

# WESTERN STATES METAL ROOFING

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# **STANDING SEAM**

**INSTALLATION GUIDE** WITH TRIM, FLASHINGS AND DETAILS















### Western States "Western Lock ™" Standing SeamPanel

Installation, Flashings & Shop Drawing Detail Guide

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#### Western States "Western Lock™" Panel

Installation, Flashings & Shop Drawing Detail Guide

#### Notes to Designer and Installers

The details contained in this guide are proven industry details and are intended to be used as a design aid and installation guide. It does not depict all situations that may be encountered on all projects. Modifications are the responsibility of the designer/ owner/ installer. Consideration should be given for Fit for Purpose, Building use, Climate conditions such as temperature, snow, wind, and moisture, Governing Building Codes, and Maintenance. It is highly recommended that all trims and flashings be of the same material as the panels (metal, gauge, finish) to ensure long term performance and durability. Where possible, flashing edges should be hemmed to strengthen the edge and protect the cut edge from exposure.

#### Framing and Substrates

"Western Lock ™" panels are used over all type of substrates like Steel Decking, open purlins, spaced sheathing, and wood decking such as plywood. Most details in this guide are shown with panels attached to Solid Decking.

#### Note on Underlayment

Not all conditions require an underlayment, However metal roofing is susceptible to Condensation and it is recommended that an appropriate Roofing underlayment be use on all wood substrates to protect the structure during installation. For added protection from rain and snow, it is recommended to use rubberized Ice and water shield on eaves, valleys, and areas of roof penetrations.

Technical Assistance Contact your WSDI sales or technical representative for any additional information or assistance.

#### Slope Requirements

It is recommended that "Western Lock ™" panels have a minimum slope requirement of 3:12 on all structures.

#### Valley and Snow Design

Valley design and dimension must be the proper width to accommodate high snow, rain, ice, and slope conditions. If possible, splices, penetrations, valleys, roof elevation changes, should be minimized in areas of high snow and ice accumulations.

#### Oil Canning

Oil canning is a condition common with flat metal surfaces. This waviness is caused by steel mill tolerances, forming, variations in the structures surfaces, and hardness of the steel. Measures are taken at the roll forming process, like profile design, steel gauge, corrective leveling, to minimize the effects of oil canning. Oil Canning is a Characteristic of steel and can not be eliminated totally and therefore is not reason for rejection of the panels.

#### Job Site Storage

While waiting to be installed on the job site, Storage of panels, trim crates, and flat sheet should be sloped in order to allow for proper moisture run off. One end should be elevated so as not to allow ponding of water on the metal surface. When using tarps for protection, proper ventilation should be provided to prevent condensation. Moisture or condensation that is trapped inside a bundle can lead to white rust on sheeting.

#### References

For other installation techniques and details, The Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) and NRCA manuals are great resource for working with sheet metal.

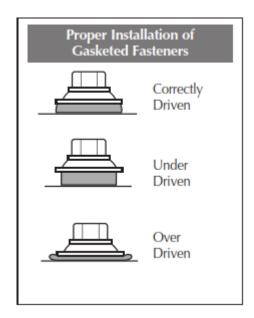
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#### **Fastener Selection**

#### Notes to Installers:

- Fastener Selection will vary depending on type and thickness of substrate.
- Design Calculations for clip spacing should be completed by the design engineer.
- The use of Butyl tape mastic, Butyl sealants and Curing Sealants is always recommended to insure weather tight installation.
- Panels and flashings should never be installed in contact with dissimilar metals.
- Use only those flashings and accessories designed for use with this panel.
- Panel clip attachment screws must be long enough to fully penetrate through roof deck substrate or penetrate solid lumber at least one inch.
- Exposed Trim Fasteners should have sealing washers and be coated to provide protection against corrosion.
- Screws must be properly driven to ensure holding strength and proper seal. (see diagram)
- Recommended drill speed is 2000rpm. Improper setting of drill speed can lead to snapping of screw heads.
- Pre drilling of screw holes may be necessary with heavy gauge metals.



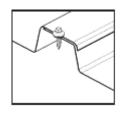
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Installation, Flashings & Shop Drawing Detail Guide

#### **Fastener Selection**

Description Application

14 x 7/8" Lap Self tap 14 x7/8 Lap Stainless Used to attach Trims . Stainless to be used with A606-4 Steel





#10-12 x1" Pancake head Wood #10-12 x 1" SD PH Self Driller Steel Used to attach Panel clips. Used to secure trims to substrates. Also available in Stainless Steel.



1/8" Stainless Rivets

Used for Trim to Trim attachment or trim to wall panels.

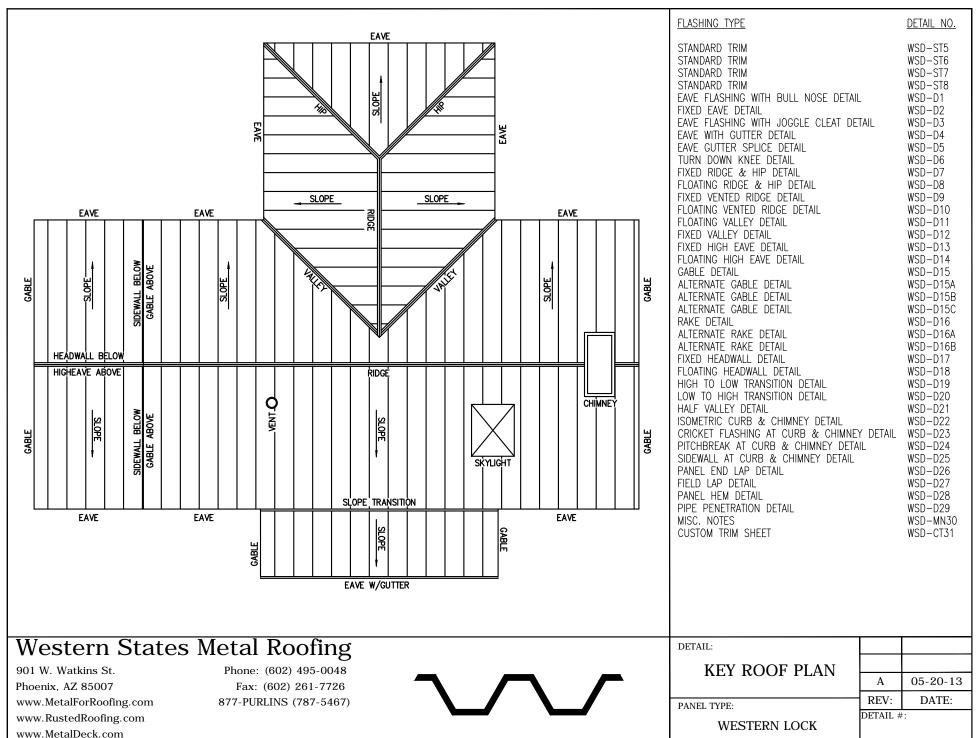


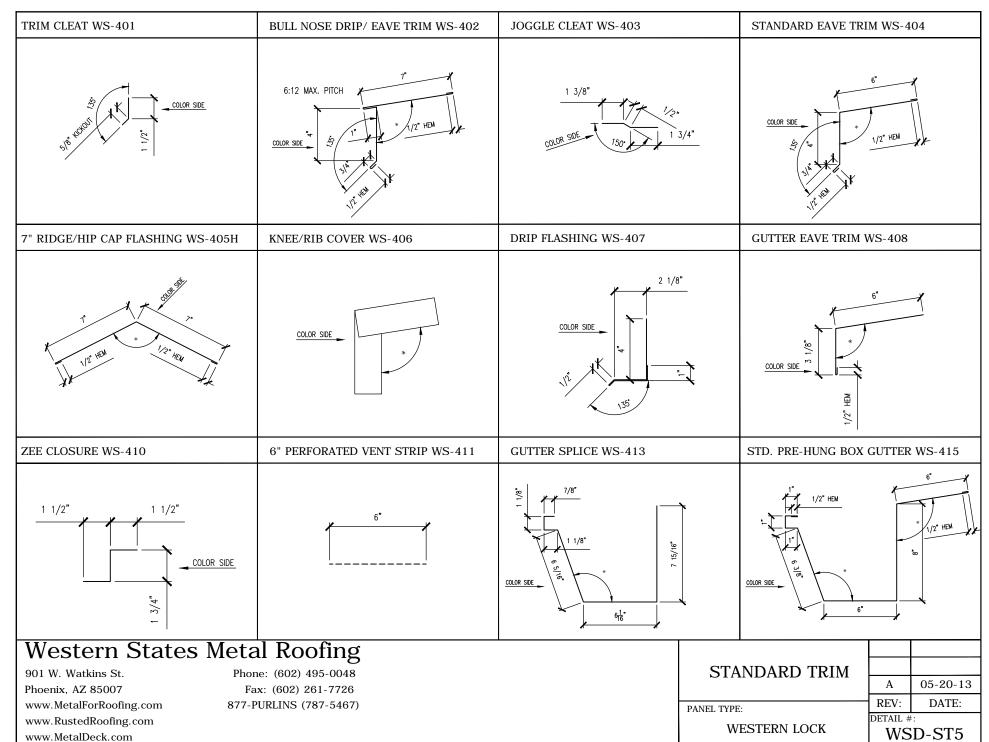
Stainless Screws #10 x1 x1/4" Wood Drillers #10 x 1.5 x ¼" #10 x 2" x ¼"

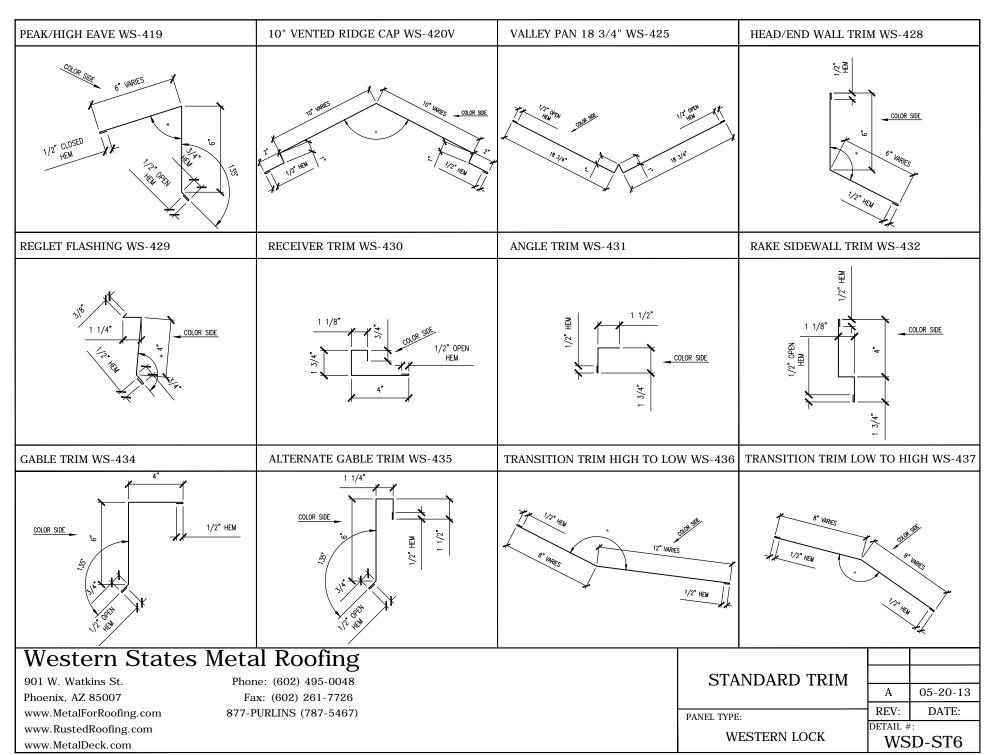
Used for panel attachment for panels made with A606-4 Steel

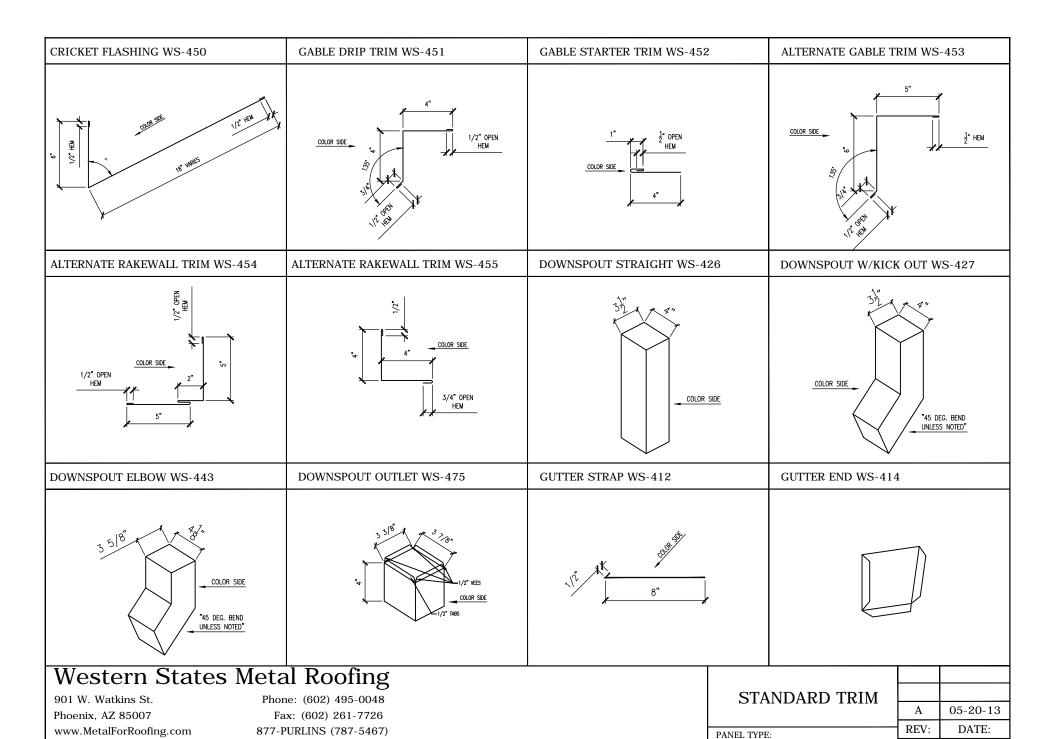


• The table above shows the panel Fasteners provided by WSD. Special order screws are available.









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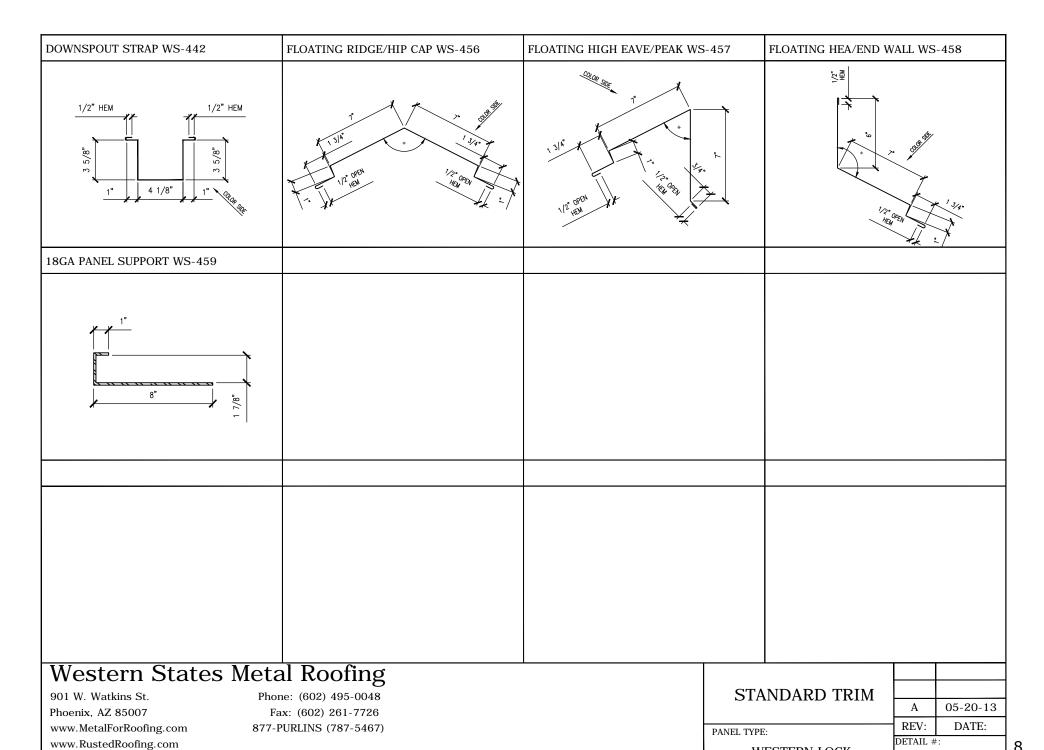
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DETAIL #:

WSD-ST7

WESTERN LOCK



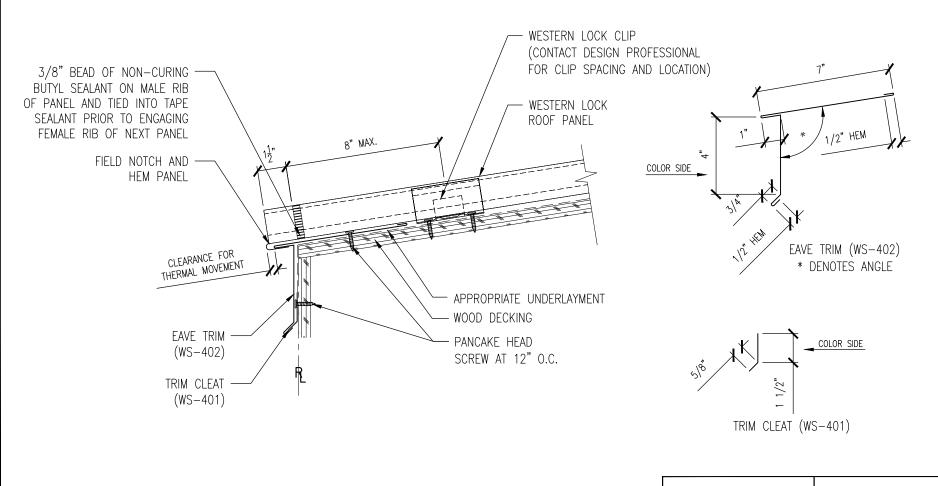
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WSD-ST8

WESTERN LOCK

\* CAN ONLY BE BENT FOR MAX. 6:12 PITCH



GAUGE:	COLOR:
LENGTH:	FINISH:

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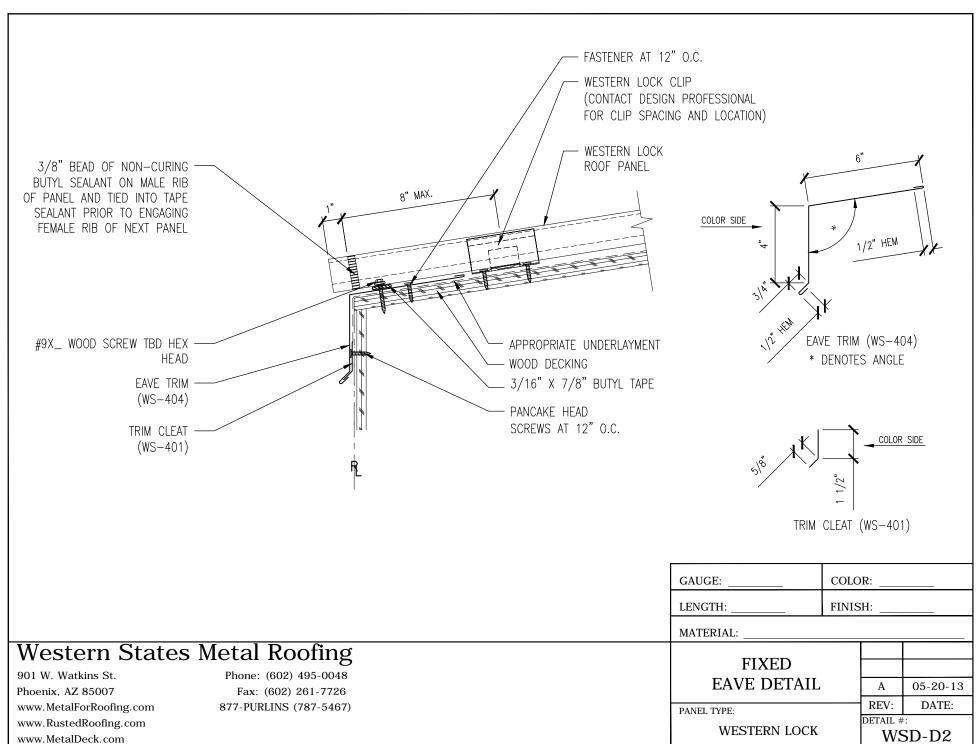
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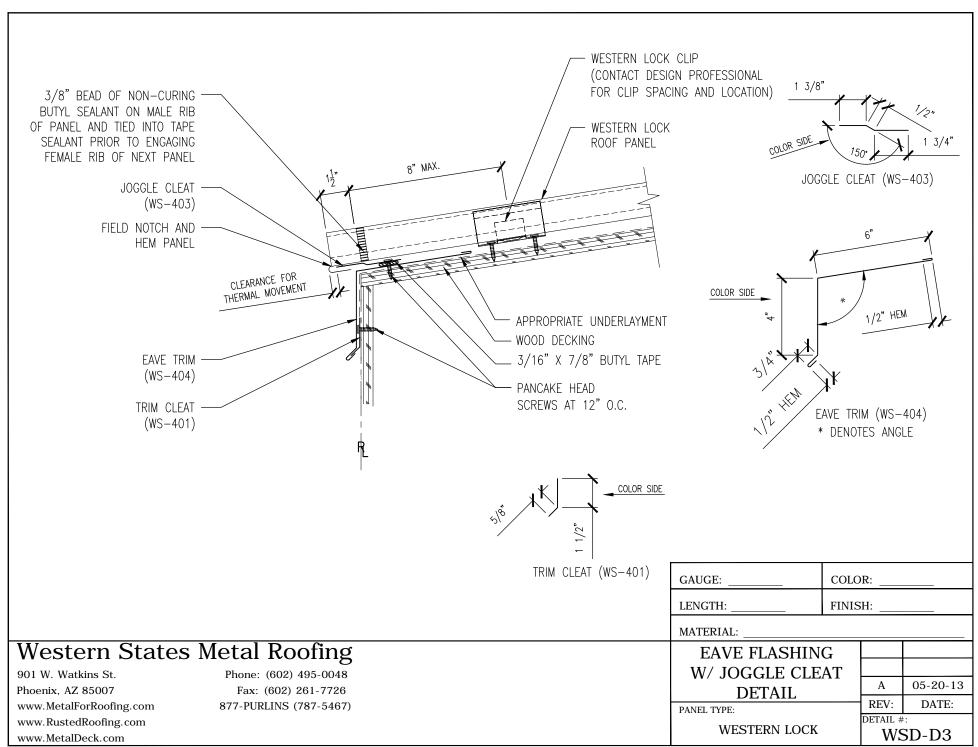
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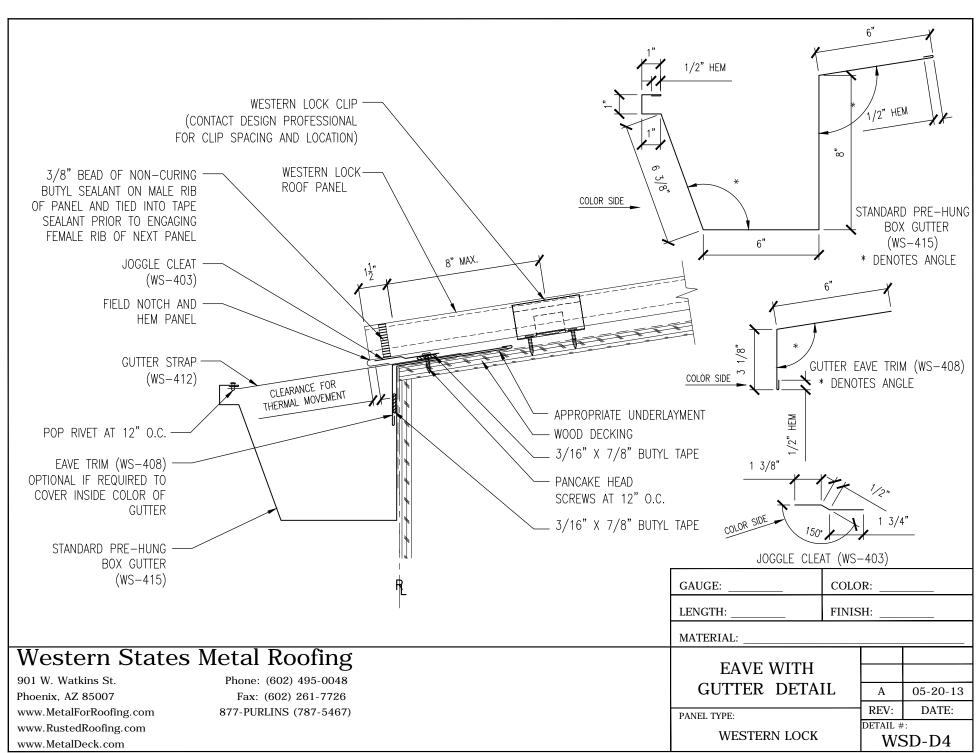
WESTERN LOCK

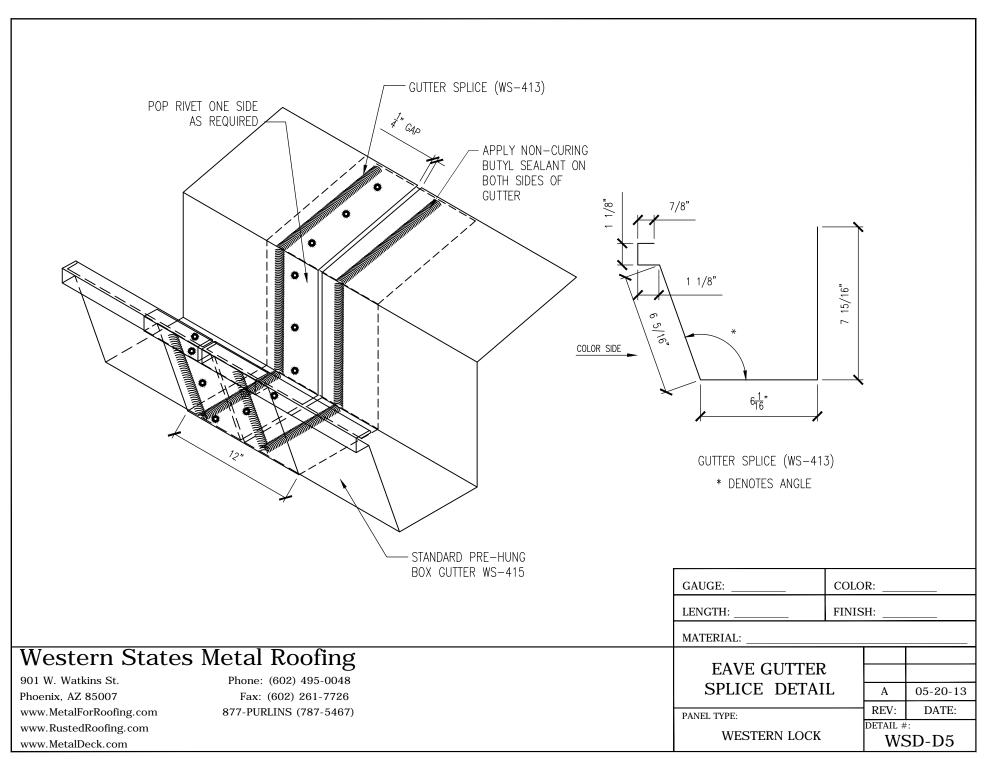
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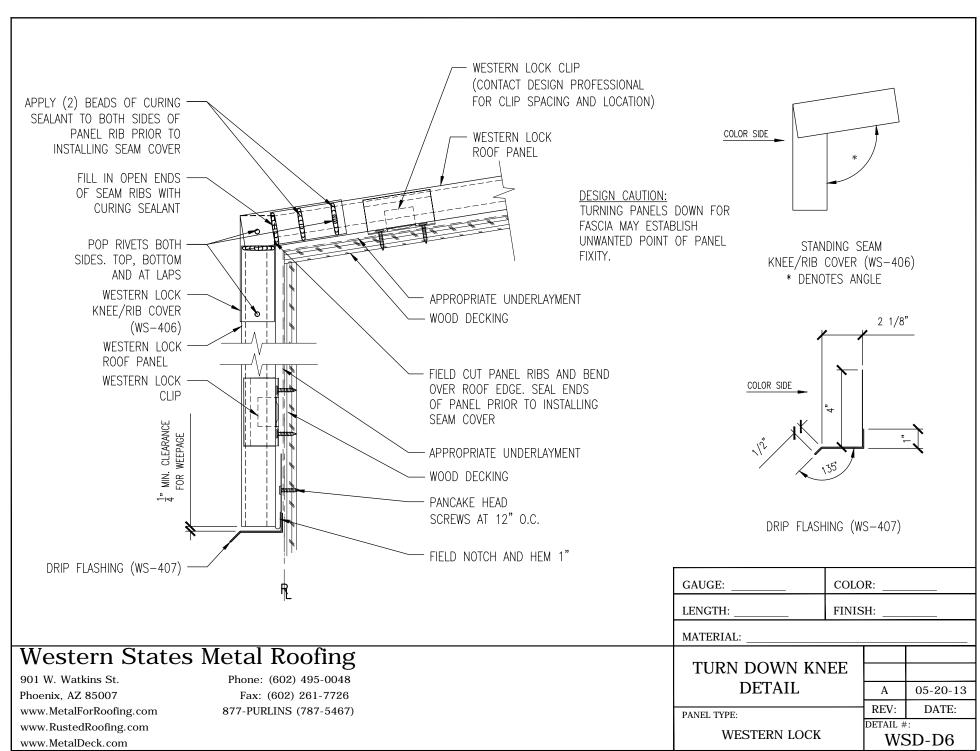
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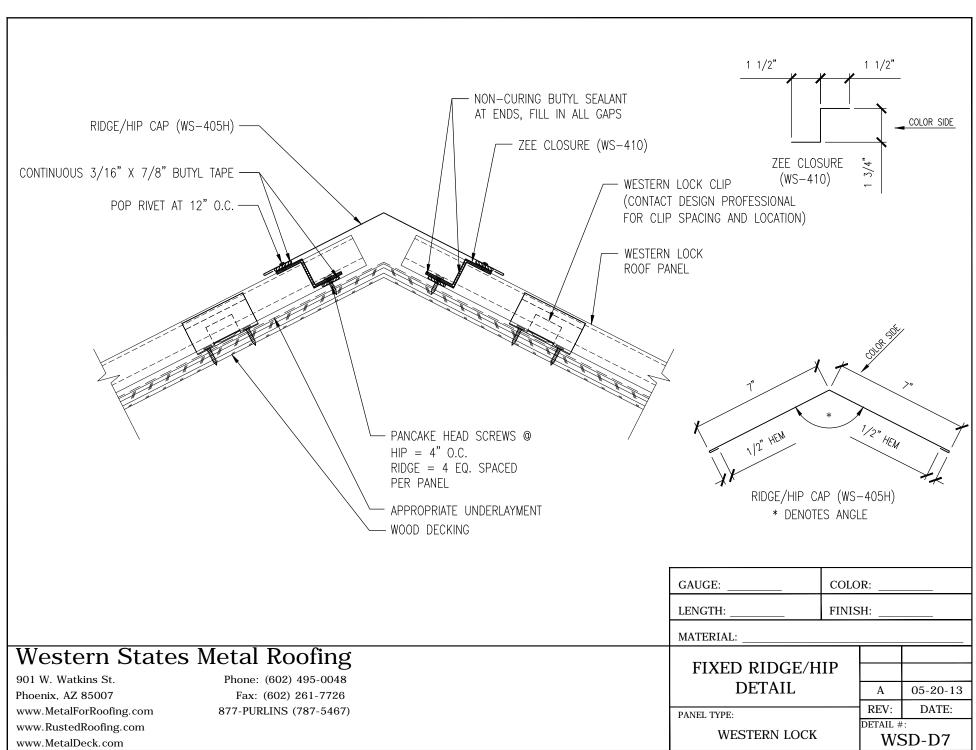


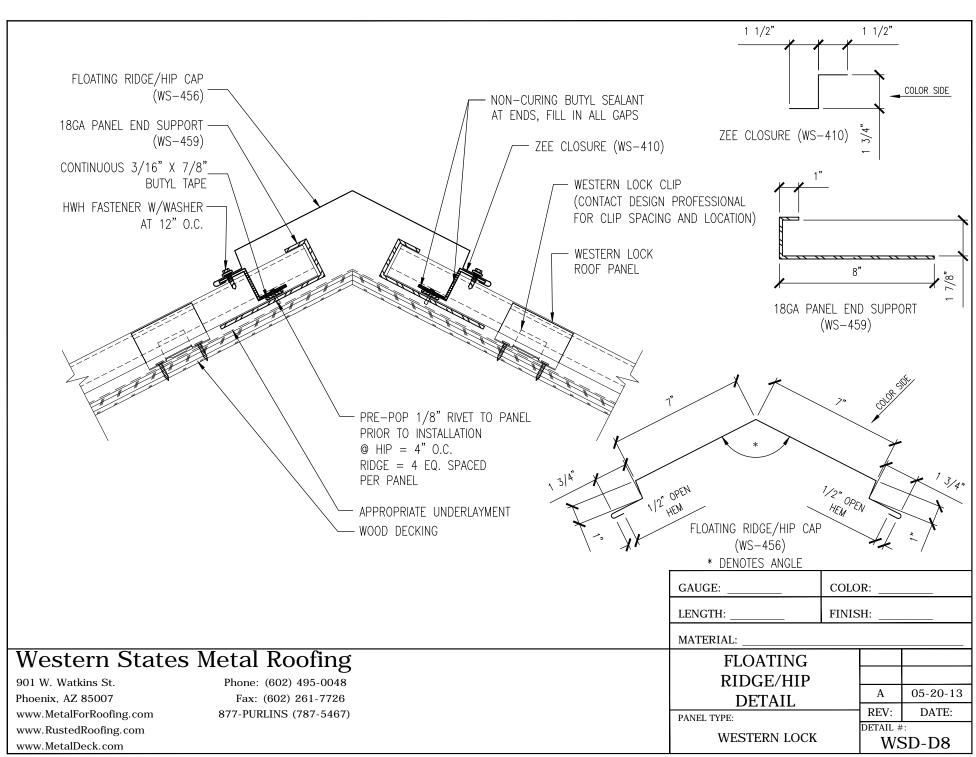


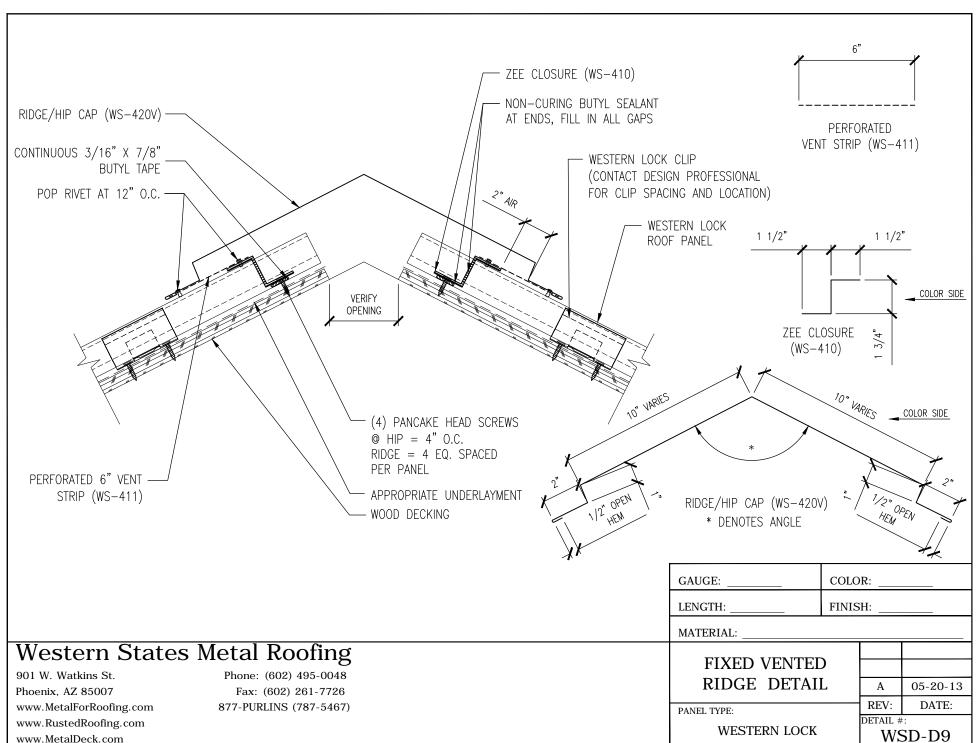


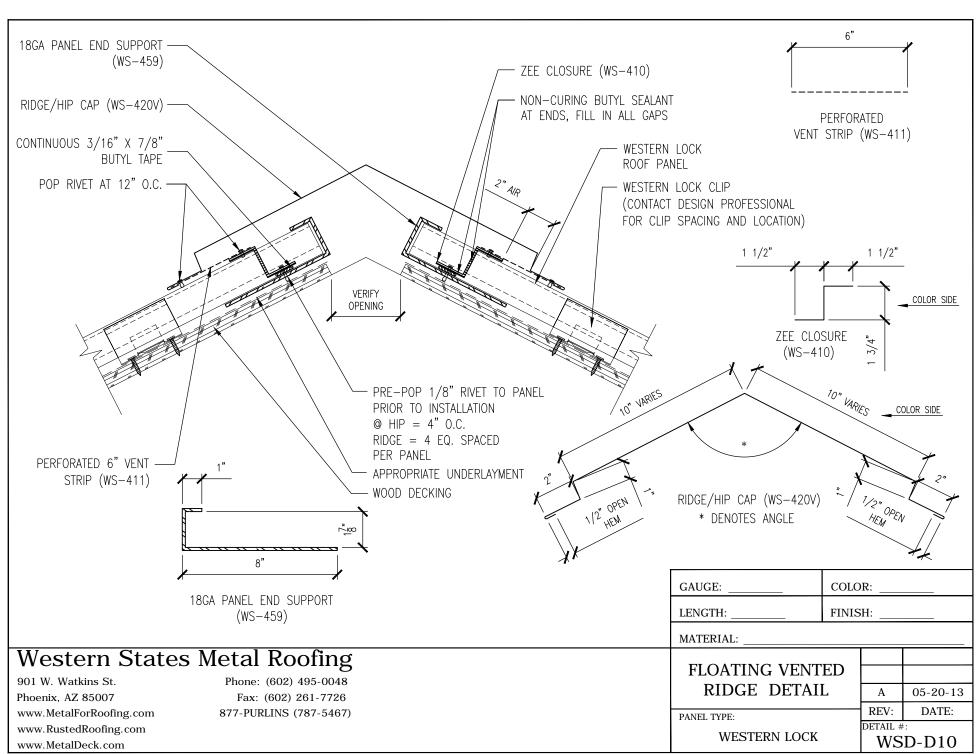


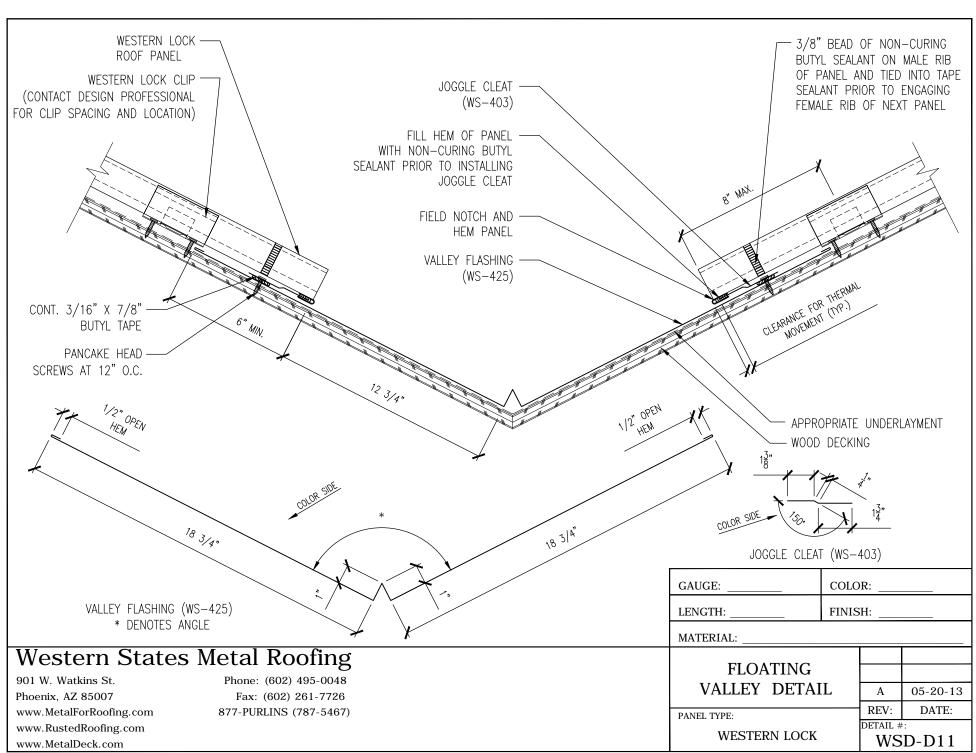


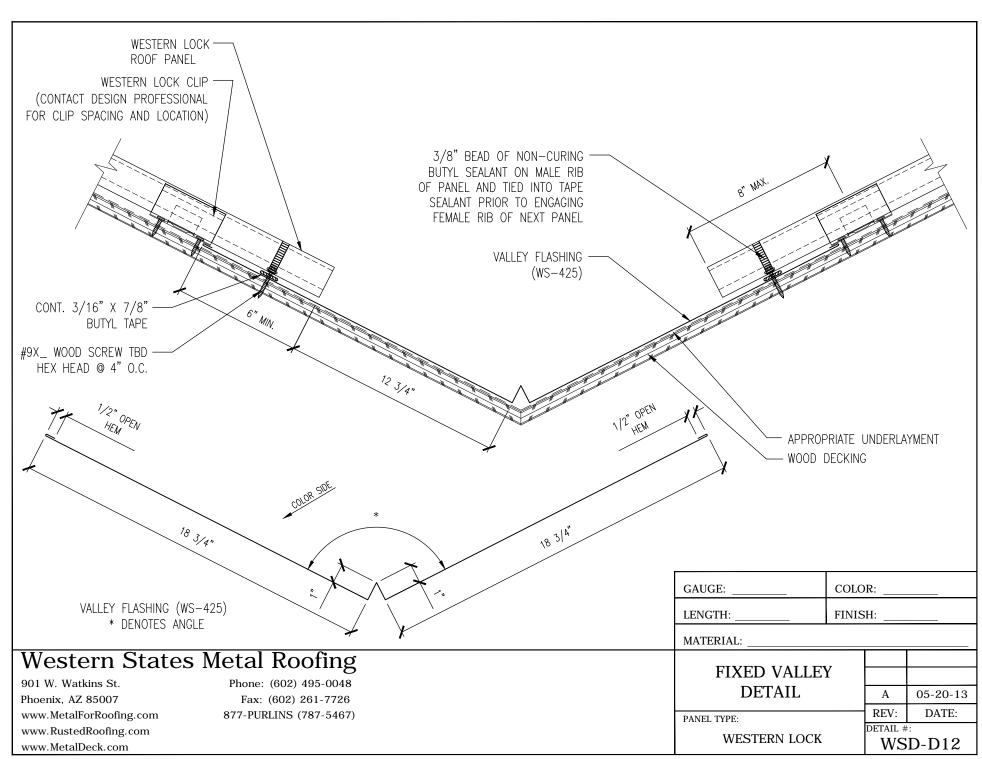


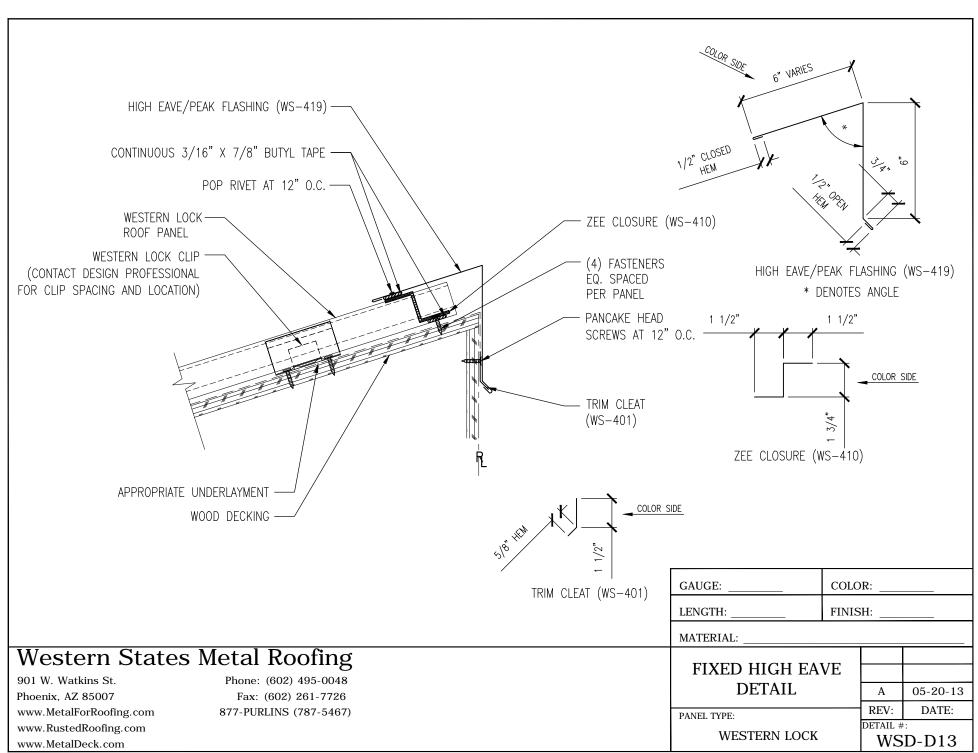


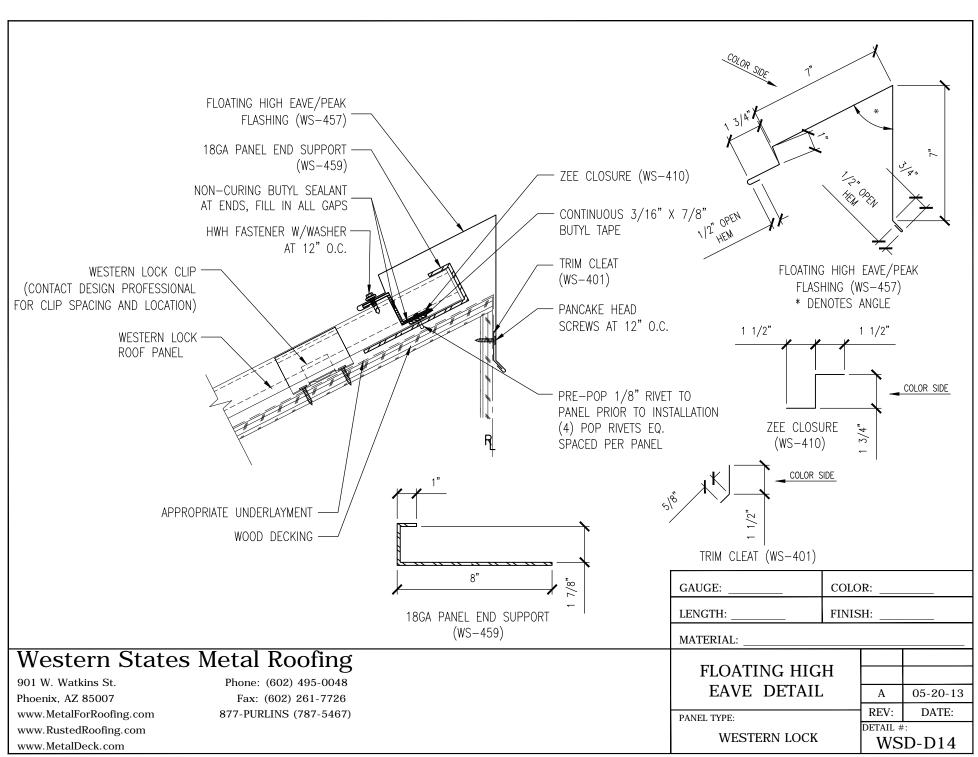


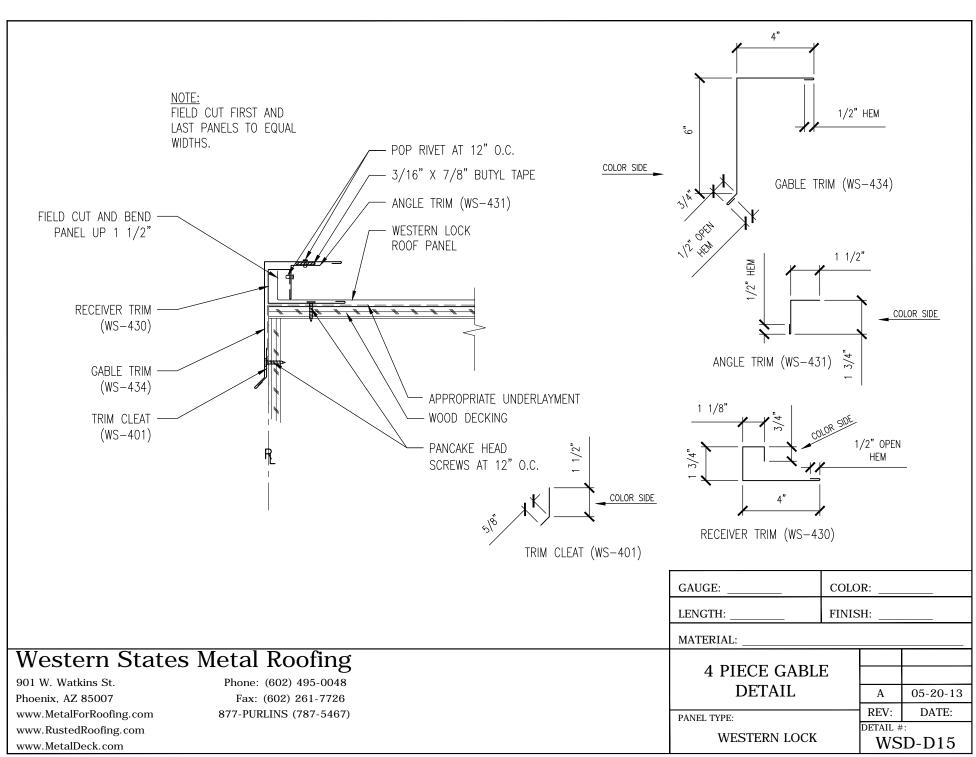


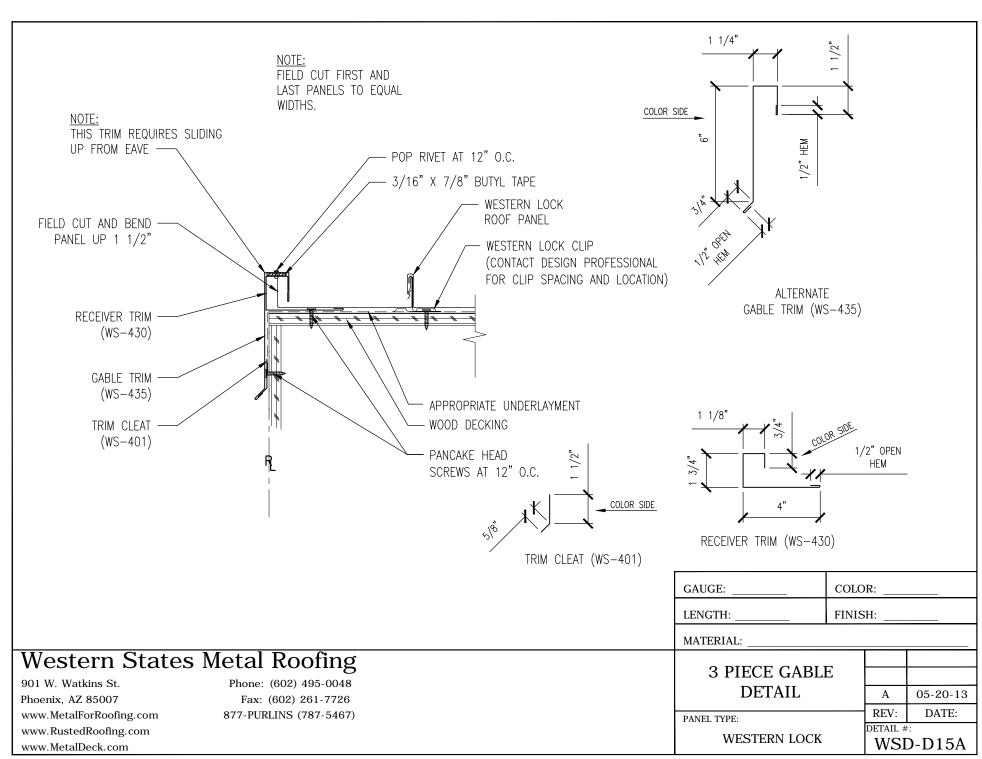


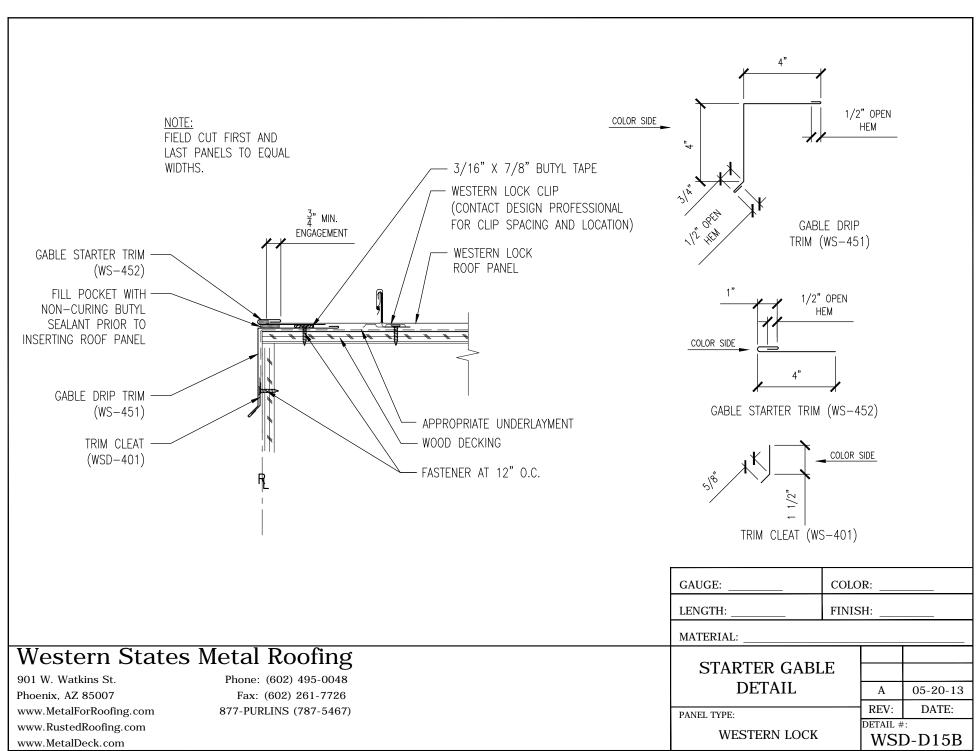


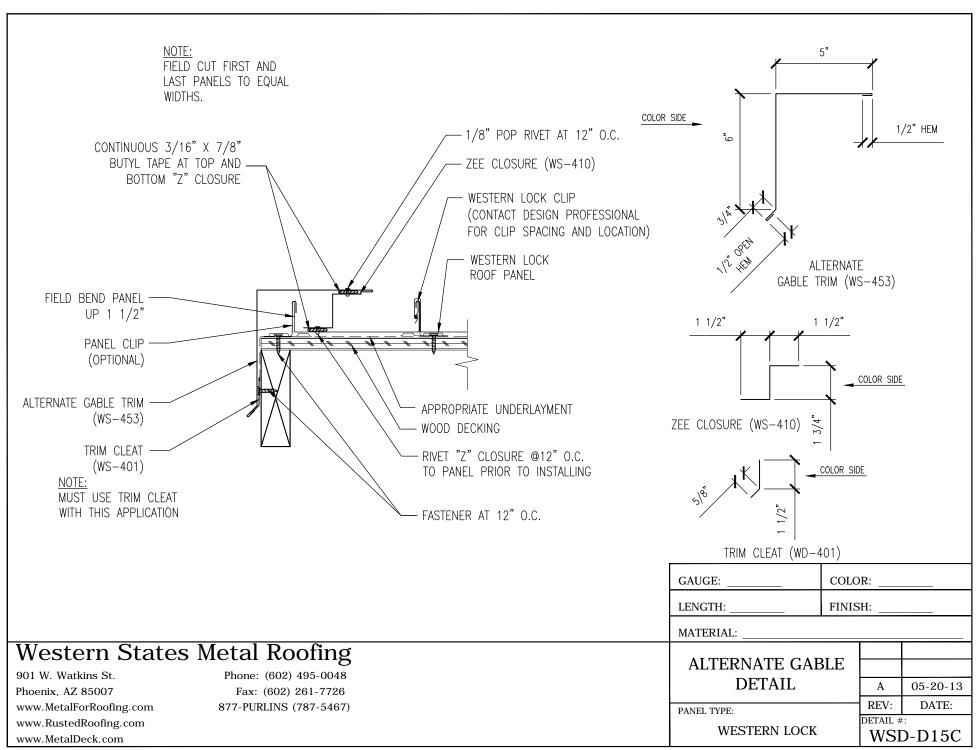


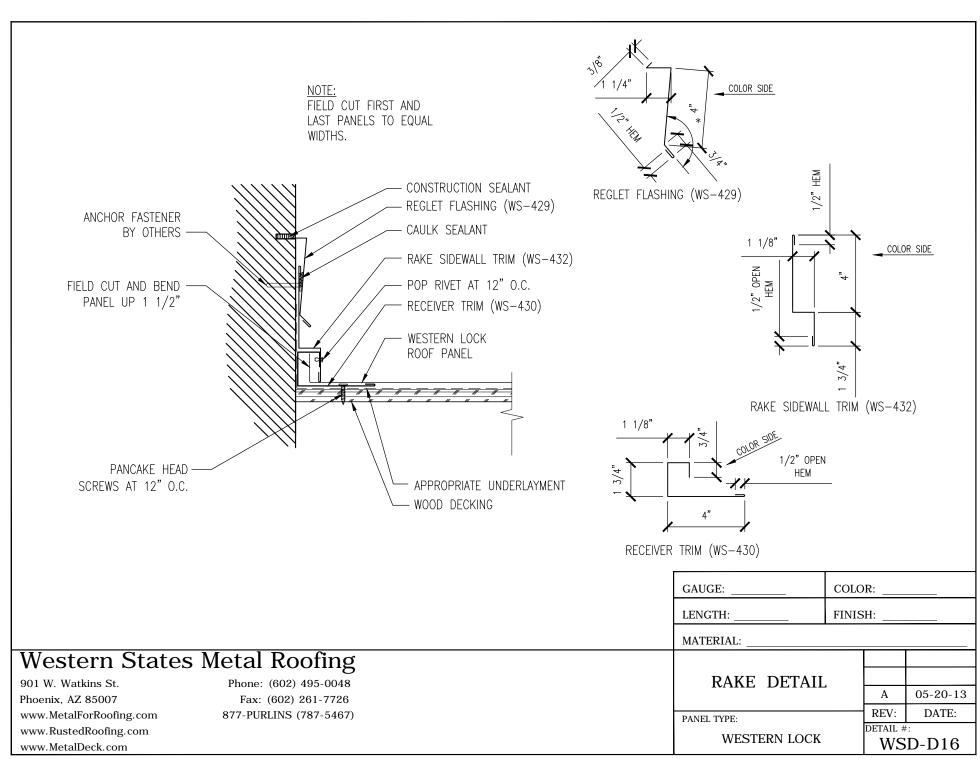


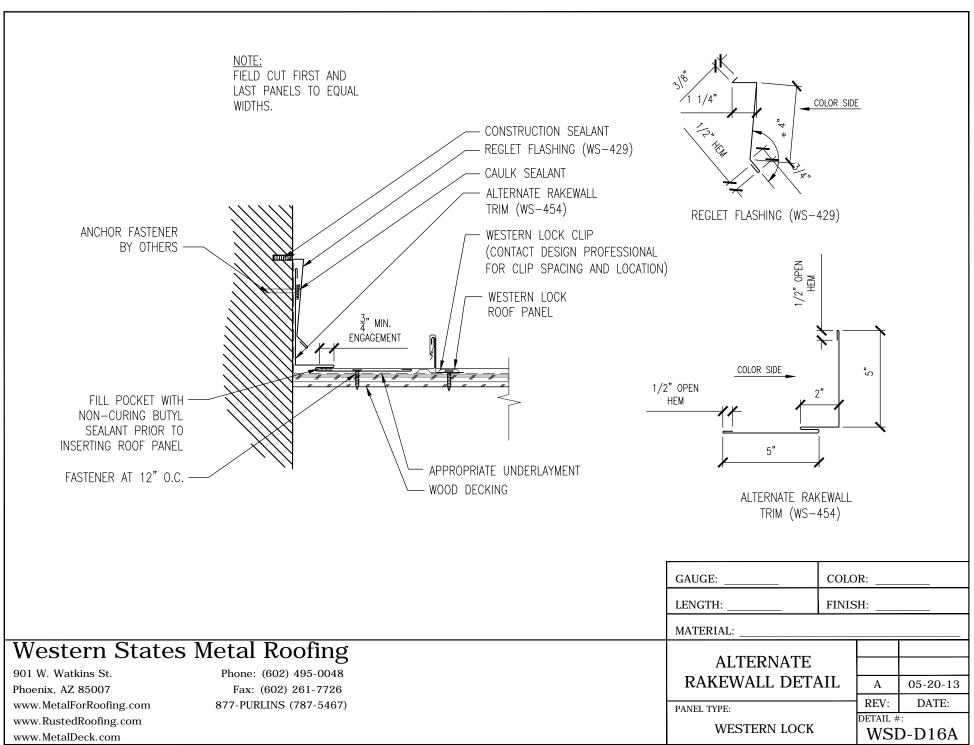


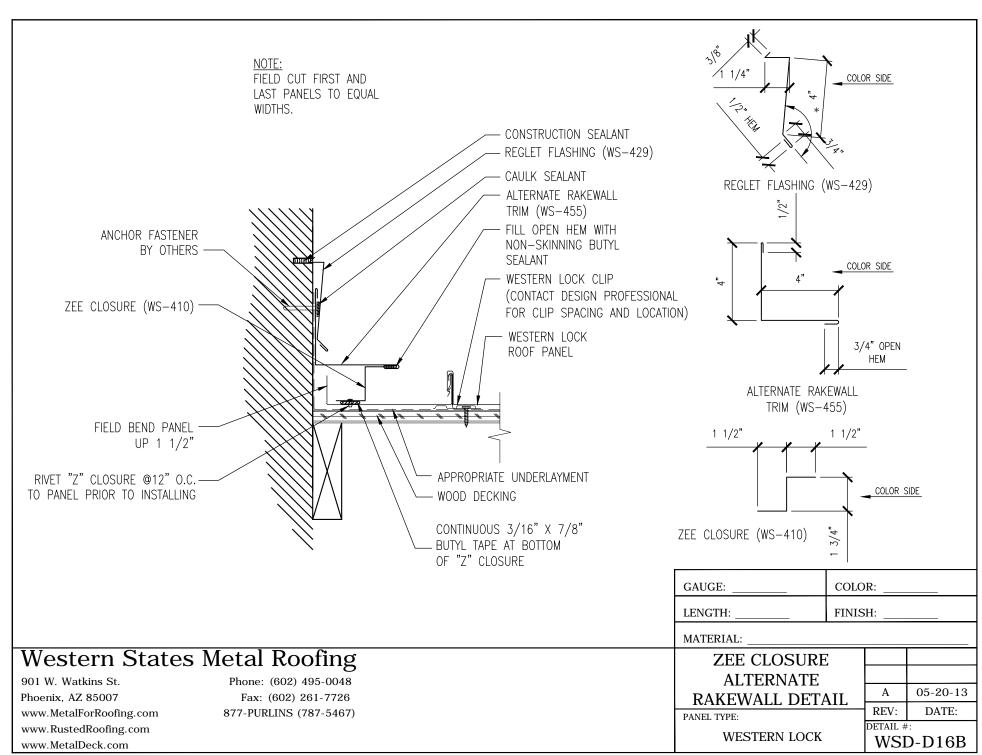


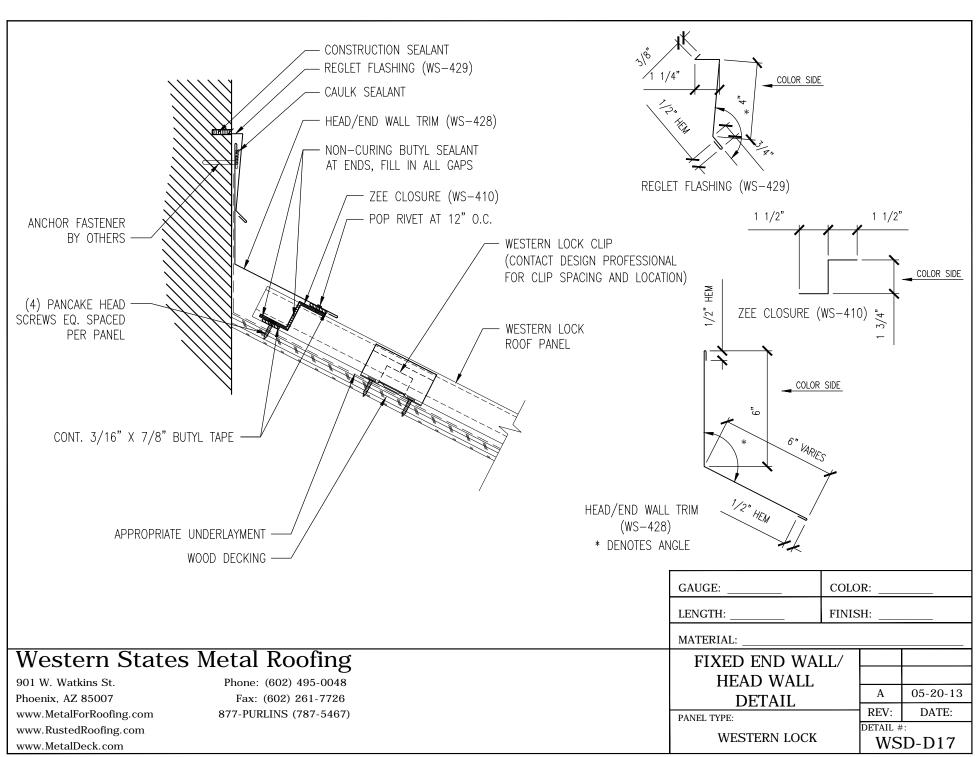


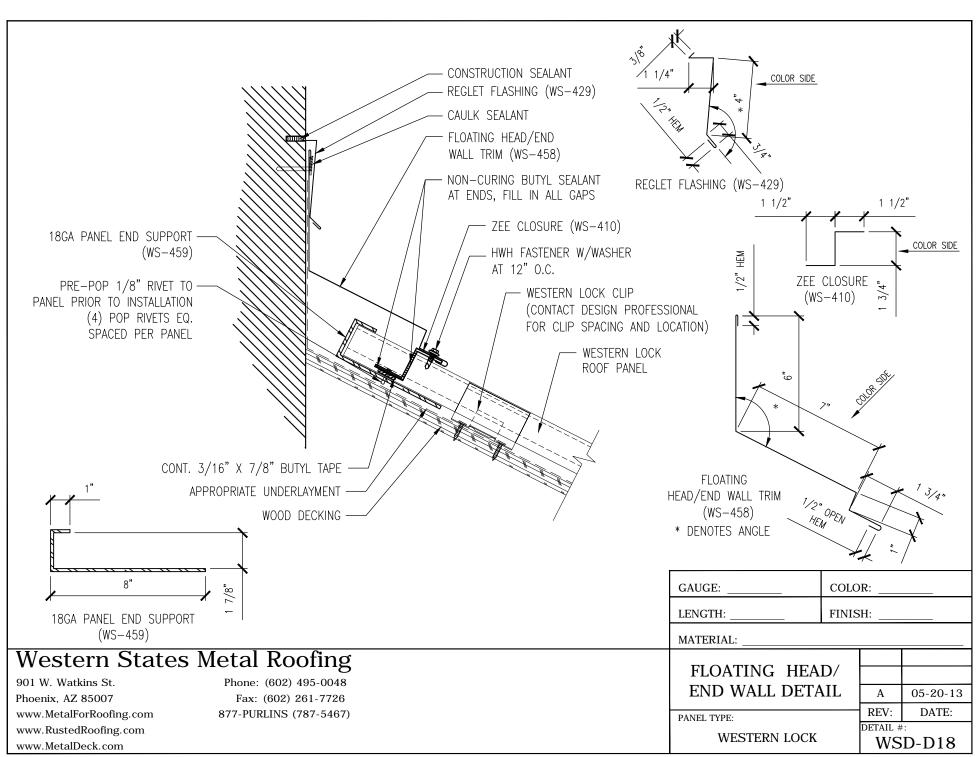


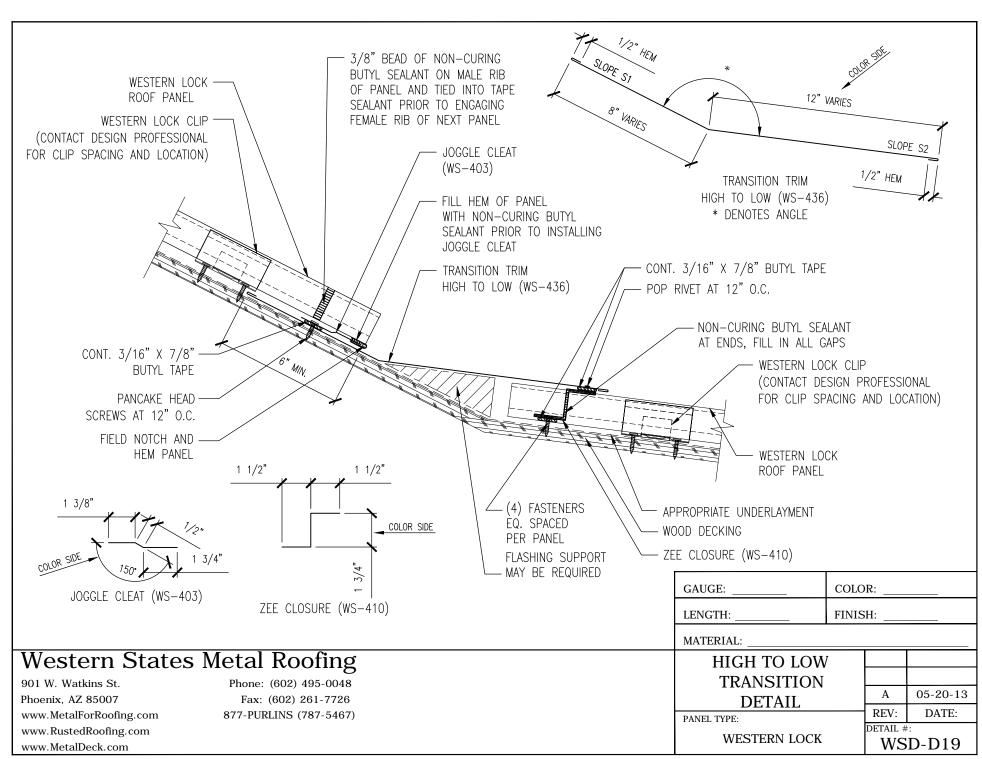


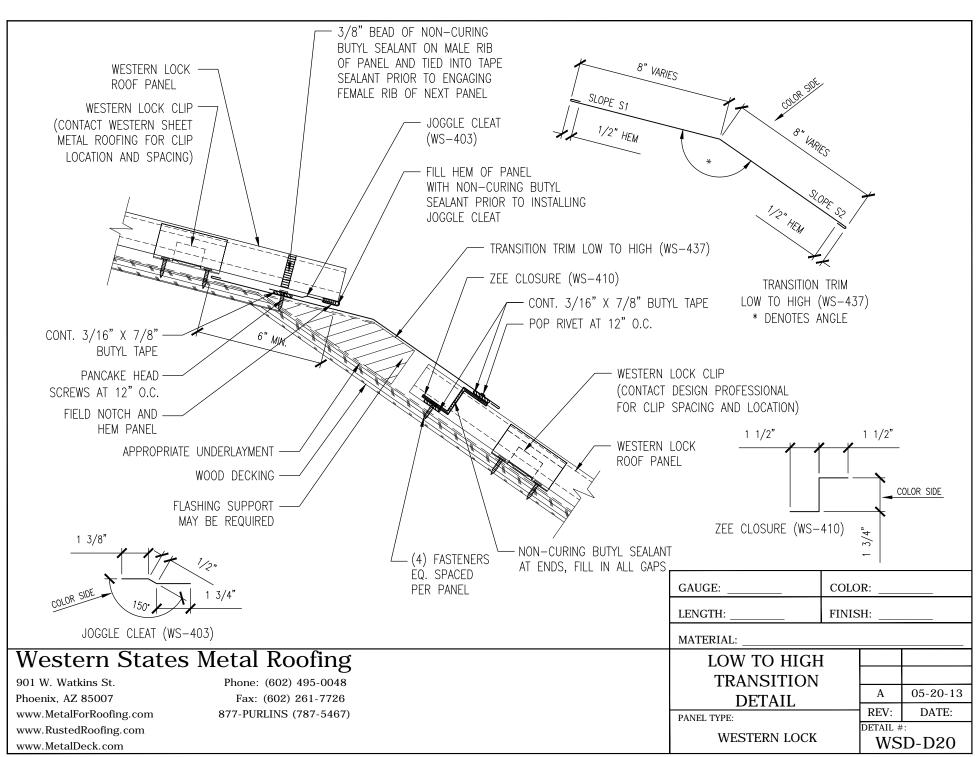


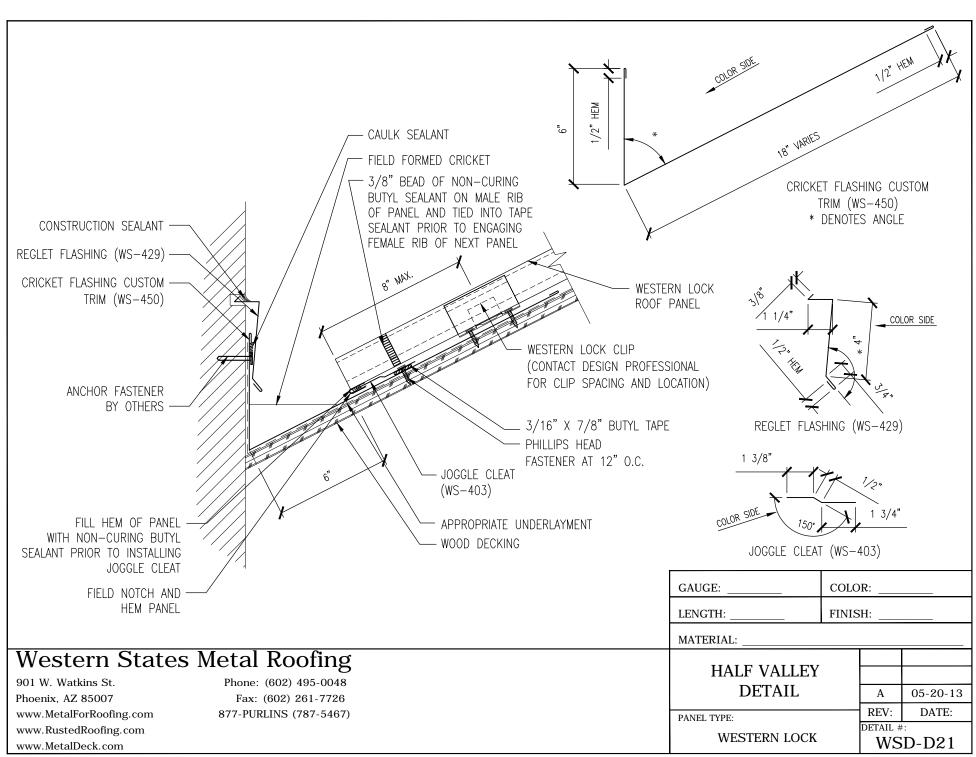


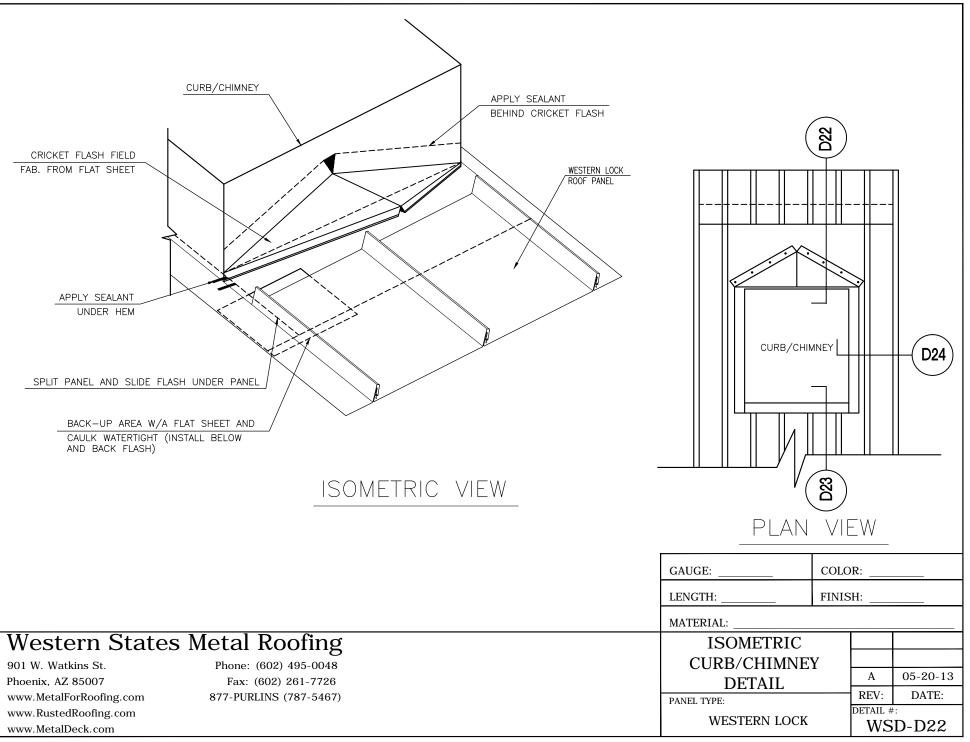


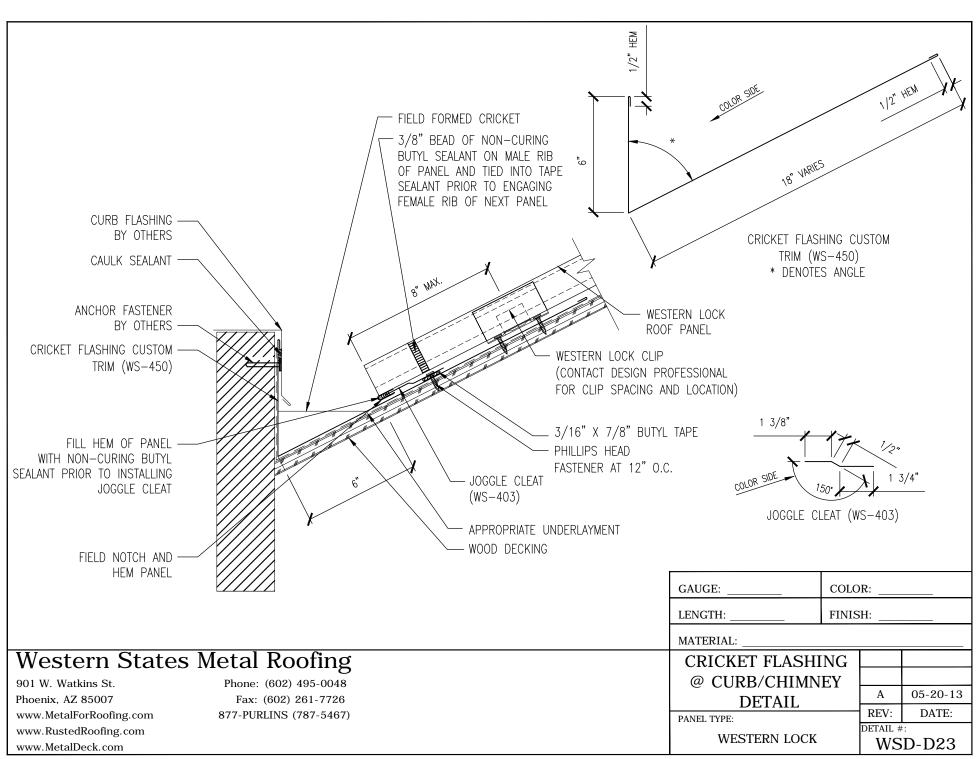


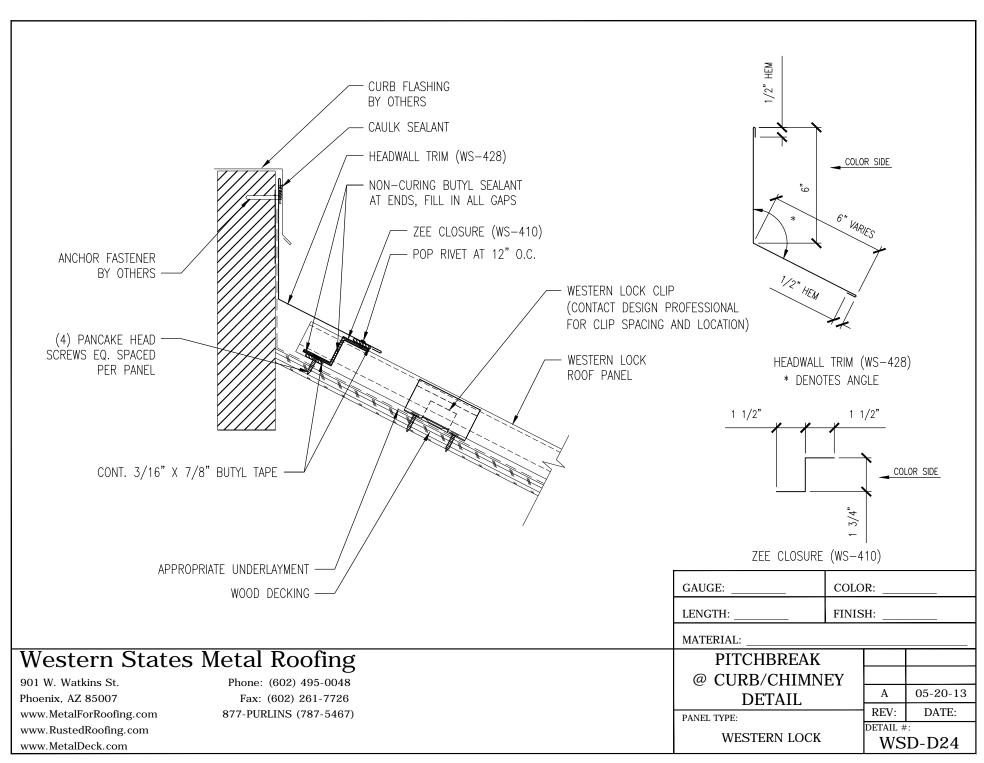


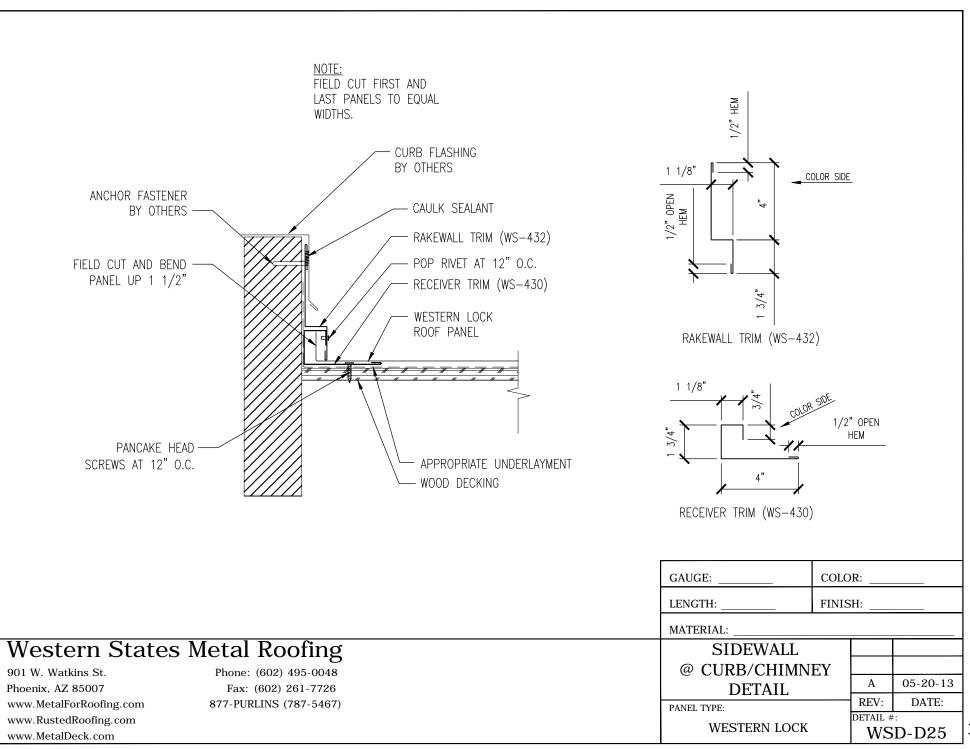


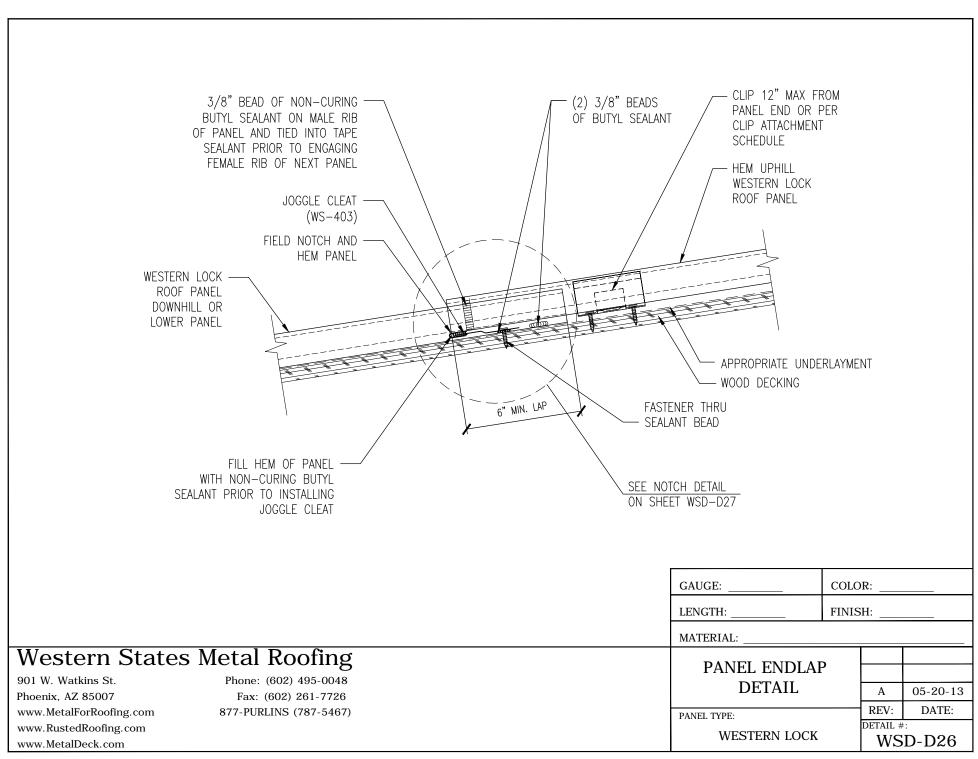


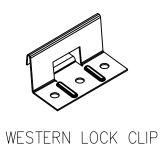


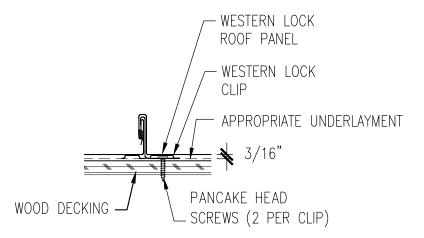








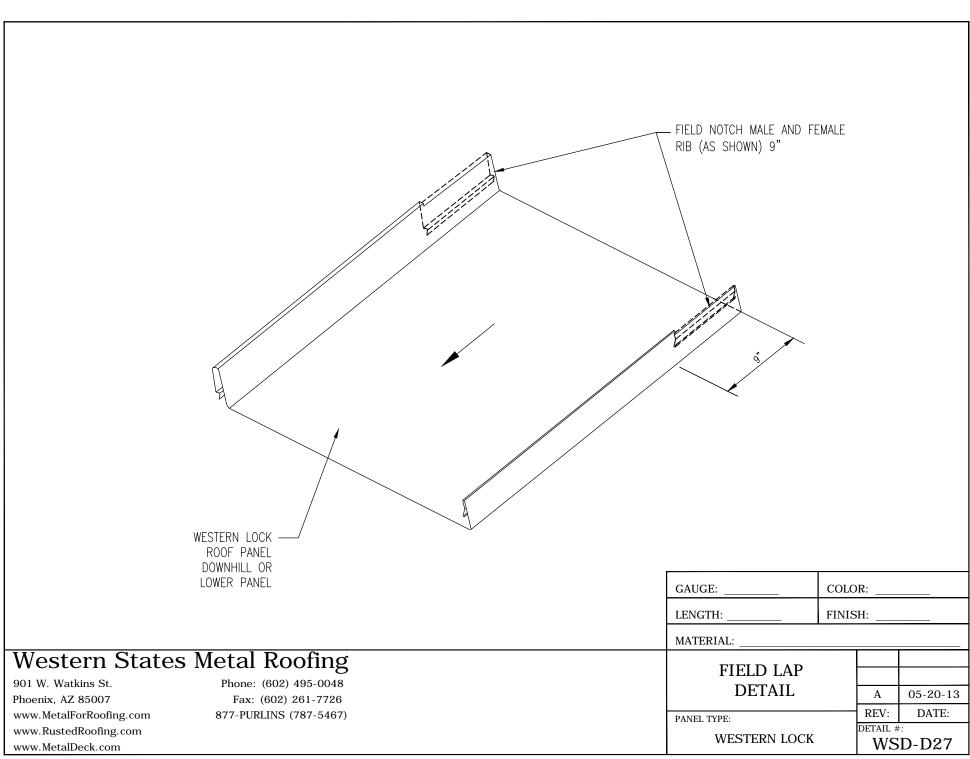


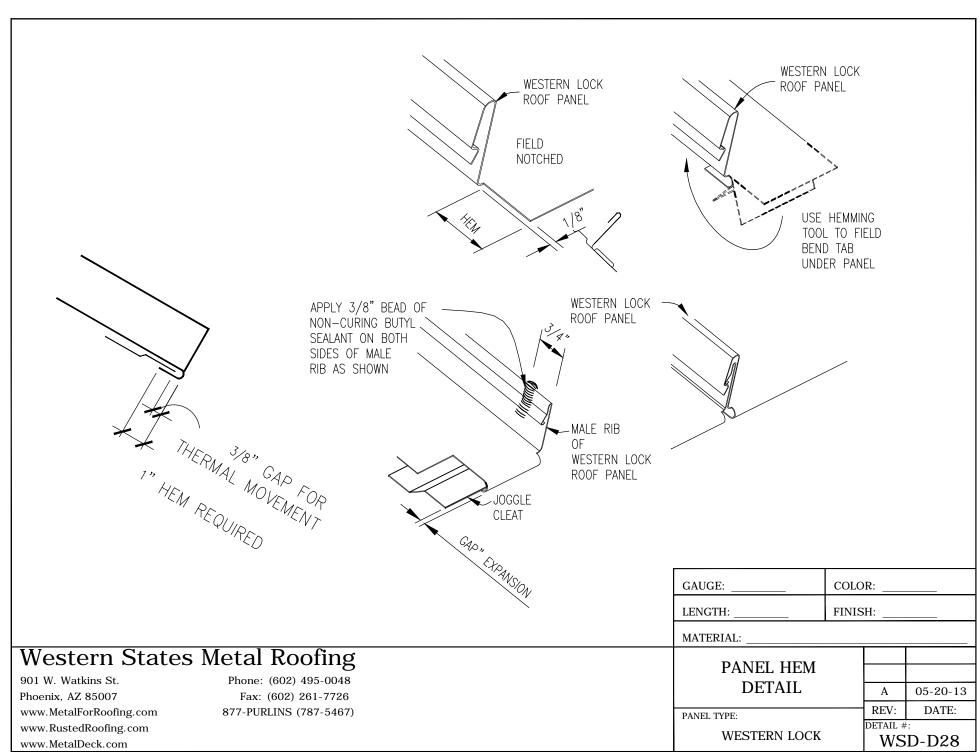


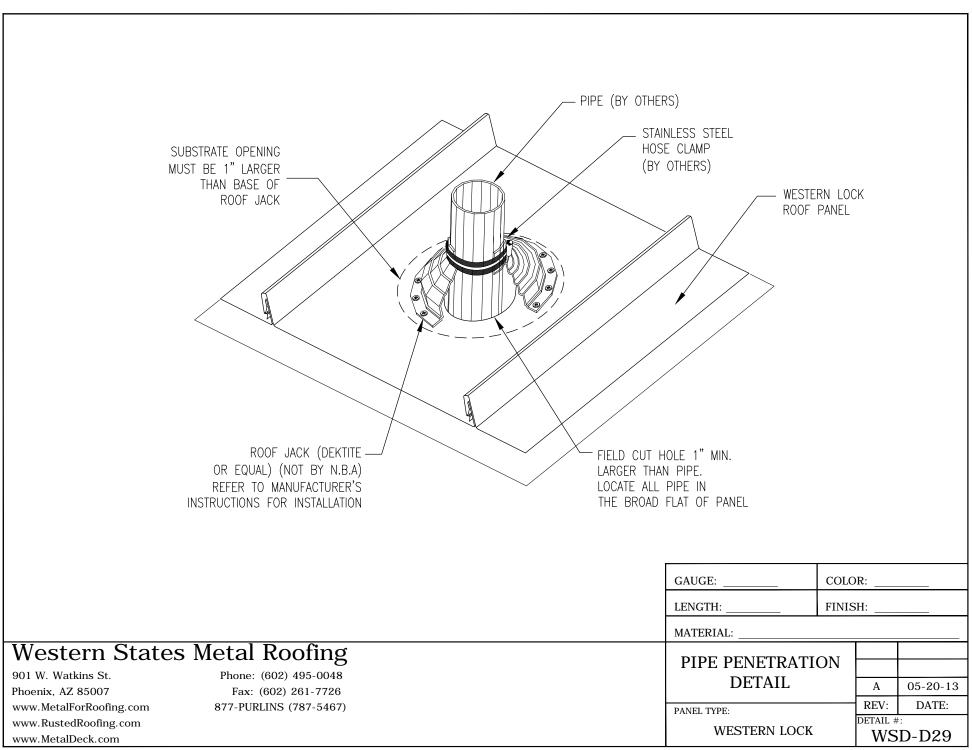
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# **CUSTOM TRIM** GAUGE: COLOR: FINISH: BREAKS: STRETCH OUT: LENGTH: MATERIAL: Western States Metal Roofing CUSTOM TRIM NAME: 901 W. Watkins St. Phone: (602) 495-0048 05-20-13 Fax: (602) 261-7726 Phoenix, AZ 85007 REV: DATE: www.MetalForRoofing.com 877-PURLINS (787-5467) PANEL TYPE: DETAIL #: www.RustedRoofing.com WESTERN LOCK WSD-CT31 www.MetalDeck.com

#### Western States "Western Lock ™" Panel

Installation, Flashings & Shop Drawing Detail Guide

## **Special Design Considerations**

The details contained in this guide are proven industry details and are intended to be used as a design aid and installation guide. It does not depict all situations that may be encountered on all projects. Modifications are the responsibility of the designer/ owner/ installer.

Consideration should be given for Fit for Purpose, Building use, Climate conditions such as temperature, snow, wind, and moisture, Governing Building Codes, and Maintenance.

It is highly recommended that all trims and flashings be of the same material as the panels (metal, gauge, finish) to ensure long term performance and durability. Where possible, flashing edges should be hemmed to strengthen the edge and protect the cut edge from exposure.

#### Acceptance

Use of this manual is strictly voluntary. Details that are provided are to be used as a guide only. Details may not be applicable for all situations. This guide provides one standard detail and WSDI accepts that other installation details may be needed and other details may exist. WSDI makes no guarantee as to the Weather Tightness of the system or details found with in this guide. The information in this manual is believed to be correct and accurate at the time of printing. WSDI reserves the right to change details, discontinue products, change designs at any time without incurring obligation. It is best to consult your Design Engineer for recommendations.

## Underlayment

There are many types of underlayment's on the market today. All designed with a special purpose depending on the type of Metal and profile. Many different types of metal will require a different type of underlayment, such as A606-4 (Corten) which requires a High Temperature underlayment. It is best to consult your Design Engineer for recommendations.

## Valley and Snow Design

Valley design and dimension must be the proper width to accommodate high snow, rain, ice, and slope conditions. If possible, splices, penetrations, valleys, roof elevation changes, should be minimized in areas of high snow and ice accumulations. Details found in this manual may not pertain in areas of high snow and ice accumulations.

## Panel coverage and fastening

Normal panel width of "Western Lock" panel is 16". However depending on the finish selected and the required coil feed, other sizes may be available. Please consult with your WSDI representative for details and fastening recommendations.

#### Safety and Maintenance

Walking on and installing any roof is dangerous! Extreme care should always be used when walking on roofs. Safety should always be a top priority and approved fall protection and equipment as approved by OSHA should always be used.

No roof is immune to severe weather or is completely maintenance free. To keep your roof performing as it was designed; an inspection and comprehensive maintenance program should be implemented.

#### References

For other installation techniques and details, The Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) and NRCA manuals are great resource for working with sheet metal.

#### **Technical Assistance**

Contact your WSDI sales or technical representative for any additional information or assistance. To insure you have the latest information available, please inquire or visit our web sites at www.metaldeck.com or Rustedroofing.com



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