# SECTION 321723 TRAFFIC SIGNING, STRIPING, AND MARKINGS

## PART 1 - GENERAL

A. Description

This section includes removal and installation of traffic signs, markers, posts, pavement striping, pavement markings, raised pavement markers, and curb markings.

B. Standard Specifications

1. Wherever reference is made to the State Specifications, such reference shall mean the State of California, Business, Transportation, and Housing Agency, Department of Transportation Standard Specifications, 2006 edition and Standard Plans, 2006 edition.

2. Conform to the City of Santa Maria Standard Plans and the referenced Caltrans' Standard Plans and Specifications.

## PART 2 - MATERIALS

A. Signs and Roadside Markers

1. Conform to Section 56 of the Caltrans' Standard Specifications and the Caltrans' Standard Plans.

2. Signs or material shall conform in size and design to the latest editions of the FHA publication "Standard Highway Signs," the Caltrans' Sign Specification Sheets, and the California Manual on Uniform Traffic Control Devices (California MUTCD) and the Caltrans' Supplement thereto as to color, shape, and style of letters or symbols.

3. Material:

   a. Metal: Base metal shall be sheet aluminum, 0.080 inch thick, Alloy 6061-T6 or 5052-H38 in conformance with ASTM B209.

   b. Reflective Sheeting: Reflective sheeting, whether used as legend or background, shall be FHWA FP-85 Type IIA (Super Engineering Grade).

B. Striping and Pavement Marking

1. Traffic stripes and pavement markings, including legends, shall be thin-mil thermoplastic (sprayable) paint.

2. For paint curb markings and median island markings, use APCD-compliant paint material.

3. Striping and raised pavement markers shall comply with Caltrans' Standard Plans A20A, A20B, A20C, and A20D.

4. Pavement markings shall comply with Caltrans' Standard Plans A24A, A24B, A24C, A24D, and A24E.

C. Paint

Paint shall be fast or rapid-dry type solvent as manufactured by TMT Pathway, Pervo, Bauer Paint Company, or equal and shall meet requirements of Santa Barbara Air Pollution Control District. Apply the paint at the rate recommended by the paint manufacturer.

D. Thin-Mil Thermoplastic (Sprayable)

1. Thin-mil thermoplastic traffic stripes and pavement markings shall conform to Sections 84-1 and 84-2 of the State Specifications.

2. Pre-mix glass beads within the thermoplastic material and apply immediately after spraying.

3. Thin-mil thermoplastic material shall conform to the requirements of State Specification No. PTH 392A.

E. Raised Pavement Markers

1. Raised pavement markers shall conform to Section 85 of the State Specifications. Reflective pavement markers shall have abrasion-resistant surfaces.

2. Use hot-melt bituminous adhesive for placement of pavement markers. The adhesive shall be an asphaltic material with homogeneously mixed filler.

F. Graffiti Proofing

The reflective material and screening inks or overlay film shall be graffiti-proof. The method for graffiti proofing shall be F-cal by Nikkalite or equal. Neither the color nor the reflective intensity of the finished sign shall be significantly diminished by the use of graffiti remover.

G. Signposts

1. Signpost shall be square fit post. The bottom piece shall be a 30-inch-long eight-hole base manufactured of 12-gauge galvanized steel. The top piece shall be 2 inches by 2 inches with predrilled holes and manufactured of 14-

gauge galvanized metal. Post height shall be as needed for the minimum clearance beneath the sign as specified in Caltrans' Standard Plan RS1.

2. Fasten signs to posts per Caltrans' Standard Plans RS2, RS3, and RS4.

## PART 3 - EXECUTION

### A. Installation of Signs

1. Install new and relocate existing signs as noted in the drawings; protect-in-place existing signs, posts, and parking meters which are not to be removed; and replace any of these which are damaged during construction.

2. Signs installed in parkways, sidewalks, or pedestrian areas shall have a minimum of 7 feet of clearance from the bottom of the sign to the finished surface except when sign is installed on raised median island.

### B. Application of Reflective Sheeting

Apply reflective sheeting to the sign per the sheeting manufacturer's recommendations to produce a durable bond equal to or greater than the strength of the reflective sheeting. No air pockets or bubbles shall exist between the sheeting and the aluminum backing.

### C. Splicing (Reflective Coating)

No splice will be allowed other than that which occurs in the manufactured roll of reflective sheeting on panels with a minor dimension of 48 inches or less. On rectangular signs, the splice shall be horizontal. No finished sign shall have more than one splice, and no splice shall fall within 2 inches of the sign edge. When splices do occur, the adjoining reflective sheets shall be color matched under both incident and reflective light.

### D. Delivery of Signs

Signs shall be in a new condition with no scratches or tears in the reflective sheeting.

### E. Removal of Existing Sign and Posts

1. Signs designated in the drawings to be removed shall be salvaged and delivered to the City. Prevent additional damage to the signs during the removal, storage, and delivery process.

2. Remove posts without foundation completely. Backfill the hole to match existing.

3. For posts with foundation:

a. In parkway, remove post and foundation and backfill hole to match existing.

b. On sidewalk, remove post only to 2 inches below grade, backfill hole with concrete to match existing surface.

F. Removing Existing Markings

1. Remove existing striping, pavement markings, curb marking, and raised pavement markings superseded by the drawings. Remove conflicting striping within limit of project.

2. Removal of stripes and markings shall be by sandblasting. Remove thermoplastic and pavement tape striping by grinding or abrasive blasting.

G. Temporary Striping

1. Install temporary traffic striping within 24 hours after paving the street or on any unstriped lanes opened to traffic.

2. Temporary striping shall be per City of Santa Maria Standard Plans or by installing reflectorized chip seal markers (single for 4-inch line, double for 8-inch line) at 18 feet on center.

H. Final Striping

1. Final stripes and legends, including limit lines, shall be striped within 72 hours after the street has received the final surface course and after temporary striping and markings have been removed.

2. Restripe any existing striping on cross streets that are disturbed by construction.

3. Striping and related signage shall be in place prior to opening the lane(s) to traffic.

4. Stripe crosswalks at signalized intersections with wheelchair ramps in conformance with Caltrans' Standard Plan A88A.

I. Installation of Thin-Mil Thermoplastic (Sprayable)

1. Apply thin-mil thermoplastic material for traffic stripes by spray method in single uniform layer at the minimum thickness of 30 mils and not to exceed 45 mils.

2. Apply thin-mil thermoplastic material to the pavement at a temperature between 350ºF and 400ºF, unless the manufacturer recommends a different temperature.

J. Installation of Raised Pavement Markers

1. Remove any existing raised pavement markers that do not conform to the channelization plans, and repair any damaged pavement due to raised pavement marker removal to maintain a smooth and uniform surface. Replace any missing or broken raised pavement markers.

2. Install reflective raised pavement markers per the channelization plans in accordance with the State of California Standard Specifications, Caltrans' Standard Special Provisions, and City of Santa Maria Standard Plans.

END OF SECTION