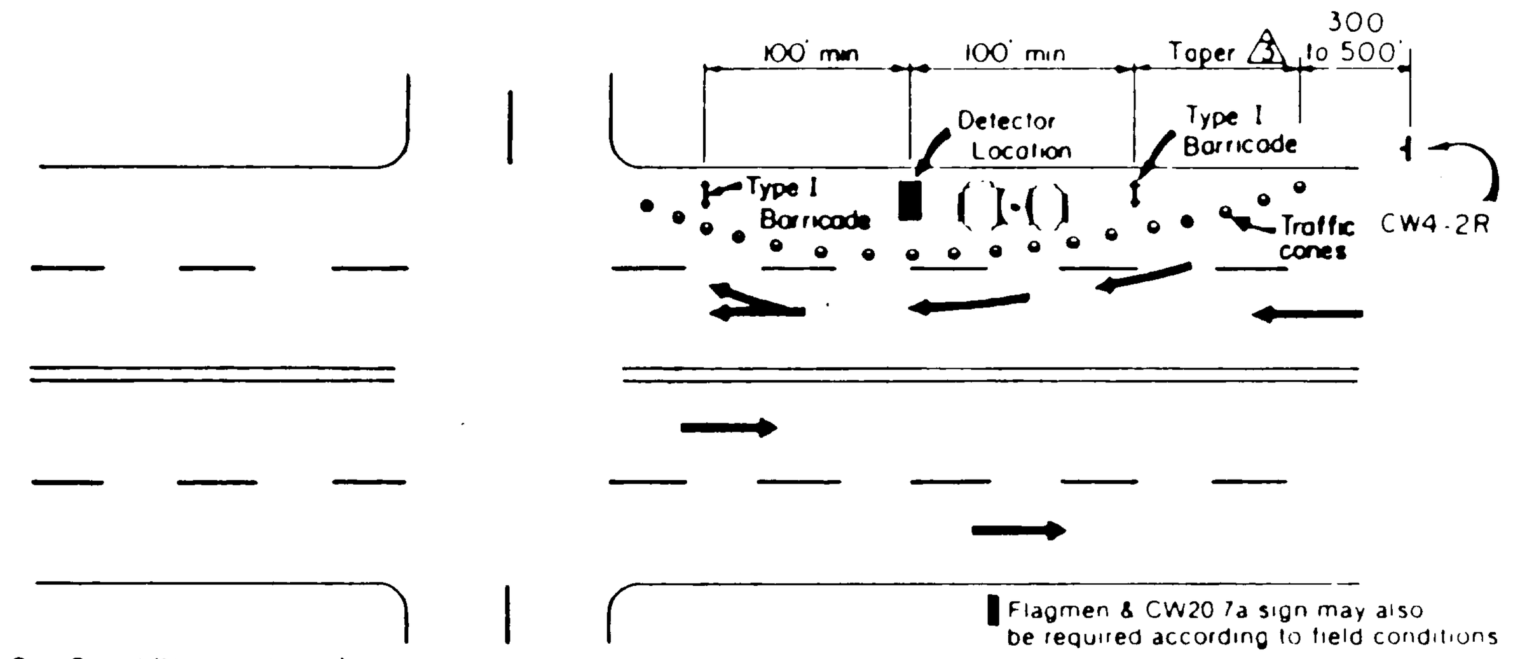
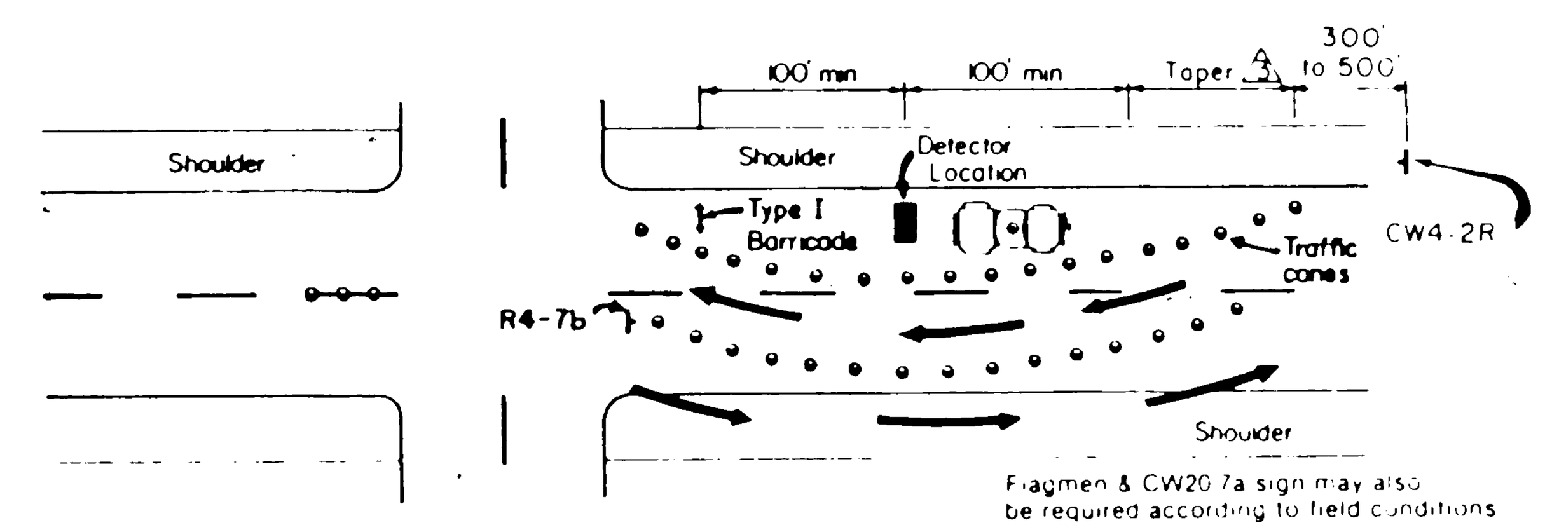


S = Speed (Numerical value)
W = Width of offset

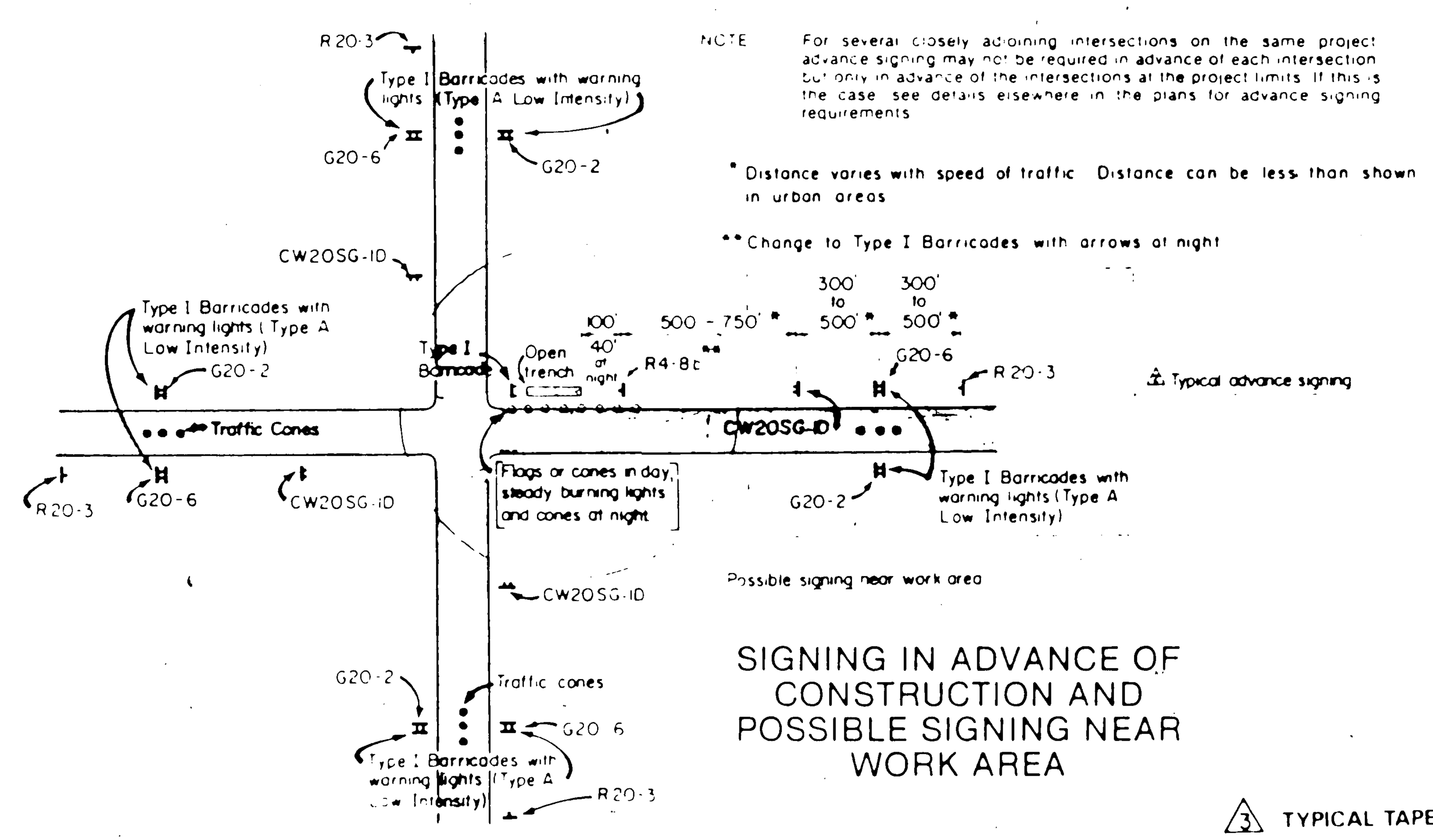
Daytime - Four Lane Roadway



Daytime - Two Lane Roadway

TYPICAL DETECTOR INSTALLATION

At Night—1 Steady burn lamps for delineation instead of cones
2 Flashers on barricades



NOTE For several closely adjoining intersections on the same project advance signing may not be required in advance of each intersection but only in advance of the intersections at the project limits. If this is the case, see details elsewhere in the plans for advance signing requirements

* Distance varies with speed of traffic. Distance can be less than shown in urban areas

** Change to Type I Barricades with arrows at night

SIGNING IN ADVANCE OF CONSTRUCTION AND POSSIBLE SIGNING NEAR WORK AREA

3 TYPICAL TAPER LENGTH (L)

Posted* Speed	Formula	Minimum Desirable Taper Lengths** 10' Offset	11' Offset	12' Offset
30		150	165	180
35	L = WS²/60	205	225	245
40		265	295	320
45		450	495	540
50		500	550	600
55	L = WS	550	605	660
60		600	660	720

* 85TH PERCENTILE SPEED MAY BE USED ON ROADS WHERE TRAFFIC SPEEDS NORMALLY EXCEED THE POSTED SPEED LIMIT
** TAPER LENGTHS HAVE BEEN ROUNDED OFF

L = TAPER LENGTH IN FEET
W = OFFSET IN FEET
S = SPEED IN MPH

GENERAL NOTES

Reflectorized signs shall be constructed of retro-reflective sheeting in conformance with project specifications and shall be maintained to meet the appearance, color and reflectivity requirements of those specifications. Paints and coloration of signs shall be equal to the Department's standards. Signs shall comply with the general requirements specified in the "Standard Specifications for Construction of Highways, Streets and Bridges" in effect at the time of contract award

All traffic control devices shall conform with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways." Contractors shall furnish a copy of a certification from the manufacturer of the lights that the warning lights meet the requirements of the ITE Standard for Flashing and Steady Burn Warning Lights as contained in the lastest edition of the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways."

All signs shown have black letters and borders on a reflective orange background except the R20-3, R4-7b, R4-86, and G20-6 signs which have a reflective white background.

Signs erected on portable supports for use on construction projects normally mean signs which are used during the day to warn or guide traffic through and/or around the actual construction area, but at the end of the workday such signs are either removed or turned away from the view of traffic. Portable supports shall be as shown on this sheet or as approved by the Engineer. The bottom of the sign shall be a minimum of one (1) foot above the pavement sign. Signs required for nighttime usage should not normally be mounted on temporary supports, except when approved by the Engineer.

Signs erected on fixed supports for use on construction projects normally mean signs that are to remain in place for both day and night usage to regulate, warn and guide traffic in advance of and within the limits of the project including the crossroad approaches. However, under certain conditions, such as where a sign may be required for a few days' duration and then is no longer needed or where a sign is moved from location to location every few days or where it is not practical or desirable to provide a fixed mounting, such signs may be erected on a temporary type of support. Temporary supports shall be as shown on this sheet or as approved by the Engineer. Signs erected on temporary supports should be at a minimum height of three (3) feet. Signs erected on fixed supports should be at a minimum height of five (5) feet in rural areas and seven (7) feet in urban areas and other rural locations where sight distance obstructions are present. Regardless of the type of support used, regulatory signs should not be erected at height less than the 5 or 7 foot minimum specified above unless a lower height is approved by the Engineer. Posts for fixed supports should be set in the ground without concrete footings

Where portable or temporary supports require the use of weights to keep a sign or barricade from turning over, the use of some type of sandbag is recommended. The use of pieces of concrete, rocks, iron, steel or other solid objects will not be permitted

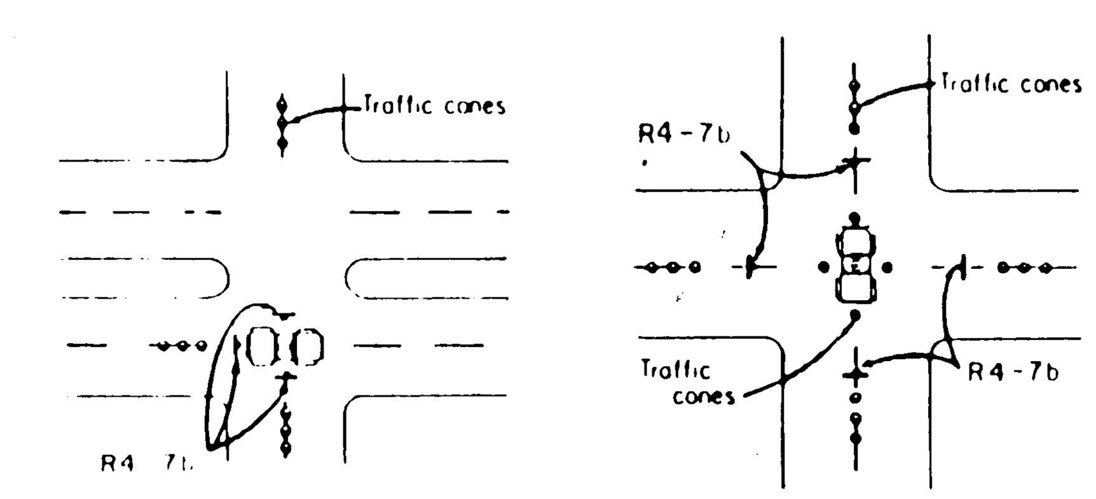
For additional information and guidelines on barricades and construction signs see the Texas Manual on Uniform Traffic Control Devices

Signing shown is typical and may be adjusted to fit field conditions by the Engineer

No more than two signs shall be placed on a barricade

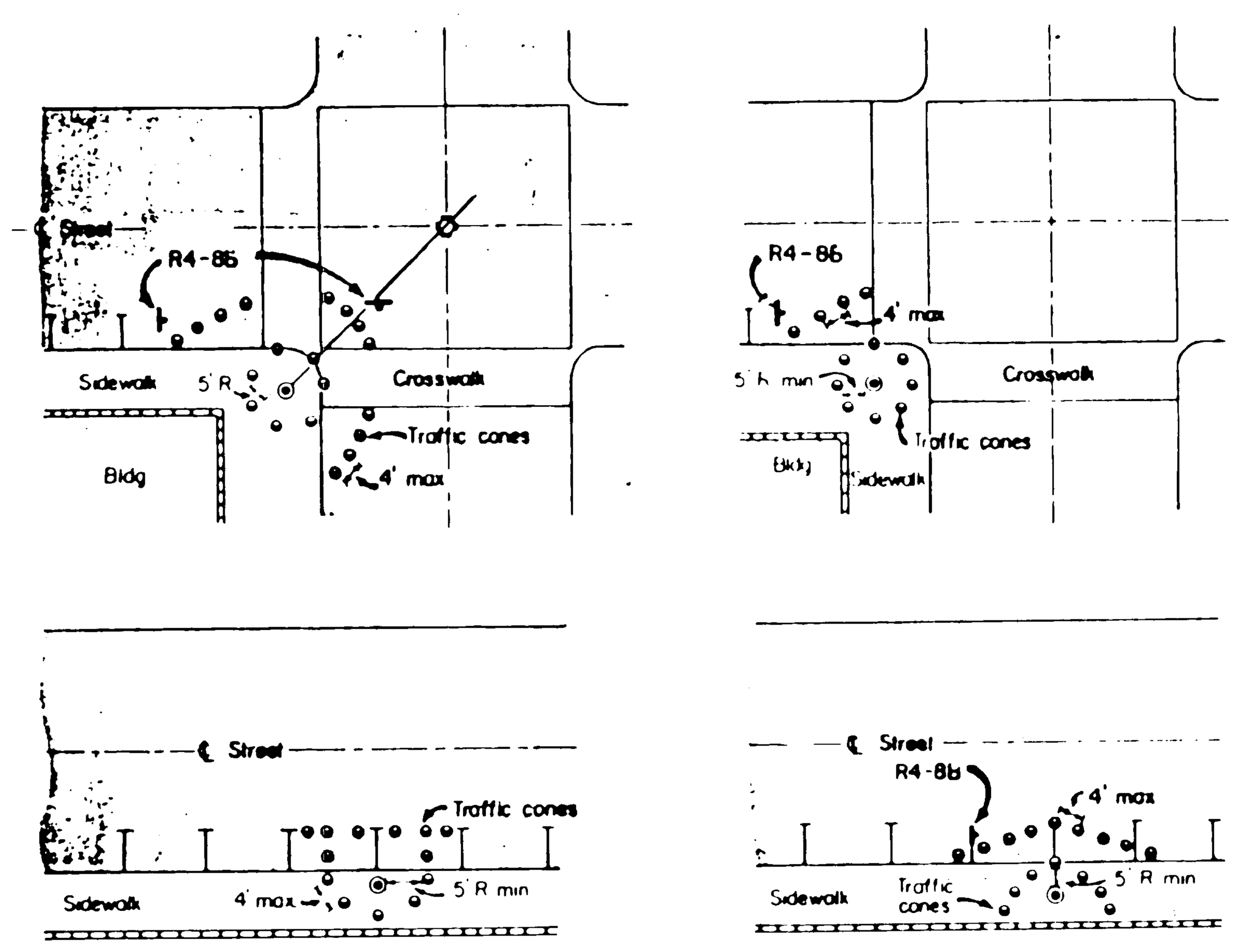
1 Where a sign is to be mounted on a barricade, the barricade length should not be less than the horizontal dimension of the sign. If lights are also to be mounted on the barricade, the barricade should not be less than the sign width plus about 12" for each light to be attached. Barricades of a greater length than the above will be satisfactory

2 The advance signs and barricades shall be in place when signal construction operations are in progress. The contractor may remove the advance signs and barricades when there are no construction operations underway if permitted elsewhere in the plans. Any obstructions or hazards at the work area shall be clearly marked and delineated at all times



TYPICAL HANGING SIGNAL INSTALLATIONS

NOTES
1 Flagmen & CW20 7a sign may also be required according to field conditions
2 Use vehicle equipped with yellow rotating beacon or strobe

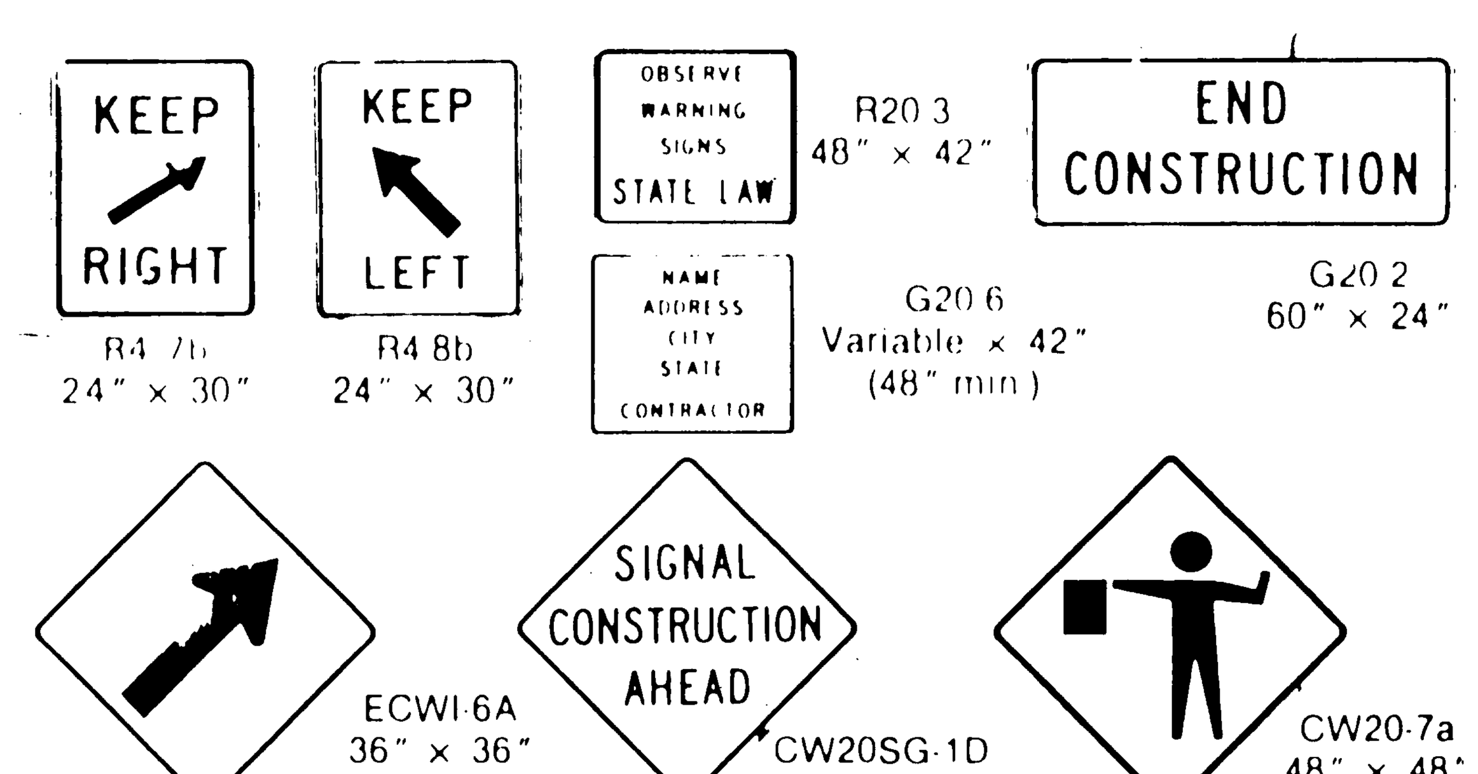


If cones are within limits of a parking space the R4-7b or R4-8b sign need not be placed

Eliminate parking by placing cones when spaces exist

TYPICAL RESTRICTED PEDESTRIAN MOVEMENTS

Where pedestrian movements are anticipated at night all holes trenches or other hazardous areas shall be adequately protected by use of barricades lights or other protective devices

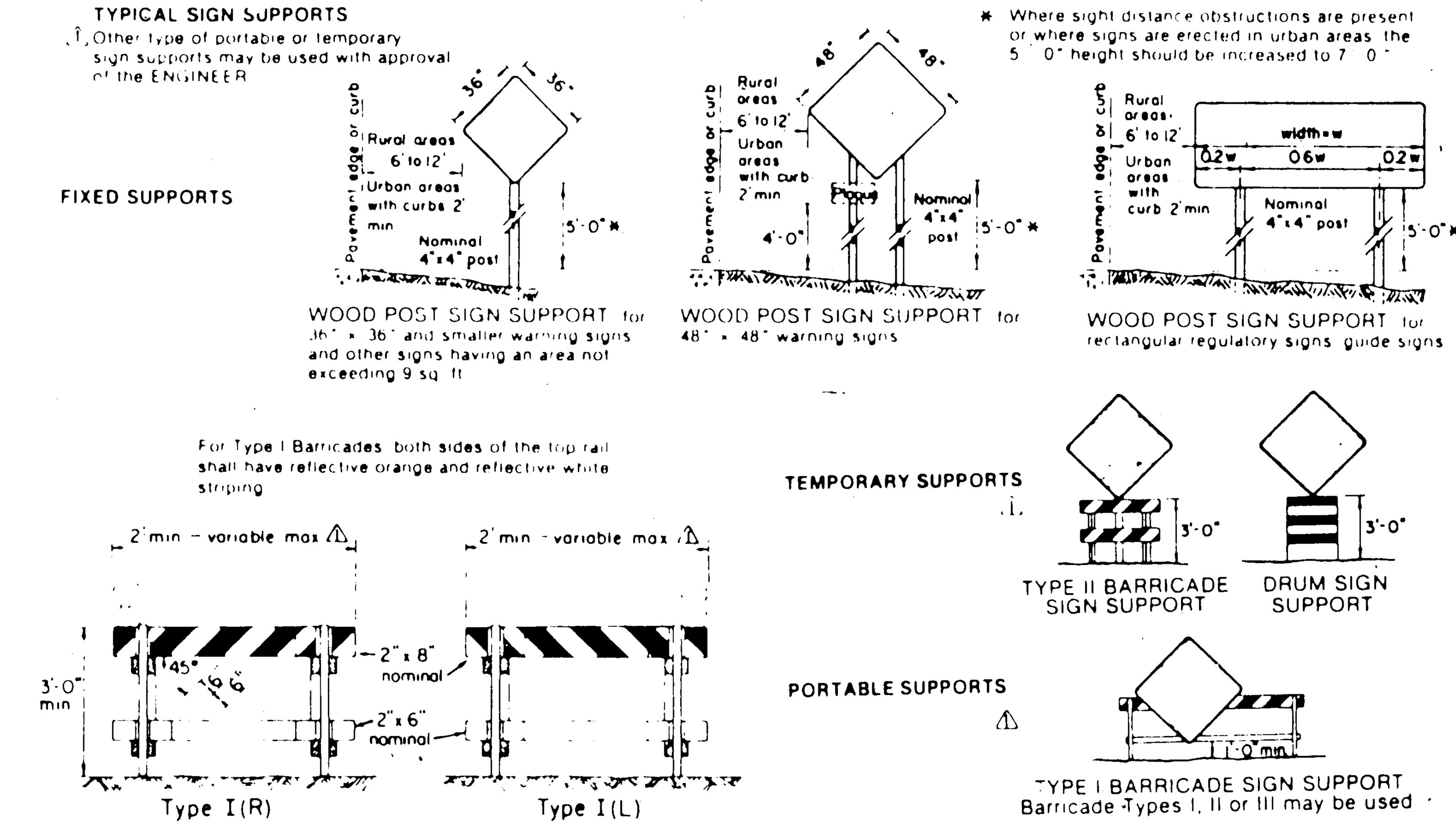


TYPICAL SIGNS USED IN TRAFFIC SIGNAL CONSTRUCTION AREAS

TYPICAL SIGN SUPPORTS

1 Other type of portable or temporary sign supports may be used with approval of the ENGINEER

* Where sight distance obstructions are present or where signs are erected in urban areas the 5'-0" height should be increased to 7'-0"



TYPE I BARRICADES

NO.	REVISION	BY	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE:
DATE:

STATE OF TEXAS — WILLIAM J. HATCHELL — 26755 — REGISTERED PROFESSIONAL ENGINEER

ESPEY, HUSTON & ASSOCIATES, INC.
Engineering & Environmental Consultants
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TYPICAL CONSTRUCTION LAYOUTS FOR TRAFFIC SIGNAL INSTALLATIONS

SHEET NO. 8 OF 31 SHEETS

JOB NO.