

# SNAP LOCK INSTALLATION GUIDE

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# IMPORTANT INFORMATION

Read this manual completely prior to beginning the installation of your Mueller Snap Lock (MSL) roof system. Mueller Incorporated details must be followed as a minimum to ensure appropriate warranties be issued. Mueller Incorporated assumes no responsibility for any problems which might arise as a result improper installation or any personal injury or property damage that might occur with the products use.

Mueller is providing the following installation instructions and details as a guideline, to show a knowledgeable, trained erector, parts placement one to another. All local building codes in project specifications should be followed, however, in all cases, good roofing practices, and good workmanship should be employed when constructing a roofing system using Mueller products. These procedures and details are not intended to cover all instances, building requirements, designs, or codes. These details may require changes or revisions for each project, as conditions vary from project to project. The details provided are proven methods of construction.

**Mueller Incorporated does not consider the installation of a standing seam roof to be a do-it-yourself project. Work should be performed by experienced craftsmen familiar with metal roofing products and current industry standards.**

This installation guide is provided to Mueller customers and contractors as a basic recommended procedure for the correct assembly of the Mueller Snap Lock Standing Seam Roof System. This guide is intended to be used in conjunction with the erection drawings to help plan and organize the installation of the Mueller Lock Standing Seam Roof System. The erection drawings govern specific part arrangement and identify the applicable roof conditions. The instructions will help identify parts, establish the installation sequence, demonstrate correct assembly, and point out areas or procedures requiring special emphasis or attention.

This installation guide applies to the Mueller Snap Lock Standing Seam Roof System. Custom roof conditions, including custom details and instruction, will be covered by the erection drawings. In case of conflict between this installation guide and the erection drawings, the erection drawings will take precedence.

## CUSTOMER'S RESPONSIBILITY

### SUITABILITY OF DETAILS

It is the responsibility of the customer (or designer) to ensure that the details meet particular building requirements to assure adequate water tightness. It is the customer's responsibility to determine suitability of supplemental details for any claims arising from improper detail selection by others or faulty installation of any kind.

### SUITABILITY OF SUBSTRATE OR STRUCTURE

It is the responsibility of the customer (or designer) to determine suitability of structure, or substrate for the MSL panel system. It should be code-compliant and properly engineered and constructed for a structural standing seam roof system. It must be true and aligned to avoid panel distortion. MSL panels offer little or no diaphragm stability to the structure, and may not be relied upon for diaphragm support.

### SUITABILITY OF ROOF ACCESSORIES

Mueller may pass along vendor information to its customers for insulation, preformed roof curbs, hatches, vents, pipe flashings and other ancillary roof accessory items as well as tools and specialty fasteners. This is done as a convenience to the customer and is not to be construed as an approval of any particular roof accessory item for any given application. It is the responsibility of the customer to qualify other vendors and products with respect to quality and suitability for any particular application. Mueller assumes no responsibility for suitability or performance of materials and accessory items furnished by other vendors.

# IMPORTANT INFORMATION

## SUBCONTRACTOR SELECTION

The customer must select a competent installer that is qualified and experienced in the installation of standing seam metal roof systems. The installer should take time to study and understand this guide and follow the guide's instructions. Mueller, Inc. does not guarantee and is not liable for the qualifications of installer. Mueller, Inc. is not responsible for defects that may be attributed to improper installation or the negligence of other parties, suitability of structure, substrates or adjoining work or materials.

## COMPLIANCE WITH CODES, STANDARDS, AND SOUND INDUSTRY PRACTICES

The customer (and/or) installer is responsible for proper installation of the roof in accordance with the erection drawings and this installation guide, and other good construction practices as well as code compliance. In the case of tested and rated panel systems, it is the responsibility of the customer to see that actual construction complies with the tested and rate assembly in every detail.

- Panels should be installed straight and accurately.
- Roof clips shall allow for thermal movement and must be installed in strict accordance with Mueller erection drawings with respect to type and quantity of fasteners as well as clip spacing along the panel seam.
- Thermal movement of panels must be considered when attaching to adjacent constructions and materials.
- All areas of roof must have positive drainage of 3:12 pitch minimum and not allow ponding in any area of the roof.
- Compatibility of adjacent materials (not furnished by Mueller) should be verified.
- No penetrations whatsoever shall be placed in the panel system by fasteners or other roof ancillaries except as shown on the erection drawings.
- Only Mueller furnished or approved sealants shall be used, and only as shown on drawings and within this manual.
- Some field cutting and fitting of panels and flashings is expected and considered part of normal installation.
- "Oil Canning" of the flat portion of metal panels is inherent to metal panels and a common industry phenomenon. It shall not be considered cause for rejection.
- All flashings, closures, and accessories shown on the erection drawings shall be provided by Mueller unless noted otherwise. Installation procedures shall be in accordance with Mueller printed instructions, details, approved shop drawings and the highest industry standards and practices.

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## TRADE KNOWLEDGE AND PRACTICES

The customer (and/or) installer of the roof system is responsible for the safe execution of the work. Metal roof installation is a skilled craft requiring considerable trade knowledge and experience. Such knowledge and experience includes general rooftop safety, as well as knowledge of the hazards associated with metal roofing, and the tools and equipment associated there-with. This manual is intended to describe the sequence and proper placement of parts. It is not the intent or purpose of this text or Mueller, Inc. to train individuals for the craft of Metal Roof Assembly, or to convey all necessary trade knowledge and practice of metal roof installation. Although some general safety comments is offered in the following text, it is not intended to prescribe comprehensive safety procedures.

If the installer cannot safely assemble the roof in accordance with these instructions, it is the responsibility of the installer to stop the work and determine alternate safety assembly procedures.

## ROOF SAFETY CONSIDERATIONS

### OSHA

The Occupational Safety and Health Act (OSHA) has developed many regulations applicable to the installation of this or any other roof system. These regulations, identified as Part 1926, Safety and Health Regulation for Construction, are available from any government book store. The objective of the OSHA standards is to protect the worker from injury or illness. These OSHA regulations should be recognized as job site requirements and fully complied with. Failure to do so may result in substantial fines in the event of an OSHA inspection. Safe installation practices may be further defined and made mandatory by state or local ordinances. Maintaining good housekeeping on the job site is recognized as being important to both OSHA compliance and to successful job completion.

## WALKING & WORKING ON ROOF PANELS

### PLACING PANELS ON THE STRUCTURE

Do not place bundles of panels on the roof structure without first verifying the structure will safely support the concentrated weight of the panels and the weight of the installation crew. Some roof structures may not be designed to support the weight of a full panel bundle without additional structural support.

### WALKING ON ROOF PANELS

An approved and safe walking platform should be used in high traffic areas to prevent the roof panels from being deformed, scratched, or scuffed.

Do not use a roof panel as a walking platform. An unscrewed panel could collapse under the weight of a person standing between purlins or at the end.

Do not walk on the last installed panel run, as the unsecured edge could collapse under a person's weight. When installing clips or making end lap connections, etc., stand where the roof structure will support your weight.

Do not leave a roof panel edge unattached, always install the clips to the panel before terminating the installation for any period of time.

When using power tools, equipment, lanyards, retractable lines and other installation equipment, ensure that the metal parts are covered in such a manner that they do not scratch the panel surface if dragged along the panel.

### PANEL OVERHANG

Do not stand on the end of unsupported (cantilevered) panels at the eave or ridge. Standing on the cantilever portions may result in panel collapse.

### CONSTRUCTION LOADS

When properly attached to supporting structures and seamed, MSL panels are designed to support uniform loads which are evenly distributed over the panel surfaces. Panels will also support a minimum 300 pound point load over any one square foot area of any part of the panel.

# ENGINEER/ARCHITECT INFORMATION



## SUBSTRATE:

24 Gauge Galvalume - Standard Surface.

## PANEL CONFIGURATIONS:

Striated

## PANEL WIDTH:

15 1/4" ± 1/8" Center of rib to center of rib

## PANEL LENGTH:

50' Standard Maximum Length. Longer lengths available upon request, 3 foot (3') Minimum Length.

## PANEL HEIGHT:

1 3/4"

## MINIMUM SLOPE:

3:12 Pitch

## CLIP SPACING:

See U.L. 90 Classifications - Roof Deck Construction for maximum clip spacing.

- U.L. 90 Classifications - Roof Deck Construction:
- U.L. Class 90 - 24 Ga. minimum panel on 4' - 0" maximum purlin spacing, per U.L. Construction #255
- U.L. Class 60 - 24 Ga. minimum panel on 5' - 0" maximum purlin spacing, per U.L. Construction #255
- U.L. Class 90 - 24 Ga. minimum panel with clips spaced 36" on center over plywood decking, per U.L. Construction #343
- U.L. Class 90 - 24 Ga. minimum panel with clips spaced 48" on center over rigid insulation on metal deck, per U.L. Construction #468

## IMPACT RESISTANCE:

UL 2218 - IMPACT: CLASS 4  
EXTERNAL FIRE: CLASS A

## AIR AND WATER INFILTRATION:

Mueller Snap Lock systems have been tested in accordance with ASTM E1680 and ASTM E1646 procedures.

**OIL CANNING (PAN WAVE) OF METAL PANELS IS INHERENT IN THE PRODUCT AND IS NOT CAUSE FOR PANEL REJECTION.**

# GENERAL APPLICATION INFORMATION

The details shown on the following pages are suggestions or guidelines for installing the Mueller Snap Lock System. The installation details shown here are proven methods of construction, but they are not intended to cover all building requirements, designs or codes. The details may require changes or revisions due to individual project conditions. Installation procedures shall be in accordance with instructions, details or approved shop drawings. Installers should thoroughly familiarize themselves with all instructions prior to beginning the installation process.

The installer/designer is responsible for ensuring the following:

- That the details here meet the particular building requirements.
- Awareness of and allowance for expansion/contraction of roof panels.
- That adequate water tightness is maintained.
- That a proper uniform substructure is used to avoid panel distortion and that the substructure meets necessary code requirements.
- That all supporting members have been examined and are straight, level, and plumb.

Due to the complexities of a standing seam roof it is the responsibility of the customer (or designer/installer) to determine the suitability of the structure or substrate for a Mueller standing seam roof. It is the customer's responsibility to insure that their building is code compliant, properly engineered and constructed to facilitate the installation of a standing seam roof. Standing seam panels offer little or no diaphragm stability to the structure and cannot be relied upon for diaphragm support. Purlin stability is not provided by a Mueller Snap Lock panel. Accurate sheet lengths and trim components are critical to a successful install and should be confirmed by the designer/installer before any material is ordered.

Mueller can provide all flashings, trim and accessories shown in the installation drawings unless otherwise noted. Panels, flashing and trim shall be installed true and in proper alignment with any exposed fasteners equally spaced for best appearance. Sealant shall be field applied on clean dry surface.

Some field cutting and fitting of panels and flashings is to be expected in to be considered as a part of normal installation work. In some cases extra length has been added to panels to ensure adequate product on the jobsite. Workmanship shall be of the best industry standards with installation performed by experienced metal craftsmen.

## SEALANTS

Sealants not exposed to direct sunlight should consist of either an elastic butyl rubber tape or non-shrinking, non-drying gum applied butyl. Single part urethane should be used when exposed to ultraviolet light. All sealant should be applied clean dry services to ensure weather tightness. Sealant shall be installed as shown without voids.

## SNOW DESIGN

The following details do not address snow load conditions. Special design consideration is required when installing a metal roof in heavy snow environments. Contact your Mueller sales representative for more details.

## DELIVERY AND STORAGE

Handle panels in bundles with care. Do not use ropes or wires for lifting. Long panels (25 feet or more) may require two or more lift points to avoid bending and buckling of panels. Store panels in a dry, well ventilated area. Elevate one end of the panels to allow for drainage of any moisture. Block panels off the ground. Do not store panels in direct contact with the ground. Do not allow strippable film to remain exposed to direct sunlight for any extended period of time. Remove strippable film prior to, or immediately after installation of panels or trim. Do not walk directly on standing seams.

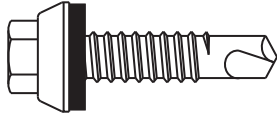
Wear shoes with non-marking/scuffing soles. Inspect each and every panel, trim and all accessories before installation. Never install any product if it's quality is in question. Notify your Mueller salesperson immediately if any product is believed to be out of tolerance, specification, or has been damaged during shipment.

If there is a conflict between project erection drawings provided by Mueller and details in this manual, project erection drawings will take precedence.

**CONTENTS OF THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. TO CONFIRM THIS BOOK IS THE MOST CURRENT COPY, PLEASE VISIT THE MUELLER WEBSITE AT [WWW.MUELLERINC.COM](http://WWW.MUELLERINC.COM).**

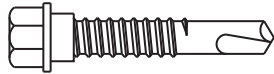
# STANDARD PARTS

## 1/4" x 14 x 1 1/4" Long Life Driller



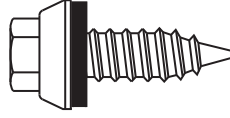
- 3/8" Hex Head with sealing washer

## 1/4" x 14 x 1 1/4" Shoulder Tek 2



- 5/16" Hex Head with no washer

## 1/4" x 14 x 1" Type AB Long Life

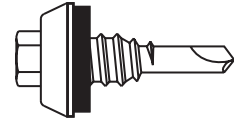


- 3/8" Hex Head with sealing washer (Long life exterior fastener)

## 10 x 1" #2 Phillips Pancake Head Self Driller



## 1/4" x 14 x 7/8" Lap Tek



- 3/8" Hex Head with 3/8" O.D. washer

## 10 x 1" #2 Phillips Pancake Head



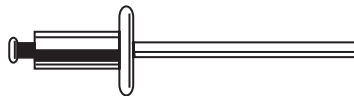
8

## 12" x 24 x 1" Tek 2 Grip Range Stainless Steel

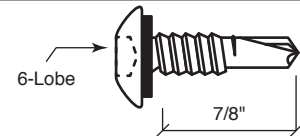


- 5/16" Hex Head with 5/8" O.D. washer

## 1/8" diameter x 3/16" Grip Range Stainless Steel

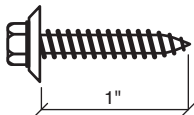


## #14 x 7/8" Low Profile Lap Screw



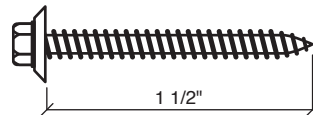
- Low Profile Design
- Large Diameter Head For Resistance
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## #9 x 1" Woodgrip



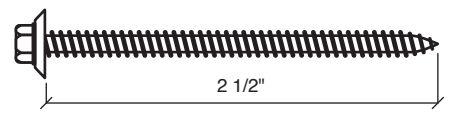
- 1/4" Hex Washer Head
- 1/2" O.D. EPDM Sealer Washer
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## #9 x 1 1/2" Woodgrip



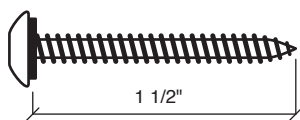
- 1/4" Hex Washer Head
- 1/2" O.D. EPDM Sealer Washer
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## #9 x 2 1/2" Woodgrip



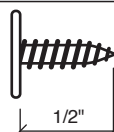
- 1/4" Hex Washer Head
- 1/2" O.D. EPDM Sealer Washer
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## 1", 1 1/2", 2 1/2" Low Profile Head



- 1/2" Head Diameter Phillips Drive
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## Stitch Screw 1/2"



- #2 Phillips Drive
- Corrosion Resistant Coating
- Painted or Mill Finished Head

## Deck Screw Driller



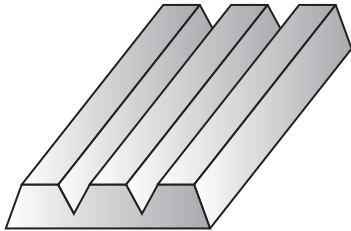
- 2"-6" x #14
- Length determined by rigid insulation thickness and metal deck depth.

DETAILS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.



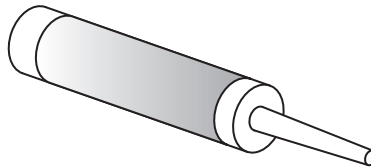
# STANDARD PARTS

## Tape Sealer



- For use at eave, ridge and endlaps

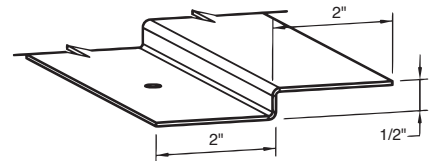
## Tube Sealant



## Eave Plate (for 1/2" stand-off)

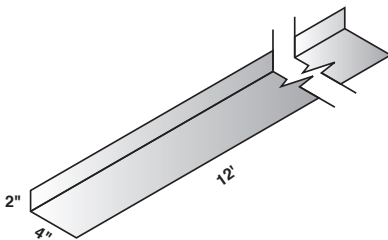
# 69292

- 16 ga., 50 ksi Galvanized Steel
- 10'-0" Length
- Factory punched holes



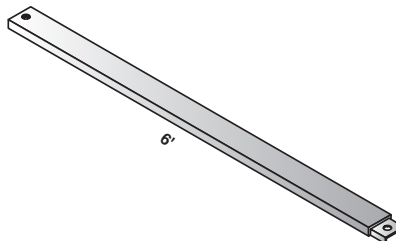
## Back-Up Angle

# 63654



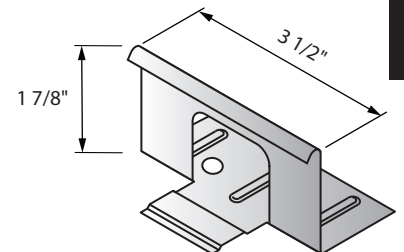
## Back-Up Channel

# 56514



## Clip, UL 90

# 56507

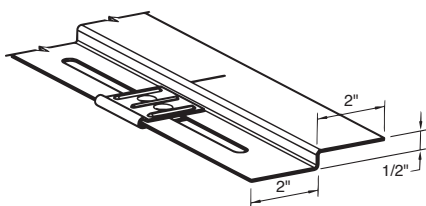


- Clip to be used on roofing applications where fiberglass insulation thickness does not exceed 3".

## Rake Plate (for 1/2" stand-off)

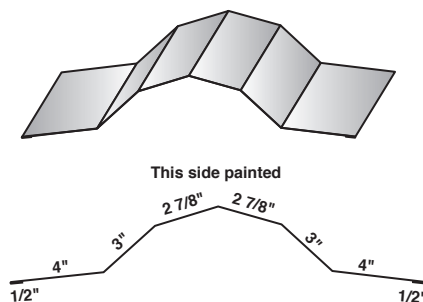
# 69290

- 16 ga., 50 ksi Galvanized Steel
- 10'-0" Length
- Factory punched holes



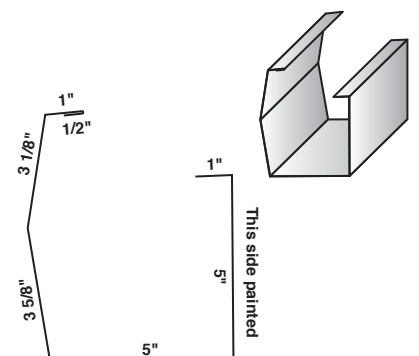
## Ridge Trim, Floating & Fixed

# 0201



## Gutter (Fixed Eave)

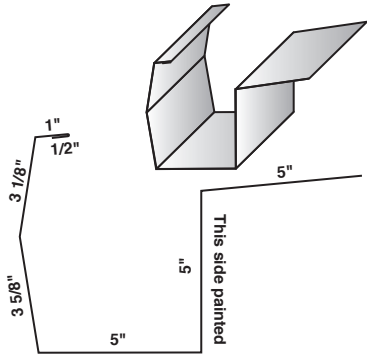
# 0504



# STANDARD PARTS

## Gutter – Hemmed Eave

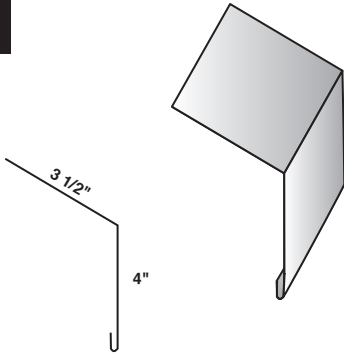
# 0506



## Eave Trim

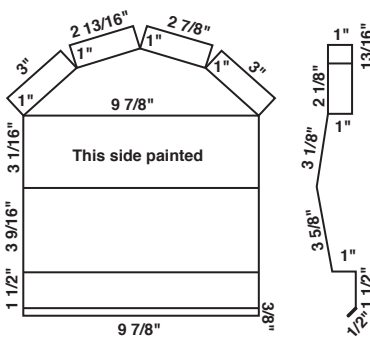
# 0800

10



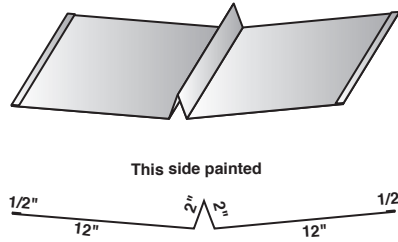
## Peak Box

# 0912



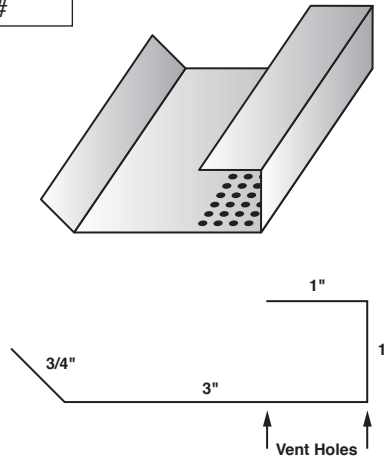
## Valley Trim

# 0542



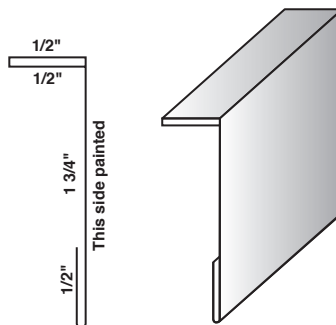
## Vent Trim

#



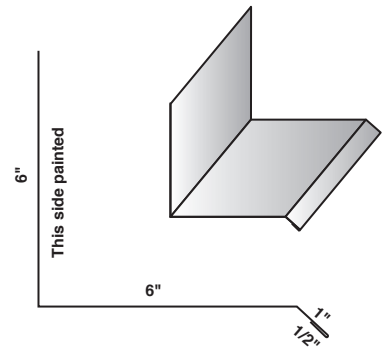
## Gutter Strap

# 1004



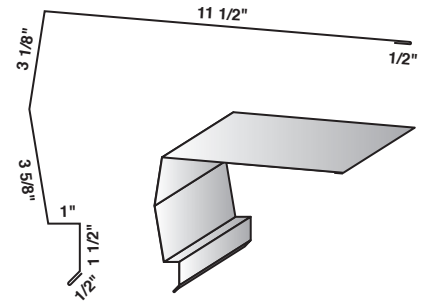
## Sidewall Trim

# 0723



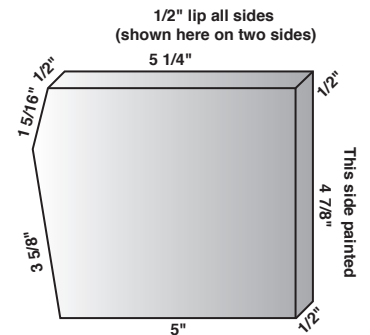
## High Side Eave

# 0804



## Gutter End

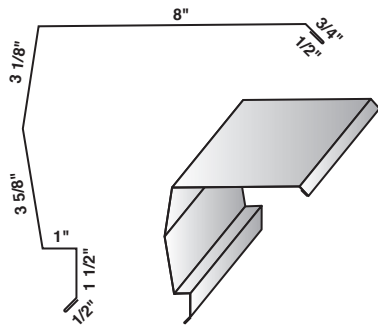
# 1106



# STANDARD PARTS

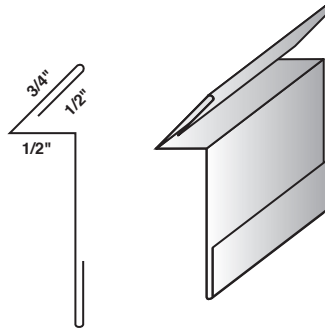
## Rake

# 1401



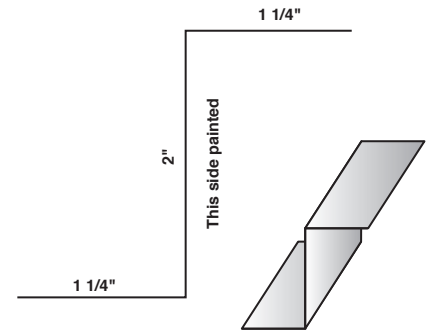
## Rake Slide

# 1801



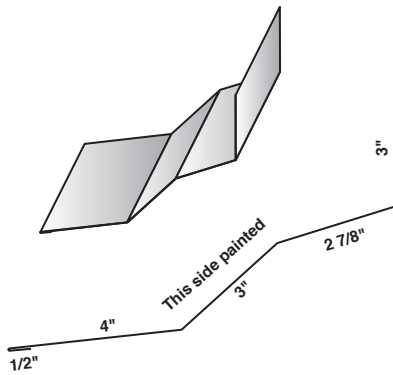
## Rake Closure - MLK

# 1802



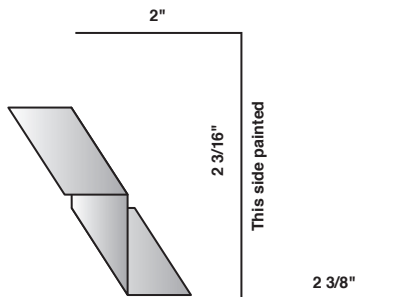
## Endwall

# 1803



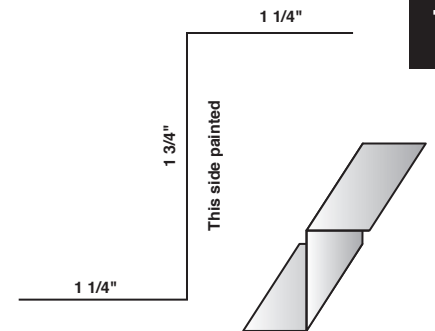
## Hip Closure - MLK

# 1804



## "Z" Closure - MSL

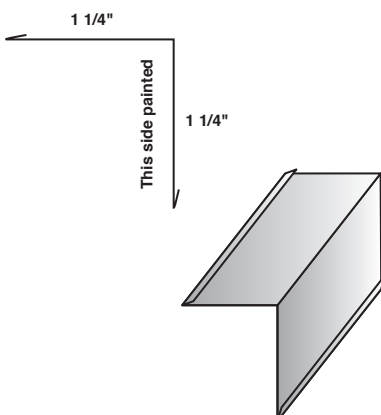
# 1805



11

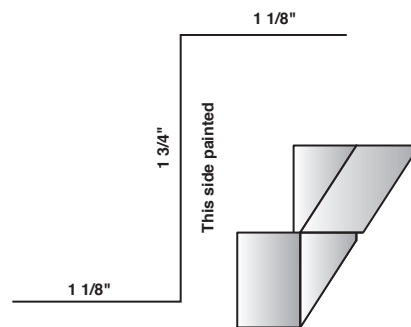
## SS Rake Trim Support Angle

# 0715



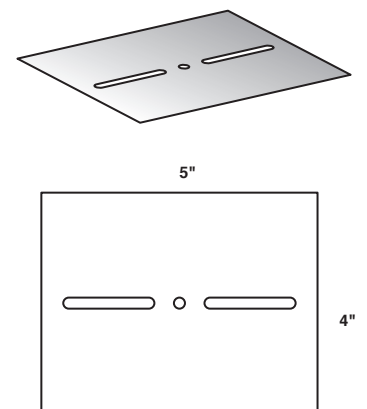
## End Dam

# 1806



## Bearing Plate

# 63655

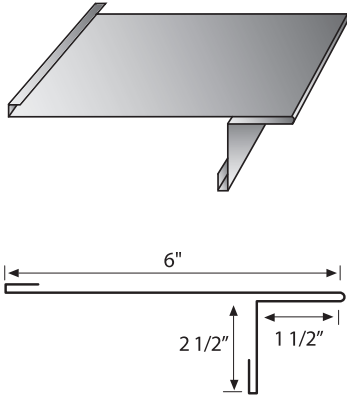


DETAILS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

# STANDARD PARTS

## Adjustable Gable - 11"

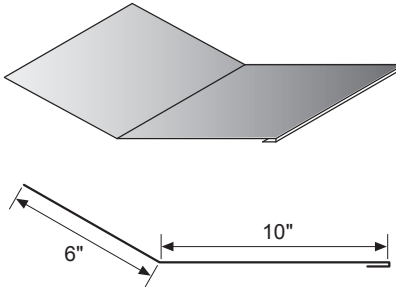
#1477



## Transition Trim

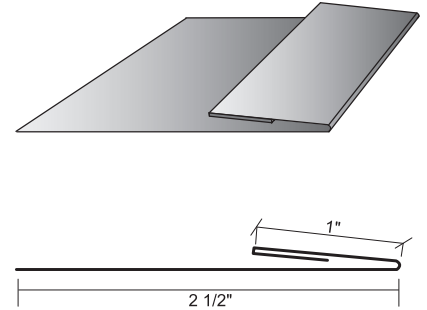
#1486

Pitch Required



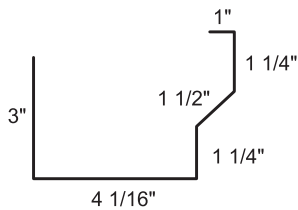
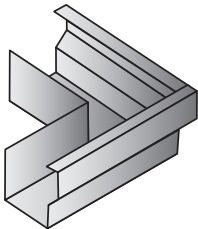
## Adjustable Gable Strip

#1476



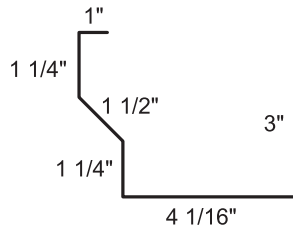
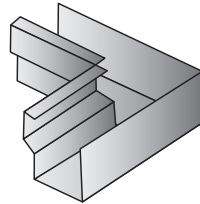
## OS Corner Box for #0502

#1402



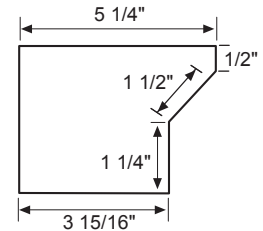
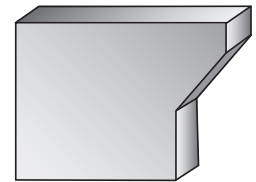
## IS Corner Box for #0502

#1412



## Gutter Endcap for #0502

#1102

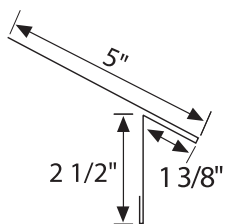
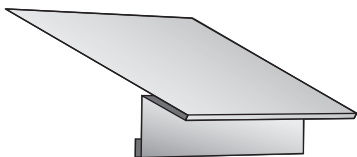


12

## House Roof Eave Trim

#0853

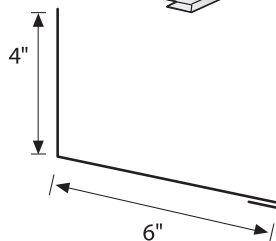
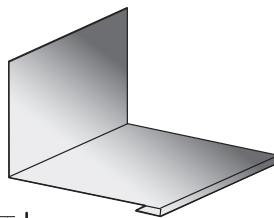
Pitch Required



## Endwall to Roof Flashing

#0726

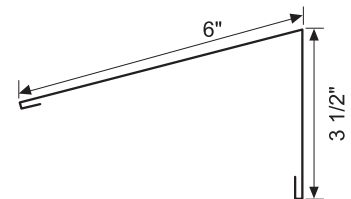
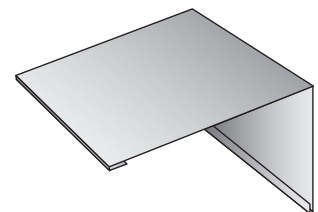
Pitch Required



## High Side Eave Trim

#0802

Pitch Required

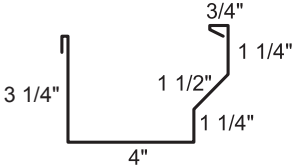
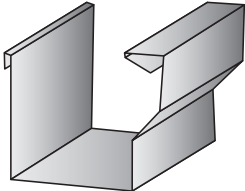


DETAILS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## Residential Gutter - 13"

#0502

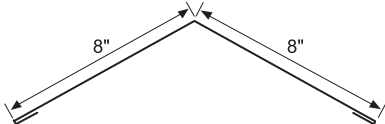
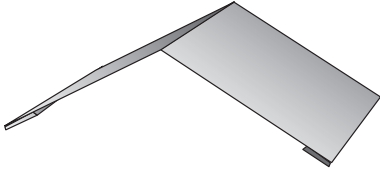
uses stamped strap #55030



## Ridge Roll - 17"

#0222

Pitch Required



# SAFETY AND STORAGE CONSIDERATIONS

As with all major construction projects, safety should be a primary concern. The erector or contractor should be sure that all OSHA safety rules are followed and that job safety is strictly adhered to.

The following safety equipment is highly recommended when installing metal roofing:

1. Safety rope and harness
2. Hand protection
3. Eye protection
4. Hearing protection
5. Soft rubber soled shoes

Metal roofing presents several specific safety issues:

1. Metal roofing is extremely slick and does not provide firm footing. Extreme care should be taken when:
  - A. Working on roofs with very steep pitches.
  - B. Working on roofs when moisture is present.
  - C. Working on roofs when high wind is a factor.
  - D. Working with long panels.
2. Metal edges are very sharp and should be handled with care.
3. Care should be used when lifting panels due to their weight.
4. Always check for overhead electrical lines and exercise care not to have metal sheets come in contact with them.
5. All electrical tools should be inspected regularly for damaged cases or frayed electric cords. Extension cords should be inspected for damaged or frayed insulation. Tools which do not meet good safety standards should not be used.

## UNSECURED PANELS MAY SLIP IF STEPPED ON!

Never step on a single unsecured roof panel, or a stack of roof panels laying unattached on the roof. Secure each end of the panel with clamps or appropriate fasteners.

**NEVER INSTALL MATERIAL IF THE QUALITY IS IN QUESTION!**

## CAUTION

**Care should be taken when cutting sheets. Eye and hearing protection are important.**

## NOTE

**Always wear rubber soled work boots. When on the roof, use OSHA approved protection devices such as safety lines, safety nets or catch platforms.**

**Storage:** It is recommended that sheets be kept covered and out of the elements if at all possible. If sheets are to be stored outside, the following precautions should be observed:

1. The storage area should be reasonably level, and located so as to minimize handling.
2. When stored on bare ground, place plastic ground cover under the bundles to minimize condensation on the sheets from ground moisture.
3. Store bundles at least 12 inches above ground level to allow air circulation beneath the bundle, and to prevent damage from rising water.
4. Elevate one end of each bundle slightly to permit runoff of moisture from the top of the bundle or from between sheets. A waterproof cover should be placed loosely over the bundles to allow for air circulation under the cover.
5. Inspect stored bundles daily and repair any tears or punctures in the waterproof cover.
6. Re-cover opened bundles at the end of each work day to prevent subsequent moisture damage.

## CHECKING ORDER AT TIME OF DELIVERY:

Check each order carefully, as it is unloaded. Report any obvious damage or shortages to the carrier immediately. If damage or shortages are noted after delivery (at time of unpacking) notify your Mueller representative immediately. Have invoice numbers and detailed descriptions of the damage or shortage available. These procedures are for your protection. A shortage or damage discovered later can be caused by theft, misplacement, mishandling or other causes and is not the responsibility of Mueller, Inc.

# CARE AND HANDLING OF MUELLER SHEET METAL

**Delivery:** Mueller takes every precaution to ensure that material is delivered to the customer damage-free and fully protected from the elements during shipment. When the material is delivered to the customer it then becomes the customer's responsibility to protect the material from the elements, possible theft, and other damage. The following guidelines are recommended:

## **HANDLING: Proper care is required in unloading and handling panel bundles in order to prevent damage.**

1. Bundles should remain banded (if possible) during the unloading process. Bundles should never be lifted by the banding material.
2. Lift each bundle as close as possible to its center of gravity.
3. If the bundles are to be lifted with a crane, use a spreader bar of appropriate length and nylon band slings (do not use wire rope slings as they will damage the material).
4. Depending on the panel length, some bundles may be lifted by a forklift. When using a forklift, the forks should be spread to their maximum spacing, and the load centered on the forks.

### **Sheets over 25' long require two forklifts.**

5. After panel bundles are opened, individual sheets must be handled carefully to prevent panel buckling or damage to the panel coating. When removing a sheet from a bundle it should be rolled off the bundle to prevent scratching of the next sheet. Never drag or slide one sheet over another. Sheets should not be picked up by the ends. Instead, lift the sheet along its longitudinal edge and carry in a vertical position. For sheets over 10' long, two or more people may be required to carry the sheet.

## **WALL AND ROOF PANELS**

Mueller's wall and roof panels, including color coated, galvalume and galvanized, provide excellent service under widely varied conditions. All unloading and erection personnel should fully understand that *these panels are quality merchandise which merit cautious care in handling.*

Fabrication and shipping operations ensure that all panel stock is kept dry. However, due to climatic conditions, water formed by condensation of humid air can become trapped between stacked sheets. Water can also be trapped between the stacked sheets when exposed to rain causing discoloration, often called "wet storage stain." The stain is usually superficial and has little effect on the appearance or service life of the panels as long as it is not permitted to remain on the panels. However, moisture in contact with the surface of the panels over an extended period can severely attack the finish and reduce the effective service life. Therefore, it is imperative that all panels be inspected for moisture upon receipt of the order. If moisture is present, dry the panels at once and store in a dry, warm place.

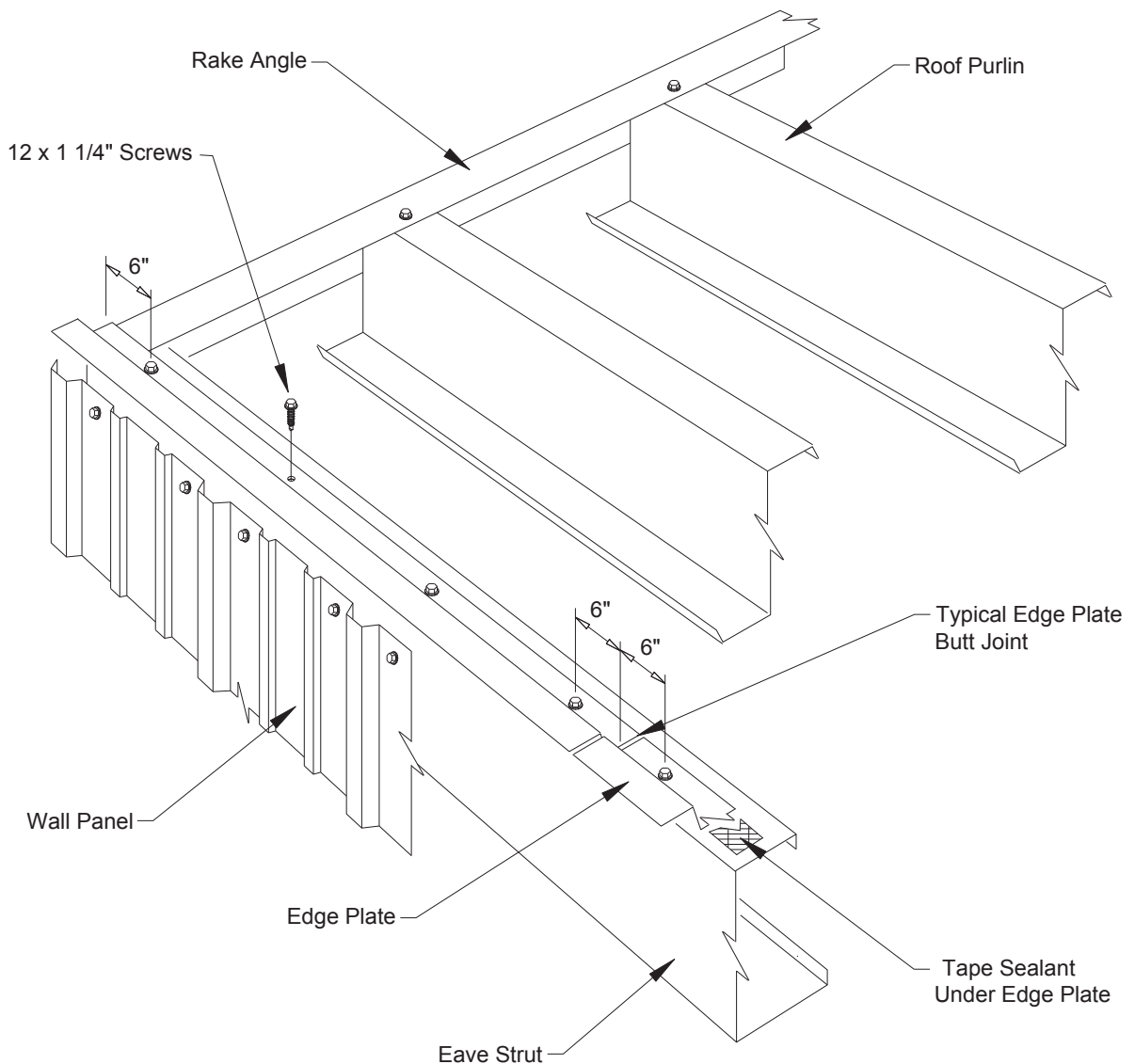
# INSTALLING EDGE PLATE

## INSTALLATION STEPS:

The edge plate is attached to the eave strut of the structure. It is used as the stationary attachment point of the panels. The edge plate has an offset in it to raise it to the level of the panel attachment clips. This plate is installed before the panel attachment process.

Before installing the edge plate, install tape sealant with the center of the sealant  $1\frac{1}{2}$ " from the top outside edge of the eave strut. The eave strut surface should be straight and level before starting this procedure.

Starting flush with the outside of the rake angle and on the tape sealant, install the outside of the edge plate flush with the outside of the wall panel. Fasten the edge plate to the eave strut with self drill screws on 12" centers. Ends of edge plates should be tightly butted, not overlapped.





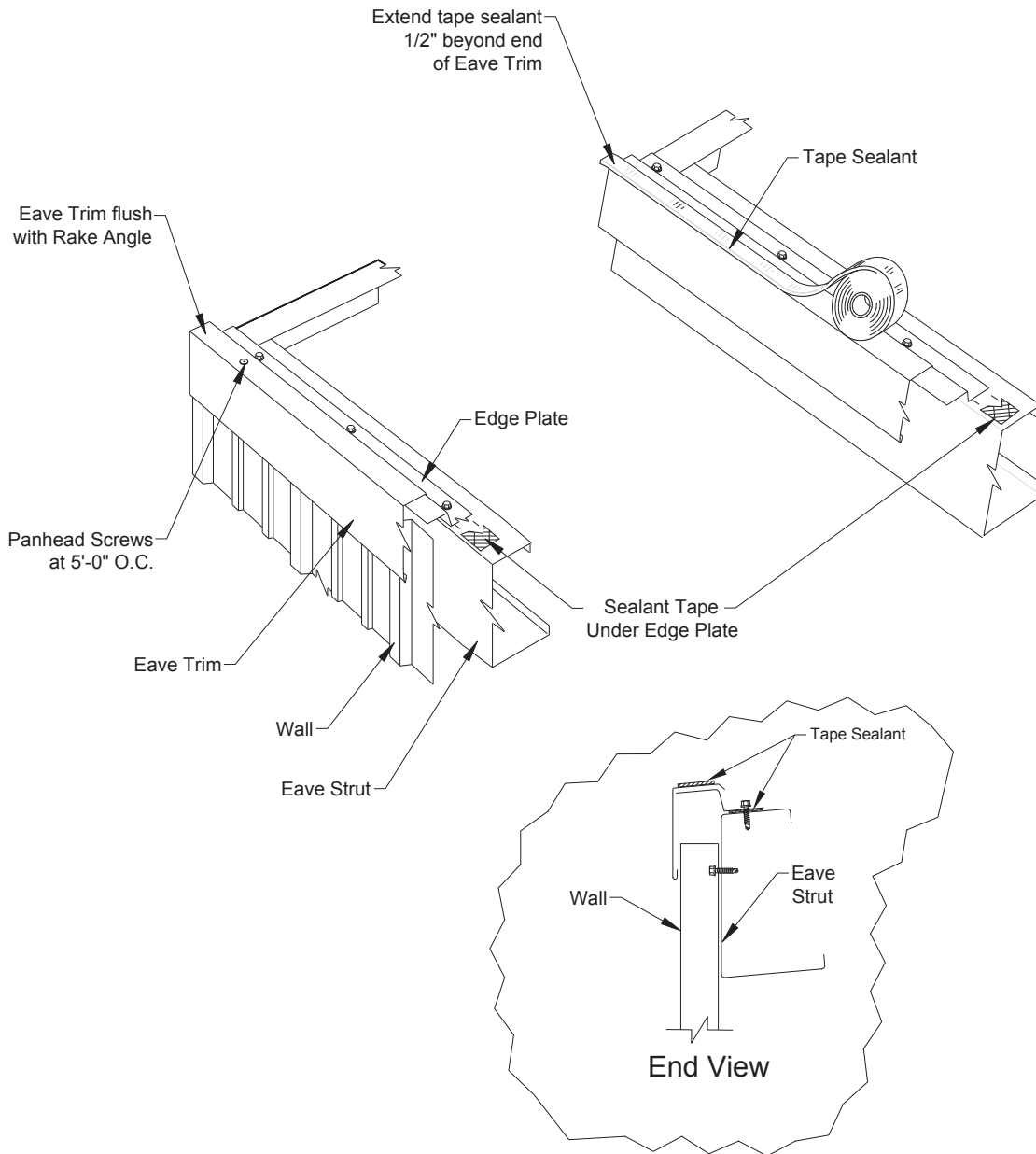
# INSTALLING EAVE TRIM

## INSTALLATION STEPS:

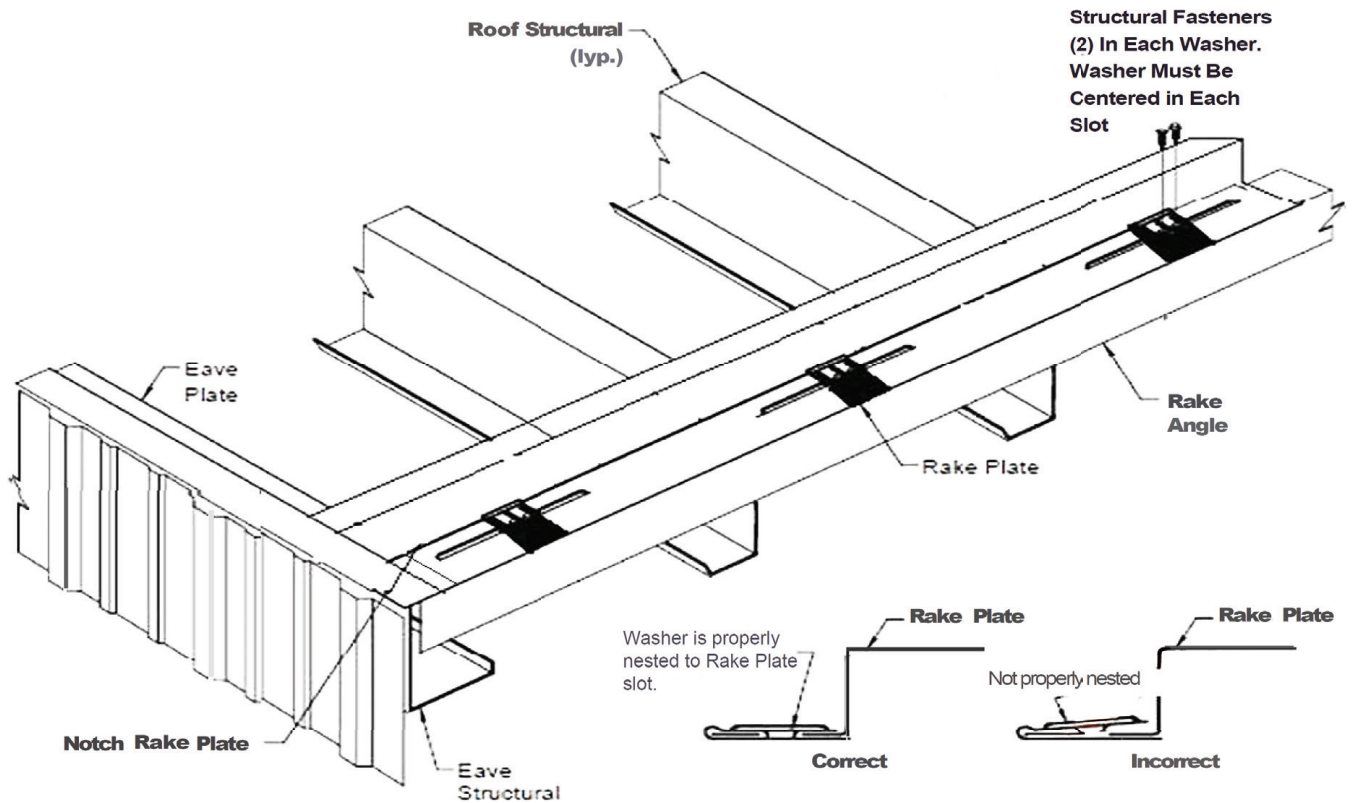
Install the eave trim over the edge plate, starting the trim flush with the end of the edge plate and the rake angle. Fasten the eave trim at 5' centers with pancake head screws to hold the trim in position until the panels are installed.

To insure water tightness, lap the trim approximately 2", seal with tube caulk, and fasten together with rivets or stitch screws.

Apply a continuous strip of tape sealant along the top, outside edge of the eave trim, leaving the protective paper on the tape. The tape should be peeled back to the width to the panel being installed at the time of installation of the panel.



# FLOATING RAKE



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It is important that the rake plate is installed in a straight line square with the eave.

If the rake angles have been installed straight and true, the edge of the rake angle can be used to align the rake plates.

If the rake angle is not true and square, a chalkline should be used to guide the installation of the rake plate.

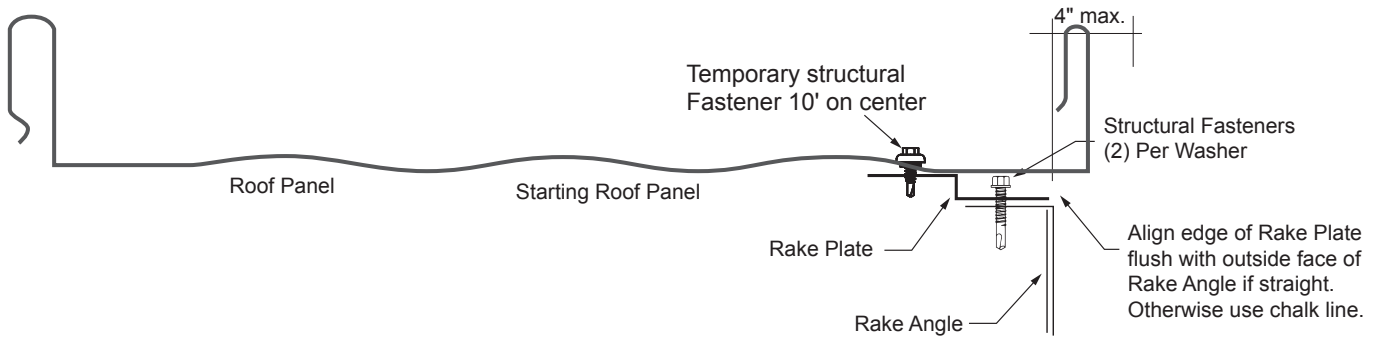
Start the end of the rake plate flush with the outer edge of the eave plate. Notch the bottom flange of the rake plate to clear the eave plate.

To allow for the expansion/contraction movement, secure the rake plate to the rake angle with structural fasteners, 2 per washer. Ensure each washer is centered in its respective slot.

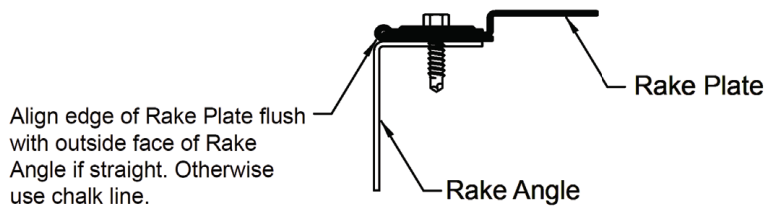
The rake plate should be cut so that it ends 3" from the ridgeline of the building.

## Placement of rake plate before panel installation for both sheeting directions

### Rake Plate Application Right to Left Sheeting



### Rake Plate Application Left to Right Sheeting

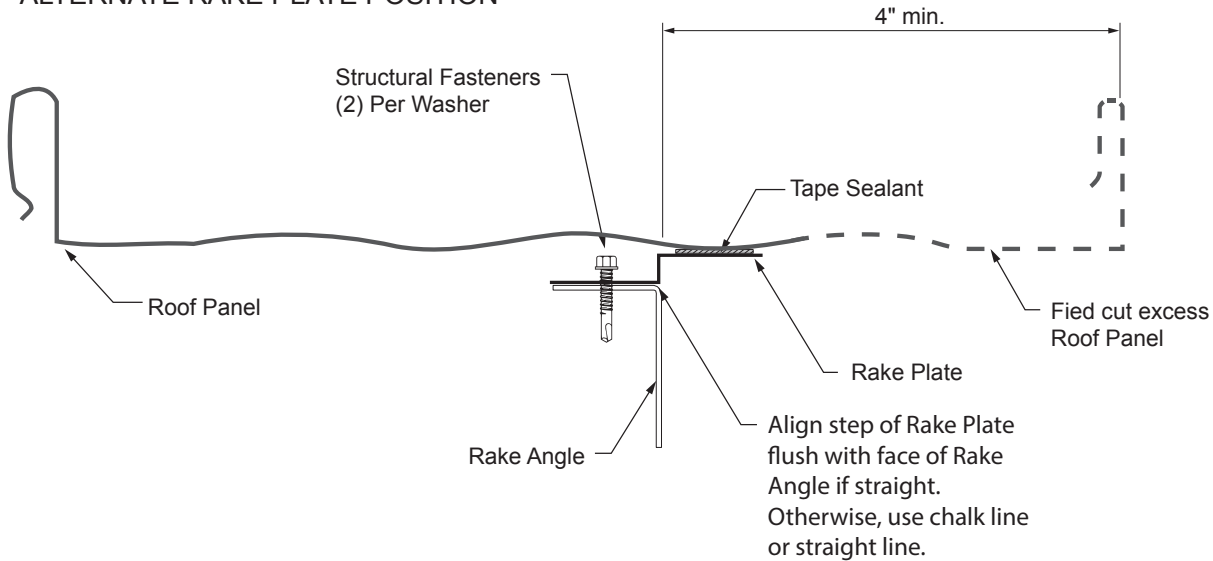


Correct application of the starting Rake Plate is critical for the successful installation of the roof. The Rake Plate must be square with the eave and run straight up the rake angle. If the rake angle is not straight, use a chalk line for reference when installing the Rake Plate.

When the first sheet is installed, temporary structural fasteners will be installed through the first sheet into the rake plate. These fasteners will be removed later in order to install the Rake Closure during rake trim installation once sheeting is complete.

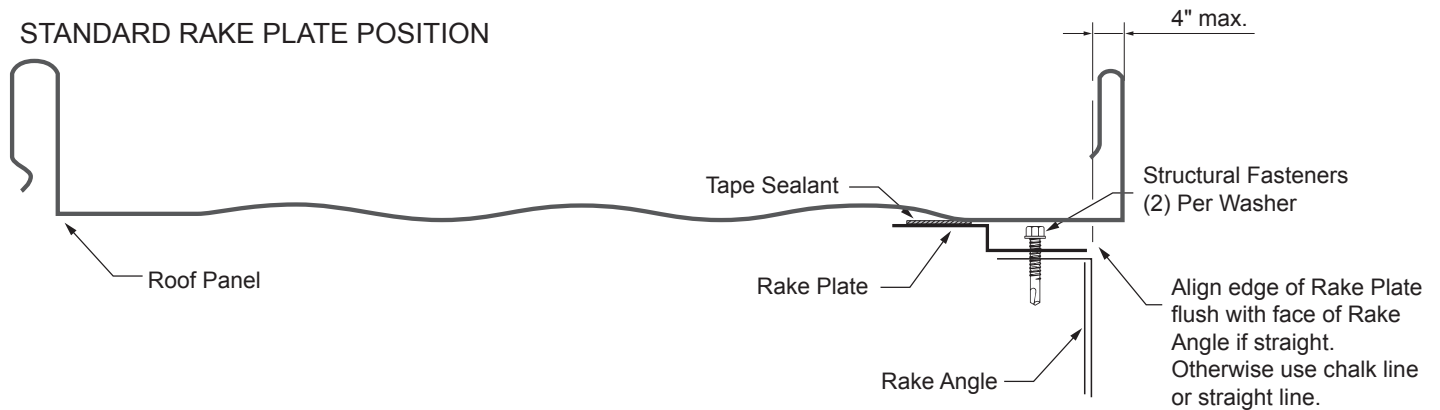
# FLOATING RAKE

## ALTERNATE RAKE PLATE POSITION



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## STANDARD RAKE PLATE POSITION



Project conditions generally determine which position to place the rake plate. The position of the rake plate will depend on the location of the roof panel as shown on the above illustrations.

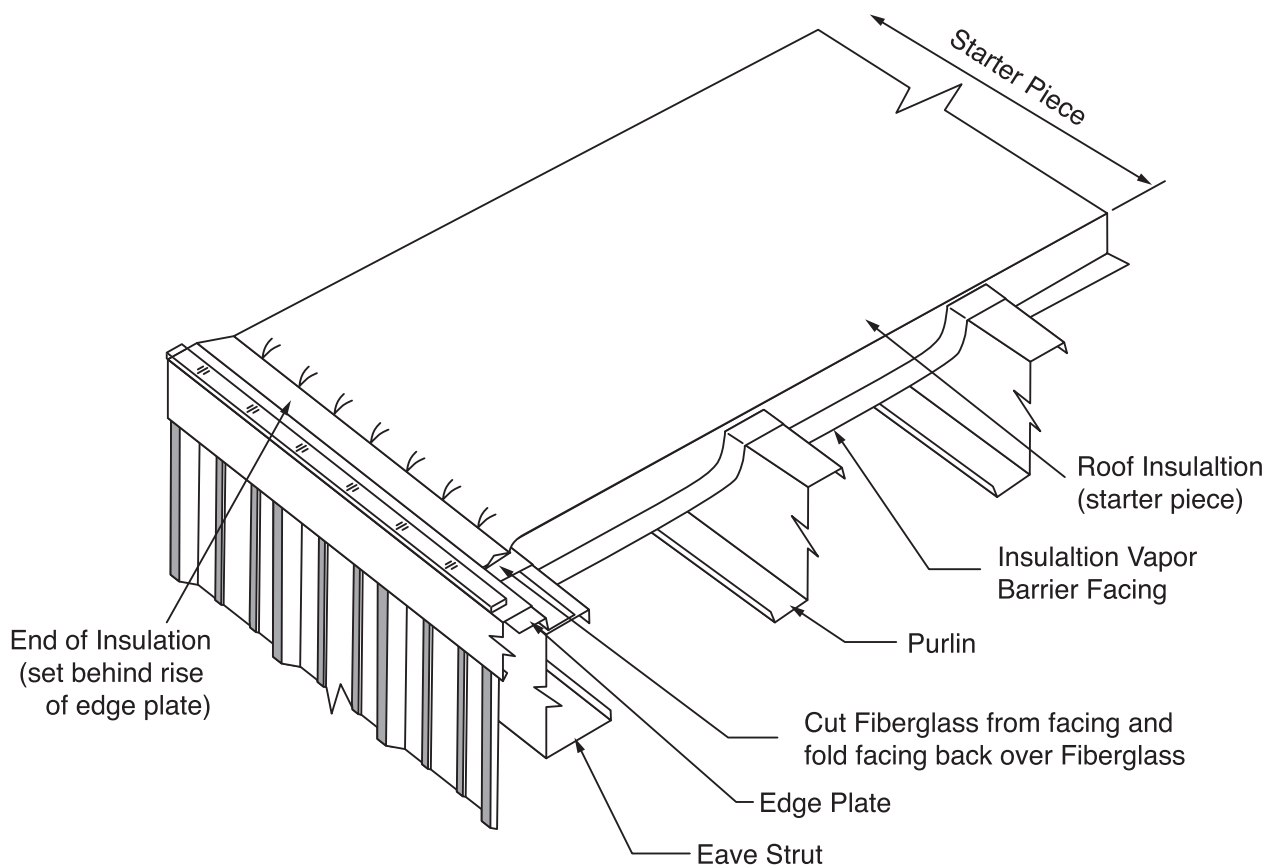
If the edge of the panel extends 4" or more beyond the face of the rake angle, install the rake plate in the **alternate** position.

If the leading edge of the panel extends less than 4" beyond the face of the rake angle, install the rake plate in the **standard** position.

If the rake condition requires transition flashing, refer to the following page.

## INSULATION INSTALLATION:

When insulation is installed, the outside edge of the insulation should be tight against the outside edge of the rake angle. A starter role of 4' or 5' is normally used so that approximately 12" of the leading edge will still be exposed when a new run of insulation is installed. This allows easy access to the vapor barrier lapping of the insulation. Four inches of the downhill end of the fiberglass blanket should be removed and the four inches of vapor barrier folded back over the remaining blanket. This starting end of the insulation should be placed on the inside, lower step of the edge plate and can be held in place with double-sided tape along the rake angle and the eave plate.



# STARTING PANEL

## INSTALLING FIRST PANEL:

The roof panel's eave overhand dimension is critical as it establishes the location of endlaps and ridge cover attachment points.

Apply tape sealant to rake plate

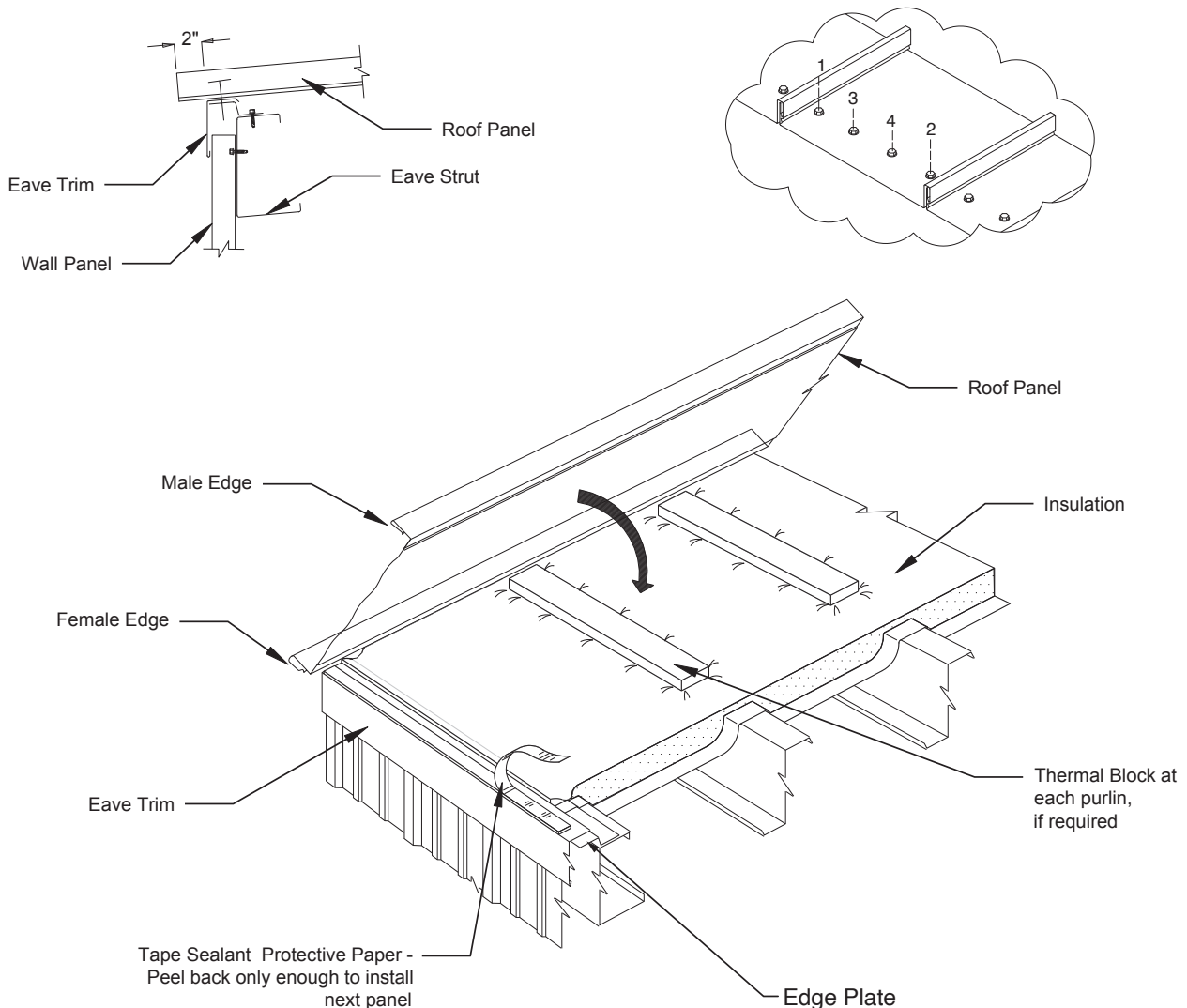
The end of the roof panel extends 2" beyond the face of the eave trim unless another dimension is specified. If insulation spacer blocks are required, place the blocks on top of the insulation directly over the roof structural. Spacer blocks are not required at the eave structural.

Position the female edge of the panel over the rake plate as previously shown and position the end of the panel 2" beyond the face of the eave trim.

Make sure panel is straight, square and true with the rake plate before applying temporary fasteners through the sheet into the rake plate on 10' centers. These will be removed later to accommodate the termination trim and rake trim.

Do not completely remove all of the eave's sealant protective paper at this time.

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# FLOATING RAKE DETAILS

## INSTALLATION STEPS:

To begin rake installation, remove temporary screws that are holding the panel edge into the rake plate.

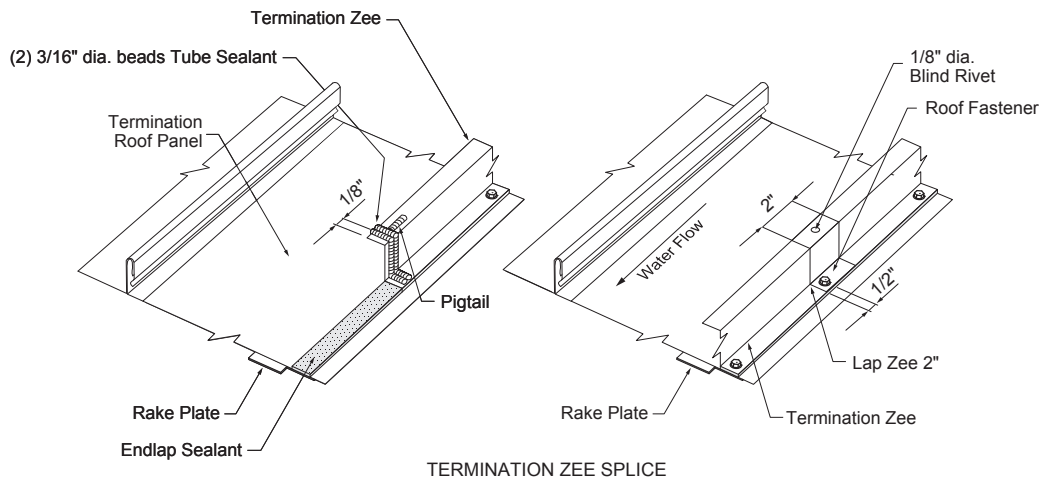
Using a chalk line, mark the inside edge of the rake plate. This will be the line you use to determine proper placement of tape sealant and Rake Closure.

The Rake closure must be installed for ridge to eave to provide for watershed at the termination splices.

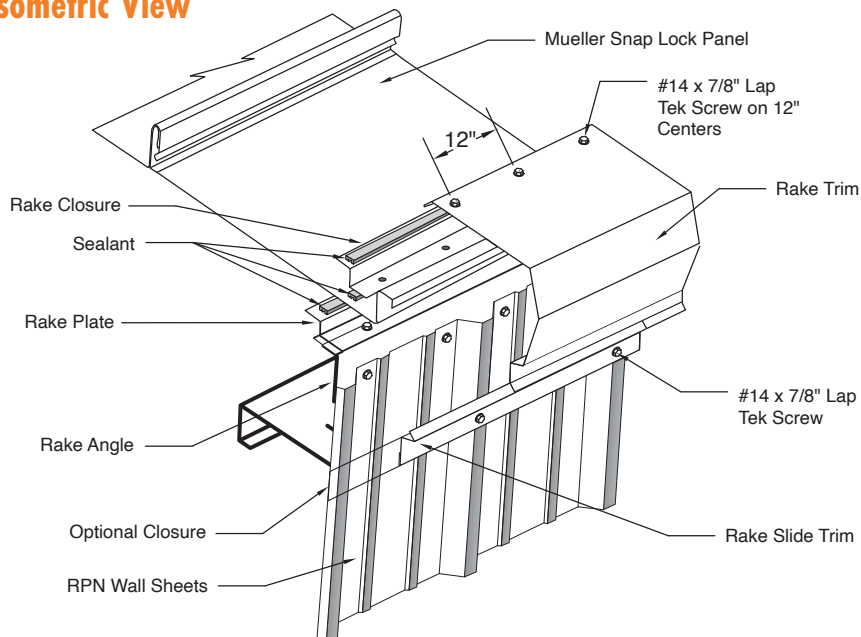
Position the zee so its bottom flange is turned outward and its inside edge is flush with the inside edge of the sealant. Position the end of the zee flush with the uphill end of the roof panel.

Uniformly press the Closure against the sealant to assure adhesion.

Attach the Rake Closure with roof fasteners at 12" spacing. Check that the fasteners penetrate the center of the sealant and securely engage the rake plate.



## Isometric View



# FLOATING RAKE DETAILS

## INSTALLATION STEPS CONTINUED:

Install the rake trim from eave to ridge to provide for water-shed at the splices.

Install flashing sealant continuous along the top flange of the rake closure.

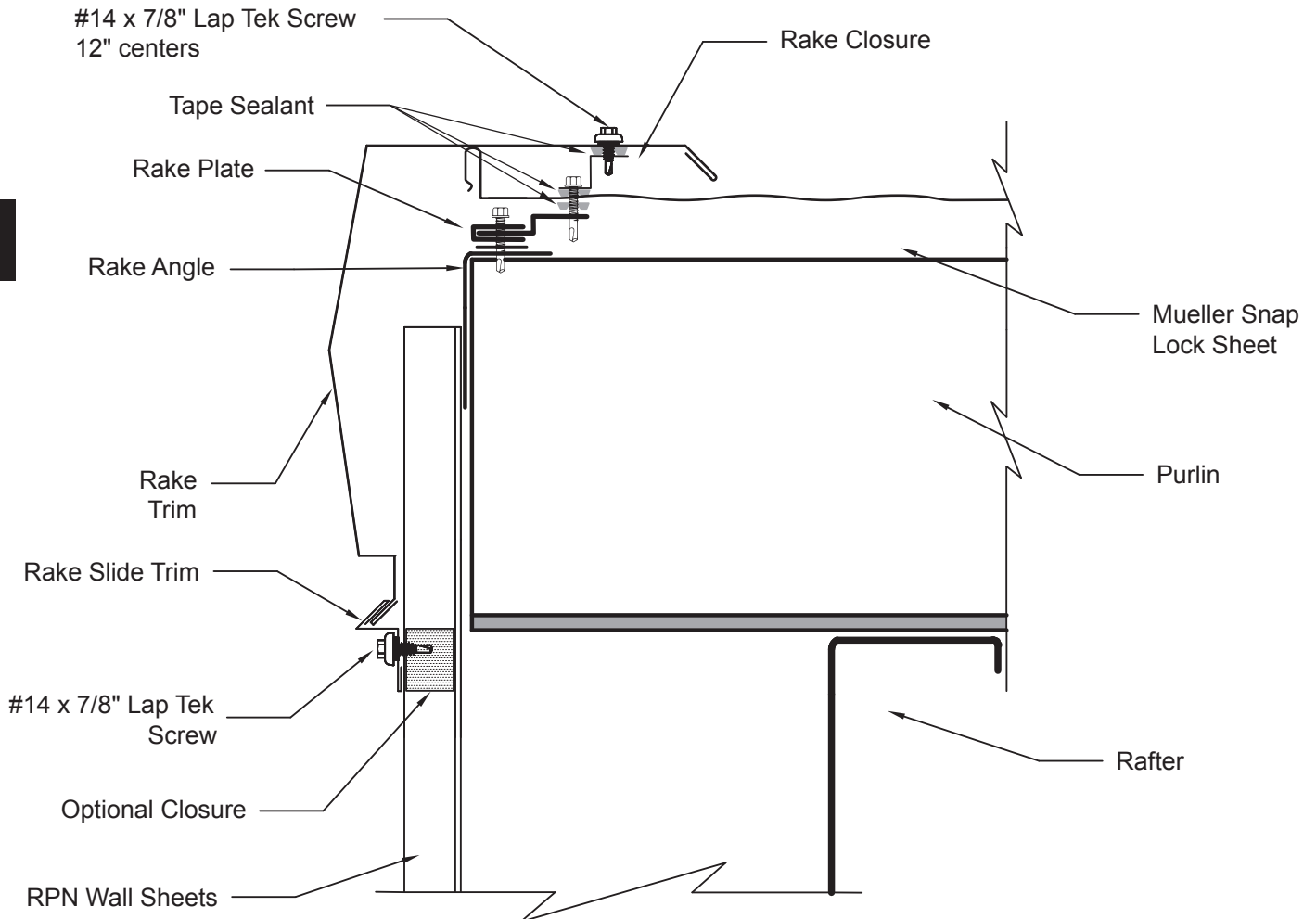
Start the down-slope end of the rake trim flush with the end of the roof panel.

Check that the rake trim is properly aligned with the face of the wall panel.

Fasten the rake trim to the rake closure with lap fasteners at 12" spacing as shown.

Be sure to check that the fasteners penetrate the center of the sealant and securely engage the rake closure.

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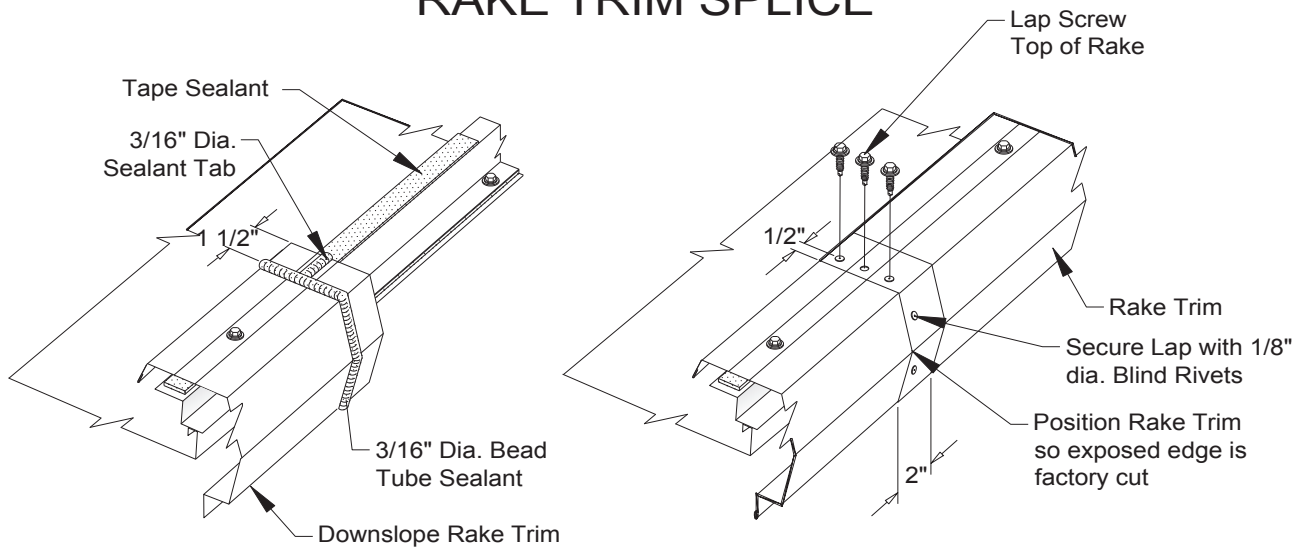
# LAPPING AND SEALING RAKE TRIM

Splice rake trim with tube sealant and lap screws. The lap must always be the uphill rake over the downhill rake.

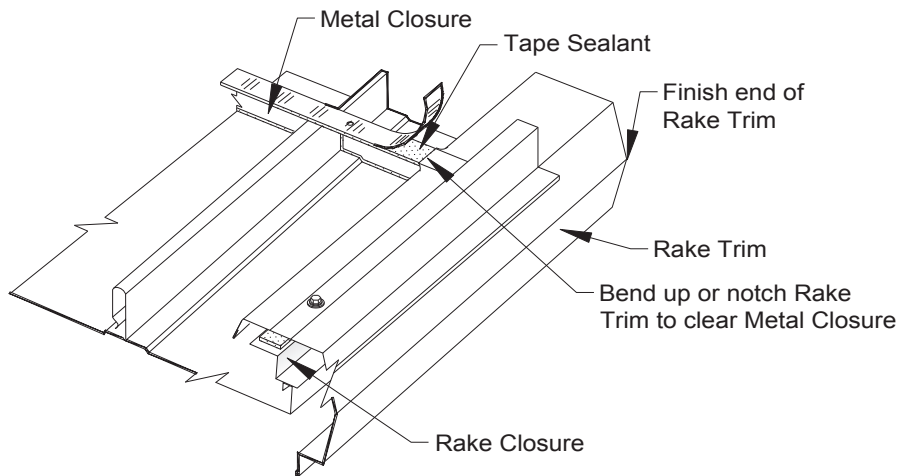
At a ridge, field cut the rake trim 2" back from the center line of the ridge.

At a high eave connection, field cut the rake trim as required to assure a weathertight connection to that connection.

## RAKE TRIM SPLICE



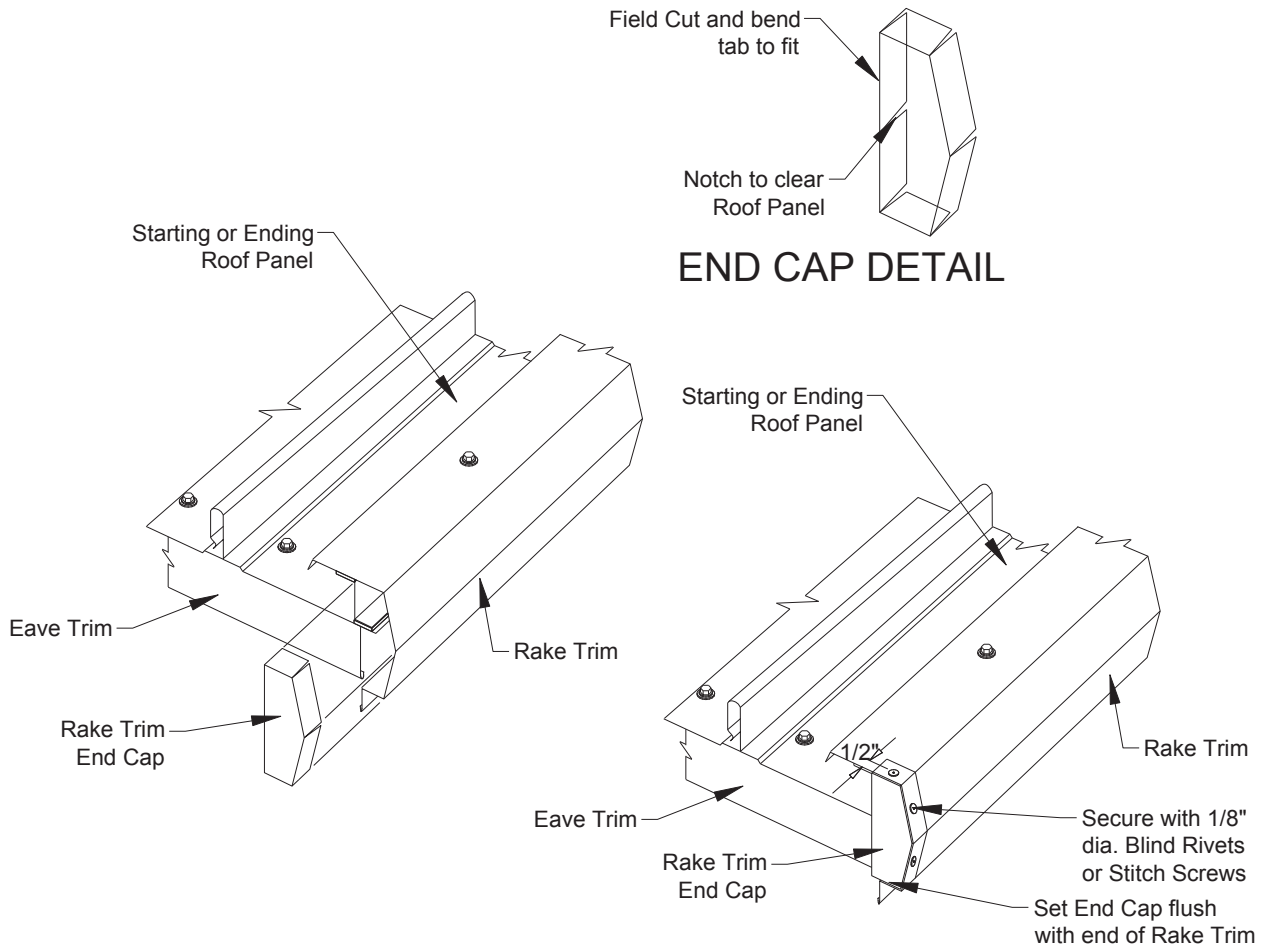
## RAKE TRIM AT RIDGE



# END CAP INSTALLATION

End caps must be field cut and folded to fit. Install with tube sealer and pop rivets or stitch screws.

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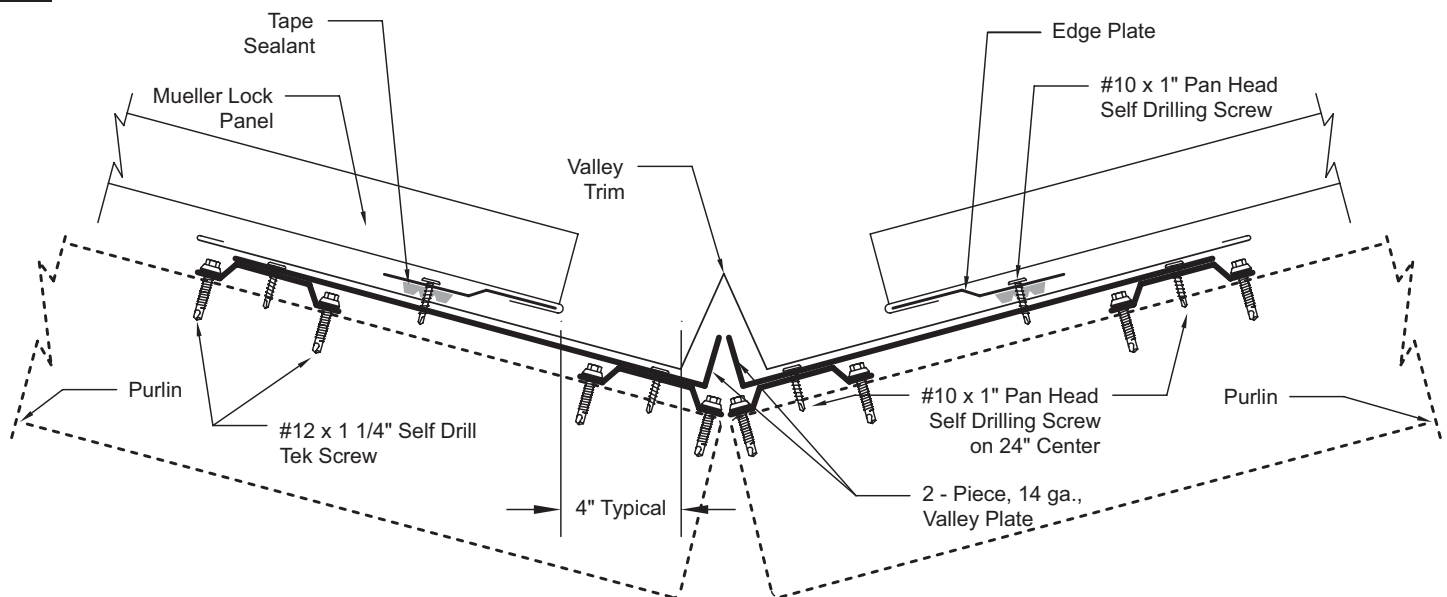


# FLOATING VALLEY

## INSTALLATION STEPS: (USE ONLY WITH FIXED RIDGE/HIPS)

1. Install four runs of hat section/channel up the valley as shown, securing to the purlins with #10 x 1 self drill pan head screws (this step is applicable only when insulation or thermal blocks are specified).
2. Install the two piece 14 ga. Valley Support Plates with #10 x 1 self drill pan head screws.
3. Install Valley Trim over the Valley Support Plates. Secure with #10 x 1 self drill pan head screws (5' centers).
4. Install butyl tape sealant 4" to 5" from center of the valley trim.
5. Install edge plates over the butyl tape sealant using #10 x 1 self drill pan head screws on 12" centers.
6. Field cut and hem panel ends. Install over edge plate.
7. Seal the ends of the panel legs using tube sealant.

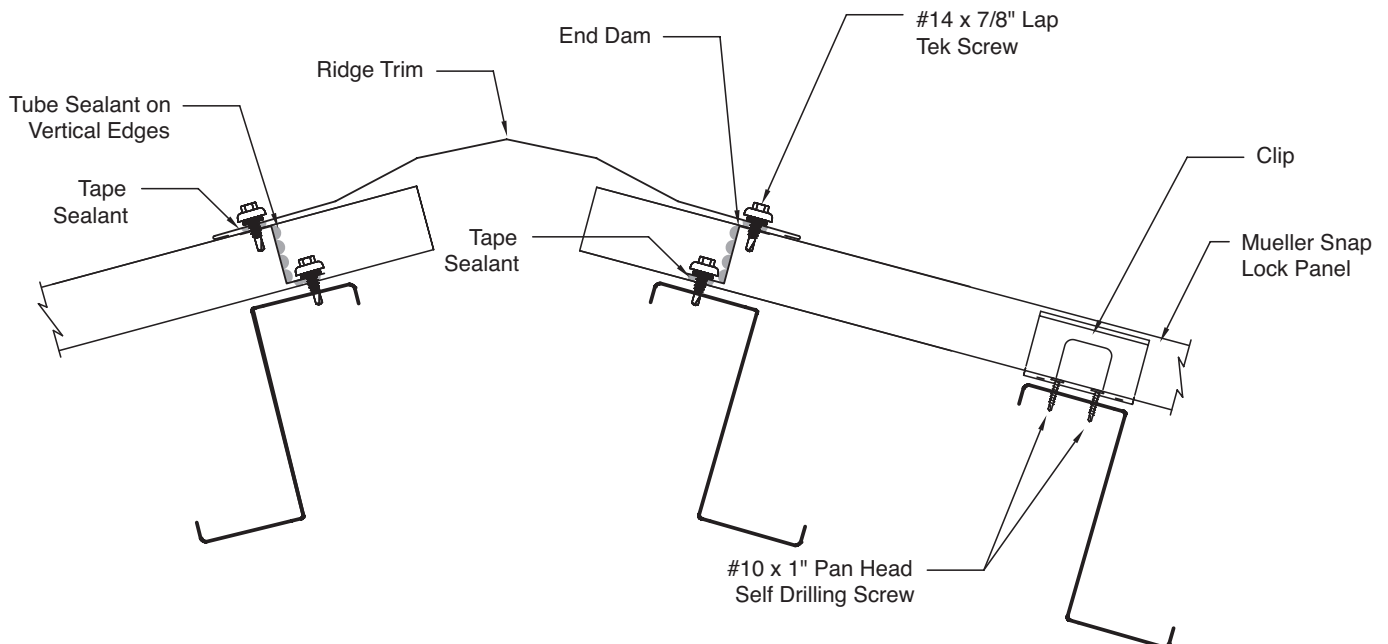
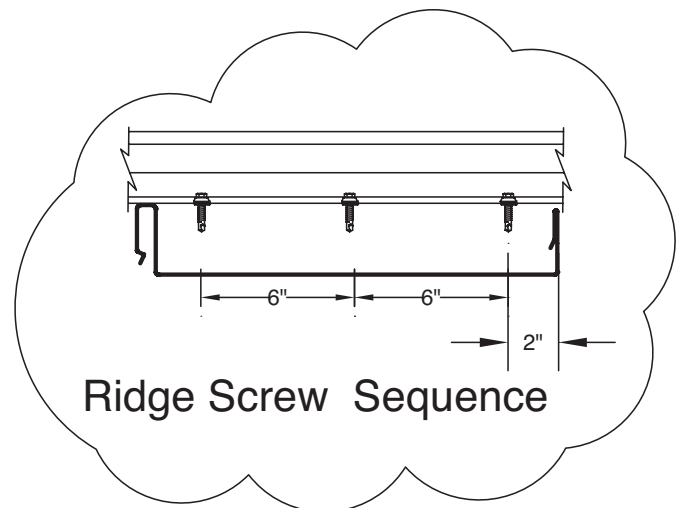
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## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE AND VALLEY)

Note: On this application the ridge purlins must be set by manufacturing to accommodate the standard ridge trim or the ridge trim must be custom made wider to fit the standard ridge purlin spacing.

1. Install the butyl tape sealer across the flat of the panel, aligned over the top purlin.
2. Fasten end dam through butyl tape sealant and panel to purlin using #12 x 1 ¼ self drill screws on 4" centers.
3. Use butyl caulk to seal the ends of the end dam.
4. Apply butyl tape sealant to the top of the end dam.
5. Fasten Ridge trim to end dam using #14 x 7/8 lap screws on 6" centers.

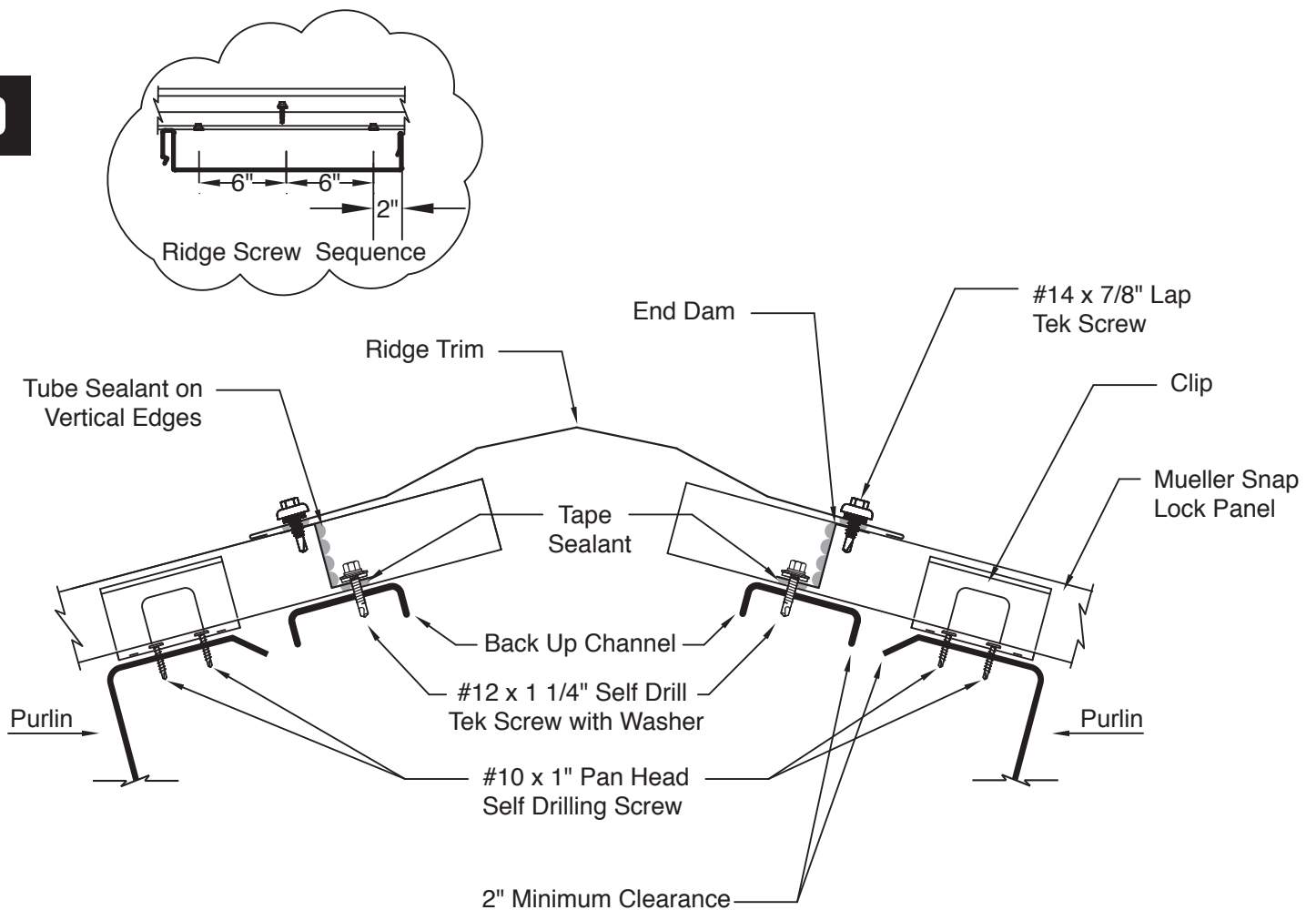


# FLOATING RIDGE

## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE AND VALLEY)

1. Slide the backup channel underneath the end of the panel as shown.
2. To accommodate the width of the Ridge Trim, apply the butyl tape sealant across the pan of the panel, aligned over the backup channel.
3. Install the end dam using #12 screws on 4" centers through the panel and the backup channel as shown.
4. Use tube sealant to seal the ends of the end dam.
5. Apply butyl tape sealant to the top of the end dam.
6. Fasten Ridge trim to end dam using #14 x 7/8" Lap screws on 6" centers.

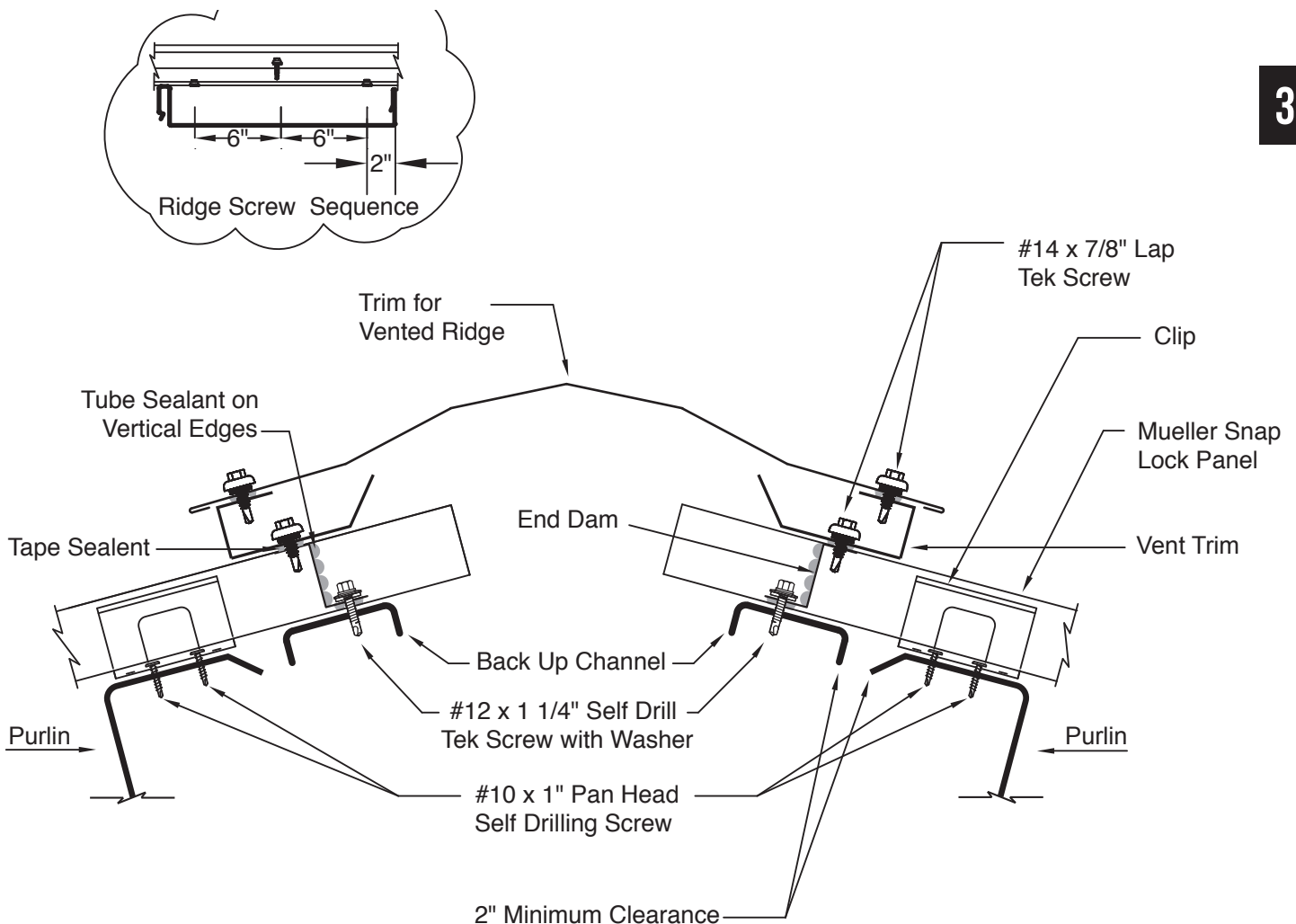
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# FLOATING VENTED RIDGE

## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE AND VALLEY)

1. Slide the backup channel underneath the end of the panel as shown.
2. To accommodate the width of the ridge trim and vent trim, apply the butyl tape sealant across the pan of the panel, aligned over the backup channel.
3. Install the end dam using #12 screws on 4" centers through the panel and the backup channel as shown.
4. Use butyl caulk to seal the ends of the end dam.
5. Apply butyl tape sealant to the top of the end dam.
6. Attach vent trim to the top of end dam as shown using #14 lap screws on 6" centers.
7. Apply butyl tape sealant to the top of vent trim.
8. Attach Ridge Trim with #14 lap screws on 2' centers.

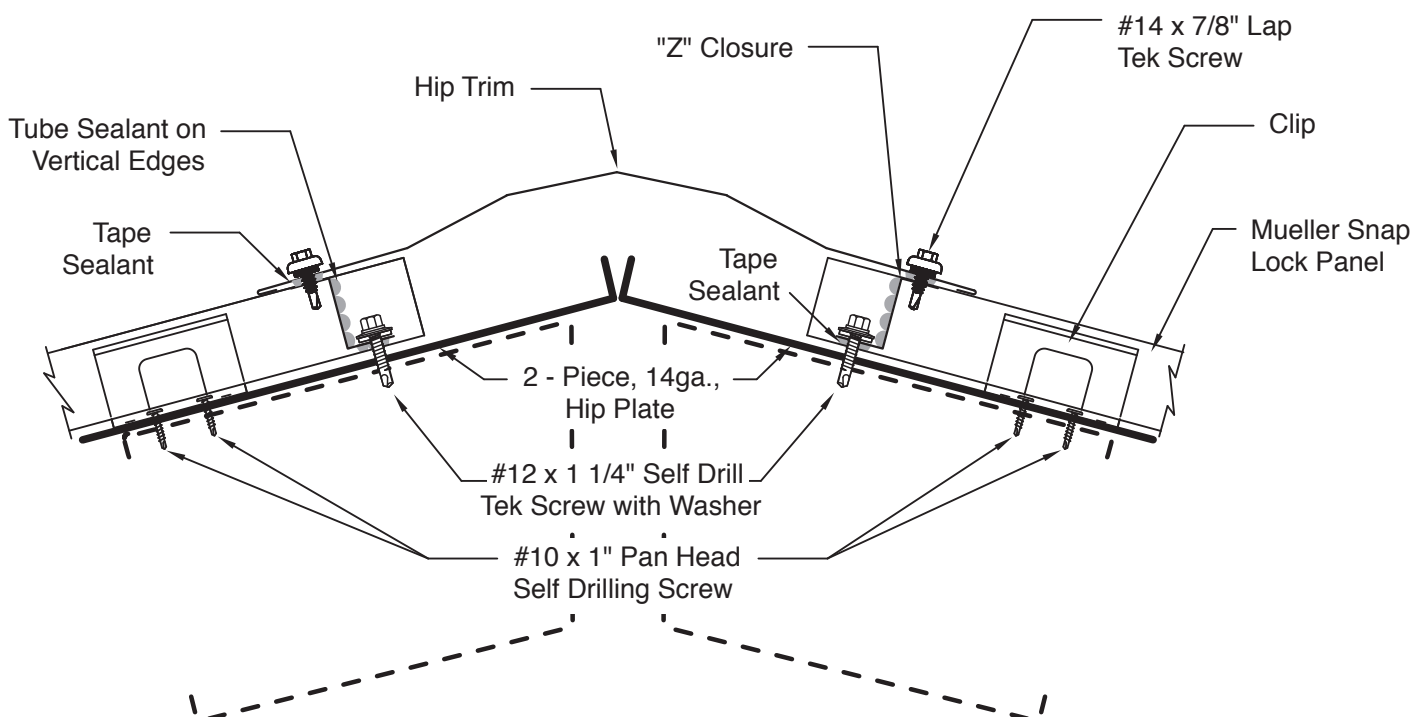
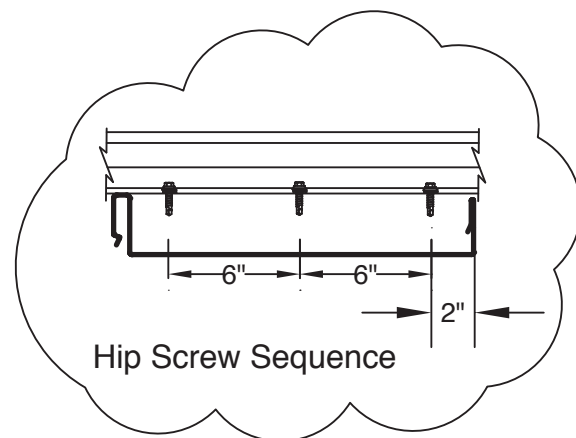


# FIXED HIP

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE OR VALLEY)

1. Install 14 ga. Hip support plate using #10 x 1 self drill pan head screws to attach to purlin. The 1" leg should be pointing to the top.
2. Install the panels with the ends bevel cut to the slope of the hip.
3. To accommodate the width of the hip trim and the placement of the Z closures, apply the butyl tape sealant to the panel as shown.
4. Field cut and attach Z closure to panel and hip support plate using #12 screws on 4" centers.
5. Seal the ends of the Z closure using butyl caulk.
6. Apply butyl tape sealant to the top of the Z closure.
7. Attach hip trim to the Z closure using #14 x 7/8 lap screws on 6" centers.

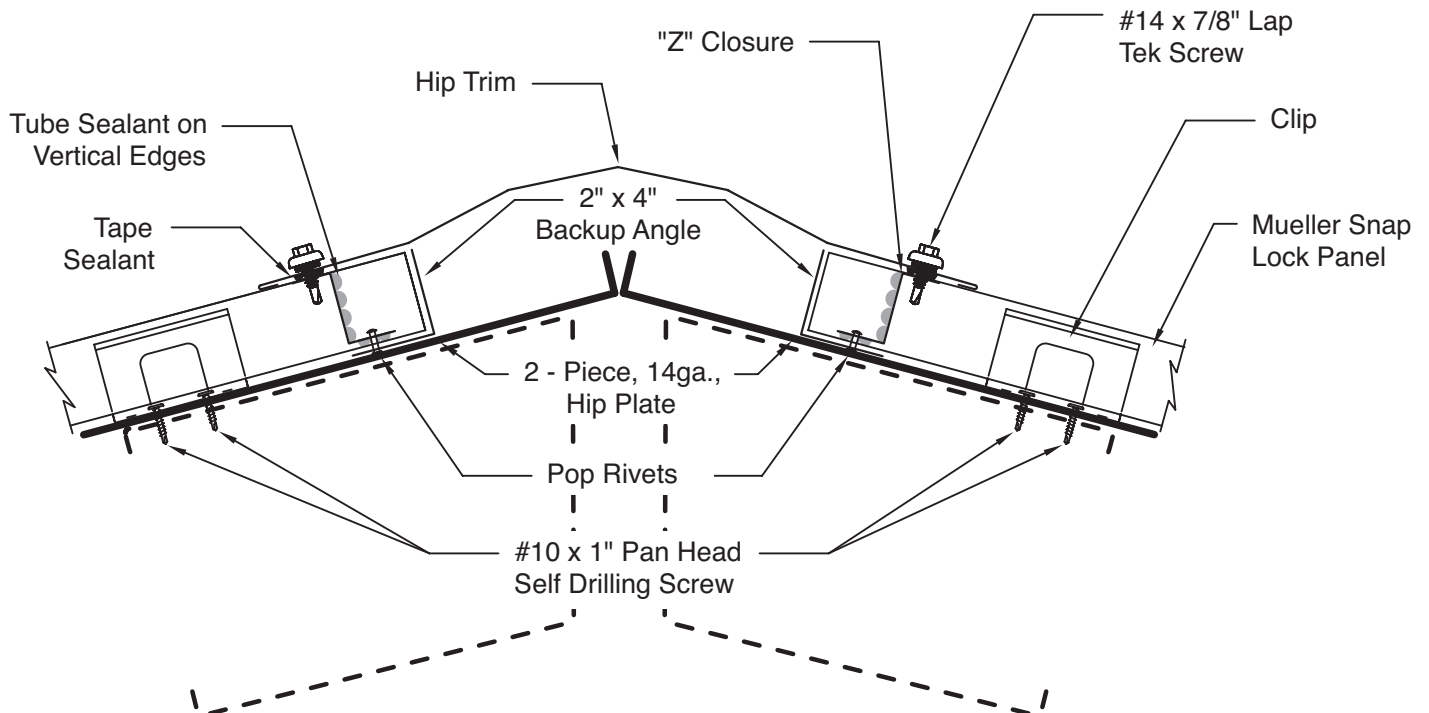
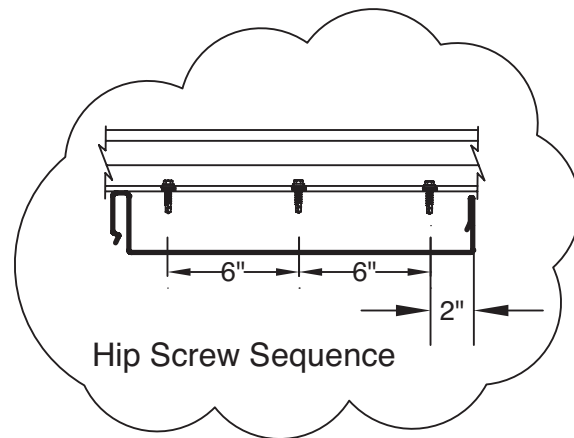
32





## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE OR VALLEY)

1. Install 14 ga. Hip support plate using #10 x 1 self drill pan head screws to attach to purlin. The 1" leg should be pointing to the top.
2. Install the panels with the ends bevel cut to the slope of the hip.
3. Slide the backup angle under the bottom of the panels at least 2" from the purlin clips as shown, 4" leg down.
4. To accommodate the width of the hip trim, apply the butyl tape sealant to the panel over the backup angle as shown.
5. Field cut and attach Z closure to panel and backup angle using pop rivets on 4" centers.
6. Seal the ends of the Z closure using tube sealant.
7. Apply butyl tape sealant to the top of the Z closure.
8. Attach hip trim to the Z closure using #14 x 7/8 lap screws on 6" centers.

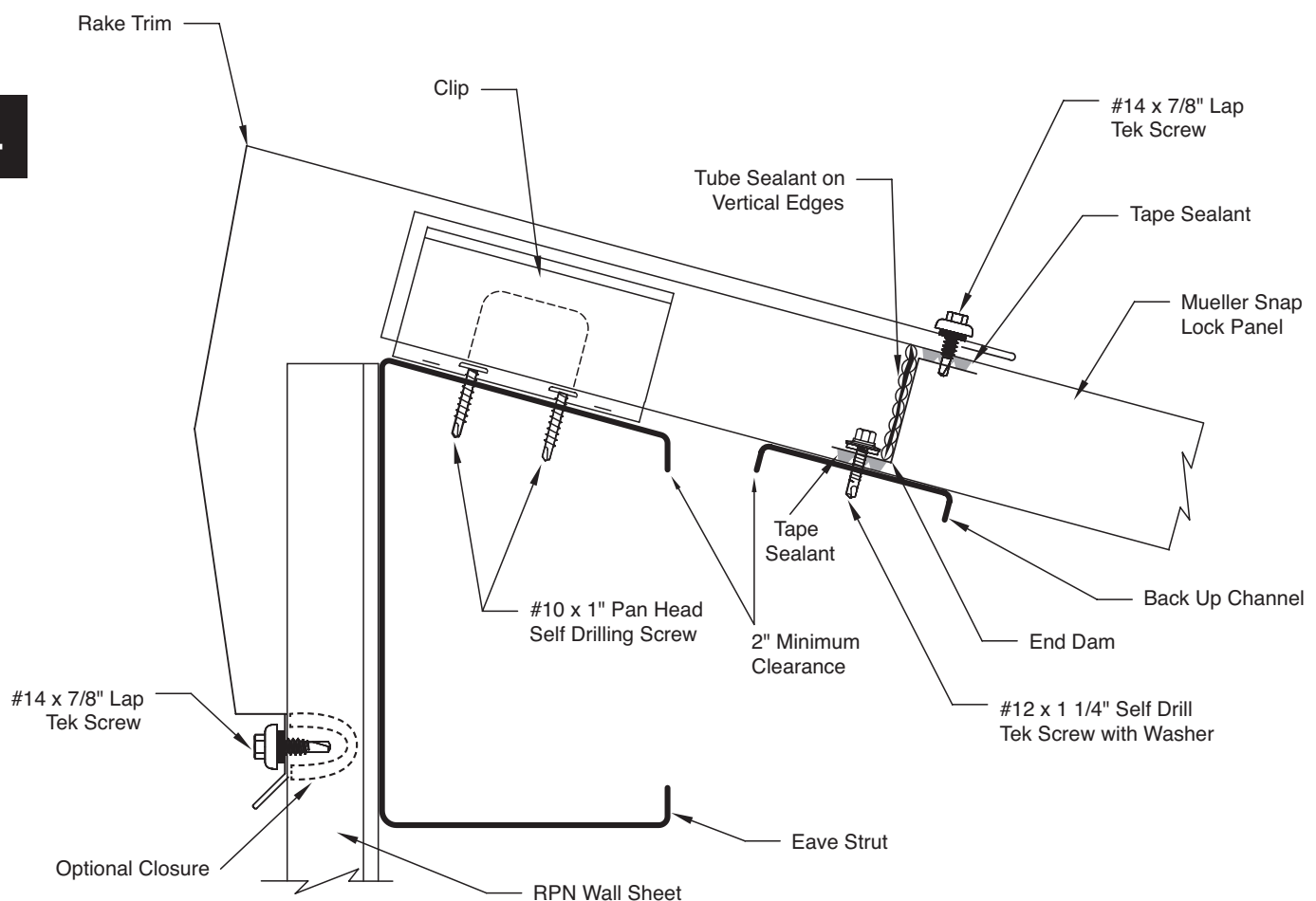


# FLOATING HIGH SIDE EAVE

## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE)

1. Using temporary clamps, attach backup channel to panel 2" below the eave strut. This step should occur as panels are applied. Locate backup channel to accommodate attachment of rake trim.
2. Apply butyl tape sealant to the panel, centered on the backup channel.
3. Apply end dam and attach using #12 x 1 ¼ self drill screws on 4" centers.
4. Seal the end dam sides with tube sealant.
5. Apply butyl tape sealant to the top of the end dam.
6. Attach High side eave trim to the end dam using #14 x 7/8 lap screws on 6" centers as shown.

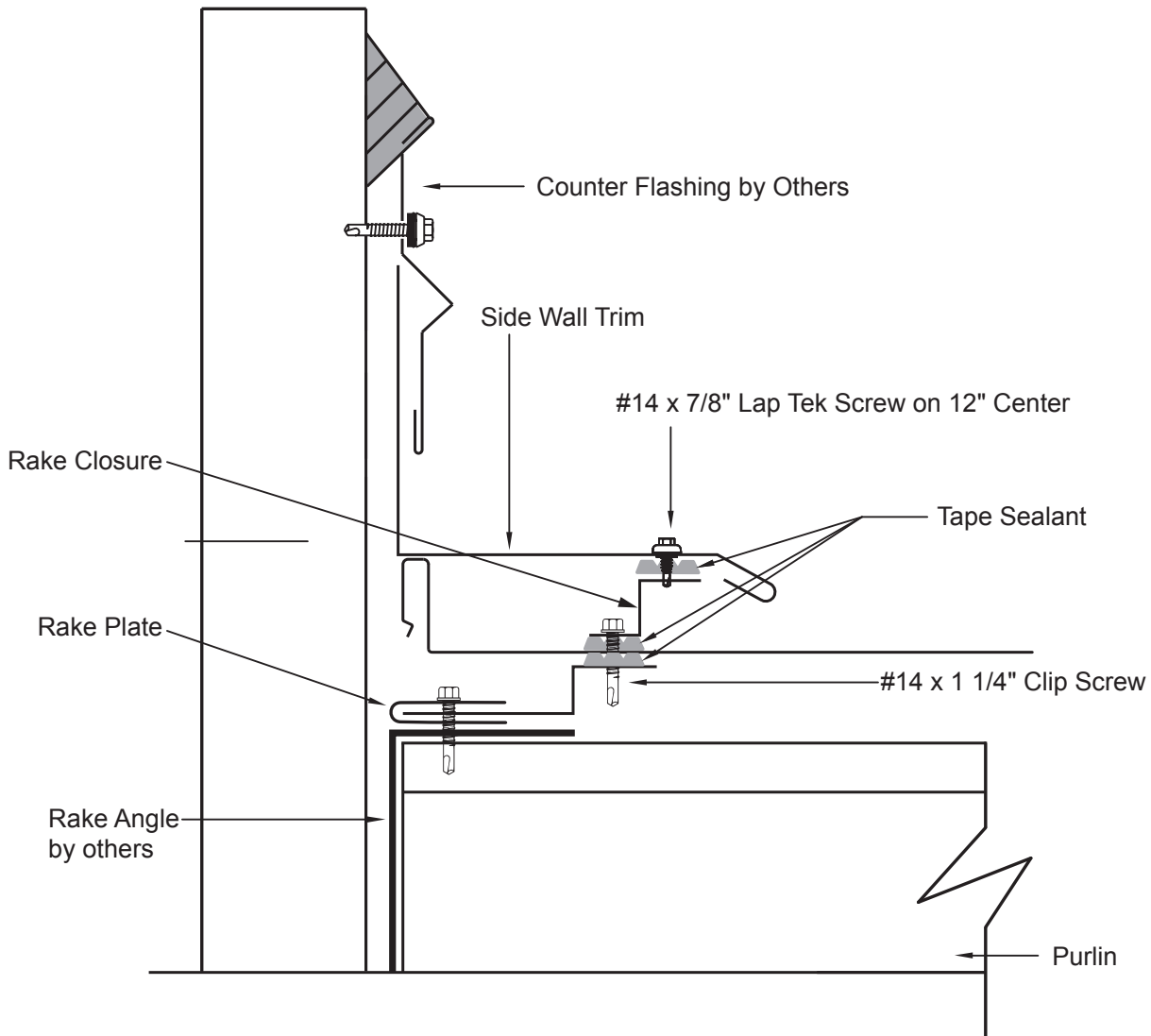
34



# SIDE WALL / PARAPET DETAILS

## INSTALLATION STEPS:

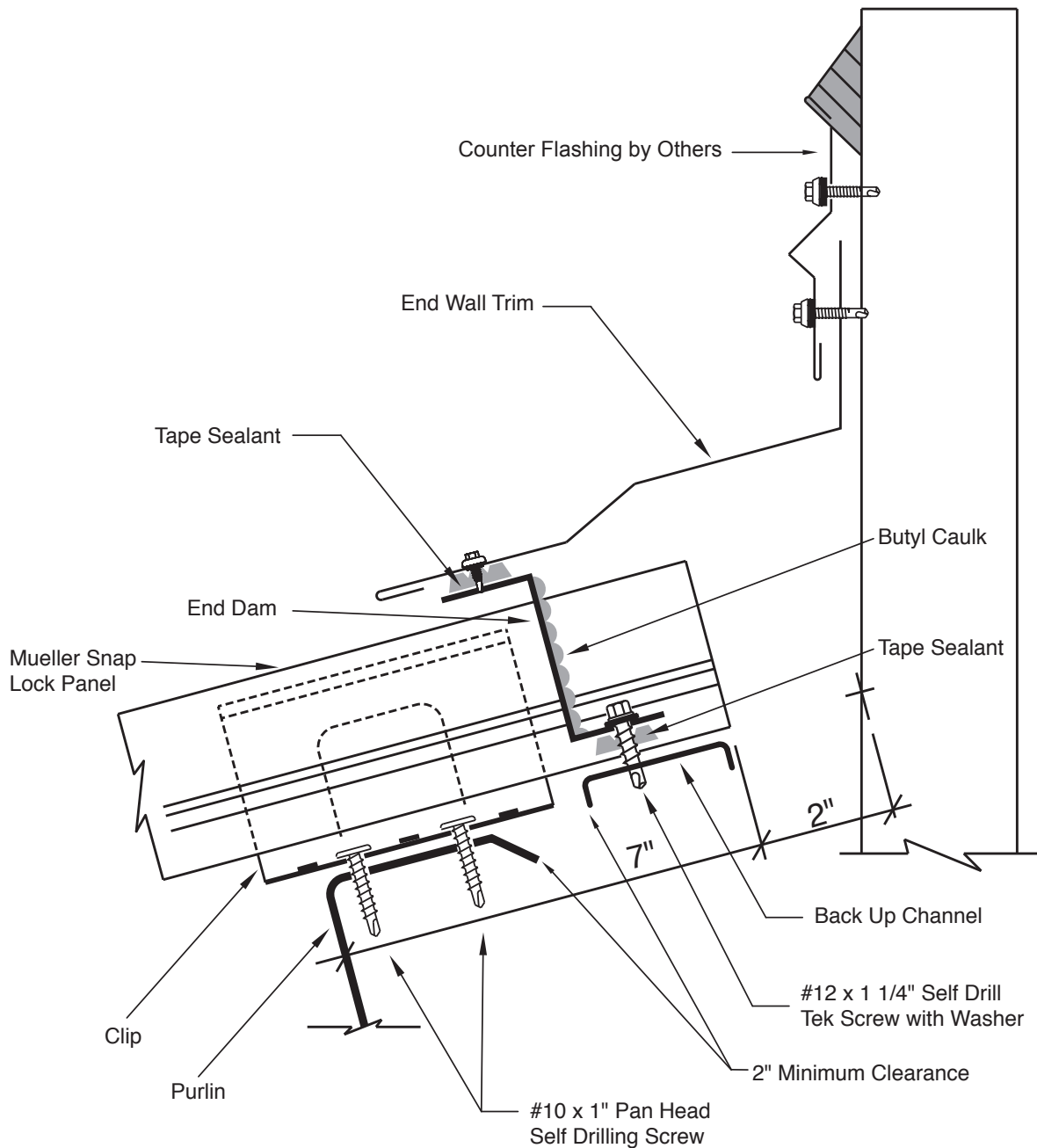
1. To begin starting panel first attach rake plate to the existing rake using structural fasteners.
2. Apply tape sealant to the top inside leg of the rake plate.
3. Place female leg of the first panel over the rake plate and temporarily secure with fasteners 10' on Center.
4. Install rake closure as specified on page 41.
5. With tape sealant placed on top of closure, install sidewall trim as shown with #14 x 7/8" lap screws on 12" centers.
6. Attach appropriate counter flashing as required by the application. This is supplied by others.



# END WALL / PARAPET DETAILS

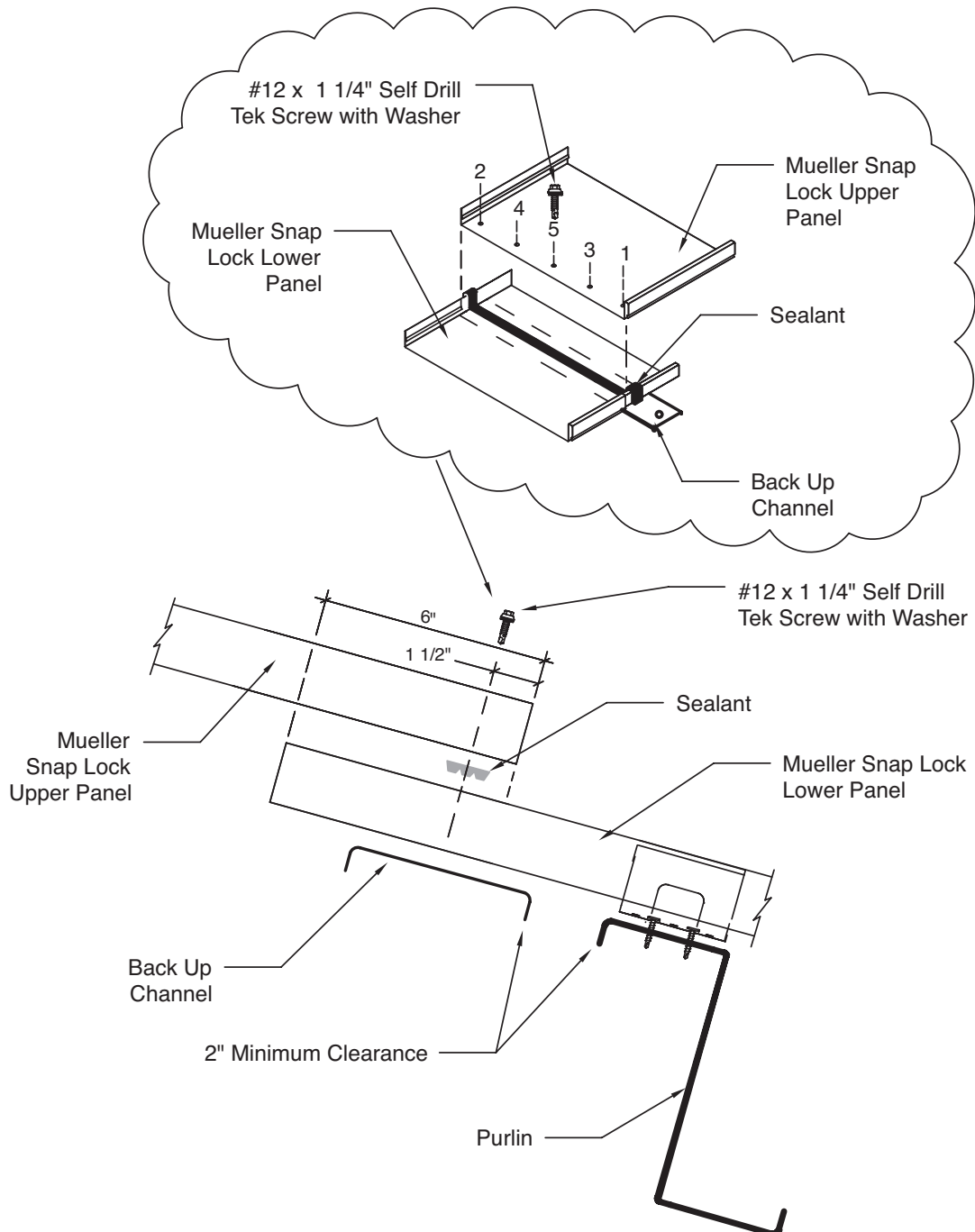
## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE)

1. Slide the backup angle underneath the end of the panel as shown.
2. To accommodate the placement of the End Wall trim, apply the butyl tape sealant across the pan of the panel, aligned over the backup channel.
3. Install the end dam using #12 screws on 4" centers through the panel and the backup channel as shown.
4. Use butyl caulk to seal the ends of the end dam.
5. Apply butyl tape sealant to the top of the end dam.
6. Fasten End Wall trim to end dam using #14 x 7/8 Lap screws on 6" centers.



## INSTALLATION STEPS:

1. Install lower panel as detailed in the installation instructions.
2. Attach the backup channel underneath the panel with clamps, align the center of the channel 4 1/2" down from the top end of the lower panel. The channel must be 2" min. from the nearest purlin as shown.
3. Install butyl tape sealer on the lower panel, centered over the backup channel 4 1/2" from the upper end of the panel. Start at the outside bottom of the female rib, extending up and over the rib, down to the pan of the panel, across the width of the panel, and up and over the male rib as pictured.
4. Install the upper panel by snapping it over the lower panel. Fasten using five self drill screws in the fastener sequence shown above.



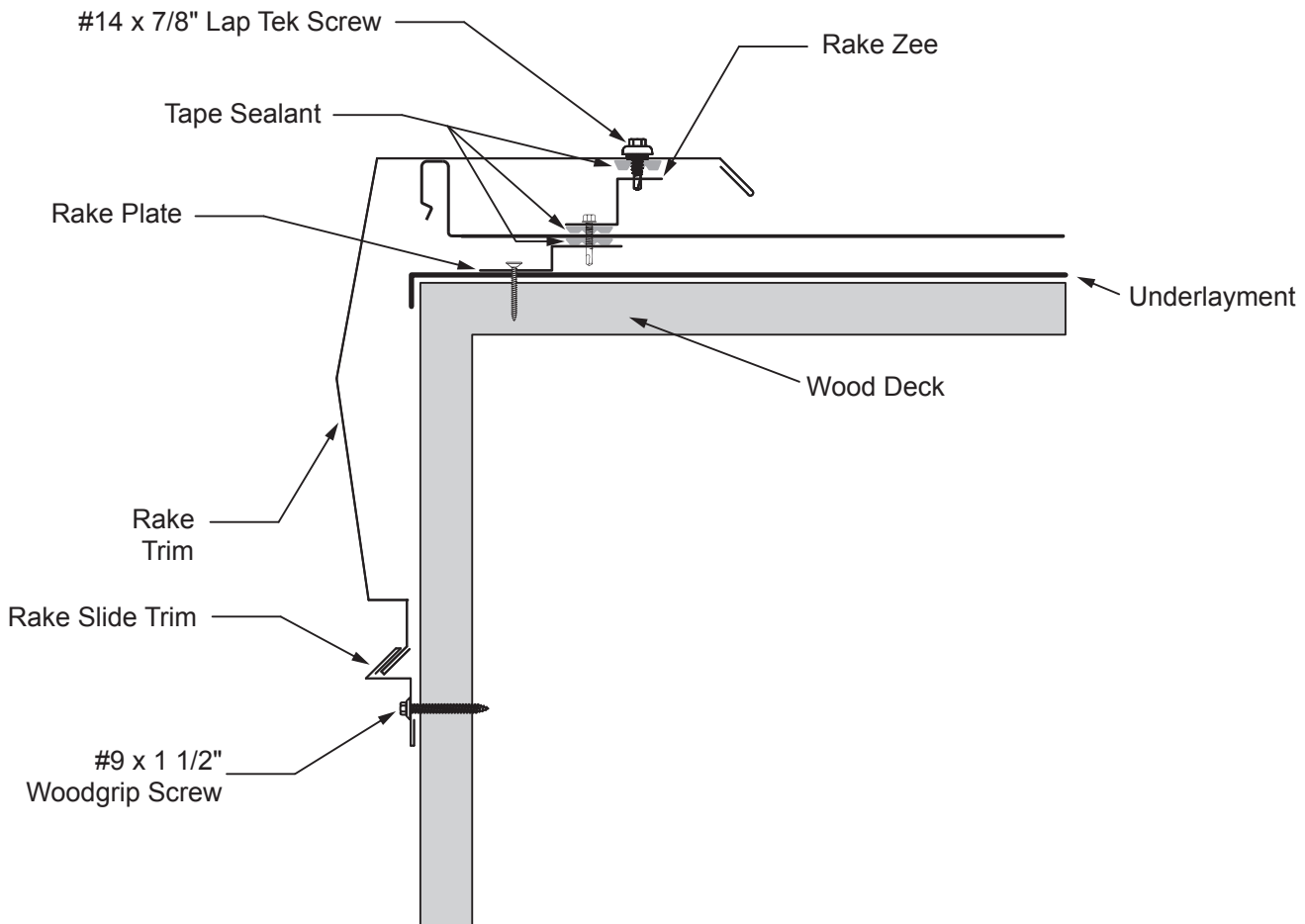
# WOOD DECK APPLICATION

# FLOATING RAKE DETAILS | WOOD DECK

## INSTALLATION STEPS:

1. To begin starting panel you must first attach rake plate with structural wood screws, supplied by others.
2. With tape sealant applied to the top inside leg of the rake plate, place female leg side of panel over the top of rake plate and secure temporarily with structural screws on 10' centers.
3. Install Rake Closure as pictured using tape sealant and secure using #12x1 1/4" SD screws through the closure, sealant, panel, and rake plate, 12" on center.

## End View

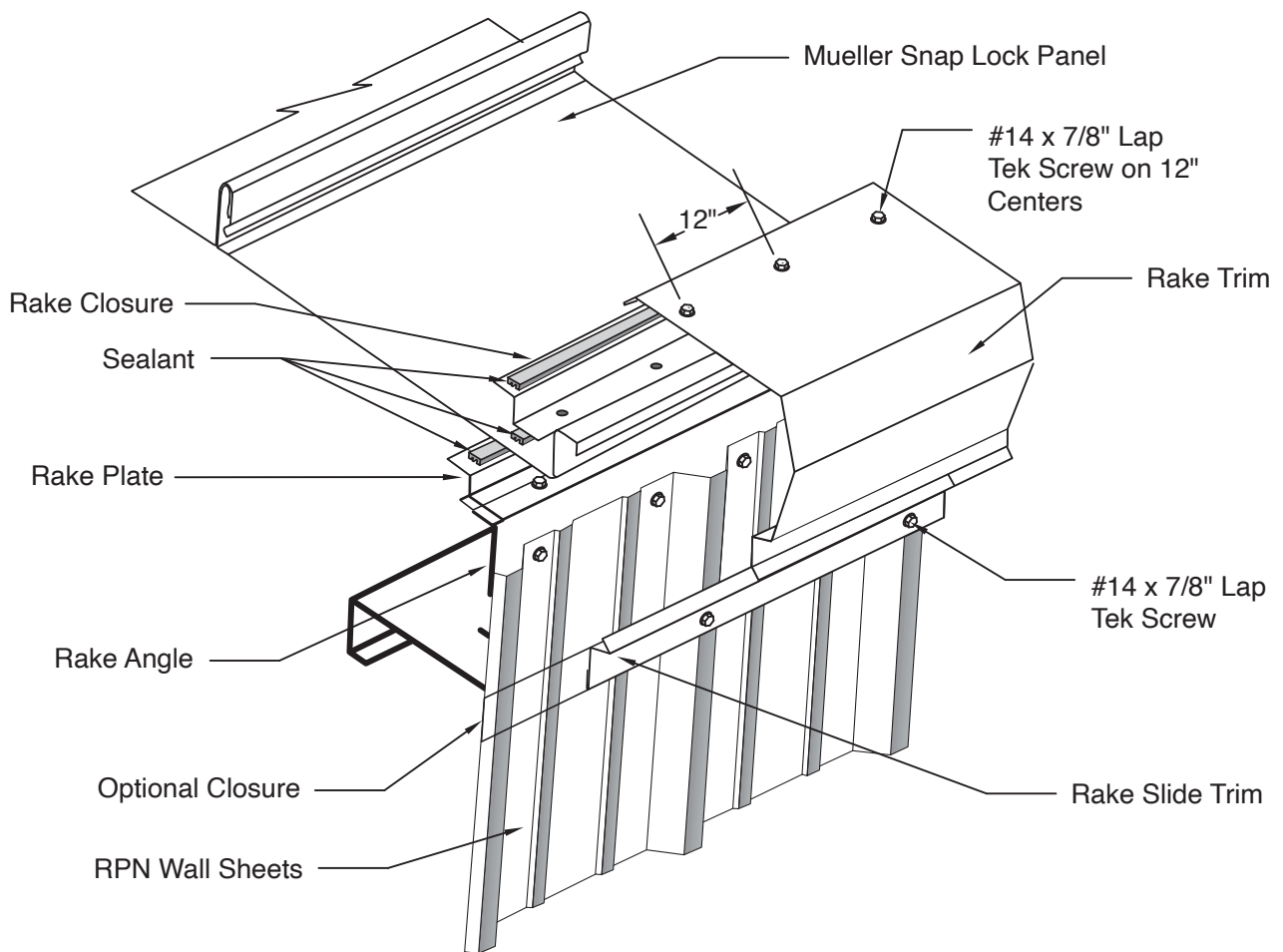


# FLOATING RAKE DETAILS | WOOD DECK

## INSTALLATION STEPS CONTINUED:

4. Apply tape sealant to the top of the Rake Closure and install Rake Trim as shown with #14x 7/8" lap screws on 12" centers.
5. Attach Rake Slide Trim over bottom edge of the Rake Trim securing with #9 woodgrip screws on 12" centers.
6. For last panel run, field cut the panel if necessary to form a 1 3/4" up turned leg that will position against the slotted rake angle when installed. Then complete the trim using the above steps.

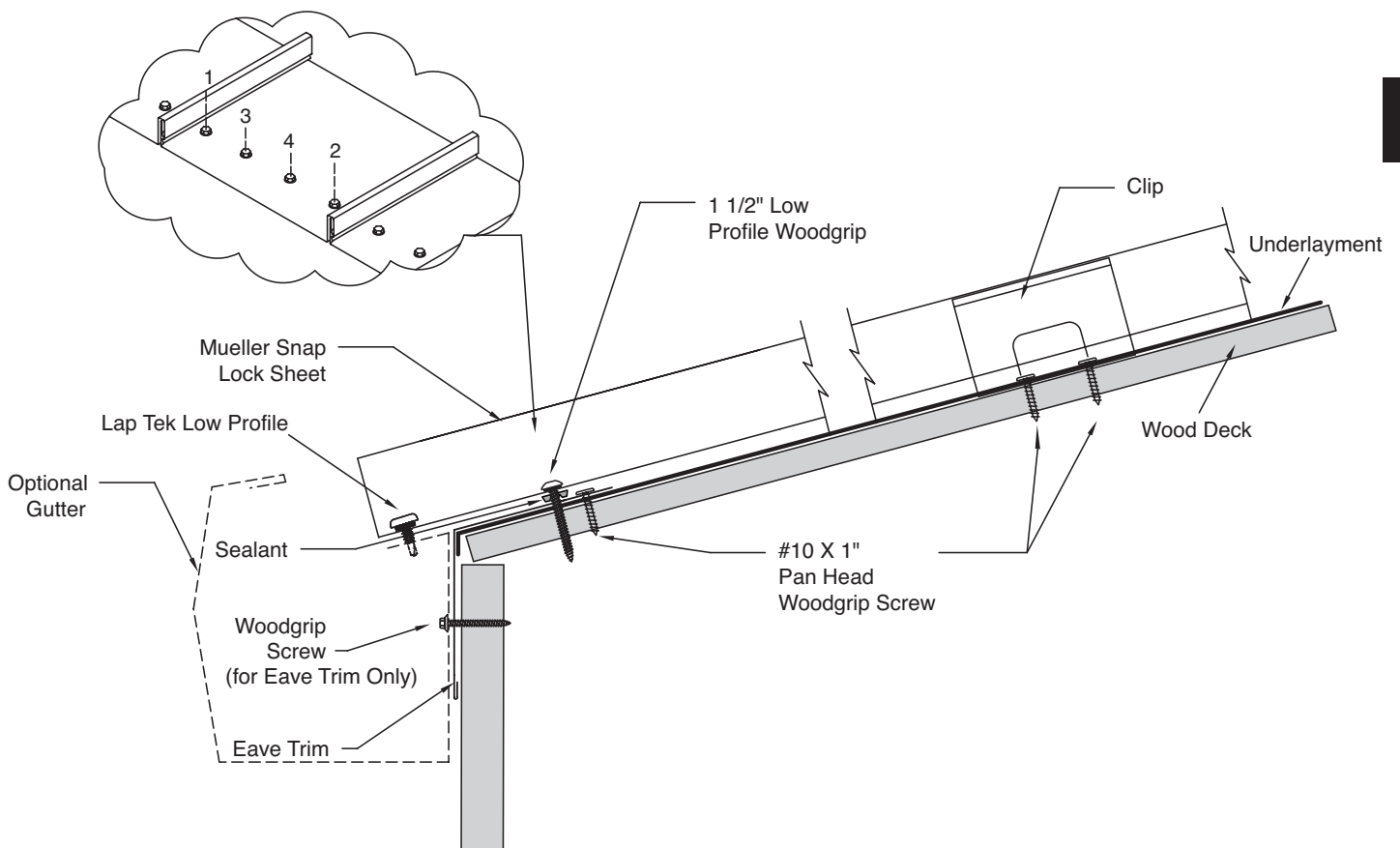
## Isometric View





## INSTALLATION STEPS: (USE ONLY WITH FLOATING RIDGE/HIP)

1. Install eave trim onto the eave using #10 x 1 pan head screws, 3 per 10'.
2. Apply butyl tape sealant to top leg of the eave trim as shown.
3. Install panel and screw to the eave using 1 1/2" screws. Panel should overhang the eave trim by 1 1/4" to accommodate optional gutter.
4. Seal the ends of the panel legs using tube sealant.

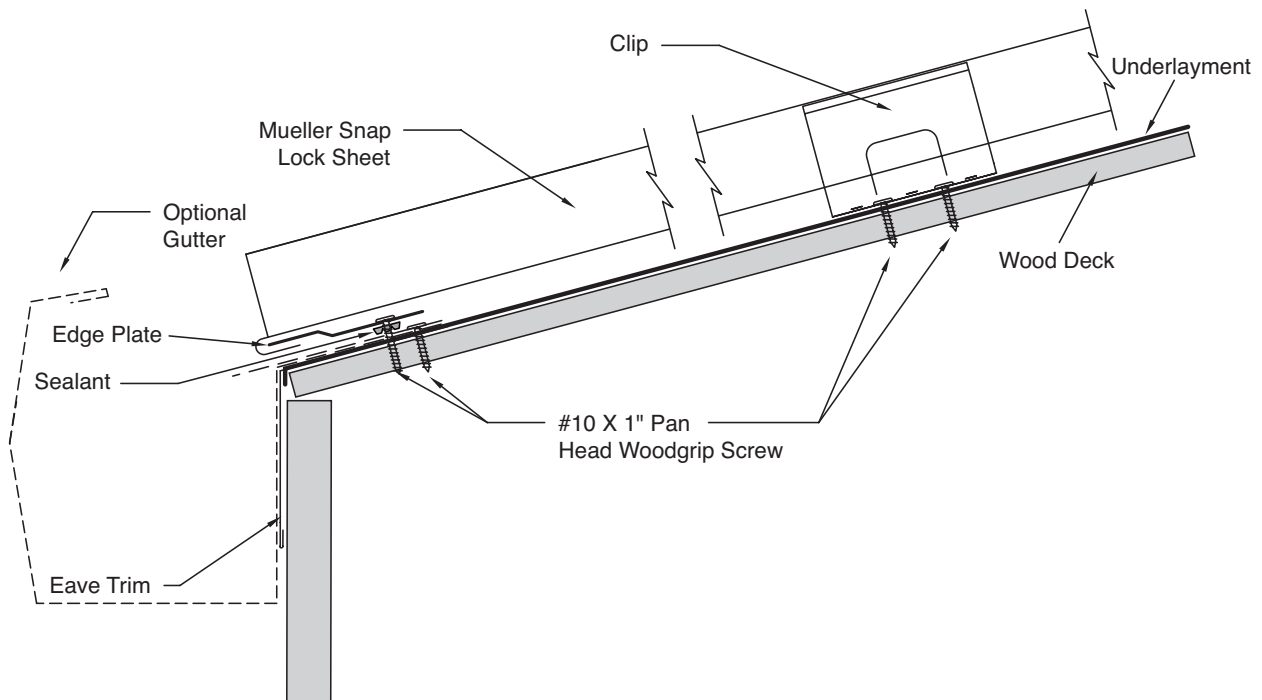


# FLOATING EAVE | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FIXED RIDGE/HIP)

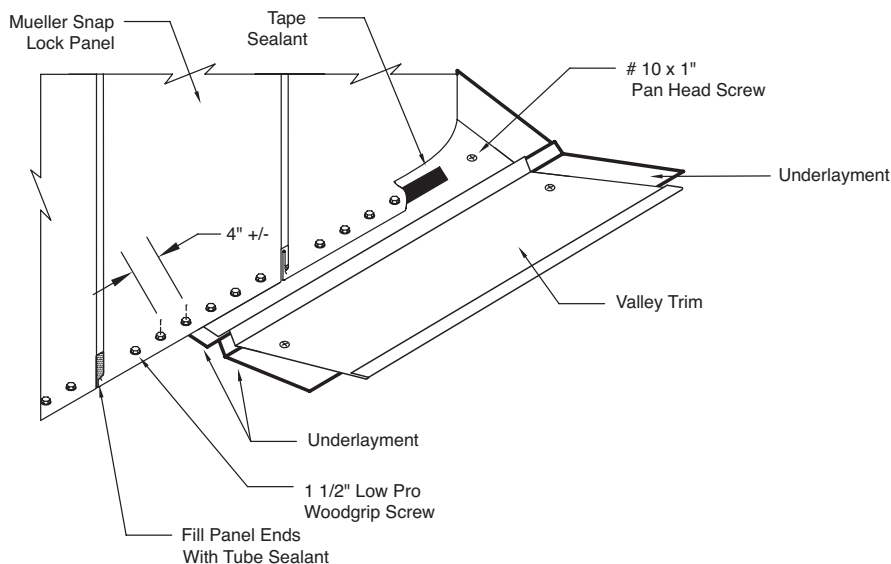
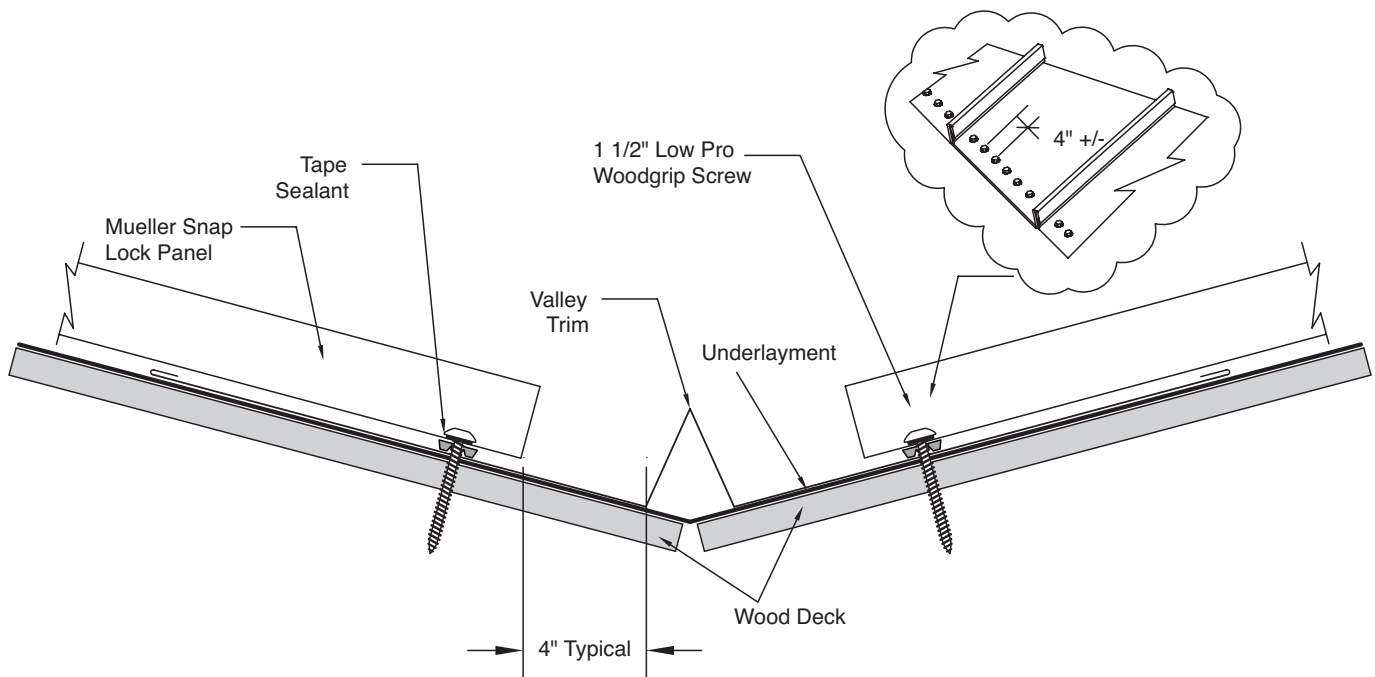
1. Install either eave trim or optional gutter onto the eave using #10 x 1 woodgrip pan head screws, 3 per 10'.
2. Apply butyl tape sealant to top leg of the eave trim or gutter as shown.
3. Install edge plate over butyl tape sealant using #10 x 1 woodgrip pan head screws, on 1' centers.
4. Field notch, hem and fold the panel, then slide hemmed edge over edge plate as shown.
5. Attached clips as specified.
6. Seal the ends of the panel legs using tube sealant.

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## INSTALLATION STEPS (USE ONLY WITH FIXED EAVE)

1. Install Valley trim over the Underlayment and deck. Secure with #10 x 1" woodgrip pan head screws (5' centers).
2. Install butyl tape sealant 4" to 5" from center of the valley trim.
3. Field cut and attach panel to Valley using 1 1/2" wood grip screws, on 4" centers, through the butyl tape sealant and the Valley Trim into the deck.
4. Seal the ends of the panel legs using tube sealant.



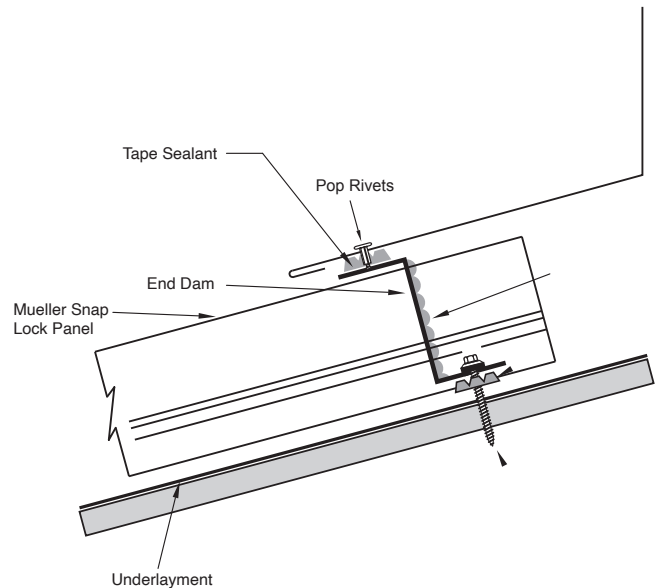
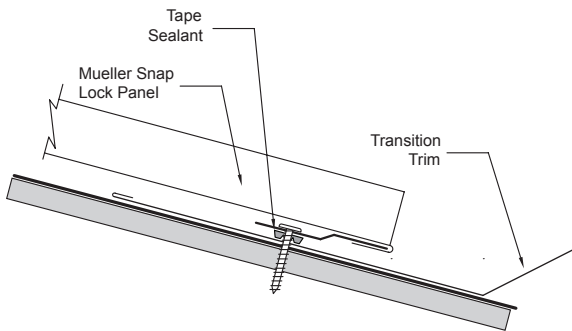
**Isometric View**

# FLOATING VALLEY | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FIXED RIDGE/HIPS)

1. Install Valley Trim over the Valley from the bottom up. Secure with #10 x 1 woodgrip pan head screws (5' centers).
2. Install butyl tape sealant 4" to 5" from center of the valley trim.
3. Install edge plates over the butyl tape sealant using #10 x 1 woodgrip pan head screws on 12" centers.
4. Field cut and hem panel ends. Install over edge plate as shown.
5. Seal the ends of the panel legs using tube sealant.

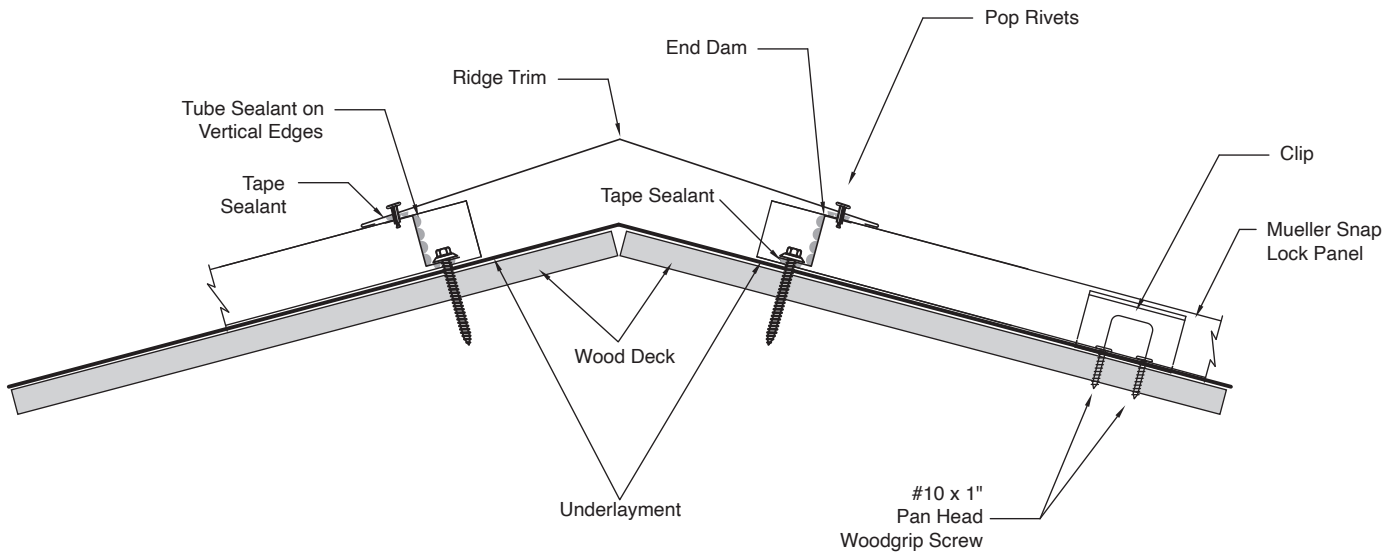
44



# FIXED RIDGE & HIP | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE AND VALLEY)

1. Install the butyl tape sealer across the panel, aligned to accommodate ridge trim and end dam.
2. Fasten end dam through butyl tape sealant and panel to deck using 1 ½" wood grip screws on 4" centers.
3. Use butyl caulk to seal the ends of the end dam.
4. Apply butyl tape sealant to the top of the end dam.
5. Fasten Ridge trim to end dam using pop rivets.

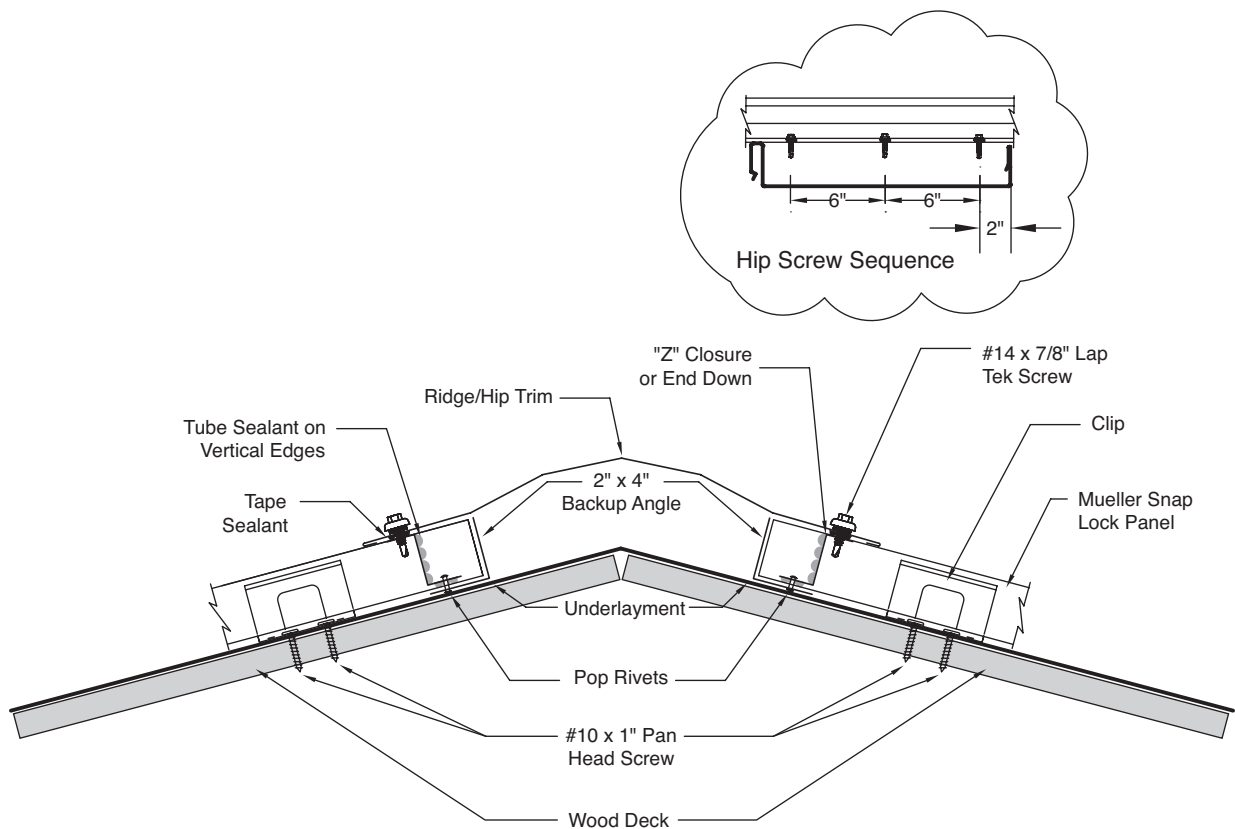


# FLOATING HIP & RIDGE | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FIXED EAVE OR VALLEY)

1. Install the panels with the ends bevel cut to the slope if applying to hip.
2. Slide the backup angle under the bottom of the panels at least 2" from the purlin clips with 2" leg turned up as shown.
3. To accommodate the width of the hip/ridge trim, apply the butyl tape sealant to the panel over the backup angle as shown.
4. Field cut and attach Z closure on hips, use end dams on ridges, attach the closure to the backup angle using pop rivets on 4" centers as shown.
5. Seal the ends of the closures or the end dams using tube sealant.
6. Apply butyl tape sealant to the top of the Z closure or end dam.
7. Attach ridge/hip trim to the Z closure or end dam using #14 x 7/8" lap screws on 6" centers.

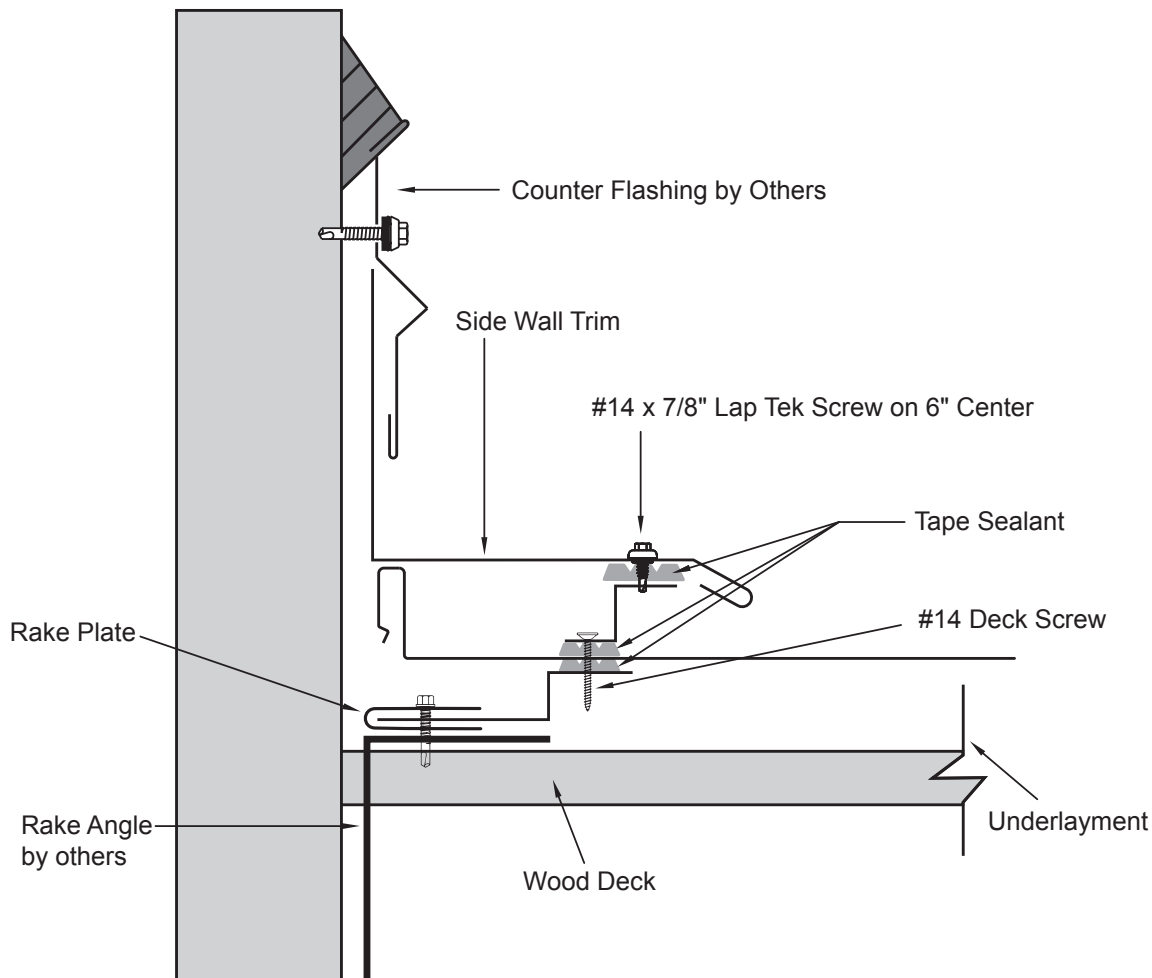
46



# SIDE WALL / PARAPET DETAILS | WOOD DECK

## INSTALLATION STEPS:

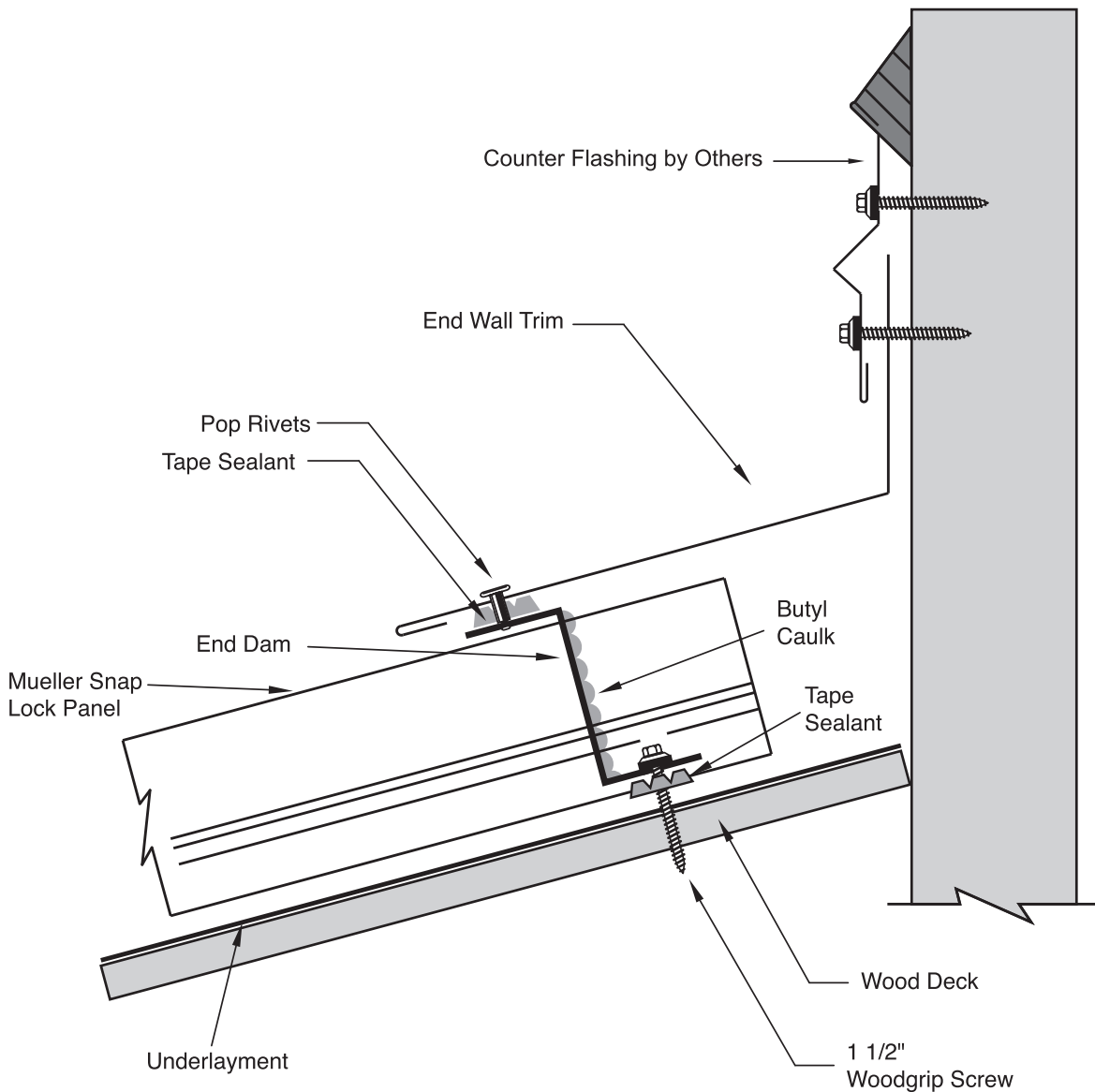
1. First attach the rake plate to the existing wood deck using structural wood screws, (supplied by others)
2. With mastic applied to the top inside leg of the rake plate, place female leg side of panel over the top of rake plate and secure temporarily with structural screws on 10' centers.
3. Install Rake Closure as pictured using tape sealant and secure using #12x1 1/4" SD screws through the closure, sealant, panel, and rake plate, 12" on center.
4. Apply tape sealant to the top of the Rake Closure and install side wall trim as shown with #14 x 7/8" lap screws on 12" centers.
5. Attach the appropriate counter flashing as required by the application. This is supplied by others.
6. For last panel run, field cut the panel if necessary to form a 2" up turned leg that will position against the wall when installed. Then complete the trim using the above steps.



# FIXED END WALL / PARAPET DETAILS | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE)

1. To accommodate the placement of the End Wall trim and end dam, apply the butyl tape sealant across the pan of the panel.
2. Install the end dam using woodgrip screws on 4" centers through the panel and end dam as shown.
3. Use butyl caulk to seal the ends of the end dam.
4. Apply butyl tape sealant to the top of the end dam.
5. Fasten End Wall trim to end dam using Pop Rivets on 12" centers.

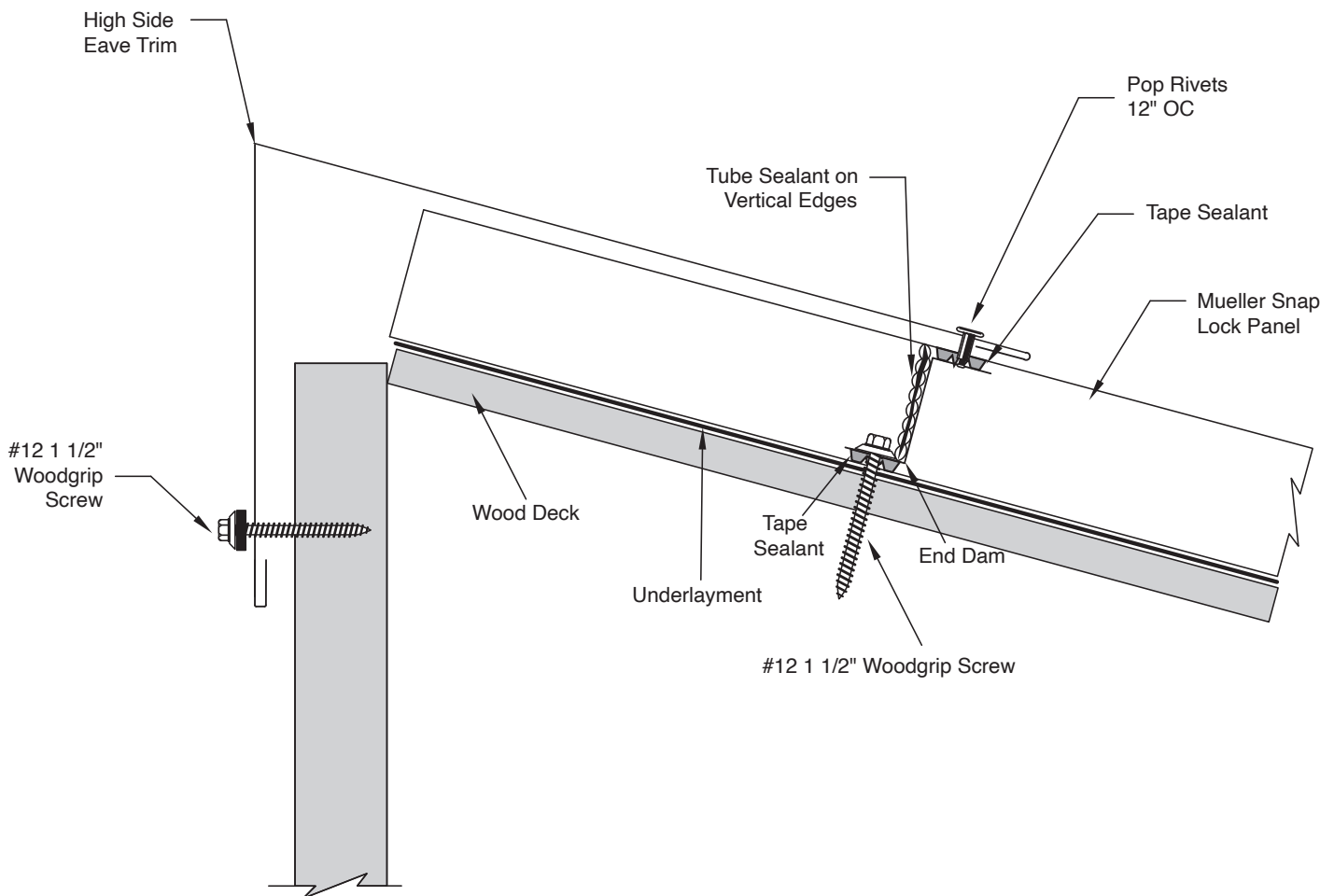




# FIXED HIGH SIDE EAVE | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE)

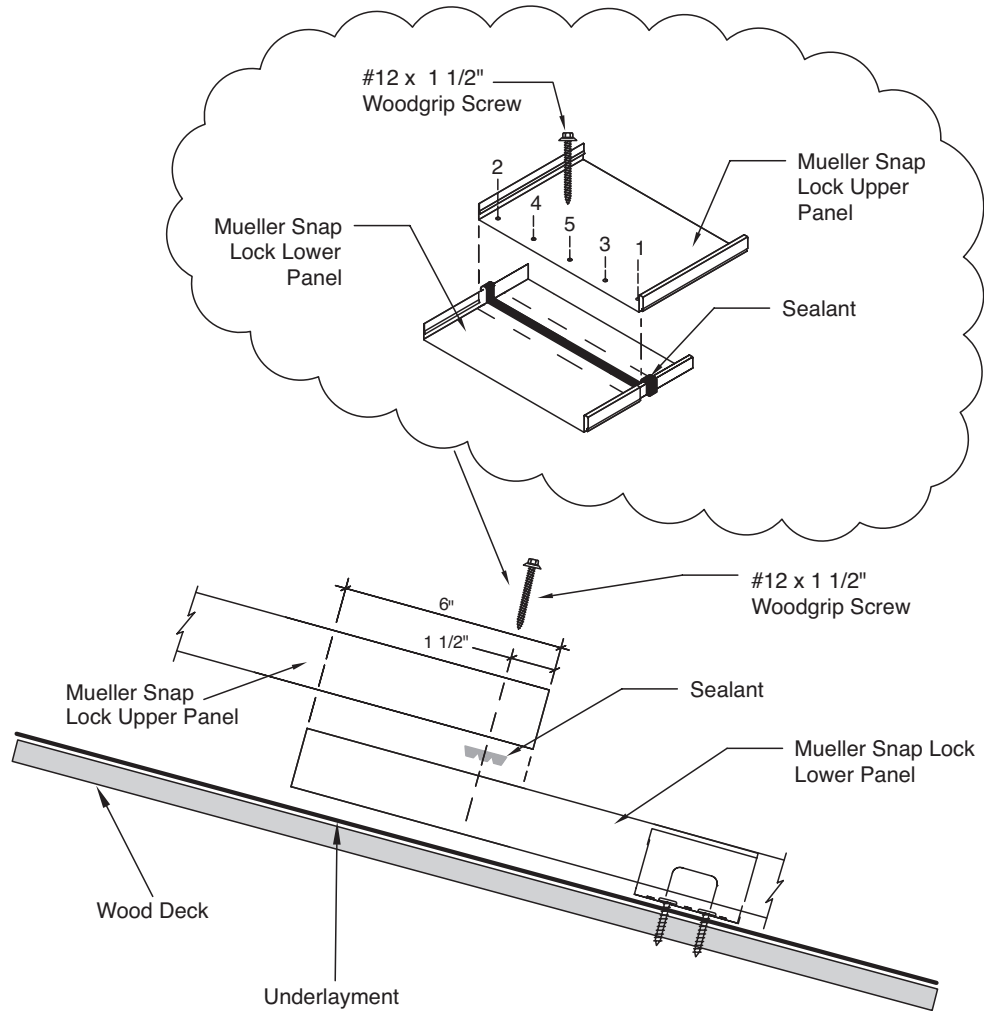
1. Apply butyl tape sealant to the panel, to accommodate the high side eave trim and end dam.
2. Apply end dam and attach using 1 1/2" woodgrip screws on 4" centers.
3. Seal the end dam sides with tube sealant.
4. Apply butyl tape sealant to the top of the end dam.
5. Attach High side eave trim to the end dam using Pop Rivets as shown.



# FIXED ENDLAP | WOOD DECK

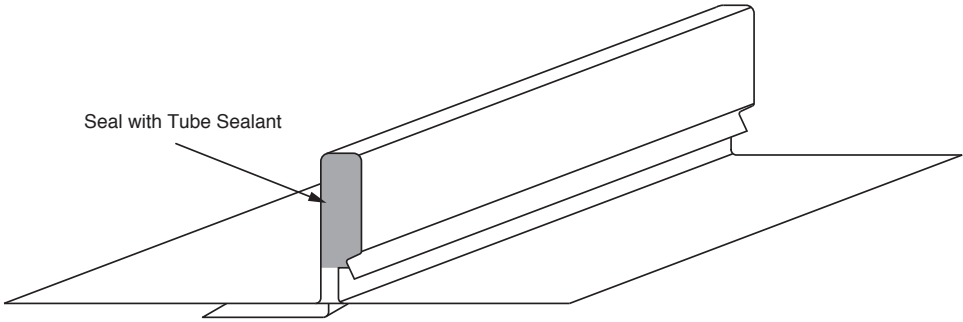
## INSTALLATION STEPS (BOTH THE RIDGE AND EAVE ARE FLOATING):

1. Install lower panel as detailed in the installation instructions.
2. Install butyl tape sealer on the lower panel, centered over the backup channel  $4\frac{1}{2}$ " from the upper end of the panel. Start at the outside bottom of the female rib, extending up and over the rib, down to the pan of the panel, across the width of the panel, and up and over the male rib as pictured.
3. Install the upper panel by snapping it over the lower panel. Fasten using five screws in the fastener sequence shown.



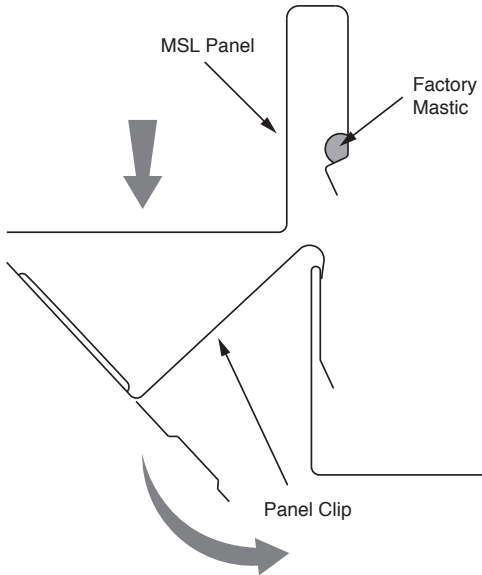
# DESIGN & FIELD HEMMING

## DESIGN

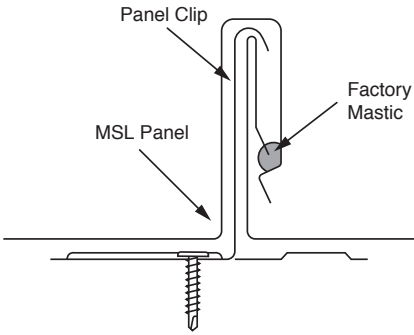


### NOTE

1. Fill end of panel seam at eave and valleys with sealant.
2. For UL 90 rating, UL 90 clips with two fasteners must be used.

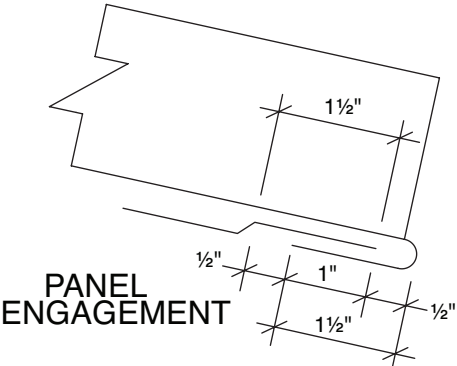
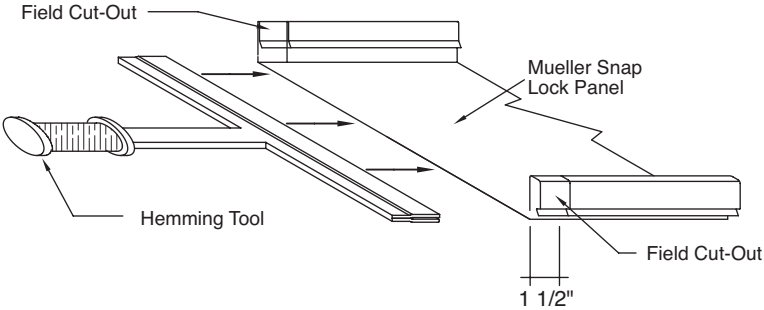


Panel Clip Installation



Installed Panel Cross Section

## FIELD HEMMING

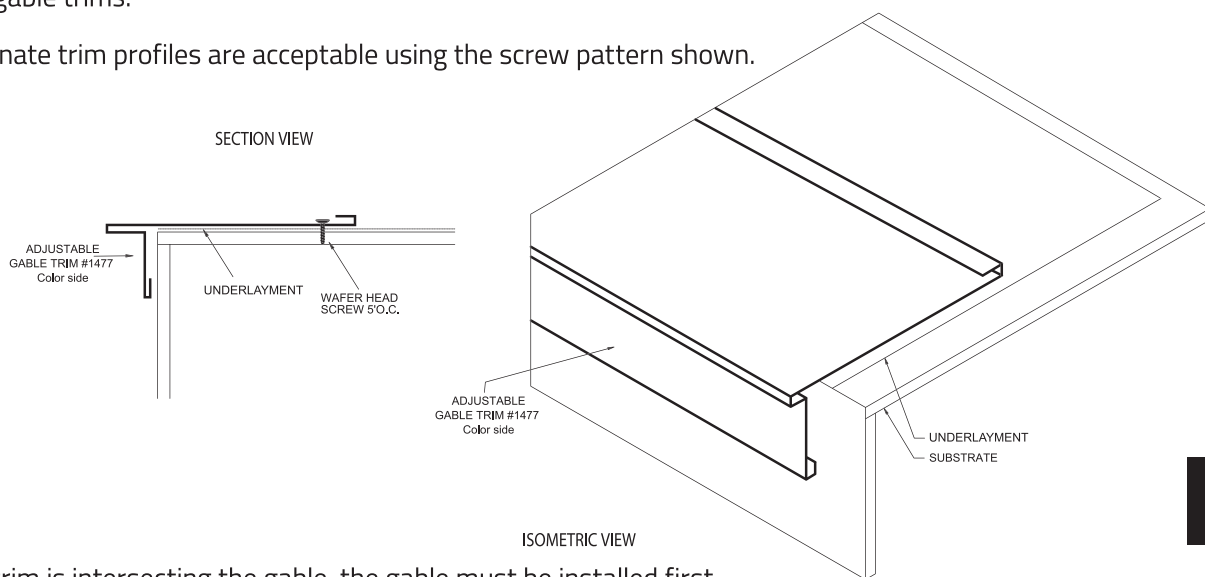


# MSL RESIDENTIAL APPLICATION

# MSL RESIDENTIAL RAKE DETAILS

1. Starting at the corner, install the adjustable gable trim along the sloping gable, placing it on top of the underlayment.
2. Attach with wafer head screws 5' on centers (adjustable strip applied after valley trim). Slide gable trim over eave trim at corner.
3. At the peak, one gable trim should be cut vertical to the ground and overlap at the junction of the two gable trims.

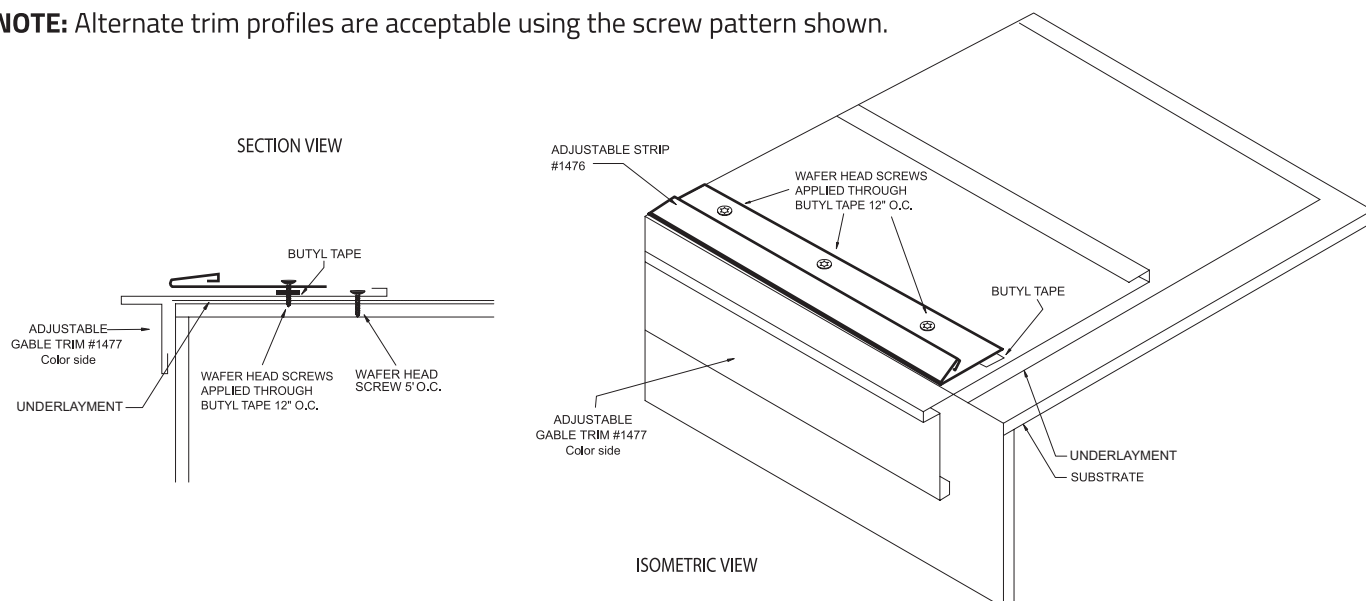
**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.



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1. If valley trim is intersecting the gable, the gable must be installed first.
2. Pre-drill 1/8" holes on 12" centers along the length of adjustable gable strip #1476.
3. Butyl tape should be applied to the bottom of the strip covering pre-drilled holes. Place the strip the desired distance from the outside edge of the gable trim (optimal distance 2"), making sure it is aligned parallel to the gable, perpendicular to the eave line and between the open hem at the edge of the adjustable gable trim and the outside of the trim.
4. The adjustable strip is attached to the roof with wafer head screws on 12" centers from eave to ridge using pre-drilled holes, making sure the screws are applied through the butyl tape. This condition exists in both Starting Panel and End Panel Installation.

**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.



**DETAILS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.**

# RESIDENTIAL RAKE DETAILS

## STARTING AND ENDING PANEL INSTALLATION

### STARTING PANEL

1. Apply adjustable strip as previously instructed.
2. Remove the overlap rib of the panel, making a straight cut the length of the panel.
3. Apply butyl tape continuously down the length of the adjustable strip, covering the wafer head screws.
4. Insert the cut edge of the panel into the strip, making sure the panel is seated fully into the strip.
5. Attach the standing seam clips on the required centers.

**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.

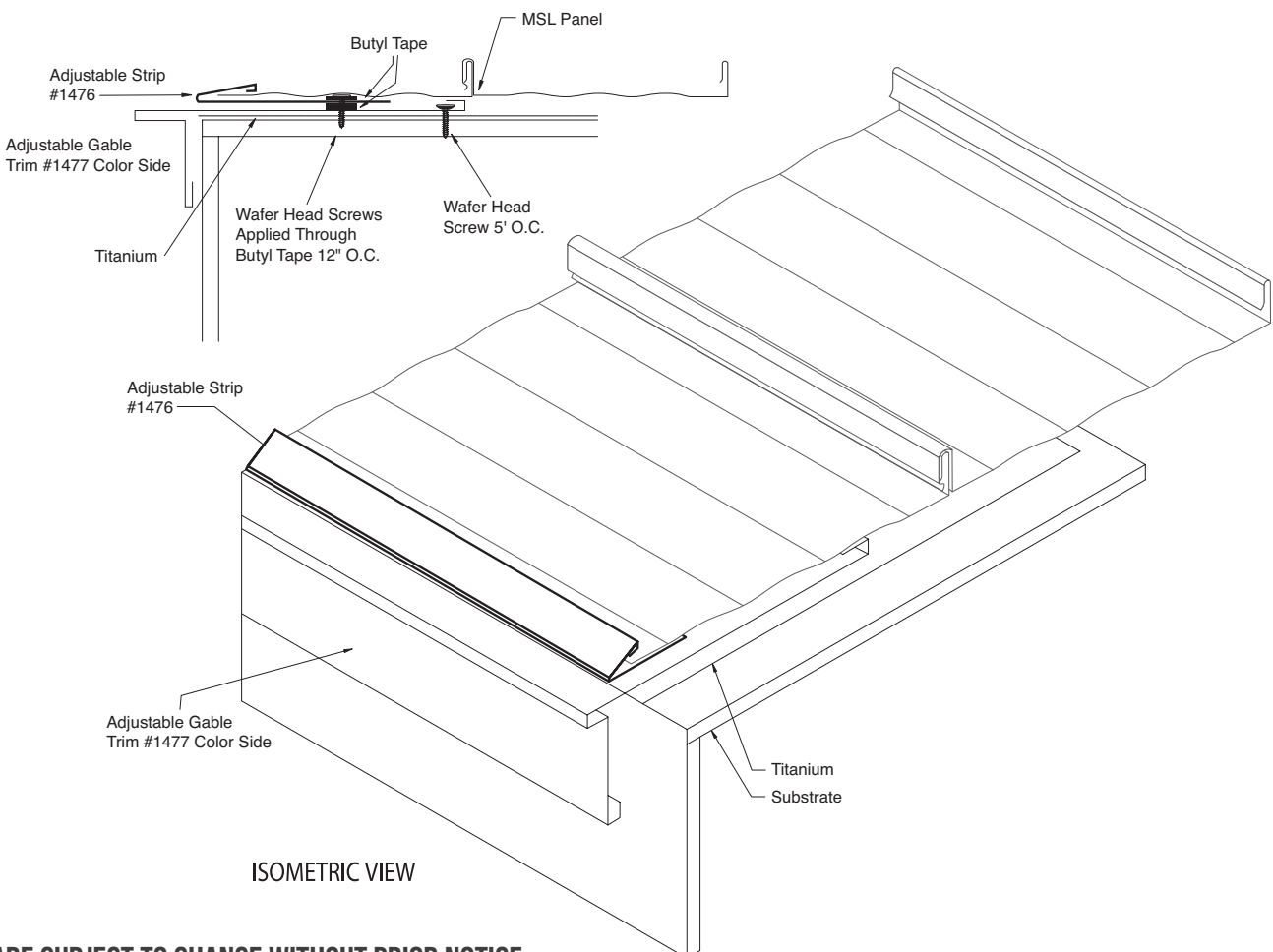
### ENDING PANEL

1. Remove the underlap rib of the panel at a point that is inside the adjustment portion of the gable trim, making a straight cut the length of the panel (optimal 2" from gable edge).
2. Apply adjustable strip as previously instructed.
3. Test apply the panel to assure proper fit.
4. Apply butyl tape and insert last panel into strip, making appropriate panel lap.

**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.

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### SECTION VIEW

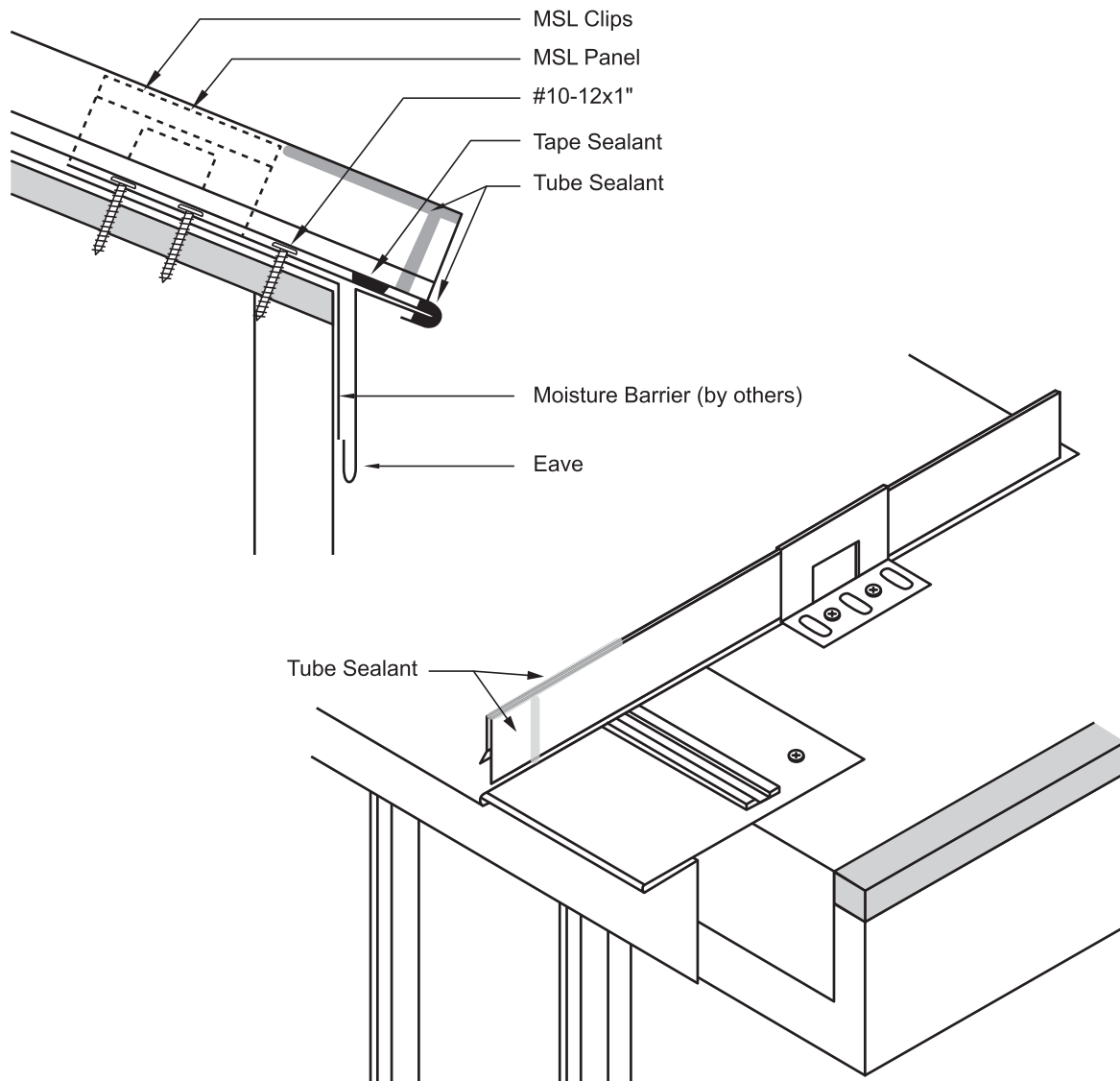


DETAILS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

# RESIDENTIAL EAVE | WOOD DECK

1. Install the eave trim by sliding it underneath the underlayment and securing it to the roof surface with wafer head screws on 12" centers.
2. There are no screws or nails to be placed in the exposed fascia of the trim.
3. At the corners, cut the eave trim 1 1/2" long and prepare the ends with tabs to receive the gable trim.
4. Hem panel ends. Install over eave trim using tube sealant as shown.

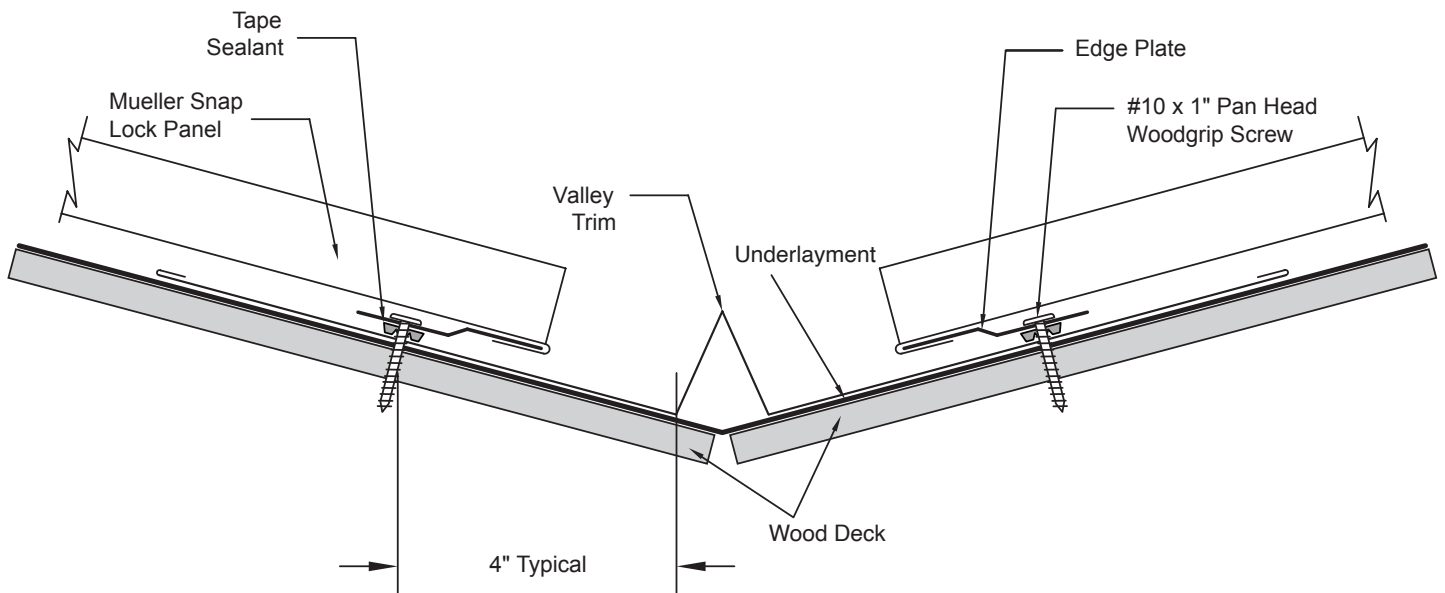
**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.



# FLOATING VALLEY | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FIXED RIDGE/HIPS)

1. Install Valley Trim over the Valley from the bottom up. Secure with #10 x 1 woodgrip pan head screws (5' centers).
2. Install butyl tape sealant 4" to 5" from center of the valley trim.
3. Install edge plates over the butyl tape sealant using #10 x 1 woodgrip pan head screws on 12" centers.
4. Field cut and hem panel ends. Install over edge plate as shown.
5. Seal the ends of the panel legs using tube sealant.

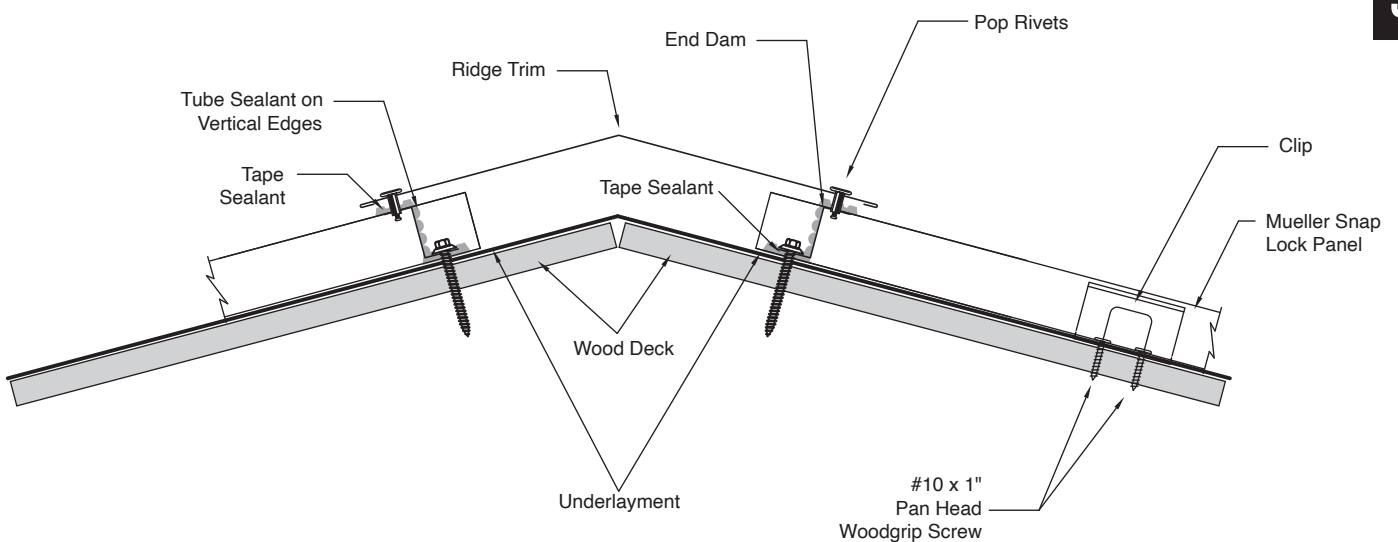




# FIXED RIDGE & HIP | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE AND VALLEY)

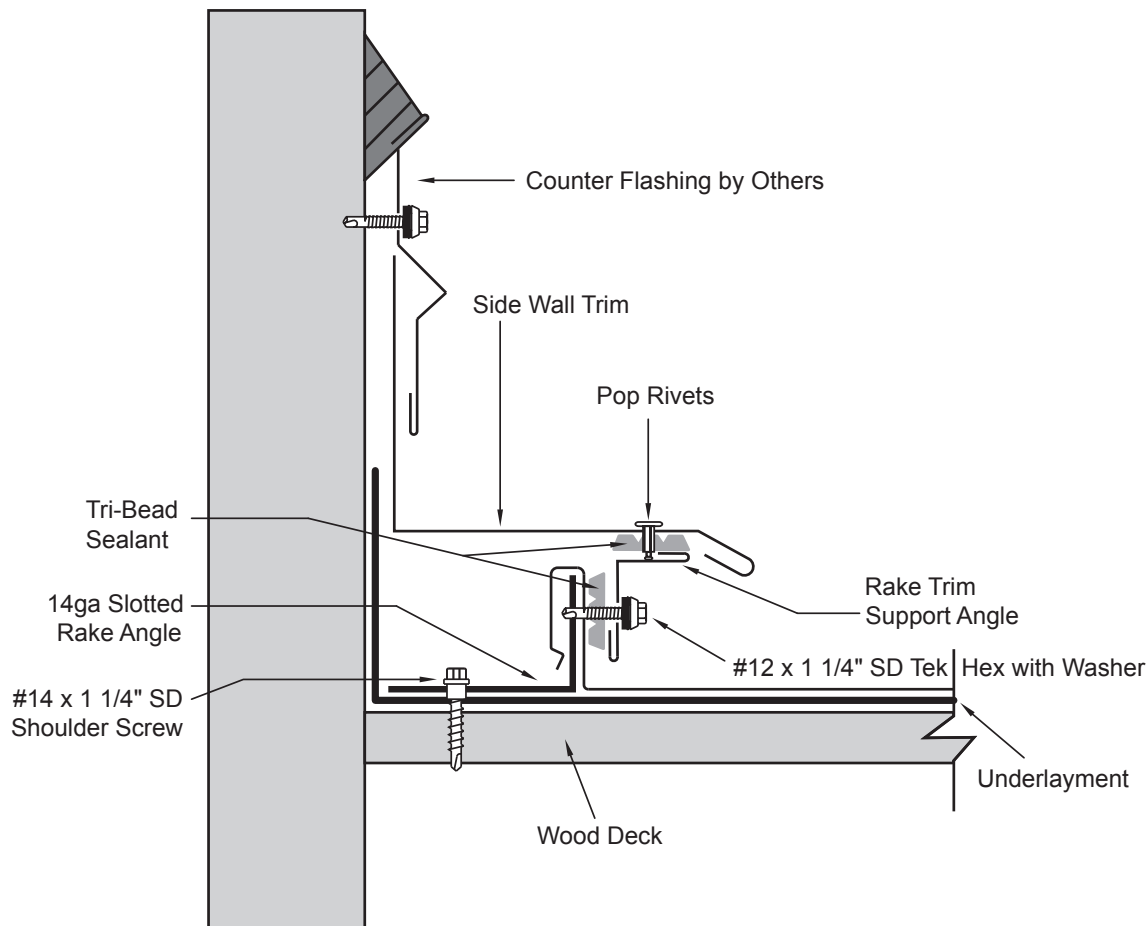
1. Install the butyl tape sealer across the panel, aligned to accommodate ridge trim and end dam.
2. Fasten end dam through butyl tape sealant and panel to deck using 1 ½" wood grip screws on 4" centers.
3. Use tube sealant on the ends of the end dam.
4. Apply butyl tape sealant to the top of the end dam.
5. Fasten Ridge trim to end dam using pop rivets.



# SIDE WALL / PARAPET DETAILS | WOOD DECK

## INSTALLATION STEPS:

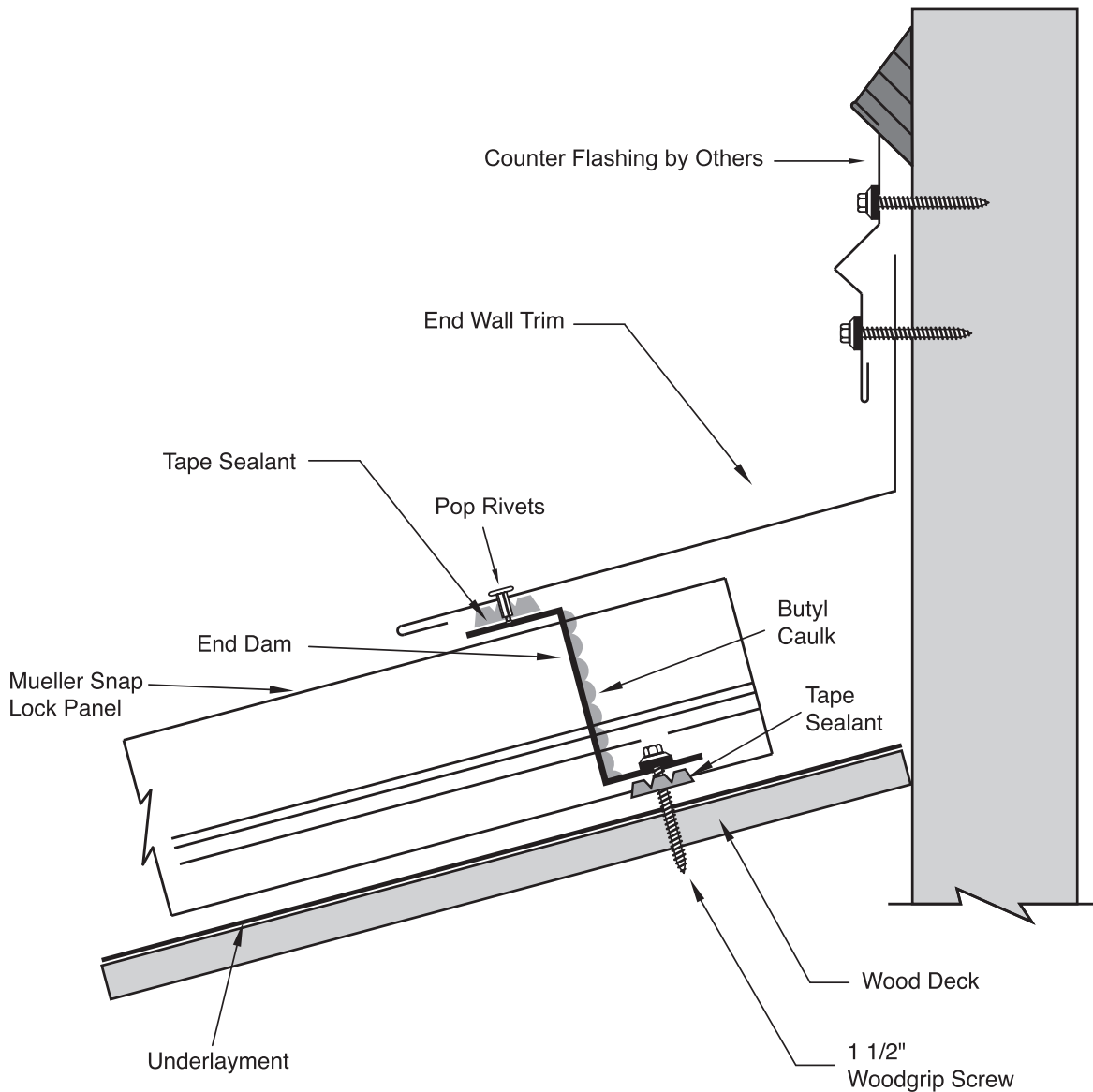
1. To begin starting panel first attach the Slotted Rake Angle to the existing wood deck using #14 x 1 1/4" SD Shoulder tek screws as shown.
2. Place the female leg of the first panel over the upturned edge of the Slotted Rake Angle.
3. Install Rake Trim Support Angle as pictured using tri bead sealant and secure using #12 x 1 1/4" SD screws thru the Rake Trim Support Angle, tri bead, panel leg and into the 14 ga. Slotted Rake Angle.
4. Apply tri bead to the top of the Rake Trim Support Angle and install side wall trim as shown with pop rivets on 12" centers.
5. Attach the appropriate counter flashing as required by the application. This is supplied by others.
6. For last panel run, field cut the panel if necessary to form a 1 3/4" up turned leg that will position against the slotted rake angle when installed. Then complete the trim using the above steps.



# FIXED END WALL / PARAPET DETAILS | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE)

1. To accommodate the placement of the End Wall trim and end dam, apply the butyl tape sealant across the pan of the panel.
2. Install the end dam using woodgrip screws on 4" centers through the panel and end dam as shown.
3. Use butyl caulk to seal the ends of the end dam.
4. Apply butyl tape sealant to the top of the end dam.
5. Fasten End Wall trim to end dam using pop rivets on 12" centers.

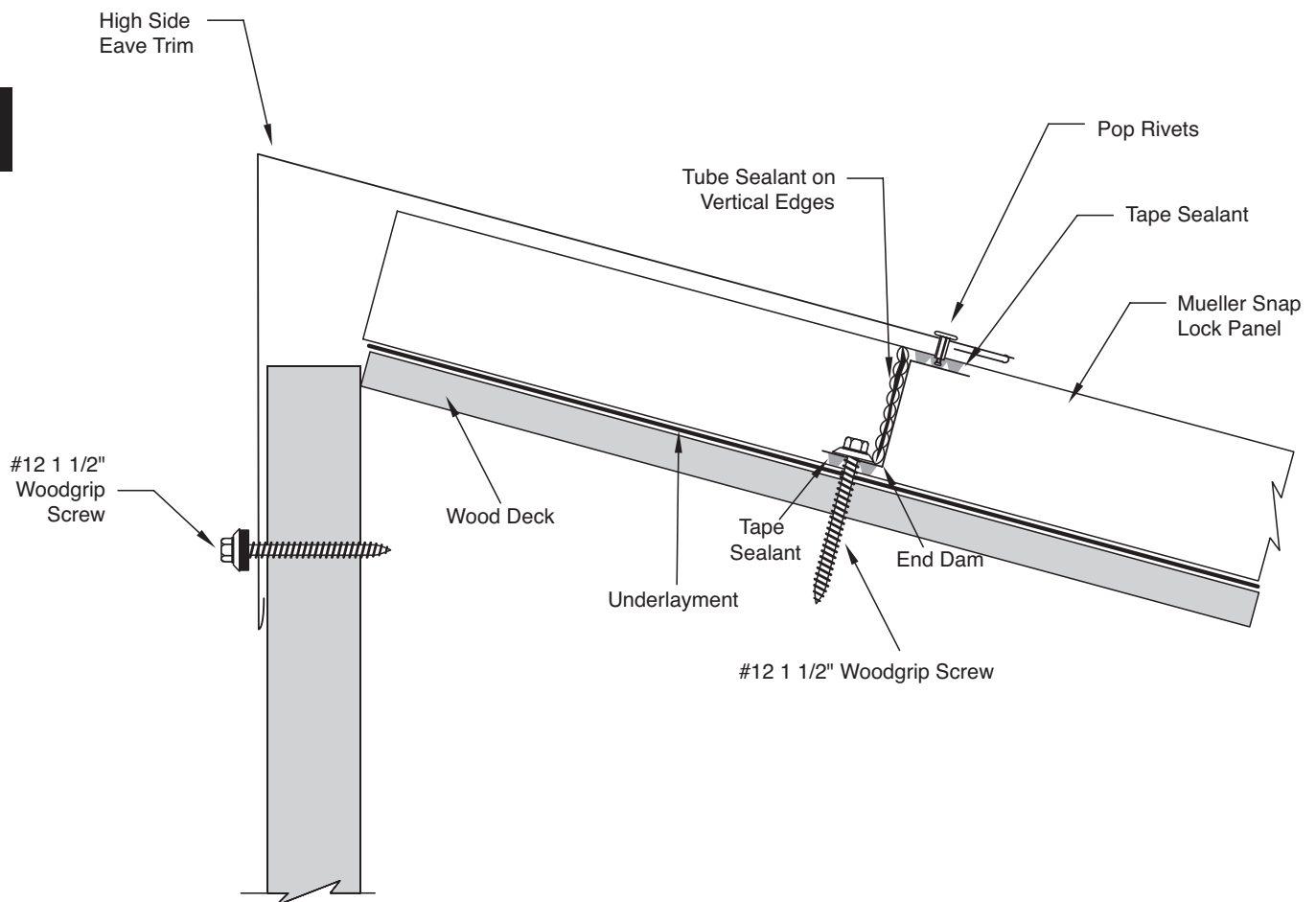


# FIXED HIGH SIDE EAVE | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FLOATING EAVE)

1. Apply butyl tape sealant to the panel, to accommodate the high side eave trim and end dam.
2. Apply end dam and attach using 1 ½" woodgrip screws on 4" centers.
3. Seal the end dam sides with tube sealant.
4. Apply butyl tape sealant to the top of the end dam.
5. Attach High side eave trim to the end dam using pop rivets as shown.

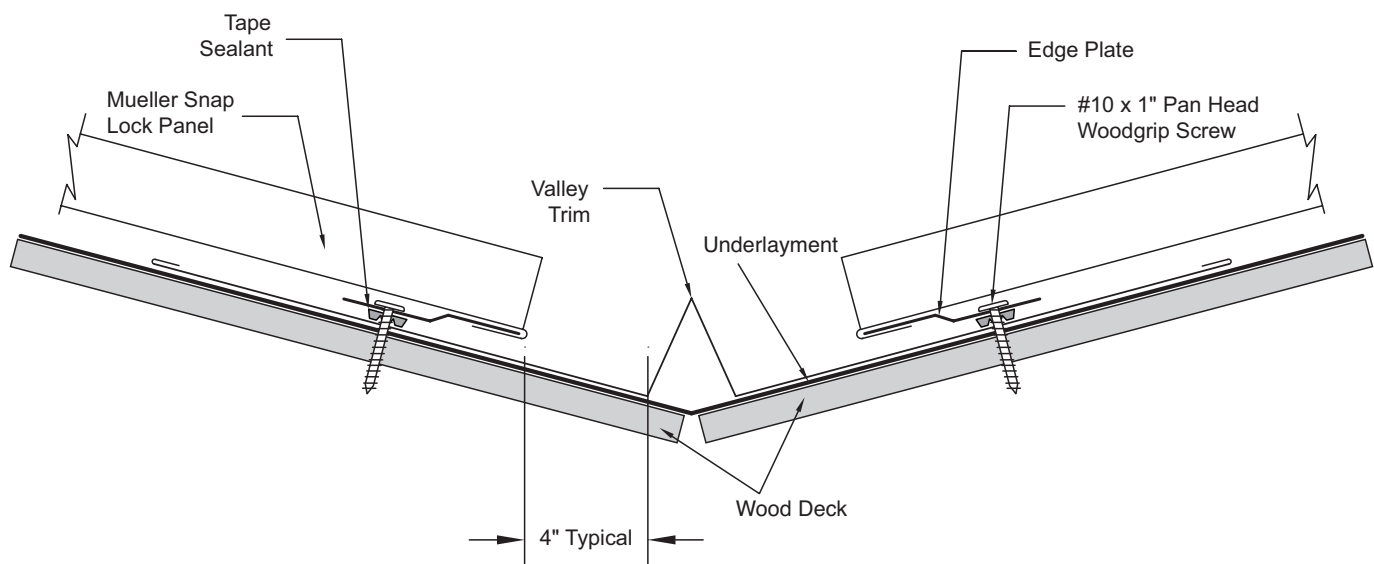
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# FLOATING VALLEY | WOOD DECK

## INSTALLATION STEPS: (USE ONLY WITH FIXED RIDGE/HIPS)

1. Install Valley Trim over the Valley from the bottom up. Secure with #10 x 1 woodgrip pan head screws (5' centers).
2. Install butyl tape sealant 4" to 5" from center of the valley trim.
3. Install edge plates over the butyl tape sealant using #10 x 1 woodgrip pan head screws on 12" centers.
4. Field cut and hem panel ends. Install over edge plate as shown.
5. Seal the ends of the panel legs using tube sealant.

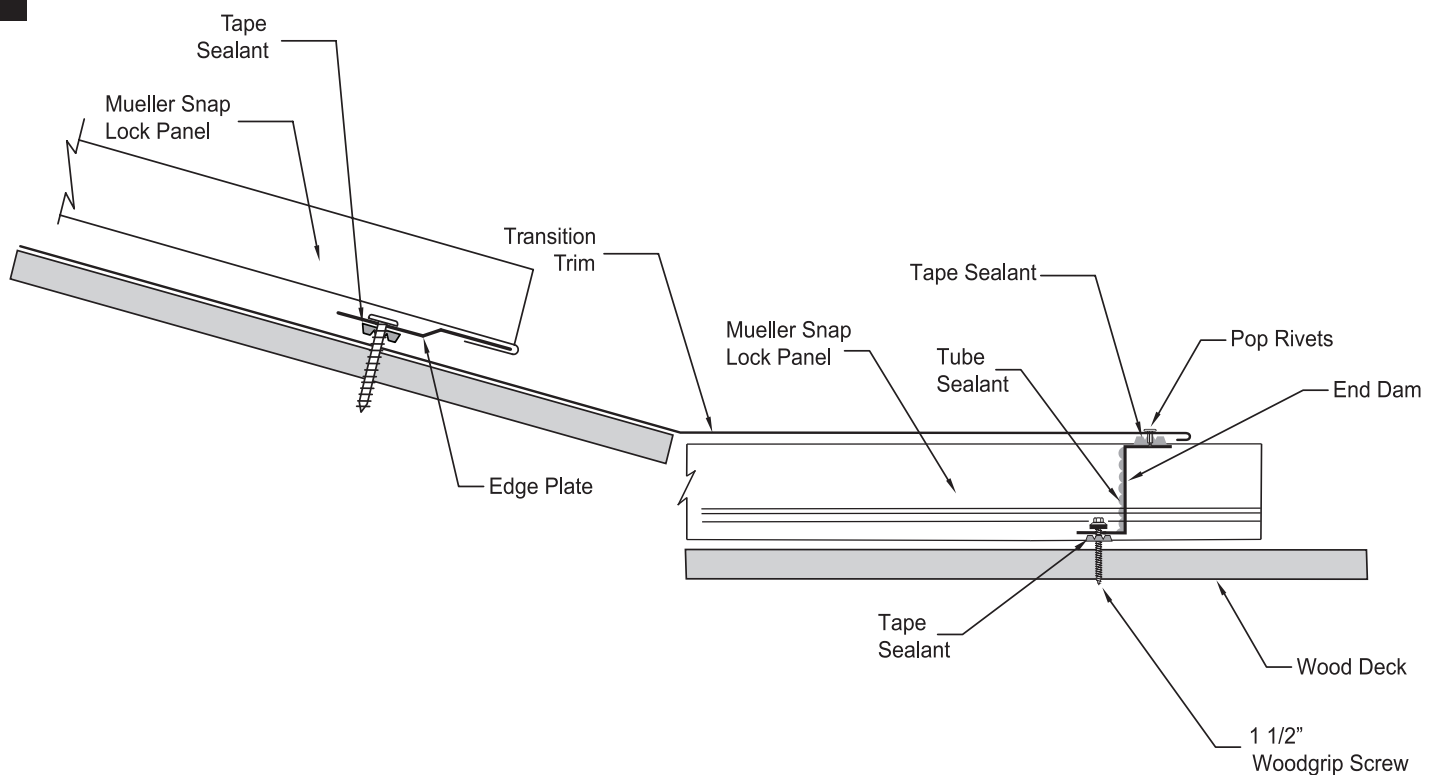


# ROOF PITCH CHANGE INSTALLATION

1. Apply lower panels.
2. Apply butyl tape sealant to lower panel to accommodate the end dam and transition flashing.
3. Apply end dam and attach using woodgrip screws on 4" centers and seal end dam sides with tube sealant.
4. Apply butyl tape to top of end dam.
5. Attach lower transition flashing to top of end dams using pop rivets, making sure to maintain roof pitch on the lower flashing.
6. Place a row of butyl tape at a point that will accommodate the upper edge plate.
7. Hem and install the appropriate upper panels.

**NOTE:** Alternate trim profiles are acceptable using the screw pattern shown.

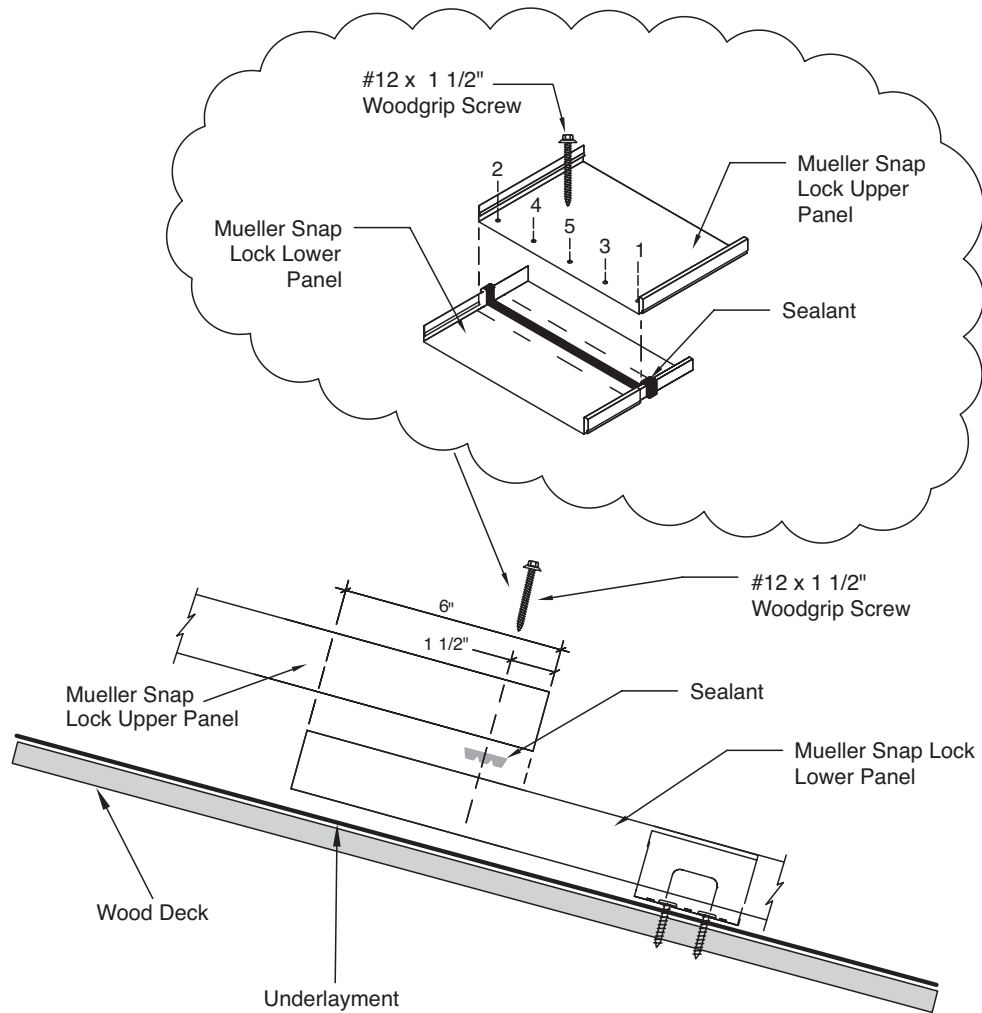
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# FIXED ENDLAP | WOOD DECK

## INSTALLATION STEPS:

1. Install lower panel as detailed in the installation instructions.
2. Install butyl tape sealer on the lower panel, centered over the backup channel  $4\frac{1}{2}$ " from the upper end of the panel. Start at the outside bottom of the female rib, extending up and over the rib, down to the pan of the panel, across the width of the panel, and up and over the male rib as pictured.
3. Install the upper panel by snapping it over the lower panel. Fasten using five screws in the fastener sequence shown.





**IronClad Guarantee**



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