

# Turnpike Lighting & Electrical Design Guidance

## Lighting Load Centers and Wiring

- The voltage rating for Turnpike-owned and maintained roadway luminaires should be 480 Volts (AC), for use on standard 240/480 Volts (AC), single-phase, three-wire systems.
- Coordinate roadway lighting load centers with the utility power service provider prior to the Phase III plans submittal. Coordinate utility service transformers for connected and demand (connected loads + spare capacity). Design considerations should include utility power service provider standard service transformer sizes and limitations.
- Split the lighting load where a lighting load exceeds typical utility service transformer standard sizes and provide multiple load centers to serve the load as needed to accommodate standard transformer sizes.
- Coordinate with the utility power service provider to determine utility power service provider project-specific service requirements. Provide notes and details in the plans, as needed, to address the utility power service provider's requirements.
- Coordinate ***FDOT Standard Plans, Index 639-001 Service Point Details*** with the utility power service provider's requirements for electrical service (or electrical service standards).
- Locate load centers (and surrounding area) to provide a minimum of 1 foot between the load centers and the design high water elevations of the locations.
- Lighting load center enclosure and maintenance pad minimum dimensions should be as shown in the Turnpike *Load Center Details* exhibit.
- Replace all equipment and identification labels where a lighting load center is being replaced and existing poles, equipment, etc. are being re-fed, to identify new load center and circuit designations. Coordinate with the Turnpike Maintenance Engineer to properly update identification of equipment.
- Roadway lighting circuit conductors should not be larger than #1 AWG.
- Coordinate with the Turnpike Electrical Design Engineer and Turnpike Maintenance Engineer prior to design of lighting branch circuits requiring conductors larger than #1 AWG.
- New conductors should not be smaller than the existing conductors where existing conductors within a circuit are being replaced. Confirm appropriate overcurrent protection for proposed modified circuits with existing protection.
- FTE prefers connecting roadway lighting to alternate circuits to prevent a total blackout of any section of the highway if a given circuit goes out of service. Existing lighting replacements must be evaluated on a case-by-case basis, regarding alternating circuits.
- Provide project specific load center diagrams, details, and notes for each project. Details specific for each load center location may be required for clarity.