STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION
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METHOD OF TEST FOR FRACTURE AND DEFLECTION OF METAL TRAFFIC SIGNAL SECTION HOUSING

A. SCOPE

This test method describes the procedure for evaluating the ability of a metal traffic signal section to resist failure due to a simulated wind loading.

B. REFERENCES

California Standard Specifications – Section 86, "Traffic Signal Faces and Fittings"

C. APPARATUS

1. Two 24-in. long sections of 1½-in. diameter standard steel pipe with 4 in. of thread at one end of each pipe.
2. Four locknuts (type used for signal face mounting).
3. One 4 in. × 6 in. × ½ in. structural steel plate with a 2-in. diameter hole in its center.
4. A rigid clamping device.
5. A loading device.
6. Deflection measuring apparatus (0.1 in. resolution).

D. PROCEDURE

1. Assemble a single section without the optical unit as shown in Figure 1.
2. Slowly apply test load[1] at point indicated on Figure 1.
3. Under the test load, observe and record any fracture in the housing and measure the deflection at the point of load.

[1]Test Load = [(25 psf) (A) (d)] / 30 in.

A = Projected area normal to the direction of loading of the complete signal face housing, including backplate and hood(s) (ft^2).

d = Vertical distance from centroid of projected area to the connection (in.).

E. REPORTING OF RESULTS

Create a form for the test results showing the test number, date, test load, deflection at point of load, and observations of any fractures in the housing. Record the test results as determined in Part D, Procedure. Indicate compliance to both physical and visual requirements.
Notify the fabricator of results.

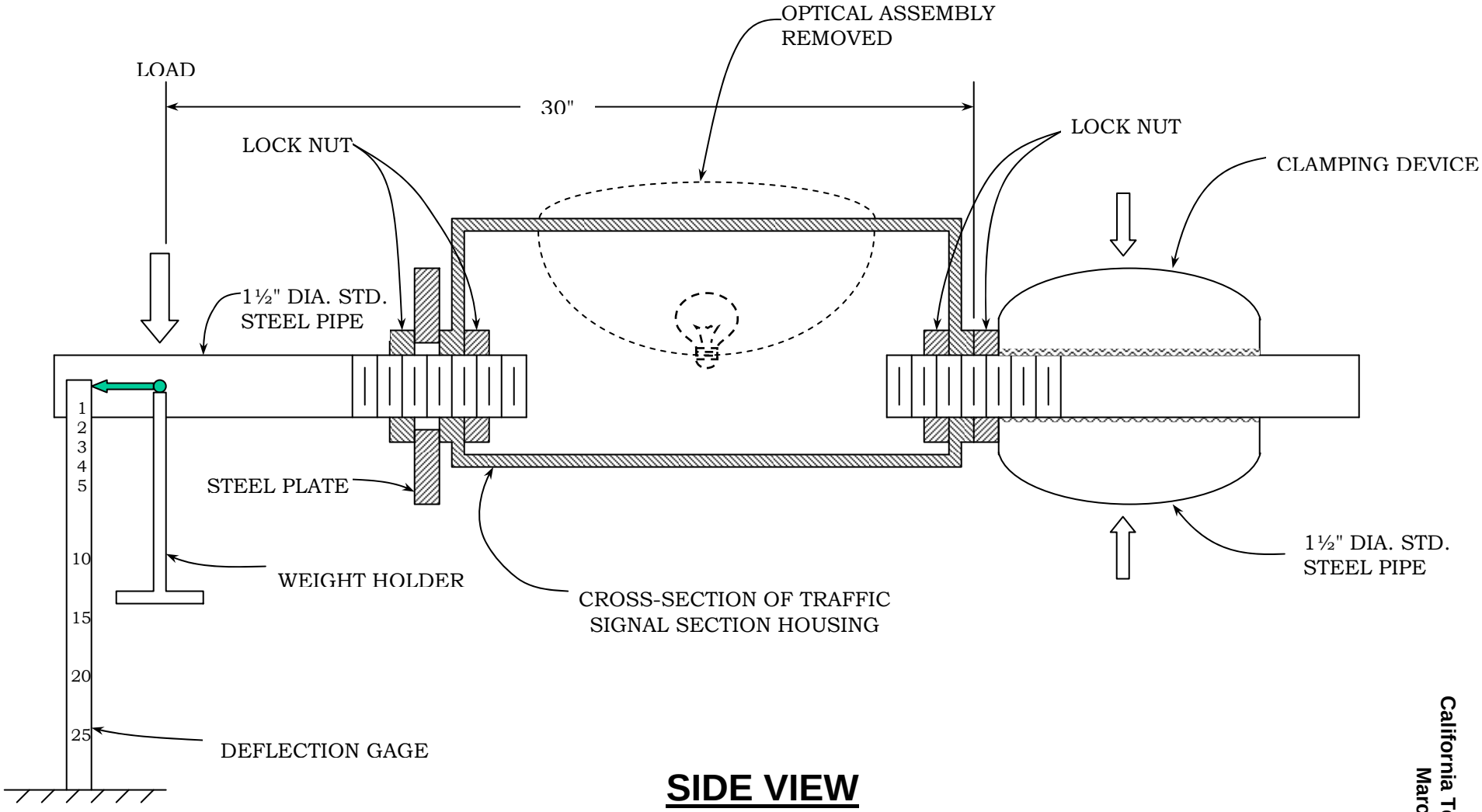
F. HEALTH AND SAFETY

It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing or disposing of any materials, testers must be knowledgeable about safe laboratory practices, hazards and exposure, chemical procurement and storage, and personal protective apparel and equipment.

Caltrans Laboratory Safety Manual is available at:

http://www.dot.ca.gov/hq/esc/ctms/pdf/lab_safety_manual.pdf

End of Text
(California Test 666 contains 3 pages)



SIDE VIEW

FIGURE 1. Test Procedure Set-up