

## SECTION 00227 - TEMPORARY TRAFFIC SIGNALS AND ILLUMINATION

*(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)*

*(Use the following lead-in paragraph when none of the following subsections are included in the project.)*

Comply with Section 00227 of the Standard Specifications.

*(Use the following lead-in paragraph when any of the following subsections are included in the project.)*

Comply with Section 00227 of the Standard Specifications modified as follows:

*(Use the following subsection .13 when using portable traffic signals with extra features. Contact the Region Traffic Engineer for extra features that are required. Delete the extra features that are not required.)*

**00227.13 Portable Traffic Signals** - Replace this subsection, except for the subsection number and title, with the following:

Use new or like-new portable traffic signals from the QPL with the following features:

*(Use the following subsection (a) when live remote video monitoring of traffic and Work Zone is required.)*

**(a) Live Remote Video Monitoring** - Provide live remote video monitoring of traffic conditions and the work zone. Provide the Engineer remote access to the video monitoring through the internet.

*(Use the following subsection (b) when wait time display changeable message sign is required.)*

**(b) Wait Time Display Changeable Message Sign** - Provide wait time display consisting of a changeable message sign (CMS) which is interconnected with the temporary traffic signal. The display provides the motorist with wait time information.

**(1) Physical Requirements** - Include the following minimum requirements on the CMS:

- Minimum dimensions of 18" H x 28" W

- 1-2 line message capability
- Line 1: characters of 10-1/4" H x 5- 3/4" W (4 per line)
- Line 2: characters of 7" H x 4" W (6 per line)
- Up to 2 screens per message

**(2) Operational Requirements** - Power the CMS by the power plant used to power the temporary traffic signal. Provide a wait time display (WTD) with the capability to be remotely programmed in real-time and function in traffic signal applications of fixed time operation and actuated operation as follows:

- When the signal displays a green indication, the CMS may display a "SLOW"/ "WORK ZONE" message. When the signal display changes to a yellow indication, display a "WAIT TIME"/ "UP TO # MIN" message on the CMS. When the signal display changes to a red indication, display "WAIT TIME"/ "UP TO # MIN" on the CMS where # is the remaining red time in minutes and changed with 1 minute intervals, holding on 1 minute until the signal display changes back to a green indication.

*(Use the following (c) when bicycle clearance time extension pushbutton is required.)*

**(c) Bicycle Clearance Time Extension Pushbutton** - When the pushbutton is pressed, it will call the signal system to provide an extended all-red clearance interval immediately following the green cycle termination. This call will be made whether the signal system is in an active green cycle for the direction of the call, or if it is a state of red. Pushbutton can be hardwired or be a wireless connection to the signal system.

*(Use the following subsection .40 only when vehicular traffic will be passing beneath falsework.)*

**00227.40 Temporary Illumination** - Add the following paragraph to the end of this subsection:

Install 25-watt, steady-burning, amber lights on 36-inch spacing around the perimeter of the falsework as shown, facing oncoming traffic.

**00227.43(a) Location and Setup** - Delete the sentence that begins "Do not install portable..."

*(Use the following subsection .43(d) only when portable traffic signals are required to have a wait time display changeable message sign feature.)*

Add the following subsection:

**00227.43(d) Wait Time Display Changeable Message Signs** - Locate the changeable message at a height between 7'-0" and 18'-6" as measured from the bottom of the CMS to the road surface. Do not locate the CMS over the travelled Roadway. Provide 12 inch minimum separation between the edge of the CMS and the edge of nearest traffic signal head.

For fixed time operation, calculate the initial # for the “WAIT TIME”/ “UP TO # MIN” display by adding the programmed red clearance and yellow times of all signals plus the green time of the opposing signals.

For actuated operation, calculate the initial # for the “WAIT TIME”/ “UP TO # MIN” display by adding the programmed red clearance and the yellow times of all signals plus the maximum green of the opposing signals.

*(Add the following subsection .43(e) only when portable traffic signals are required to have a bicycle clearance time extension pushbutton feature)*

Add the following subsection:

**00227.43(e) Bicycle Clearance Time Extension Pushbutton** - Locate the pushbutton installation with sign at the stop bar. Post mount the wired pushbutton. Wireless pushbutton may be post mounted or mounted on a TSS. Furnish a mount with a maximum 24 inch reach to pushbutton. If needed, provide manufacturer supplied pushbutton extension to achieve 24 inch reach.

**00227.80 Measurement** – Replace this subsection, except for the subsection number and title, with the following:

No measurement of quantities will be made for temporary traffic signals, portable traffic signals, temporary flashing beacons, or temporary illumination.

The Work Zone presence lighting system will be measured on the unit basis, for each complete system, where initially installed on the Project. A complete system consists of the number of flagger station lighting from the “PRESENCE LIGHTING SPACING TABLE” as shown.

*(Use the following subsection .90 when temporary traffic signal, portable traffic signal, temporary flashing beacons, or temporary falsework illumination are required.)*

**00227.90 Payment** –

*(Delete Pay Item(s) from the list that are not included in the Schedule of Items, but do not change the alpha characters next to the Pay Items.)*

Replace the Pay Items (b), (c), (e) with the following Pay Item(s):

<b>Pay Item</b>	<b>Unit of Measurement</b>
(b) Temporary Traffic Signal, _____	Lump Sum
(c) Portable Traffic Signal, _____	Lump Sum
(e) Temporary Flashing Beacons, _____	Lump Sum

Add the following paragraph to the end of this subsection:

Item (a) includes all Materials called for by the Plans and Specifications, and providing electrical power and furnishing, placing, maintaining, adjusting, and removing temporary falsework illumination.

*(Use the following when temporary traffic signals are required.)*

In item (b), the location(s) will be inserted in the blank.

*(Use the following when portable traffic signals are required.)*

In item (c), the location(s) will be inserted in the blank.

*(Use the following when temporary flashing beacons are required.)*

In item (e), the location(s) will be inserted in the blank.