

Improving Through Undergrounding

Florida Power & Light Company is improving your service in good weather and bad by replacing the overhead power lines in your neighborhood with more reliable underground lines.



To make the energy grid stronger and more stormresilient, FPL has invested more than \$5 billion since 2006. Our investments include:

- » Undergrounding power lines
- » Inspecting all of our poles for strength
- Installing stronger poles that are able to withstand hurricane-force winds
- » Shortening spans between poles
- Installing more than 155,000 intelligent devices to help prevent outages and help restore power faster if an outage occurs

The number one cause of power outages when Hurricane Irma pounded Florida in 2017 was trees in the rear of customers' homes, vegetation and other wind-blown debris coming into contact with neighborhood overhead power lines and equipment.

We are working to help fix that problem and to improve your service in good weather and bad by installing power lines underground in your neighborhood.

- » Neighborhood underground power lines perform more than 50% better than neighborhood overhead power lines during day-to-day operations.
- » Neighborhood underground power lines performed 85% better during Irma because they were not affected by trees, wind-blown debris, lightning and other elements.
- » Once we install power lines underground in the neighborhood, we remove the overhead power lines, transformers and the power line that runs from the pole to your home. If poles and other overhead lines remain, it's because telephone and cable companies haven't moved their lines underground.

While underground power lines perform better in a storm involving wind, they can still experience some outages, primarily if there is flooding.

- » Water and electricity don't mix, so in the event of flooding, our crews need to wait until water recedes and it is safe to restore power.
- » While outages occur much less frequently with underground power lines, in some cases it can take longer to diagnose and repair a problem than for overhead lines.
- » It's also important to note that since most electric service originates from main overhead power lines, customers who receive power from underground power lines can still be affected when there are overhead line outages.



Directional Boring

In most FPL Storm Secure Underground Program projects, FPL or our approved contractors use low-impact drilling equipment to minimize disruption to your property.



Construction of Underground Power Lines

Before construction of underground power lines takes place, FPL or our approved contractors will locate all current underground utilities, such as water, sewer, gas and telecommunications.

- » Colored markings and flags will be placed on your property to ensure safe installation of the underground equipment for your electric service.
- » We will also discuss any other underground facilities, such as sprinkler systems and septic tanks.

In most cases, FPL or our approved contractors will use low-impact drilling equipment, which minimizes the disruption to your property. This process, known as



directional boring or horizontal directional drilling, installs underground piping to safely place our electric cable to connect power to your home or business. Unlike open trenching, directional boring allows FPL to install underground equipment while minimizing impact to trees and other vegetation on your property. The underground facilities will be installed 36 inches to 48 inches below the surface, or deeper, if necessary, to avoid tree roots.

While all of the power lines will be underground, some equipment will be placed above ground to ensure safe and reliable power to your home and in your neighborhood.

Once construction is complete, we pledge to restore your property to its pre-construction condition.



Understanding Easements

As part of the process of placing the power line underground to serve your home, Florida Power & Light Company may require written permission to enter your property.



What is an easement?

An easement is written permission to enter onto property owned by another for a stated purpose, such as to install, maintain, repair and replace electric equipment. An easement is a formal legal document recorded in the public records of the county where the property is located.

Why am I being asked to sign an easement?

FPL requires an easement demonstrating your permission for FPL to enter onto your property to install, maintain, repair and/or replace underground power lines and other equipment. An easement must be notarized and witnessed by two people who are not immediate family members. If you need assistance with this process, your FPL customer outreach specialist can help.

How much easement area is required?

The standard easement area for this project is 10 feet by 10 feet. This area provides adequate space to install, maintain, repair and replace electric equipment. In some cases, the easement may be wider depending on the equipment necessary to install.

What does it mean if my property has an underground easement?

An underground easement gives FPL permission to perform work within the easement area. You still retain ownership of the property. You will need to maintain the easement area and your surrounding property to ensure FPL can access its easement.

Can I plant landscaping around the equipment on my property?

Landscaping around our equipment is permissible within certain guidelines. Plantings must be at least 3 feet from the back and sides of the equipment and 8 feet from the front. Remember to always call 811 before you dig to ensure your safety and prevent damage to any underground equipment.



Junction Box Adapter

In order to connect your electric service to the new underground equipment, Florida Power & Light Company may need to retrofit your meter enclosure with a junction box.



- » A meter enclosure is the equipment you own that is attached to your home where the electric meter is placed. The enclosure safely and securely separates FPL wiring from your wiring that goes into the panel box. These meter enclosures should only be opened by an FPL representative, approved contractor or qualified professional electrician.
- » A junction box adapter will be used if power is currently provided from an overhead power line.
- » The junction box will be installed at the time of the planned outage for the underground conversion. The timing of this will be communicated prior to the outage. Sufficient space on the wall will be required to install the junction box.



- » You may elect to replace the existing meter enclosure with one that will accept new underground cable in place of a junction box adapter. This option would be at your expense and would need to be completed prior to the start of the underground conversion in coordination with FPL.
- » An FPL representative or an approved contractor will discuss the details regarding the placement and removal of electric equipment required for the new underground service.



Protecting Your Trees

The process Florida Power & Light Company uses in most Storm Secure Underground Program projects installs power lines so they won't harm your trees or their root systems.



Florida Power & Light Company understands how important trees are to your home – so we take steps to protect them when we install underground power lines.

Before construction begins, FPL or our approved contractor notes the location of your trees to avoid damaging them.

Soil and water table conditions vary, but most Florida trees have root systems that remain within the top three feet of soil below the surface. That's the layer where roots find most of the moisture, aeration and nutrients they need to nourish and stabilize trees. The directional boring (or horizontal drilling) method we use in most projects installs power lines three to four feet below ground — or deeper, if necessary — to avoid most tree roots.

"Directional boring minimizes impacts on trees by tunneling under most roots rather than cutting them," says Dr. Ed Gilman, University of Florida professor emeritus of Urban Trees and Landscape Plants in the Department of Environmental Horticulture.

Throughout the undergrounding process, FPL works to minimize any disruption to your property. When we're finished, we pledge to restore your property to its original condition.

Once your power lines are underground, you'll be able to enjoy your trees without worrying about whether they will interfere with overhead power lines and cause outages for you and your neighbors.





Typical Underground Equipment

When converting overhead power lines underground, Florida Power & Light Company follows strict construction guidelines. These guidelines have been established for the purposes of providing our customers with safe and reliable service.

Underground power lines and equipment work much the same as the current power lines and equipment that are overhead. For instance, power lines that transmit power and transformers that step down power to safely supply it to your home will be converted for your new underground electric service. Not every property will require above-ground equipment. If equipment is needed, a qualified representative will meet with you to discuss the design of your project and the specific equipment that will be installed.

Here are some of the examples of our equipment that may be installed on your property for your new underground electric service.

Typical Residential Equipment



Single Phase Transformer

- » Typical dimensions of equipment (pictured):
 40 inches long by 36 inches wide by 26 inches tall
- » Typical concrete foundation dimensions for transformer:
 55 inches long by 48 inches wide and 6 inches tall
- » Required easement for equipment's installation and operation: **10 feet by 10 feet**



Underground Handhole

- » Handholes are installed underground. The top plate will be visible.
- » Typical dimensions are 17 inches by 24 inches
- » Required easement for equipment's installation and operation: **10 feet by 10 feet**