

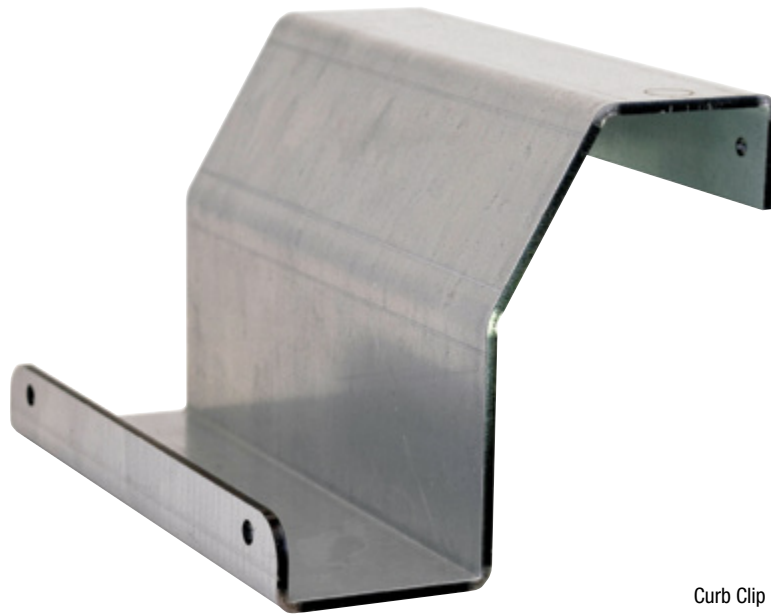
# DN SERIES DOAS

## Curb Clip Installation Manual

DN2RT

DN3RT

DN5RT



Curb Clip (Typical)

**⚠ WARNING****RISK OF INJURY. OBSERVE ALL CODES AND THE FOLLOWING**

This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.

Installation work must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.

Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.

Use this product only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

Pinch points occur where DOAS unit base drops into curb clips. Keep hands away!

Roof curb itself must be securely attached to the roof structure, since the Curb Clips connect to the roof curb and not directly to the building structure.

Use of these curb clips does not imply that installation meets the requirements of specific local codes, and independent evaluation by a competent and licensed professional may be necessary in order to meet applicable local codes.

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## 1.0 OVERVIEW

RenewAire has for many years recommended that its rooftop units be fastened securely to the roof so that the equipment stays in place under extreme wind loads. Most rooftop-mounted HVAC equipment is not heavy enough to remain in place under design wind loads without being mechanically fastened to the building. When rooftop HVAC equipment moves due to severe wind conditions, the result is damage to the equipment and the building. However, the HVAC industry in general is only beginning to address this concern and there are few standards or guidelines to assist engineers and contractors.

RenewAire's Curb Clips are an engineered, convenient and weather-tight method of attaching RenewAire units to roof curbs, and are suitable for most applications in climate zones with basic wind speeds of 90 mph (virtually all of the United States, except for coastal hurricane regions).

RenewAire's Curb Clips do not protect the units itself from damage due to flying objects. RenewAire units have not been tested for intrinsic wind resistance and specific wind events might damage or even remove doors or inlet/outlet hoods.

## 1.1 DESIGN CRITERIA

RenewAire's Curb Clips are designed to keep the unit and roof curb attached to the roof, in most applications, in zones with 90 mph basic wind speeds, on roofs up to 60' in height, with the DOAS unit in any location on that roof. ASCE Standard 7-05 (Section 6.5.15.1) was the source of the basic engineering procedure and was adapted in order to calculate the loads acting on the DOAS (as a unit) under such conditions.

### **⚠ CAUTION**

RenewAire Curb Clips and application recommendations are provided "as is" and without warranty of any kind.

There is no industry standard for proper design of wind restraints for mechanical equipment on roofs, nor are there uniform code requirements for such of wind restraint by building codes. In the absence of such standards or requirements, RenewAire LLC has made a good-faith effort to design wind restraints for its products. If additional assurance of fitness for a specific application is required, a design professional properly certified by an authority having jurisdiction should be consulted.

## 2.0 INSTALLATION

### 2.1 GENERAL INSTALLATION

Curb clips should be installed:

- AFTER installation of the roof curb and
- BEFORE installation of the DOAS.

#### 1ST STEP: INSTALL CURBS.

See page 7 for RenewAire minimum attachment schedule.

Complete installation of roofing and flashing per standard practice.

#### 2ND STEP: INSTALL CURB CLIPS.

Position the clips as shown in the drawings for specific DOAS models. See following pages.

Fasten each clip to the curb with (3) #10-16 x ¾" self drilling screws (SDS) through the provided holes in the clips.

Install the gasket tape (provided with the curb). Put gasket tape on top perimeter of the curb. Run it over the top of the clips.

#### 3RD STEP: INSTALL DOAS UNIT.

Make sure necessary ducts are installed in the curb before installing unit.

Place the RenewAire DOAS on the curb—the DOAS base rails should drop into the Curb Clips.

Drive (2) 3 ½" SDS through the clearance holes in each Curb Clip, through the DOAS base rails, and into the back of the Curb Clip. Drive the screws snug.

**IMPORTANT: EACH SCREW MUST DRIVE FIRMLY THROUGH THE BACK OF THE CURB CLIP (SEE DETAILS ON FOLLOWING PAGES).**

2.2 MINIMUM CURB ATTACHMENT TO ROOF

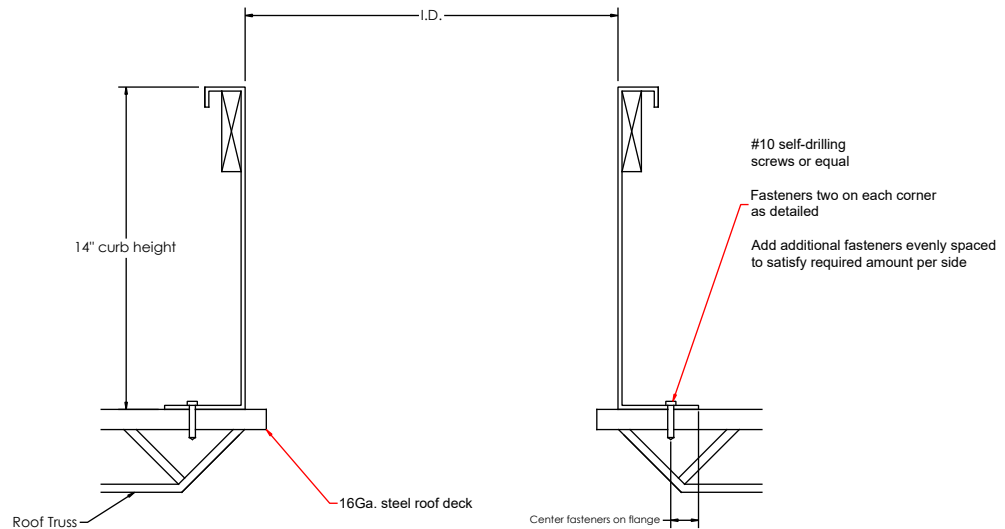
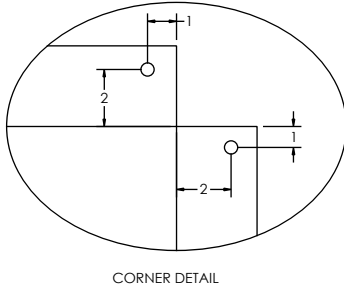


FIGURE 2.2.0 CURB ATTACHMENT TO ROOF

FASTENER REQUIREMENTS: 16GA STEEL ROOF DECKING						
MODEL	EACH LONG SIDE		EACH SHORT SIDE		TOTAL # OF SCREWS	SCREW SPECIFICATION
	I.D.	# SCREWS	I.D.	# SCREWS		
DN-2 ERV	61-5/8"	10	35-3/8"	6	32	#10 Minimum. Select length sufficient to fully engage threads in roof decking.
DN-2 ERV+C or H	86"	14	35-3/8"	6	40	
DN-2 ERV+C+H	110-5/8"	18	35-3/8"	6	48	
DN-3 ERV	61-5/8"	10	61-3/8"	10	40	
DN-3 ERV+C	86"	14	61-1/2"	10	48	
DN-3 ERV+H	107-7/8"	18	61-1/2"	10	56	
DN-3 ERV+C+H	132-3/8"	22	61-3/8"	10	64	
DN-5 ERV	68-3/4"	12	75"	12	48	
DN-5 ERV+C	100-1/2"	18	75"	12	60	
DN-5 ERV+H	127"	22	75"	12	68	
DN-5 ERV+C+H	158-5/8"	28	75"	12	80	

FIGURE 2.2.1 FASTENER REQUIREMENTS

2.2.1 For Other Fastener/Roof Deck Combinations:

This curb-to-roof attachment method has been evaluated for installation on a 16 ga. steel deck, to withstand wind forces in zones with 90 mph basic wind speeds, on roofs up to 60' in height, with the DOAS installation in any location on that roof.

The Fastener Requirements Chart above applies to a 16GA steel roof deck, with #10 TEK screws or better. With this fastener/roof substrate combination, the fastener pullout rating is 708 LB, and the fastener shear rating is 1540 LB.

For other roofing substrates, determine the pull-out and shear ratings for that substrate. If pull-out and shear ratings are less than those shown above, increase the number of fasteners used to provide the same total pullout and shear strength for each side of the curb.

2.3 DN2 ERV ONLY

Use Curb Clip Kit PN 109169 1"

Kit includes:

- (4) Curb Clips PN 109259 & (8) PN 109154
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168101 2"

Kit includes:

- (4) Curb Clips PN 109300 & (8) PN 109274
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws

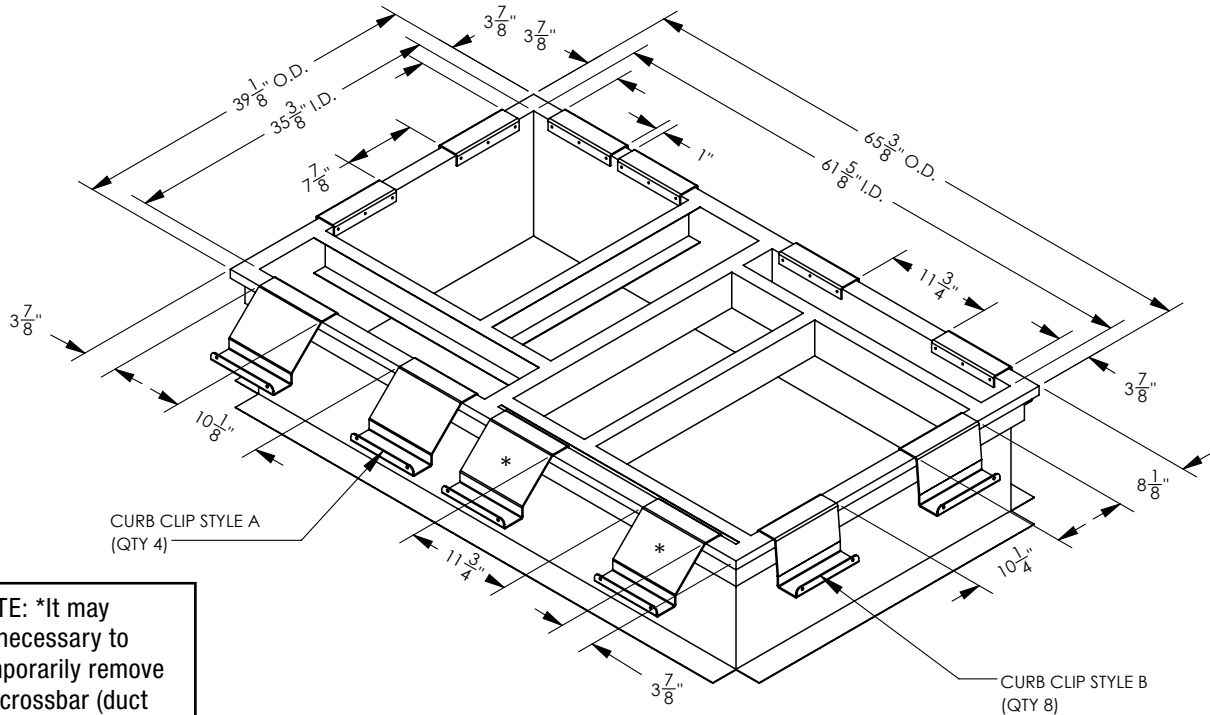


FIGURE 2.3.0 DN2 ERV ONLY CURB CLIP PLACEMENT

**NOTE:** \*It may be necessary to temporarily remove the short crossbar (duct support) in order to install the Curb Clip.

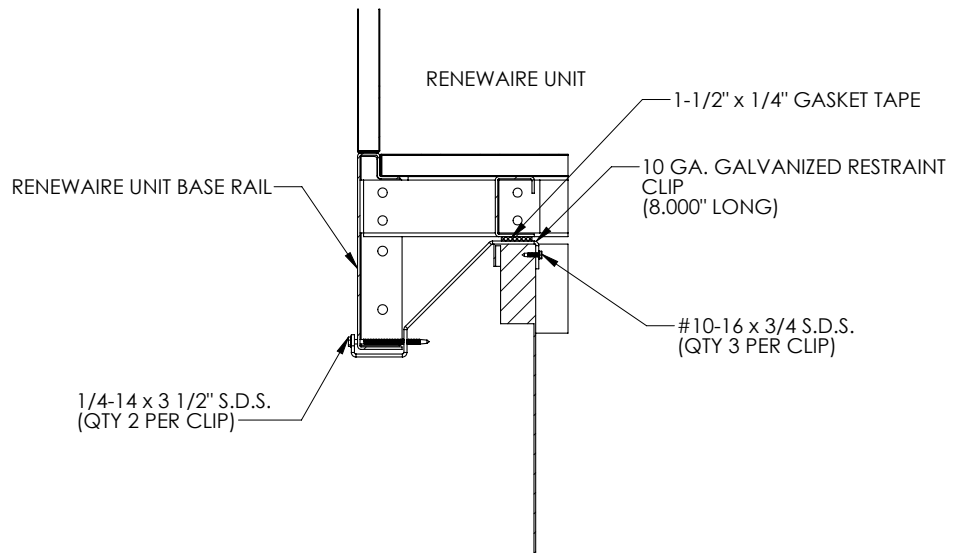


FIGURE 2.3.1 DN2 ERV ONLY CURB CLIP INSTALLATION



2.4 DN2 ERV+COIL OR HEAT

Use Curb Clip Kit PN 109169 1"

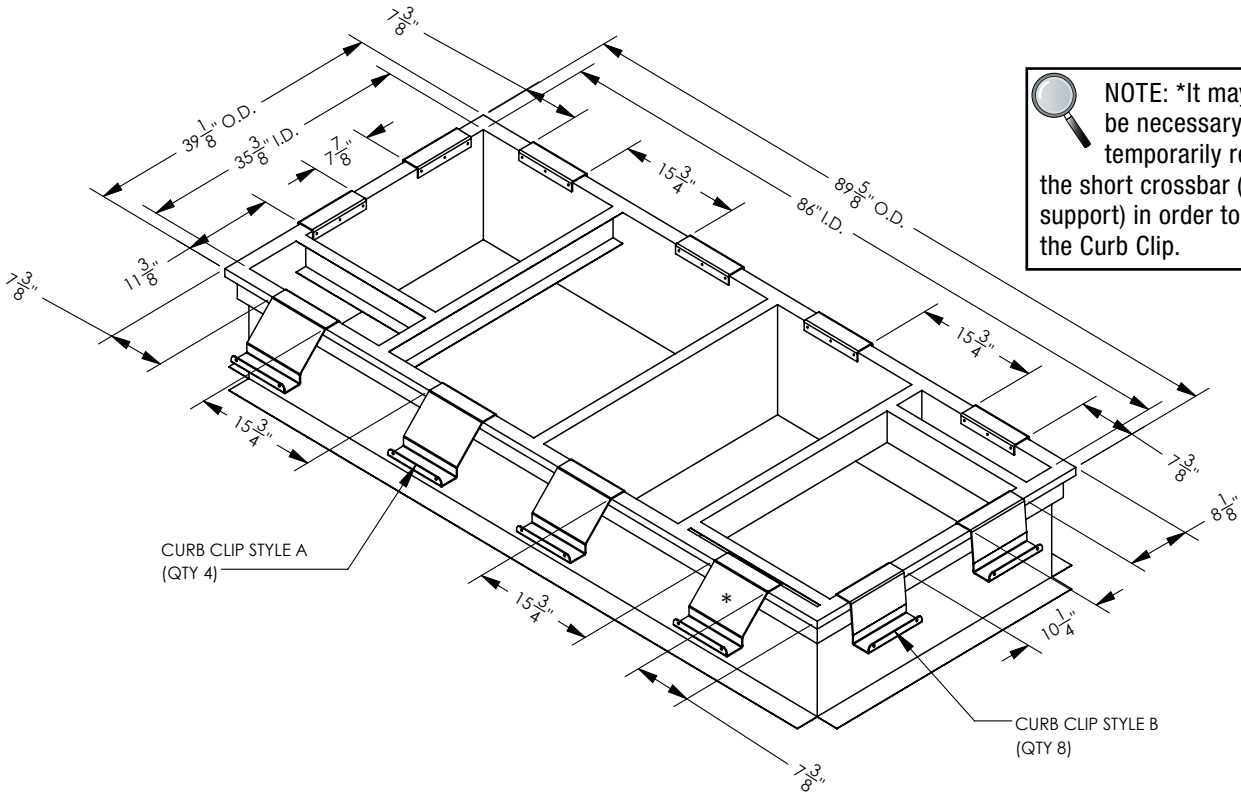
Kit includes:

- (4) Curb Clips PN 109259 & (8) PN 109154
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168101 2"

Kit includes:

- (4) Curb Clips PN 109300 & (8) PN 109274
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws



**NOTE:** \*It may be necessary to temporarily remove the short crossbar (duct support) in order to install the Curb Clip.

FIGURE 2.4.0 DN2 ERV+COIL OR HEAT CURB CLIP PLACEMENT

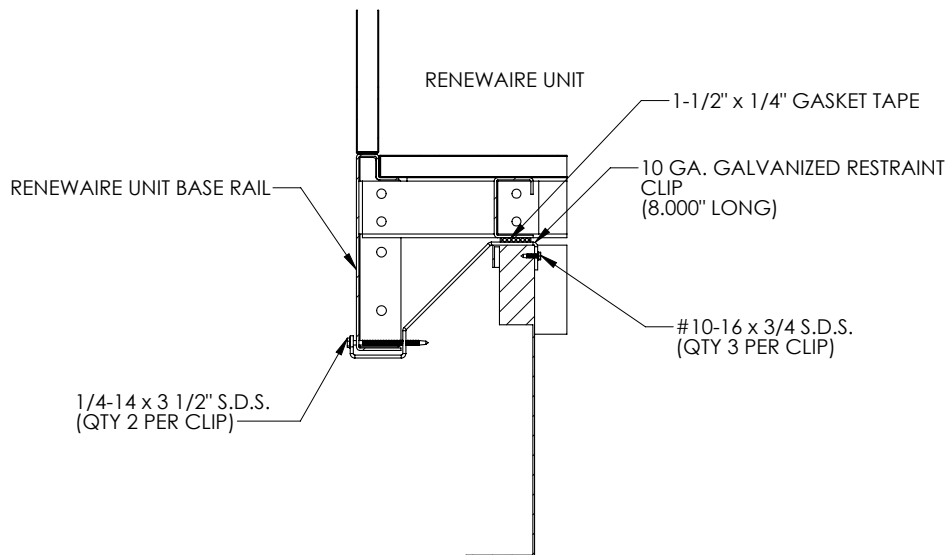
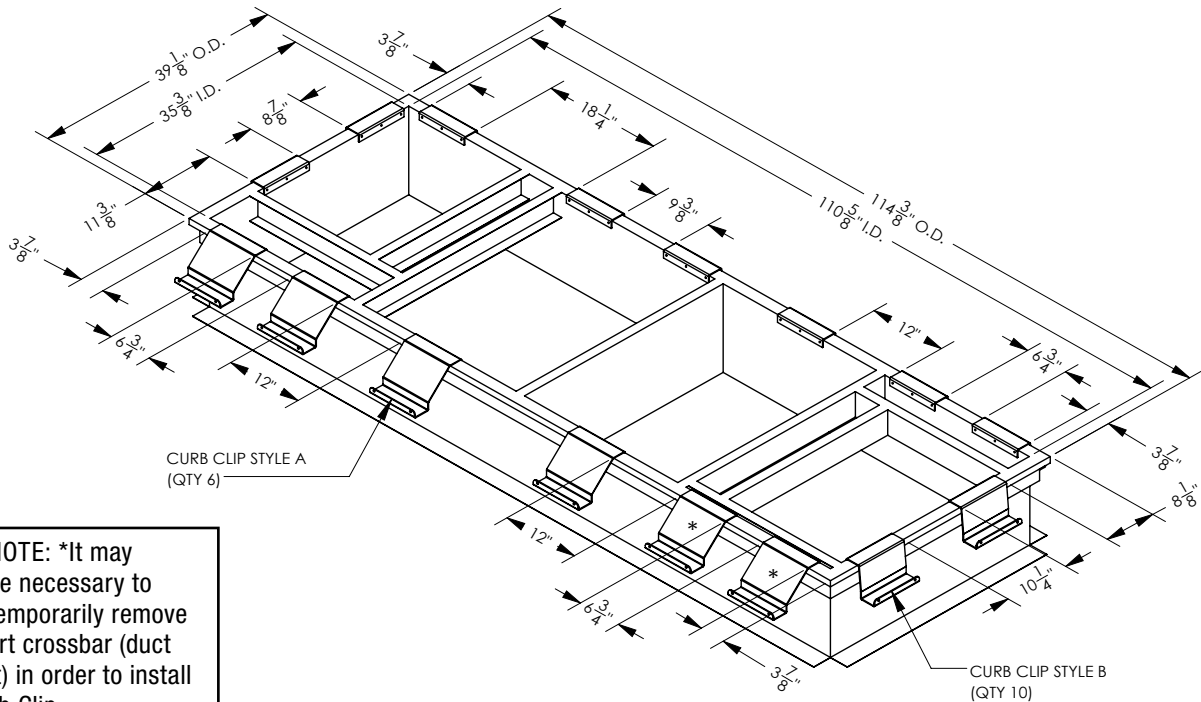


FIGURE 2.4.1 DN2 ERV+COIL OR HEAT CURB CLIP INSTALLATION

2.5 DN2 ERV+COIL+HEAT

Use Curb Clip Kit PN 109168 1"  
 Kit includes:  
 (6) Curb Clips PN 109259 & (10) PN 109154  
 (48) #10-16 x 3/4" self drilling screws  
 (32) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168100 2"  
 Kit includes:  
 (6) Curb Clips PN 109300 & (10) PN 109274  
 (48) #10-16 x 3/4" self drilling screws  
 (32) 1/4 -14 x 3 1/2" self-drilling screws



**NOTE:** \*It may be necessary to temporarily remove the short crossbar (duct support) in order to install the Curb Clip.

FIGURE 2.5.0 DN2 ERV+COIL+HEAT CURB CLIP PLACEMENT

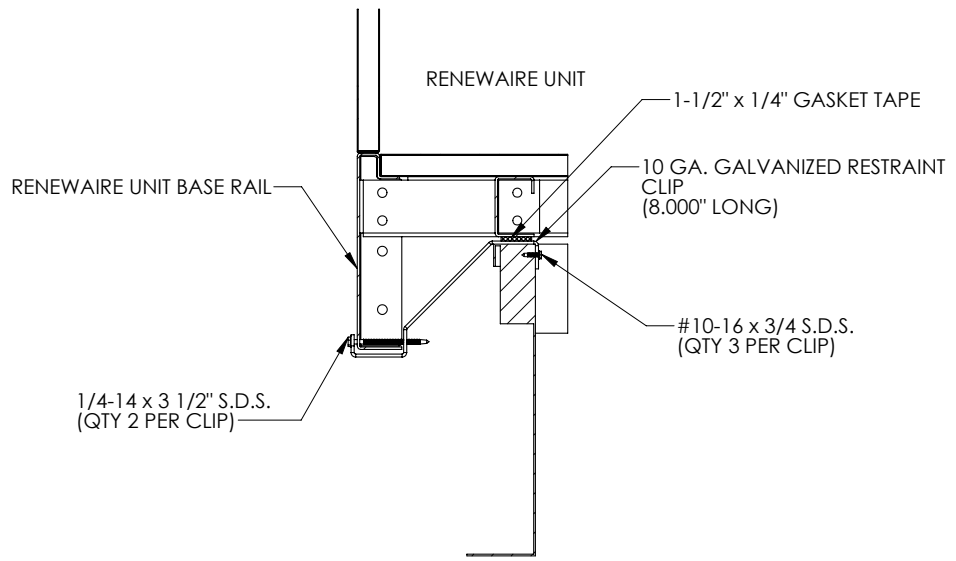


FIGURE 2.5.1 DN2 ERV+COIL+HEAT CURB CLIP INSTALLATION

2.6 DN3 ERV ONLY

Use Curb Clip Kit PN 109167 1"

Kit includes:

- (4) Curb Clips PN 109259 & (6) PN 109154
- (30) #10-16 x 3/4" self drilling screws
- (20) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168106 2"

Kit includes:

- (4) Curb Clips PN 109300 & (6) PN 109274
- (30) #10-16 x 3/4" self drilling screws
- (20) 1/4 -14 x 3 1/2" self-drilling screws

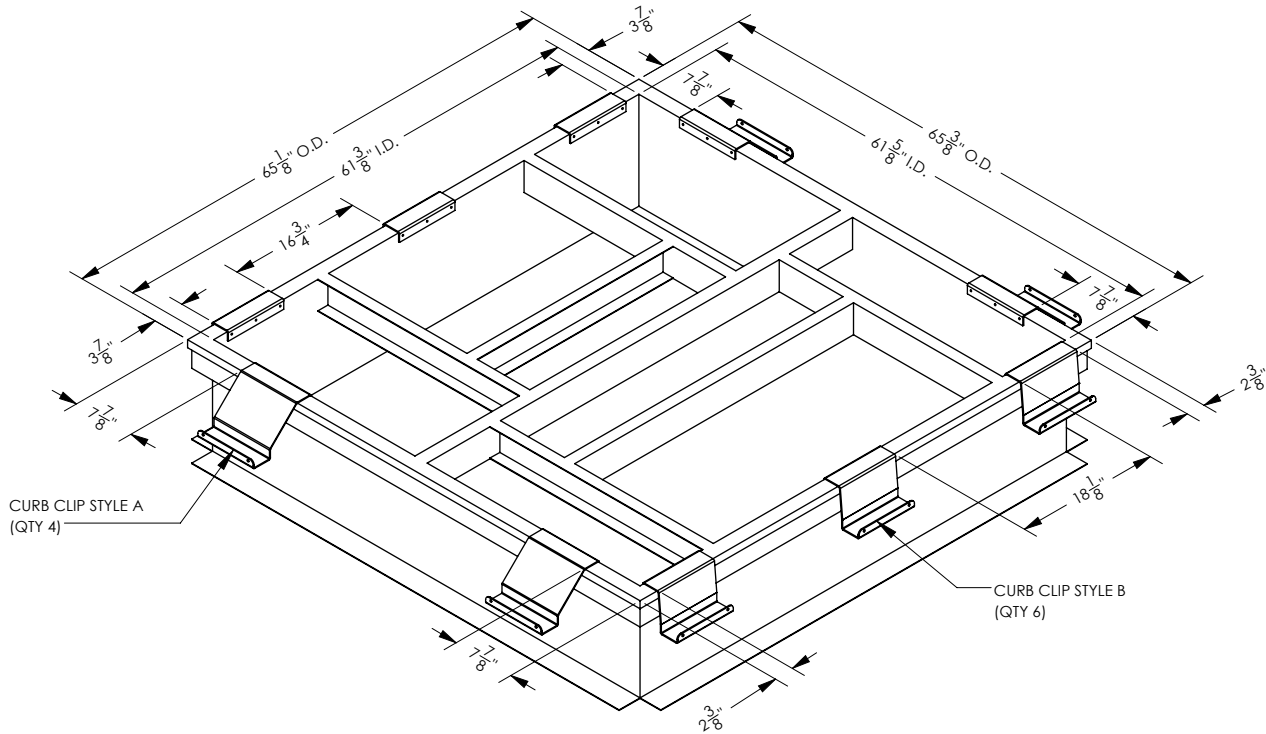


FIGURE 2.6.0 DN3 ERV ONLY CURB CLIP PLACEMENT

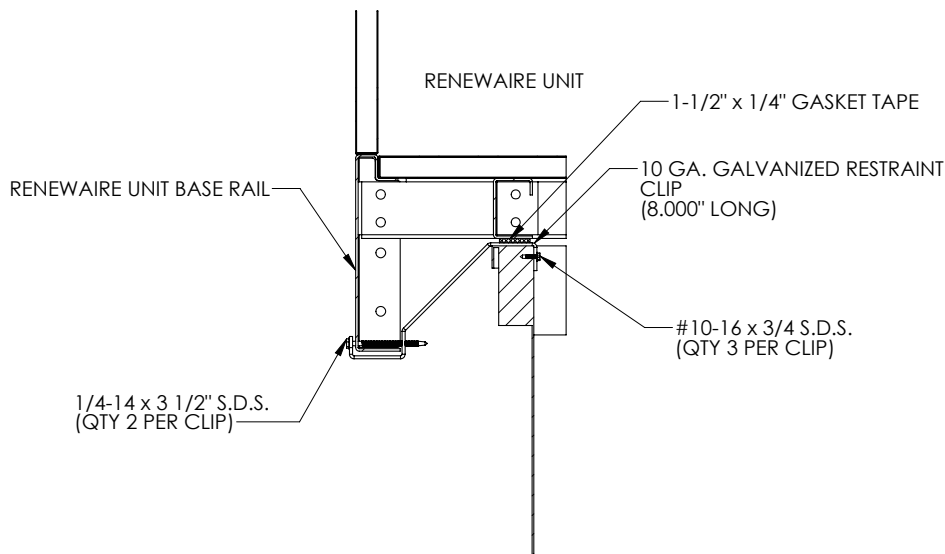


FIGURE 2.6.1 DN3 ERV ONLY CURB CLIP INSTALLATION

2.7 DN3 ERV+COIL

Use Curb Clip Kit PN 109165 1"

Kit includes:

- (8) Curb Clips PN 109259 & (6) PN 109154
- (42) #10-16 x 3/4" self drilling screws
- (28) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168104 2"

Kit includes:

- (8) Curb Clips PN 109300 & (6) PN 109274
- (42) #10-16 x 3/4" self drilling screws
- (28) 1/4 -14 x 3 1/2" self-drilling screws

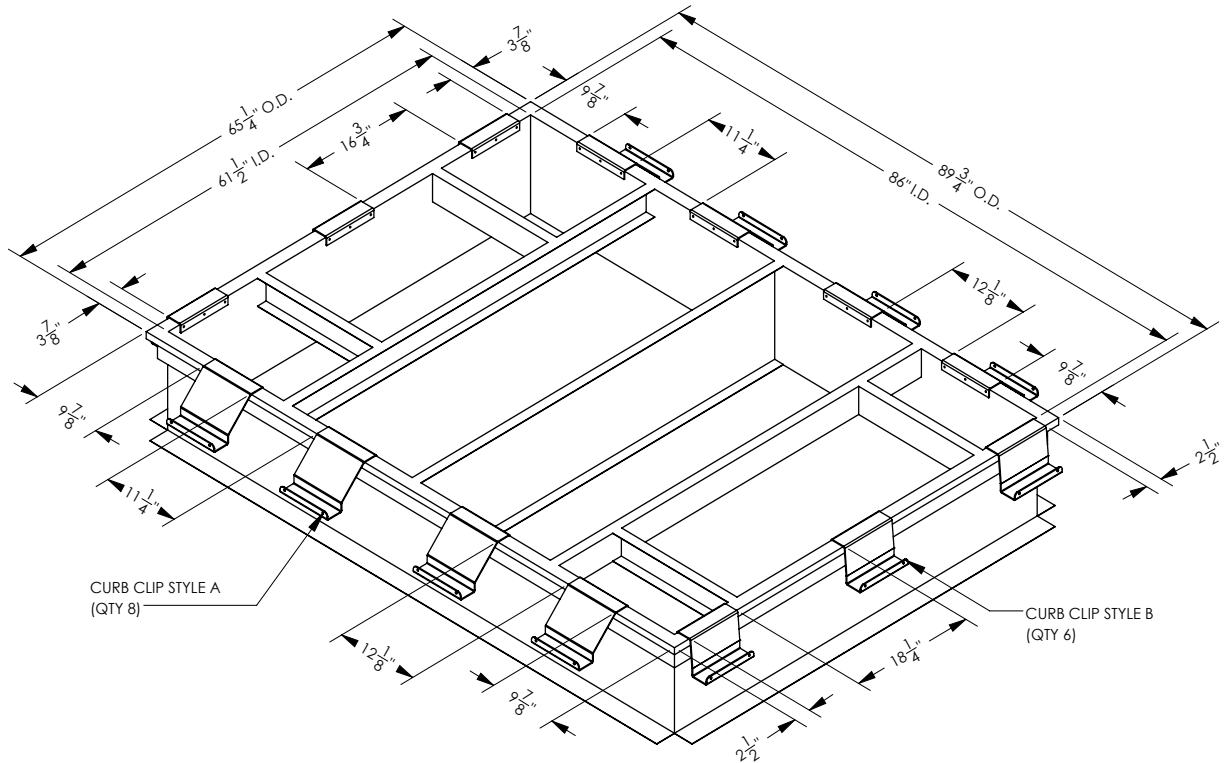


FIGURE 2.7.0 DN3 ERV+COIL CURB CLIP PLACEMENT

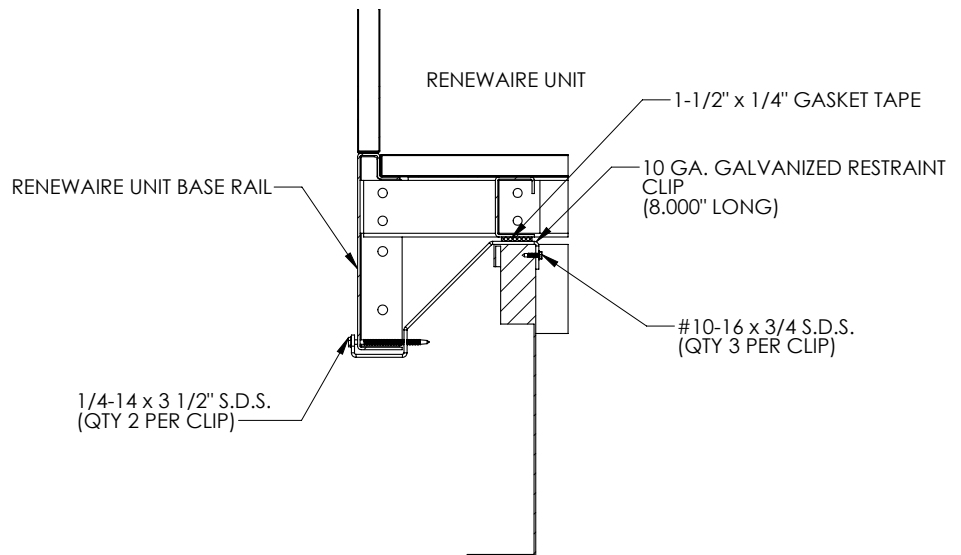


FIGURE 2.7.1 DN3 ERV+COIL CURB CLIP INSTALLATION

2.8 DN3 ERV+HEAT

Use Curb Clip Kit PN 109165 1"

Kit includes:

- (8) Curb Clips PN 109259 & (6) PN 109154
- (42) #10-16 x 3/4" self drilling screws
- (28) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168104 2"

Kit includes:

- (8) Curb Clips PN 109300 & (6) PN 109274
- (42) #10-16 x 3/4" self drilling screws
- (28) 1/4 -14 x 3 1/2" self-drilling screws

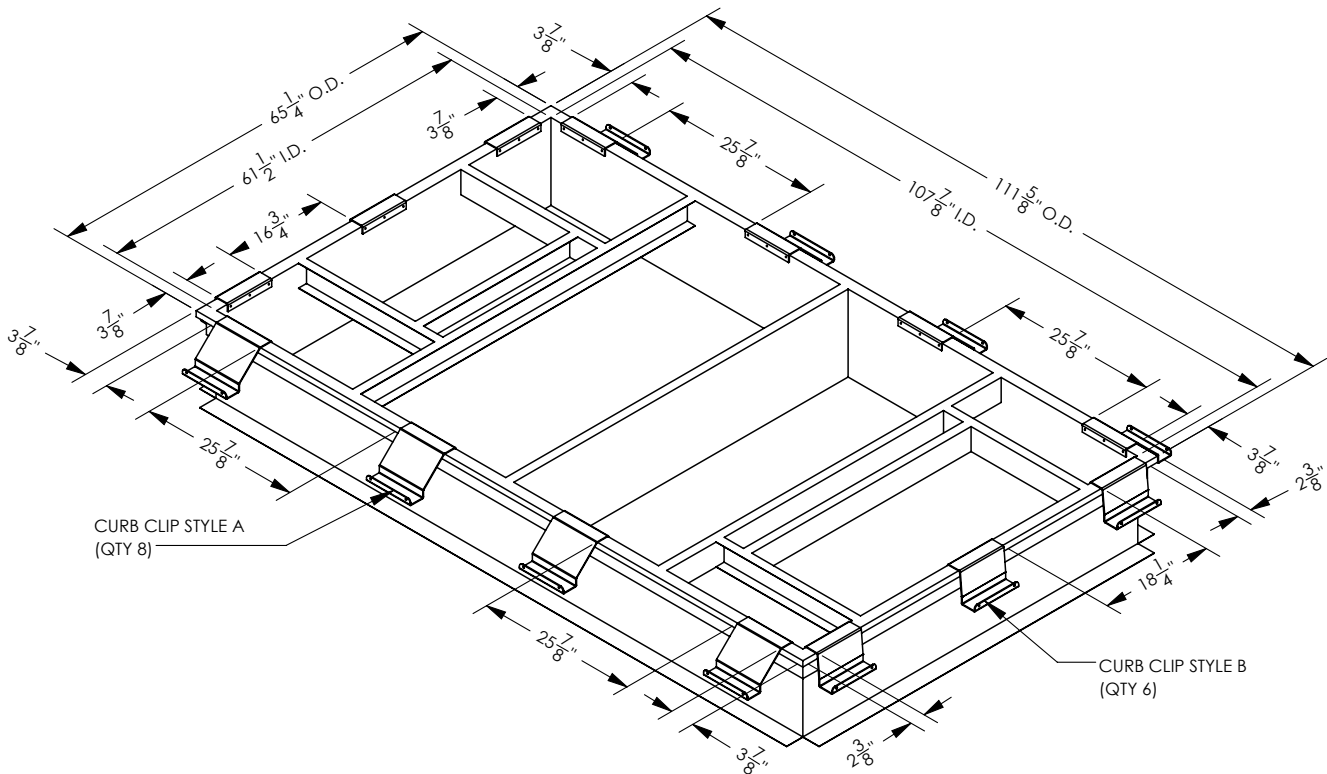


FIGURE 2.8.0 DN3 ERV+HEAT CURB CLIP PLACEMENT

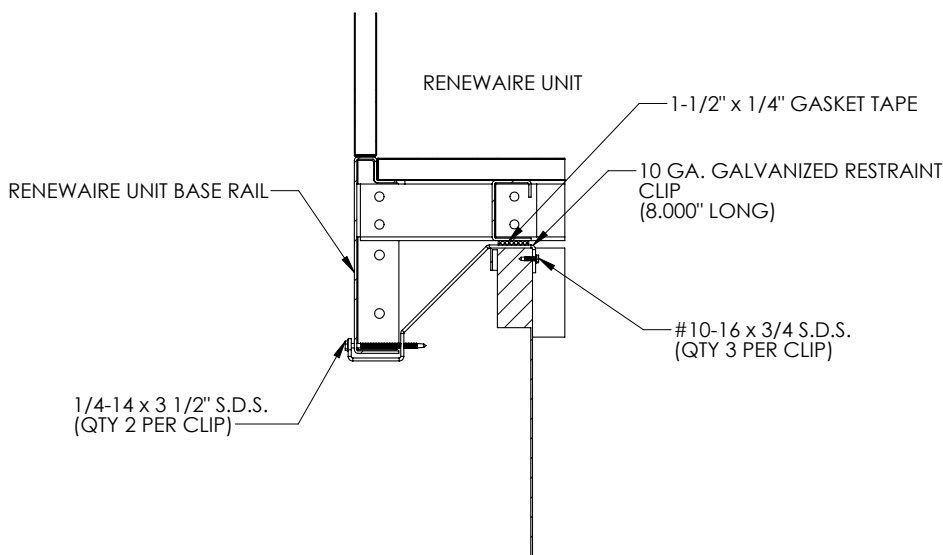


FIGURE 2.8.1 DN3 ERV+HEAT CURB CLIP INSTALLATION

2.9 DN3 ERV+COIL+HEAT

Use Curb Clip Kit PN 109164 1"  
Kit includes:

- (12) Curb Clips PN 109259 & (6) PN 109154
- (54) #10-16 x 3/4" self drilling screws
- (36) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168103 2"  
Kit includes:

- (12) Curb Clips PN 109300 & (6) PN 109274
- (54) #10-16 x 3/4" self drilling screws
- (36) 1/4 -14 x 3 1/2" self-drilling screws

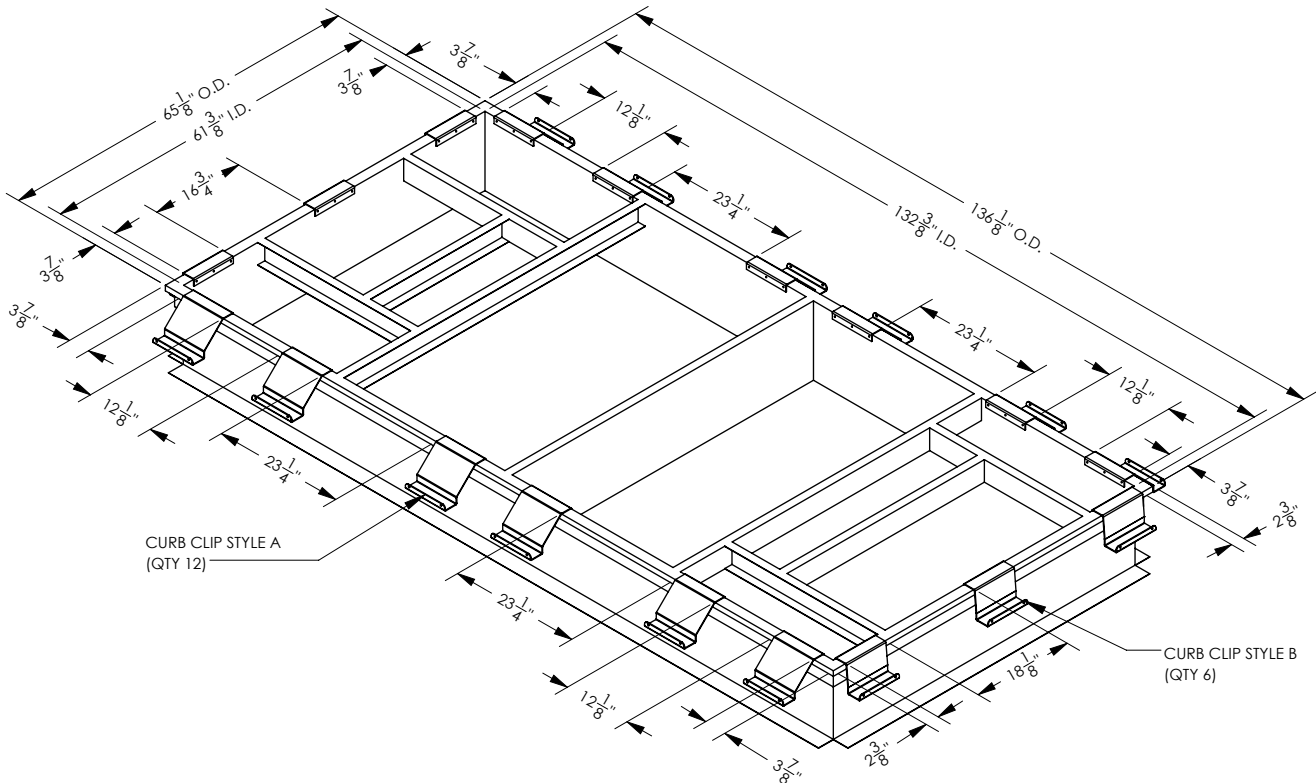


FIGURE 2.9.0 DN3 ERV+COIL+HEAT CURB CLIP PLACEMENT

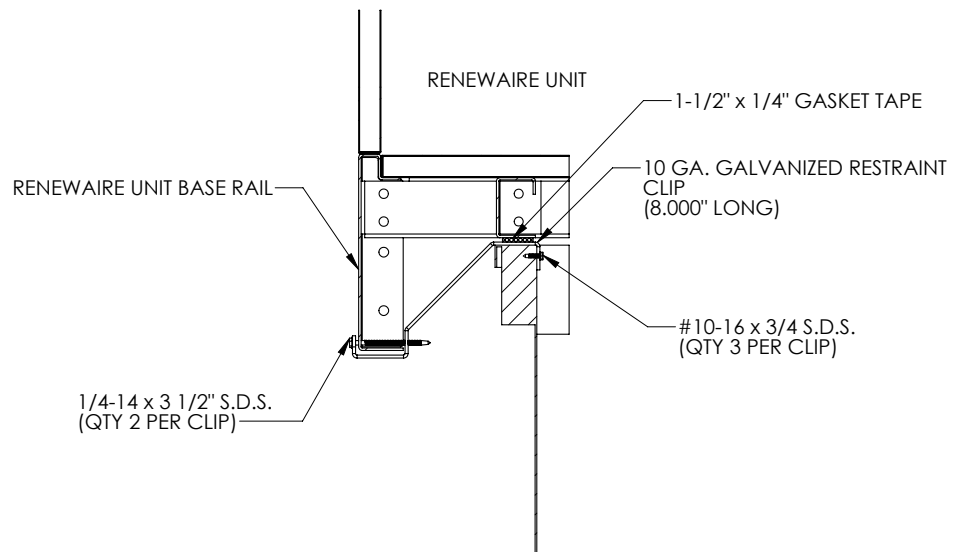


FIGURE 2.9.1 DN3 ERV+COIL+HEAT CURB CLIP INSTALLATION

2.10 DN5 ERV ONLY

Use Curb Clip Kit PN 109163 1"

Kit includes:

- (6) Curb Clips PN 109259 & (6) PN 109154
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168110 2"

Kit includes:

- (6) Curb Clips PN 109300 & (6) PN 109274
- (36) #10-16 x 3/4" self drilling screws
- (24) 1/4 -14 x 3 1/2" self-drilling screws

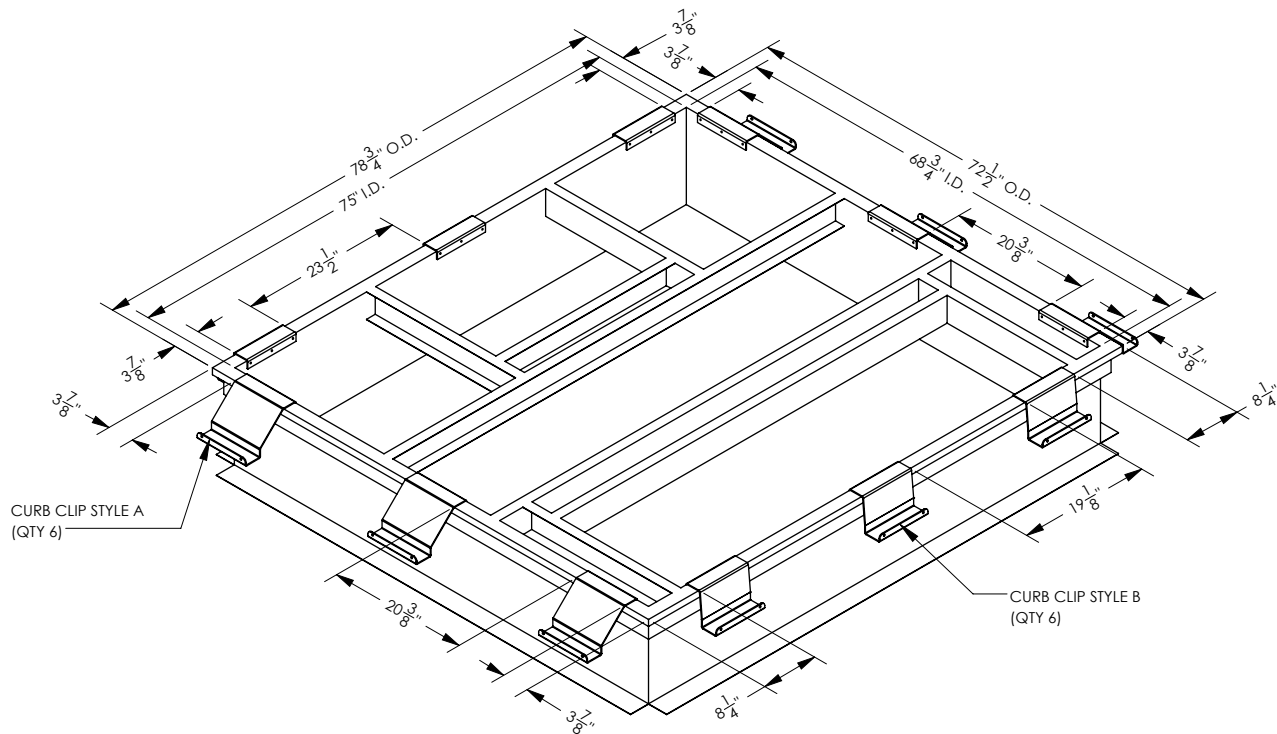


FIGURE 2.10.0 DN5 ERV ONLY CURB CLIP PLACEMENT

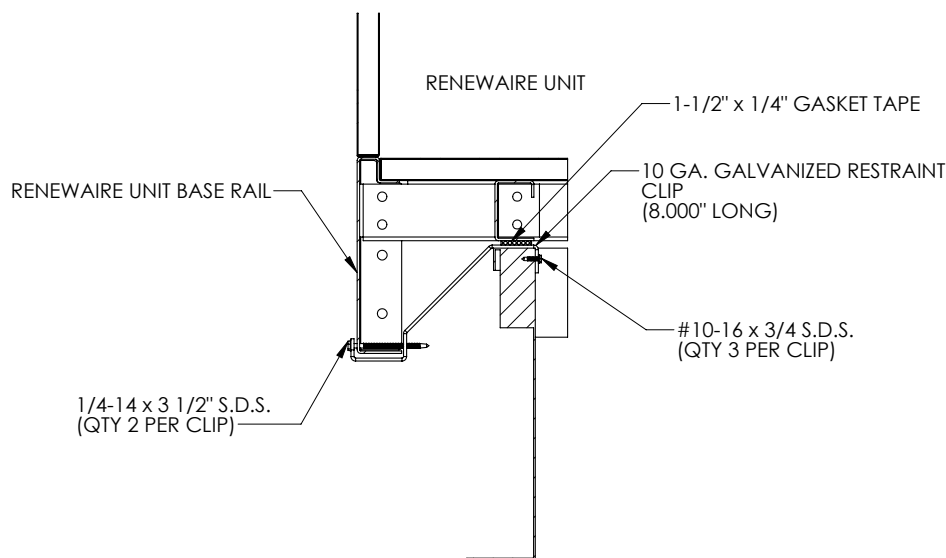


FIGURE 2.10.1 DN5 ERV ONLY CURB CLIP INSTALLATION

2.11 DN5 ERV+COIL

Use Curb Clip Kit PN 109161 1"  
 Kit includes:  
 (12) Curb Clips PN 109259 & (8) PN 109154  
 (60) #10-16 x 3/4" self drilling screws  
 (40) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168108 2"  
 Kit includes:  
 (12) Curb Clips PN 109300 & (8) PN 109274  
 (60) #10-16 x 3/4" self drilling screws  
 (40) 1/4 -14 x 3 1/2" self-drilling screws

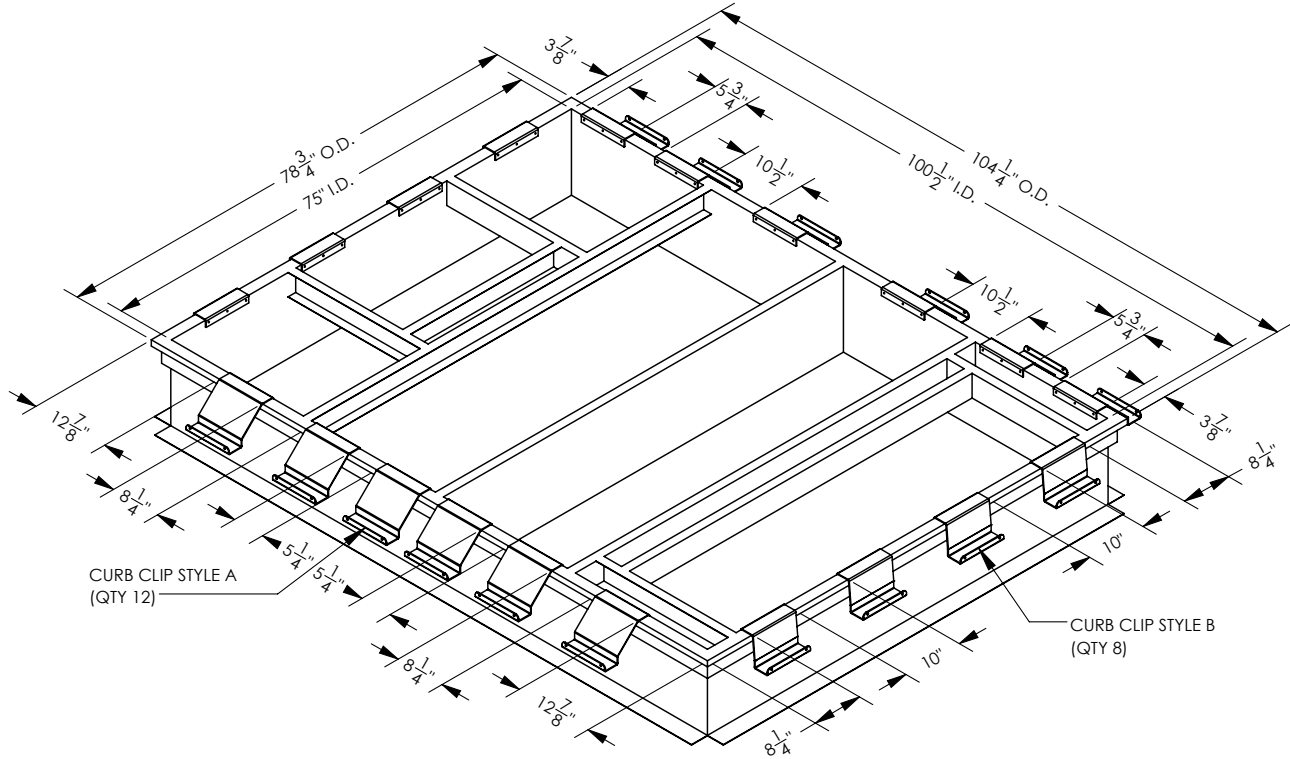


FIGURE 2.11.0 DN5 ERV+COIL CURB CLIP PLACEMENT

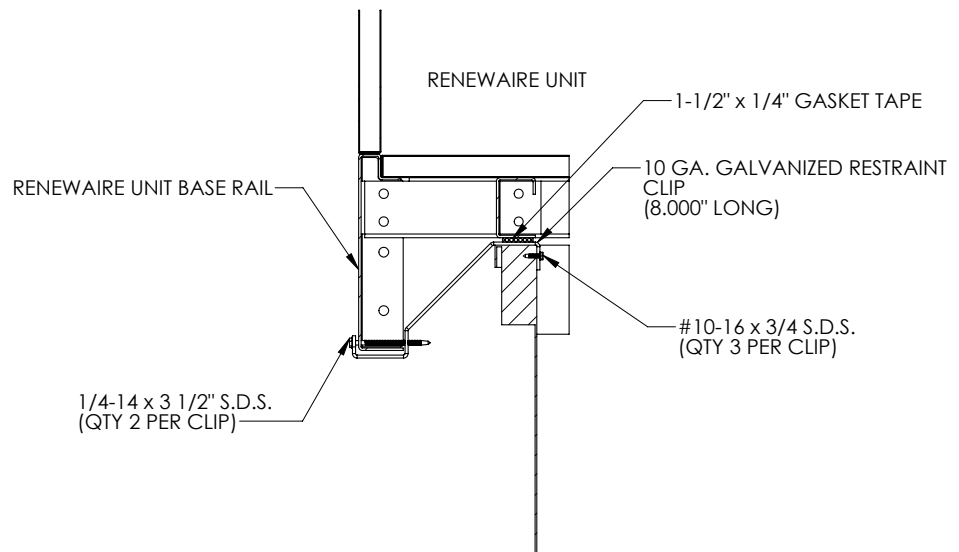


FIGURE 2.11.1 DN5 ERV+COIL CURB CLIP INSTALLATION



2.12 DN5 ERV+HEAT

Use Curb Clip Kit PN 109162 1"

Kit includes:

(16) Curb Clips PN 109259 & (8) PN 109154

(72) #10-16 x 3/4" self drilling screws

(48) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168109 2"

Kit includes:

(16) Curb Clips PN 109300 & (8) PN 109274

(72) #10-16 x 3/4" self drilling screws

(48) 1/4 -14 x 3 1/2" self-drilling screws

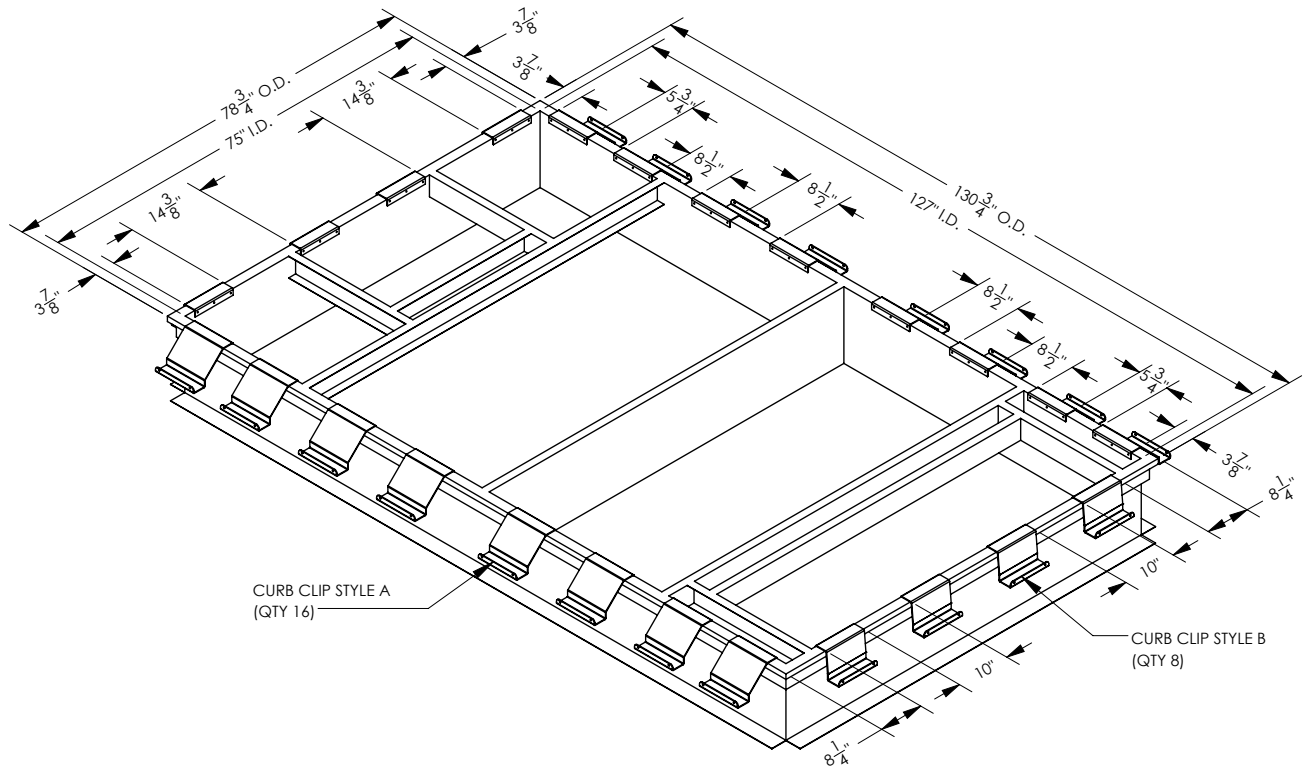


FIGURE 2.12.0 DN5 ERV+HEAT CURB CLIP PLACEMENT

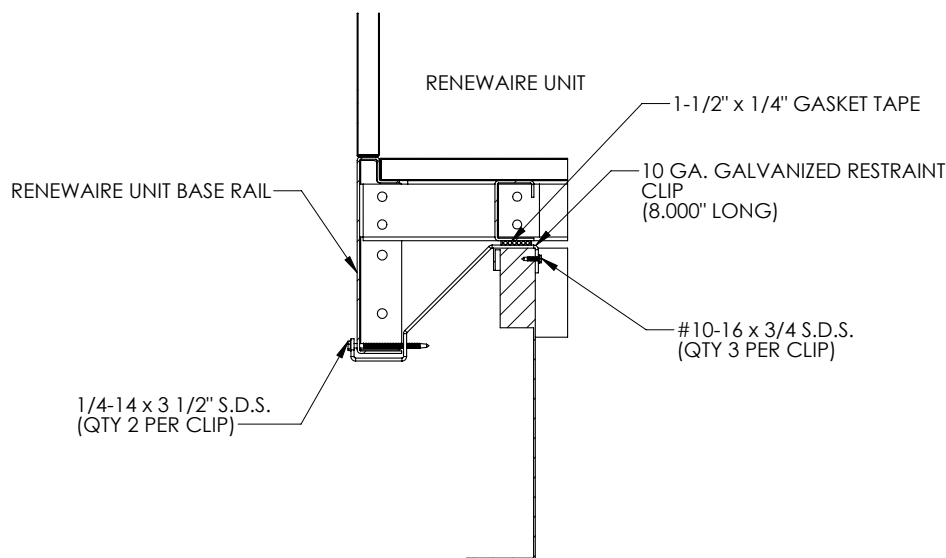


FIGURE 2.12.1 DN5 ERV+HEAT CURB CLIP INSTALLATION

2.13 DN5 ERV+COIL+HEAT

Use Curb Clip Kit PN 109160 1"  
Kit includes:

- (20) Curb Clips PN 109259 & (8) PN 109154
- (84) #10-16 x 3/4" self drilling screws
- (56) 1/4 -14 x 3 1/2" self-drilling screws

Use Curb Clip Kit PN 168107 2"  
Kit includes:

- (20) Curb Clips PN 109300 & (8) PN 109274
- (84) #10-16 x 3/4" self drilling screws
- (56) 1/4 -14 x 3 1/2" self-drilling screws

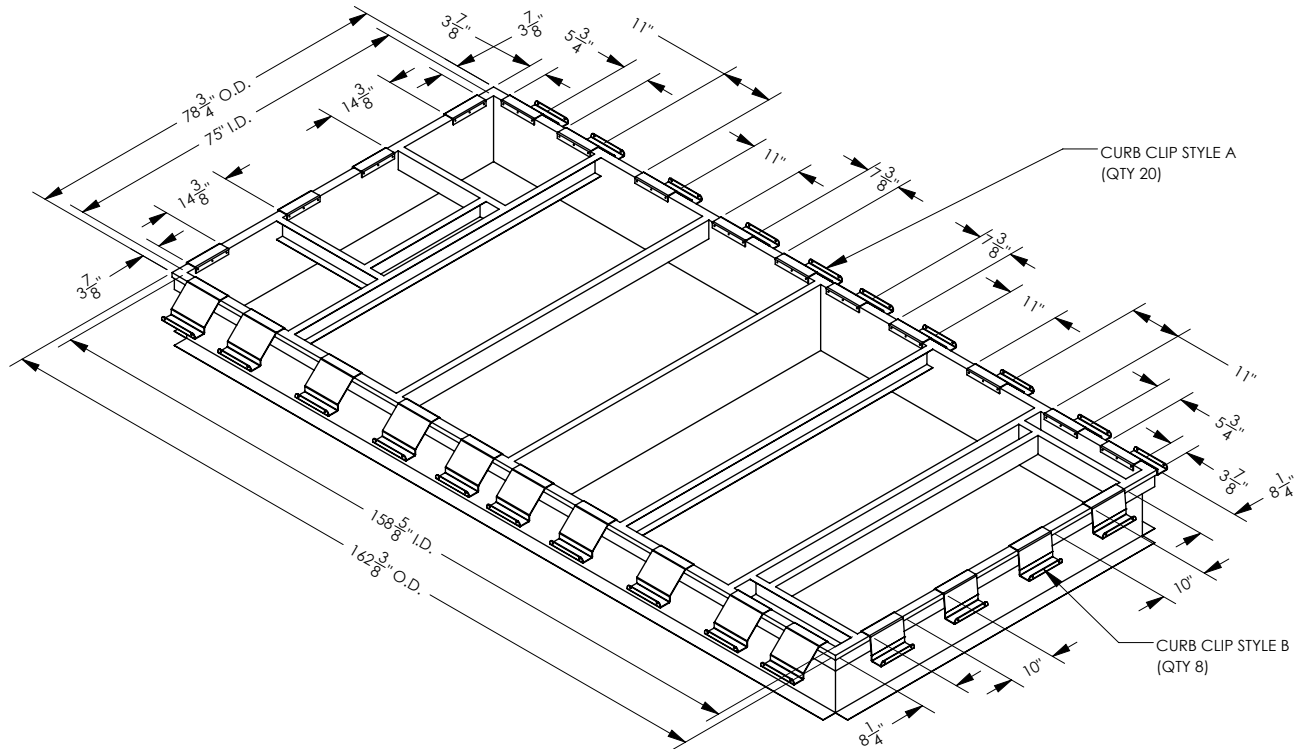


FIGURE 2.13.0 DN5 ERV+COIL+HEAT CURB CLIP PLACEMENT

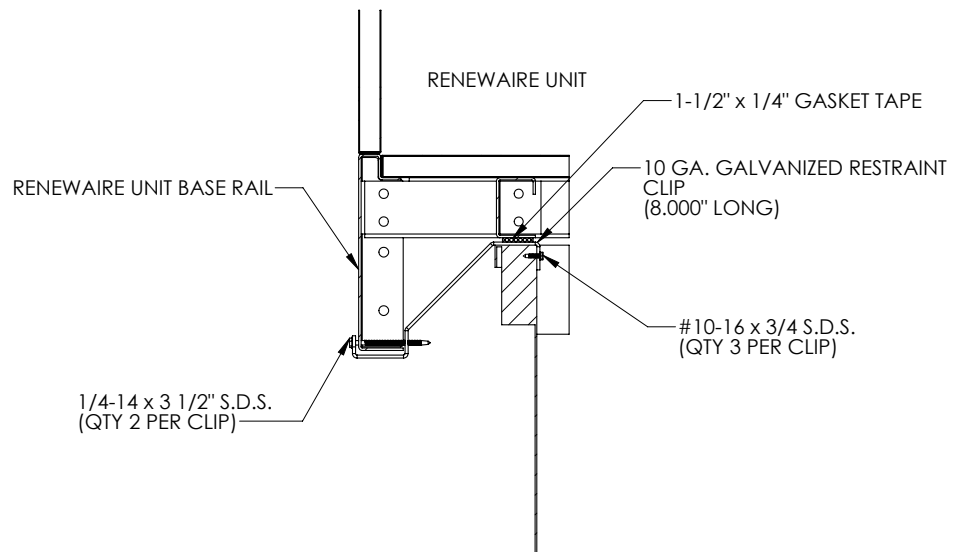


FIGURE 2.13.1 DN5 ERV+COIL+HEAT CURB CLIP INSTALLATION

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## About RenewAire

For over 30 years, **RenewAire** has been a pioneer in enhancing indoor air quality (IAQ) in commercial and residential buildings of every size. This is achieved while maximizing sustainability through our fifth-generation, static-plate, enthalpic-core **Energy Recovery Ventilators (ERVs)** that optimize energy efficiency, lower capital costs via load reduction and decrease operational expenses by minimizing equipment needs, resulting in significant energy savings. Our ERVs are competitively priced, simple to install, easy to use and maintain and have a quick payback. They also enjoy the industry's best warranty with the lowest claims due to long-term reliability derived from innovative design practices, expert workmanship and **Quick Response Manufacturing (QRM)**.

As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA. We're **committed to sustainable manufacturing** and lessening our environmental footprint, and to that end our Waunakee, WI plant is 100% powered by wind turbines. The facility is also one of the few buildings worldwide to be LEED and Green Globes certified, as well as having achieved ENERGY STAR Building status. In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group in order to provide direct access to the latest in energy-efficient air-moving technologies. For more information, visit: [renewaire.com](http://renewaire.com)

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