



Welcome to LCRA Transmission Services Corporation

Open House

Leander-Round Rock 138-kV Transmission Line Project

What is LCRA?

The Lower Colorado River Authority's (LCRA) mission is to enhance the quality of life of the Texans we serve through water stewardship, energy and community service. LCRA is a Texas conservation and reclamation district operating with no taxing authority.

LCRA was created by the Texas Legislature in 1934 to serve the people of Texas in a variety of ways. LCRA generates and supplies wholesale power to cities and electric cooperatives that serve about 1 million people. LCRA Transmission Services Corporation, a nonprofit corporation, transmits electricity to an area covering most of Texas.

LCRA is much more than an electric utility. LCRA also:

- Protects the quality of the lower Colorado River and Highland Lakes.
- Manages floods through dams on the Highland Lakes.
- Owns about 14,000 acres of parks, preserves, nature centers and recreational facilities.
- Provides water for more than 1 million people, as well as businesses, industries, agriculture and the environment.



What is LCRA TSC?

LCRA Transmission Services Corporation (LCRA TSC) is a nonprofit corporation that owns and operates LCRA's transmission system. It was created by LCRA as a result of Senate Bill 7, the 1999 state law that restructured the state's electric industry. All of LCRA's transmission assets were transferred to LCRA TSC in 2002.

The nonprofit corporation:

- Provides electric facilities in the state's transmission grid between power plants and local electric delivery systems.
- Owns or operates more than 5,100 miles of transmission lines.
- Owns, operates or provides services at more than 390 substations and other facilities.
- Owns a state-of-the-art System Operations Control Center that operates 24 hours a day every day.
- Is regulated by the Public Utility Commission of Texas.
- Pays sales taxes and property taxes on transmission facilities and land it owns.

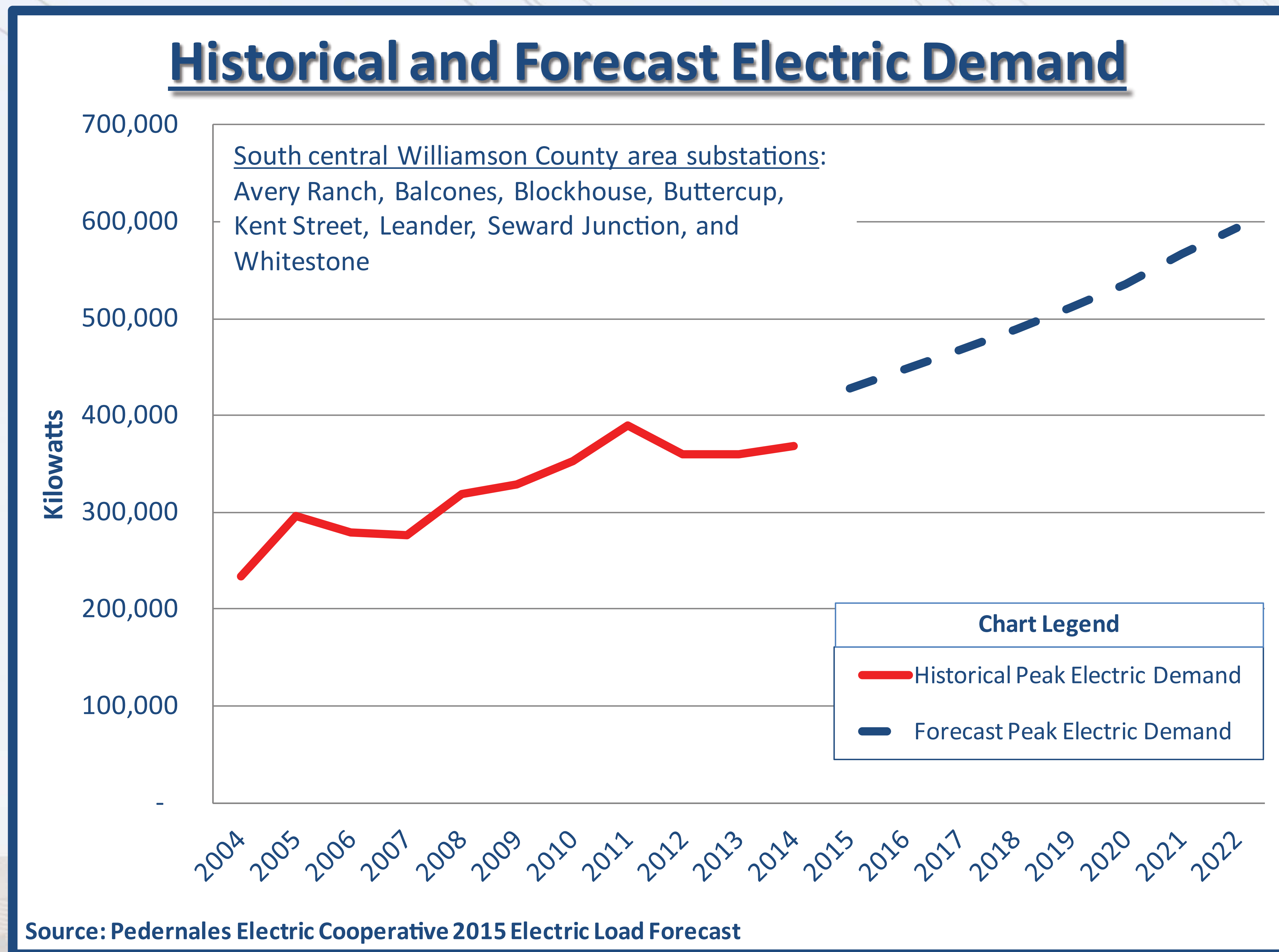


Electric Demand and Reliability

Why are the new substations needed?

The substations are needed to meet the demand for electricity in the area.

Electric Demand



Area electric load growth

- High and fast growth area projected to exceed 600,000 kilowatts of electric load by 2019.
- More than 32,000 electric meters added over a 10-year period.
- Eight percent meter growth over a 12-year period is 1.5 times the overall Pedernales Electric Cooperative system meter growth rate.

Electric service reliability

- The number and location of existing substations is inadequate for the provision of cost-effective and reliable electric service.
- The existing distribution system cannot effectively and efficiently serve the forecast load growth in western Williamson County.
- New substations are required to meet the area's growth pace and continued need for cost-effective and reliable electric service.

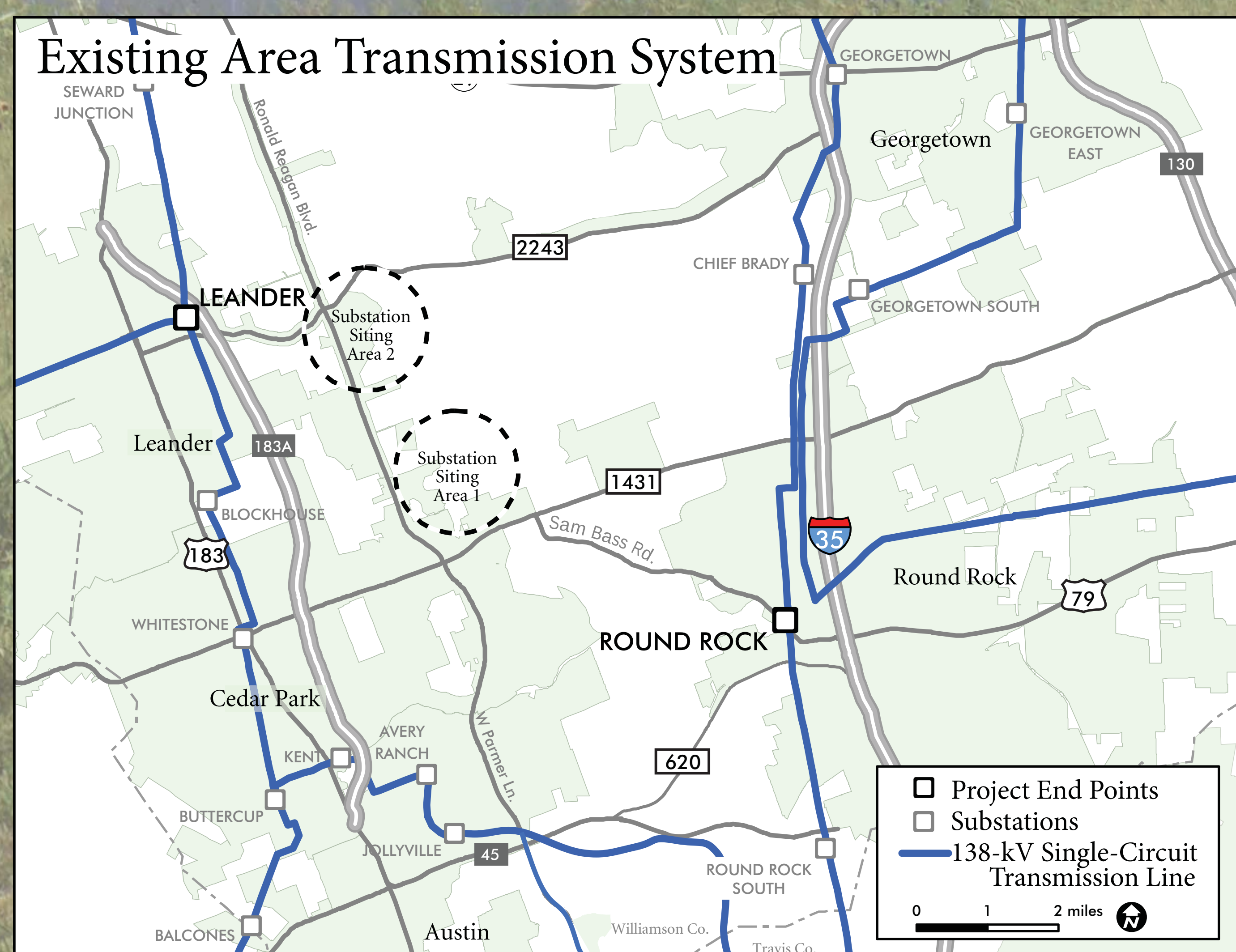
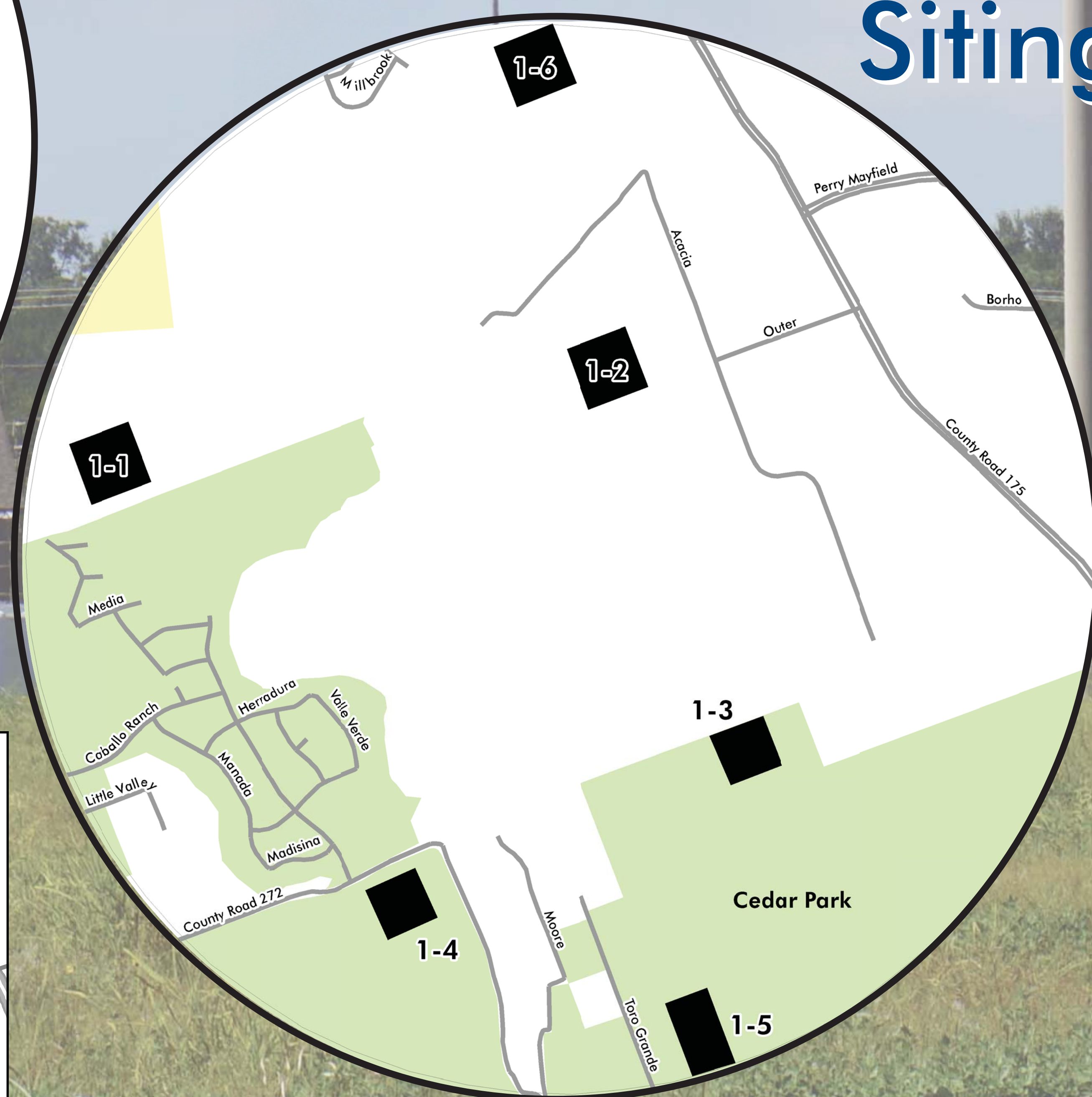
Electric System Planning Considerations for Siting Substations

- Input from Pedernales Electric Cooperative (PEC)
- Area's electric load center
- Service to future development
- Available distribution infrastructure
- Proximity to existing substations
- Backup area substations during emergencies
- Certificated retail service boundary

Substation 2 Siting Area



Substation 1 Siting Area



Project Purpose and Need

What is the scope of the proposed project?

LCRA TSC is proposing to build and operate a new 138 kilovolt (kV) transmission line to serve two new substations. The new transmission line will be constructed between the Round Rock Substation and the Leander Substation.

Why is this transmission line necessary?

The transmission line is needed to connect two new electric load-serving substations to the transmission system to meet the demand for electricity in the area.

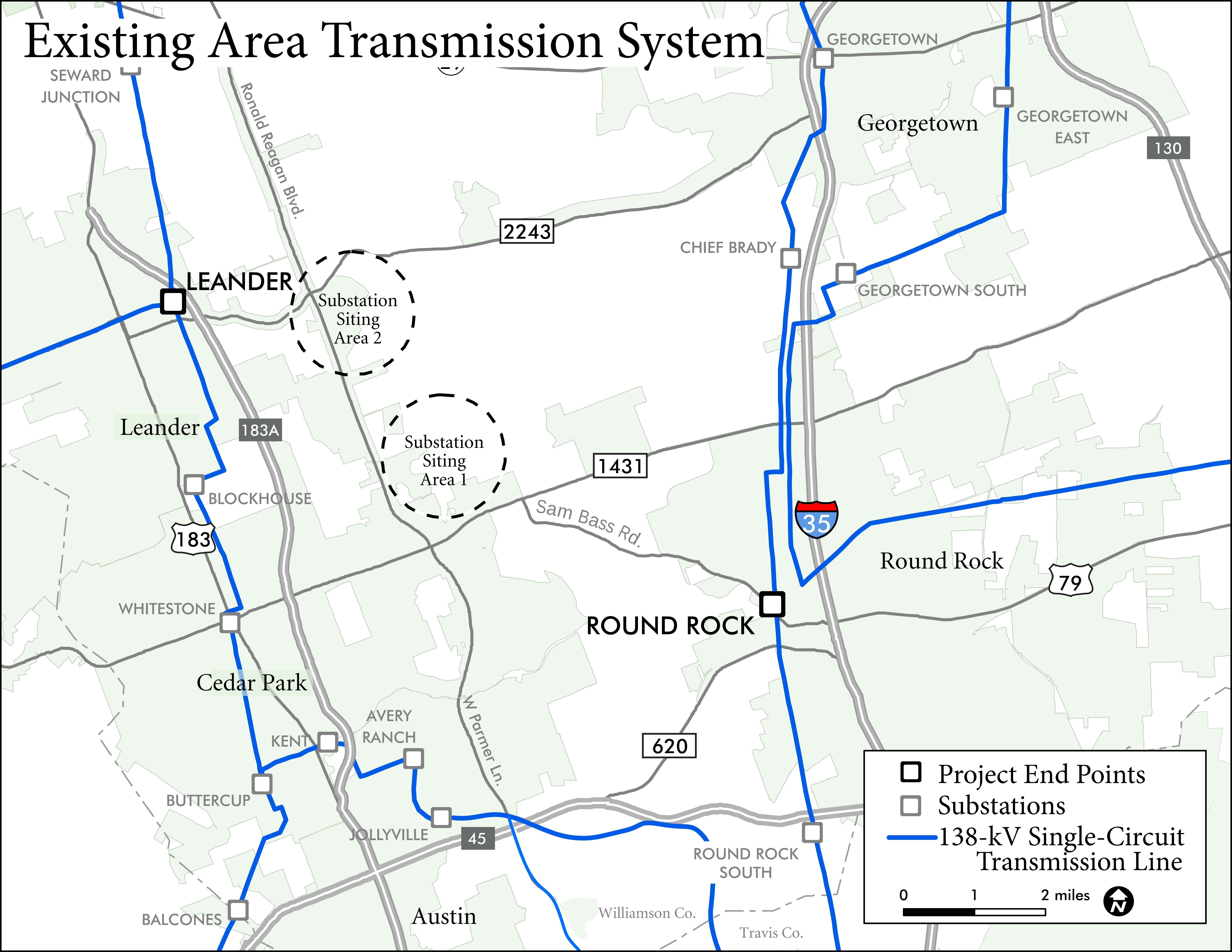
What transmission line project alternatives were considered?

LCRA TSC considered 10 existing substations as endpoints for a transmission line connecting the two proposed new substations. Ultimately, the impacts of 13 different transmission project alternatives were analyzed. The Leander-Round Rock project was selected because it met the immediate need and provided more long-term benefit than other alternatives. (See adjacent board for map of area.)

Is the use of existing electric system facilities being considered for this project?

Yes, the project includes modifications at existing substations to address endpoints of the project endorsed by Electric Reliability Council of Texas (ERCOT). In addition, transmission line routing options include modifications to existing transmission line corridors near the Leander and Round Rock areas. LCRA TSC and ERCOT considered the impact of adding the new transmission line on structures common to portions of the existing transmission line extending from the Round Rock Substation to the north and determined that such a configuration would meet the performance requirements for the project.

Existing Area Transmission System



Public Utility Commission

Certification Process for Transmission Lines

Define Project

- Identify beginning and end points for project

Environmental Assessment and Routing Analysis

- Identify study area based on project definition.
- Gather data about study area.
- Meet with local representatives to discuss routing constraints and opportunities in the study area.
- Send consultation letters to local, state, and federal agencies and officials soliciting information about the study area.
- Map environmental and land use constraints in study area.
- Determine preliminary route segments and substation sites based on maps, aerial photos, constraints data and field visits.
- Publish notice of open house in local newspapers and send invitation for open house to any owners of land within 300 feet of any preliminary route segments.
- WE ARE HERE • Hold open houses to gather public input.
- Analyze preliminary route segments and substation sites to develop the primary alternative routes.
- Prepare Environmental Assessment Report.

PUC Application Process

- Submit an application to the Public Utility Commission of Texas (PUC) to amend LCRA TSC's Certificate of Convenience and Necessity (CCN).
- Upon filing of the application, send notices to landowners whose properties may be crossed or are within 300 feet of any alternative routes.
- Send notices to municipalities and electric utilities that are within five miles of the project and to county governments where the project is located.
- Following the filing of the application, interested parties will have an opportunity to participate in an intervention process.

PUC Staff Review

PUC staff conducts review and makes recommendation to approve project as submitted or approve with modifications.

NO

Intervention?

Within 45 days after application is submitted.

YES

Administrative Hearing

- Technical review of project routing.
- Testimony filed by all parties.
- Administrative hearing.
- Administrative law judge prepares proposed final order.

PUC Makes Decision Within 12 Months

- Approve application.
- Approve application with modifications.
- Deny application.

- PUC approval of a CCN application gives LCRA Transmission Services Corporation the authorization to build the new transmission project along the route selected by the PUC.

AGENCIES and OFFICIALS CONTACTED

FEDERAL

- Federal Aviation Administration
- Federal Emergency Management Agency
- Natural Resources Conservation Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- U.S. National Parks Service
- U.S. Senators and Congressional Representatives

STATE

- Railroad Commission of Texas
- Texas Commission on Environmental Quality
- Texas Department of Transportation
 - Aviation Division
 - District Engineer
 - Environmental Affairs Division
 - Planning and Programming
- Texas General Land Office
- Texas Historical Commission
- Texas Parks & Wildlife Department
- Texas Water Development Board
- State Senators and Representatives

LOCAL

- County Officials (Williamson)
- City Officials (Austin, Cedar Park, Georgetown, Leander, and Round Rock)
- School ISDs (Georgetown, Leander, and Round Rock)
- Williamson County Historical Commission
- Upper Brushy Creek Water Control and Improvement District
- Capital Area Council of Governments
- City of Austin Economic Growth and Redevelopment Services
- Georgetown Department of Economic Development
- Round Rock Economic Development Partnership
- Chamber of Commerce (Austin, Cedar Park, Georgetown, Leander, and Round Rock)
- Utilities
- Williamson County Conservation Foundation

ENVIRONMENTAL AND LAND USE CRITERIA FOR TRANSMISSION LINE EVALUATION

Land Use

Length of alternative route

Number of habitable structures¹ within 300 feet of the right-of-way (ROW) centerline

Number of newly affected habitable structures² within 300 feet of ROW centerline

Length of ROW using existing transmission line ROW

Length of ROW using other existing electric facility ROW (distribution lines)

Length of ROW parallel to existing transmission line ROW

Length of ROW parallel to other existing electric facility ROW (distribution lines)

Length of ROW parallel to other existing ROW (roads, highways, railroads, etc.)

Length of ROW parallel to apparent property lines³

Length of ROW through parks/recreational areas⁴

Number of additional parks/recreational areas⁴ within 1,000 feet of the ROW centerline

Length of ROW through cropland

Length of ROW through pasture/rangeland

Length of ROW through land irrigated by traveling systems (rolling or pivot type)

Number of pipeline crossings

Number of transmission line crossings

Number of U.S. and state highway crossings

Number of farm-to-market road (FM) crossings

Number of cemeteries within 1,000 feet of the ROW centerline

Number of FAA registered airports with at least one runway more than 3,200 feet in length located within 20,000 feet of the ROW centerline

Number of FAA registered airports having no runway more than 3,200 feet in length located within 10,000 feet of the ROW centerline

Number of private airstrips within 10,000 feet of the ROW centerline

Number of heliports within 5,000 feet of the ROW centerline

Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline

Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of the ROW centerline

Aesthetics

Estimated length of ROW within foreground visual zone⁵ of U.S. and state highways

Estimated length of ROW within foreground visual zone⁵ of FM roads

Estimated length of ROW within foreground visual zone⁶ of park/recreational areas⁴

Ecology

Length of ROW through upland woodlands/brushland

Length of ROW through bottomland/riparian woodlands

Length of ROW across National Wetlands Inventory mapped wetlands

Length of ROW across known habitat of federally listed endangered or threatened species

Length of ROW across open water (lakes, ponds)

Number of stream crossings

Number of river crossings

Length of ROW parallel (within 100 feet) to streams or rivers

Length of ROW across 100-year floodplains

Cultural Resources

Number of recorded historic or prehistoric sites crossed by ROW

Number of additional recorded historic or prehistoric sites within 1,000 feet of ROW centerline

Number of National Register listed or determined eligible sites crossed by ROW

Number of additional National Register listed or determined eligible sites within 1,000 feet of ROW centerline

Length of ROW through areas of high archaeological/historic site potential

¹ Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230 kV or less.

² Newly affected habitable structures are habitable structures within 300 feet of an alternative route that are currently not already within 300 feet of an existing transmission line.

³ Property lines created by existing roads, highway, or railroad ROW are not “double-counted” in the length of ROW parallel to property lines criterion.

⁴ Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church located within 1,000 feet of the centerline of the project.

⁵ One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of Interstates, U.S. and State Highways criteria are not “double-counted” in the length of ROW within the visual foreground zone of FM roads criteria.

⁶ One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of Interstates, U.S. and State Highways criteria and/or with the total length of ROW within the visual foreground zone of FM roads criterion.

LCRA TSC Substation Design

How big are substations?

Typical size for open air substations is 5 to 7 acres.



What Are LCRA TSC's design practices?

LCRA TSC's typical design practices for substations are open air designs that adhere to industry safety and technical guidelines and requirements. LCRA TSC considers nonstandard designs when they are appropriate, cost-effective, and not compromising safety, efficiency or reliability.

In addition to typical design practices, LCRA TSC is considering various alternative design concepts for the new substations on this project including:

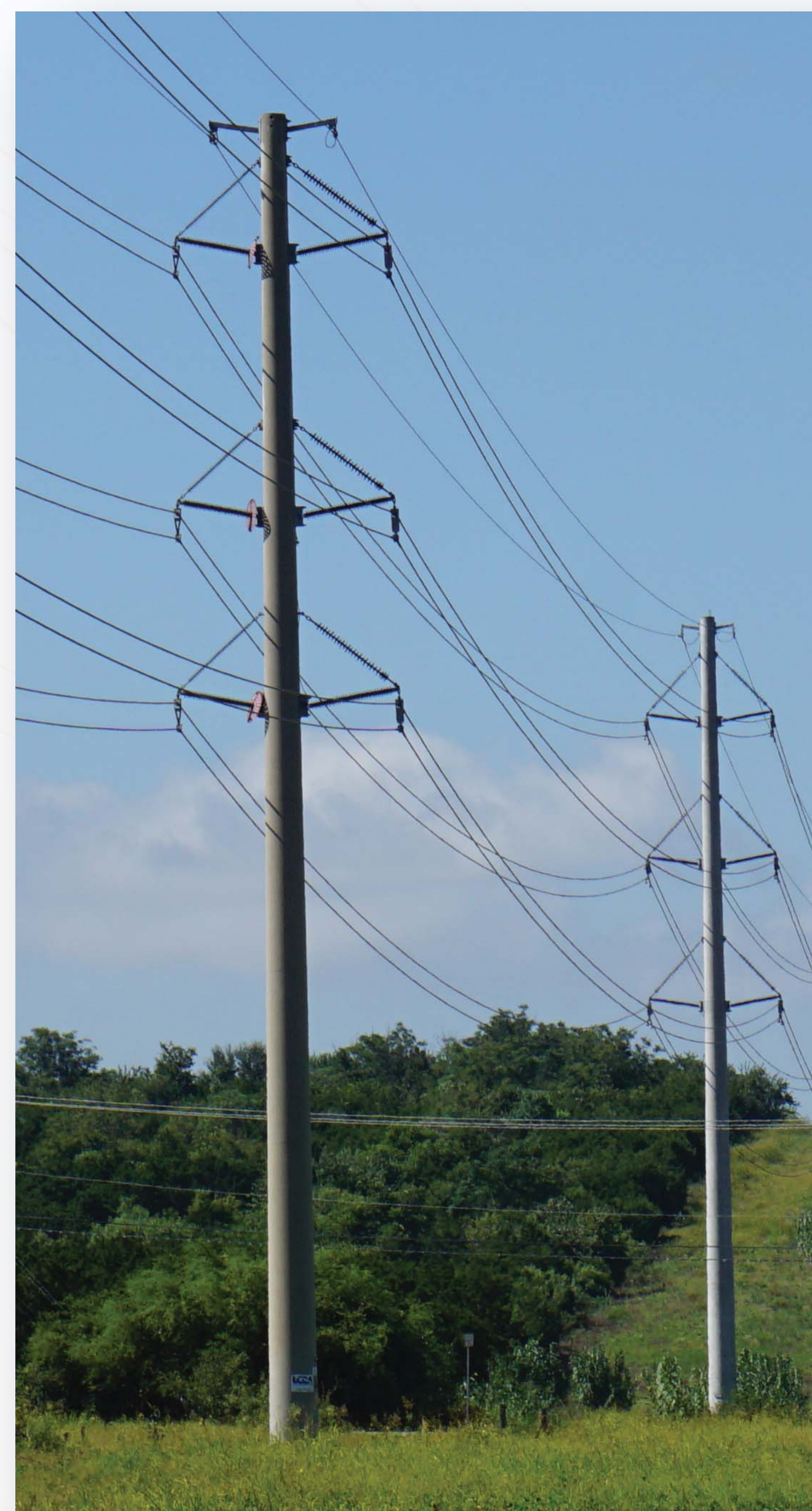
- Gas insulated design.
- Low profile substation infrastructure.
- Decorative exterior walls and/or fences.

Where will the new substations be located?

Substation 1 will be near the intersection of Parmer Lane/Ronald Reagan Boulevard and FM 1431. Substation 2 will be near the intersection of Ronald Reagan Boulevard and Crystal Falls Parkway.

The exact locations will be determined after the Public Utility Commission approves a route for the LCRA TSC transmission line, which will connect the new substations to the existing Leander and Round Rock substations.

Typical 138-kV Single Pole

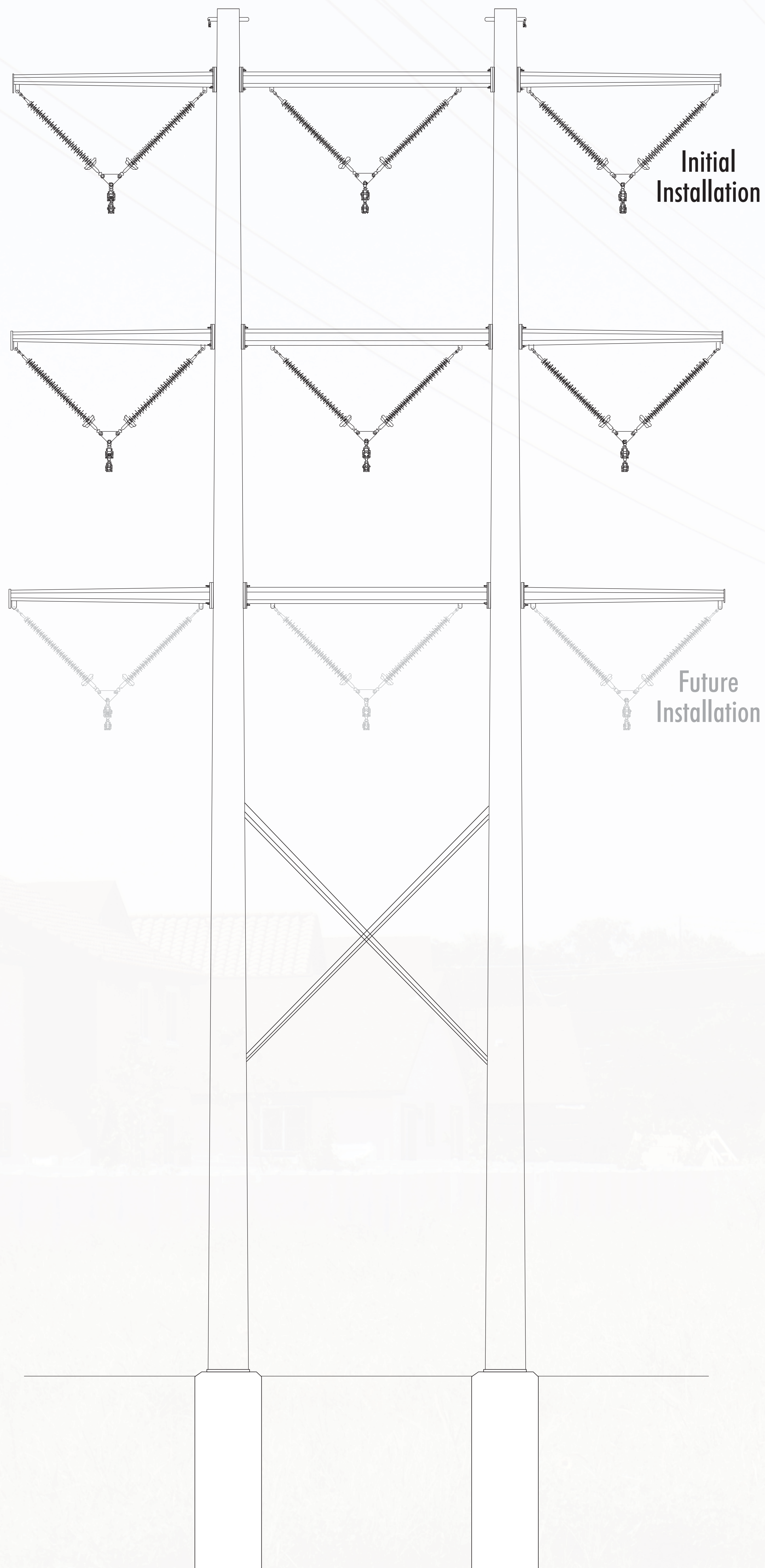


**Typical Height
80'-140'**

- Typical easement width used is 60'-100'
- Smallest "footprint" of available structure types
- Steel or concrete

Double-Circuit Capable

Typical 138-kV Triple-Circuit H-Frame



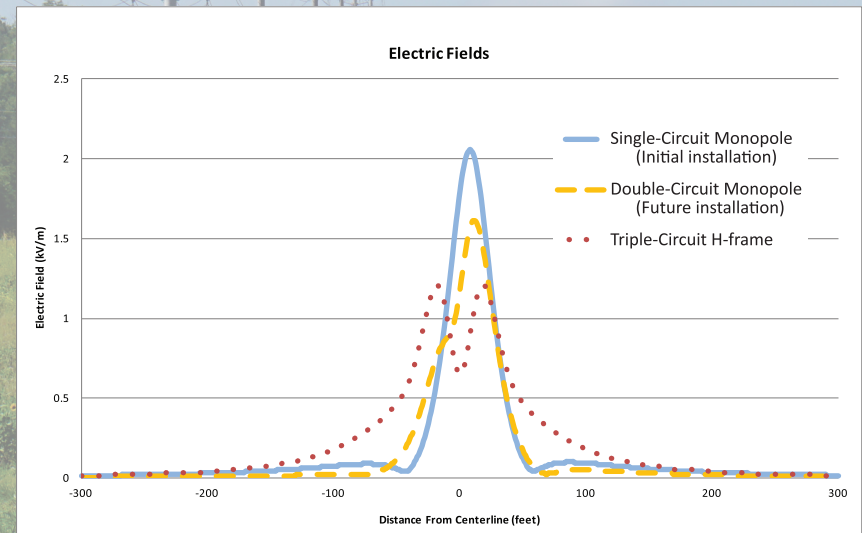
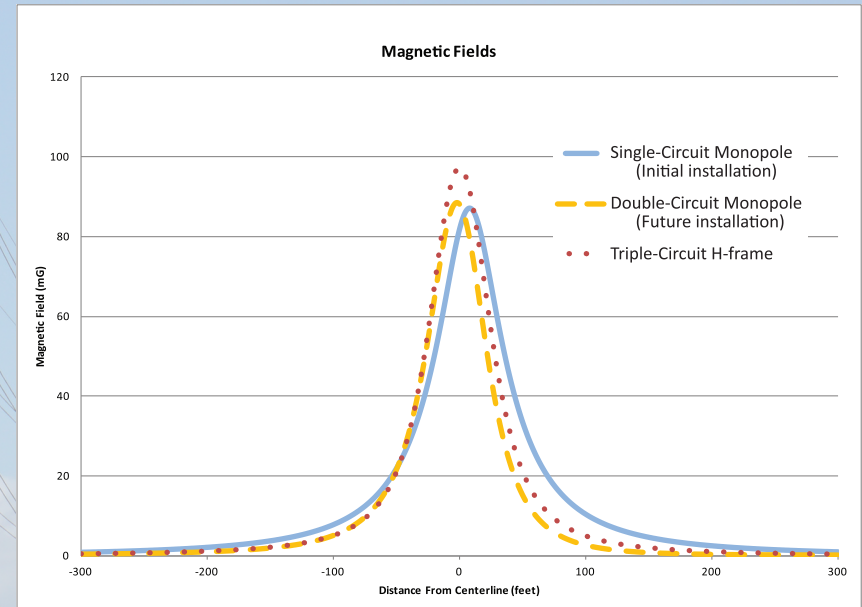
**Typical Height
80'-140'**

- Typical easement width used is 100'
- Larger "footprint" of available structure types
- Steel

Electric and Magnetic Fields

- Electric and magnetic fields (EMFs) are present wherever electrical power flows. EMFs are invisible lines of force that surround all electric devices. Sources of EMFs include home and workplace appliances and local power lines.

- For more than 30 years, public health agencies, independent research institutes and electric utilities throughout the world have conducted scientific research on the possible health effects of EMFs. While some concerns have been raised about the potential health effects of EMFs, extensive scientific research has not established any direct link between exposure to power lines and adverse health effects. No laboratory studies to date have shown a cause-and-effect relationship between exposure to a power-frequency EMF and adverse health effects.
- Neither Texas nor the federal government has established health standards relating to EMFs.



Easement Acquisition Process

PUC issues Final Order

Verify current ownership along approved route

Notify landowner(s) to access property and conduct the following:

- Property survey
- Cultural resources survey
- Natural resources survey
- Geotechnical testing

Determine value of property through an independent appraisal or available market data

Present offer letter and appraisal/compensation summary to landowner along with a copy of the state's Landowner Bill of Rights

Negotiate with landowners

Agreement made

LCRA TSC pays landowner and enters into easement agreement

Agreement not made

LCRA TSC initiates eminent domain process

1. Staff obtains approval from LCRA TSC Board of Directors to begin eminent domain procedures.
2. Three local landowners are appointed by the jurisdictional court to be Special Commissioners.
3. A hearing takes place and the Special Commissioners determine the compensation due to the landowner.
4. Either party to a Special Commissioners' hearing may appeal an award.

Typical Right-of-Way Maintenance

- To ensure reliable and safe operation of transmission lines, LCRA TSC follows clearing requirements and guidelines from the following codes and regulatory agencies: North American Electric Reliability Corporation (NERC), National Electrical Safety Code (NESC), Institute of Electrical and Electronic Engineers (IEEE), American National Standards Institute (ANSI), and Texas Utility Code (TUC).
- The National Electrical Safety Code (NESC) establishes mandatory clearances to be maintained around transmission lines.
- Vegetation is cleared and regularly maintained within the easement width (typically 60 feet to 100 feet).
- Electricity can arc or “flash over” from wires to nearby trees before actual contact is made, causing electric current to flow through the tree to the ground.
- Vegetation near or touching power lines can cause service interruptions and interfere with access to transmission lines and structures.