



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD
SECRETARY

ROADWAY DESIGN BULLETIN 14-04

STRUCTURES DESIGN BULLETIN 14-05

DATE: February 26, 2014

TO: District Directors of Operations, District Directors of Production, District Design Engineers, District Construction Engineers, and District Structures Design Engineers

FROM: Michael Shepard, P.E., State Roadway Design Engineer
Robert V. Robertson, P.E., State Structures Design Engineer

COPIES: Brian Blanchard, Tom Byron, Tim Lattner, Duane Brautigam, David Sadler, Nick Finch (FHWA), Jeffrey Ger (FHWA), Chad Thompson (FHWA)

SUBJECT: Temporary Highway Lighting

This bulletin modifies existing policy and design criteria for the use of temporary roadway lighting. The following requirements shall be followed to determine how temporary highway lighting is to be installed.

REQUIREMENTS

1. Replace *PPM* Volume 1, Section 10.12.13 with the following:

10.12.13 Temporary Highway Lighting

Use the following design guidelines to determine how existing highway lighting is to be preserved during construction:

1. Design for and designate a construction phasing that calls for the new or relocated lighting system to be constructed and placed in service before the existing lighting system is removed or taken out of service.
2. Design a temporary lighting system that is located beyond the required horizontal clearance.
3. Design a temporary lighting system which utilizes structural supports that are crashworthy or shielded by a crashworthy barrier that was installed for other purposes.

4. Design a temporary lighting system that is attached to and located behind, permanent or temporary concrete barriers/traffic railings and that meets the illumination requirements of the *Plans Preparation Manual (PPM)* Section 7.3. Temporary barrier wall shall not be installed for the sole purpose of supporting or protecting the temporary lighting system.

Design temporary lighting attached to and located behind permanent or temporary concrete barriers/railings as follows:

- Do not locate structural supports for temporary lighting on the back side of permanent or temporary barriers/traffic railings, i.e. which face away from traffic, where the back side of the barriers/traffic railings are within the horizontal clearance of other traffic lanes.
- Attach structural supports to the back face of temporary and permanent barriers/traffic railings using brackets that do not protrude above the top of the barrier/traffic railing.
- Use undercut anchor systems designed in accordance with **Structures Design Guidelines** Section 1.6 to attach brackets to barriers/traffic railings. Position anchors so as to avoid the reinforcing steel within the barrier/traffic railing.
- Design the luminaire pole, support brackets and anchors for a 70 mph wind speed.
- Do not design luminaire pole, support brackets and anchors for vehicular impact loads.
- For structural supports attached behind permanent concrete barriers/traffic railings, provide a minimum setback distance from the top edge of the traffic face of the barrier/traffic railing to the traffic face of the luminaire pole in accordance with *Plans Preparation Manual (PPM)* Figure 7.1.2.1.
- For structural supports attached to and located behind **Design Standards** Index 414 Type K Temporary Concrete Barriers, provide a minimum setback distance of 1'-6" from the top edge of the traffic face of the barrier to the traffic face of the luminaire pole. To minimize the potential for damaging reinforcing steel during the installation of the anchors, attach brackets within the middle portion, where there are large spacing between the vertical steel reinforcing bars, of the Type K Barrier Unit.
- Structural supports for temporary lighting may be attached to and located behind Type K Temporary Concrete Barrier that is bolted or staked down utilizing the details shown on the standard.
- The supports attached to Type K Temporary Concrete Barrier shall not encroach into the required deflection distance when the barrier is protecting an above ground hazard.

5. Do not design temporary lighting if steps 1 thru 4 cannot be achieved.

COMMENTARY

The usage limitations provided in this modified policy are intended to restrict overuse of temporary, barrier mounted roadway lighting and instead encourage the use of other temporary roadway lighting solutions.

The design criteria is intended to preserve the crashworthiness of the Type K Temporary Concrete Barriers and to provide an appropriate design for the temporary light poles and support brackets.

BACKGROUND

This bulletin establishes standardized policy for the design and usage of temporary roadway lighting that is attached to permanent or temporary barriers/traffic railings.

IMPLEMENTATION

The design guidelines to determine how existing highway lighting is to be preserved during construction are effective immediately on all design-bid-build projects in Phase I or Phase II design development (less than 60% complete). These requirements may be implemented immediately on all design-bid-build projects either in Phase III, Phase IV at the discretion of the District.

The requirements for designing and detailing the attachment of temporary lighting to permanent and temporary barriers/traffic railings are effective immediately on all design-bid-build projects.

All of these requirements are effective immediately on all design build projects for which the final RFP has not been released. Design build projects for which the final RFP has been released are exempt from these requirements unless otherwise directed by the District.

CONTACTS

For temporary light support issues, contact: Robert Robertson, P.E. at 850-414-4267
robert.robertson2@dot.state.fl.us

For design related issues, contact: Chester Henson, P.E. at 850-414-4117
chester.henson@dot.state.fl.us