TABLE 1. COLUMN & FOOTING SIZE

LENGTH OF SCOREBOARD OR SIGN	HEIGHT TO TOP OF SCOREBOARD OR SIGN	8'	8'-6"	9'	10'	12'	14'	16'	18'	20'	24'	26'	27'	28'	32'	36'	45'
COLUMN QUANTITY		2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	5
COLUMN SPACING		4'-0"	4'-3"	4'-6"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"	13'-0"	13'-6"	14'-0"	10'-6"	9'-0"	9'-0"
13-14 ft		W8x13 2'-6" dia. 5'-0" deep	W8x13 2'-6" dia. 5'-0" deep	W8x13 2'-6" dia. 5'-0" deep	W8x13 2'-6" dia. 5'-6" deep	W8x15 2'-6" dia. 5'-6" deep	W8x15 2'-6" dia. 6'-0" deep	W8x18 2'-6" dia. 6'-6" deep	W8x18 2'-6" dia. 6'-6" deep	W8x18 2'-6" dia. 7'-0" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 7'-0" deep	W8x15 2'-6" dia. 6'-6" deep	W8x15 2'-6" dia. 7'-0" deep
15-16 ft		W8x15 2'-6" dia. 6'-0" deep.	W8x15 2'-6" deep 6'-0" deep	W10x17 2'-6" dia. 6'-0" deep	W10x17 2'-6" dia. 6'-6" deep	W10x17 2'-6" dia. 6'-6" deep	W8x18 2'-6" dia. 7'-0" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 8'-0" deep	W10x22 2'-6" dia. 8'-6" deep	W10x22 2'-6" dia. 8'-6" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 2'-6" dia. 9'-0" deep	W8x18 2'-6" dia. 8'-6" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 8'-0" deep
17-18 ft		W8x18 2'-6" dia. 6'-6" deep	W8x18 2'-6" dia. 7'-0" deep	W8x18 2'-6" dia. 7'-0" deep	W8x18 2'-6" dia. 7'-0" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 8'-0" deep	W8x21 2'-6" dia. 8'-6" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-6" deep	W10x26 3'-0" dia. 9'-6" deep	W10x26 3'-0" dia. 10'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W8x18 2'-6" dia. 8'-6" deep	W8x18 2'-6" dia. 9'-0" deep
19-20 ft		W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 7'-6" deep	W8x18 2'-6" dia. 8'-0" deep	W8x18 2'-6" dia. 8'-0" deep	W8x21 2'-6" dia. 8'-6" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-6" deep	W10x26 3'-0" dia. 10'-0" deep	W10x26 3'-0" dia. 10'-6" deep	W12x26 3'-0" dia. 10'-6" deep	W12x26 3'-0" dia. 11'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W10x22 3'-0" dia. 9'-6" deep	W10x22 3'-0" dia. 9'-6" deep
21-22 ft		W8x21 2'-6" dia. 8'-0" deep	W8x21 2'-6" dia. 8'-6" deep	W8x21 2'-6" dia. 8'-6" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 10'-0" deep	W12x26 3'-0" dia. 10'-6" deep	W12x30 3'-0" dia. 11'-0" deep	W12x35 3'-0" dia. 11'-6" deep	W12x35 3'-0" dia. 11'-6" deep	W12x35 3'-0" dia. 12'-0" deep	W10x26 3'-0" dia. 10'-0" deep	W10x22 3'-0" dia. 10'-0" deep	W10x22 3'-0" dia. 10'-6" deep
23-24 ft		W10x22 2'-6" dia. 9'-0" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 2'-6" dia. 9'-0" deep	W10x22 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 10'-0" deep	W12x26 3'-0" dia. 10'-6" deep	W12x30 3'-0" dia. 11'-0" deep	W12x35 3'-0" dia. 11'-6" deep	W14x34 3'-0" dia. 12'-0" deep	W14x38 3'-0" dia. 12'-6" deep	W12x40 3'-0" dia. 12'-6" deep	W12x40 3'-6" dia. 12'-0" deep	W12x26 3'-0" dia. 11'-6" deep	W10x26 3'-0" dia. 10'-6" deep	W10x26 3'-0" dia. 11'-6" deep
25-26 ft		W10x22 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-0" deep	W10x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 10'-0" deep	W12x30 3'-0" dia. 10'-6" deep	W12x35 3'-0" dia. 11'-0" deep	W12x35 3'-0" dia. 11'-6" deep	W14x34 3'-0" dia. 12'-0" deep	W12x40 3'-6" dia. 12'-6" deep	W12x45 3'-6" dia. 12'-6" deep	W12x45 3'-6" dia. 13'-0" deep	W14x43 3'-6" dia. 13'-0" deep	W12x30 3'-6" dia. 12'-0" deep	W12x26 3'-0" dia. 11'-6" deep	W12x26 3'-0" dia. 12'-0" deep
27-28 ft		W10x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 9'-6" deep	W12x26 3'-0" dia. 10'-0" deep	W12x30 3'-0" dia. 11'-0" deep	W12x35 3'-0" dia. 11'-6" deep	W14x34 3'-0" dia. 12'-0" deep	W14x38 3'-6" dia. 12'-0" deep	W12x45 3'-6" dia. 13'-0" deep	W14x48 3'-6" dia. 13'-0" deep	W14x48 3'-6" dia. 13'-6" deep	W14x48 3'-0" dia. 14'-0" deep	W14x53 3'-6" dia. 14'-0" deep	W12x35 3'-6" dia. 12'-6" deep	W12x26 3'-6" dia. 12'-0" deep	W12x26 3'-6" dia. 12'-0" deep
29-30 ft		W12x26 3'-0" dia. 10'-0" deep	W12x26 3'-0" dia. 10'-0" deep	W12x30 3'-0" dia. 10'-6" deep	W12x35 3'-0" dia. 11'-6" deep	W14x34 3'-0" dia. 12'-0" deep	W12x40 3'-6" dia. 12'-0" deep	W14x43 3'-6" dia. 12'-6" deep	W12x45 3'-6" dia. 12'-6" deep	W14x43 3'-6" dia. 13'-6" deep	W18x50 3'-6" dia. 14'-0" deep	W18x50 3'-6" dia. 14'-6" deep	W18x50 3'-6" dia. 14'-6" deep	W18x55 3'-6" dia. 14'-6" deep	W12x40 3'-6" dia. 13'-6" deep	W12x30 3'-6" dia. 12'-0" deep	W12x30 3'-6" dia. 13'-0" deep
31-32 ft		W12x30 3'-0" dia. 10'-6" deep	W12x30 3'-0" dia. 10'-6" deep	W12x35 3'-0" dia. 11'-6" deep	W12x35 3'-0" dia. 11'-6" deep	W12x40 3'-0" dia. 12'-0" deep	W12x40 3'-6" dia. 12'-0" deep	W14x43 3'-6" dia. 12'-6" deep	W14x48 3'-6" dia. 13'-0" deep	W14x53 3'-6" dia. 13'-6" deep	W18x55 3'-6" dia. 14'-6" deep	W18x55 3'-6" dia. 15'-0" deep	W18x60 3'-6" dia. 15'-6" deep	W18x60 3'-6" dia. 15'-6" deep	W12x45 3'-6" dia. 14'-0" deep	W12x35 3'-6" dia. 13'-0" deep	W12x35 3'-6" dia. 14'-0" deep
33-34 ft		W12x35 3'-0" dia. 11'-0" deep	W12x35 3'-0" dia. 11'-6" deep	W12x35 3'-0" dia. 11'-6" deep	W14x34 3'-0" dia. 12'-0" deep	W12x45 3'-6" dia. 12'-0" deep	W14x48 3'-6" dia. 12'-6" deep	W14x48 3'-6" dia. 13'-6" deep	W14x53 3'-6" dia. 14'-0" deep	W18x50 3'-6" dia. 14'-6" deep	W18x60 3'-6" dia. 15'-6" deep	W18x65 3'-6" dia. 16'-0" deep	W21x62 3'-6" dia. 16'-0" deep	W21x62 3'-6" dia. 16'-6" deep	W14x48 3'-6" dia. 15'-0" deep	W14x34 3'-6" dia. 13'-6" deep	W14x34 3'-6" dia. 14'-0" deep

COLUMN SIZE • FOOTING DIAMETER • FOOTING DEPTH

REF 98-0106-12 • REV 1108.05 • A0105

DESIGN CRITERIA

- Steel columns set in concrete are recommended, but other types of supports may be used.
- The design should be altered to take into account your soil conditions; the height of the sports display above the ground; and to comply with local codes which specify wind load requirements, etc.
- Any engineering design provided by others and submitted for review or record shall bear the stamp and signature of a licensed professional engineer registered in the state of installation.

BUILDING CODES

The sports display support structures recommended in this document are intended to comply with International Building Code 2006 with the following assumptions:

- Basic Wind Speed: 90 MPH
- Exposure: B

CONCRETE

All concrete shall have a minimum ultimate compressive strength of 3000 psi at 28 day test.

STRUCTURAL STEEL

1. Structural steel material shall be ASTM:
    - A992 (50 KSI) Rolled W-Shape Columns
    - A36 A572 (50 KSI) Connection Material, Stiffener Plates and Rolled Plate
    - A500 Grade B HSS (46 KSI)
    - A53 Grade B Pipe
2. Structural steel details, fabrication, and erection shall conform to the AISC "Manual Of Steel Construction - ASD" latest edition. Unless otherwise shown or specified.
3. All structural tube ends to be covered with light gage end caps.
4. All new steel to be primed and painted with an approved color.

WELDING

Unless otherwise noted, all welds shall be continuous 1/4" fillet welds. All full and/or partial penetration welds shall be fully detailed on the shop drawings.

DRILLED PIERS

1. All drilled piers shall bear on undisturbed soil.
2. Provide for dewatering at excavations from either surface water or seepage.
3. The elevation identifying the bottom of shaft is an approximate length for estimating purposes only. The actual length will be determined in the field from the actual elevation of the bearing stratum to be verified by the on-site soils testing agency.
4. Concrete shall be placed immediately after shafts are cleaned, data is recorded and approval of bearing surface is obtained. Excavations shall not be left open overnight.
5. All piers shall be centered under columns.

CONSTRUCTION

- The contract structural drawings and specifications represent the finished structure. They do not indicate the means or methods of construction.
- Trans-Lux Corporation and/or any of its subsidiaries assume no responsibility for work completed by others.
- Field verify all existing dimensions, member sizes, and elevation shown on the drawings. All discrepancies shall be brought to the attention of the engineer immediately.

SAFETY REQUIREMENTS

- Comply with all applicable city, county, state and federal laws and regulations adopted pursuant thereto.
- Provide all measures necessary to protect the workmen and other persons during construction. Provide all necessary measures to avoid excessive stresses and to hold the structural elements in place during construction. Such measures shall include, but not be limited to, bracing; shoring for construction equipment; scaffolding; safety nets; support and bracing for cranes and hoists; guying, etc.

ATTACHING THE OPTIONAL SIGN

- The sign can be easily lifted into place using a crane or boom truck such as used by utilities and sign companies. The weight and dimensions of your sign are shown on the installation drawing.
- When lifting the sign, hook the slings or spreader bar cables into the eyebolts attached to the top edge of the sign. The eyebolts may be removed after the sign is secured to the supports.

Caution:	***If eyebolts are removed, plug the open holes and apply sealant to avoid water damage; otherwise, if water damage occurs then warranty will be void.***

- The sign is to be bolted or welded to the supports at each hanger bracket position.

FLAT BRACKET

This bracket is used only on optional signs or sports message displays. The sign or sports message display is bolted to the support columns.

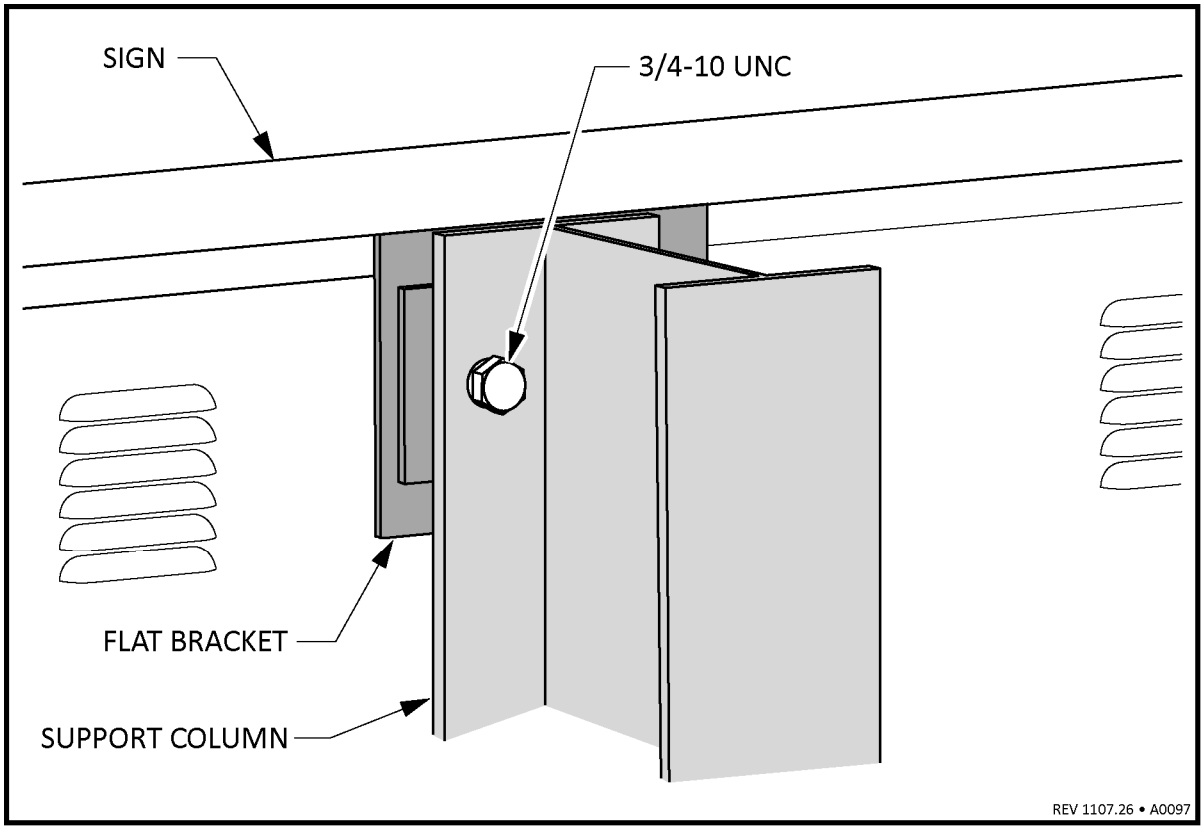

FIGURE 3 — FLAT BRACKET

ATTACHING THE SCOREBOARD

- The scoreboard can be easily lifted into place using a crane or boom truck such as used by utilities and sign companies. The weight and dimensions of your scoreboard are shown on the installation drawing.
- When lifting the scoreboard, hook the slings or spreader bar cables into the eyebolts or J-Brackets attached to the top edge of the scoreboard. The eyebolts may be removed after the scoreboard is secured to the supports.

Caution:	***If eyebolts are removed, plug open holes in scoreboard and apply sealant to avoid water damage; otherwise, if water damage occurs then warranty will be void.***

- The scoreboard is to be bolted or welded to the supports at each hanger bracket position.

10” J-BRACKET

This method requires the scoreboard to be bolted to the support column.

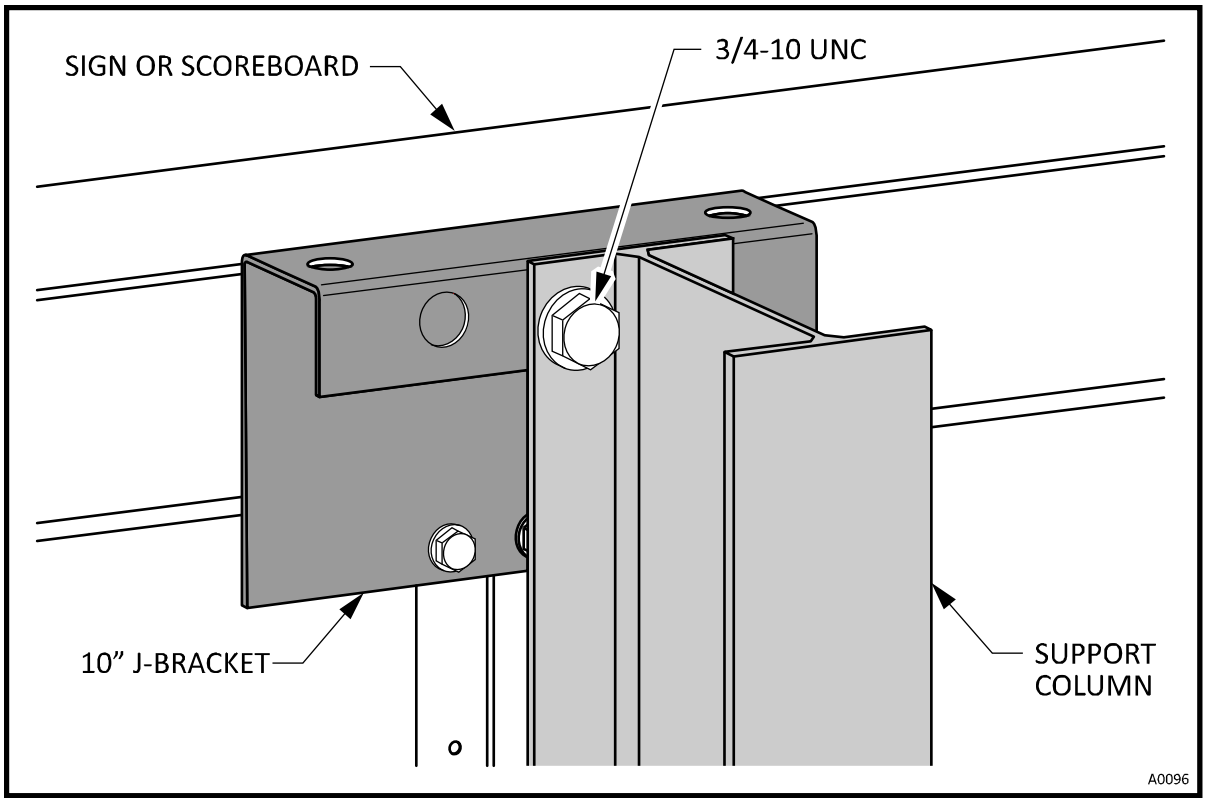

FIGURE 4 — 10” J-BRACKET

VARIABLE J-BRACKET

- This mounting method can use new or existing support columns when distances between supports are ±6 or ±12 inches from standard as shown in Table 1 on page 3.
- This mounting method can only be used for signs, scoreboards or sports message centers measuring up to 20 feet in length.

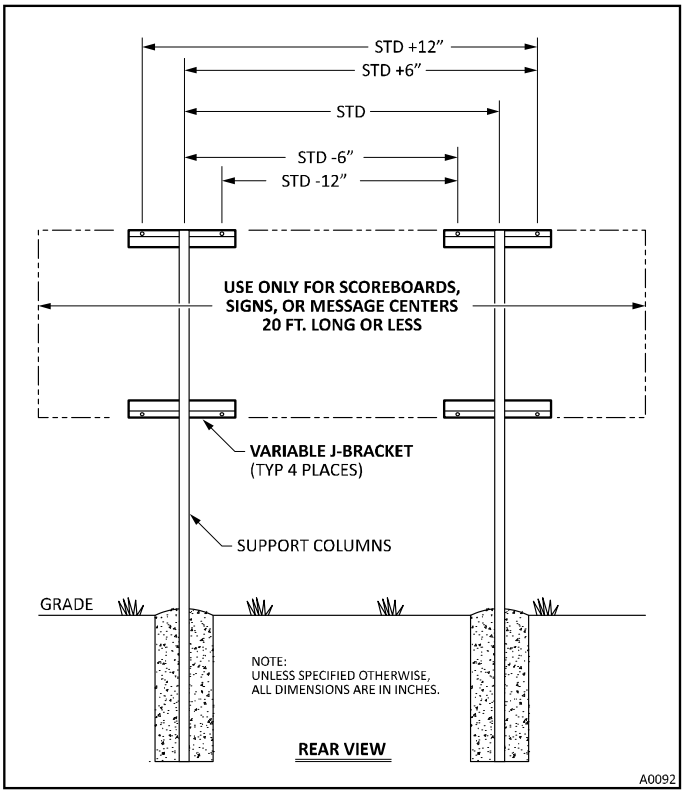

FIGURE 5. SUPPORT SPACING FOR VARIABLE SCOREBOARD MOUNTING SYSTEM

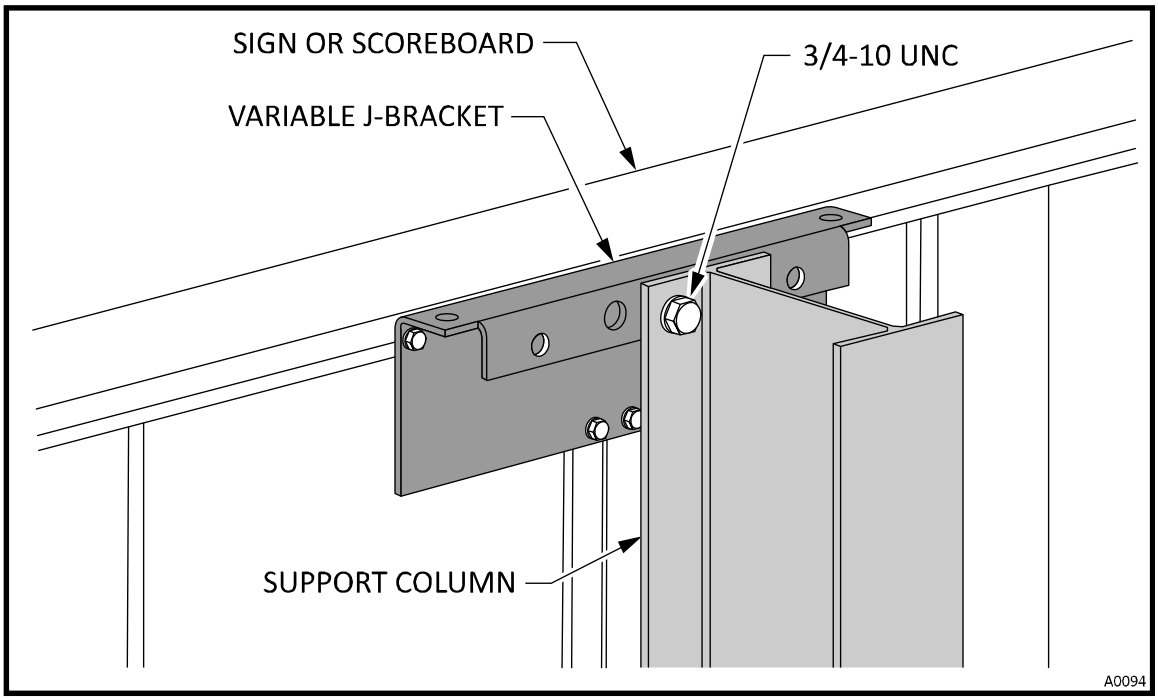

FIGURE 6 — VARIABLE J-BRACKET

STRINGER

- This method is used when it is not cost effective to reposition the existing support columns to the recommended standard spacing distance (shown in Table 1. Column & Footing Size on page 3).
- The stringers are usually made from tube steel and are welded to the support columns during installation.
- The stringer must be properly sized for the application by an appropriately licensed engineer.

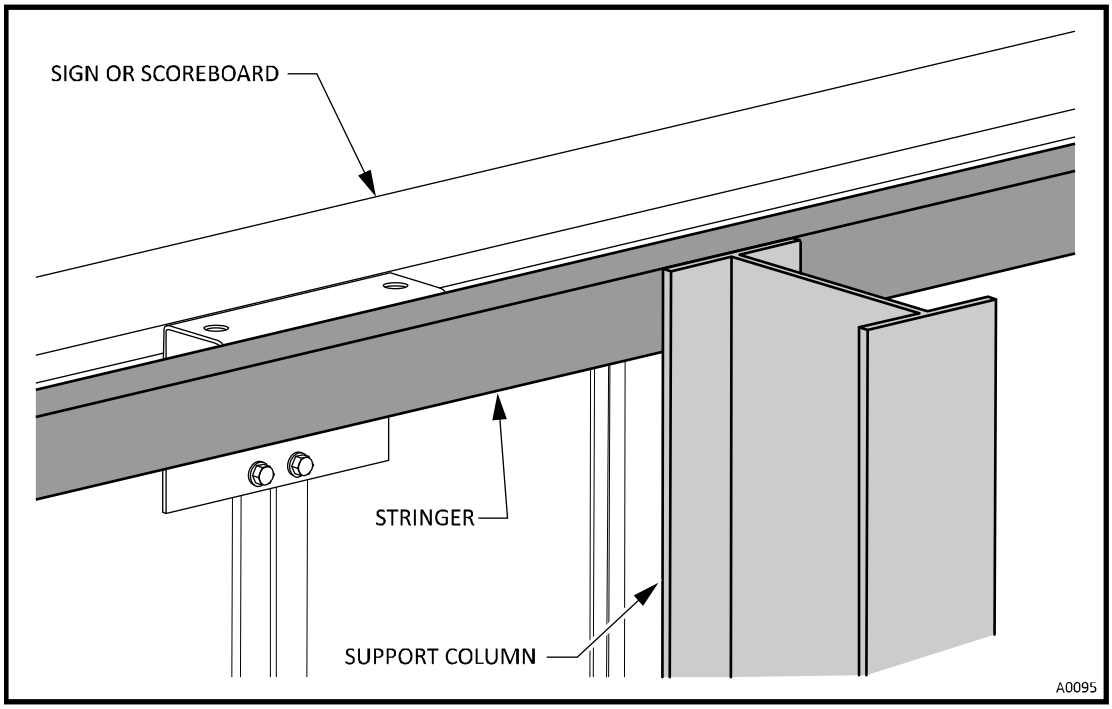

FIGURE 7 — STRINGER