses 226 acres, of which approximately 40 acres would be required for the new RS-31 substation.

Central Alignment

SR-24 Proposed Alignment

From the RS-31 Substation Siting Area, the Proposed Alignment travels southeast along either the north or south side of the future SR-24 to an intersection with Crismon Road (P5 – P6). The Proposed Alignment total length is 2.08 miles (north side of SR-24) to 2.55 miles (south side of SR-24) and the width of the corridor requested is 500 feet on either side of the SR-24 ROW. This alignment is significantly impacted by FAA requirements. SRP has currently pending an application to change airport procedures to avoid the FAA issues. The timing of that application is very uncertain, and it was SRP's decision to site this Project at the earliest possible date, rather than to await the uncertain result of a lengthy FAA process.

Here SRP proposes to build on either the southwest or northeast side of SR-24. It is SRP's preference to construct on the southwest side of SR-24. This is also the clear preference of the City of Mesa and adjoining landowners. But if SRP builds on the southwest side, and the FAA refuses to change airport procedures, the pole heights will be very low, possibly requiring two sets of structures, and the spans between poles will be very short. Also, there will be no room for an underbuilt 69kV circuit.

Absent FAA action, the northeast side of SR-24 is also subject to constraints. They are not, however, as great as those on the southwest side.

For these reasons SRP requests optionality to build on either the southwest or northeast side of SR-24, with the condition that SRP will build on the southwest side if its FAA application is approved. SRP understands that the Committee may express a preference on this issue.

Southern Alignment

Crismon Road Proposed Alignment

Starting at the intersection of the future SR-24 and Crismon Road, the Proposed Alignment travels south along Crismon Road for its entire length of 2.11 miles to an interconnection point with the permitted, future Abel-Pfister-Ball 230kV transmission line (P6 – P14). The width of the corridor requested for this route is 300 feet. The Proposed Alignment was selected because it is the most direct approach, and a portion of it already includes existing 69kV transmission that would be rebuilt with this Project. Similar to the route along SR-24, FAA approval would be required for poles along the northern portion of this route, and absent FAA approval SRP will likely use alternative construction techniques for at least a part of the alignment.

FAA Review

Given the proximity of the Proposed Alignments to the Phoenix-Mesa Gateway Airport, SRP retained Federal Airways & Airspace (FA&A), an independent aviation consulting firm, to perform a preliminary review and analysis of any aviation issues related to the SPL Project, to assist in the preparation and filing of any application that needs to be submitted to the FAA, and to address any questions the line siting committee may have relating to this subject.

FA&A performed the same analysis that the FAA will perform in their review of the Proposed Alignment. FA&A's conclusions are summarized below:

- *Notice Requirements.* Due to the proximity to the airport and the height of the proposed structures, SRP's proposed construction requires it to provide notice to the FAA pursuant to Title 14 of the Code of Federal Regulations (CFR) Part 77.9.
- Airport Surveillance Radar (ASR). The FAA review will include an assessment of whether the proposed transmission lines and poles will create interference issues with the ASR. FA&A's analysis concludes that the proposed lines and poles would have minimal cumulative effect on the ASR.
- *Height Restrictions*. The FAA review will also include an assessment of whether the proposed pole heights will exceed any airport height restrictions. There are two parts to this analysis:
 - o *Obstruction Surfaces*. FA&A's analysis concludes that the proposed pole heights along the Proposed Alignment will not exceed Federal Aviation Regulation

Part 77 obstruction surfaces. Therefore, no lighting or marking is expected to be required. However, due to the close proximity to the airport the FAA Specialist could request the addition of obstruction marking & lighting upon the proposed transmission line.

- Terminal Instrument Procedures (TERPS). The proposed pole heights along portions of SR24 and the north portion of Crismon Road would exceed a height limit defined by the FAA for a specific missed approach landing procedure. This Vertical Navigation (VNAV) procedure is used by aircraft approaching the airport under poor visibility conditions and relying on instruments. However, pilots landing in these conditions have several other instrument approach procedures available to them, two of which provide lower approach minimums and would be the preferred option over the VNAV procedure. Given the lack of feasible alternatives to a route along SR24, FA&A recommended that SRP file an application with the FAA to determine whether the agency would be amenable to changing the VNAV procedure to accommodate the proposed pole heights. FA&A believes that the FAA will be amenable to the proposed change to the procedure because this procedure is most likely seldom used due to the availability of other preferred options. Therefore, a change to the VNAV procedure would have little, if any, impact to airport operations. However, the change to the VNAV procedure will likely require a reimbursable agreement between SRP and the FAA for the cost of the change.
- *FAA Review Schedule*. SRP filed its application with the FAA on June 29, 2018, according to the recommendations of FF&A. The expected FAA review schedule for this project is as follows:
 - O Preliminary FAA Study. The FAA recommends allowing at least 45 business days for an initial study to complete. This can vary by a few weeks depending on the size of the project and the complexity of the airspace it is located within. Upon completion of the initial study we are expecting the FAA to issue Notices of Presumed Hazard due to the proximity to the Phoenix-Mesa Gateway Airport ASR and the penetration to the VNAV surface.
 - O Public Commenting Period. Once the project receives the Notices of Presumed Hazard, we can move forward with requesting Public Circularization and extended study of the project, if permitted by the FAA. The public commenting period lasts for 37 calendar days. At the end of the commenting period the FAA Extended study begins.
 - o *FAA Extended Study*. The FAA Extended Study can begin as soon as the Public Commenting period ends. The FAA Specialist will review all public comments received, but only consider those which make valid aeronautical arguments for/against the project. The extended study process typically takes 2 − 6 weeks to complete and is dependent on the FAA Specialist's workload, the size of the project, and the amount of public comments received.

Summary of Routing and Public Process

Over the past several months, SRP conducted a public process comprised of extensive outreach activities. The process included a variety of mechanisms to inform the public about the status of the siting process and to solicit public input. The process was comprised of extensive outreach activities including briefings with public officials representing the region, jurisdictional agencies, and key landowners and stakeholders, as well as a public open house meeting. In addition, news releases, post card mailings, and e-blasts were sent to announce the Project and Open House, and a Project website and online Open House were developed to allow members of the public to obtain information about the Project. This process is described in further detail in **Exhibit J**.

The Proposed Alignment included in this Application is a direct result of the extensive process.

Summary of Environmental Compatibility

Based on the conclusions of the environmental studies set forth in the Exhibits of this Application, SRP is seeking the following findings of environmental compatibility for the proposed Project sought in this Application:

- No significant or detrimental effects to fish, wildlife, plant life, and associated forms of life upon which they are dependent.
- No significant or detrimental effects associated with noise emission levels or interference with communication signals.
- Neither SRP nor jurisdictional agencies within the PSA have any plans for future development of recreational facilities associated with the Project. Project implementation would be consistent with safety considerations and regulations.
- The Project is environmentally compatible with the total environment of the PSA.
- Given the developing urban character of the PSA, government entities, jurisdictional agencies, and private stakeholders were consulted to ascertain existing land uses, zoning, and future development plans. To the extent practicable, these existing conditions and future plans were incorporated into the design of the Project to develop the least impactful routes.
- No significant or detrimental effects to geology and soils, surface water, or groundwater quality and availability.