## **EXPECTED IMPLEMENTATION JULY 2021**

# 990 TEMPORARY TRAFFIC CONTROL DEVICE MATERIALS (REV 11-12-20) (FA 2-22-21) (7-21)

ARTICLE 990-3.3 is deleted and the following substituted:

## 990-3.3 Portable Changeable Message Sign:

### 990-3.3.1 Message Matrix:

- 1. Message matrix panel shall be a maximum height of 7 feet by a maximum width of 146 inches.
- 2. The matrix must be capable of displaying three lines of 8 characters using an 18 inch or 12 inch font. PCMS with a minimum font size of 18 inches shall be used on any speed facility. PCMS with a minimum font size of 12 inches may be used on facilities with speed limits of 45 mph or less.
- 3. The matrix must display characters that meet or exceed the numeral and letter sizes prescribed in the MUTCD and SHS (Standard Highway Signs) companion document. Fonts and graphics must mimic the characteristics of fonts and graphics defined in NEMA TS4, the MUTCD, and SHS.
  - 4. Similar components shall be interchangeable.

#### 990-3.3.2 Operation and Performance:

- 1. The message shall be displayed in upper case except when lower case is project specific and is allowed by the MUTCD.
  - 2. The message matrix panel shall be visible from one-half mile.
- 3. The 18 inch letter height message shall be legible from 650 feet for nighttime conditions and 800 feet for normal daylight conditions.
- 4. The 12 inch letter height message shall be legible from 650 feet for nighttime conditions and 650 feet for normal daylight conditions.
- 5. Under variable light level conditions the sign shall automatically adjust its light source to maintain legibility.
- 6. The message panel shall have adjustable display rates, so that the entire message can be read at least twice at the posted speed.
- 7. The control panel shall have the capability to store a minimum 50 pre-programmed messages.
- 8. The controller in the control panel shall be able to remember messages during non-powered conditions.
- 9. The controller shall allow the operator to generate additional messages on site via the keyboard.
- 10. All messages shall be flashed or sequenced. In the sequence mode, the controller shall have the capability to sequence three line messages during one cycle.





