

Memorandum

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To: DEPUTY DISTRICT DIRECTORS FOR CONSTRUCTION, MAINTENANCE, TRAFFIC OPERATIONS AND DESIGN Date: August 24, 2015
File:

Original signed by

From: DUPER TONG
Office Chief
Office of Traffic Engineering

Subject: **IMPLEMENTATION OF RETROREFLECTIVE SHEETING (TYPES VIII, IX OR XI) FOR FLUORESCENT ORANGE SIGNS IDENTIFIED IN TOPD #14-02, REVISION 1**

The purpose of this memorandum is to clarify the California Department of Transportation (Caltrans) procurement policy for permanently-installed and temporary traffic control signs with rigid substrate, and provides:

- A phase-in compliance date added to Attachment #1 “*Basic Guide for Selection of Retroreflective Sheeting ASTM D4956-13 for Signs on the CA State Highway System*” with a compliance period of two construction seasons for fluorescent orange signs, through December 31, 2017, and for the phase-in period to allow for use of retroreflective sheeting types VIII, IX or XI for temporary traffic control use.
- Non-standard special provision 56-2.01D (updated), and
- Non-standard special provision (NSSP) 12-3.06B(1) as a companion to NSSP 56-2.01D, specifically for temporary traffic control, or construction area signs.

Since contractors re-use their inventory of temporary traffic control signs from project to project and the typical service life of these fluorescent orange signs is two years, a two-year phase-in compliance period for temporary traffic control signs on rigid substrate is appropriate. This phase-in compliance period allows ongoing use of existing types VIII or IX retroreflective sheeting for rigid substrate signs. When existing signs have satisfied their useful service life, replacement signs must be replaced with ASTM Type XI sheeting.

Background

Traffic Operations Policy Directive (TOPD) #14-02 was first issued on August 21, 2014 to identify Caltrans’ updated procurement standards primarily for overhead guide signs. This policy document was revised on December 11, 2014, and applies to all permanently-installed roadside and overhead signs, specified under Section 56 of Caltrans Standard Specifications. In Attachment #1 of TOPD #14-02 Revision 1, there is one reference in the updated policy document to “Warning and Temporary Traffic Control (black on orange)” signs. However, there was no discussion regarding impacts to construction area signs also referred to as temporary traffic control signs specified in Section 12, Temporary Traffic Control of Caltrans Standard Specifications.

Three attachments to this memorandum clarify basic guidance and nonstandard special provisions to allow use of fluorescent orange retroreflective sheeting (types VIII, IX or XI) for construction, maintenance or other projects where temporary traffic control zones are established using construction area rigid substrate signs.

Implementation

Rigid Substrate Signs

Attachment #1 of TOPD #14-02 Revision 1 is updated to allow for high-performance fluorescent orange retroreflective sheeting on construction area signs to include types VIII, IX or XI on rigid substrate signs for a phase-in compliance period of up to two construction seasons. After December 31, 2017, temporary traffic control signs with rigid substrate shall include retroreflective fluorescent orange sheeting (Type XI). Also, nonstandard special provisions for sections 56-2.01D (updated) and 12-3.06B(1) are provided for traffic design staff to amend the standard special provisions for all projects that include signs, per sections 12 or 56 in the Standard Specifications.

Portable Roll-up Signs or Other Temporary Traffic Control Devices

Type XI retroreflective sheeting does not apply to portable roll-up signs nor retroreflective sheeting used on other temporary traffic control devices such as delineators, traffic cones, plastic drums, or barricades.










If you or your staff have questions regarding this memorandum, please contact Don Howe, Signs Chief, at (916) 654-2634 or by e-mail at don.howe@dot.ca.gov.

Attachments:

- (1) Amended TOPD #14-02 Revision 1, Attachment #1 “*Basic Guide for Selection of Retroreflective Sheeting ASTM D4956-13 for Signs on the CA State Highway System*”
- (2) Non-standard special provision 56-2.01D (template updated August 24, 2015)
- (3) Non-standard special provision 12-3.06B(1) as a companion to NSSP 56-2.01D, specifically for temporary traffic control, or construction area signs (template updated August 24, 2015).

Attachment #1

Basic Guide for Selection of Retroreflective Sheeting ASTM D4956-13 for Signs on the CA State Highway System

		NEW SIGNS ^(1,6)			Premium Overlay Film, or Protective Spray-on Coating (Clear) ⁽⁴⁾
Color Combination ⁽⁶⁾		Microprismatic			
Luminance ---->		High Performance			
Category	Retroreflective Sheeting	Type VIII	Type IX	Type XI	
Guide				RS, OH	X
Guide				RS, OH	X
Guide				RS, OH	X
Guide				RS background	X
Guide (warning panels)				RS, OH background	X
Regulatory				RS	X
Warning				RS, OH background	X
Warning & Temporary Traffic Control		* RS, OH background	* RS, OH background	RS, OH background	X
		NEW SIGNS ⁽¹⁾			
		High Performance			
		Type VIII	Type IX		
Regulatory & Guide (US route shield & white background assembly panels)		RS, OH background	RS, OH background	NR	X

KEY:

- RS** = OK on roadside signs
- OH** = OK on overhead signs
- NR** = Not Recommended

* Phase-in compliance date for temporary traffic control signs with fluorescent orange backgrounds on rigid substrate, may use type VIII, IX or XI retroreflective sheeting until December 31, 2017, after which Type XI shall be required.

FOOTNOTES:

- (1) Caltrans' policy for all signs, with the exception of white background signs shall include ASTM retroreflective sheeting Type XI for background and copy on guide signs, and for red background regulatory signs. Specify Type XI sheeting background for warning signs, and minimum Type VIII or Type IX for white background signs.
- (2) Black is non-reflective and does not have an ASTM designation.
- (3) The procurement standard for yellow warning signs, plaques and panel backgrounds is fluorescent yellow, or fluorescent orange for Temporary Warning Signs on the State Highway System.
- (4) Sign designers may specify anti-graffiti premium overlay film, or protective spray-on coating if a sign is anticipated for installation in graffiti-prone areas (use of spray-on coating voids retroreflective sheeting manufacturer's warranty).
- (5) Cream colored background signs shall be retroreflective, brown copy is non-reflective.
- (6) This is not a comprehensive color listing for all sign colors and combinations, such as fluorescent yellow-green school signs, fluorescent pink incident management signs, purple electronic toll collection signs, or light blue background signs used for various information and guide signs. All background colors shall use retroreflective sheeting Type XI, except for white background signs.

nSSP Approved by HQ Sponsor DE Howe on _____.

Section 56-2.01D. Use for sign panels fabricated with Type XI retroreflective sheeting.

- 1. Add bid item 568048A for retroreflective sheeting (Type XI).**
- 2. If project has federal funding, segregate the bid item for retroreflective sheeting (Type XI) as a non-federal participating item.**
- 3. For temporary traffic control construction area signs, see nSSP 12-3.06B(1) for requirement for utilizing retroreflective sheeting (types VIII, IX or XI).**

Add to section 56-2.01D:

1

The payment quantity for retroreflective sheeting (Type XI) for any type of sign panel is the area of the panel determined from the dimensions shown.

2

Payment for retroreflective sheeting (Type XI) is not included in the payment for furnishing any type of sign panel.

nSSP Approved by HQ Sponsor DE Howe on _____.

Section 12-3.06B(1). Use for rigid substrate sign panels fabricated with Type VIII or higher retroreflective sheeting.

1. For temporary traffic control construction area signs with rigid substrate, this amends Section 12 to address requirement for utilizing retroreflective sheeting (types VIII, IX or XI). This has a phase-in compliance date of 12-31-17, after which all rigid substrate fluorescent orange signs shall have retroreflective sheeting (Type XI).

Replace section 12-3.06B(1) General:

1

Unless the background and legend are shown differently, construction area warning and guide signs must have a black legend on retroreflective, fluorescent orange background. W10-1 and W47(CA) advance warning signs for highway-rail grade crossings must have a black legend on a retroreflective fluorescent yellow background.

2

Construction area signs with rigid substrate must have Type VIII or higher grade retroreflective sheeting.