

PAWNEE-TANGO

TRANSMISSION IMPROVEMENTS PROJECT



Welcome! Thank you for visiting our virtual open house to learn more about the project and share your input to help us develop project plans. We welcome feedback through the project website, phone, email and mail as we strive to make the most informed decisions possible.

The virtual open house includes details on the following information:

- Project Need & Benefits
- Project Map
- Engineering
- Right-of-Way Practices
- The Construction Process

PROJECT NEED & BENEFITS



The Project Involves:

AEP Texas and CPS Energy plan to strengthen the electric transmission grid in southeast Texas by adding a second 345-kilovolt (kV) circuit to the existing Pawnee - Tango transmission line route in Karnes and Bee counties. The project involves the removal of existing lattice-frame structures and replacing them with steel monopole structures capable of holding additional transmission line wires.

CPS Energy owns and operates the northern 11 miles of line, while AEP Texas owns and operates the remainder.

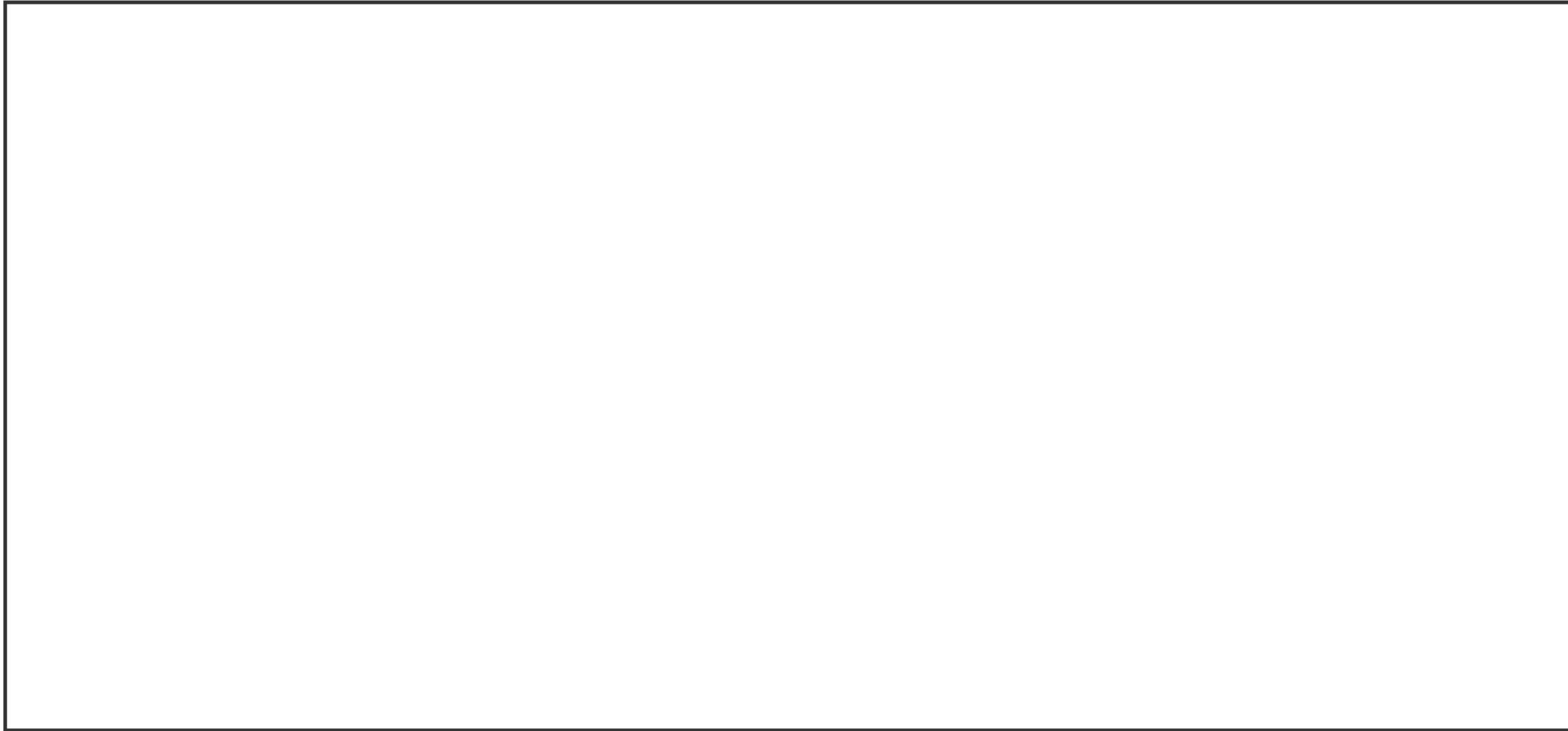
Why is the project important to our community?

The addition of the second circuit was endorsed by the Electric Reliability Council of Texas (ERCOT) in April 2024 as being critical for the reliability of the ERCOT system.

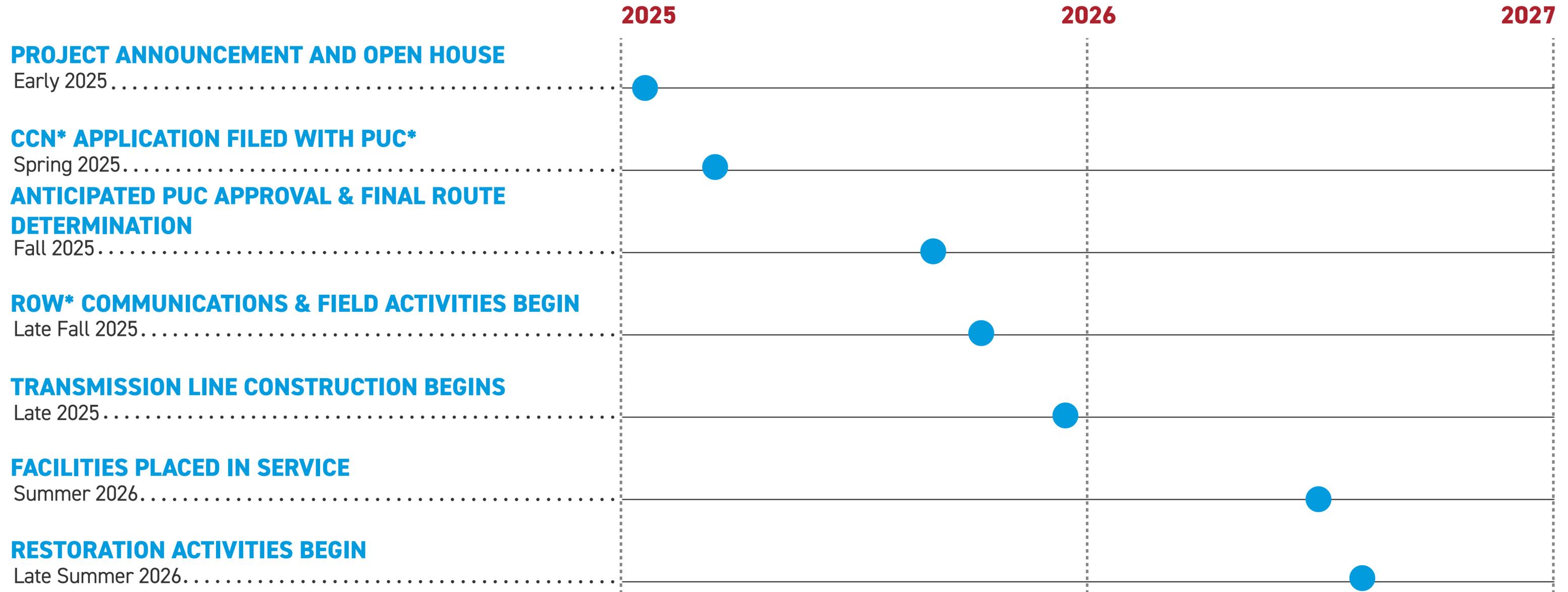
PROJECT MAP



An **AEP** Company



PROJECT TIMELINE



Timeline subject to change. *CCN: Certificate of Convenience and Necessity; PUC: Public Utility Commission of Texas; ROW: Right-of-Way

TYPICAL STRUCTURE



Crews plan to install single-pole steel structures.

Typical Height: 175-200 feet

Typical Distance Between Structures: 1,000 feet

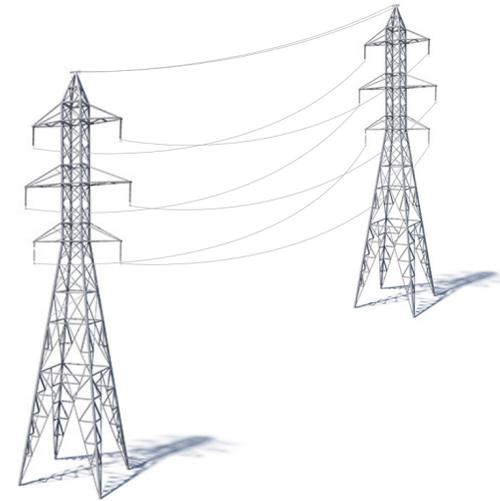
Typical Right-of-Way Width: 150 feet

*Exact structure, height, and right-of-way requirements may vary.

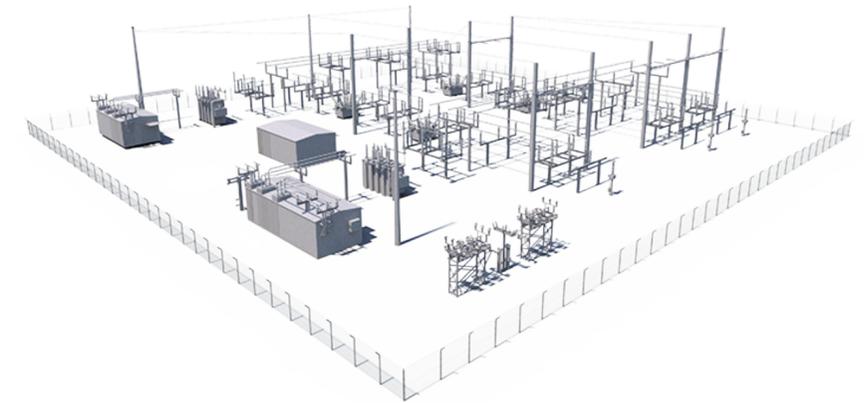
HOW THE SYSTEM WORKS



1. Generation Stations: →
A generation station produces power to be transported long distances through transmission lines.

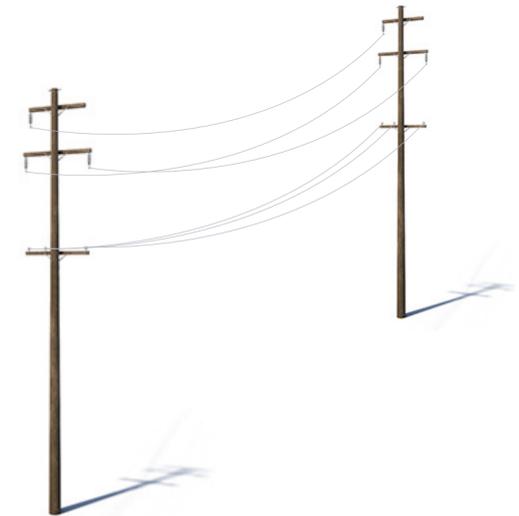
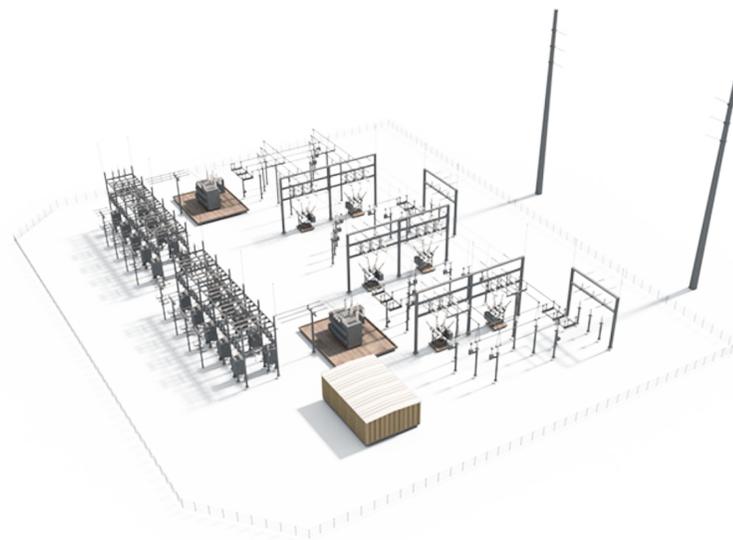
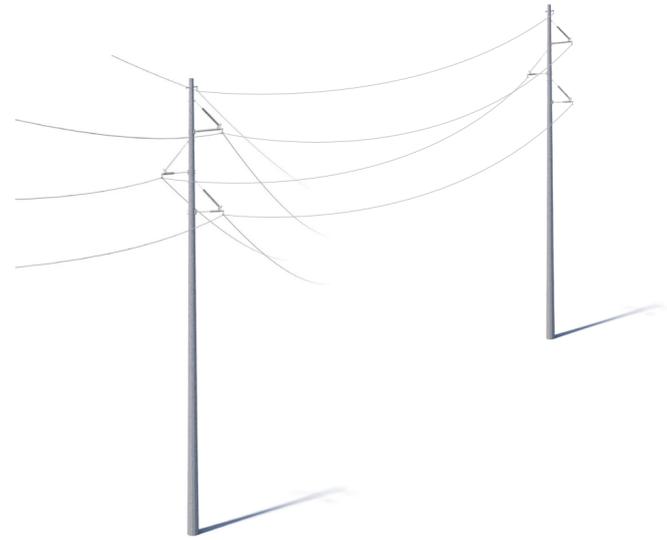


2. EHV Transmission: →
Extra-high voltage (EHV) electric transmission lines are generally 765-kilovolt (kV), 500-kV and 345-kV.



3. Transmission Substations: →
Substations direct the flow of electricity and either decrease or increase voltage levels for transport.

HOW THE SYSTEM WORKS



4. Local Transmission:

We typically use 69-kV and 138-kV transmission lines to move power shorter distances – for example, to different parts of a city or county.

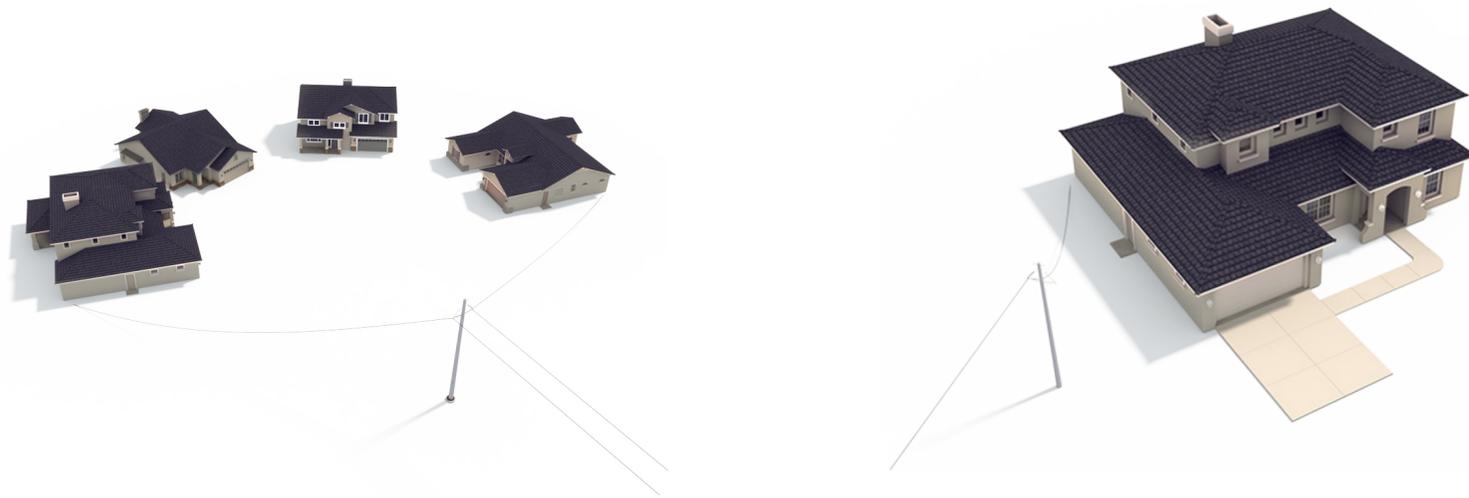
5. Distribution Substations:

Substations transform 69-kV and 138-kV electricity into lower distribution-level voltages such as 34.5-kV, 12-kV, or 7.2-kV.

6. Primary Distribution:

These main lines (also called circuits) connect substations to large parts of the community.

HOW THE SYSTEM WORKS



7. Lateral Distribution:

These lower-capacity lines deliver electricity to neighborhoods and other smaller groups of customers.

8. Individual Service:

Smaller transformers step down voltage to levels customers can use. Individual homes typically use 120/240 volts.

To use an analogy, electric transmission is like our national road system. Three kinds of power lines exist between power plants, homes and businesses:

- EHV lines are like interstate highways.
- High-voltage local transmission lines are like four-lane roads.
- Distribution lines are like two-lane roads that eventually connect to a driveway.

RIGHT-OF-WAY ACTIVITIES

We have two key philosophies regarding power line rights-of-way:

1. Routes should minimize disturbance to the community and the environment.
2. Property owners should be fairly compensated for any acquired land rights.



Once we study the land and propose line routes, we reach out to landowners for the following:

To obtain permission to access your property for activities such as:

- Environmental assessments
- Appraisal work
- Land surveying, soil boring and other field activities
- Cultural and historical resource reviews

To secure rights-of-way and communicate:

- Easement compensation
- Easement terms and conditions
- Right-of-way width

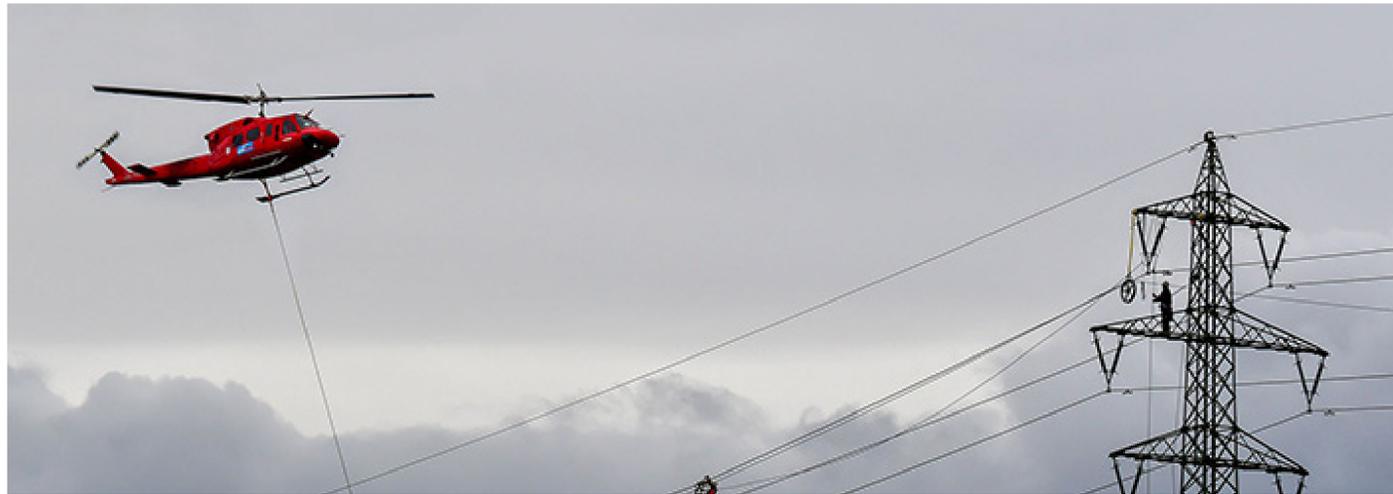
To outline our construction process with a specific focus on:

- Property access and special conditions
- Property restoration
- Damage mitigation as appropriate

FIELD ACTIVITIES



Ground Penetrating Radar: Ground Penetrating Radar (GPR) helps identify the location of underground utilities. A device that looks similar to a lawnmower, and is nondestructive to the soil, uses radio frequencies to detect objects below the ground's surface. Maps and images are created from the data.

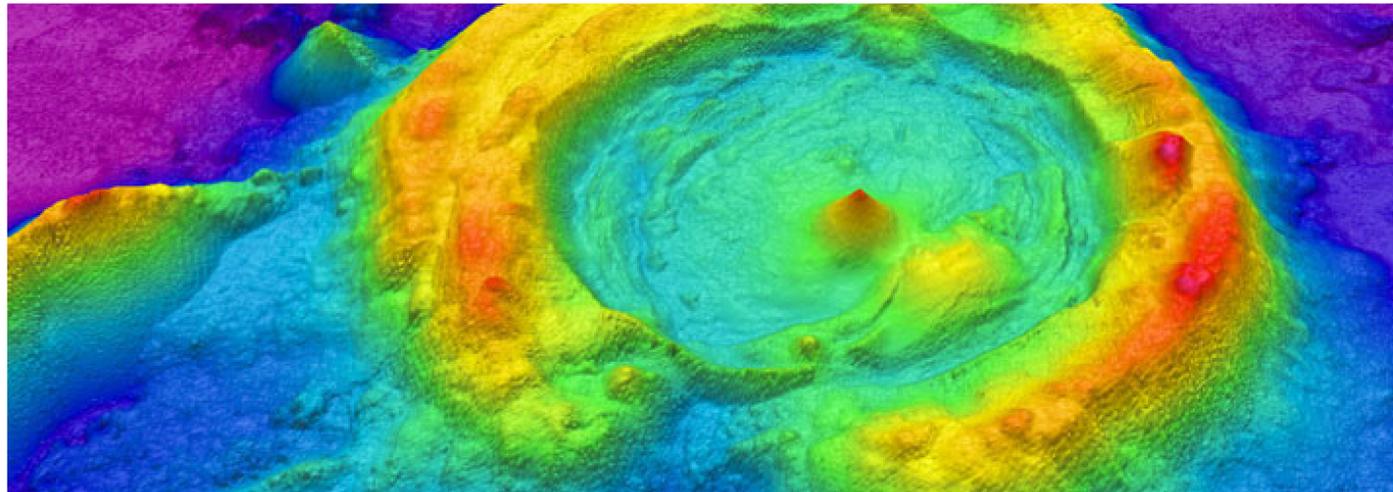


Helicopter: Challenging terrain or other restrictions/obstructions can make accessing certain parts of a project area difficult. In these locations, crews use helicopters to install structures, string conductors, perform line work and maintain electric facilities. Company representatives work with local media outlets to communicate these activities to the public.

FIELD ACTIVITIES



Hydro Excavation: Crews use hydro excavation (hydrovac) in areas where many underground utilities are located near each other. This process involves using pressurized water to break down soil to expose underground utilities. Afterward, crews backfill the area. The process helps prevent damage to underground infrastructure while gathering important information.



LiDAR: LiDAR (Light Detection and Ranging) uses laser pulses to measure the distance of an object to the source. The data points result in digital 3D maps for accurate design and engineering. LiDAR surveying crews use mobile (car or aerial vehicle) or static (tripod) equipment.

FIELD ACTIVITIES



Soil Borings: Field crews use a drill to bring up soil samples and then backfill the holes. Testing the core samples helps determine soil conditions in the area. Soil conditions and types can affect structure location and foundation design.



Cultural Resource Study: Field crews walk the area and conduct multiple excavation tests to identify historical and archaeological artifacts. Landowners also provide information about their property to survey crews.

FIELD ACTIVITIES



Environmental Survey: Surveyors collect information about the habitats and physical attributes of the project area. They also look for ecological concerns like wetlands, flood plains and forests. This process can help protect endangered species, such as the Indiana Bat and American Burying Beetle.



Unmanned aerial vehicles: Unmanned aerial vehicles (UAVs), or drones, perform aerial inspections and safely gather data and detailed images of electric facilities. Company employees and vendors comply with all commercial Federal Aviation Administration (FAA) guidelines. Company representatives work with local media outlets to communicate these activities to the public.

FIELD ACTIVITIES



Staking:

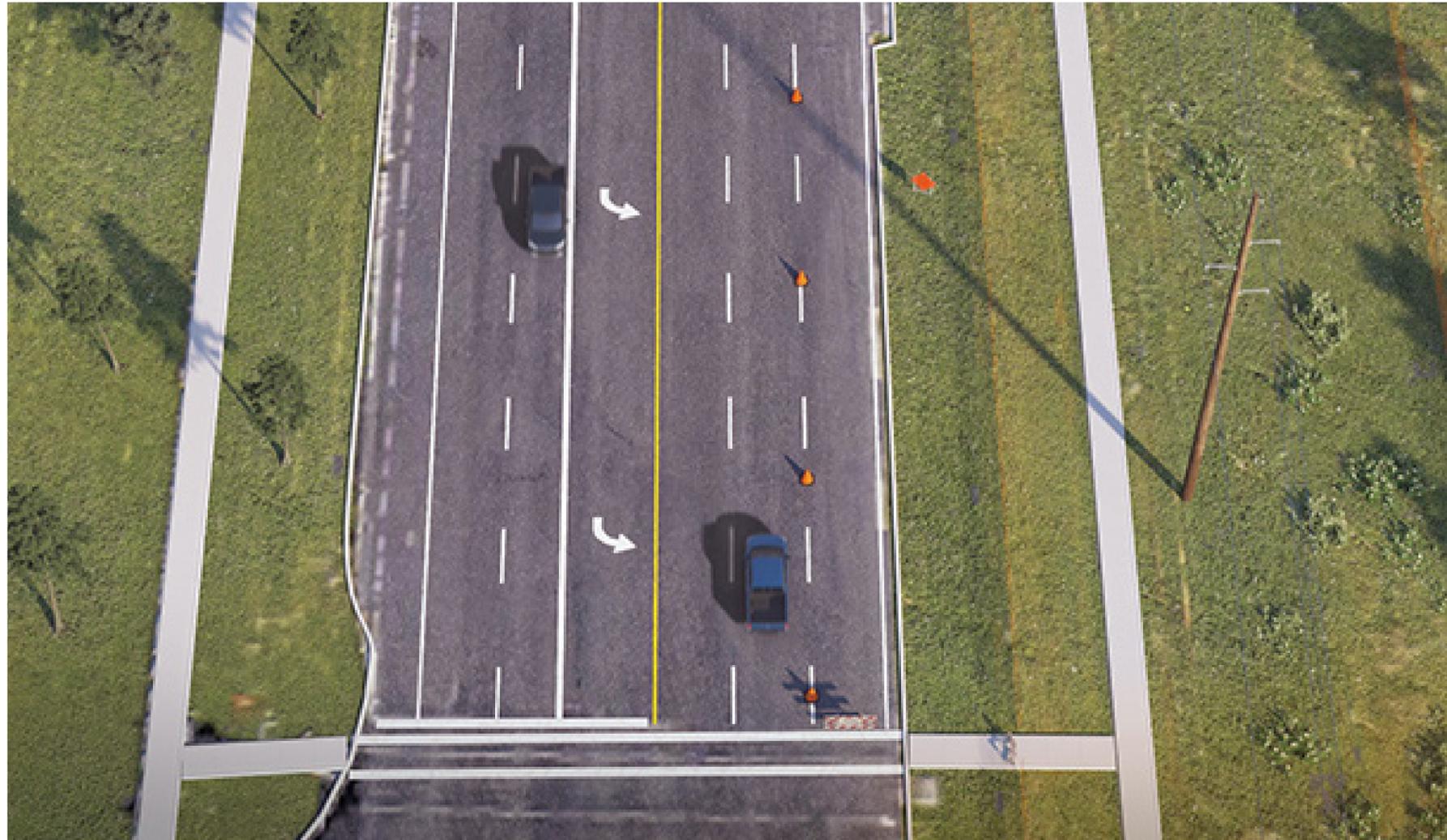
- Field crews use staking to mark the project area, identify utility equipment and pinpoint future structure locations. This process essentially transfers engineering and construction plans to the field.
- Right-of-way crews use staking to identify parcel boundaries, easement boundaries and other utility locations within the company's rights-of-way.
- Environmental crews use staking to identify wetlands or other environmentally sensitive areas.



Field Survey:

- Field survey crews help determine an appropriate route for a new transmission line by identifying constraints within the project area.
- Engineers conduct extensive studies of the terrain and soil to determine what types of structures and foundations are most suitable. They also gather information to create digital 3D maps of the project area to help engineer and design the project.

WHAT TO EXPECT DURING CONSTRUCTION



Construction Corridor Development

Crews prepare for construction by:

- Building access roads.
- Marking utilities and pole locations along the power line route using stakes and flags.
- Removing obstructions from the right-of-way easement area.
- Installing safety and environmental controls such as fencing.

As part of this process, crews clear the right-of-way:

- Forestry crews prepare for transmission line construction by clearing trees and woody-stemmed vegetation from the right-of-way.
- Crews may clear identified danger trees outside the right-of-way as allowed per the easement language.

WHAT TO EXPECT DURING CONSTRUCTION



Pole Installation

At most pole locations, crews:

- Assemble the new pole and place it near the installation area.
- Remove existing wires and other equipment from the existing poles.
- Remove the existing poles.
- Install and stabilize the base of the new pole.
- Install and secure the new pole.

WHAT TO EXPECT DURING CONSTRUCTION



Wire Installation

Crews install new wires on the new poles along the power line route.

WHAT TO EXPECT DURING CONSTRUCTION



Facilities Placed In Service

Crews energize the equipment after finishing pole and wire installations.

Post-Construction & Site Restoration

We restore properties to as close to their pre-construction condition as possible. Our teams work with individual landowners to address any property damage.

AGENCIES CONTACTED



Federal

- Federal Aviation Administration
- Federal Emergency Management Agency
- National Parks Service
- NRCS Texas State Office
- U.S. Army Corps of Engineers – Fort Worth District
- U. S. Department of Defense Military Aviation and Installation Assurance Siting Clearinghouse
- U.S. Environmental Protection Agency
- U.S. Fish Wildlife Service
- U.S. Congressman

Non-Governmental Organization

- The Nature Conservancy
- Texas Land Trust Council
- Texas Land Conservancy
- Texas Agricultural Land Trust
- Texas Cave Management Association

State

- Texas State Senators
- Texas House Representatives
- Railroad Commission of Texas
- Texas Commission on Environmental Quality
- Texas Department of Transportation
- Texas General Land Office
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Water Development Board

AGENCIES CONTACTED



Local

- City of San Antonio – Community Affairs
Environmental Enforcement Office
- City of San Antonio - Economic Development
Department
- City of San Antonio - Department of Planning
- City of San Antonio - Transportation
- City of San Antonio Office of Historic Preservation
Development and Business Services Center
- City of San Antonio – Mayor and City Manager
- Alamo Area Council of Governments
- Costal Bend Council of Governments
- Alamo Soil and Water Conservation District
- San Antonio World Heritage Office
- San Antonio Water System
- San Antonio River Authority
- Edwards Aquifer Authority Chairman
- Bee County Judge
- Bee County Commissioners
- Karnes County Judge
- Karnes County Commissioners
- Karnes County Special Projects and Permits
- Bowers Independent School District
- Kenedy Independent School District

TRANSMISSION LINE PROJECT REVIEW PROCESS



Transmission Routing Process:

Environmental Assessment and Routing Study

- Define study area
- Identify routing link constraints

Establish Preliminary Routing Links

- Invite public involvement
- Finalize links, develop routes

Select Alternative Routes for Filing

PUC Approval Process:

AEP Texas files application at PUC

- Direct mail notice of application to landowners, local public officials, and electric utilities
- Publication of notice in local newspaper
- 45-Days intervention period

If No Hearing is Requested

- Application approved administratively 180 days

If Hearing is Requested

- Application processed within 180 days
- Hearing by administrative law judge (ALJ)
- ALJ makes recommendation to PUC

PUC Makes the Final Decision

- Approve or deny application
- If approved, decides location of approved route

ENVIRONMENTAL & LAND USE CRITERIA FOR TRANSMISSION LINE EVALUATION



Land Use

Length of:

- Alternative route
- Route utilizing existing transmission line right-of-way (ROW)
- Route parallel and adjacent to existing transmission line ROW
- Route parallel and adjacent to other existing ROW (roadways, highways, railways, canals, etc.)
- Route parallel and adjacent to apparent property lines² (or other natural or cultural features, etc.)
- Route across parks/recreational areas³
- Route across cropland
- Route across pasture/rangeland
- Route across land irrigated by traveling systems (rolling or pivot type)
- Route parallel to existing pipeline ROW <500 feet from route centerline

Number of:

- Habitable structures¹ within 300 feet of route centerline
- Additional parks/recreational areas³ within 1,000 feet of route centerline
- Pipeline crossings
- Transmission line crossings
- Interstate, United States, and State highway crossings
- Farm-to-Market (FM) road crossings
- Federal Aviation Administration (FAA)-registered airports⁴ with at least one runway more than 3,200 feet in length located within 20,000 feet of route centerline
- FAA-registered airports⁴ having no runway more than 3,200 feet in length located within 10,000 feet of route centerline

- Private airstrips within 10,000 feet of route centerline
- Heliports within 5,000 feet of route centerline
- Commercial AM radio transmitters within 10,000 feet of route centerline
- FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of route centerline
- Recorded water wells within 200 feet of route centerline
- Recorded oil and gas wells within 200 feet of route centerline

Sum of evaluation criteria 3, 4, 5, and 6

Percent of evaluation criteria 3, 4, 5, and 6

¹Single-family and multi-family dwellings, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, places of worship, hospitals, nursing homes, and 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.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of route parallel to apparent property boundaries criteria.

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or place of worship within 1,000 feet of the centerline of the Project.

⁴As listed in the Chart Supplement South Central US (formerly known as the Airport/Facility Directory South Central US).

⁵One-half mile, unobstructed. Lengths of route within the foreground visual zone of Interstates, United States, and State Highway criteria are not "double-counted" in the length of route within the foreground visual zone of FM roads criteria.

⁶One-half mile, unobstructed. Lengths of route within the foreground visual zone of parks/recreational areas may overlap with the total lengths of route within the foreground visual zone of interstate, United States, and State highway criteria and/or with the total lengths of route within the foreground visual zone of FM roads criteria.

All measurements are shown in miles unless noted otherwise.

ENVIRONMENTAL & LAND USE CRITERIA FOR TRANSMISSION LINE EVALUATION



Aesthetics

Estimated length of route within foreground visual zone⁵ of:

- Interstate, United States, and State highways
- FM roads

Estimated length of route within foreground visual zone^{5,6} of parks/recreational areas³

Ecology

Length of route across:

- Upland woodlands/brushlands
- Bottomland/riparian woodlands
- National Wetlands Inventory-mapped wetlands
- Known critical habitat of federally listed threatened or endangered species
- Open water (lakes, ponds, etc.)
- 100-year floodplains

Number of:

- Stream/canal crossings
- River crossings

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

Cultural Resources

Number of:

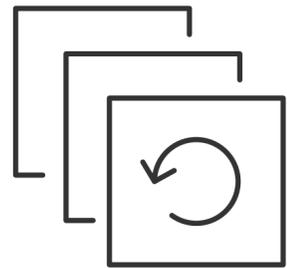
- Cemeteries within 1,000 feet of route centerline
- Recorded archeological and historic resources crossed by route ROW
- Additional recorded archeological and historic resources within 1,000 feet of route centerline
- NRHP-listed or determined-eligible resources crossed by route ROW
- Additional NRHP-listed or determined-eligible resources within 1,000 feet of route centerline

Length of route across areas of high archeological site potential

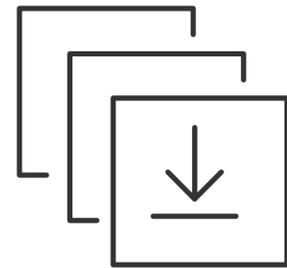
THANK YOU!



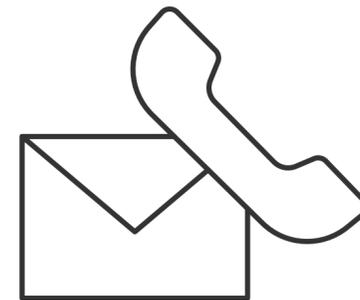
Thank you for visiting the project virtual open house. For more information and project updates please visit the project website, or contact us with any additional questions.



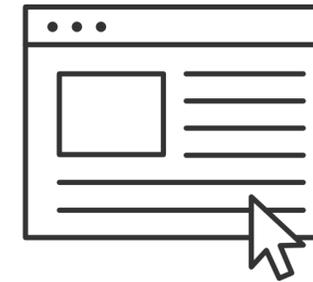
[Replay
Open House](#)



[Download
Slide Deck](#)



[Contact Us](#)



[Visit Project
Website](#)