

Residential EV Charging Station Permit Guide

This guide outlines the requirements for submitting plans and electrical drawings for EV charger installation permits in Tega Cay. Please ensure all required information is included in your application to streamline the review process. Additional requirements may apply depending on the specifics of the project.

EV Chargers Fed from Existing Electrical Service

1. Electrical Contractor Information

- Include the electrical contractor's name, address, and license number on all submitted electrical drawings, sketches, and panel schedules.
- Ensure documents are signed by the license holder.
- Engineered plans are required for charging equipment operating at 277/480V.

2. NEC 2020 Compliance

- Add a general note of compliance with the 2020 NEC for the electrical installation on the electrical drawing.

3. Voltage Drop Compliance

- Include a general note indicating compliance with voltage drop requirements: 3% for feeders, 3% for branch circuits, and 5% total (feeders and branch circuits).

4. One-Line Diagram

- Provide a one-line diagram showing raceways, conductors, and overcurrent protection supplying the new EV chargers.

5. Panel Schedule Updates

- Submit a revised existing panel schedule including the demand load for the new EV charger circuitry.
- Show both new and existing loads on the panel serving the EV chargers.

6. Site Plan

- Include a site plan showing the existing electrical panel and the locations of the new EV chargers.

7. EV Charger Specifications

- Provide specifications for the EV chargers, including UL-2202 and UL-2594 listing and label information.

8. Existing Load Calculation (NEC 220.87)

- Use actual maximum demand data to determine the existing load, ensuring:
 - Maximum demand data is available for a 1-year period.
 - The maximum demand at 125% plus the new load does not exceed the ampacity of the feeder or the service rating.
 - Overcurrent protection complies with NEC 240.4 for feeders and NEC 230.90 for services.
-

EV Chargers Fed from a New Electrical Service

1. Electrical Contractor Information

- Include the electrical contractor's name, address, and license number on all submitted electrical drawings, sketches, and panel schedules.
- Ensure documents are signed by the license holder.
- Engineered plans are required for charging equipment operating at 277/480V.

2. NEC 2020 Compliance

- Add a general note of compliance with the 2020 NEC for the electrical installation on the electrical drawing.

3. Voltage Drop Compliance

- Include a general note indicating compliance with voltage drop requirements: 3% for feeders, 3% for branch circuits, and 5% total (feeders and branch circuits).

4. One-Line Diagram

- Provide a one-line diagram for the new electrical service showing:
 - Raceways, conductors, and overcurrent protection size.
 - Voltage, phase, amperage, and AIC rating.

5. Arc Fault Current Calculation

- Submit an arc fault current calculation, including the available fault current at the service main breaker(s).

6. Grounding Detail

- Provide a detailed grounding plan showing all applicable grounding electrodes and grounding electrode conductor sizes.

Ensure all documents are complete and accurate before submission. This will facilitate the approval process and ensure compliance with safety standards.