

APPENDIX

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Architectural Sheet Metal Manual – Sheet Metal and Air Conditioning Contractors National Association, (SMACNA), Seventh Edition, 2012

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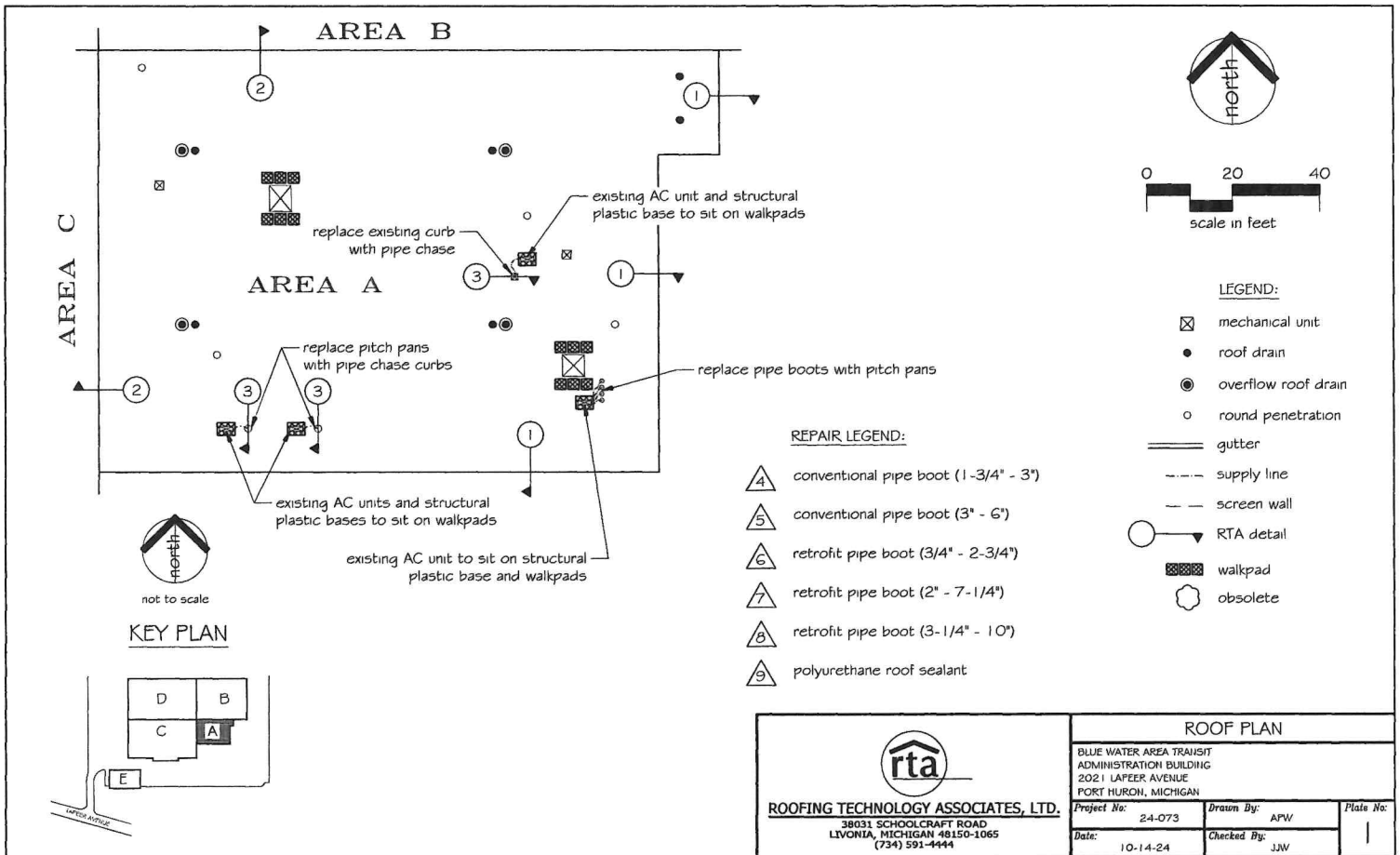
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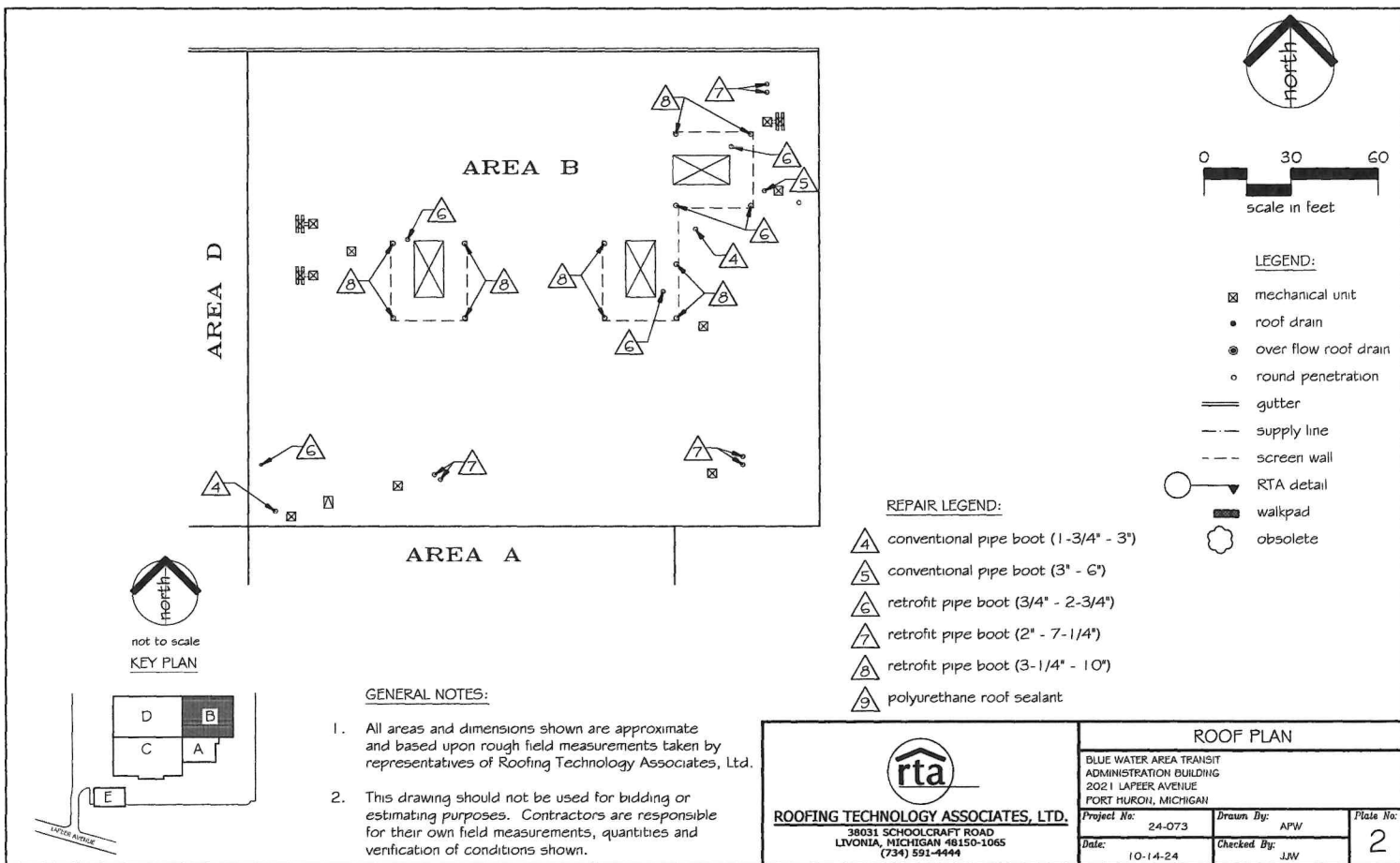
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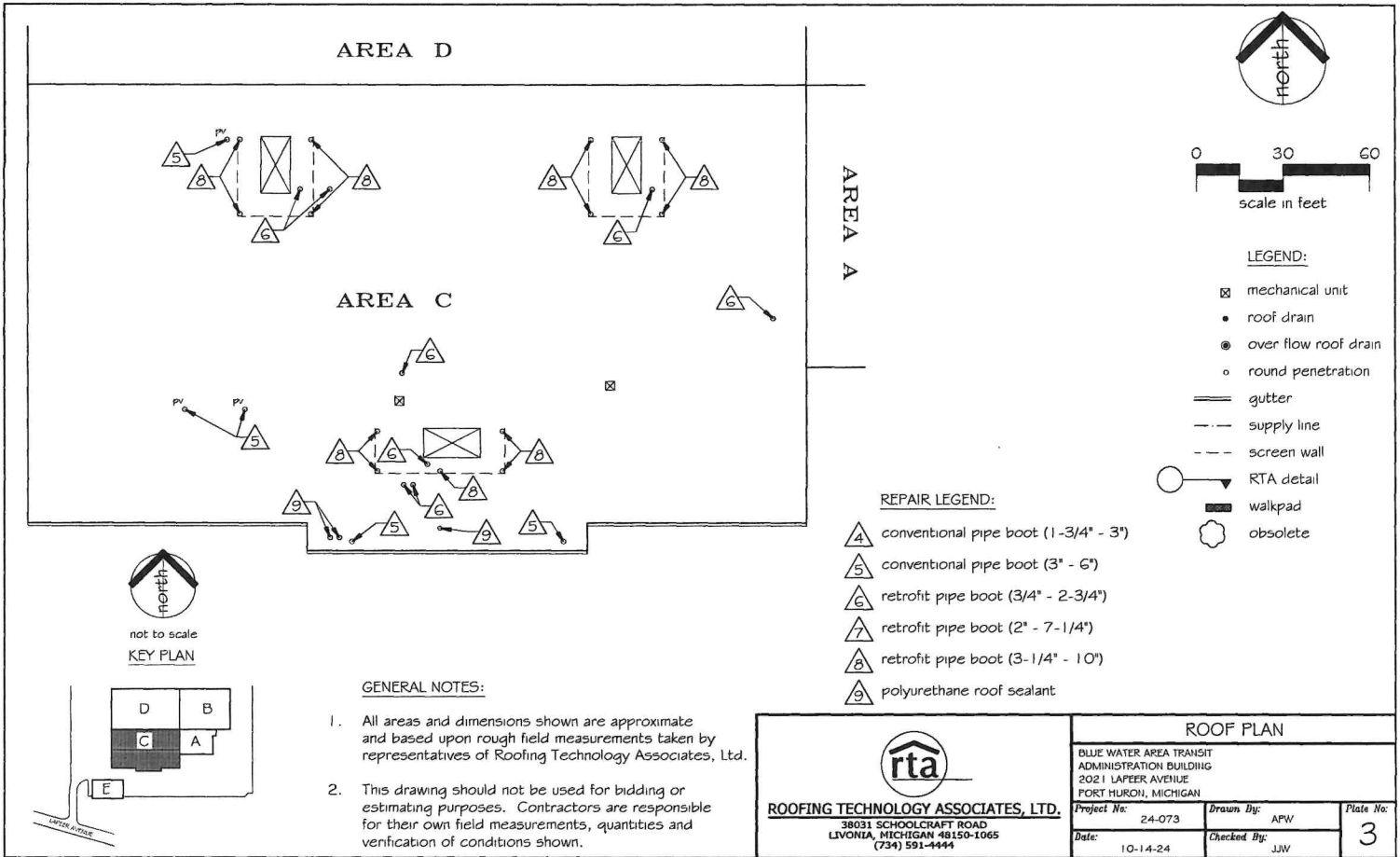
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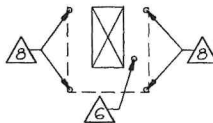
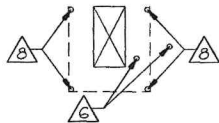
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AREA D

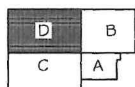


AREA B

AREA C



not to scale
KEY PLAN



GENERAL NOTES:

1. All areas and dimensions shown are approximate and based upon rough field measurements taken by representatives of Roofing Technology Associates, Ltd.
2. This drawing should not be used for bidding or estimating purposes. Contractors are responsible for their own field measurements, quantities and verification of conditions shown.



0 30 60
scale in feet

LEGEND:

- ☒ mechanical unit
- roof drain
- over flow roof drain
- round penetration
- ══ gutter
- supply line
- screen wall
- RTA detail
- walkpad
- obsolete

REPAIR LEGEND:

- △ 4 conventional pipe boot (1-3/4" - 3")
- △ 5 conventional pipe boot (3" - 6")
- △ 6 retrofit pipe boot (3/4" - 2-3/4")
- △ 7 retrofit pipe boot (2" - 7-1/4")
- △ 8 retrofit pipe boot (3-1/4" - 10")
- △ 9 polyurethane roof sealant



ROOFING TECHNOLOGY ASSOCIATES, LTD.
38031 SCHOOLCRAFT ROAD
LIVONIA, MICHIGAN 48150-1065
(734) 591-4444

ROOF PLAN

BLUE WATER AREA TRANSIT
ADMINISTRATION BUILDING
2021 LAPEER AVENUE
PORT HURON, MICHIGAN

Project No: 24-073

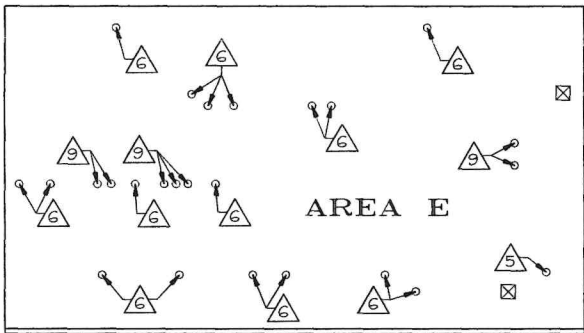
Drawn By: APW

Plate No:

Date: 10-14-24

Checked By: JJW

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0 20 40
scale in feet

LEGEND:

- ☒ mechanical unit
- roof drain
- ⊙ overflow roof drain
- round penetration
- ==== gutter
- supply line
- - - screen wall
- RTA detail
- ▨ walkpad
- ⬢ obsolete

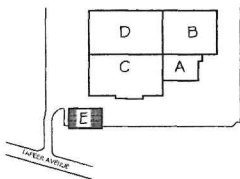
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- △5 conventional pipe boot (3" - 6")
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not to scale

KEY PLAN



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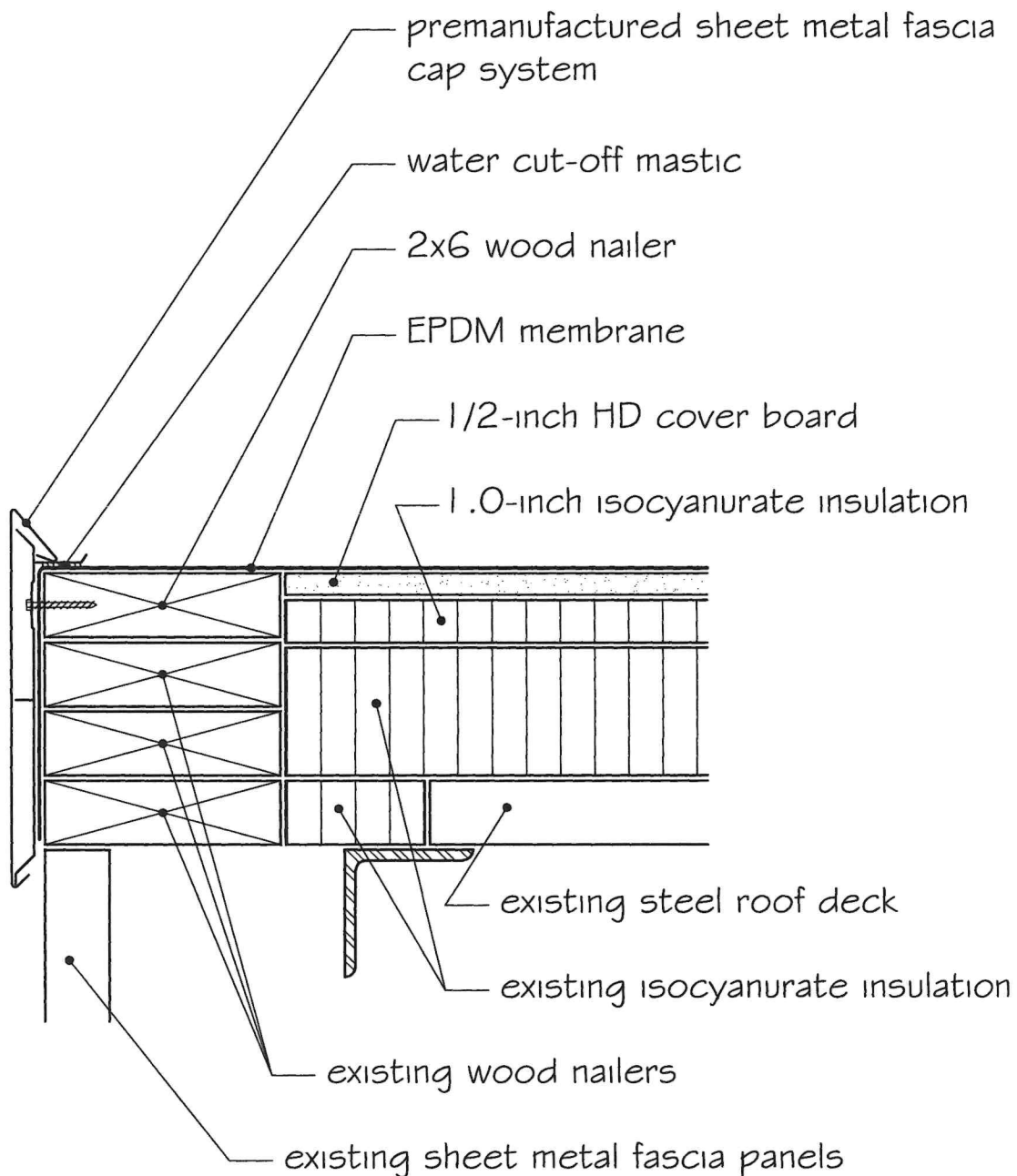


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BLUE WATER AREA TRANSIT
ADMINISTRATION BUILDING
2021 LAPEER AVENUE
PORT HURON, MICHIGAN

Project No:	24-073	Drawn By:	APW	Plate No:
Date:	10-14-24	Checked By:	JJW	5



PERIMETER EDGE
not to scale

NOTE: components shown are new unless noted as existing



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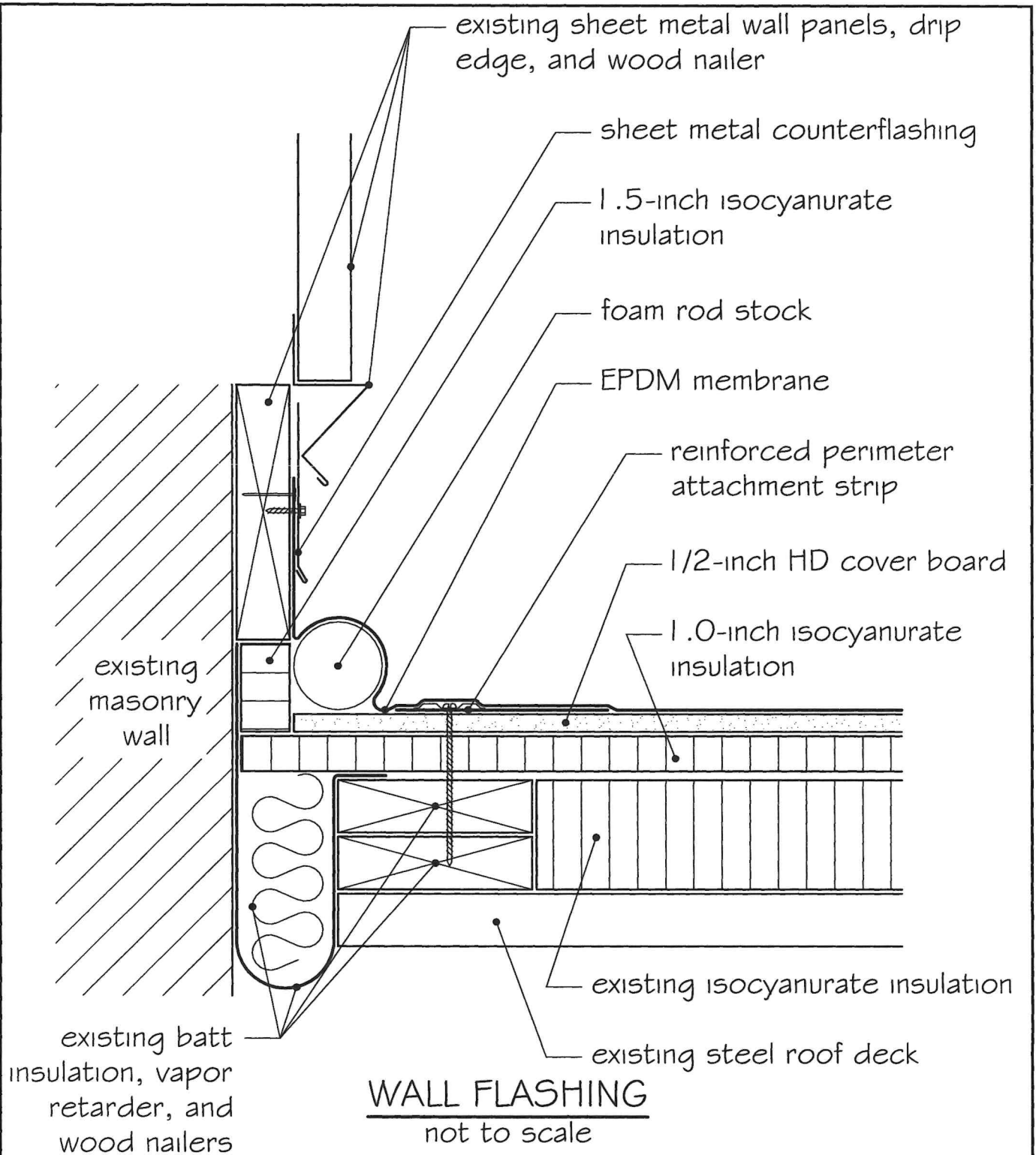
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1



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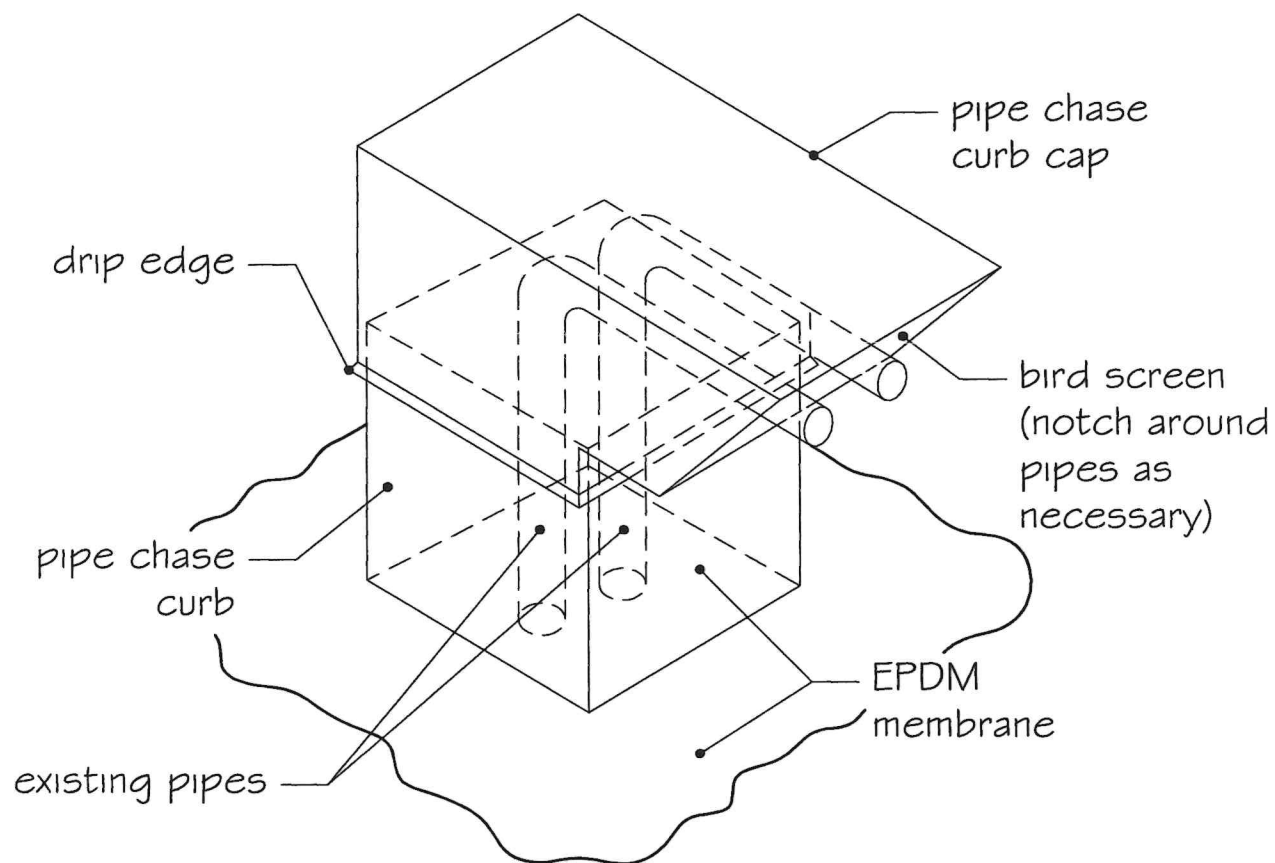
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2



PIPE CHASE CURB not to scale

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3

COUNTER FLASHING SYSTEMS — INSTALLATION

Figure 4-5A shows counter flashing installed using a metal reglet which is furnished by the sheet metal contractor for installation by others. The reglet is attached to the forms before the concrete is poured. Reglet corners should be mitered.

The counter flashing is held in place by wedges and the reglet filled with a sealant.

The counter flashing is notched and lapped at inside corners and joints. Outside corners are notched and seamed.

The Alternate Detail shows another method of installing counter flashing. The counter flashing is snapped in place and the reglet filled with a compatible sealant.

Reglets installed in concrete forms usually need to be fastened 12 in. (305 mm) OC to avoid being dislodged

by vibration of concrete mix. Figure 4-5B shows a complete counter flashing system for use with poured concrete walls. The flashing receiver is furnished by the sheet metal contractor for installation by others. This receiver is attached to the forms before the concrete is poured. The down leg of the receiver is butted at corners. After the roofing and composition flashing are in place, the counter flashing is riveted to the receiver. The counter flashing is lapped at all joints and is lapped and sealed at corners.

Figure 4-5C shows a counter flashing method that can be used for exterior wall coverings of several types, both metallic and non-metallic.

The recommended minimum gage for counter flashing shown in this figure is 16 oz. (0.55 mm) copper, 26 ga (0.477 mm) stainless steel, or 26 ga (0.5512 mm) galvanized steel.

FIGURE 4-5

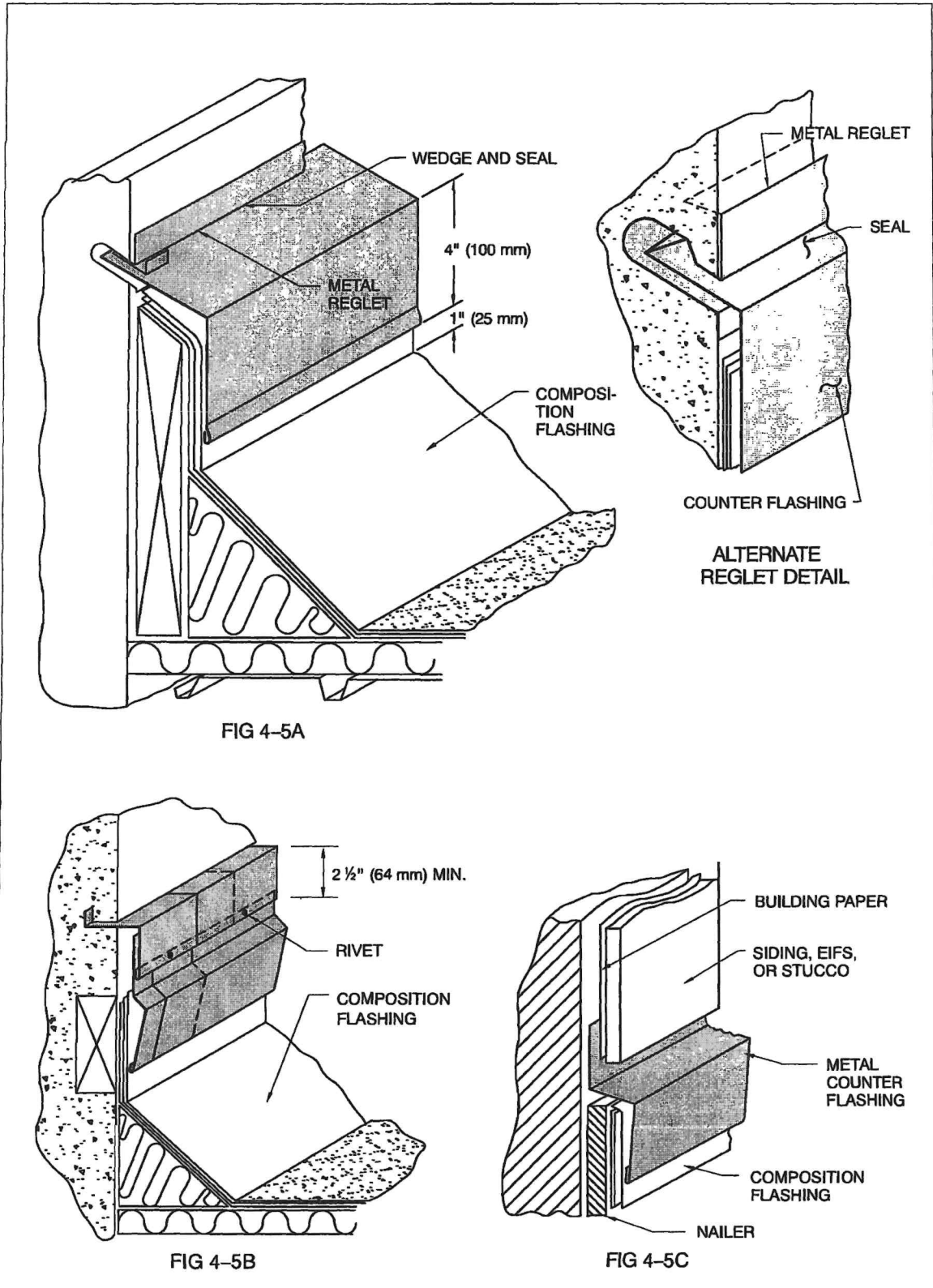


FIGURE 4-5 COUNTER FLASHING SYSTEMS — INSTALLATION

ROOF PENETRATION FLASHING — PIPES

Figure 8-9A illustrates a method for flashing a roof opening without a curb. This method is recommended only if the pipes are turned horizontally within 24 in. (610 mm) of the roof and the opening is not greater than 18 × 18 in. (460 × 460 mm).

The flashing is made in pieces with base portion being flanged 4 in. (100 mm) onto the roof. The flange is fastened through the roofing felts and is then stripped in by the roofer. The top section is a formed metal hood over the metal pipe. The pipes should be sloped away from the penetration.

The recommended minimum gage for flashing in Fig-

FIGURE 8-9

ure 8-9A is 16 oz. (0.55 mm) copper, 26 ga (0.477 mm) stainless steel, or 24 ga (0.607 mm) galvanized steel.

Figure 8-9B illustrates two methods of flashing a vent pipe. The flange extends 4 in. (100 mm) on the roof and is stripped in by the roofer. Turn the top of the flashing down inside the vent pipe. The flashing may be of a one-piece or a two-piece style. When a vent pipe extends above the roof so far that it is impractical to completely cover it with flashing (Figure 8-9B), it is recommended that it be flashed as shown in Figure 8-9C, minimum 2 in. (50 mm). The minimum height of the base flashing in Figures 8-9B and 8-9C is 8 in. (205 mm) above the roof's surface.

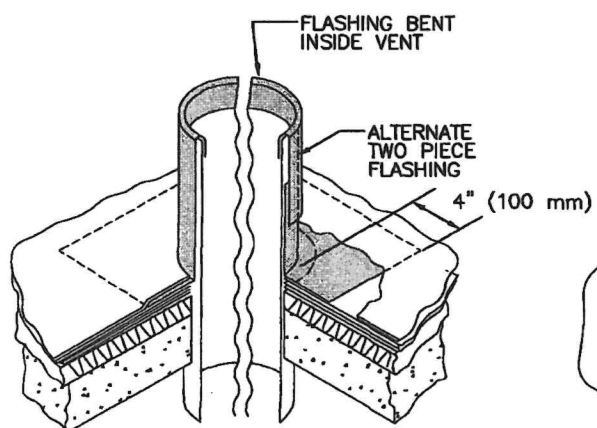
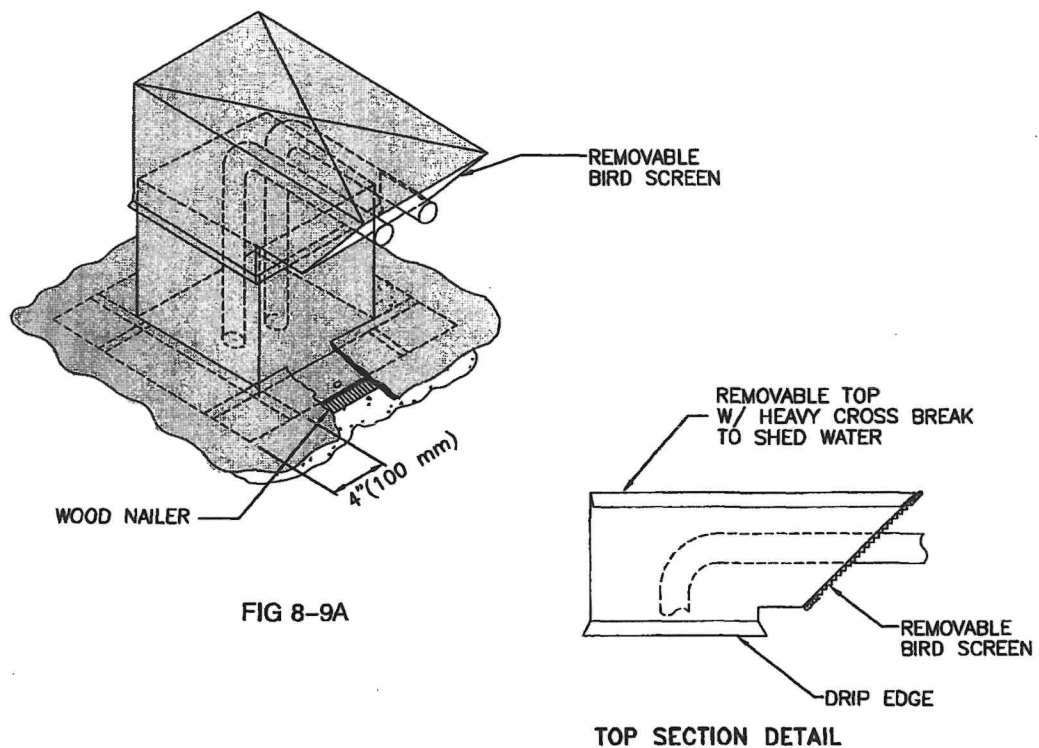


FIG 8-9B

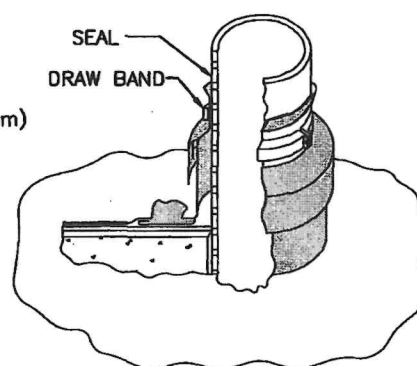


FIG 8-9C

FIGURE 8-9 ROOF PENETRATION FLASHING — PIPES

EQUIPMENT SUPPORT FLASHING

Figure 8-11A shows a method for flashing pipe stanchions. Attach a watertight counter flashing (umbrella) over a stripped-in metal base (roof jack) flashing on a concrete deck. The roof jack top should be 8 in. (203 mm) above the roof. The umbrella should lap the jack 4 in. (100 mm) and have ¼ in. (6.4 mm) minimum clearance.

Figure 8-11B illustrates a method for flashing equipment supports. Install composition base flashing over a cant and up 4 in. (100 mm) on the side of the support. Fabricate metal flashing to cap the support and extend 4 in. (100 mm) over the base flashing. Seam and solder all corners. This flashing may be used to cover columns that have been stubbed through the roof.

The bottom elevation of support structures and equipment supported should be selected by the designer with regard to access to the roof surface for maintenance and repair. Table 8-1 is a guide.

The designer should consider ease of access to the roof's surface for maintenance and repair when selecting the height of the equipment support structures. Consult Table 8-1.

Figure 8-11C illustrates the use of a pitch pan to flash a small penetration through the roofing where it is impossible to use other types of flashings.

FIGURE 8-11

Extend the flange onto the roof 4 in. (100 mm) and fasten it over the roofing felts. The flange is stripped in by the roofer. The sides should extend up from the roof a minimum of 4 in. (100 mm). All joints should be seamed and sealed.

A pitch pan should be 2 in. (50 mm) greater in length and width than the support it is flashing. It is filled by the roofer. A bonnet flashing should be used to cover a pitch pan. It is easier to fit this to a pipe stanchion than to other shapes of support.

Precaution: Pitch pans are not inherently maintenance free. Building managers should set up a program of routine inspection and maintenance.

Manufactured rubber boots that effectively seal against supports and shield the roof jacks are acceptable as umbrellas. Such products must resist ozone and ultraviolet rays and have a suitable service temperature.

The gage of metal used will depend on the size of the flashing. The recommended minimum gage is 16 oz. (0.55 mm) copper, 26 ga (0.477 mm) stainless steel, or 24 ga (0.607 mm) galvanized steel.

Width of Equipment		Height of Legs	
inches	mm	inches	mm
Up to 24	Up to 610	14	360
25 to 36	635 to 910	18	460
37 to 48	930 to 1220	24	610
49 to 60	1240 to 1520	30	760
60 and wider	1520 and wider	48	1220

Table 8-1 Rooftop Equipment Elevation

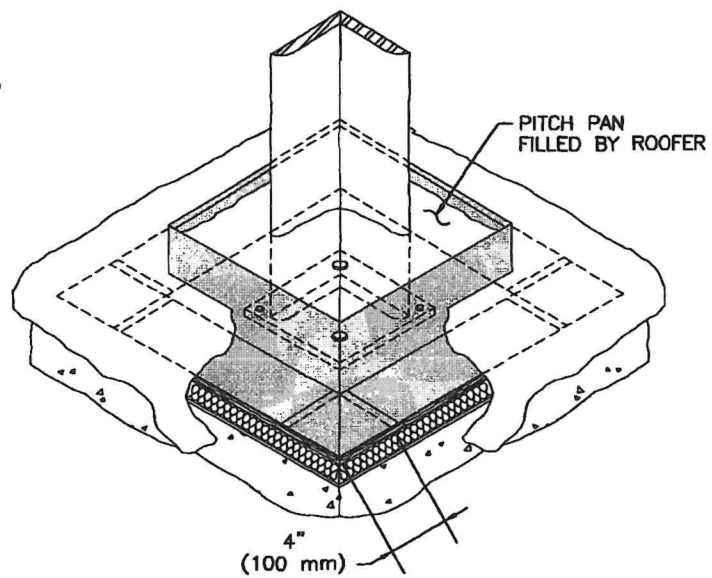
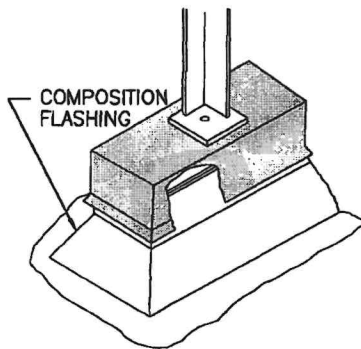
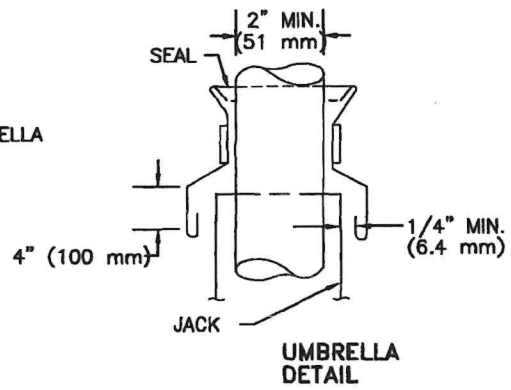
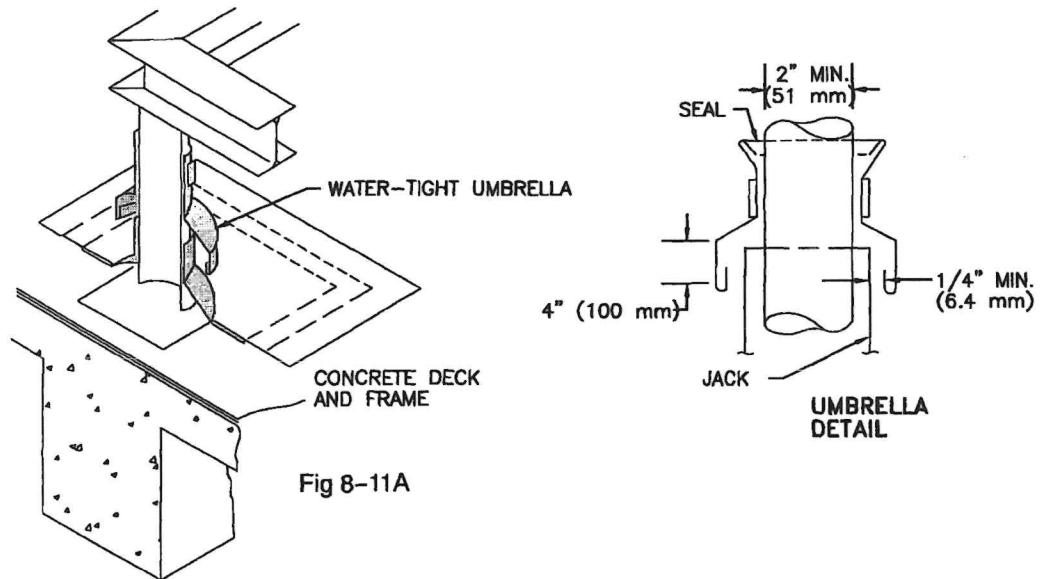


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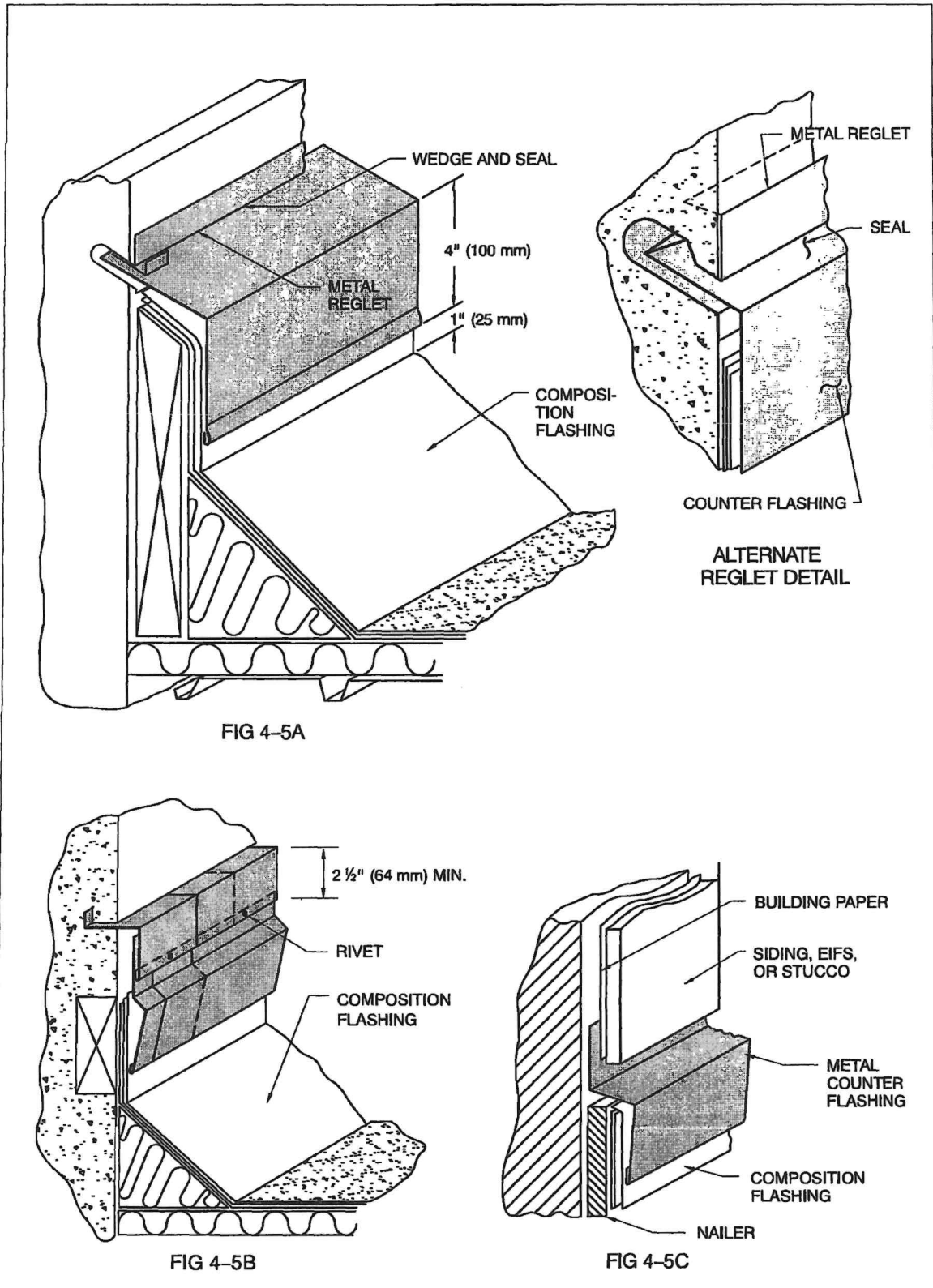


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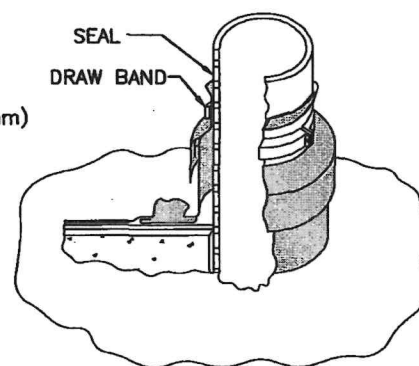
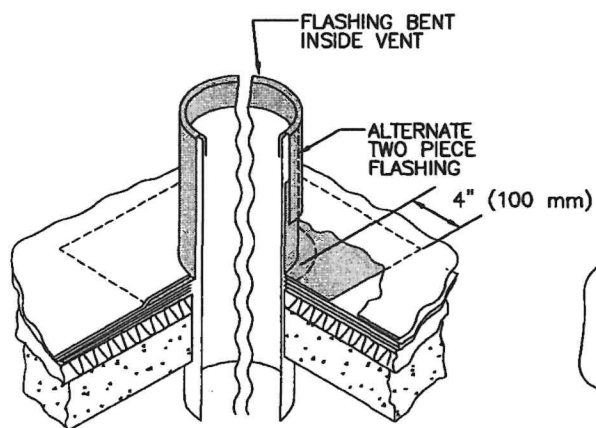
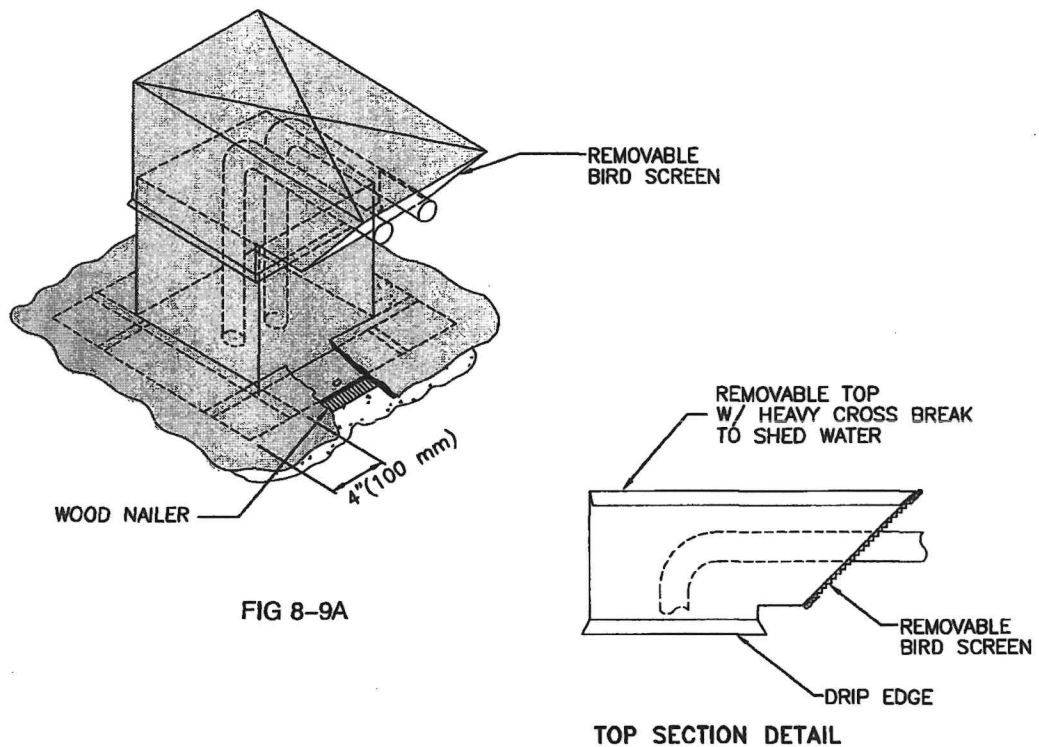


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FIGURE 8–11

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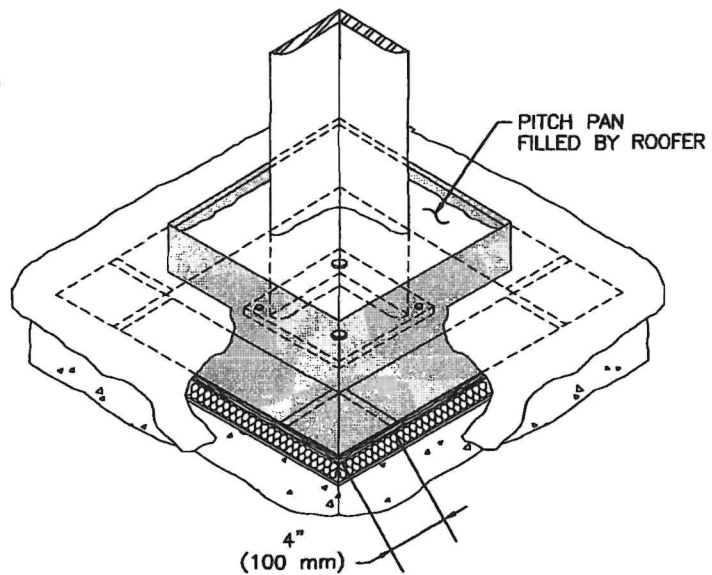
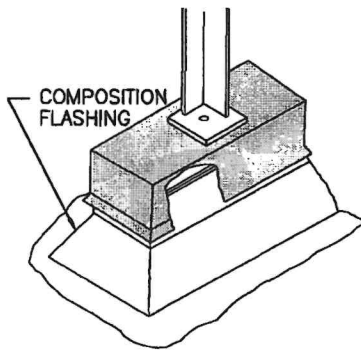
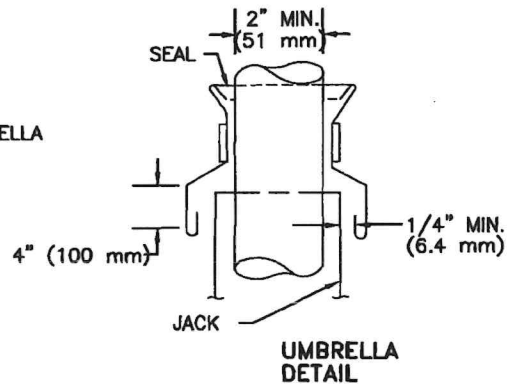
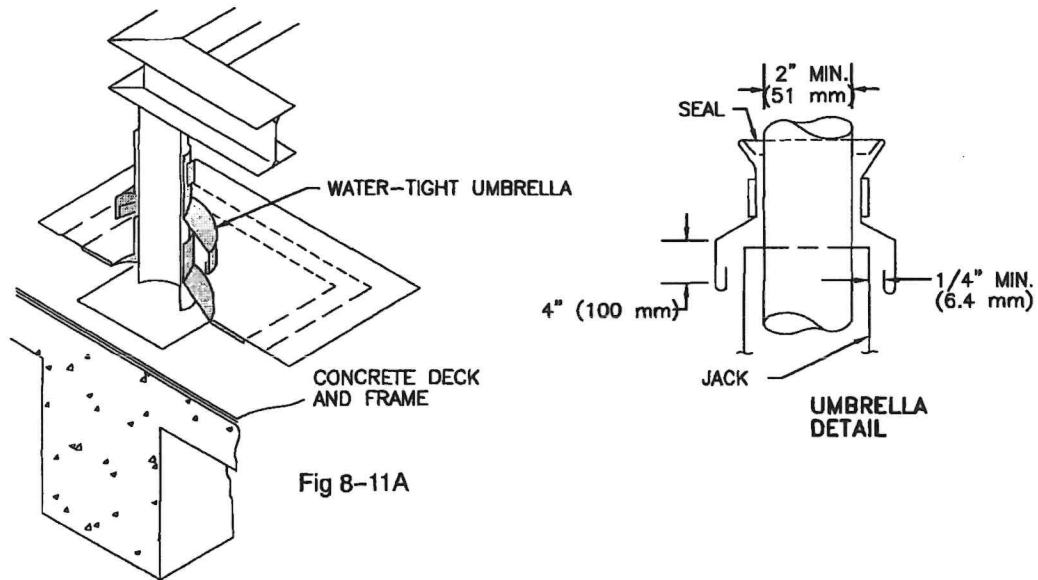


FIGURE 8-11 EQUIPMENT SUPPORT FLASHING