

S-123

**STANDARD SPECIFICATIONS FOR MATERIAL AND THE
CONSTRUCTION OF STREET BARRICADES AND
CHAIN LINK FENCE IN THE CITY OF SANTA MARIA, CA**

SECTION 1. GENERAL REQUIREMENTS

The work herein provided for is to be done in accordance with the plans and the general and special provisions on file in the Engineering Office of the Department of Public Works of the City of Santa Maria, and with these specifications which are intended to cover all items necessary for the installation and construction of street barricades and chain link fence and appurtenances thereto. No plans may be used unless signed by the City Engineer within the last year. Reference to Standard Specifications mean the Standard Specifications of Caltrans, the State Department of Transportation, State of California, as last revised.

SECTION 2. MATERIAL REQUIREMENTS

A. STREET BARRICADES

Barricades are to be constructed in accordance with the City Standard Drawing for barricade and fence.

B. CHAIN LINK FENCE

All ferrous materials shall be new and galvanized. Imperfectly galvanized material or material upon which serious abrasions of the galvanizing occur shall not be used. All posts, braces, fabric and miscellaneous items shall comply with Section 80-4 and Standard Drawing A 85 of the Standard Specifications, and comply with the City Standard Drawing.

Concrete footings for posts shall be Class "C" and comply with Section 2 of City Standard Specification for concrete construction.

Damaged galvanized surfaces shall be repaired in accordance with the provisions in Section 75-1.05 of the State Standard Specifications, "Galvanizing".

For color/coated chain link fence, see City Standard Drawing for barricade and fence.

1. POST AND BRACES

Posts and braces shall conform to the following minimum requirements:

	Diameter, Inches 6' and over	Diameter, Inches under 6'	Wt. lbs/ft. after Galvanizing
End of Corner Posts	2.846 O.D. Pipe	2.351 O.D. Pipe	3.10
Line Posts	2.351 O.D. Pipe	1.869 O.D. Pipe	2.31
Braces	1.630 O.D. Pipe	1.630 O.D. Pipe	1.93
Miscellaneous	Standard Galvanized 1" Pipe, as shown.		

Posts on each side of gates shall be galvanized pipe conforming to the following requirements:

Width of Each Gate Unit	Diameter, Inches	Wt., lbs/ft.
Up to and including 6 feet	2.846 O.D.	4.95
Over 6 feet to 13 feet	3.960 O.D.	8.65

Posts of other configurations, but of the material specified, will be considered for substitution only if the least section modulus is equivalent to that of the specified round post.

2. FABRIC

Chain link fence fabric shall be galvanized steel fabric conforming to the specifications of AASHO Designation M 181. The fabric shall be hot-dip galvanized after weaving. The wire used in the manufacture of the fabric shall be 11-gauge unless specified otherwise.

All chain link fence fabric shall be woven into approximately 2-inch (2") mesh such that in a vertical dimension of 23 inches (23") along the diagonals of the openings there shall be approximately eight (8) meshes. Chain link fence fabric shall have knuckled finish on top and bottom edges.

3. GATES

Gate frames shall be constructed of not less than one and one-quarter inch (1 1/4") galvanized standard weight pipe conforming to the specifications of ASTM Designation A 53. Gate frames shall be cross trussed with three-eighth inches (3/8") adjustable truss rods. The corners of gate frames shall be fastened together and reinforced with a malleable iron fitting designed for the purpose or by welding. Welding shall conform to the provisions in Section 55-3.17, of the Standard Specifications, "Welding", and all welds shall be ground smooth.

4. MISCELLANEOUS

Between posts, chain link fabric shall be fastened to a top rail and bottom tension wire. The tension wire shall be at least 7-gauge galvanized coil spring steel of good commercial quality. Tie wires and post clips shall be at least 11-gauge galvanized steel, placed as shown on the standard drawing.

SECTION 3. CONSTRUCTION METHODS

A. STREET BARRICADES

The barricade posts and signs shall be set secure and plumb and shall be in complete accordance with the City Standard Drawing.

B. CHAIN LINK FENCE

The fence shall be constructed in accordance with plans, profiles, cross sections and City Standard Drawing and in compliance with Section 80-4 and Standard Drawing A 85 of the Standard Specifications.

1. EXISTING FENCES

Fences that are to remain in place shall be protected and preserved by the Contractor, and any and all damage to existing fences shall be immediately repaired to the satisfaction of the City.

2. CLEARING

All earth, trees, brush and any other obstructions which interfere with the proper construction of fences shall be removed and disposed of as directed by the Engineer. All such work shall be considered as part of the fence construction.

3. POSTS

All posts shall be fitted with an appropriate device to carry the top rail and bottom tension wire. The length of all posts, exclusive of fitted top fixtures or other methods of supporting the top tension wire which are integral with the post, shall not be less than the depth of the concrete footings shown on the plans plus the height of the mesh as shown on the plans or specified in the special provisions, less two inches (2").

Line posts shall be spaced at not more than 10-foot (10') intervals, measured from center-to-center of posts. In general, in determining the post spacing, measurement will be made parallel to the slope of the natural ground, and all posts shall be placed in a vertical position, except in unusual

locations where directed by the Engineer, the posts shall be set perpendicular to the ground surface.

All posts shall be set in concrete footings conforming to the details shown on the plans and crowned at the top to shed water.

End, corner and gate posts shall be braced to the nearest line post with galvanized diagonal or horizontal braces used as compression members and galvanized three-eighth inches (3/8") steel truss rods with turnbuckles used as tension members.

Line posts shall be braced horizontally and trussed in both directions at intervals not to exceed two hundred feet (200'), as above described.

4. ANGLE POINTS

Changes in line where the angle of deflection is thirty degrees (30°) or more shall be considered as corners and corner posts shall be installed.

5. RAIL, WIRE AND MINIMUM FITTINGS RAIL

Top rail, tension wires and carrier, stretcher bars, all post fittings, hardware and attachments shall be steel, a malleable iron or wrought iron, and shall be galvanized in accordance with the provisions of Section 75-1.05 of the State Standard Specifications, "Galvanizing". All required fittings and hardware shall be fastened to the posts in a proper and acceptable manner.

Tension wires shall be stretched tight. The bottom tension wire shall be installed on a straight grade between posts by excavating the high points of ground and in no case will filling of depressions be permitted.

6. CHAIN LINK FENCE FABRIC

The fabric shall be fastened to end, corner and gate posts with three sixteenth inch by three-quarter inch (3/16" x 3/4") stretcher bars and not less than one-eighth inch by three-quarter inch (1/8" x 3/4") stretcher bar bands spaced at one-foot (1') intervals. The fabric shall be fastened to line posts, rails and tension wires with tie wires or post clips. The fasteners shall be spaced at approximately twelve inches (12") on line posts and at approximately eighteen inches (18") on tension wires.

Chain link fabric shall be fastened on the side of the posts designated by the Engineer.

The fabric shall be stretched and securely fastened to the posts, and between posts the top and bottom edges of the fabric shall be fastened to the rails and tension wires.

7. GATES

Drive gates shall be of the widths designated in the plans and special provisions. Walk gates shall be four feet (4') wide, unless otherwise specified in the plans and special provisions.

Chain link fence fabric specified for the fence shall be attached to the gate frame by the use of stretcher bars and the tie wires as specified for fence construction and suitable tension connectors shall be spaced at approximately one foot (1') intervals. The gates shall be hung by at least two (2) steel or malleable iron hinges not less than three inches (3") in width, so designed as to securely clamp to the gate post and permit the gate to be swung back against the fence. The bottom hinge shall have a socket to take the ball end of the gate frame.

Gates shall be provided with a combination steel or malleable iron catch and locking attachment of approved design. Stops to hold gates open and a center rest with catch shall be provided where required.

Surplus excavated material remaining after the fence has been constructed shall be disposed of in a uniform manner along the adjacent roadway, or off the site, in either case as directed by the Engineer.