

# Scope, Purpose & Need



## Scope

CPS Energy proposes to construct a new substation in the northwest part of Bexar County in the area west of IH10 and inside Loop 1604 near the intersection of Guilbeau and Tezel Roads. CPS Energy plans to install a new 138kV transmission line that will be connected to the existing Bandera Rd to Helotes transmission line in order to serve the new substation.

## Purpose and Need

The new substation is needed to meet an increasing demand for electricity in the area from residential and commercial customers. The new substation will allow CPS Energy to maintain and improve the area's electrical reliability in order to reduce potential customer electric outages now and into the future.

The new substation will help relieve load from other surrounding substations and reduce the risk of overloading circuits.

The new substation needs to be connected to the existing 138kV Bandera Rd to Helotes transmission line.

# System Planning – Growth & Reliability

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## Commercial



## Electric Vehicles



## Single-Family Homes



## Reliability



# System Planning – Infrastructure Solutions



Distribution Lines



Smart Devices



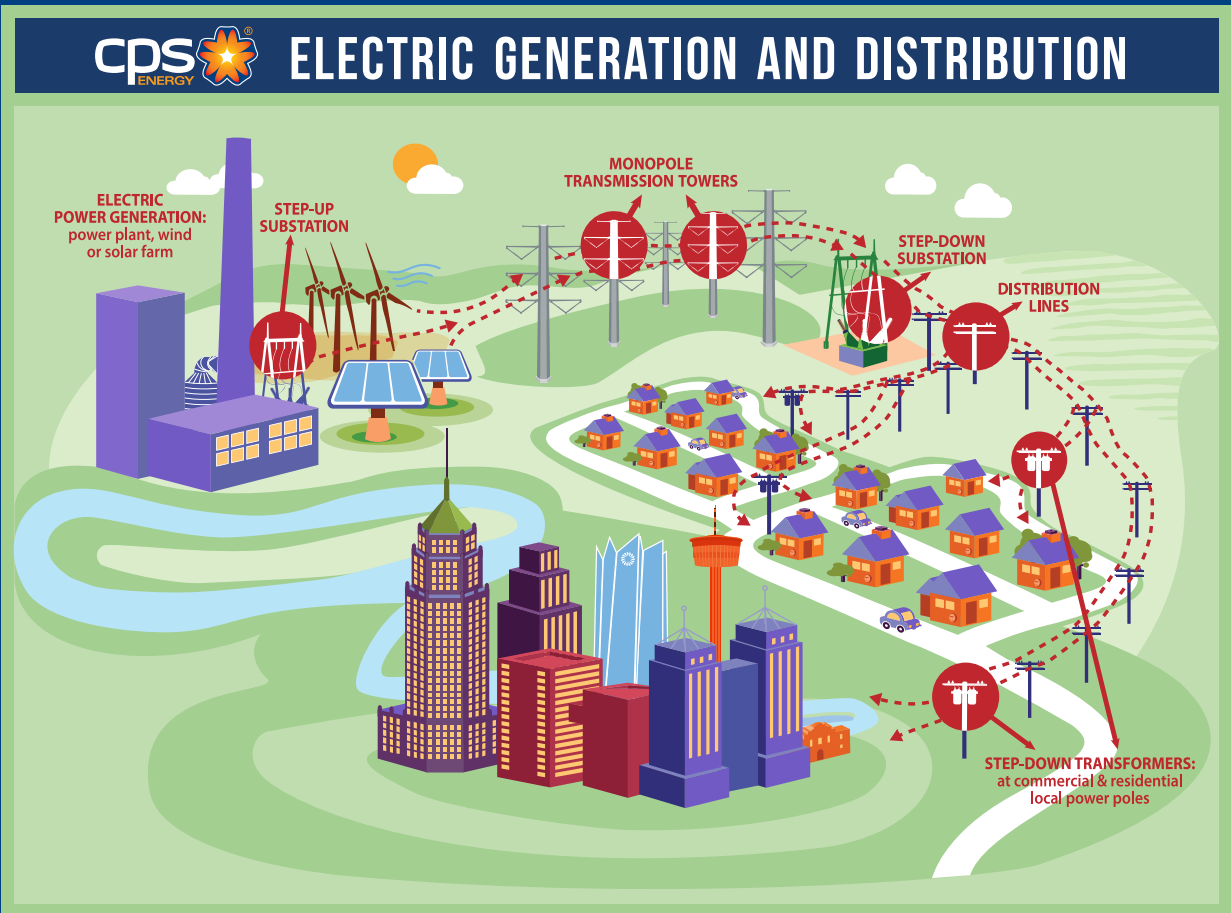
Transmission Lines



Substations



# Generation to Customer Diagram



# Routing and Siting Process Highlights



## Determine a need for the project

- By utility planners and engineers

## Define the study area

## Gather data, identify constraints, and propose preliminary alternative route segments

- Obtain aerial photos of the study area
- Gather property boundary information
- Identify environmental/land-use constraints and opportunities
- Send letters to federal, state and local agencies requesting information about the study area
- Gather information regarding natural, cultural and human resources
- Assess easement/right-of-way features/concerns
- Evaluate alternative transmission structures

## Conduct public involvement

- Notify landowners and interested parties
- Advertise open house
- Broadcast pre-recorded open house informational video to explain the project and solicit input on preliminary transmission segments & substation sites
- Respond to inquiries
- Evaluate public and agency input

## Develop environmental assessment report

## Recommend preferred route and site to Board of Trustees for approval

# Anticipated Timeline



Gather information and land use data

*Completed*

Send letters to landowners

*In Progress*

Broadcast Project Video

*July 15, 2020*

Complete evaluation Public input, environment,  
land use, engineering

*August – November 2020*

CPS Energy Board of Trustees Approval &  
Notify landowners and interested parties

*Dec. 2020 – Feb. 2021*

Apply for City Ordinance

*March – June 2021*

Start construction

*Mid 2022*

Complete construction

*May 2024*



# Substation Facts



## Existing Substations

- As of 2019, there are approximately 110 existing substations in the CPS Energy service area.
- Substations operate on either 345 kV or 138 kV transmission voltages and either 34.5 kV or 13.2 kV distribution voltages.

## New Substations

- The general location for a substation is determined by the demand for electricity in that area.
- A substation site must have access to public roadway.
- A substation site must have access to existing transmission and distribution lines.
- Site conditions for a substation are:
  - Location –not located in a floodplain
  - Size – minimum 2 acres
  - Terrain –relatively flat
  - Soil –natural soil, void of fill and waste

# Typical Substations



Exeter Substation – Typical Air Insulated Substation (AIS)



# Decorative Substation Wall Types



Dresden Substation – Decorative concrete wall (Art work provided by City of San Antonio)



Ball Park Substation – Decorative concrete wall

# Typical Transmission Structures



Single Circuit Structure



Double Circuit Structure

# Typical Transmission Easements

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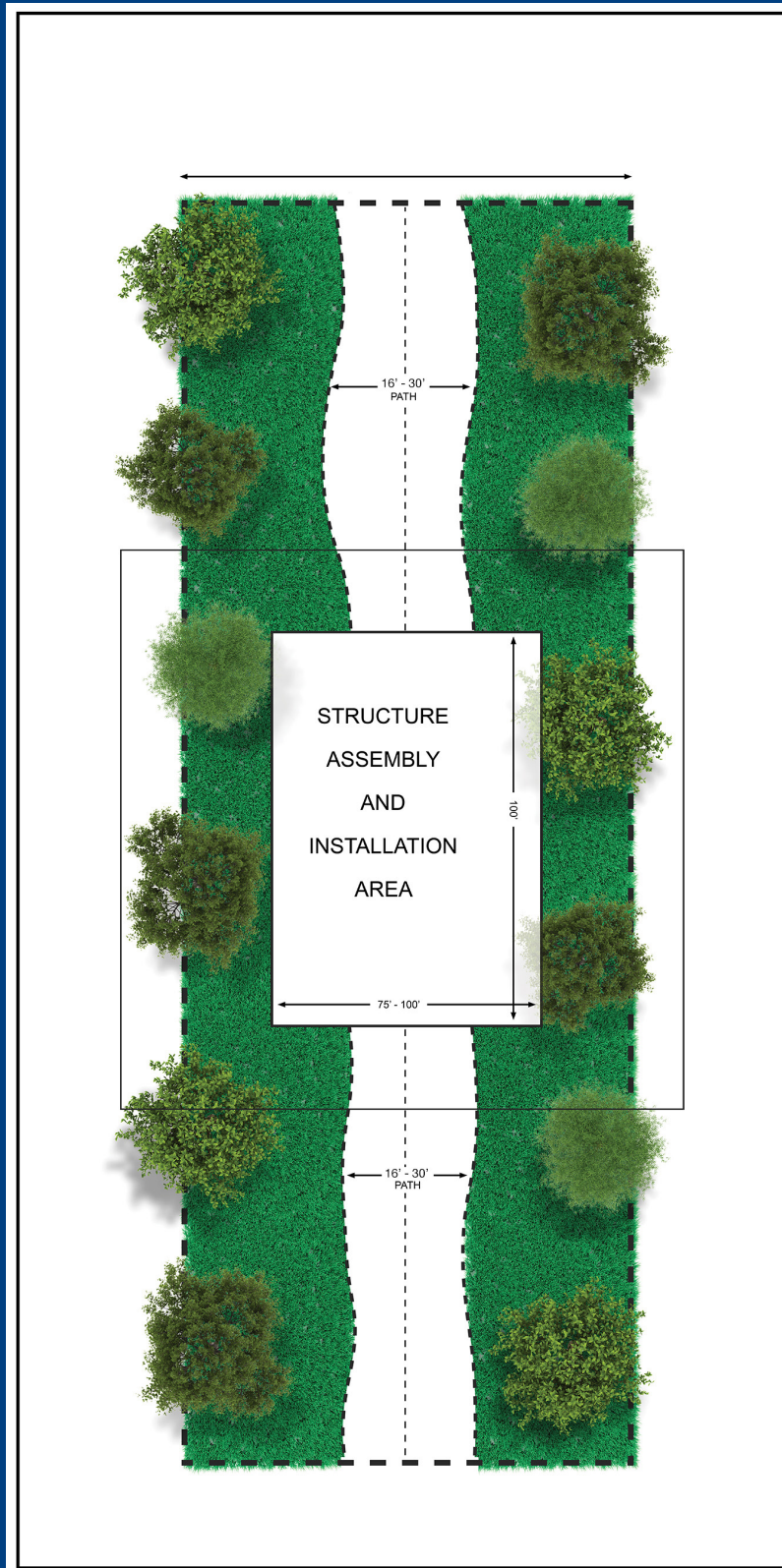


100ft clearing around transmission structure



16-30ft clearing along route

# Sample Easement Clearing



# Acquisition



- Mail “Bill of Rights” letter to affected landowners
- Contact property owner
- Obtain permission to conduct survey(s)
- Survey establishes boundaries of substation/easement  
(Simultaneously perform environmental/ cultural surveys)
- Substation/easement area is defined/ described by  
Registered Professional Land Surveyor
- Value of substation/easement established by  
independent appraiser
- Negotiate with property owner for substation site/  
easement or right-of-way for utility use

# Right-of-Way Terms to Know



## **EASEMENT:**

A right created by grant, reservation, agreement, or implication, which one party has in another party's land.

## **SURVEY:**

The measurement of the boundaries of a parcel of land, its area, and sometimes its topography.

## **APPRAISAL:**

The act or process of developing an opinion of value; an opinion of value.

## **NEGOTIATION:**

The process by which two or more parties resolve differences to reach a mutually acceptable agreement.

## **EMINENT DOMAIN:**

A governmental right to acquire private property for public use by condemnation, and the payment of just compensation.

## **FAIR MARKET VALUE:**

The price that would probably be negotiated between a willing seller and a willing buyer in a reasonable time, usually arrived at by comparable sales in the same area.

## **STATE OF TEXAS LANDOWNER BILL OF RIGHTS:**

Property owner rights that apply to any attempt by the government or a private entity to take your property, as prescribed in Texas Government Code Sec. 402.031 and Chapter 21 of the Texas Property Code.

# Land Use Criteria



## Land Use

Is site adjacent to an existing transmission line

Length of alternative route (miles)

Number of habitable structures<sup>1</sup> within 300 feet of route centerline/site

Number of churches within 300 feet of route centerline/site

Number of day care centers within 300 feet of route centerline/site

Number of schools within 300 feet of route centerline/site

Length of route utilizing existing electric facility ROW<sup>2</sup>

Length of route parallel to existing electric facility ROW

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

Length of route parallel to property lines (not following existing ROW)<sup>3</sup>

Length of route across parks/recreational areas<sup>4</sup>

Number of additional parks/recreational areas<sup>4</sup> within 1,000 feet of route centerline

Length of route across conservation easements and/or mitigation banks

Length of route parallel to pipelines

Number of pipeline crossings

Number of transmission line crossings

Number of road crossings

Number of FAA registered public/military airports<sup>5</sup> with at least one runway more than 3,200 feet in length located within 20,000 feet of the route centerline/site

Number of FAA registered public/military airports<sup>5</sup> having no runway more than 3,200 feet in length located within 10,000 feet of the route centerline/site

Number of private airstrips within 10,000 feet of the route centerline/site

Number of heliports within 5,000 feet of the route centerline/site

Number of commercial AM radio transmitters within 10,000 feet of the route centerline/site

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

Number of existing water wells within 200 feet of the route centerline

Number of oil and gas wells within 200 feet of the route centerline  
(including dry or plugged wells)

## Aesthetics

Estimated length of route/site within foreground visual zone<sup>6,7</sup>  
of park/recreational areas<sup>4</sup>



# Land Use Criteria (continued)



## Ecology

Is route/site in an area known to contain endangered karst invertebrate species (Zone 1)

Is route/site in an area having a high probability of containing endangered karst invertebrate species (Zone 2)

Is route/site within 500 feet of a known karst feature

Length of route across upland woodlands/brushland

Length of route across bottomland/riparian woodlands/brushland

Length of route across National Wetlands Inventory (NWI) mapped wetlands

Length of route across known occupied habitat of federally listed endangered or threatened species

Length of route across open water (lakes, ponds)

Number of stream crossings

Length of route parallel (within 100 feet) to streams

Length of route across Edwards Aquifer Recharge Zone

Length of route across Edwards Aquifer Contributing Zone

Length of route across FEMA mapped 100-year floodplain

## Cultural Resources

Number of recorded historic or prehistoric sites crossed by route

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

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

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

Length of route crossing areas of high archaeological/historic site potential

**1** Single-family and multi-family dwelling, 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 230kV or less. **2** Includes instances of proposed double-circuiting or overbuilding existing transmission or distribution lines. **3** Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria. **4** Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project. **5** As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US), FAA 2019a. **6** One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria. **7** 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, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.



# Local, State & Federal Agencies Contacted/Notified

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## FEDERAL

- Federal Aviation Administration
- Federal Emergency Management Agency
- Natural Resources Conservation Service
- U.S. Army Corps of Engineers
- U.S. Department of Defense Siting Clearinghouse
- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- U.S. House of Representatives

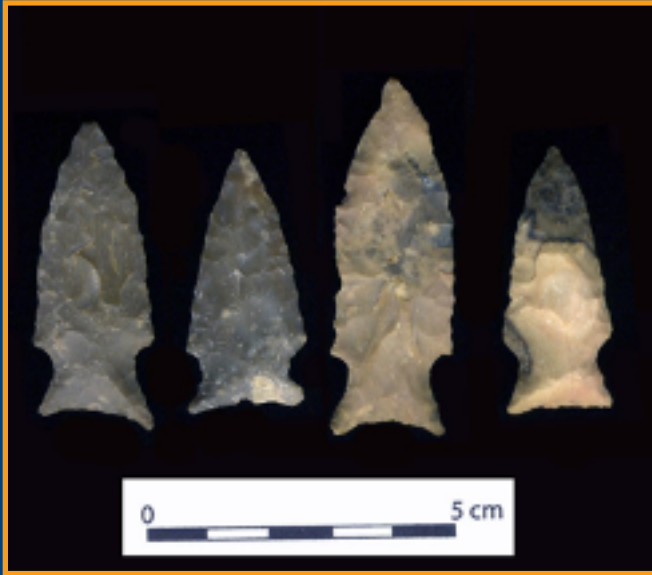
## STATE

- Texas Commission on Environmental Quality
- Texas Department of Transportation
  - Aviation Division
  - Environmental Affairs Division
  - San Antonio District Engineer
- Texas General Land Office
- Texas Historical Commission
- Texas House of Representatives
- Texas Nature Conservancy
- Texas Parks & Wildlife Department
- Texas Public Utility Commission
- Texas State Senate
- Texas Water Development Board

## LOCAL

- Alamo Area Council of Governments
- Alamo Soil and Water Conservation District
- Bexar County Commissioners
- Bexar County Economic Development
- Bexar County Farm Bureau
- Bexar County Farm Service Agency
- Bexar County Flood Control
- Bexar County Historical Commission
- Bexar County Judge
- Bexar County Manager
- City of San Antonio Officials
- Edwards Aquifer Authority
- Northside ISD
- San Antonio River Authority
- San Antonio Water System
- San Antonio World Heritage Office

# Endangered Species and Historic Features



Native American dart points of Central Texas



Golden-cheeked warbler



Karst invertebrates