



Product Specifications

Bedford Standard Ladders

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Product Specifications

BRP Standard Ladders

Scope

This specification covers the details about the design criteria, product description and installation details of BRP standard ladders.

Design Criteria

BRP ladder systems are designed to meet or exceed the minimum load requirements of Standard Caged Ladder as per OSHA 1910.27 and to meet 60 psf loading on the landing platforms.

BRP Ladder Systems

BRP offers standard caged ladders, access ladders, and access ladders with walk-through and return. The components of BRP ladder systems such as ladder side rails, rungs, cage hoops and straps are all made of BRP pultruded fiber-reinforced plastics.

The side rails are made of 2" x ¼" square tube. Ladder rungs are 1¼" dia. fluted tubes for added traction.

The components for caged ladders are: cage hoops made of 4" x ⅛" flat sheet and the cage straps or ribs made of 2½" x ⅜" flat sheet. Installation accessories such as stand-off clips and anchor clips are made of 8" x 2⅜" x ⅜" and 3" x ⅜" angle clips respectively.

All BRP ladders are shop assembled by mechanically fastening the fluted rungs to the side rails using ¼" dia. series 300 SS spring pins with the option of supplying pre-drilled stand-off clips and anchor clips for field attachments.

1910.28(b)(9)

Fixed ladders (that extend more than 24 feet (7.3 m) above a lower level).

- i. For fixed ladders that extend more than 24 feet (7.3 m) above a lower level, the employer must ensure:
 - A. **Existing fixed ladders.** Each fixed ladder installed before November 19, 2018, is equipped with a personal fall arrest

system, ladder safety system, cage, or well;

- B. **New fixed ladders.** Each fixed ladder installed on and after November 19, 2018, is equipped with a personal fall arrest system or a ladder safety system;
 - C. **Replacement.** When a fixed ladder, cage, or well, or any portion of a section thereof, is replaced, a personal fall arrest system or ladder safety system is installed in at least that section of the fixed ladder, cage, or well where the replacement is located; and
 - D. **Final deadline.** On and after November 18, 2036, all fixed ladders are equipped with a personal fall arrest system or a ladder safety system.
- ii. When a one-section fixed ladder is equipped with a personal fall protection or a ladder safety system or a fixed ladder is equipped with a personal fall arrest or ladder safety system on more than one section, the employer must ensure:
 - A. The personal fall arrest system or ladder safety system provides protection throughout the entire vertical distance of the ladder, including all ladder sections; and
 - B. The ladder has rest platforms provided at maximum intervals of 150 feet (45.7 m).
 - iii. The employer must ensure ladder sections having a cage or well:
 - A. Are offset from adjacent sections; and
 - B. Have landing platforms provided at maximum intervals of 50 feet (15.2 m).
 - iv. The employer may use a cage or well in combination with a personal fall arrest system or ladder safety system provided that the cage or well does not interfere with the operation of the system.

Product Description

All the fiberglass components used for BRP ladder systems are made with the pultrusion process using fiberglass reinforcement and resin systems necessary to meet the design requirements and minimum properties given in Table 1.

Glass Reinforcements: Pultruded structural shapes used for BRP ladder systems shall have the fiber reinforcement in the form of continuous rovings and continuous strand mat for adequate mechanical and physical properties and surface veil for UV protection and corrosion resistance.

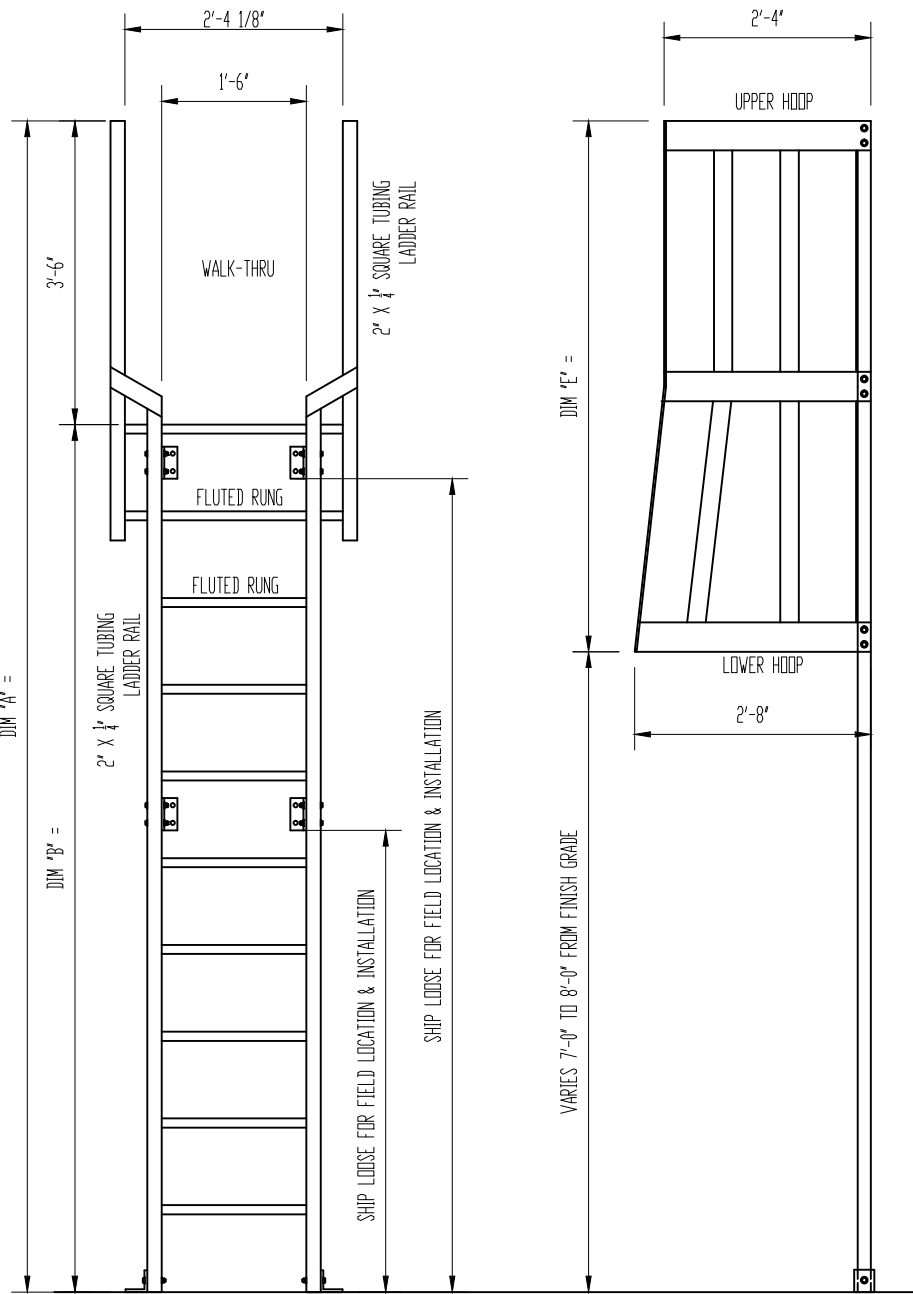
Resin Systems: Resin systems used in BRP ladder systems provide superior corrosion resistance and are available in FR Iso-Polyester and Vinylester resin systems with additives for superior fire resistance, UV protection and pigments. BRP ladder systems are typically pigmented yellow and can match other colors if needed.

Table 1. Minimum Properties

Property	ASTM	Value
Tensile Strength, psi	D 638	30000
Tensile Modulus, psi	D 638	2.5 x10 ⁶
Flexural Strength, psi	D 790	30000
Flexural Modulus, psi	D 790	1.8 x10 ⁶
Short Beam Shear, psi	D 2344	4500
Full Section Modulus, psi	N/A	2.8 x10 ⁶
Density, lb/in ³	D 792	0.062-0.07
Flame Spread	E 84	25 or less

Installation Methods

BRP ladder systems have to be installed as per the directions of approved assembly drawing or design engineer.



264 REYNOLDSDALE ROAD
BEDFORD, PENNSYLVANIA 15522

PHONE: 814-623-8125
FAX: 814-623-6032

WEB SITE: www.bedfordplastics.com
EMAIL: frpsales@bedfordplastics.com

TITLE:

FRP LADDER
WITH SAFETY CAGE
AND WALK THRU

LADDER TYPE:

FR RESIN, YELLOW: _____

VE RESIN, YELLOW: _____

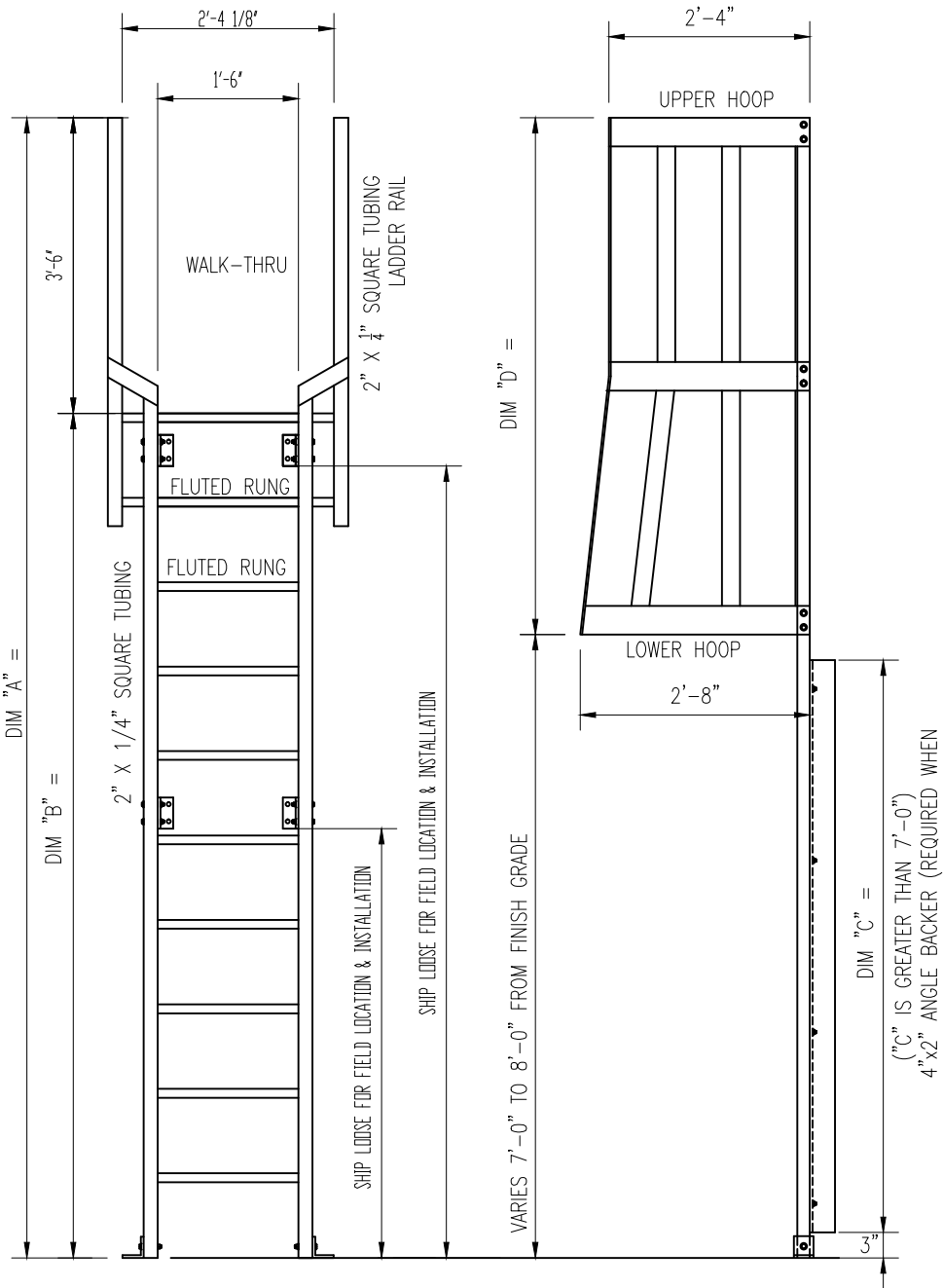
VE NSF RESIN, YELLOW: _____

SCALE:

N.T.S.

DATE:

DRAWN BY:



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FAX: 814-623-6032 EMAIL: sales@bedfordreinforced.com

TITLE:

FRP LADDER
WITH SAFETY CAGE
AND WALK THRU
AND BACKER

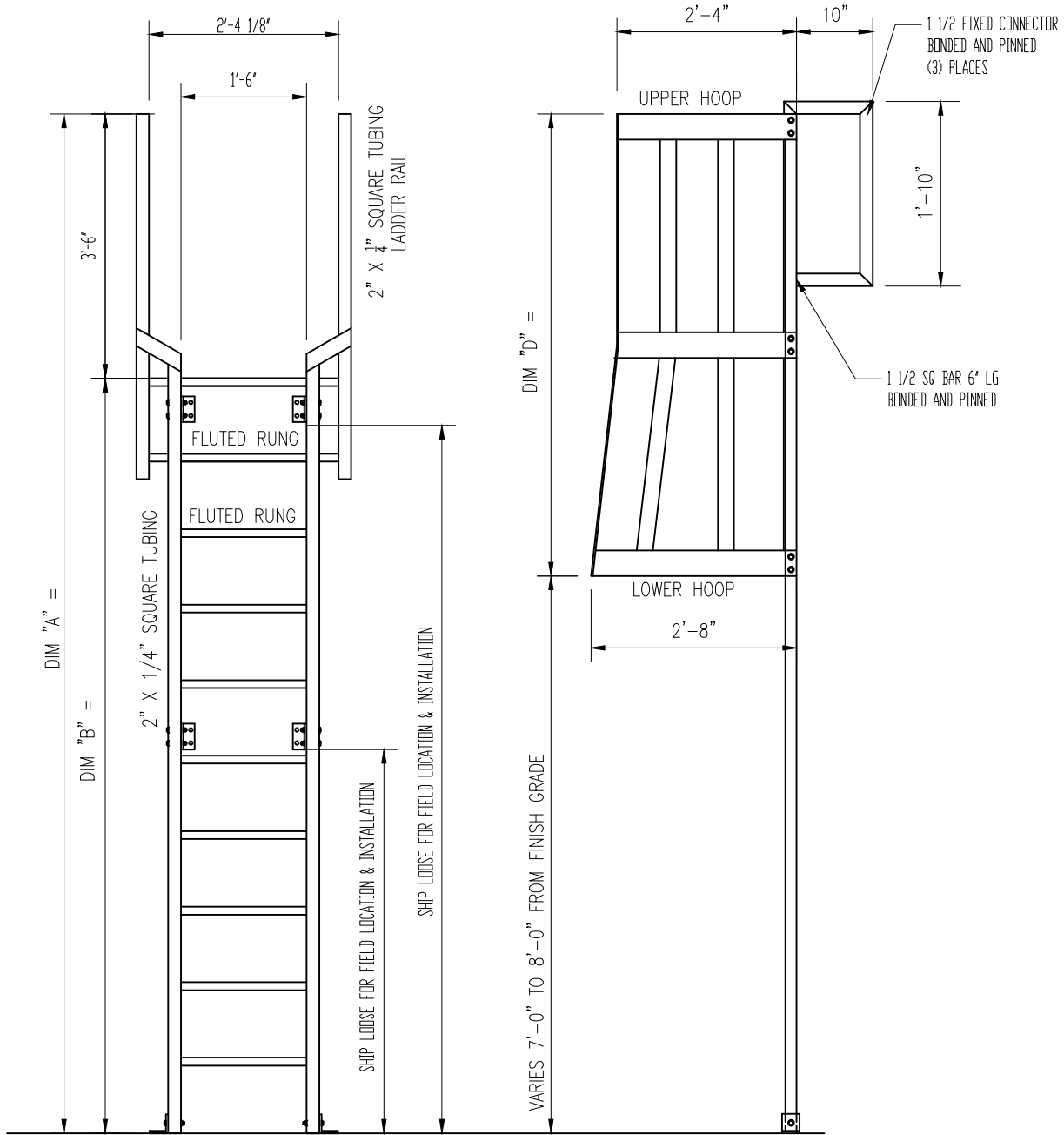
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FR RESIN, YELLOW: _____
VE RESIN, YELLOW: _____
VE NSF RESIN, YELLOW: _____

SCALE: N.T.S.

DATE:

DRAWN BY:



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TITLE:

FRP LADDER
WITH SAFETY CAGE
AND WALK THRU
AND RETURN

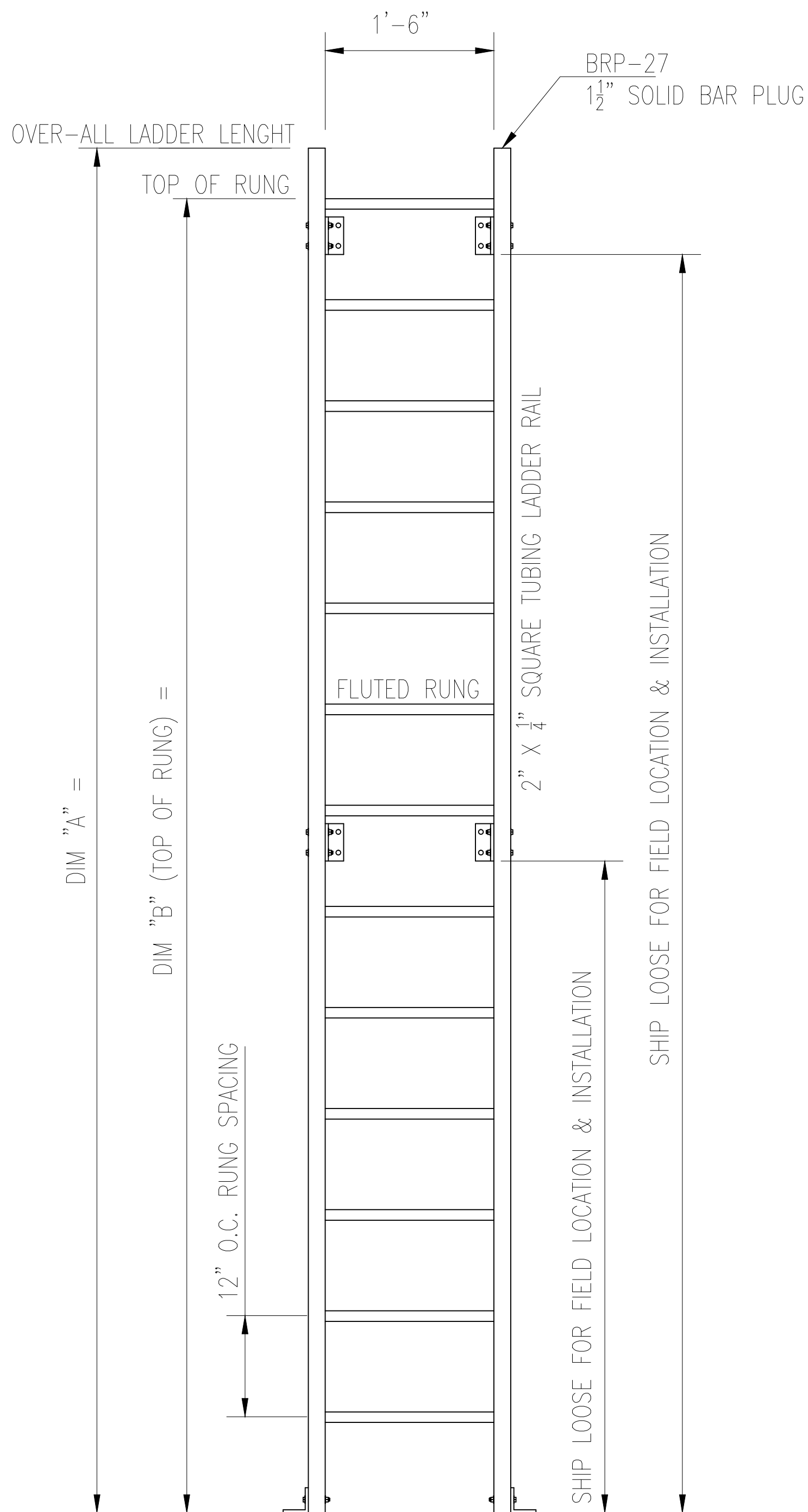
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VE RESIN, YELLOW: _____
VE NSF RESIN, YELLOW: _____

SCALE: N.T.S.

DATE:

DRAWN BY:



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EMAIL: frpsales@bedfordplastics.com

FRP ACCESS LADDER
W/ RUNGS THRU OUT

LADDER TYPE:

FR RESIN, YELLOW: _____

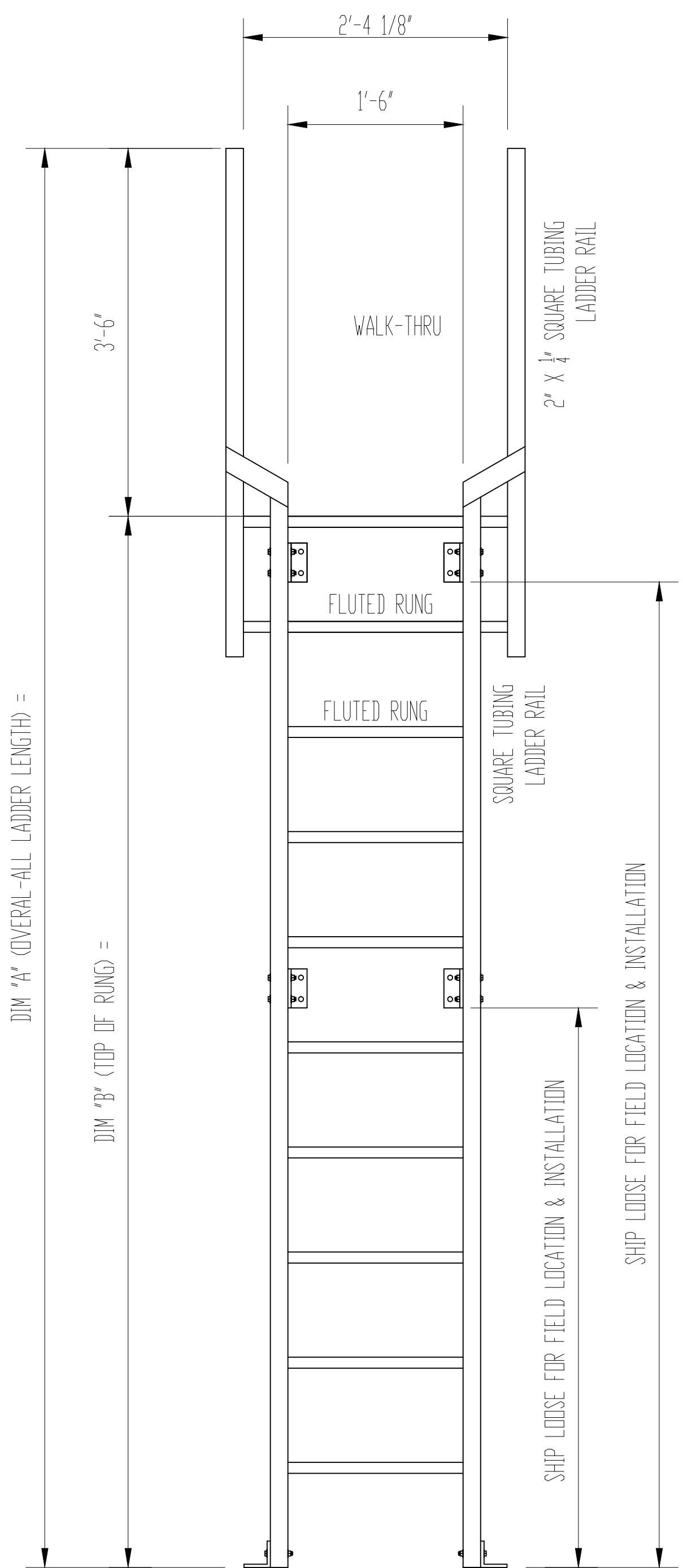
VE RESIN, YELLOW: _____

VE NSF RESIN, YELLOW: _____

SCALE: N.T.S.

DATE:

DRAWN BY:



FRP LADDER



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TITLE:

FRP LADDER
WITH WALK-THRU

LADDER TYPE:

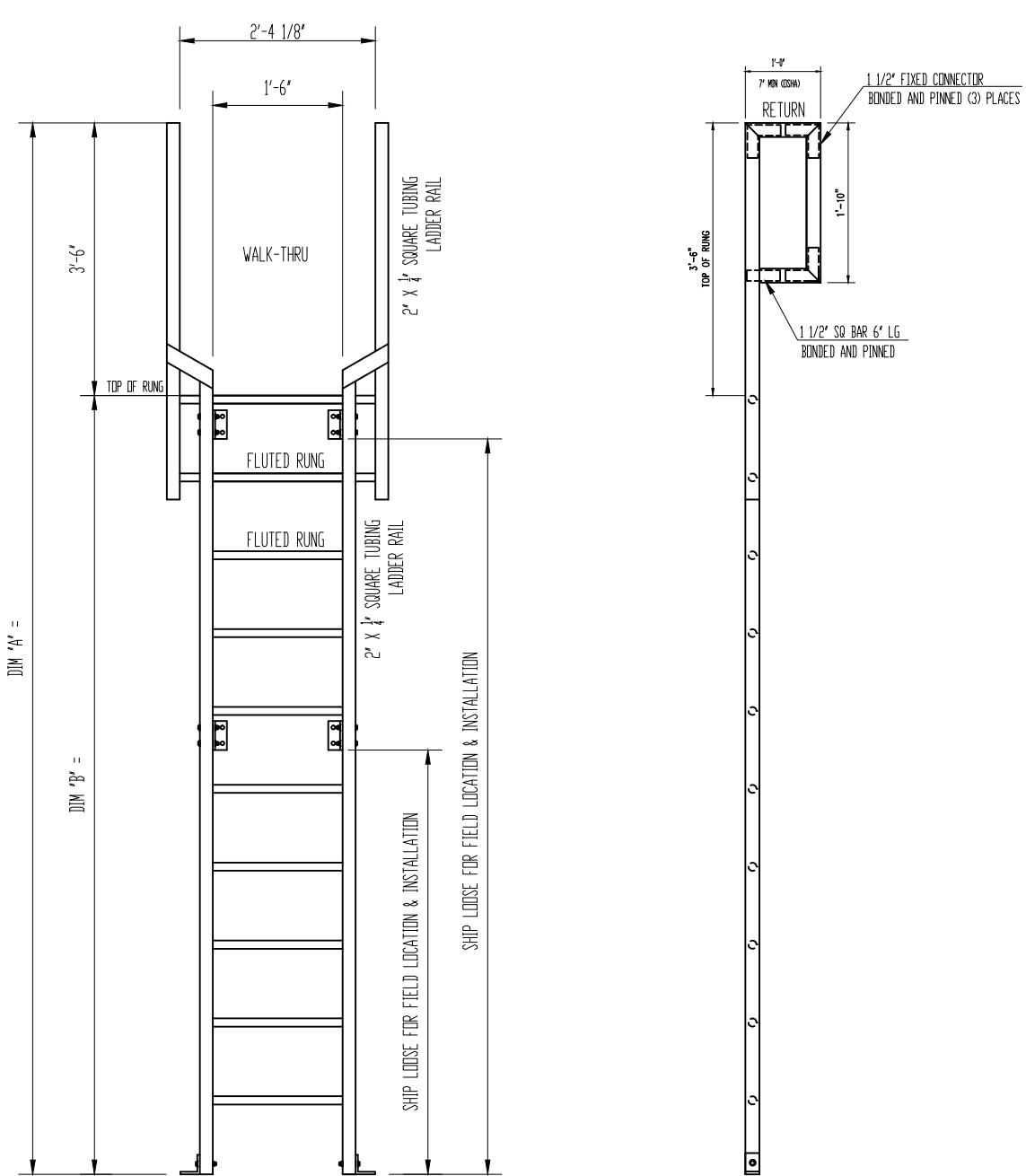
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VE RESIN, YELLOW: _____
VE NSF RESIN, YELLOW: _____

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N.T.S.

DATE:

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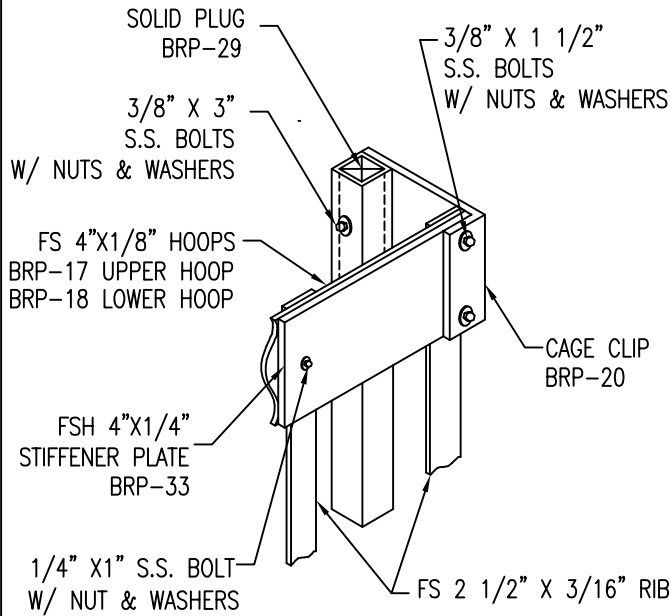


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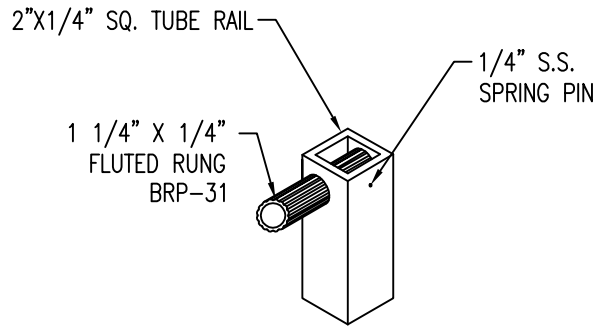
TITLE:
 FRP LADDER
 WITH WALK-THRU
 AND RETURN

LADDER TYPE:
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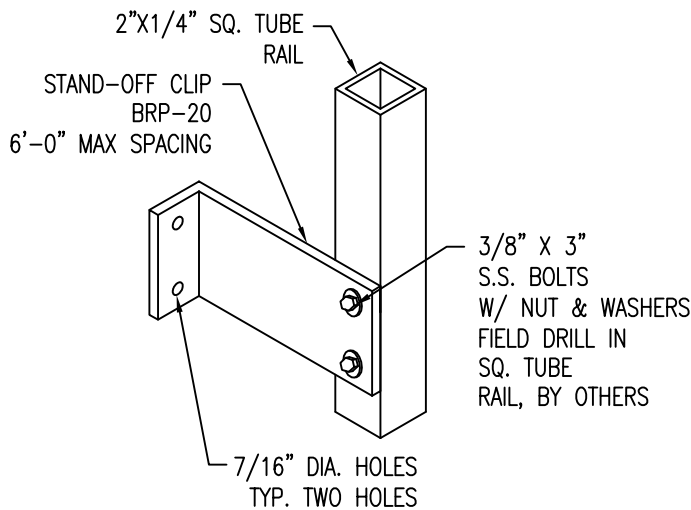
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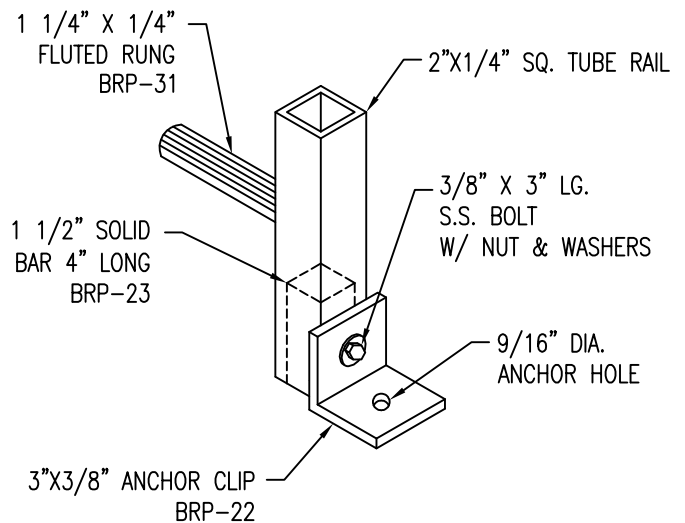
CAGE ATTACHMENT DETAIL
SCALE: N.T.S.



LADDER RUNG DETAIL
SCALE: N.T.S.



STAND-OFF CLIP DETAIL
SCALE: N.T.S.



ANCHOR CLIP DETAIL
SCALE: N.T.S.



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TITLE:

LADDER CONNECTION
DETAILS

LADDER TYPE:

FR RESIN:

VE RESIN:

LADDER COLOR:

YELLOW:

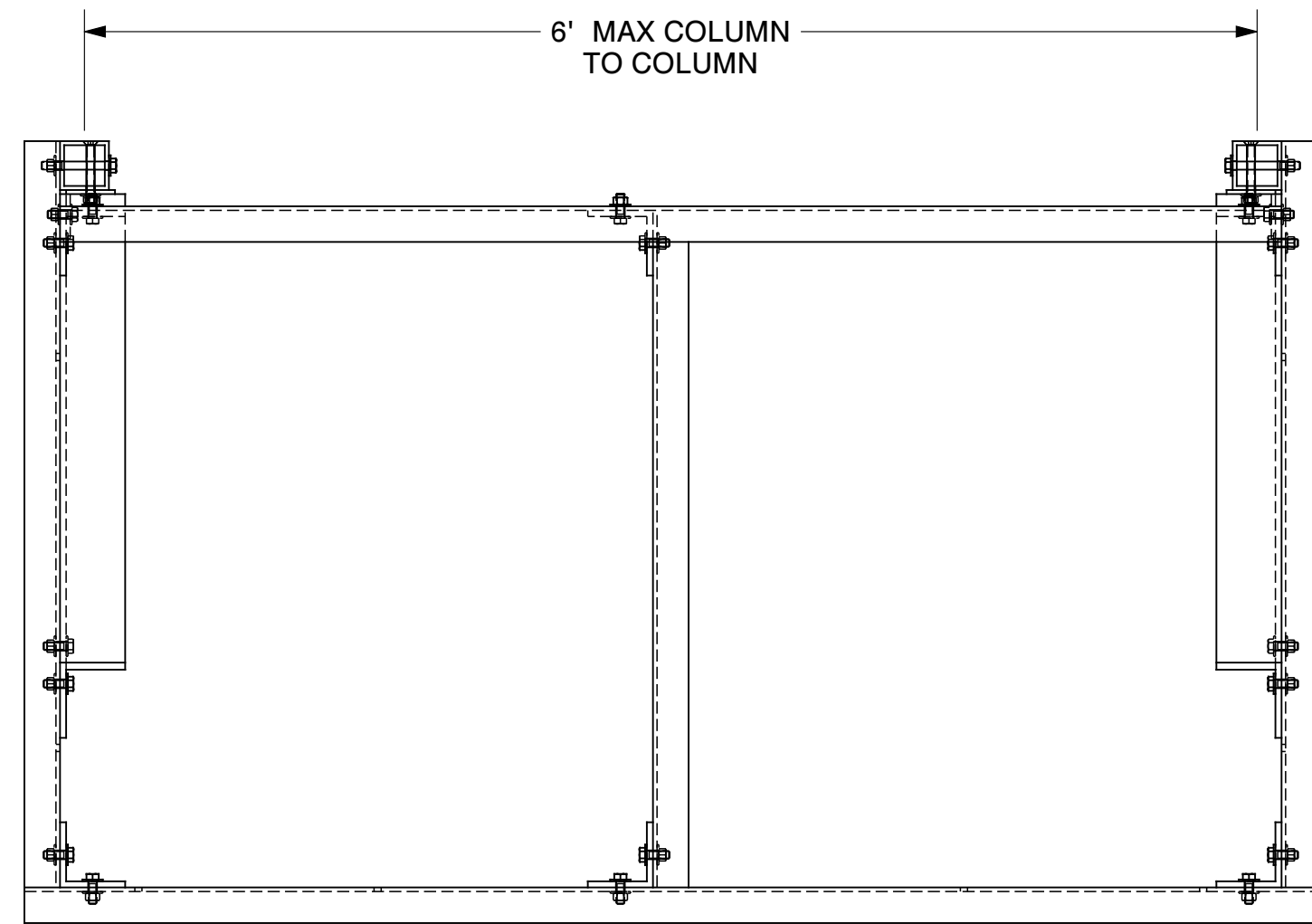
OTHER:

(IF OTHER PLEASE NOTE COLOR)

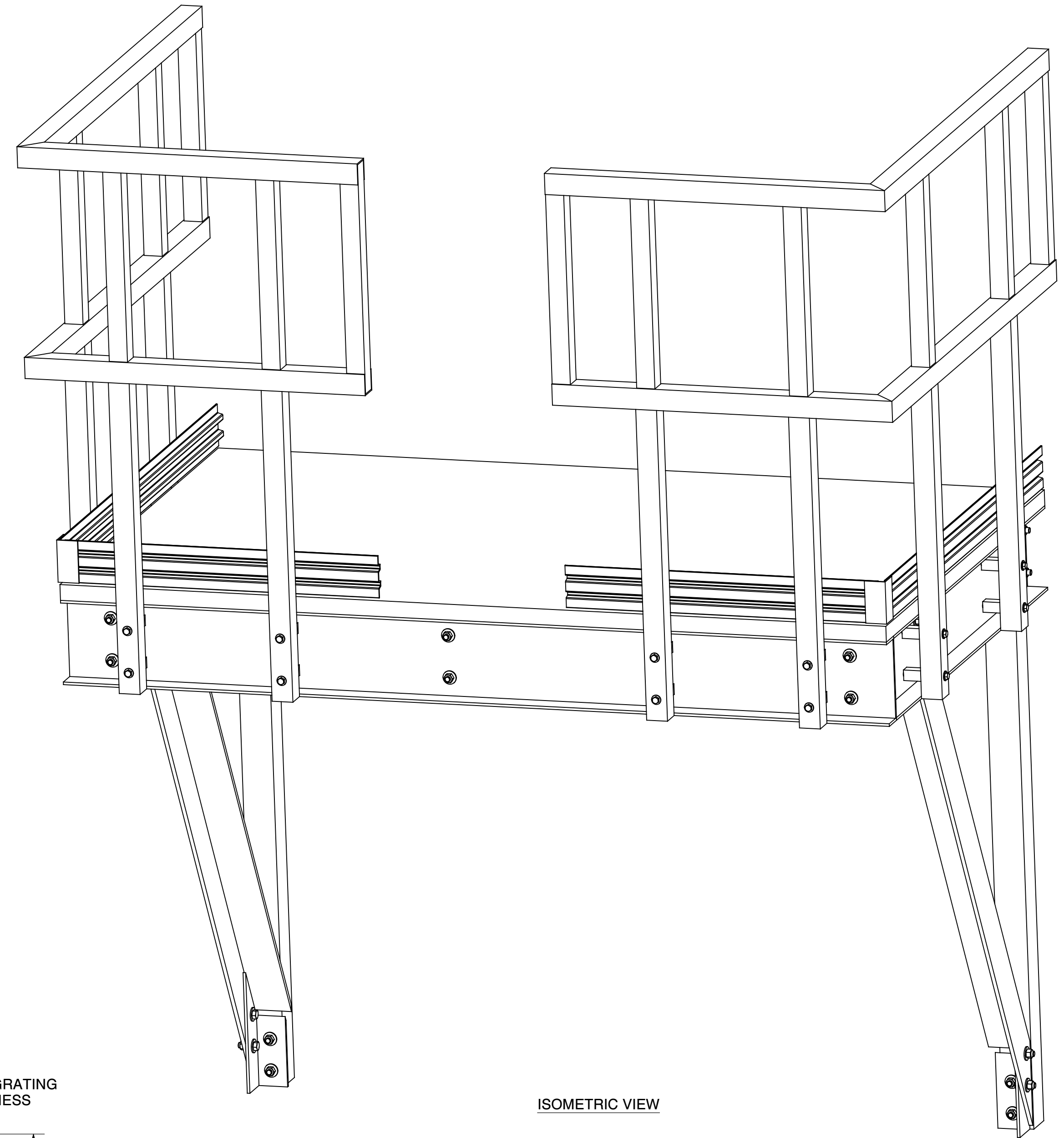
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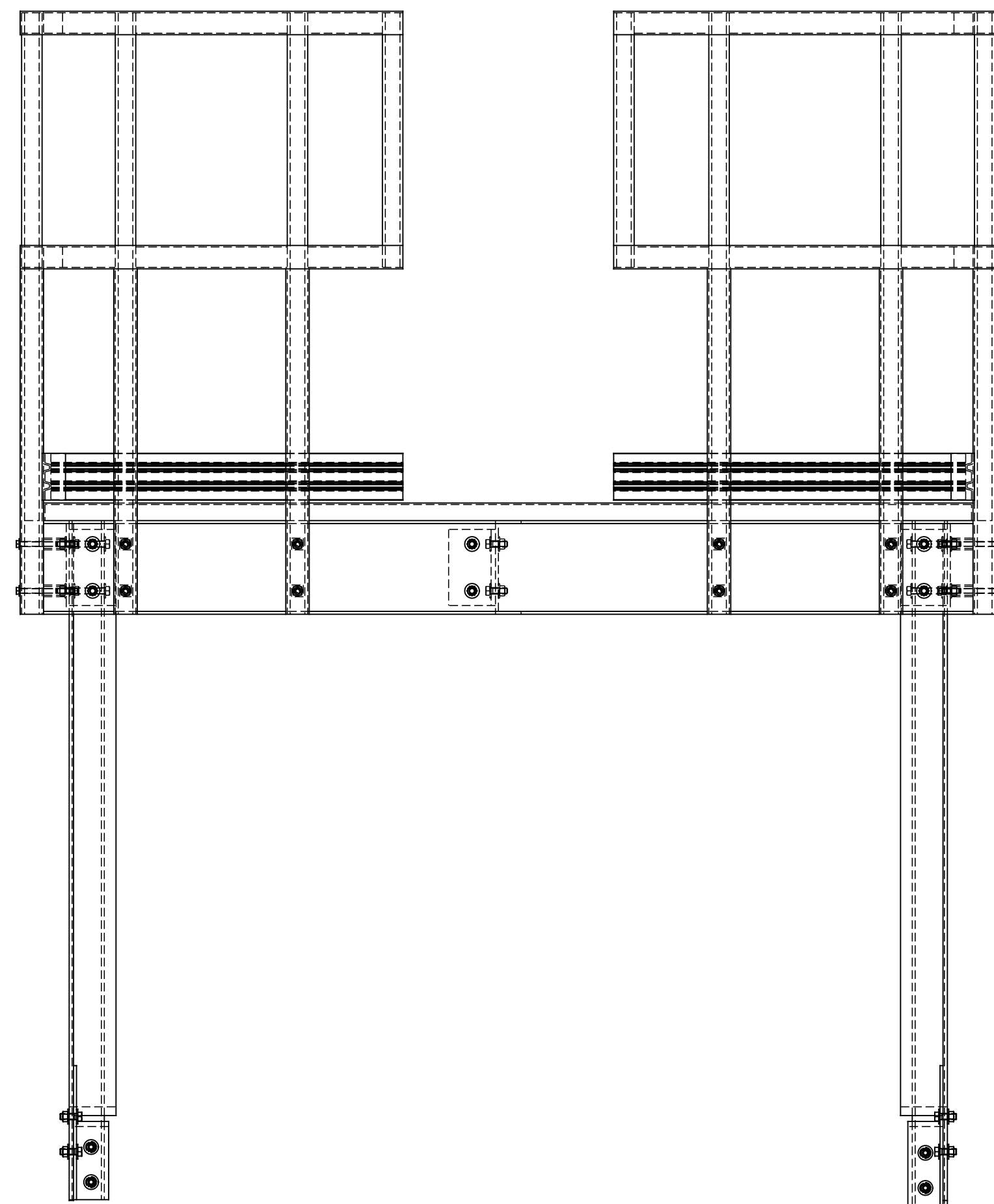
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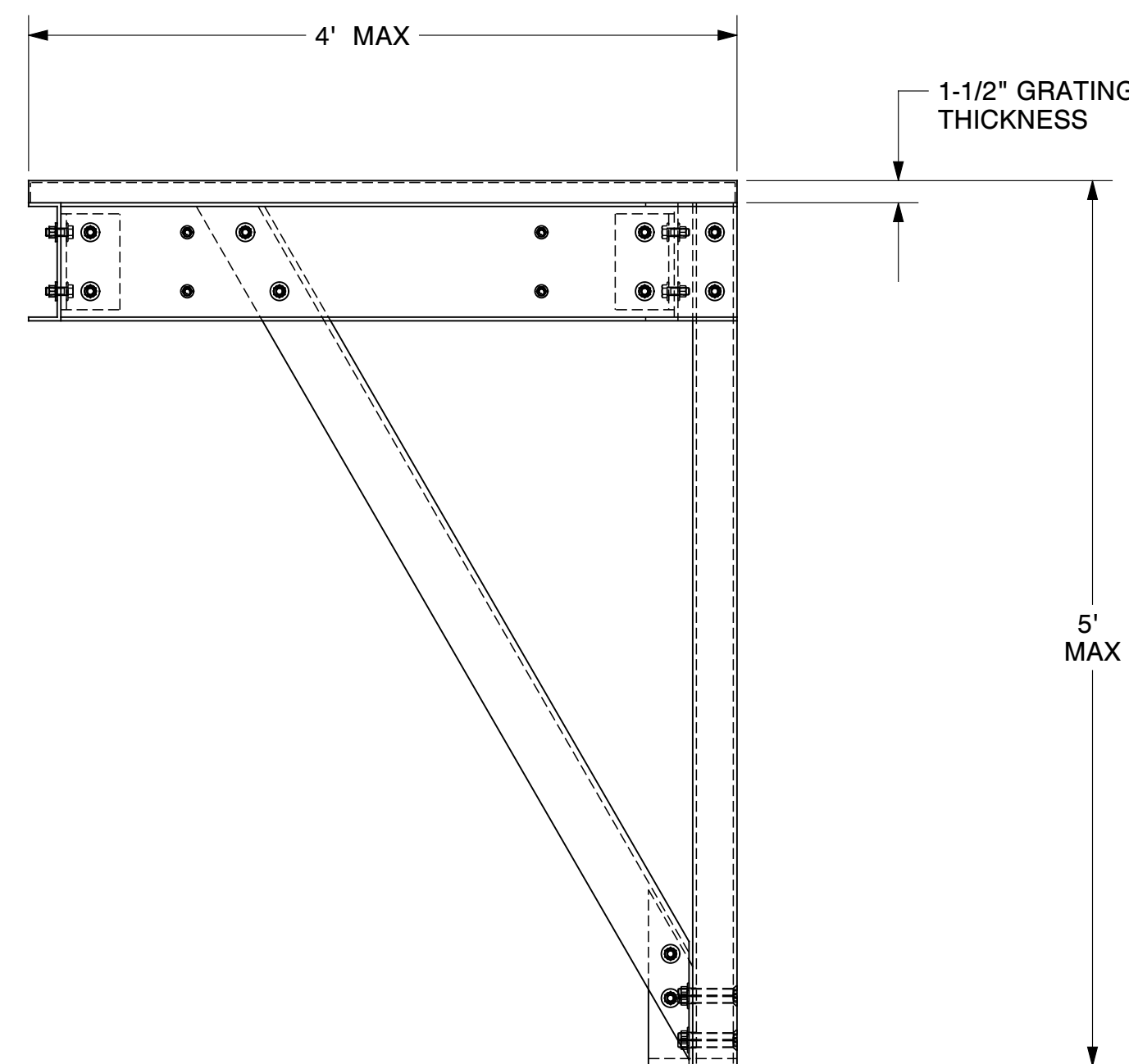
PLAN VIEW
GRATING NOT SHOWN



ISOMETRIC VIEW



FRONT ELEVATION



SIDE ELEVATION

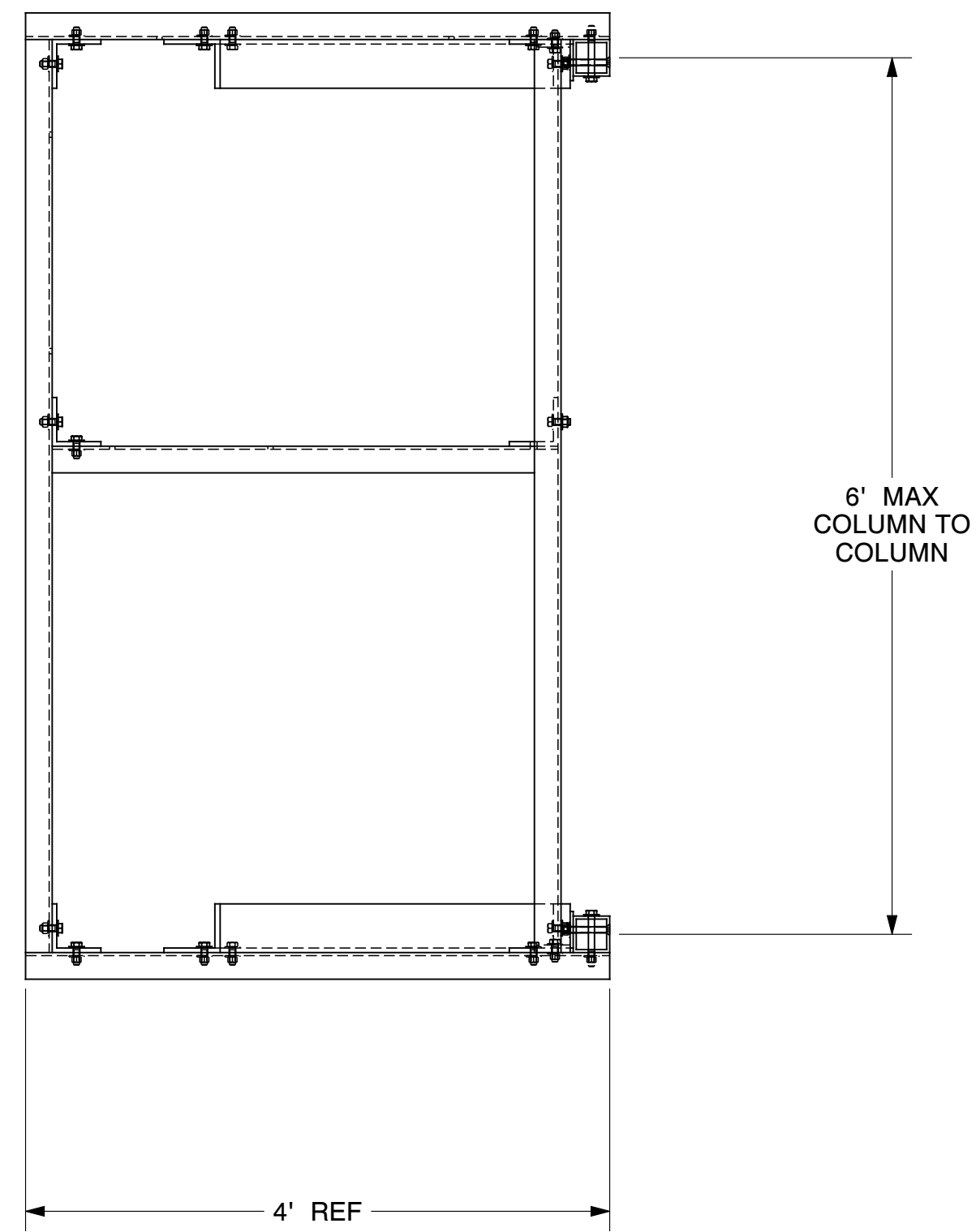
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Since 1974

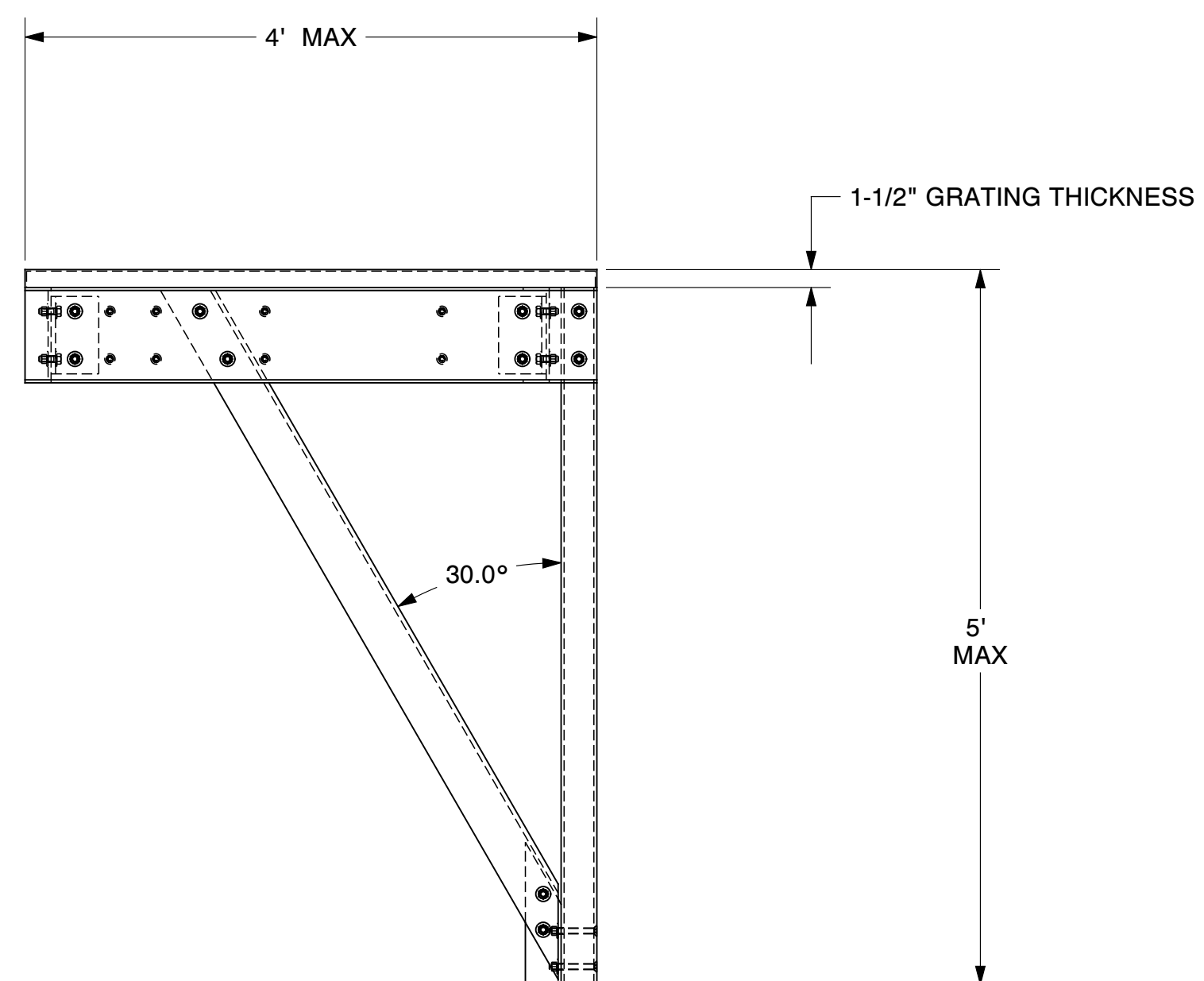
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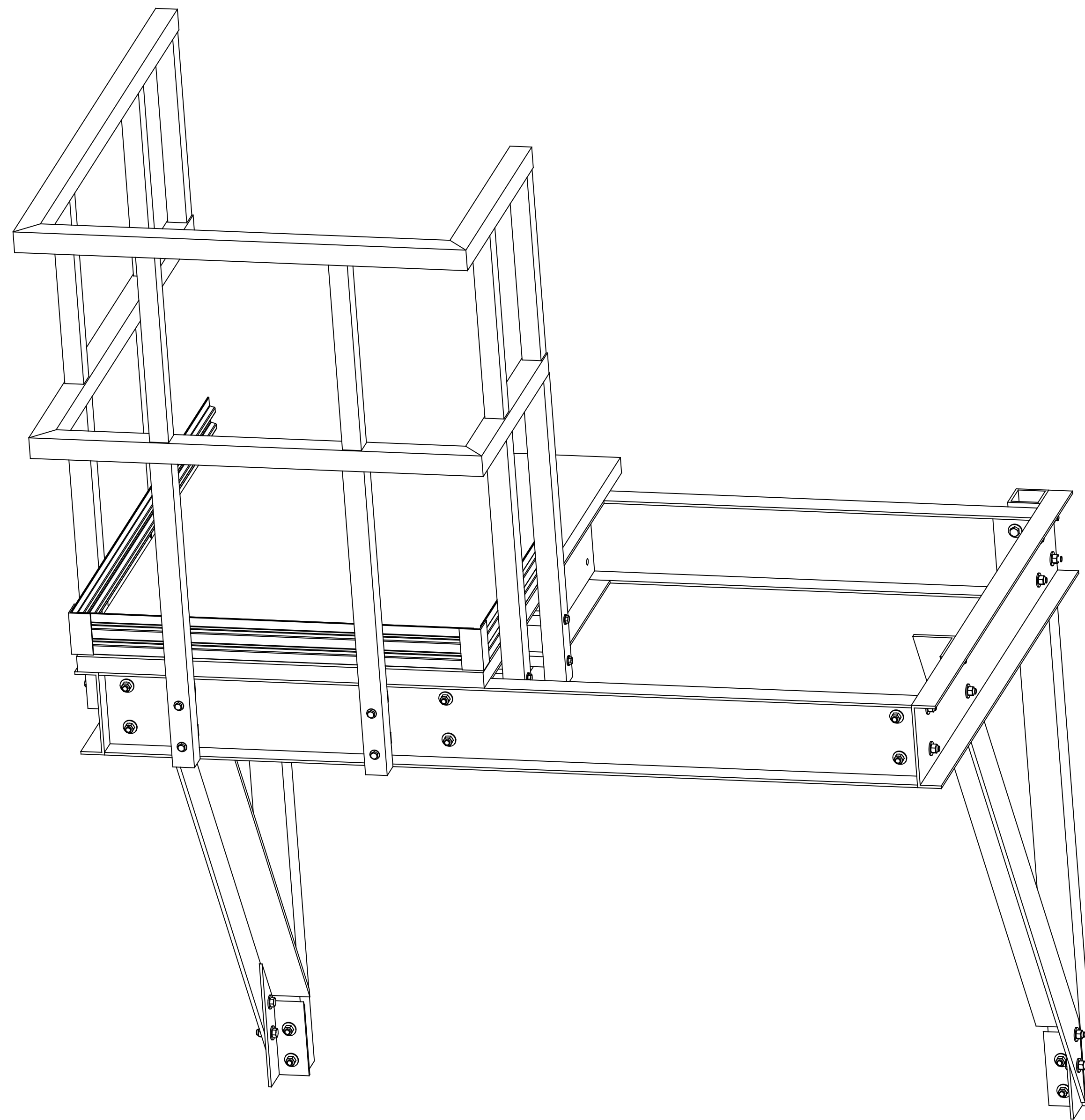
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.XXX: ± .010	DATE	10-27-14	DRAWING NO. PLATFORM-FRONT
ANG: ± 0.5°	REF.		SCALE 3/32" = 1" REV SHEET 1 OF 1



PLAN VIEW
GRATING NOT SHOWN



ELEVATION VIEW



ISOMETRIC VIEW

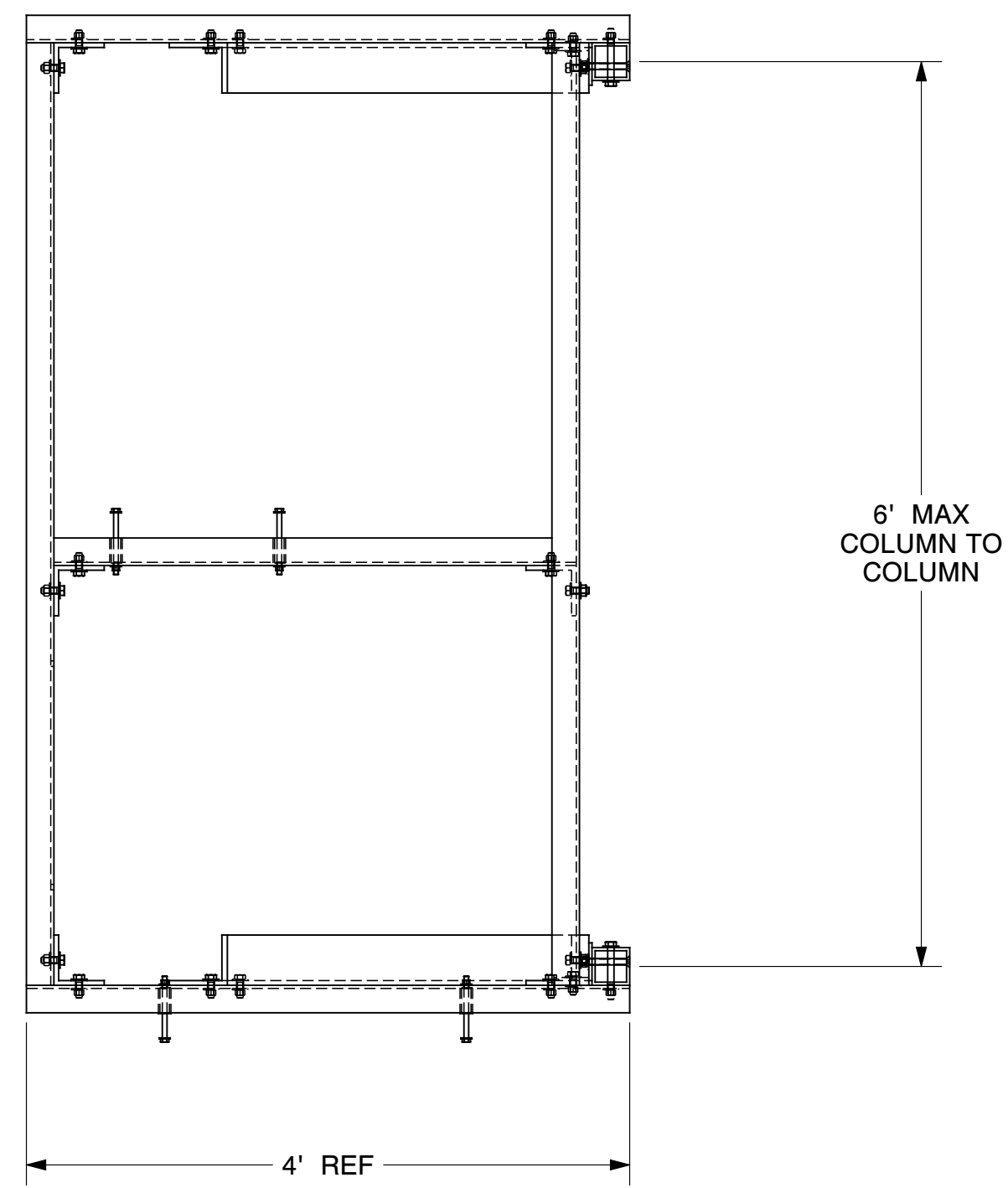
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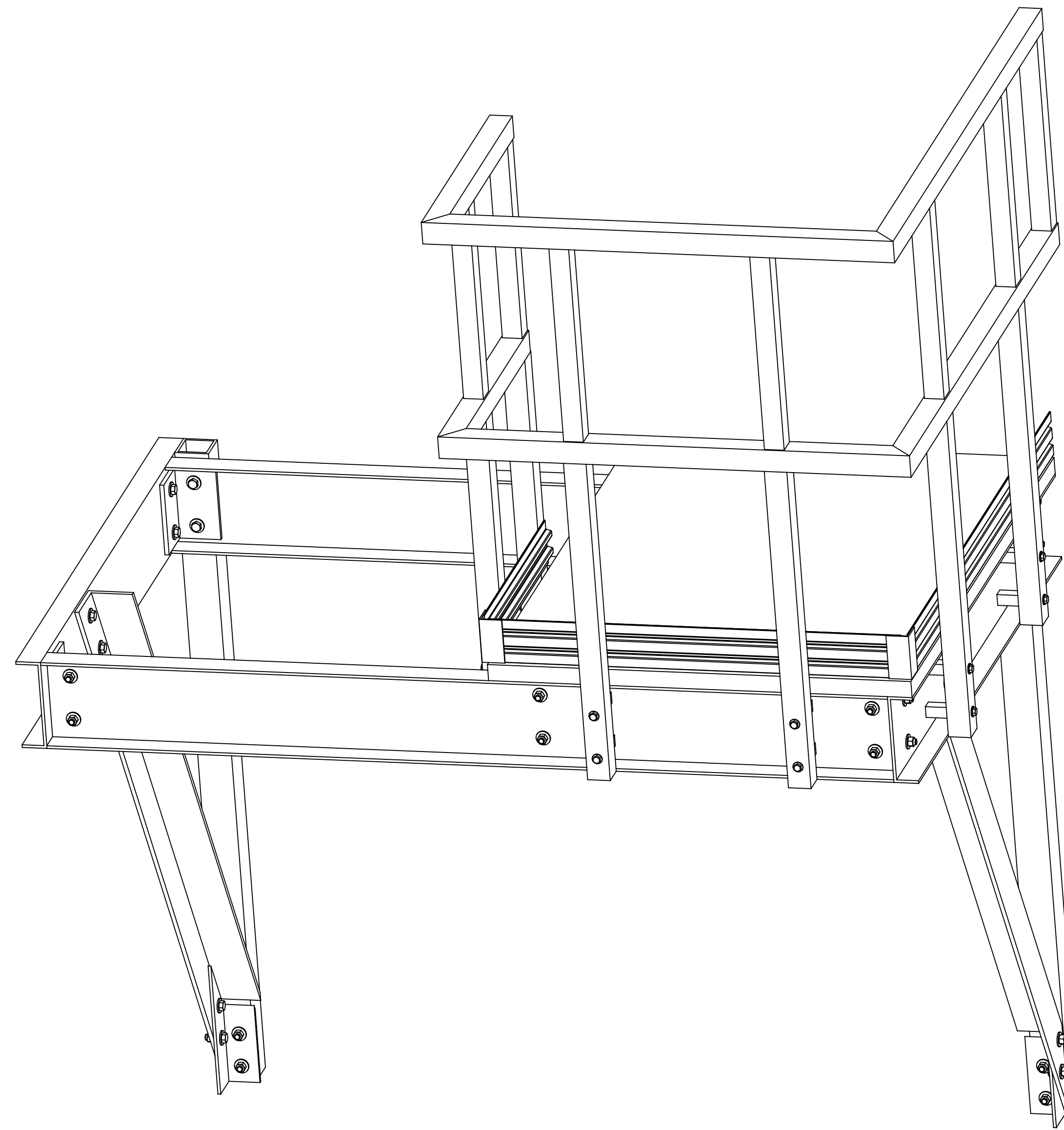
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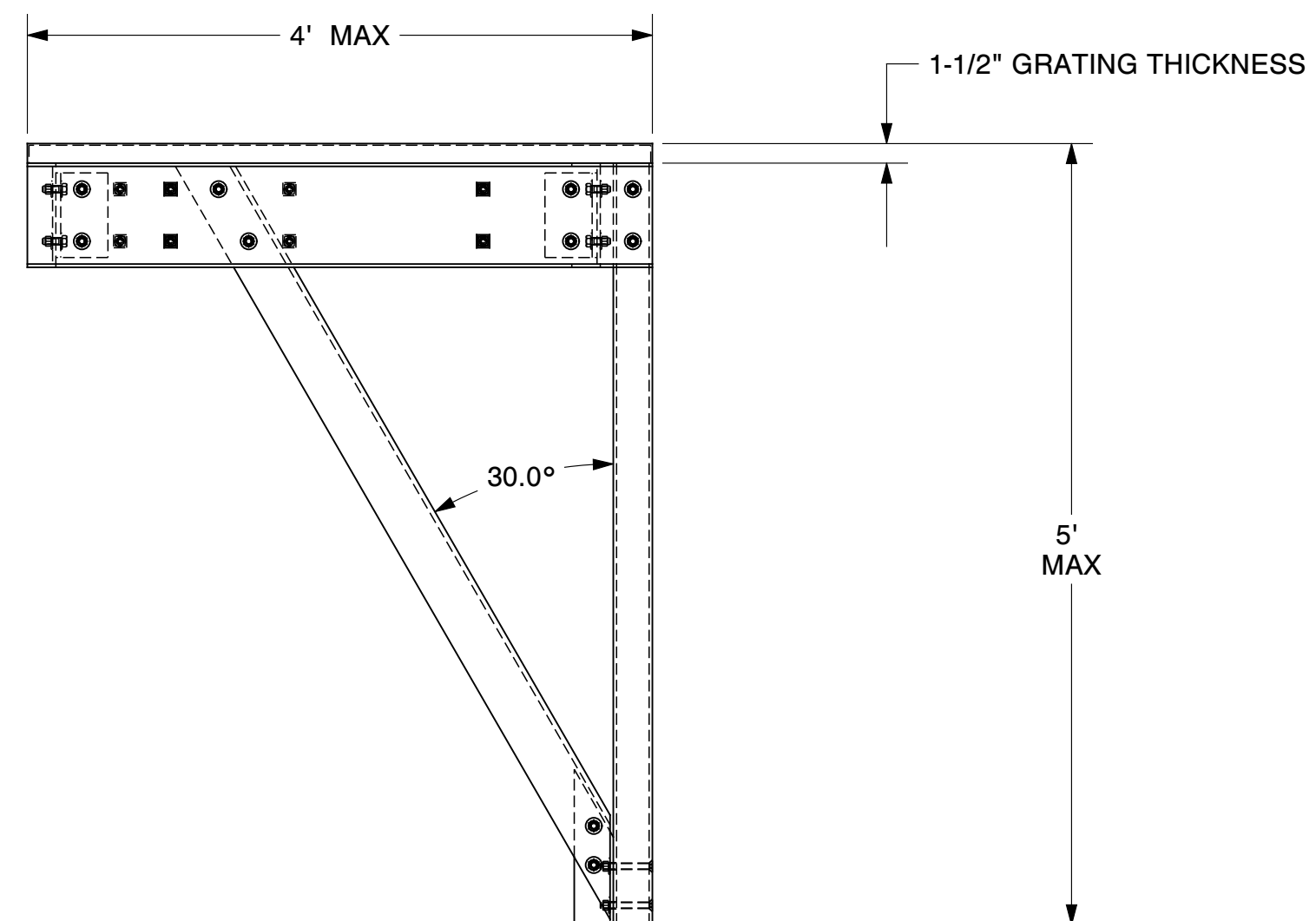
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ANG: ± 0.5°	DATE: 10-22-14	DRAWING NO. PLATFORM-THRU LEFT-EXIT
	SCALE: 5/64" = 1"	REV: 1
		SHEET 1 OF 1



PLAN VIEW
GRATING NOT SHOWN



ISOMETRIC VIEW



ELEVATION VIEW

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TOLERANCES	DRAWN	AEC	TITLE
X/Y: ± 1/16	CHECKED		RESTING PLATFORM
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.XXX: ± .010	DATE	10-22-14	PLATFORM-THRU_RIGHT-EXIT
ANG: ± 0.5°	REF.		SCALE
			5/64" = 1" 1 SHEET 1 OF 1

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