



CURB CLIP INSTALLATION MANUAL
DN ROOFTOP UNITS

CURB CLIPS FOR:
DN-2 ROOFTOP
DN-3 ROOFTOP
DN-5 ROOFTOP

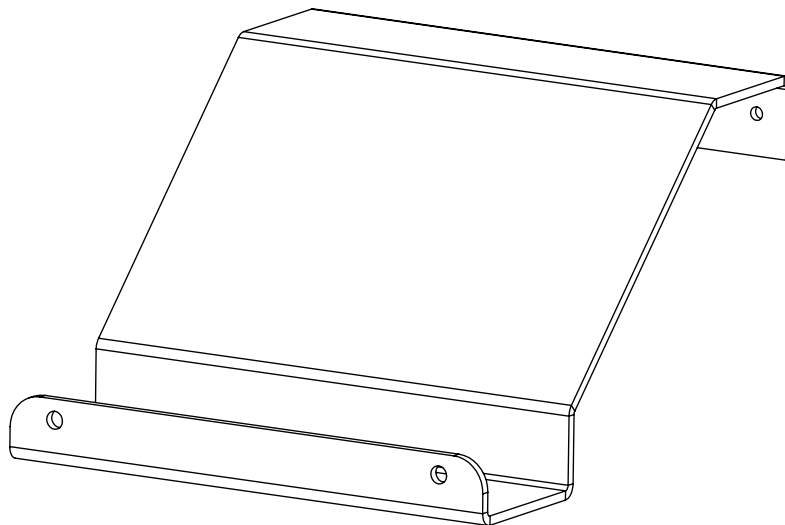


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WARNING

RISK OF INJURY. OBSERVE ALL CODES AND THE FOLLOWING:

1. This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.
2. Installation work must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.
3. Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.
4. Use this product only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
5. Pinch points occur where DOAS unit base drops into curb clips. Keep hands away!
6. 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.
7. 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.

PRODUCT INFO

ABOUT CURB CLIPS

CURB CLIPS

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).

The calculations used in design of the system are separately available in our document "CURB CLIPS DESIGN NOTES" for review by qualified engineers for possible application in coastal zones.

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.

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.

Qualified design professionals who wish to independently evaluate the fitness of RenewAire Curb Clips for specific applications should review our separate document "CURB CLIP DESIGN NOTES". That document describes the engineering requirements and procedures used to design the Curb Clips.

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.

INSTALLATION

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 5 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.

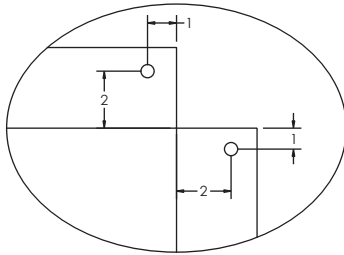
Make sure necessary ducts are installed in the curb before installing unit

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

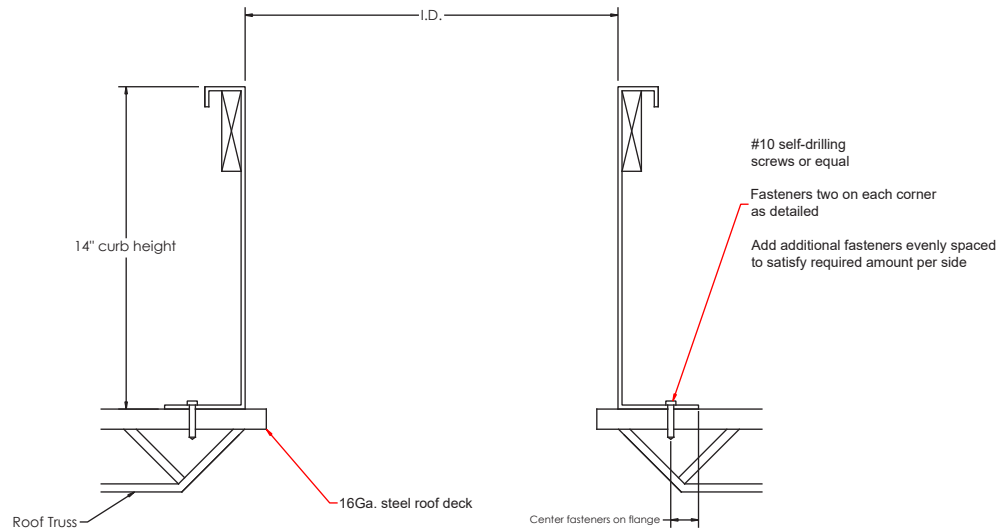
Drive (2) 3 ½" SDS through the clearance holes in each wind clip, through the DOAS base rails, and into the back of the Curb Clip. Drive the screws snug.

Important: each screw must drive firmly through the back of the Curb Clip (see details on following pages).

MINIMUM CURB ATTACHMENT TO ROOF



CORNER DETAIL



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	

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.

CURB CLIPS

DN-2 ERV ONLY

Use Curb Clip Kit PN 109169 1"

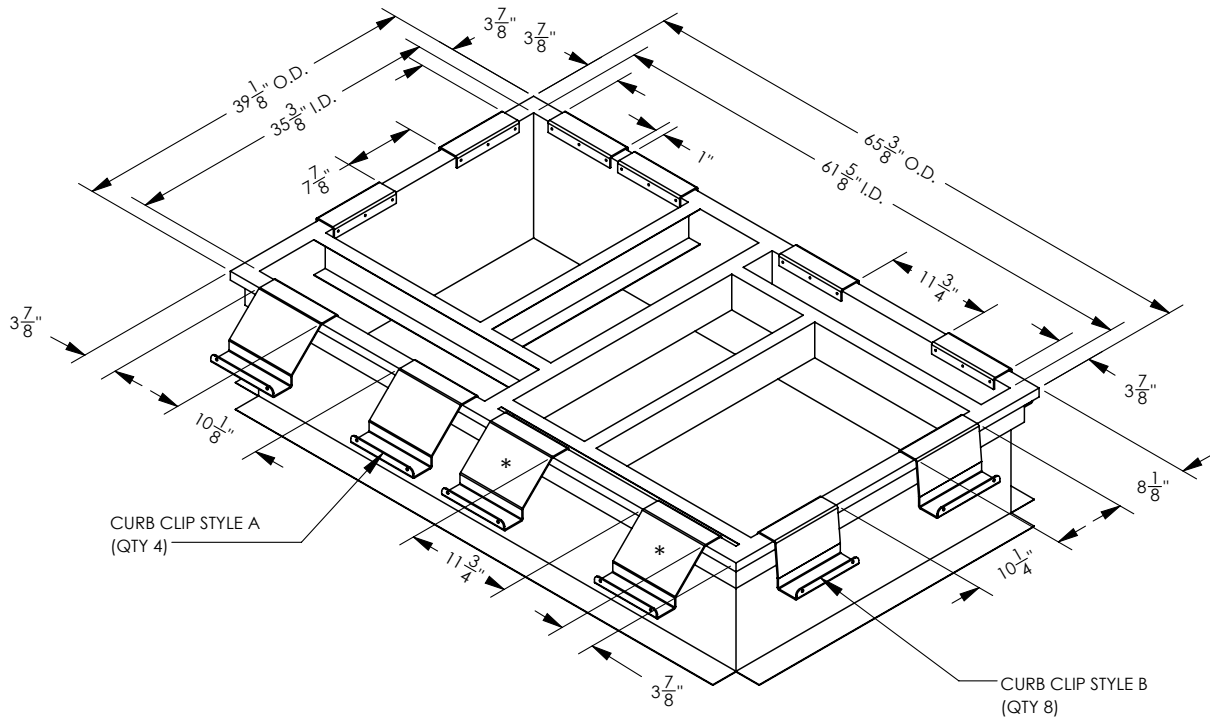
Kit includes:

- (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

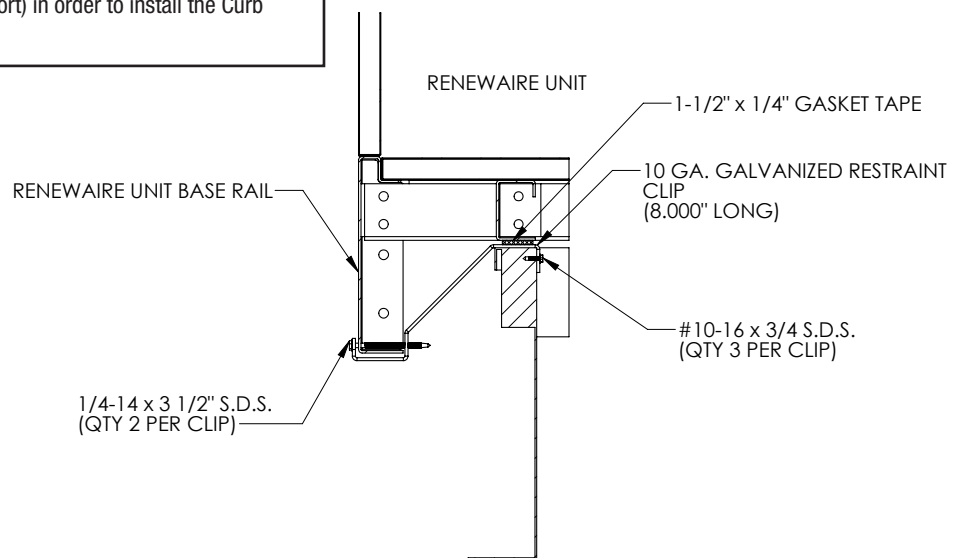
Use Curb Clip Kit PN 168101 2"

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



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



CURB CLIPS

DN-2 ERV+COIL OR HEAT

Use Curb Clip Kit PN 109169 1"

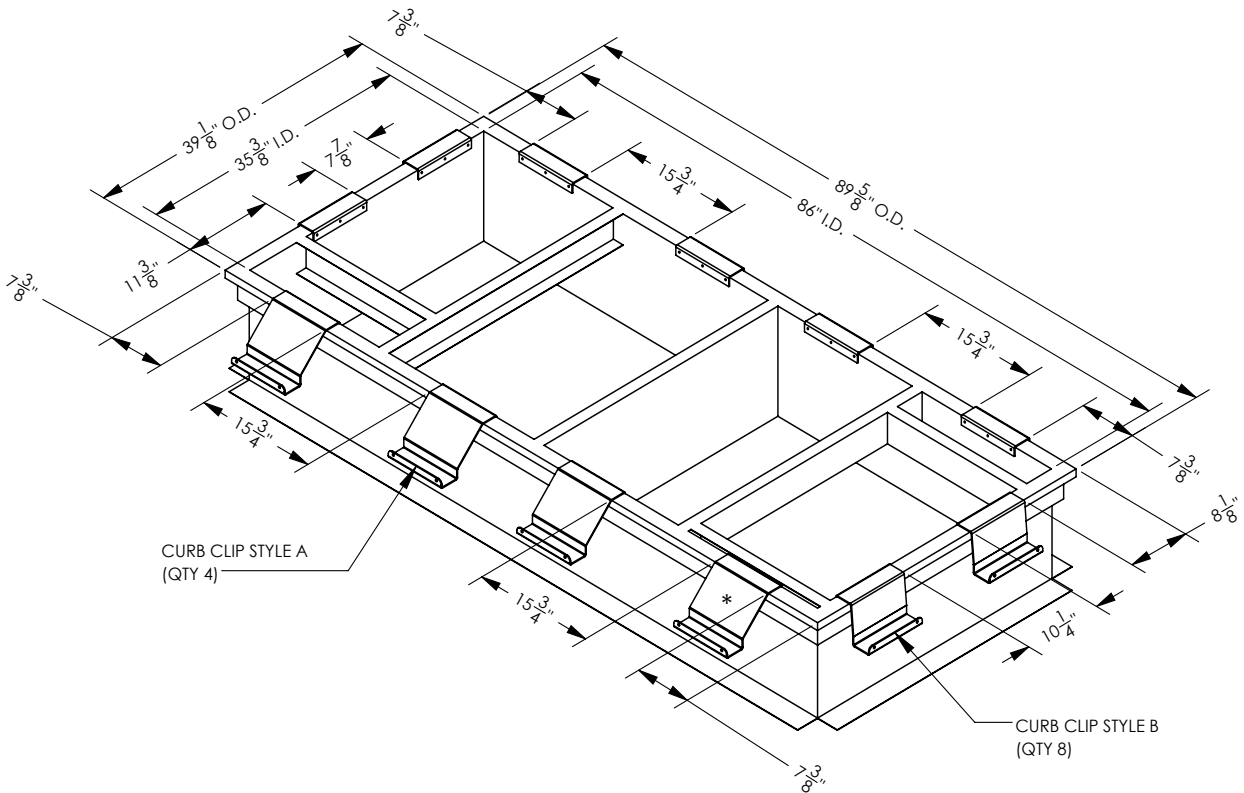
Kit includes:

- (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

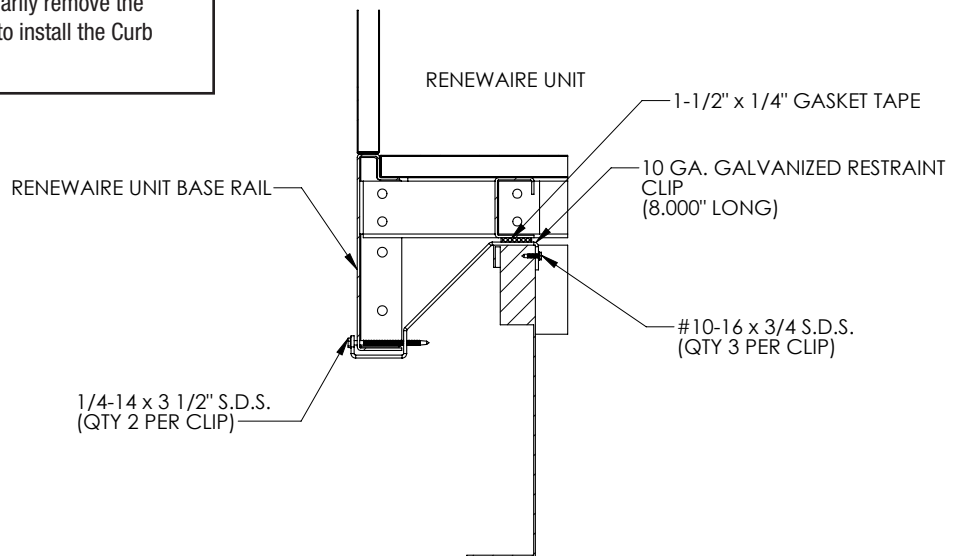
Use Curb Clip Kit PN 168101 2"

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.



CURB CLIPS

DN-2 ERV + COIL + HEAT

Use Curb Clip Kit PN 109168 1"

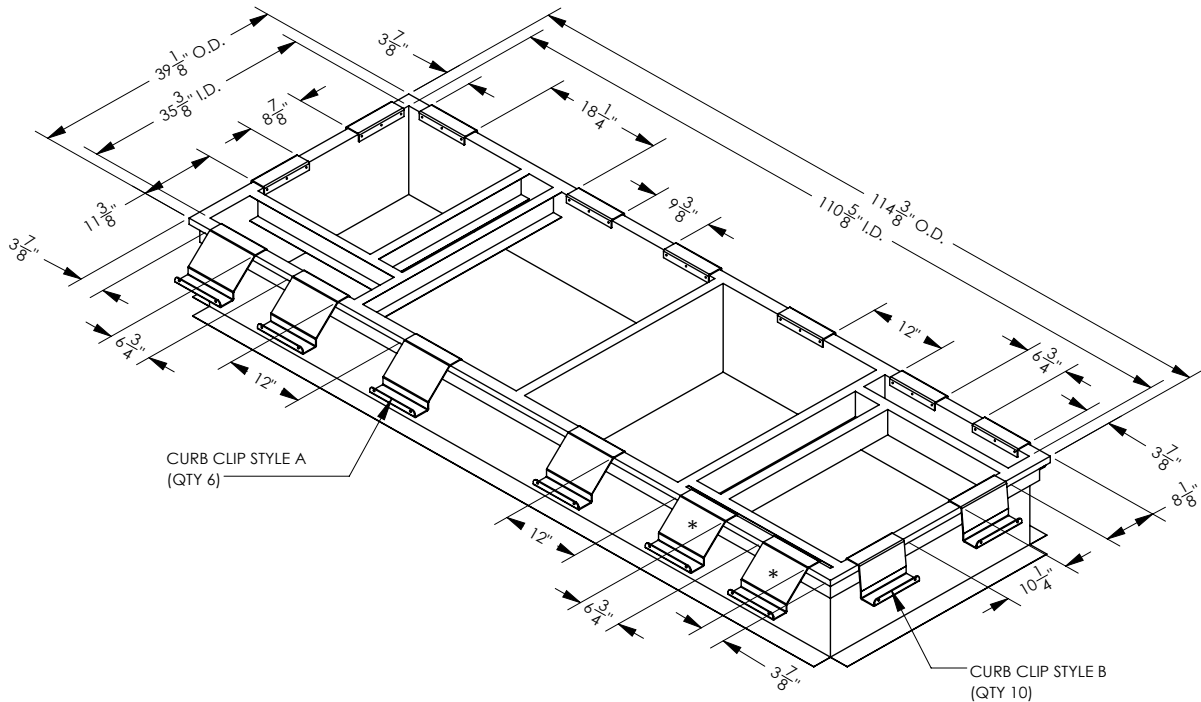
Kit includes:

- (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

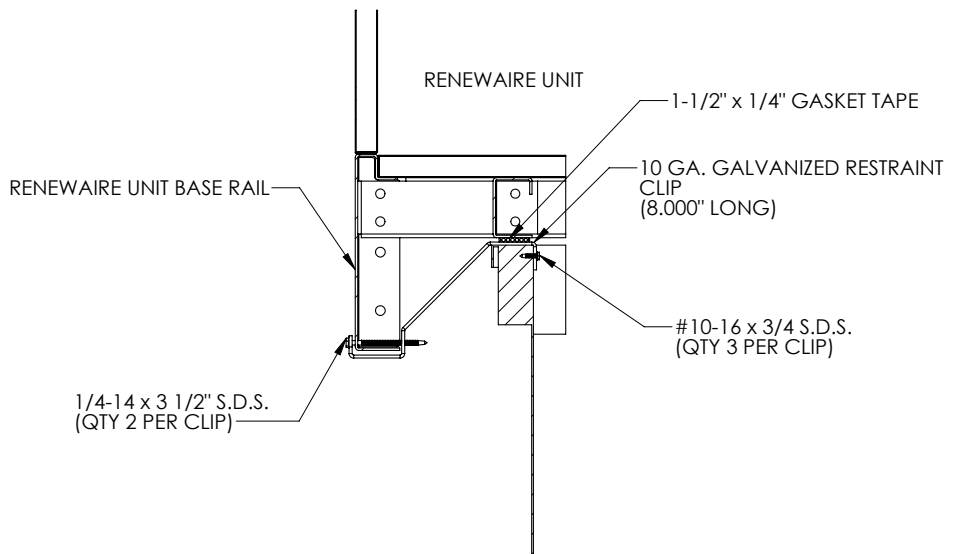
Use Curb Clip Kit PN 168100 2"

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.



CURB CLIPS

DN-3 ERV ONLY

Use Curb Clip Kit PN 109167 1"

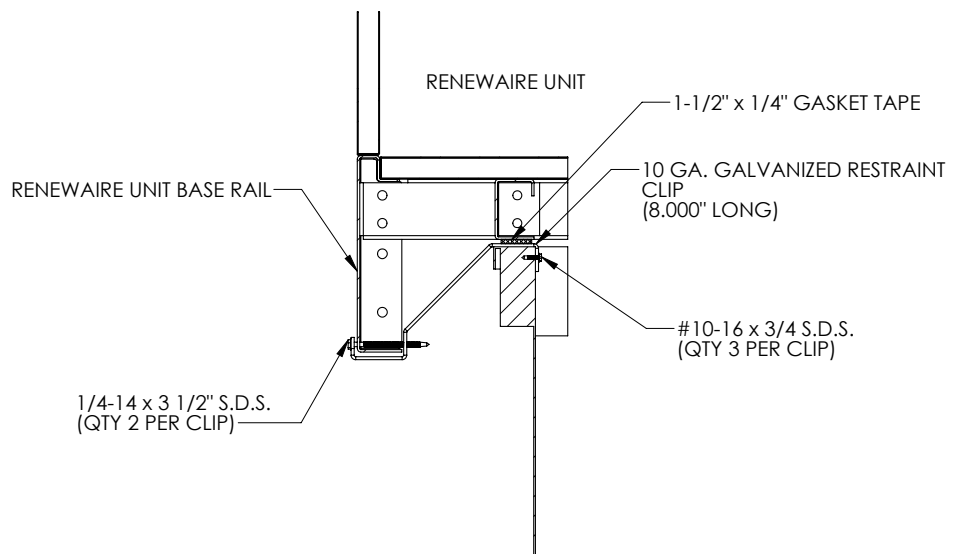
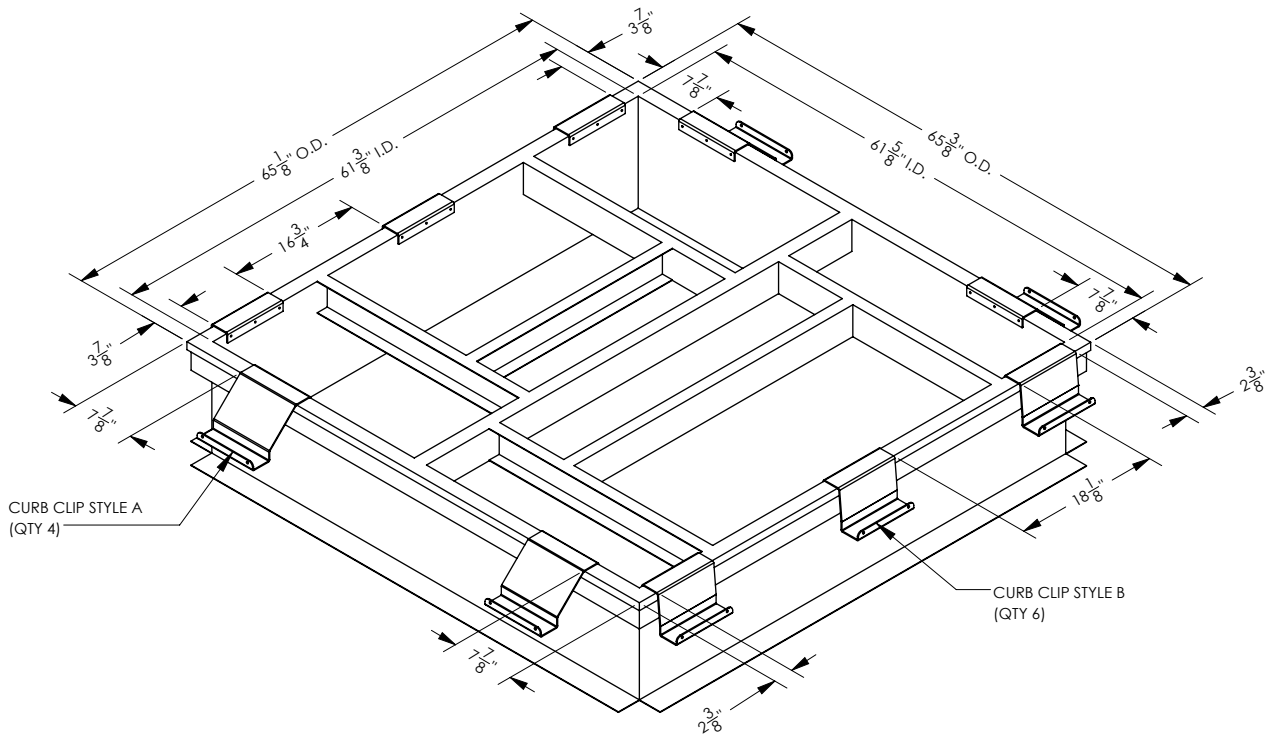
Kit includes:

- (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



CURB CLIPS

DN-3 ERV + COIL

Use Curb Clip Kit PN 109165 1"

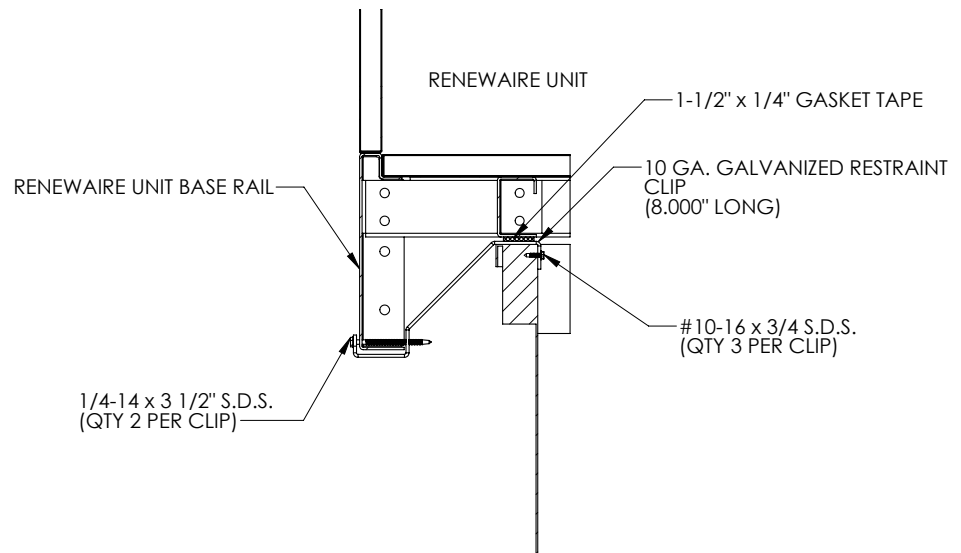
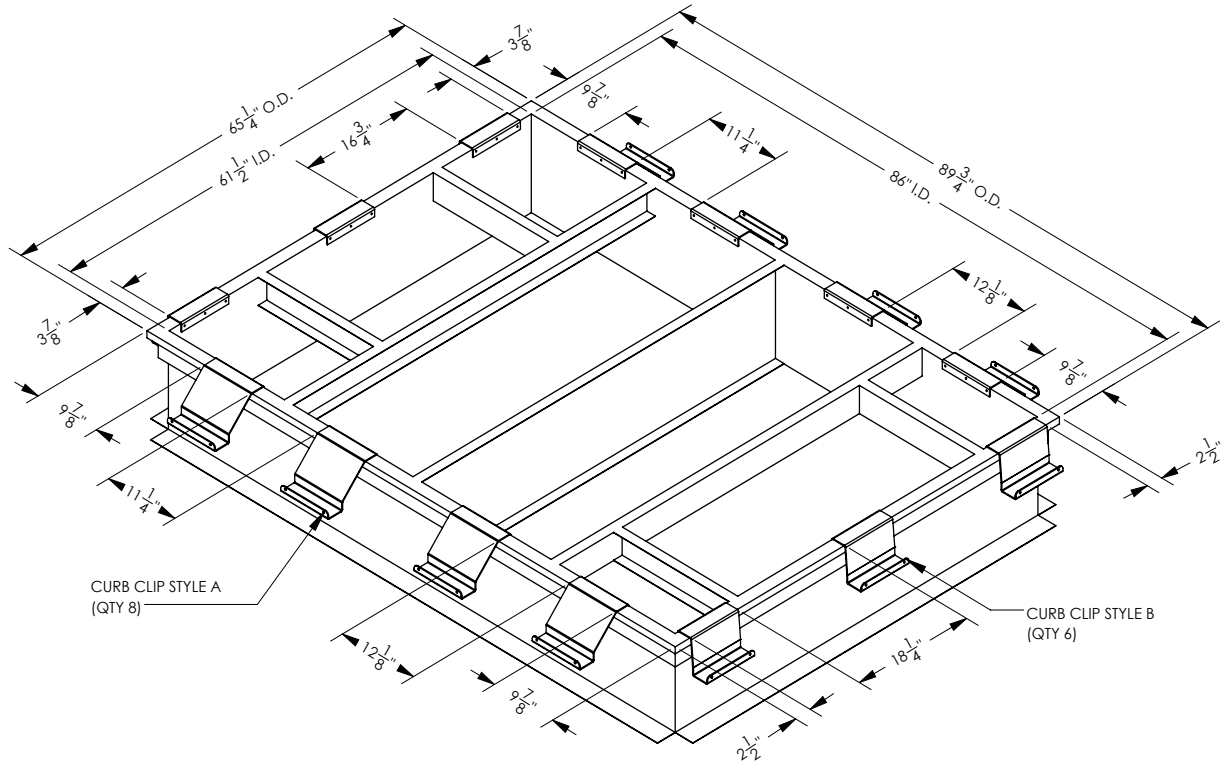
Kit includes:

- (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



CURB CLIPS

DN-3 ERV + HEAT

Use Curb Clip Kit PN 109165 1"

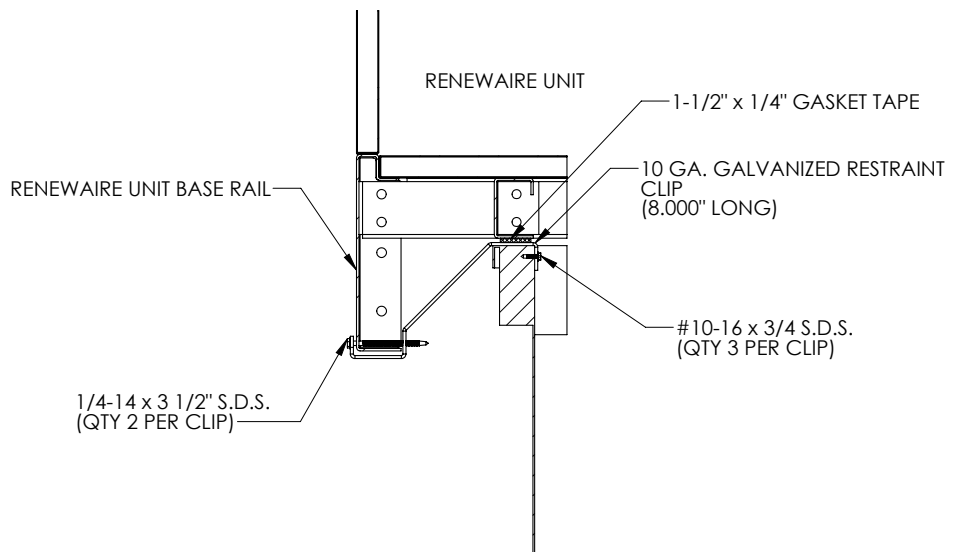
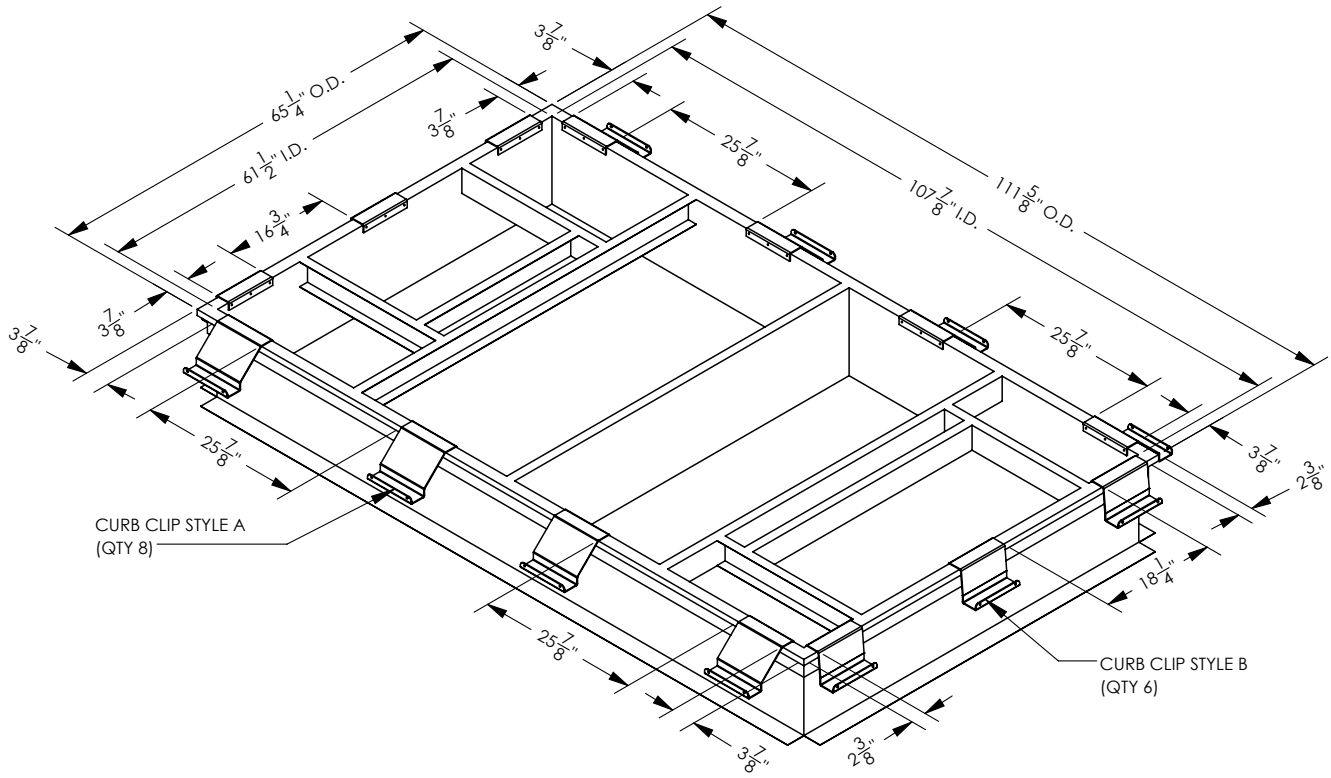
Kit includes:

- (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



CURB CLIPS

DN-3 ERV + COIL + HEAT

Use Curb Clip Kit PN 109164 1"

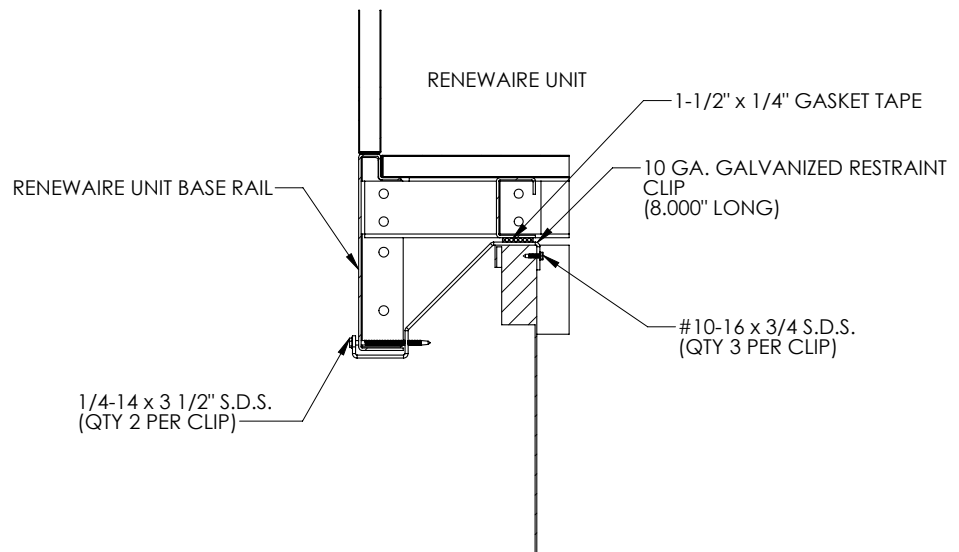
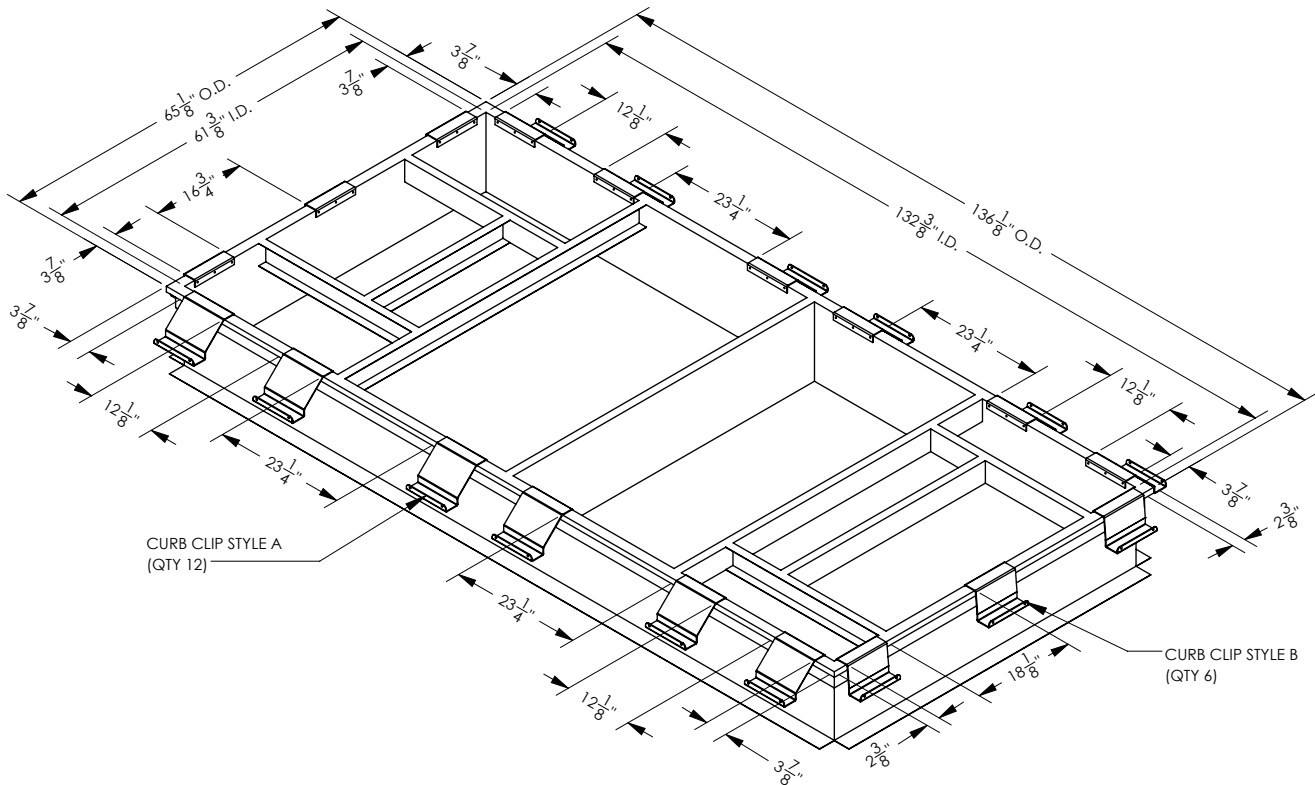
Kit includes:

- (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



CURB CLIPS

DN-5 ERV ONLY

Use Curb Clip Kit PN **109163 1"**

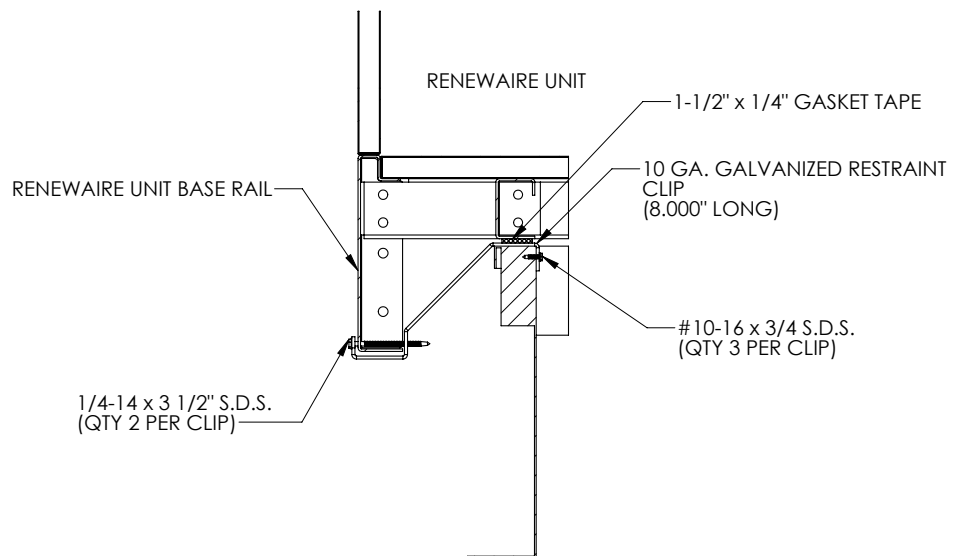
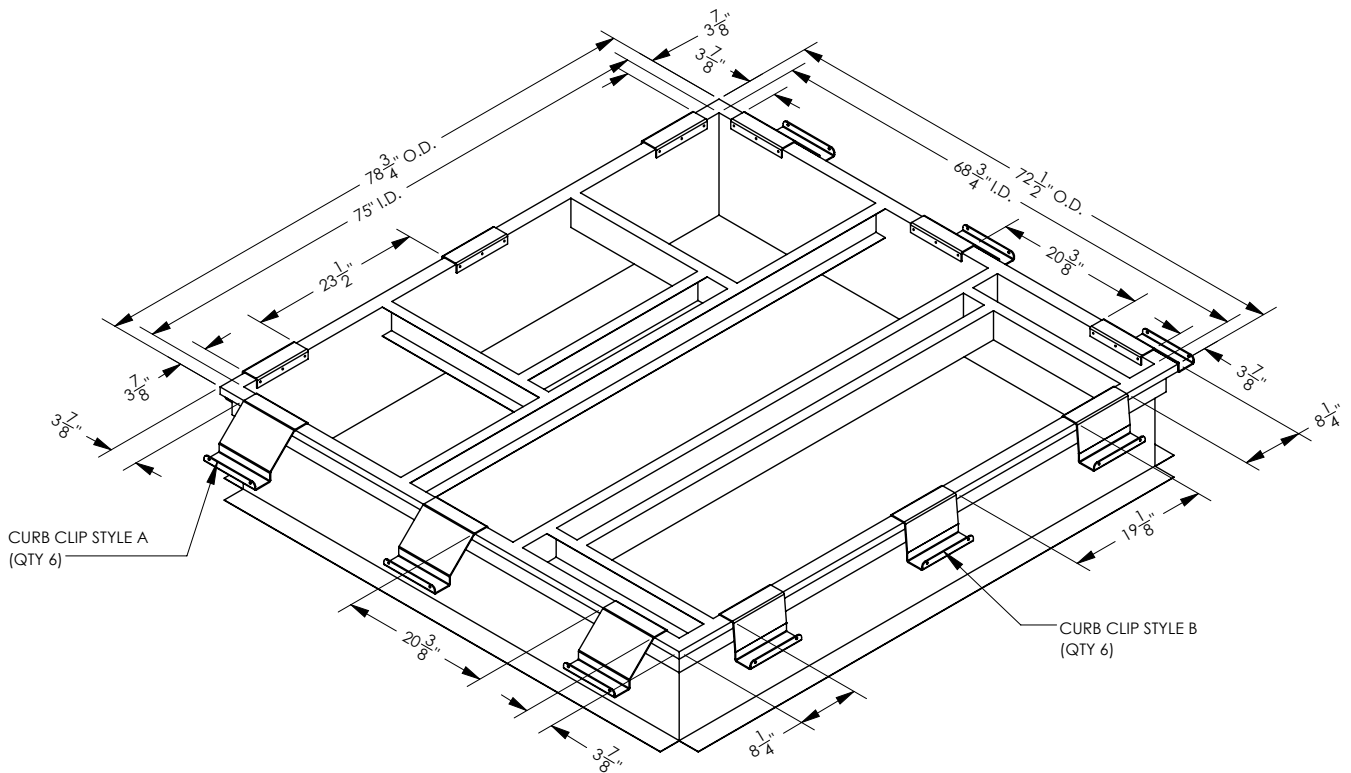
Kit includes:

- (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



CURB CLIPS

DN-5 ERV + COIL

Use Curb Clip Kit PN **109161 1"**

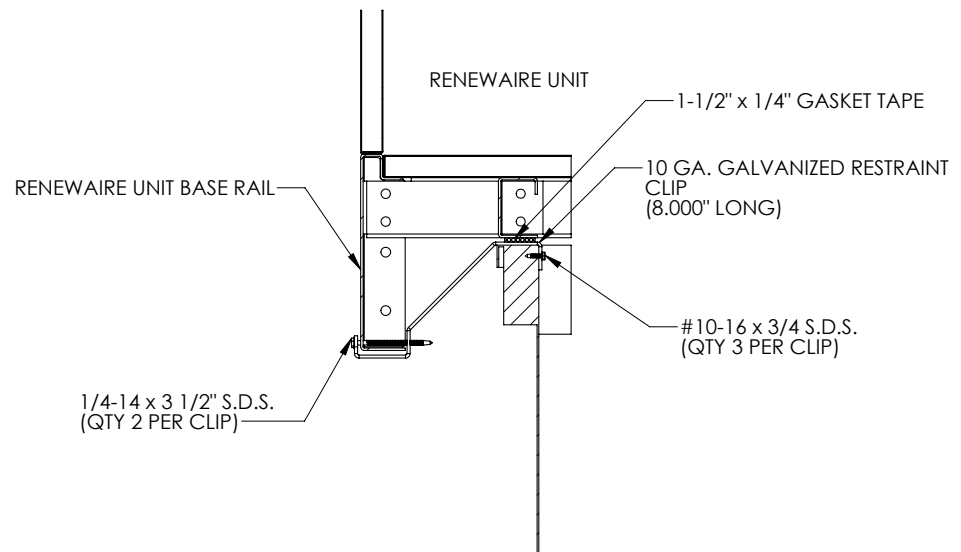
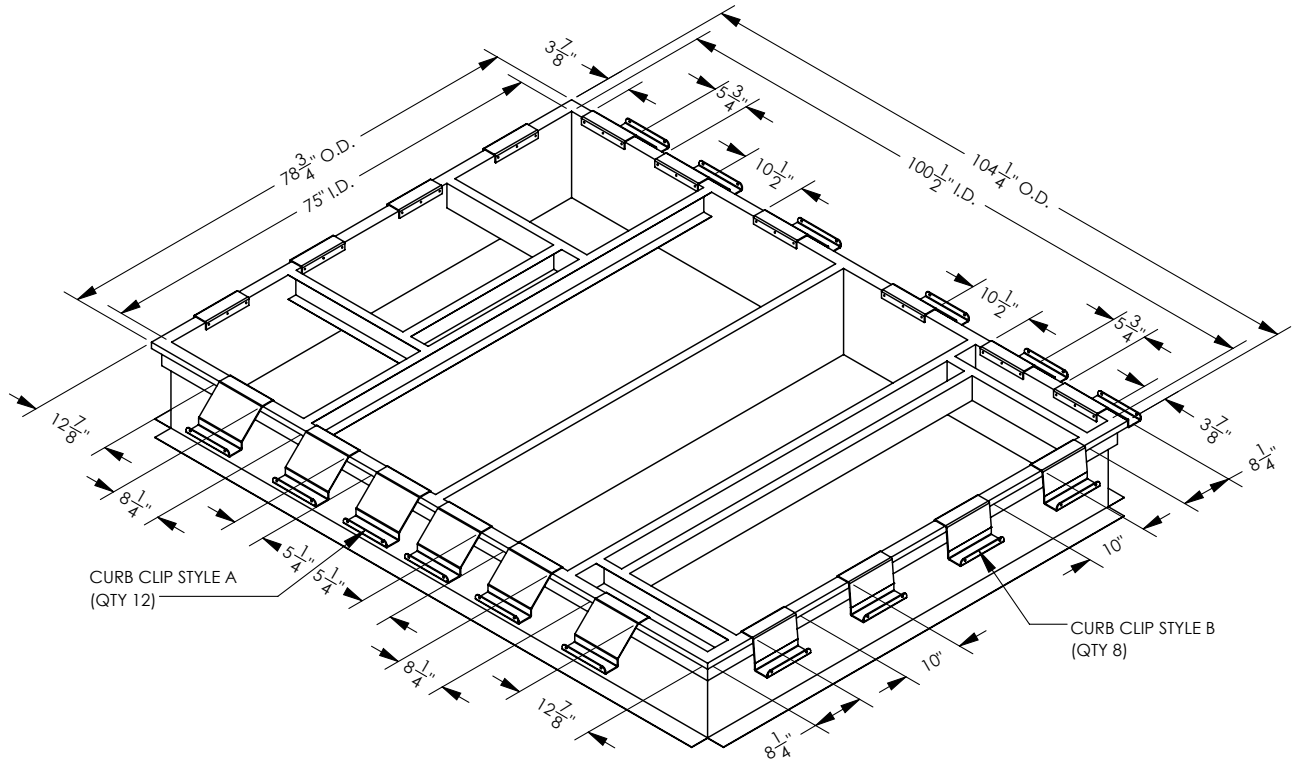
Kit includes:

- (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



CURB CLIPS

DN-5 ERV + HEAT

Use Curb Clip Kit PN **109162 1"**

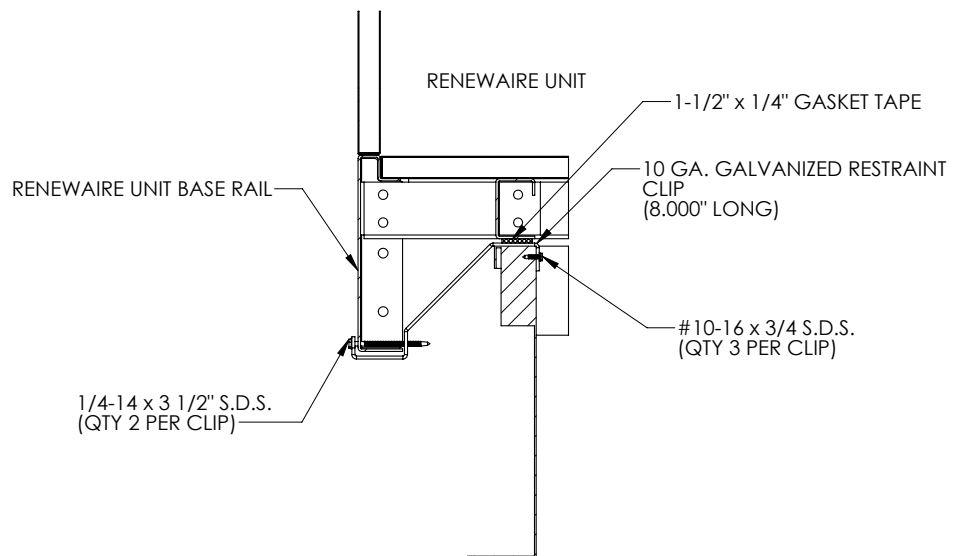
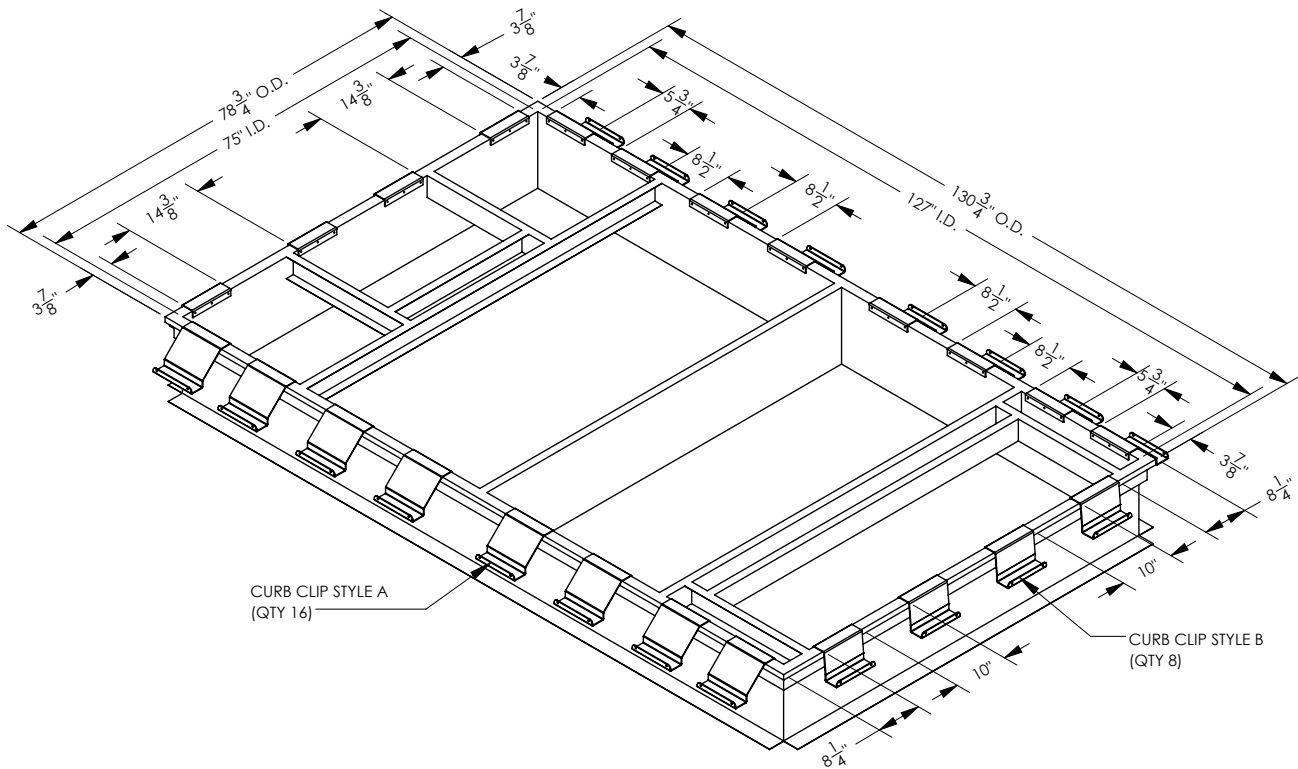
Kit includes:

- (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



NOTES



About RenewAire

For over 30 years, RenewAire has been a pioneer in improving people's health, cognitive function, productivity and wellbeing by enhancing indoor air quality (IAQ) in homes and buildings of every type. This is done energy-efficiently, cost-effectively and sustainably via our fifth-generation, static-plate, enthalpy-core Energy Recovery Ventilators (ERVs) and Dedicated Outdoor Air Systems (DOAS) that reuse otherwise-wasted energy to condition incoming outdoor air. This process optimizes energy efficiency, lowers capital costs by reducing HVAC loads and decreases operational expenses by downsizing equipment, resulting in major energy and cost savings. RenewAire technologies also enjoy the industry's best warranty with the fewest claims due to tremendous reliability, flexibility and ease of use.

RenewAire was the first innovator with static-plate, enthalpy-core technology in the U.S., and is currently one of the largest ERV companies in the country. Committed to sustainability and protecting the environment, our manufacturing facility in Madison, WI is 100% powered by renewable energy and is on track to be one of the few buildings worldwide with LEED Gold, Green Globes and ENERGY STAR certifications. Our technology excels in every geography, every climate, every building and every application, enabling RenewAire to be everywhere. In 2010, RenewAire joined the Soler & Palau Ventilation Group, providing direct access to state-of-the-art, air-moving technology. For more information, visit: www.renewaire.com.

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