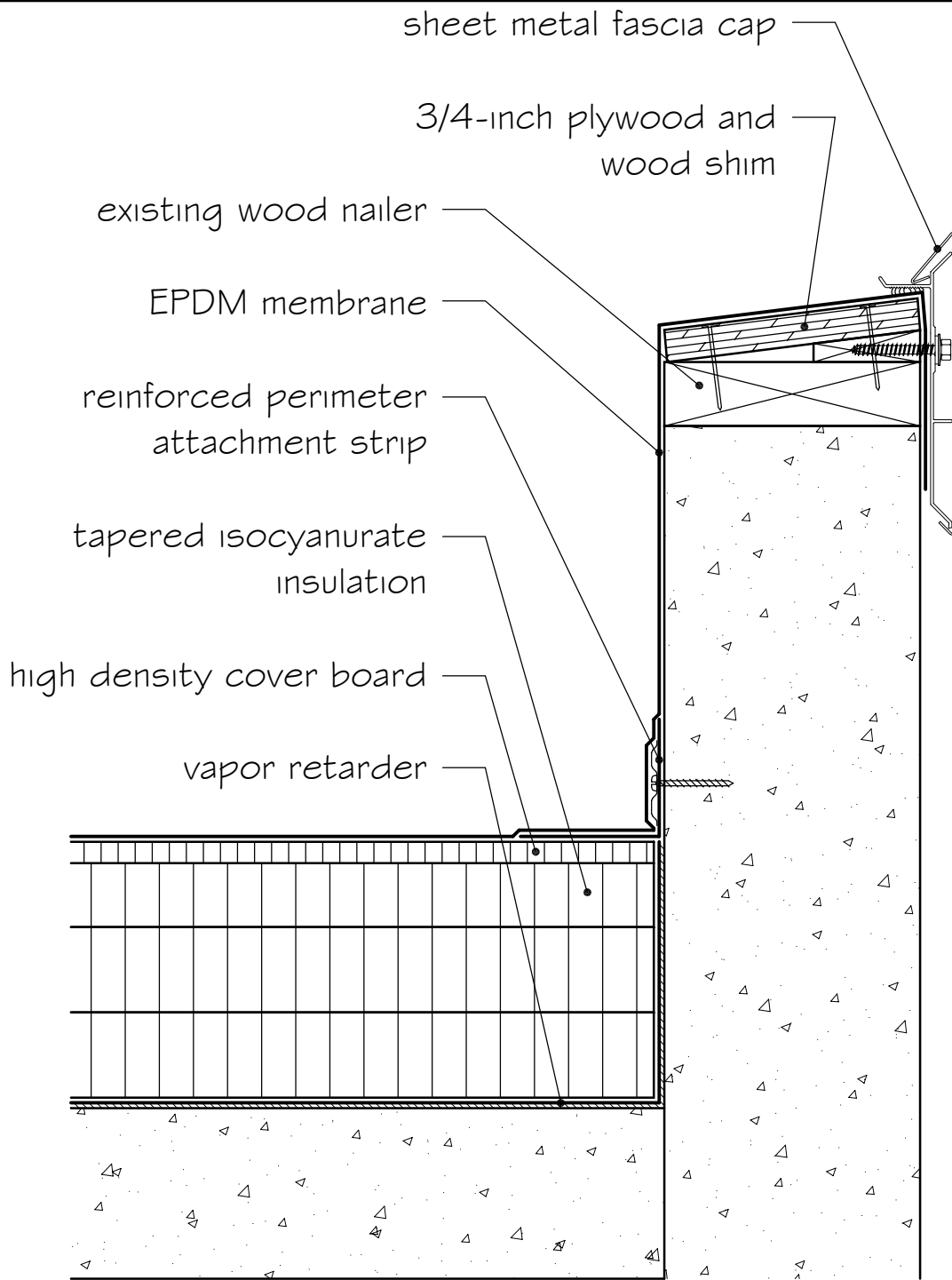


APPENDIX

Roof Plan – 24X36 sheet size..... Plate 1
Parapet..... Detail 1
Wall Flashing..... Detail 2
Wall Flashing..... Detail 3
Roof Drain Detail 4
Parapet..... Detail 5
Wall Flashing..... Detail 6
Roof Curb Flashing Detail 7

Architectural Sheet Metal Manual – Sheet Metal and Air Conditioning Contractors National Association, Inc., Seventh Edition, 2012.

Counterflashing Systems - Installation Figure 4-4
Counterflashing Systems - Installation Figure 4-6
Equipment Support Flashing..... Figure 8-11A



PARAPET
not to scale

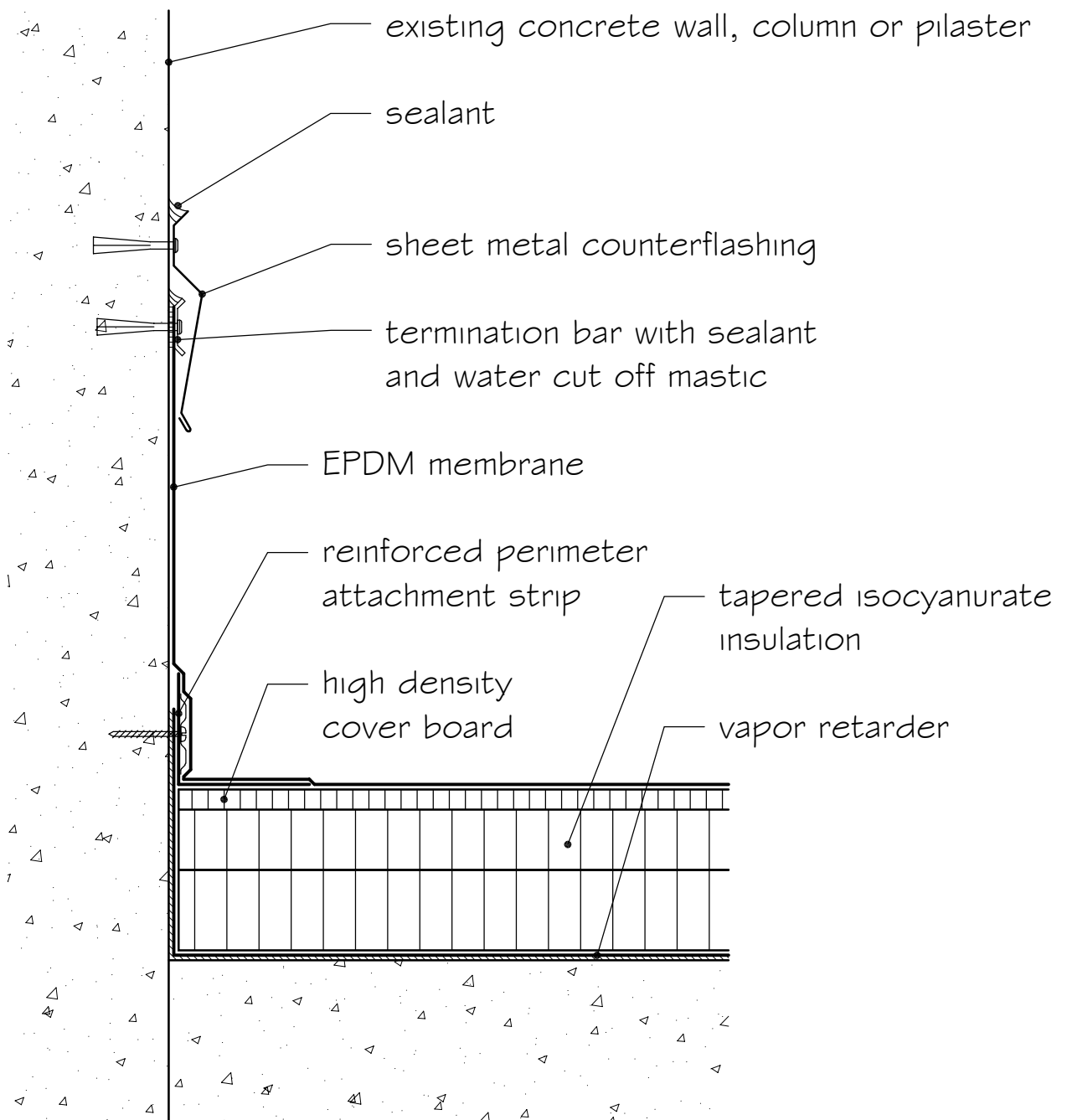
NOTE: components shown are new unless noted as existing



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<i>Date:</i>	9-21-21	<i>Checked By:</i>	RDK	



WALL FLASHING
not to scale

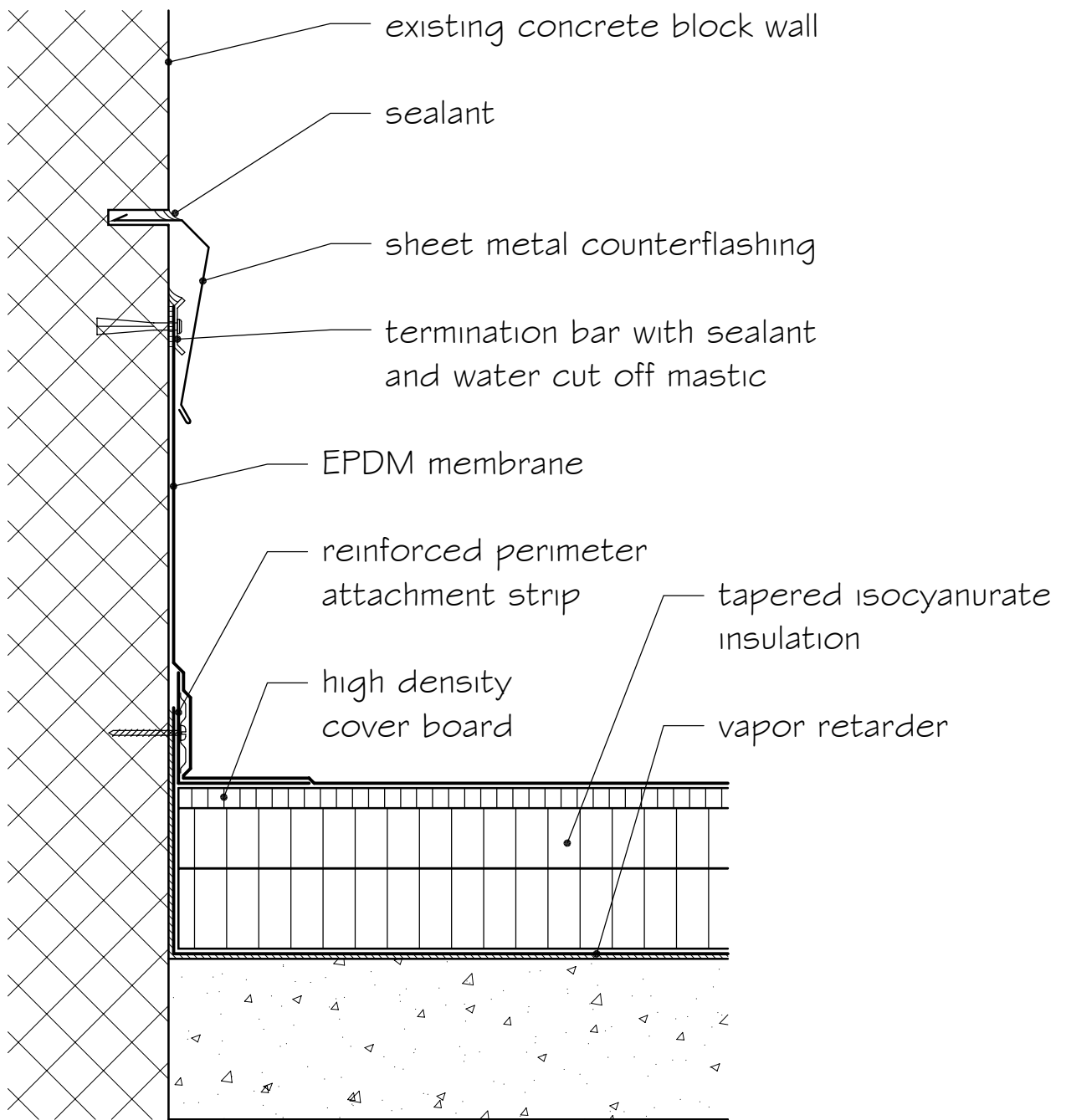
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WALL FLASHING
not to scale

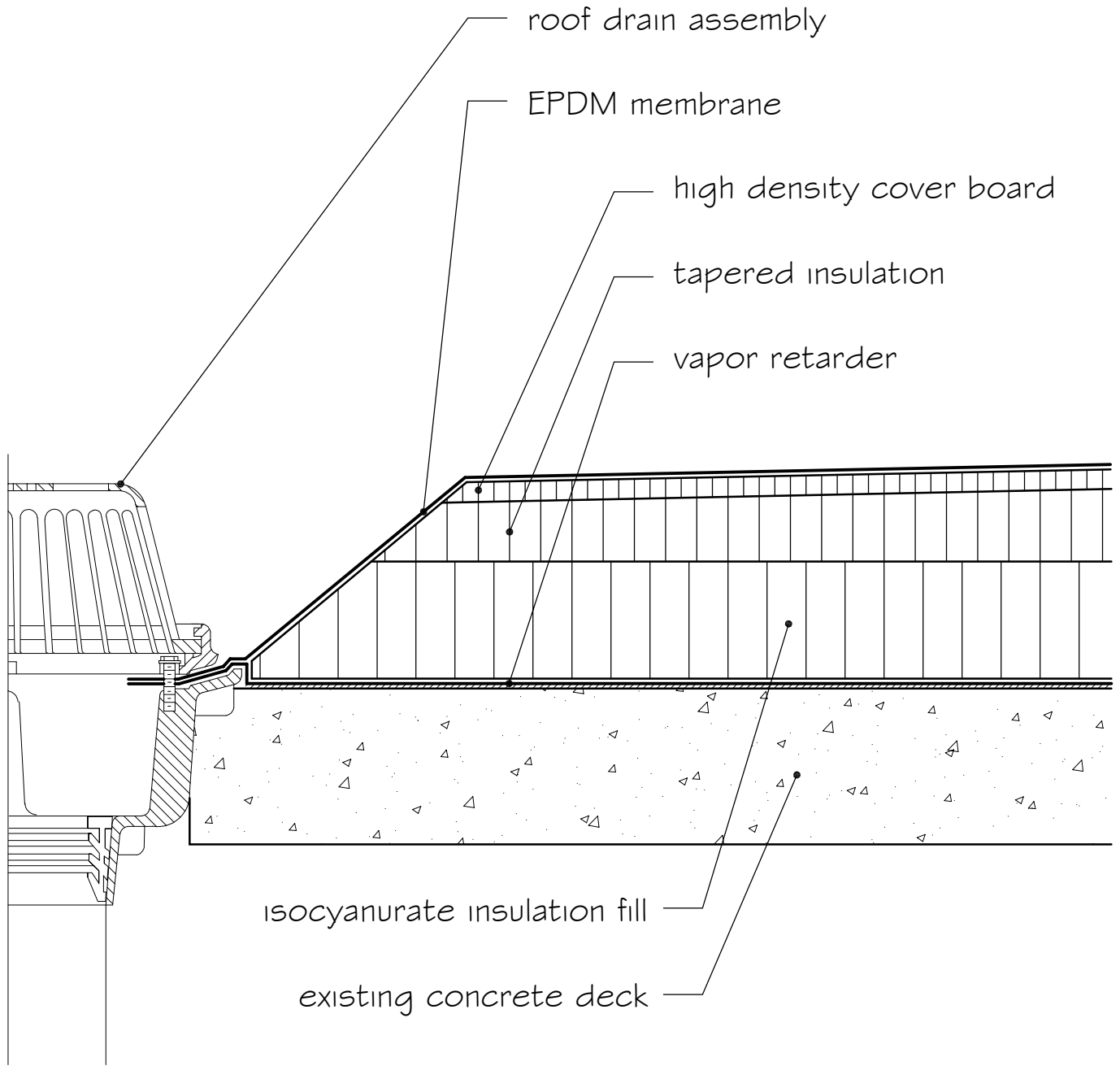
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ROOF DRAIN
not to scale

NOTE: components shown are new unless noted as existing

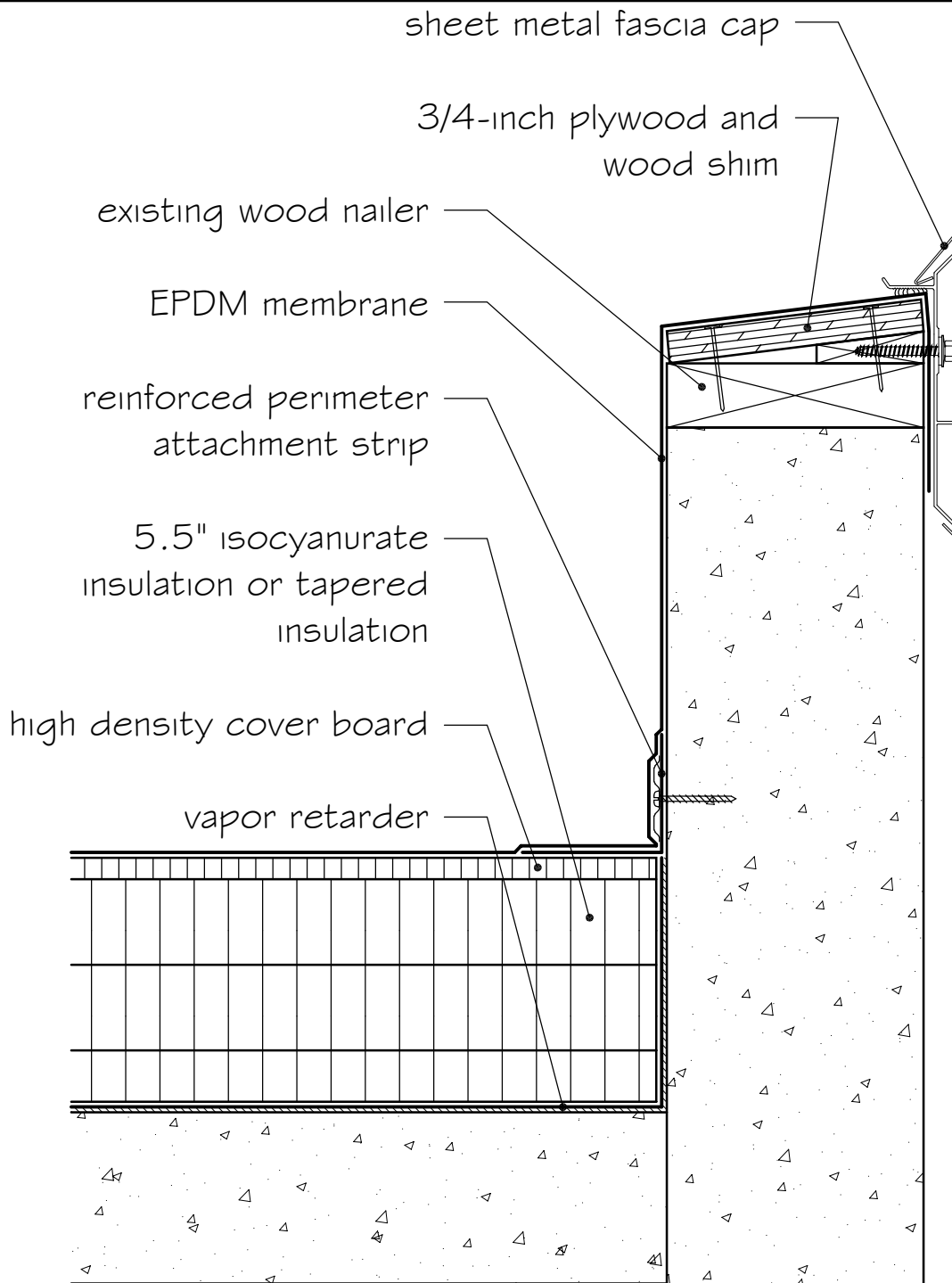


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<i>Date:</i> 9-21-21	<i>Checked By:</i> RDK	



PARAPET
not to scale

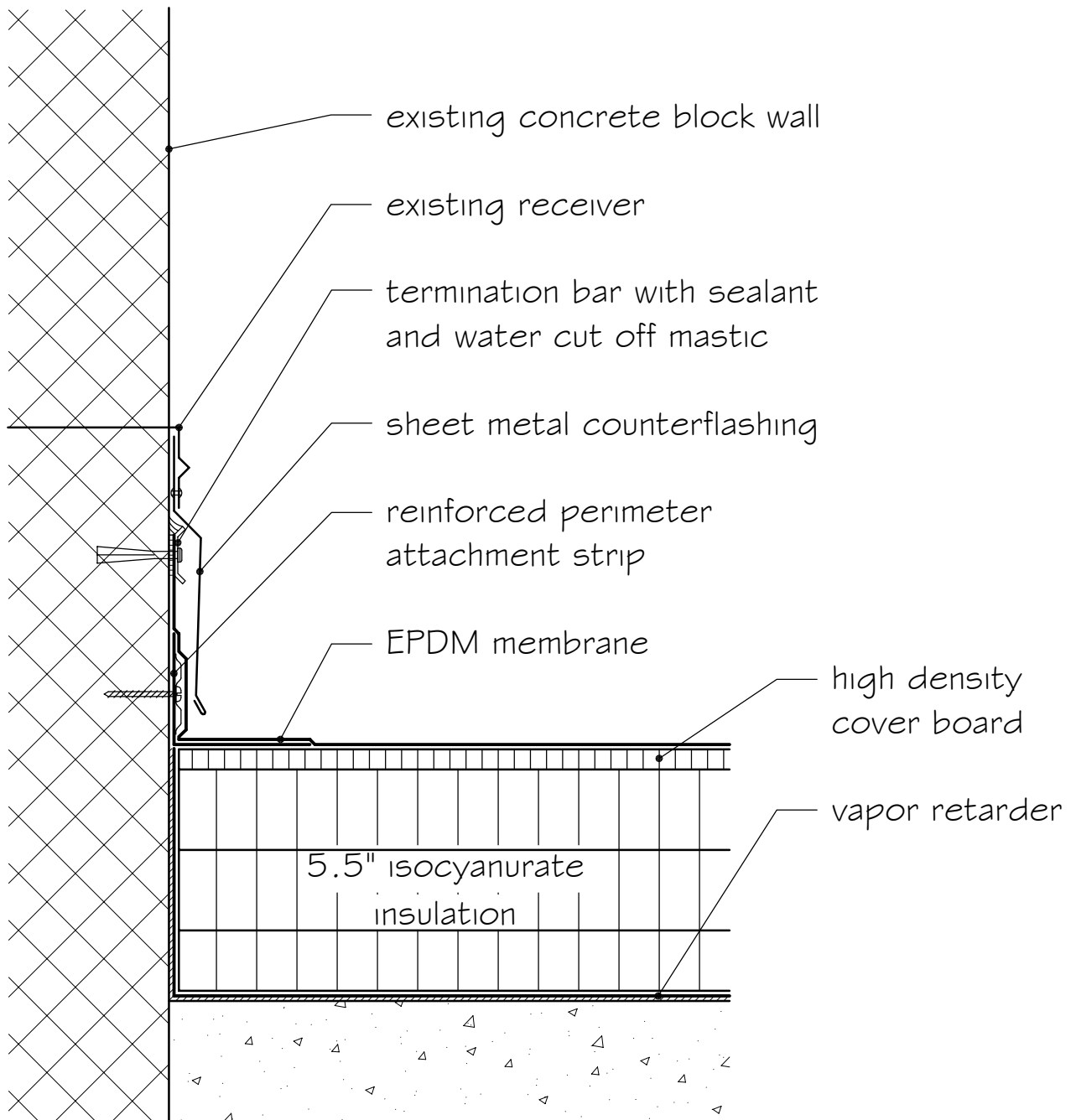
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WALL FLASHING
not to scale

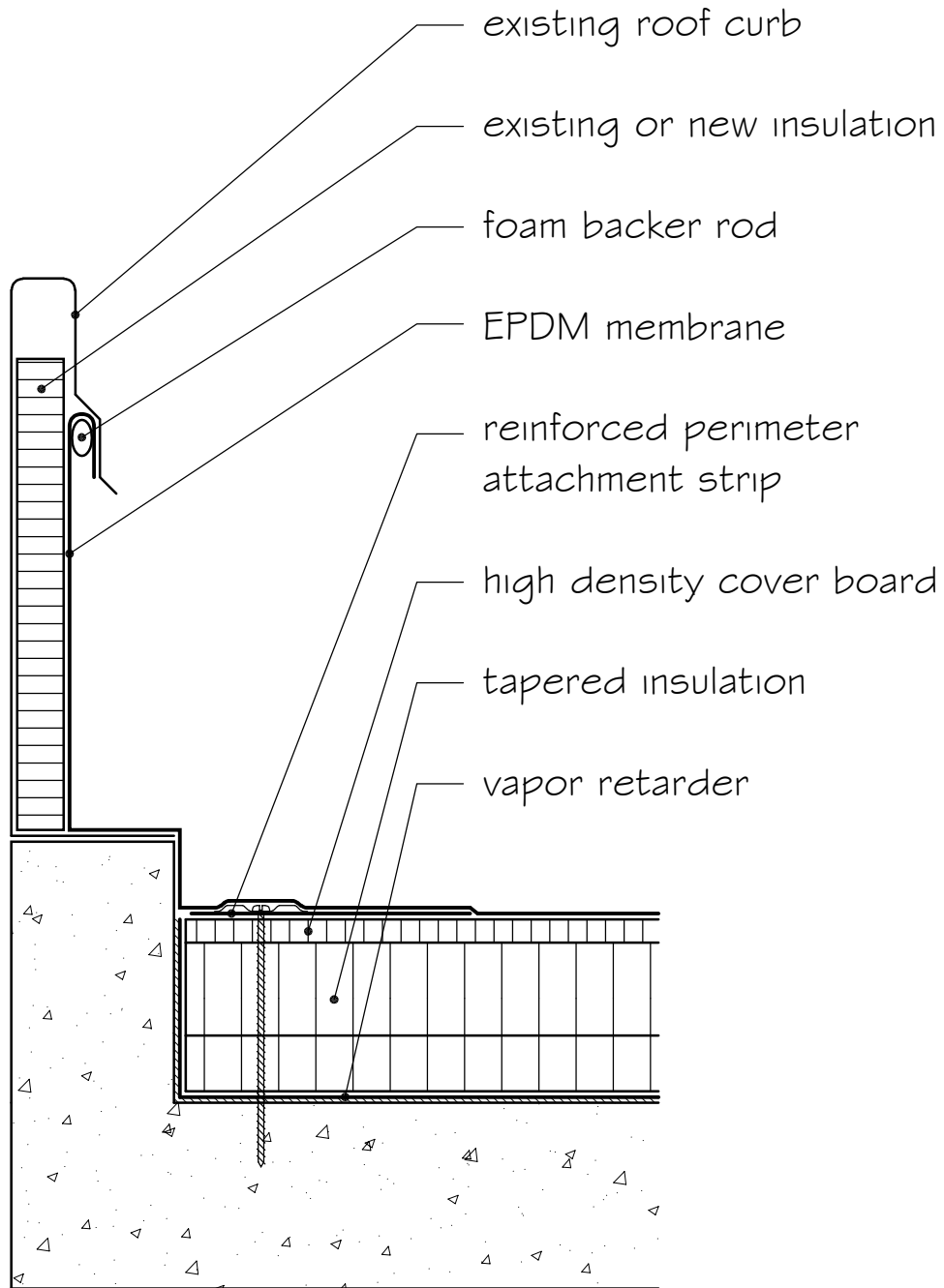
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ROOF CURB FLASHING
not to scale

NOTE: components shown are new unless noted as existing



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COUNTER FLASHING SYSTEMS (GENERAL)

Careful consideration must be given to flashing systems where a roof joins a wall. The base flashing system must keep water from entering the building and must be designed to provide for building movement. Counter flashing serves to turn water from a wall onto the roof or base flashing.

Metal counter flashing should be used in conjunction with composition base flashings. Composition base flashing should be applied according to the roofing manufacturer's specification.

It is recommended that base flashings be applied over a cant and extended up the wall a minimum of 10 in. (254 mm) above the roof line. Metal counter flashing is installed so that a minimum of 4 in. (100 mm) of the base flashing is covered. Metal base flashings are used with shingle or metal roofs. Metal base flashing is not recommended for use with membrane roofing systems. A metal base flashing may be used over a composition

flashing as a protective cover in locations where the base flashing may be damaged by traffic.

Joints in flashing should be lapped 4 in. (100 mm).

Removable counter flashing is cost effective for work installation sequencing and for roofing systems repairs. All membrane roofing should have removable counter flashing.

All counter flashing receivers should be elevated 10 in. (254 mm) above the finished roof. The lower edge of metal counter flashing should be 1 in. (25 mm) minimum above a cant.

All reglets must be capable of supporting flashing.

In high wind areas, clips can be specified for the lower edge of the counter flashing. These would be visible on the edge.

COUNTER FLASHING SYSTEMS — INSTALLATION

Figure 4-4A illustrates the installation of a complete metal counter flashing system using a metal flashing receiver.

The counter flashing is notched and lapped at inside corners and joints, and seamed at outside corners. The flashing receiver is notched and lapped 3 in. (76 mm) at corners and joints.

After the counter flashing is installed, bend the receiver at a 45 degree angle to provide a drip edge.

This type of counter flashing may be removed with comparative ease when roofing is replaced.

Figure 4-4B shows an alternative receiver that is set as the wall is built. The counter flashing is easily inserted into a spring lock condition as shown in Detail 1.

Figures 4-4C and D illustrate other alternatives for using two-piece counter flashings on new or existing

FIGURE 4-4

construction. Figure 4-4C shows a snaplock receiver. Figure 4-4D shows a pocket receiver through which fasteners are installed at 24 in. (610 mm) maximum spacing after the counter flashing is inserted.

Figure 4-4E shows a method of installing a counter flashing in an existing masonry wall. Cut a reglet in the masonry joint to a depth of at least 1½ in. (38 mm). Insert the counter flashing into the reglet and hold it in place by spring action. See Detail 1. Then fill the reglet with a sealant. Notch and lap the counter flashing at corners and joints.

The recommended minimum gage for counter flashing shown in Figure 4-4 is 16 oz. (0.55 mm) copper, 26 ga (0.5512 mm) galvanized steel, or 26 ga (0.477 mm) stainless steel. Flashing receivers should be of 16 oz. (0.55 mm) copper, 26 ga (0.477 mm) galvanized steel, or 28 ga (0.396 mm) stainless steel.

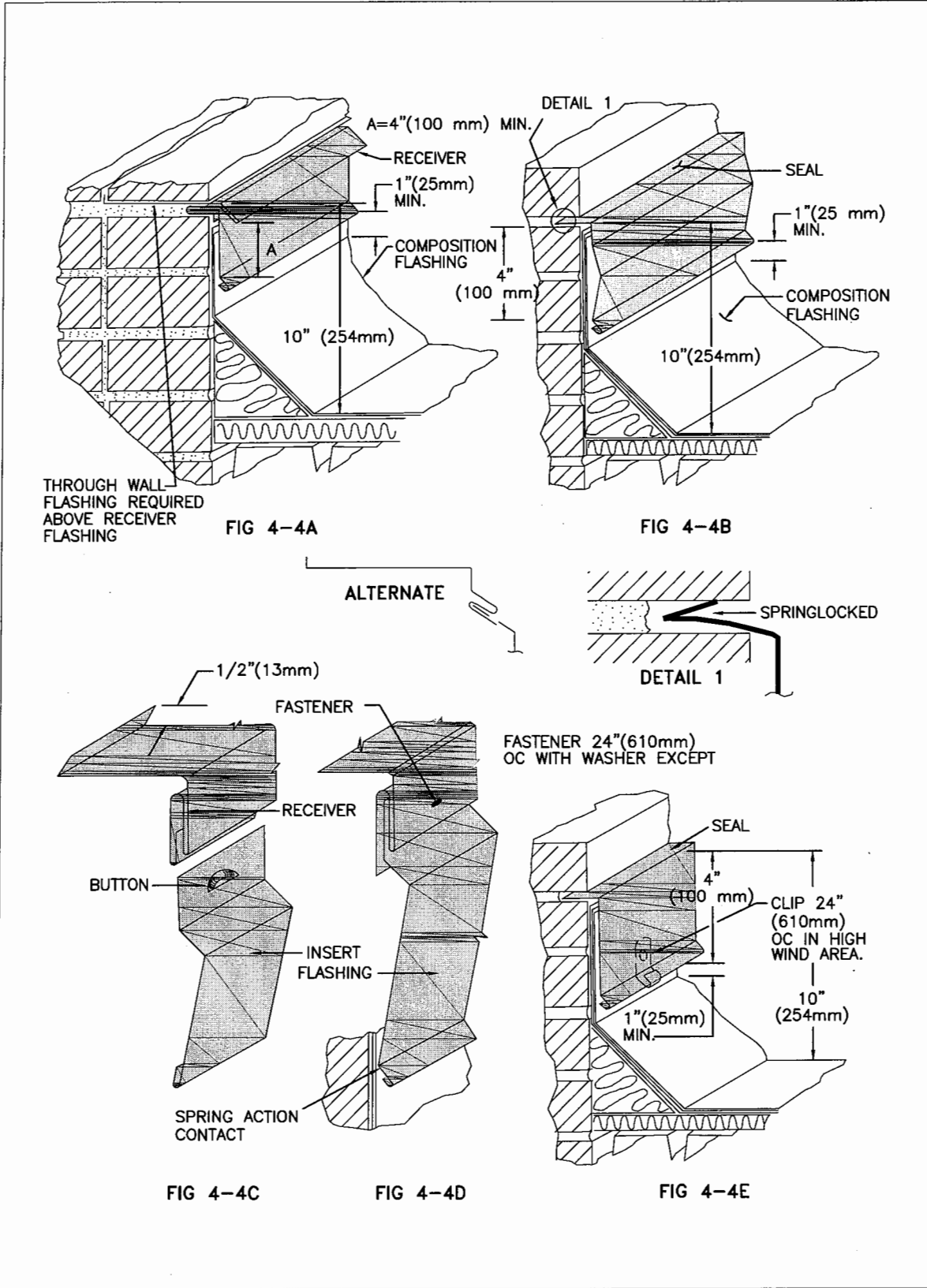


FIGURE 4-4 COUNTER FLASHING SYSTEMS — INSTALLATION

COUNTER FLASHING SYSTEMS — INSTALLATION

Figure 4-6 illustrates the installation of counter flashing at concrete walls where reglets are not used.

In Figure 4-6 the counter flashing is held in place by use of masonry anchors on 18 in. (460 mm) centers.

The joint between the flashing and the wall is filled with a sealant as indicated on the drawing. Counter flashings should be lapped at inside corners and joints, and seamed at outside corners.

Counter flashings should be lapped at joints and mitered and soldered or sealed at corners. The recommended minimum gage for counter flashing is 16 oz.

FIGURE 4-6

(0.55 mm) copper, 26 ga (0.477 mm) stainless steel, 24 ga (0.7010 mm) galvanized steel, or 0.032 in. (.812 mm) aluminum. Flashing material should be at least 24 oz. (0.82 mm) copper, 24 ga (0.635 mm) stainless steel, 22 ga (0.759 mm) for steel or 0.050 in. (1.27 mm) thickness for aluminum. These counter flashing methods may be applied to sloped roof situations as well. One application is shown in Figure 4-8C.

Flashing must not be a continuous piece across moving wall joints. Lap seal or cap seal at every moving joint.

Powder-actuated fasteners are not used where spalling occurs; spalling causes loss of seal.

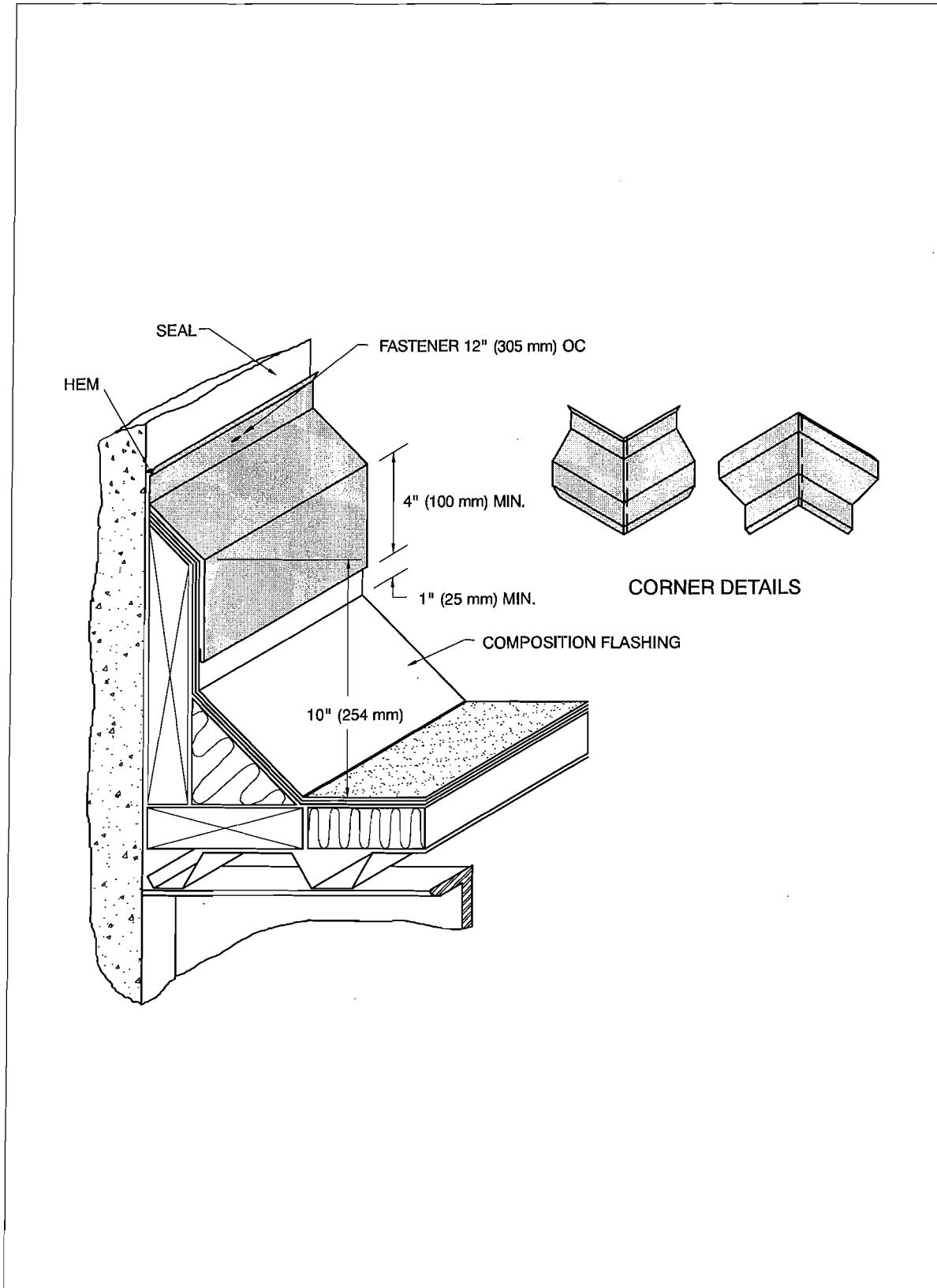


FIGURE 4-6 COUNTER FLASHING SYSTEMS — INSTALLATION

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

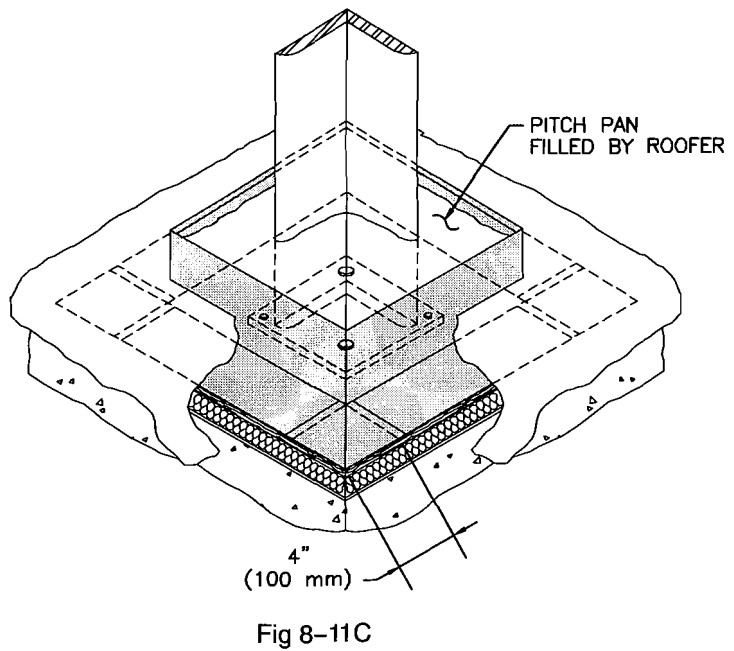
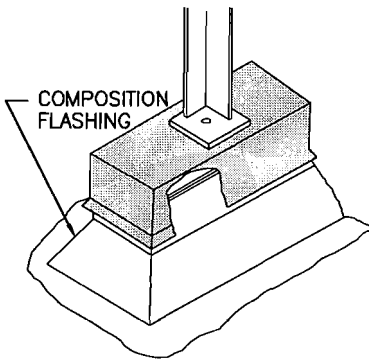
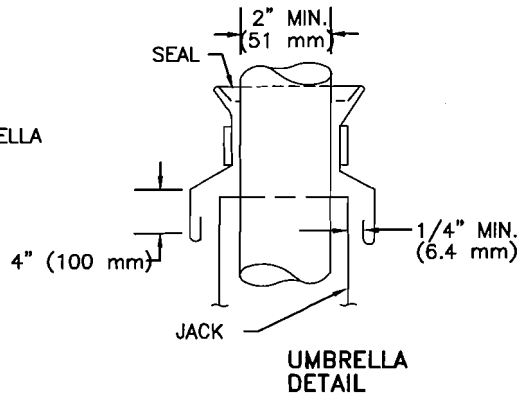
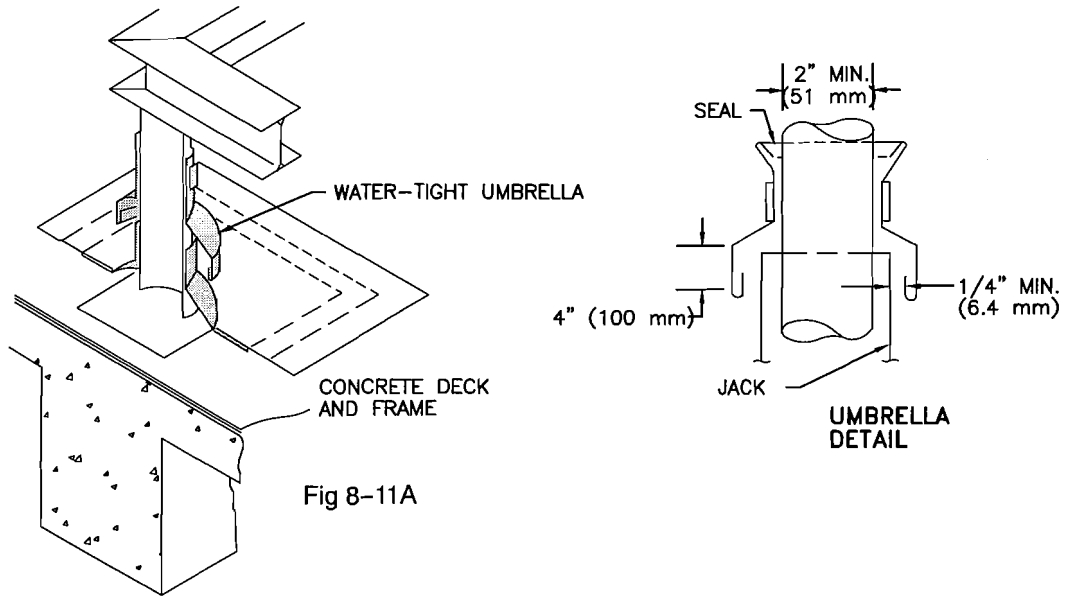


FIGURE 8-11 EQUIPMENT SUPPORT FLASHING