September 22, 2025

IDEA PUBLIC SCHOOLS – CSP #14-DCWBE-1125 Donna Campus Wide Building Envelope Phase 2

GMS ARCHITECTS
BROWNSVILLE, TEXAS 78526
(956) 546-0110

ADDENDUM NO. 2

A. PURPOSE AND INTENT

This addendum is issued for the purpose of modifying the plans and specifications for the Idea Donna Campus Wide Building Envelope Phase 2.

This addendum shall become part of the contract, and all CONTRACTORS shall be bound by its content. All aspects of the specifications and drawings not covered herein shall remain the same.

The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

B. SCOPE

I. CLARIFICATION:

1. Security/Solar Film System to be applied to windows only (exclude doors).
2. Laydown area to be determined.
3. Rust removal shall apply to base plate at canopy columns.
4. Windows with concealed gaskets shall not get new gaskets.
5. Gutter system shall not be stainless steel, but pre-finished to match existing, see revised spec.
6. Contractor shall account for after hours work in schedule/bid for necessarily disruptive work such as excessive noise on roof and interior window film installation.
7. Not all portables noted in plans require repairs. Only one portable building at both eaves needs repairs. Repairs will require pulling off existing panels, repairing rotted portions of wood sheathing/plates/rafters/nailers, replacing, WRB, insulation, and exterior fascia when degraded or damaged. Repair must include putting back panels and re-coating in repair areas as required, and re-sealing at fasteners/transitions/joints as well as testing for leaks. Photos of damaged area and clarified location on plan attached.
8. There are no RTU removals and related curb work in scope. However, anticipate relocating larger roof vent equipment and potentially smaller curb/flashing work and the related conduit or piping extensions.
9. Replace interior caulking around windows only when degraded or gaps are found.
10. Specifications 07220 (Roof and Deck Insulation) and 07410 (Standing Seam

Specification) are not missing but mis-labeled in Contents section of specs. Refer to 074100 Standing Seam Metal Roof Panels and 072000 Insulation included in spec book. Both items are also called out in plans.

11. Contractor shall include Basis of Design for roof system, but may use attached substitution from The Kovacs Group for McElroy Metal and Roof Hugger as Alternate #3 provided that the following conditions are met:

- **Provide a Texas-licensed PE–stamped engineering package** demonstrating the McElroy 238T + Roof Hugger assembly meets **ASCE 7-16 design wind uplift requirements** for Donna, TX, using the following criteria:
  – Risk Category III (school)
  – Basic wind speed: 142 mph (3-second gust, per ASCE 7-16 wind maps)
  – Exposure Category B (suburban surroundings; adjust if site conditions differ)
  – Mean roof height per building elevations
- **Provide documentation verifying the substituted roof assembly maintains a UL 790 / ASTM E108 Class A fire rating** equivalent to Basis of Design.
- **Insulation submittal shall be provided** to achieve at least **R-19 nominal**, with the total roof assembly meeting or exceeding **IECC Climate Zone 2 minimum requirements (R-25 continuous or equivalent)**, and shall be fully compatible with all components of the roof system.
- **Warranty requirements:** Contractor shall submit manufacturer documentation showing warranty coverage terms for the full roof assembly, including confirmation of watertightness coverage length. *McElroy's standard weathertightness warranty is 20 years and limited to 75 mph wind speeds unless enhanced engineering is provided; Garland's basis of design provides 30 years. Any reduction in coverage compared to Basis of Design shall be explicitly identified in writing.*
- **Provide all related compatible components** for roof/gutter/downspout/sealants/etc. system to perform as a "single source" substitution. GC is responsible for all correlated installation requirements and materials provided for in Basis of Design that are not enumerated in substitution.
- **GC is responsible for submitting revised roof details** for building-specific conditions for architect's approval.

12. Revised 05500 Metal Fabrications specification attached.

13. Wainscot stone specification is not available, but match existing.

14. Tnemic Elastomeric Coating color/spec. shall match recently applied coating on Flagship Academy Building (Phase 1).

15. CSP submission shall be physically delivered to IDEA HQ. Ignore "electronic submission" option.

II. SPECIFICATIONS:

- Revised Advertisement
- Revised Table of Contents (page 2)
- Revised General Requirements 02020-2
- Revised 05500 Metal Fabrications
- Revised Section 074100-10 Standing Seam Roof Panels
- McElroy Metal Inc. Specifications
- Sample shop drawings for 238T
- 238T Install Manual
- Roof Hugger Tech Data

III. PLANS:

- Revised A1.01
- NEW A3.04 (Portable Building Details)

REQUEST FOR COMPETITIVE SEALED PROPOSALS

IDEA DONNA CAMPUS WIDE BUILDING ENVELOPE PHASE 2

IDEA Public Schools invites qualified firms to submit Competitive Sealed Proposals for construction services for CSP #14-DCWBE-1125 DONNA CAMPUS WIDE BUILDING ENVELOPE PHASE 2.

The IDEA Donna is located at 401 S 1st St, Donna, TX 78537.

The project consists of a roof recover over existing standing seam metal roofs, gutter/downspout replacements, plaster and wainscot repairs, window leak and flashing repairs, exterior sealant replacement and general canopy/rust repairs on campus and buildings. Door/window gasket replacements and portable building fascia repairs area also included in scope.

Competitive Sealed Proposals will be received until ***Wednesday, September 24, 2025, at 3:00PM*** local time. Refer to the Invitation for Proposals for bid details.

IDEA Public Schools will receive and evaluate. Proposals received after the date and time for receipt of Proposals may not receive consideration and may be returned unopened. Proposals will be publicly opened and read aloud immediately after the submission deadline via video conference. IDEA Public Schools reserves the right to reject any and/or all Proposals, to waive technicalities, to re-advertise or to proceed in the best interest of the school.

Plans and Specifications will be available beginning **September 8, 2025,** from IDEA Public Schools Procurement Website, https://ideapublicschools.org/our-story/finance-budget/pcs/bids-rfps/. No hard copies will be distributed.

Gomez Mendez Saenz, Inc. is the Architect of Record. You can contact Roan Gomez by email at rgg@gmsarchitects.com with questions about plans.

A Pre-Proposal Conference will be held for the project on **Wednesday, September 17, 2025**, at 9:00am at the IDEA Donna Campus. All General Contractors are encouraged to attend.

installation workmanship are approved by Architect.
3. Correct mock-up area as required to produce acceptable work.

2. ALLOWANCES:
See Paragraph 4.8 of the General Conditions.

2.1 Testing Allowance: A recognized, independent material testing laboratory will be selected and paid for directly by the Owner.

2.2 Betterment Allowance: Include the sum set forth below as a Betterment Allowance which will, if needed, be expended on Betterment to the Project, as directed in writing by approved change orders.

Betterment Allowance: $150,000.00

2.3 Testing Allowance: Include the sum set forth below as a Betterment Allowance which will, if needed, be expended on Betterment to the Project, as directed in writing by approved change orders.

Window Testing = $40,000
Moisture Testing = $5,000

SECTION 0110 - BID SCHEDULE
1. BID SCHEDULE: All proposals and alternate bid items shall be subject to the General and Special Conditions and all other related sections of the specifications and requirements of the drawings. The Owner shall have the right to accept or reject any or all alternates.

1.1 BASE BID: The Contractor shall state on the General Contract Bid Proposal under the Base Bid, the amount for all work, complete in all respects in accordance with plans and specifications, to construct CSP #14-DCWBE-1125 Donna Campus Wide Building Envelope Phase 2. The scope of work is defined in the plans and specifications.

1.2 ALTERNATES: The Contractor shall state on this Bid Form, under each Alternate the amount to add to this bid to perform all work, complete in all respects, in accordance with the plans and specifications to construct work required by the Alternates.

ALTERNATE #1 - Add impact film to the exterior windows, as scheduled.

ALTERNATE #2 - Remove exterior stone veneer wainscot from building perimeter and replace with plaster panels and accessories.

ALTERNATE #3 – McElroy Metal and Roof Hugger substitution in lieu of Garland Basis of Design

SECTION 0120 - AS BUILT DRAWINGS:
As the work proceeds, keep careful records of piping, electrical circuits, duct work and other concealed work whose installed location varies from that shown on plans. Refer to Section 01705 Project Closeout for additional requirements.

SECTION 05500 - METAL FABRICATIONS

PART 1 - GENERAL

RELATED DOCUMENTS:
Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

SUMMARY

This section includes the following metal fabrications:
Downspout Boots
Misc. Ferrous Metal

Miscellaneous framing and supports for the following:

Related Sections: The following sections contain requirements that relate to this section.

DEFINITIONS

SUBMITTALS:

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

Product Data: for products used in miscellaneous metal fabrications, including paint products and grout.

Shop Drawings:

Downspout Boots:
- Shop drawings showing boot type, size, and connection to downspout and drainage piping.
- Color samples for Architect's approval.
- Finish manufacturer's data and warranty information.

Misc. Metal:
- Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation by other sections.

Samples: representative of materials and finished products as may be requested by Architect.

Installation:

- Install in accordance with manufacturer's recommendations.
- Anchor boots securely to foundation or paving.
- Seal joints watertight and provide protective coating repair at disturbed surfaces.
- Coordinate with splash blocks and positive drainage.
- Seal existing mounting holes for downspouts and boots with UV rated sealant to match mounting surface finish.

QUALITY ASSURANCE

Fabricator Qualifications: Firm experienced in successfully producing metal fabrications similar to that indicated for this project, with sufficient production capacity to produce required units without causing delay in the work.

Installer Qualifications: Arrange for installation of metal fabrications specified in this section by same firm that fabricated them.

Qualify welding processes and welding operators in accordance with AWS D1.1 "Structural Welding Code - Steel," D1.3 "Structural Welding Code - Sheet Steel", and D1.2 "Structural Welding Code - Aluminum."

Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

PROJECT CONDITIONS

Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of Work.

Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabrication of products without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

PART 2 - PRODUCTS:

FERROUS METALS:

Downspout Boots:

- Neenah Foundry or Equal
- Type and size to match downspout configuration and existing **square** profile/size.

Downspout Boots Finish:
Provide cast iron downspout boots with **factory-applied protective finish**. Boots shall receive either:

1. **Powder-Coat Finish:** Minimum two-coat system, color to match adjacent gutters and downspouts, applied over properly prepared surfaces; or
2. **Prime and Field-Finish System:** One factory-applied rust-inhibitive primer and one field-applied exterior-grade topcoat, color to match adjacent gutters and downspouts.

All surfaces shall be cleaned and prepared to ensure proper adhesion. Touch up all field cuts, abrasions, and handling damage with compatible primer and finish paint. Provide coating system designed to prevent rust bleed-through for the service life of the assembly.

Metal Surfaces, General: For metal fabrications exposed to view upon completion of the Work, provide materials selected for their surface flatness, smoothness, and freedom form surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness, and, for steel sheet, variations in flatness exceeding those permitted by reference standards for stretcher-leveled sheet.

A. Structural-Steel Shapes: ASTM A 572 or ASTM A 992 (Fy=50 ksi)
B. Structural steel pipe: ASTM A53, standard weight (Schedule 40), black finish.
C. Steel Tubing: Cold-formed steel tubing complying with ASTM A 500, GR B.
D. Plates, bars and angles: ASTM A36.
E. Anchor Rods, Bolts, Nuts: ASTM A 36.
F. Bolts, Nuts, and Washers: ASTM A 325, Type 1, high-strength heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers, uncoated.
G. Primer: Lead- and chromate-free, nonasphaltic, rust-inhibiting primer.

For exterior installations and where indicated, provide fabrications with hot-dip galvanized coating.

Uncoated Structural Steel Sheet: Product type (manufacturing method), quality, and grade, as follows:

A. Cold-Rolled Structural Steel Sheet: ASTM A 611, grade as follows:
B. Grade A, unless otherwise indicated or required by design loading.
C. Hot-Rolled Structural Steel Sheet: ASTM A 570, grade as follows:
D. Grade 30, unless otherwise indicated or required by design loading.

Uncoated Steel Sheet: Commercial quality, product type (method of manufacture) as follows:

A. Cold - Rolled Steel Sheet: ASTM A 366.
B. Hot - Rolled Steel Sheet: ASTM A 569

Galvanized Steel Sheet: Quality as follows:

A. Structural Quality: ASTM A 446; Grade A, unless another grade required for design loading, and G90 coating designation unless otherwise indicated.
B. Commercial Quality: ASTM A 526, G90 coating designation unless otherwise indicated.
C. Type S, Grade A standard weight (schedule 40), unless otherwise indicated, or another grade or weight or both required by structural loads.

Provide Hot Dipped Galvanized finish for exterior installations and where indicated.

Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.

Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.

Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for the metal alloy to be welded.

GROUT AND ANCHORING CEMENT

Non-shrink Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.

Available Products: Subject to compliance with requirements, products that may be incorporated in the work include but are not limited to the following:

Products: Subject to compliance with requirements, provide one of the following:

Non-shrink Nonmetallic Grouts:

"Basal Construction Grout"; W. R. Bonsal Co.
"Euco N-S Grout"; Euclid Chemical Co.
"Kemset"; Chem-Masters Corp.
"Masterflow 713"; Master Builders.
"Sealtight 588 Grout"; W. R. Meadows, Inc.
"Sonogrout"; Sonneborn Building Products Div., Rexnord Chemical Products, Inc.
"Five Star Grout"; U. S. Grout Corp.
"Vibropruf #11"; Lambert Corp.

Fasteners:

General: Provide zinc coated fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade and class required.

A. Bolts and Nuts: Regular Hexagon head type, ASTM A 307, Grade A.
B. Lag Bolts: Square head type, FS FF-B-561.
C. Machine Screws: Cadmium plated steel, FS FF-S-92.
D. Wood Screws: Flat head carbon steel, FS FF-W-92.
E. Plain Washers: Round, carbon steel, FS FF-W-92.
F. Drilled- In Expansion Anchors: Expansion anchors complying with FS FF-S-325, Group VIII (anchors, expansion, (non-drilling), Type I(internally threaded tubular expansion anchor); and machine bolts complying with FS FF-B-575, Grade 5.
G. Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class, and style as required.
H. Lock Washers: Helical spring type carbon steel, FS FF-W-84.

Paint:

Shop Primer for Ferrous Metal: Manufacturer's or fabricator's standard, fast-curing, lead-free, universal modified alkyd primer selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure complying with performance requirements of FS TT-P-645.

Galvanizing Repair Paint: High zinc dust content paint for re-galvanizing welds in galvanized steel, with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD - P- 21035 or SSPC-Paint-20.

Bituminous Paint: Cold-applied asphalt mastic complying SSPC-Paint 12 except containing no asbestos fibers.

Zinc Chromate Primer: FS TT-P-645.

Fabrication:

Fabrication shop shall have a minimum of three years experience in the field of steel fabrication. Steel erector shall have same minimum experience.

Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.

Temperature Change (Range): 100 deg F (55.5 deg C).

General: Shear and punch metals cleanly and accurately. Remove burrs and ease exposed edges. Form bent-metal corners to smallest radius possible without impairing work.

Submit shop drawings of all structural steel members. Shop drawings shall include fabrication piece drawings and field erection drawings. Structural construction drawings shall not be photocopied and submitted. Contractor to provide electronic copies for engineering review.

Welding: Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. At exposed connections, finish welds and surfaces smooth with contour of welded surface matching those adjacent. Fabrication shop shall provide AWS welder certifications as requested by owner's engineer.

Fabricate loose lintels from steel angles. Loose lintel angles shall be hot dipped galvanized unless noted other wise.

Fabricate steel pipe columns with steel top plates drilled for connection bolts and welded to pipe with continuous fillet weld same size as pipe wall thickness.

1. Provide base plates as scheduled on construction documents.

Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

Provide for anchorage of type indicated, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.

Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

Fabricate joints which will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

ERECTION

Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack.

Fit exposed connections accurately together to form hairline joints.

All bolted moment connection shall have high strength bolts using “Turn-of-Nut” method according to RCSC’s specification structural joints using ASTM A325 or A490 Bolts and AISC “Manual of Steel Construction”.

A qualified independent inspector shall be hired by the contractor to provide inspection of all bolted and welded connections.

END OF SECTION 05500

2.6 ACCESSORIES

A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-(25-mm-) thick, flexible closure strips meeting ASTM D1056 and/or D3575; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
3. Gable anchor clips: 16 gauge (1.4 mm) galvanized steel**.**

B. Flashing and Trim: Formed from same material and gauge as roof panels, prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

C. Gutters: Formed from same material as roof panels. Fabricate in 10-foot long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual". Finish downspouts to match gutters. Furnish gutter supports spaced per SMACNA’s recommendation based on gauge and stretch-out, fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets.

D. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual". Finish downspouts to match gutters.

E. Roof Curbs: Fabricated from same material as roof panels, minimum and welded top box and integral full-length cricket. Fabricate curb subframing of minimum 0.0598-inch- (1.5-mm-) thick, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads, of size and height indicated. Finish roof curbs to match metal roof panels.

2.7 FABRICATION

A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

McElroy Metal, Inc.
1500 Hamilton Rd.
Bossier City, LA 71111
Phone: (800) 562-3576
Phone: (318) 747-8097
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E-mail: info@mcelroymetal.com
www.mcelroymetal.com

SECTION 07 41 13
METAL ROOF PANELS
238 T

PART 1 GENERAL

1.1 SUMMARY

A. SECTION INCLUDES

1. Standing-seam metal roof panels, including trim and accessories

2. RELATED SECTIONS

a) Section 05 31 23 - Steel Roof Decking

b) Section 07 22 00 - Roof and Deck Insulation

c) Section 07 62 00 - Sheet Metal Flashing and Trim

d) Section 07 72 00 - Roof Accessories

e) Section 07 92 00 - Joint Sealants

1.2 REFERENCES

A. AISI S-100 – North American Specification for the Design of Cold-Formed Steel Structural Members.

B. ASCE-7: American Society of Civil Engineers -Minimum Design Loads for Buildings and Other Structures; version adopted by local Building Code authority having jurisdiction.

C. ASTM A792 - Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

D. ASTM E1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding System by Uniform Static Air Pressure Difference

E. ASTM E1646 - Standard Test Method for Rate of Water Penetration Through Exterior Metal Roof Panel Systems By Uniform Static Air Pressure Difference.

F. ASTM E1680 - Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.

G. ASTM E2140 - Standard Test method for water penetration of metal roof panel systems by static water pressure head.

H. Factory Mutual 4471 Appendix G - Susceptibility to Leakage Test Procedure for Class 1 Panel Roofs.

I. UL 580 - Tests for Uplift Resistance of Roof Assemblies.

J. UL 1897 - Uplift Tests for Roof Covering Systems.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meetings:

1. Schedule meeting to discuss roof project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements before start of work onsite.

2. Required attendees: Contractor, metal deck & roof installer, and any other subcontractors who have equipment penetrating the roof or Work that requires roof access or traffic.

1.4 SUBMITTALS

A. Product Data: Manufacturer literature indicating product specifications, installation instructions, and standard construction details for specified products.

B. Shop Drawings: To be prepared by metal roof system manufacturer.

1. Submit roof plan showing panel layout, profiles, components, accessories, finish colors, gutters and downspouts as applicable.

a) Indicate layout of roofing panels and roof panel sizes, including custom fabricated roofing panels if indicated, indicate each trim condition.

b) Include details of each condition of installation, including the locations and types of fasteners, sealants and accessories. Indicate locations, gauges, shapes, and methods of attachment of all panels, accessories and trim.

c) Indicate products/materials required for construction activities of this section not supplied by manufacturer of products of this section.

d) Indicate locations of field applied sealant.

e) Indicate locations of field worked conditions.

2. Roof Panel Attachment:

a) Roof plan with wind uplift pressure calculations at field, corner and perimeter areas according to version of ASCE-7 referenced by locally-adopted Building Code and the authority having jurisdiction.

b) Roof plan indication roof clip spacing pattern at field, corner, perimeters and where panels are to be fixed from thermal movement.

c) Roof panel attachment plan must be stamped by licensed engineer in State in which project is constructed, certifying roof attachment meets local Building Code requirements for wind uplift.

C. Samples:

1. Submit two samples, 12" long, full width panel, showing metal gage, and seam.

2. Two samples each for roof panel clip, bearing plate and clip fastener.

3. Submit color samples for Architect's selection.

4. Submit sample warranties:

a) Manufacturer Finish Warranty

b) Manufacturer Weathertightness Warranty complying with this Specification

c) Installer Warranty

D. Certificates:

1. Submit roof panel manufacturer's certification that fasteners, clips, backup plates, closures, roof panels and finishes meet the specification requirements.

2. Submit roof panel manufacturer’s certification that installer meets requirements to install roof system and is qualified to obtain required warranties.

E. Delegated Design Submittals: Submit engineering calculations indicating wind uplift pressure calculations according to local building code for project location with respect to appropriate Importance Factor, Exposure category and Safety Factor. Calculations shall be sealed by a professional engineer licensed to practice structural engineering in the state in which project is located.

F. Test and Evaluation Reports - Certified test results that indicate roof system meets or exceeds design and performance criteria. Testing to include:

1. Static Water Testing Certification: Manufacturers test data, signed and sealed by a registered professional engineer, in accordance with FM4471 Appendix G, and pass with no leakage. The test specimen must successfully withstand being submerged under 6” of water for a minimum period of 7 days.

2. ASTM E1680 - Manufacturer’s test data, signed and sealed by a registered professional engineer, for air infiltration rates meeting the following:

a) 16” panel width - 0.0028 cfm/sf maximum at a differential pressure of +/-20 pounds per square foot.

b) 18” panel width - 0.0025 cfm/sf maximum at a differential pressure of +/-20 pounds per square foot.

c) 24” panel width - 0.0019 cfm/sf maximum at a differential pressure of +/-20 pounds per square foot.

3. ASTME1646 - Manufacturer’s test data, signed and sealed by a registered professional engineer, indicating no water penetration up to 20 pounds per square foot differential pressure.

4. ASTM E1592 - Manufacturers test data, signed and sealed by a registered professional engineer, substantiating that roof system will meet the allowable wind pressures using an appropriate Factor of Safety in accordance with AISI S-100.

5. ASTM E2140 - Manufacturers test data, signed and sealed by a registered professional engineer, on a test specimen with no end lap, indicating that no water leakage was observed during the testing period of 6 hours with a 6” water head on the specimen.

G. Qualification Statements: For Manufacturer and Installer.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: Manual indicating requirements and recommendations, to maintain the roof system, in good working condition.

B. Warranty Documentation: Submit final warranties required in this section.

1.6 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications: Manufacturer shall have a minimum of ten years experience in the manufacturing of metal roof systems similar to those required for this project. Manufacturer must have a current installer training program.

2. Installer Qualifications: Installer ("roofer") to perform the work of this section, shall have no fewer than 5 years of successful experience with the installation of metal roof systems similar to those required for this project. The installer shall be qualified by the roof panel manufacturer for installation of manufacturer-warranted systems.

B. Field Measurements: Prior to fabrication of panels, take field measurements of structure or substrates to receive panel system. Allow for trimming panel units, where final dimensions cannot be established prior to fabrication.

C. Mock-Ups: Install a 30 foot wide, quality control area of metal roofing, for review by the Architect. The Architect shall approve the quality of installation for the roof, prior to installing additional metal panels.

1.7 DELIVERY, STORAGE AND HANDLING

A. Delivery and Acceptance Requirements: Deliver panels to jobsite properly packaged to provide protection against transportation damage. Panels too long to ship shall be site formed onto the roof by manufacturer's factory personnel using manufacturer's factory roll forming equipment.

B. Storage and Handling Requirements:

1. Exercise care in unloading, storing and erecting panels to prevent bending, warping, twisting, and surface damage.

2. Store all material and accessories above ground on well skidded platforms. Store under waterproof covering. Provide proper ventilation to panels to prevent condensation build-up between each panel.

3. Remove from site and replace panels which are damaged, or become water-stained during storage and handling.

1.8 WARRANTIES

A. Manufacturer Warranties:

1. Panel Material: Furnish manufacturers 45 year warranty covering the panel against rupture, structural failure, or perforation.

2. Panel Coating: Furnish manufacturer's 40-year warranty panel coating warranty covering cracking, checking, and peeling, and 30 year warranty covering fade and chalk.

3. Metal Roof Weathertightness Warranty:

a) Manufacturer's [Joint] Weathertightness Warranty

(1) Warranty term: [20] years commencing on date of substantial completion.

(2) Total manufacturer's liability: [NRL (No Repair Limit)] / sq. ft.

(3) Warranty must cover: [Pipe and Curb Penetrations]; [Wind Speeds up to 75 mph]

(a) (If "Pipe and Curb Penetrations" is chosen) Pipes must be centered in pan or a pipe curb must be used. Pipe must be flashed with an EPDM dektite.

(b) (If "Pipe and Curb Penetrations" is chosen) Curbs must be all welded aluminum or stainless steel.

(c) (If "Wind Speeds up to 75 mph" is chosen) Manufacturer must supply engineered installation drawings signed and sealed by an engineer registered in the state in which the project is located.

B. Installer Warranty: Installer to provide warranty agreeing to repair or replace metal roof panels, trim, or accessories that fails due to poor workmanship or faulty installation.

1. Warranty term: 2 years commencing on date of substantial completion.

PART 2 - PRODUCTS

2.1 ROOF PANEL SYSTEM

A. Basis of Design: 238T by McElroy Metal, Inc. Bossier City, LA, or approved substitute.

B. Substitution Limitations

1. Requests for approval must be submitted in writing at least ten (10) days prior to bid date, and are accompanied by all related test reports and design calculations listed in section 1.4 and Design and Performance criteria Section 2.2.

2. Substitute manufactures will be approved by written addendum to all bidders. Voluntary alternates will not be considered. Substitutions will not be permitted after the bid date of this project.

3. Roof panels proposed for substitution shall fully comply with specified requirements in appearance, assembly, and performance.

C. Product Options

1. Factory-formed panel, width of [18] inches. Panels shall be symmetrical in design and shall be mechanically seamed with a field operated electric seaming machine approved by the manufacturer.

2. Minimum seam height 2 3/8 inches. Integral seam, double lock and snap together type panels are not acceptable

3. Seam cap matching panel finish with two rows of integral factory hot applied sealant. Sealant should not come in contact with clip, and clip should not require sealant to maintain a weathertight condition.

4. Galvalume steel sheet conforming to ASTM A792, AZ55 coating for bare; AZ50 coating for painted; 22 gauge sheet thickness.

5. Finish: Two coat coil applied, baked-on full-strength (70% resin, PVDF) fluorocarbon coating consisting of a nominal 0.25 mil dry film thickness primer, and a nominal dry film thickness of 0.7 - 0.8 mil color coat for a total 0.9 to 1.1 mil total system dry film thickness. Finish to be selected from manufacturer's standard color selection. The back side of the material should be 0.25 mil primer and 0.25 mil polyester wash coat.

6. Roof panel system must allow individual roof panel removal and replacement from any point on the roof without damage to adjacent roof panel(s).

7. Roof panel system must be approved by manufacturer to be installed on slopes as low as ½:12.

8. Panels must be furnished and installed in continuous lengths from ridge to eave with no overlaps. Panels too long to ship will be manufactured on site using manufacturer's employees and equipment.

9. Panel surface characteristics to be (Choose One) [Smooth] [Striated] [Minor Rib] [Plank and Pencil]

10. Manufacturer weathertightness warranty meeting requirements of this Section.

2.2 PERFORMANCE/DESIGN CRITERIA

A. Thermal Movement: Metal Roofing system, including flashing, shall accommodate unlimited thermal movement without buckling or excess stress on the structure.

B. Roof panel and trim attachments will be designed to satisfy the requirements of the roof design (shown in shop drawings).

C. Maximum wind uplift capacity of roof system shall be determined using ASTM E 1592 test results, with an appropriate Factor of Safety in accordance with AISI S-100.

D. Panel system shall be designed in accordance with the local building code and ASCE7 for project location with respect to appropriate Exposure category, Importance Factor and Factor of Safety in accordance with AISI S-100.

E. Tested and listed by Underwriters Laboratories to comply with UL 580 for wind uplift Class 90 rating.

2.3 ACCESSORIES

A. Panel Clip Screw - screw required in wind uplift rating requirements and design specification for application, with corrosion-resistant coating, in length necessary to penetrate substrate minimum 3/4 inch., as supplied by roof panel manufacturer.

B. Roof Panel Clip:

1. Intermittent Clip: 16 gauge galvanized steel, one-piece, designed to allow roof panel thermal movement and not contact roof panel cap, as supplied by roof panel manufacturer, meeting wind uplift requirements and design criteria of this section.

2. Intermittent Clip Bearing Plate: If required, in gauge, size and finish as supplied by and approved by roof panel manufacturer for use in roof panel manufacturer's full assembly warranted systems.

3. Multi-Span Clip: as provided by roof panel manufacturer for full assembly warranted systems.

C. Trim and flashing will be of the same gauge and finish unless approved otherwise by the metal roof system manufacturer.

1. Ridge closures, consisting of metal channel surrounding factory precut closed cell foam, will not be secured through the field of the panel.

2. Trim will be installed specifically as displayed in the manufacturer provided shop drawings. Proposed changes must be approved in writing by the metal roof system manufacturer.

D. Concealed supports, angles, plates, accessories and brackets: gauge and finish as recommended, and furnished by manufacturer.

E. Accessory Screw: Size and screw type as provided by panel manufacturer for each use, with prefinished hex washer head in color to match panels where exposed to view.

F. Rivets: full stainless steel, including mandrel, in size to match application.

G. Field Sealant:

1. Exposed Sealant: Color coordinated urethane or polymer sealant as supplied by panel manufacturer.

2. Non-exposed Sealant: Non-curing, non-skinning, butyl tape or tube sealant as supplied by manufacturer.

H. Sealant Tape: non-drying, 100 percent solids, high grade butyl tape, as supplied by panel manufacturer, in sizes to match application.

I. Pipe Penetration Flashings: 20 year warranted flexible boot type, with stainless steel compression ring. Use silicone type at hot pipes.

J. Metal Roof Curbs: 0.063 minimum thickness welded aluminum, or 18 gauge minimum welded stainless steel, factory-insulated, with integral cricket, and designed to fit roof panel module, sized to meet application.

PART 3 - EXECUTION

3.1 INSTALLERS

A. Must be certified and qualified by Manufacturer.

3.2 EXAMINATION

A. Verification of Conditions

1. Ensure surfaces are ready for panel application.

2. Inspect and ensure surfaces are free from objectionable warp, wave, and buckle before proceeding with installation of pre-formed metal roofing.

3. Ensure substrate is ready to receive metal roofing. Report items for correction and do not proceed with metal roof panel system installation until resolved.

3.3 PREPARATION

A. Install substrate boards, hat channels, purlins, or furring channels in accordance with manufacturer's recommendations.

B. Coordinate Work, with installation of other associated Work, to ensure quality application.

C. Coordinate Work with installation of associated metal flashings and building walls.

D. Coordinate Work to minimize foot traffic and construction activity on installed finished surfaces.

E. Coordinate location of pipe penetrations to allow centering of pipe in panel.

F. Coordinate location of roof curbs, to allow proper integration with roof panel seams.

3.4 INSTALLATION

A. Comply with and install roofing and flashings in accordance with all details shown on manufacturer's approved shop drawings and manufacturer's product data, instructions, and installation manuals, within specified erection tolerances.

B. Install field panels in continuous lengths, without endlaps

C. Do not install panels damaged by shipment or handling.

D. Install intermittent clips with bearing plates, if required, and continuous clips, if required, according to the engineered design pattern in the field, perimeter, and corner areas of the roof.

E. Fix panels at location depicted on reviewed shop drawing(s).

F. Fold up pan of panel at ridge, hip and headwalls. Commonly referred to as breadpanning.

G. Allow for required panel clearance at penetrations for thermal movement.

H. Install concealed supports, angles and brackets as furnished by manufacturer to form complete assemblies.

I. Remove roof panel and flashing protective film prior to extended exposure to sunlight, heat, and other weather elements.

J. Field-apply sealant tape and gun-grade sealant according to reviewed shop drawings and manufacturer's requirements for airtight, watertight installation.

K. Ensure sealant beads and tapes are applied prior to sheet metal installation to achieve a concealed bead. Neatly trim exposed portions of sealant without damaging roof panel or flashing finish.

L. Align pipe penetrations to occur at center of roof panel. Report and have corrected improperly-placed penetrations before proceeding with panel installation. Remove and replace roof panels which have improperly-placed penetration flashings.

M. Align roof curbs to fit roof panel module and overlap standing seam(s). Allow for proper drainage on both sides of curb.

N. Install sheet metal flashings according to manufacturer's recommendations, reviewed shop drawings and in accordance with provision of Section 07 62 00.

3.5 CLEANING

A. Clean exposed surfaces of work promptly after completion of installation.

B. Clean mud, dirt, and construction-related debris from panels before panels are scratched or marred.

3.6 PROTECTION

A. Protect Work as required to ensure roofing will be without damage at time of final completion.

B. Do not allow excessive foot traffic over finished surfaces.

C. Do not track mud, dirt, or construction-related debris onto panel surfaces.

D. Replace damaged Work before final completion.

END OF SECTION

ROOF PANEL (FINE ARTS BLDG.)

PANEL TYPE/WIDTH	238T / 16"
PANEL GAUGE	22 GA
PANEL COLOR	KYNAR-VERIFY COLOR
TRIM GAUGE	24 GA.
TRIM COLOR	KYNAR-VERIFY COLOR
CLIP TYPE	24 GA. MULTI-SPAN
CLIP FASTENER	1/4-14 X 1 1/4" HWH TEK2 (4 PER CLIP CONNECTION; 2 PER SIDE)
CLIP SPACING	AT EACH ROOF HUGGER (60" O.C. MAX.)
THERMAL SPACER	N/A
SUBSTRATE	4 1/2" ROOF HUGGER MODEL T (16 GA. MIN.) OVER EXISTING TRAPEZODIAL METAL ROOF OVER EXISTING PURLINS

ROOF PANEL (FOOTBALL BLDG.)

PANEL TYPE/WIDTH	238T / 16"
PANEL GAUGE	22 GA.
PANEL COLOR	KYNAR-VERIFY COLOR
TRIM GAUGE	24 GA.
TRIM COLOR	KYNAR-VERIFY COLOR
CLIP TYPE	STANDARD
CLIP FASTENER	#14-10 X 1 1/2" HHA TYPE A (4 PER CLIP)
CLIP SPACING	SEE CLIP ZONE LAYOUT ON DRAWING SHEET A3
THERMAL SPACER	N/A
SUBSTRATE	1/2" MIN. PLYWOOD

GUTTERS

MANUFACTURER	MCELROY
STYLE	STANDARD
GUTTER COLOR	KYNAR-VERIFY COLOR

DOWNSPOUTS

MANUFACTURER	MCELROY
STYLE	STANDARD
GUTTER COLOR	KYNAR-VERIFY COLOR

238T PRODUCT MIN/MAX

MCELROY PLANT	MINIMUM	MAXIMUM
HOUSTON, TX	2'-0"	*75'-0"
PEACHTREE, GA	2'-0"	*85'-0"
CLINTON, IL	2'-0"	*80'-0"
ADELANTO, CA	2'-0"	*80'-0"

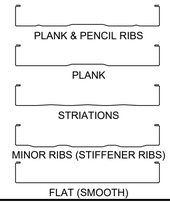
* IN-PLANT MAX LENGTH. PANELS CAN BE RUN IN LONGER LENGTHS AT JOBSITE

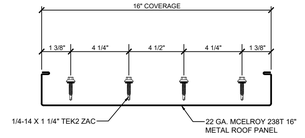
** 238T 24" TO BE RUN AT JOBSITE ONLY

SEAM CAP LENGTHS: 2' MIN/30' MAX

MULTISPAN CLIPS 2' MIN/30' MAX: PEACHTREE,GA & HOUSTON, TX

238T PAN CONDITIONS (SELECT ONE)





T-238 FASTENER PATTERN

PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

PALACIOS, TX

SHEET LIST	
COVER	COVER SHEET
A1	ROOF LAYOUT (AREAS A & B) (FINE ARTS BUILDING)
A2	ROOF LAYOUT (FOOTBALL BUILDING)
A3	CLIP ZONE LAYOUT (FOOTBALL BUILDING)
D1	DETAILS
D2	DETAILS
D3	DETAILS
D4	DETAILS
D5	DETAILS

DESIGN CRITERIA

BUILDING CODE	IBC 2018
ROOF LIVE LOAD (PSF)	20
WIND LOAD (MPH)	155
ENCLOSURE	ENCLOSED
EXPOSURE	C
RISK CATEGORY	III
GROUND SNOW LOAD (PSF)	5
THERMAL FACTOR	1.0
SNOW IMPORTANCE	1.0
SNOW EXPOSURE	1.0
	ROOF LIVE/SNOW LOAD ARE TRANSFERED INTO THE SOLID DECK AND ROOF STRUCTURE BELOW

PHASE	DESCRIPTION	DFTR.	CHKR.	ENG.	DATE
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0	DRAWINGS FOR CONSTRUCTION '0'	MS	-	ZIB	11/20/23
B	DRAWINGS FOR APPROVAL 'B'	MS	-	ZIB	04/08/24
1	DRAWINGS FOR CONSTRUCTION '1'	MS	-	ZIB	04/11/24

McELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME:
PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

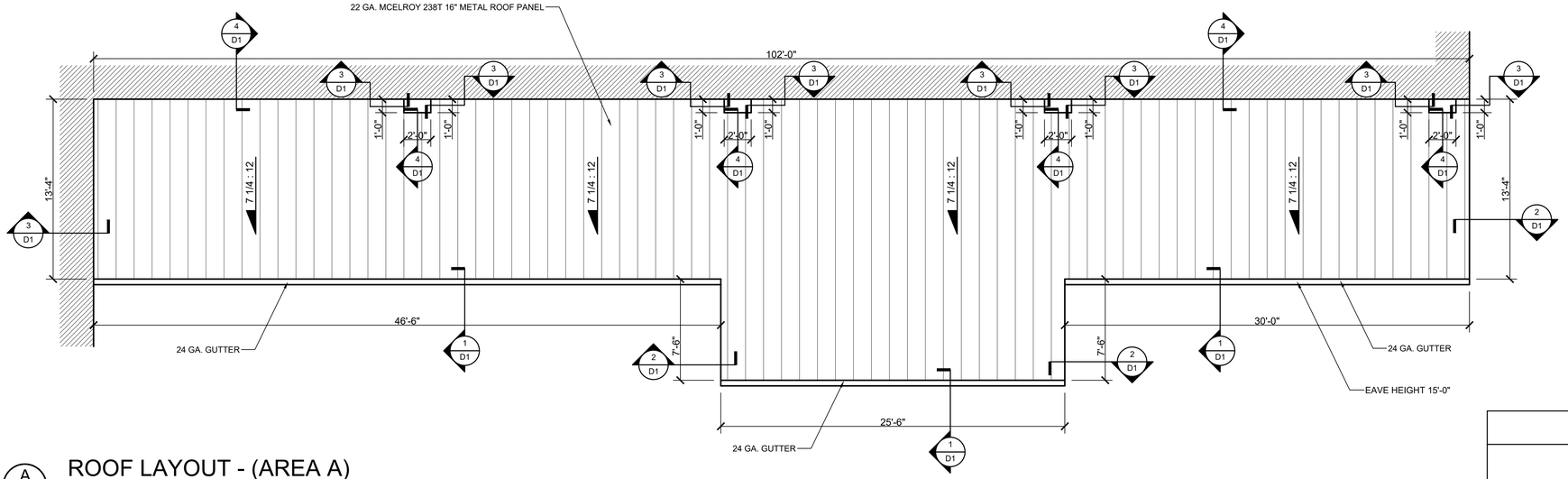
LOCATION:
PALACIOS, TX

CUSTOMER:

FOR CONSTRUCTION

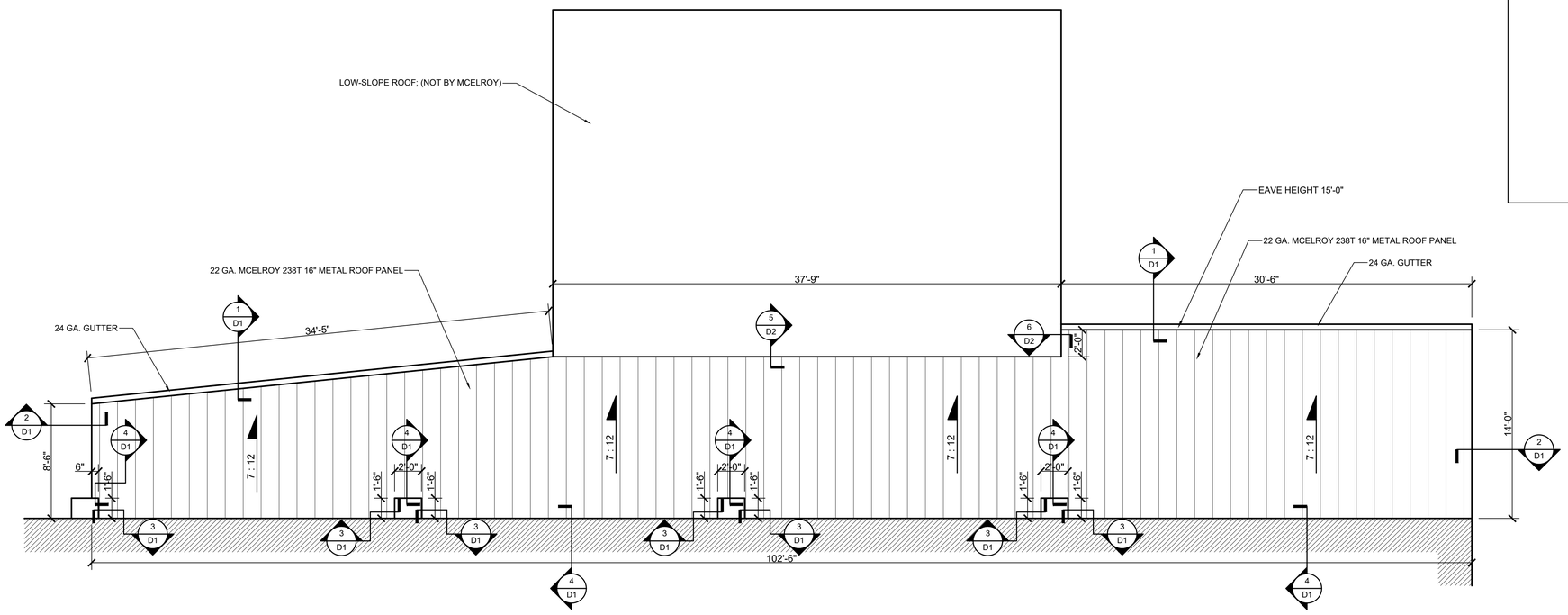
233638-1

COVER



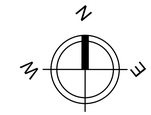
A
A1

ROOF LAYOUT - (AREA A)
(FINE ARTS BLDG. - SOUTH SIDE)



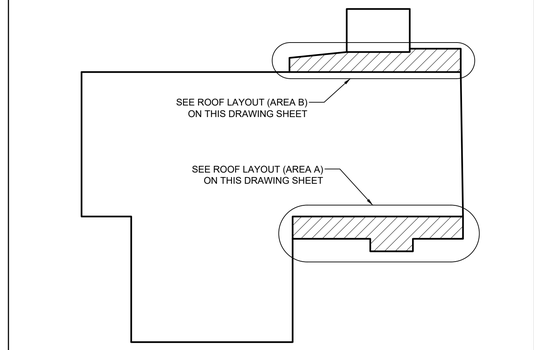
B
A1

ROOF LAYOUT - (AREA B)
(FINE ARTS BLDG. - NORTH SIDE)



PLAN NORTH

ROOF LAYOUT KEY PLAN



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PROJECT NAME:
PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

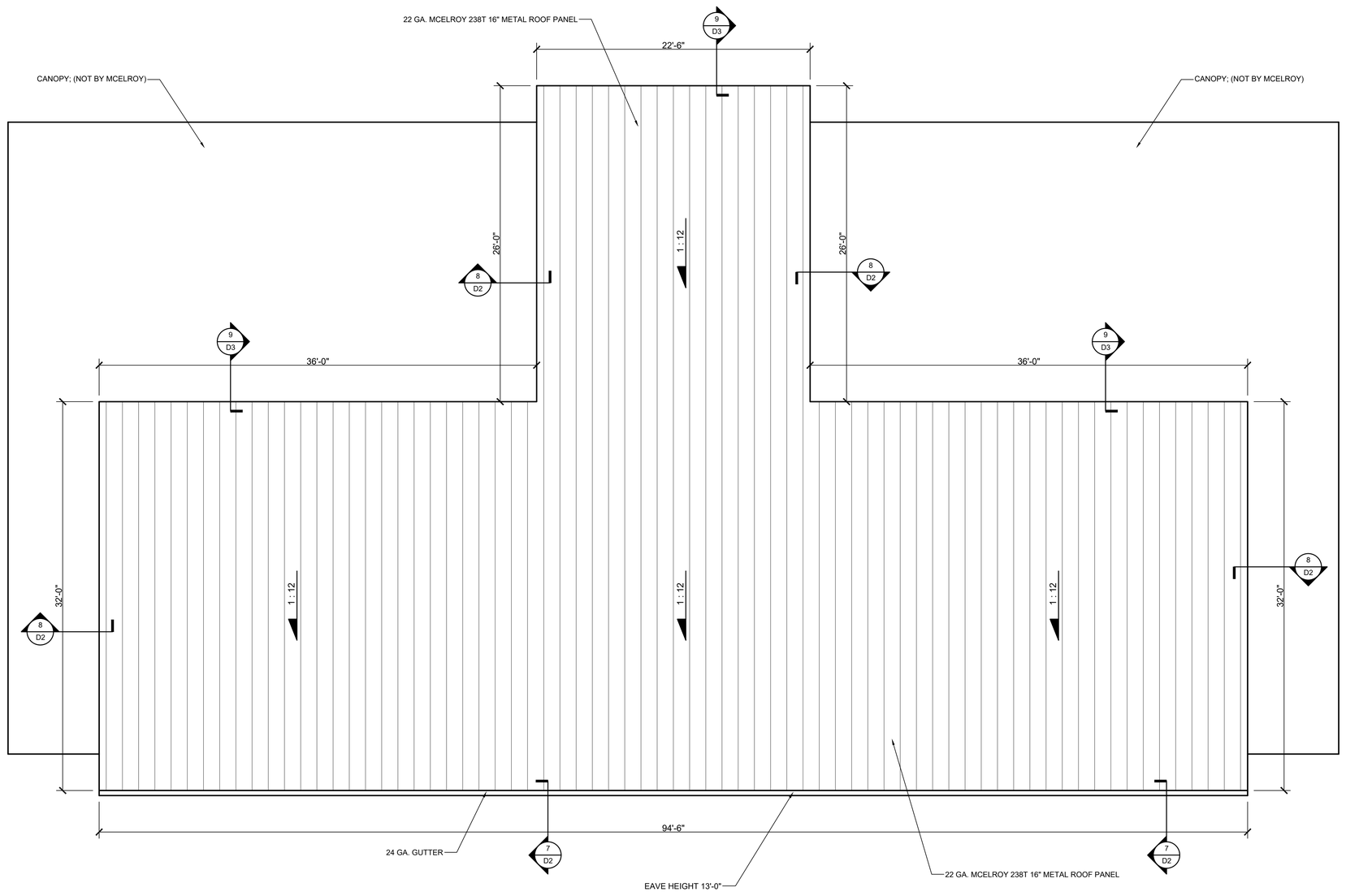
LOCATION:
PALACIOS, TX

CUSTOMER:

FOR CONSTRUCTION

233638-1

A1



A2 ROOF LAYOUT
(FOOTBALL BUILDING)

PLAN NORTH

PHASE	DESCRIPTION	DFTR.	CHKR.	ENG.	DATE
A	DRAWINGS FOR APPROVAL 'A'	MS	-	ZIB	09/21/23
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McELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME:
PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

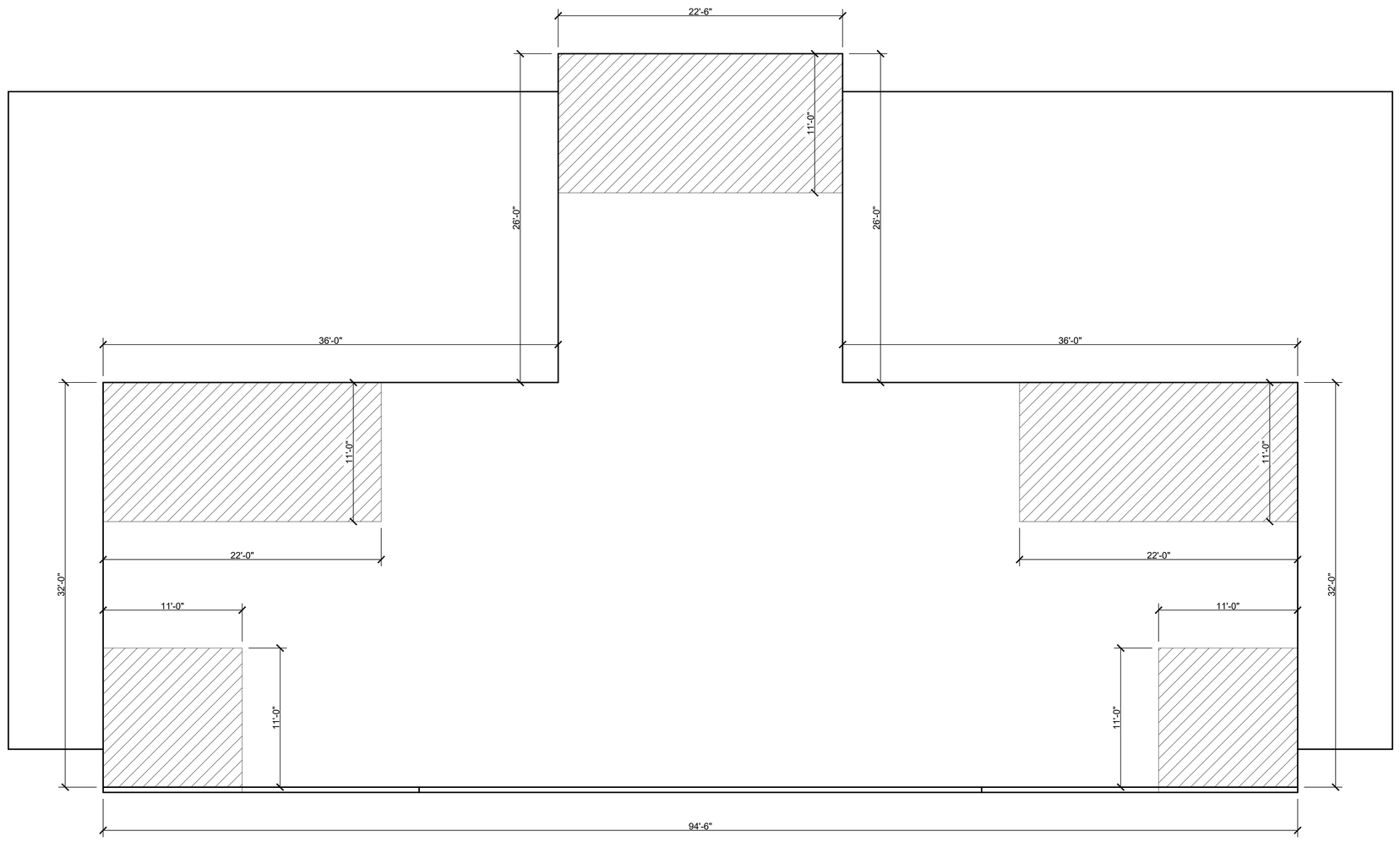
LOCATION:
PALACIOS, TX

CUSTOMER:

FOR CONSTRUCTION

233638-1

A2



A
A3
CLIP ZONE LAYOUT
(FOOTBALL BUILDING)

PLAN NORTH

MAX CLIP SPACING	
	STANDARD CLIPS AT 3'-0" O.C. MAXIMUM
	STANDARD CLIPS AT 2'-6" O.C. MAXIMUM

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LOCATION:
PALACIOS, TX

CUSTOMER:

FOR CONSTRUCTION

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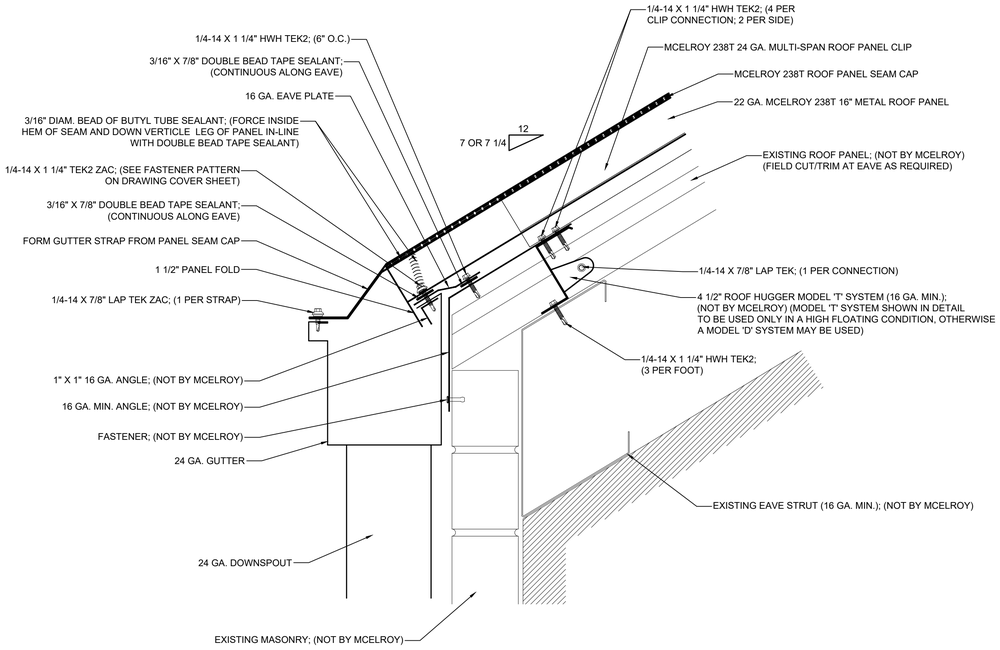
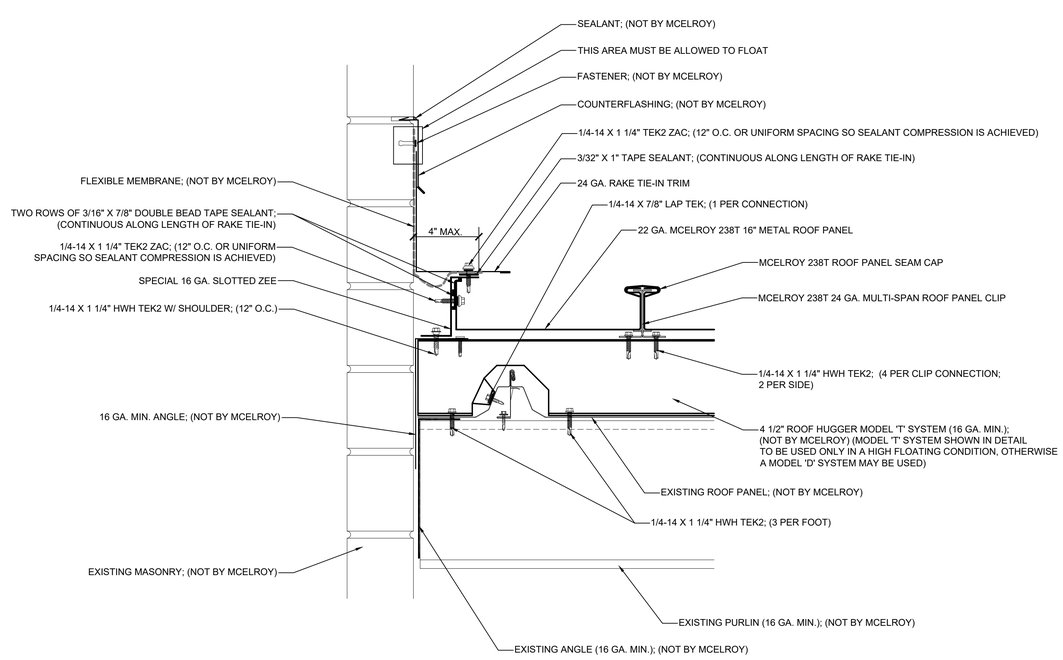
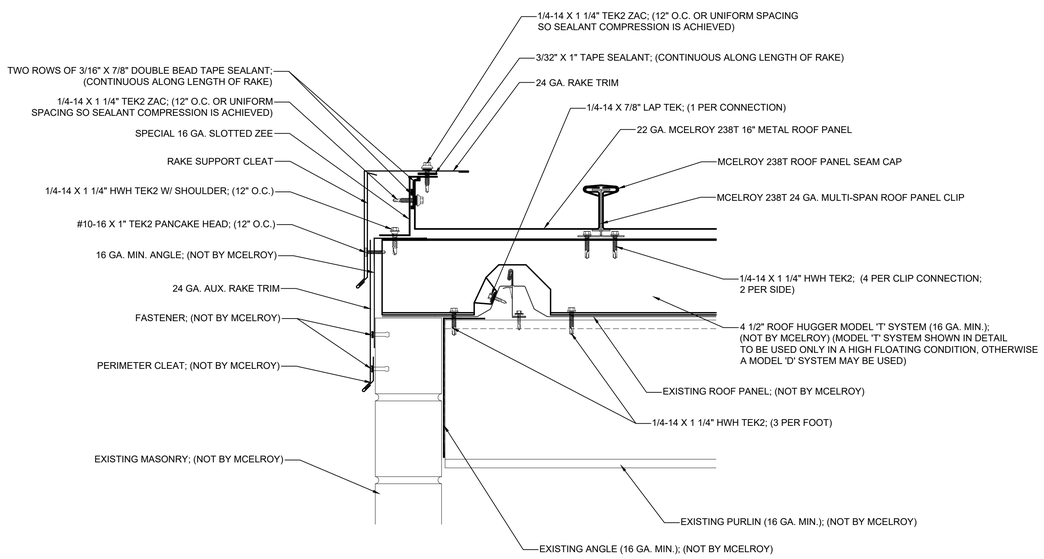
A3



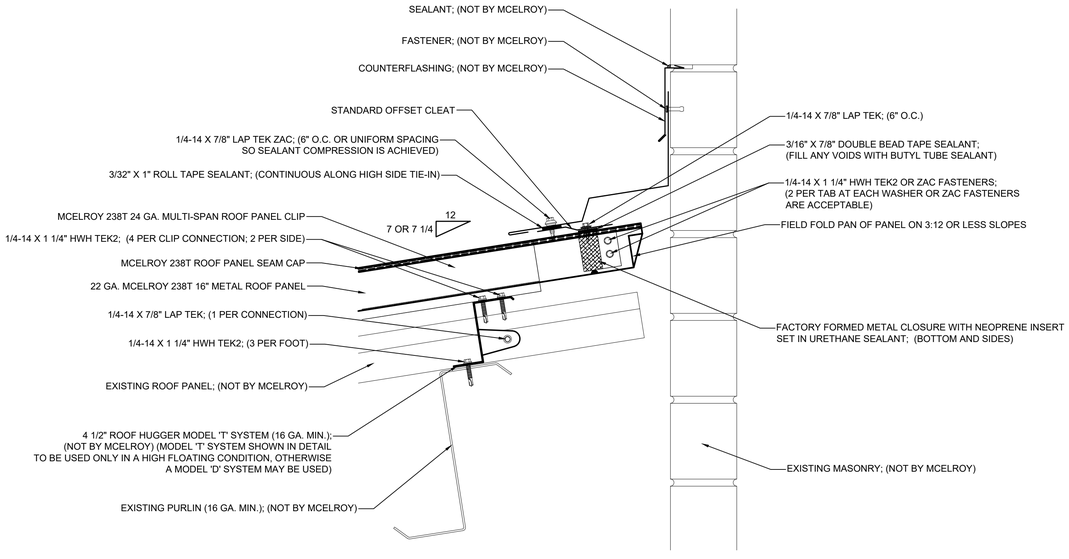
1 D1 TYPICAL EAVE/GUTTER DETAIL



3 D1 TYPICAL RAKE TIE-IN DETAIL



2 D1 TYPICAL RAKE DETAIL



4 D1 TYPICAL HIGH SIDE TIE-IN DETAIL

TRIM TO BE FABRICATED FROM FLAT SHEETS BY ROOFING CONTRACTOR (NOT BY MCELROY)

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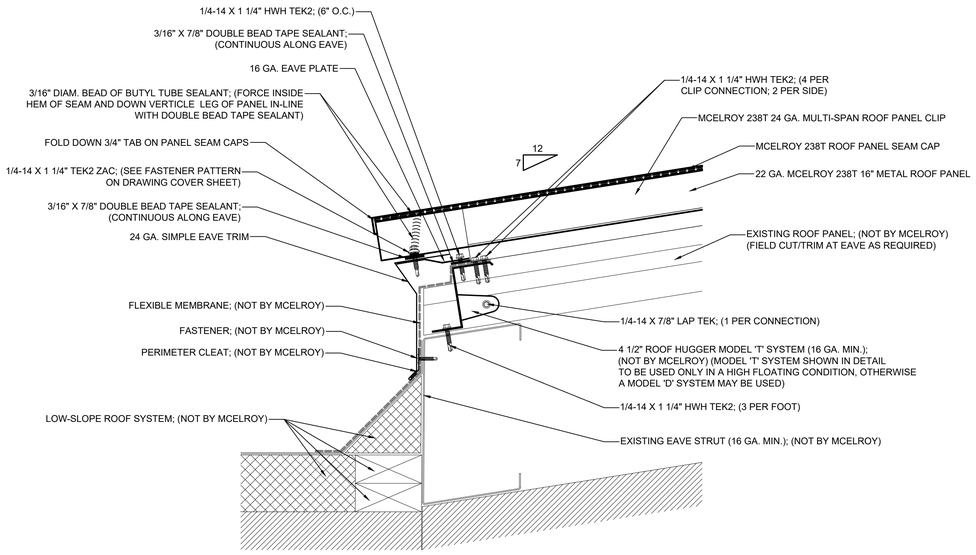
McELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME: PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)
LOCATION: PALACIOS, TX
CUSTOMER:

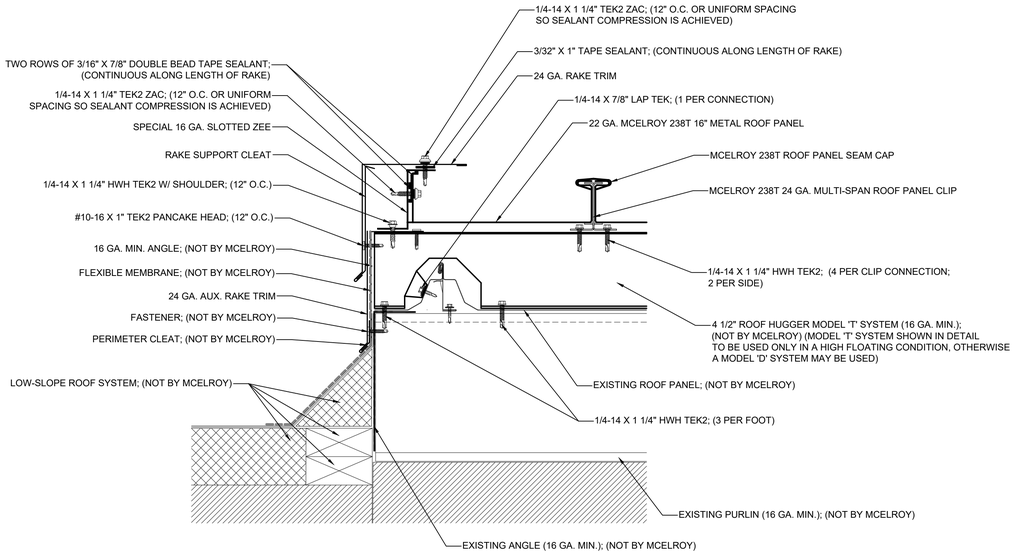
FOR CONSTRUCTION

233638-1

D1

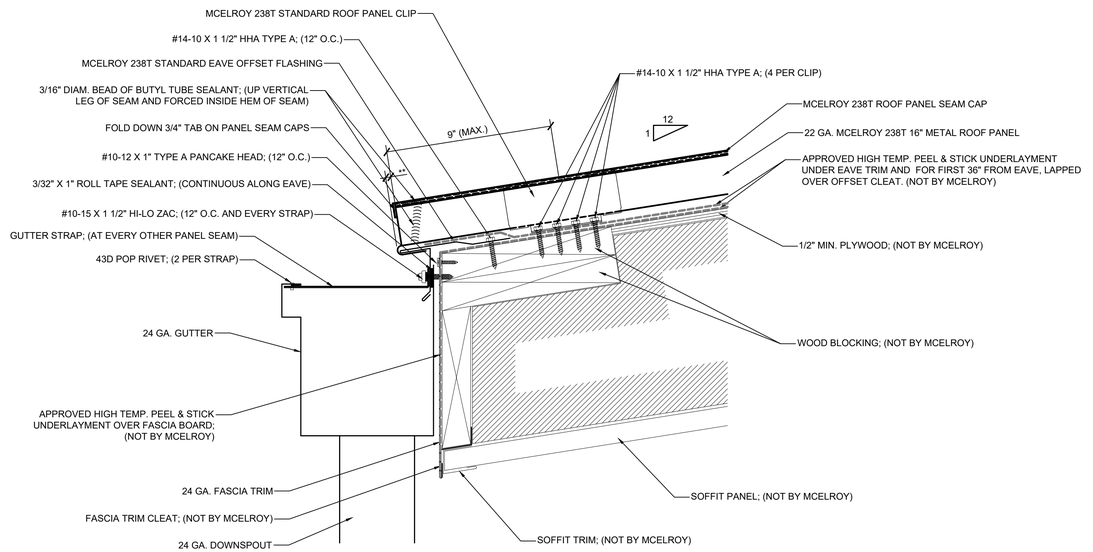


5 D2 TYPICAL EAVE AT LOW-SLOPE ROOF DETAIL

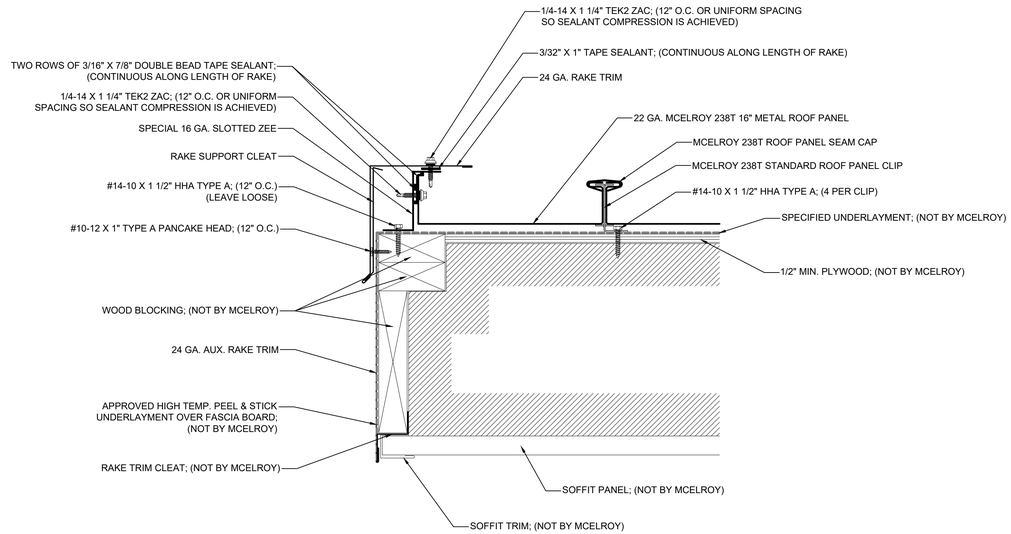


6 D2 TYPICAL RAKE AT LOW SLOPE ROOF DETAIL

** 1/2" CLEARANCE REQUIRED FOR THERMAL MOVEMENT



7 D2 TYPICAL EAVE/GUTTER DETAIL



8 D2 TYPICAL RAKE DETAIL

TRIM TO BE FABRICATED FROM FLAT SHEETS BY ROOFING CONTRACTOR (NOT BY MCELROY)

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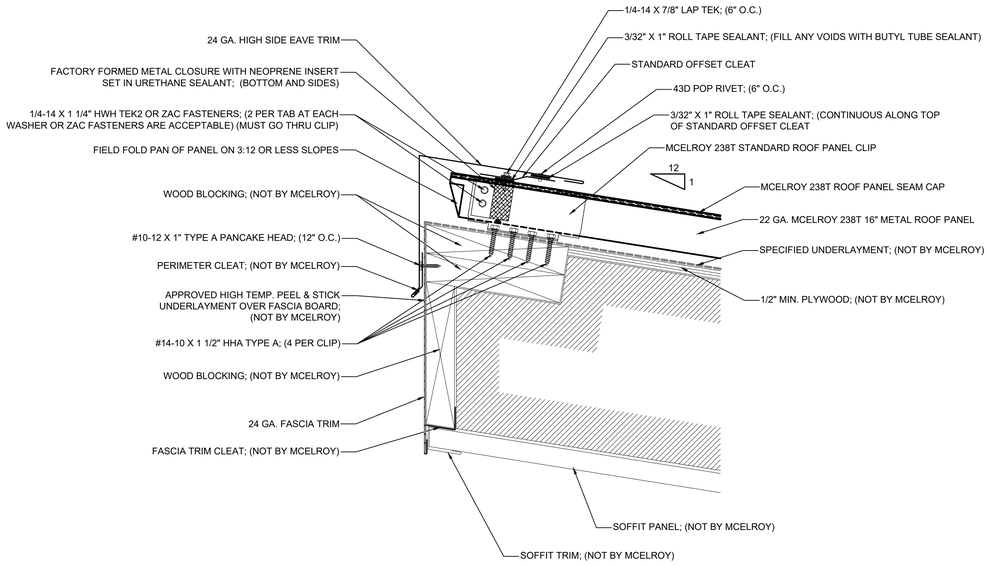
McELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME: PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)
LOCATION: PALACIOS, TX
CUSTOMER:

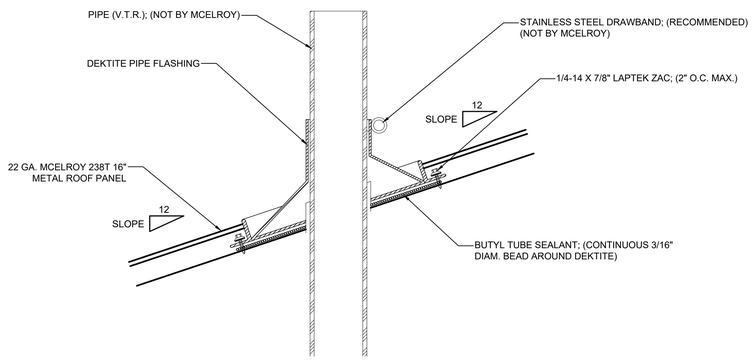
FOR CONSTRUCTION

233638-1

D2



9 / D3 TYPICAL HIGH SIDE EAVE DETAIL



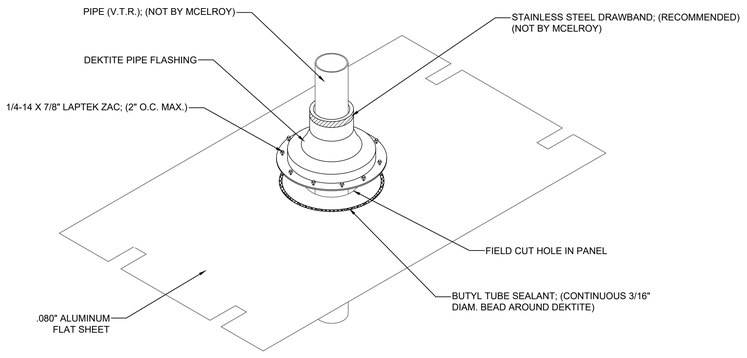
TYPICAL PIPE PENETRATION DETAIL NOTES:

1.) CUT HOLE IN PANEL 1" LARGER THAN PIPE DIAMETER. IF INSTALLING OVER SOLID SUBSTRATE, OVER-CUT HOLE IN SUBSTRATE SO FASTENERS DO NOT PIN SYSTEM FROM THERMAL MOVEMENT.

2.) CUT HOLE IN TOP OF DEKTITE BOOT SO THAT IT FITS SNUGGLY AROUND PIPE. APPLY A 3/16" DIAMETER BEAD OF TUBE BUTYL SEALANT AROUND THE BASE FLANGE OF BOOT. SECURE TO PANEL WITH 1/4-14 X 7/8" LAPTEK ZAC FASTENERS 2" O.C.

3.) DEKTITE BOOT MUST FIT IN PAN OF PANEL.DO NOT FASTEN TO STANDING SEAMS.

INSTALLER NOTE:
2" (MIN.) CLEARANCE BETWEEN PANEL SEAMS AND DEKTITE TO ALLOW FOR WATER,SNOW,ETC TO PASS BY.



TYPICAL PIPE PENETRATION DETAIL NOTES:

1.) OVER CUT HOLE IN PANEL TP ALLOW FOR THERMAL MOVEMENT OF PANELS.

2.) DEKTITE BASE MUST FIT IN FLAT OF PANEL.

3.) INSTALL METHOD SAME AS CURB DETAILS.

10 / D3 TYPICAL PIPE PENETRATION DETAIL

TRIM TO BE FABRICATED FROM FLAT SHEETS BY ROOFING CONTRACTOR (NOT BY MCELROY)

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MCELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME:
PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

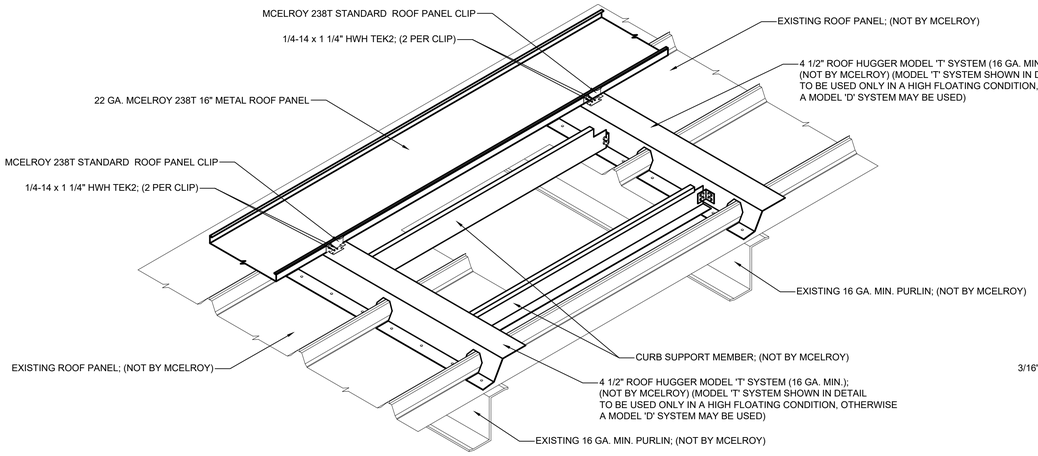
LOCATION:
PALACIOS, TX

CUSTOMER:

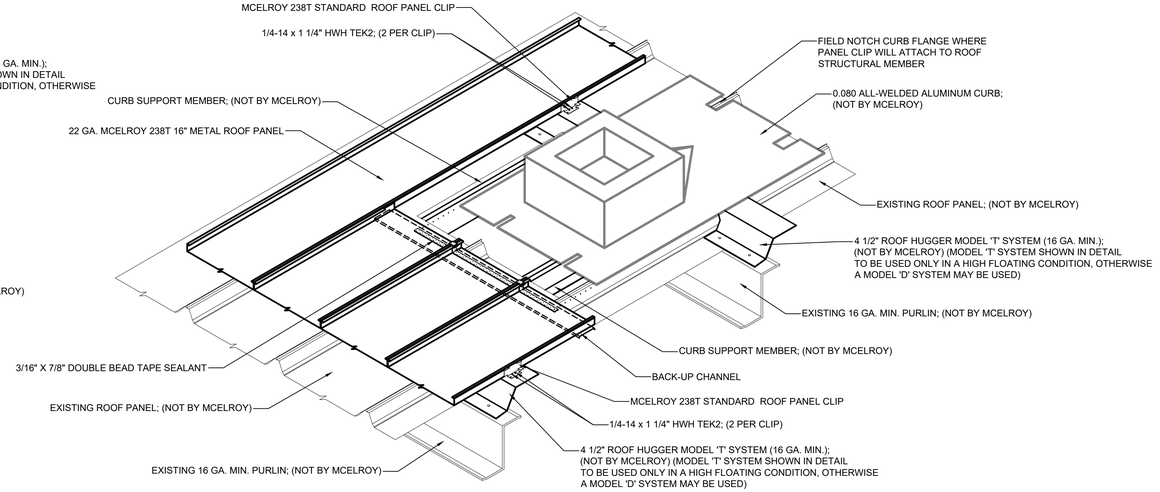
FOR CONSTRUCTION

233638-1

D3



STEP #1



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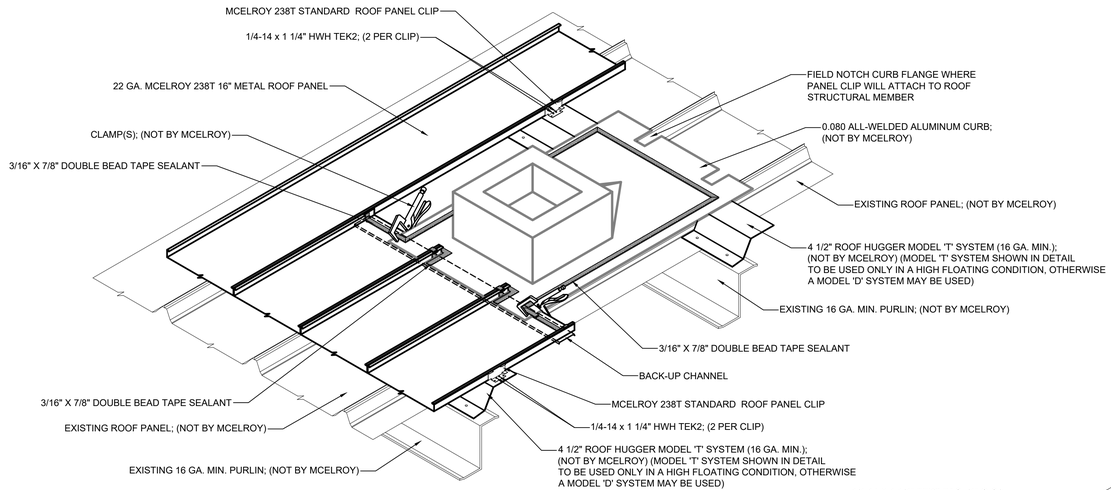

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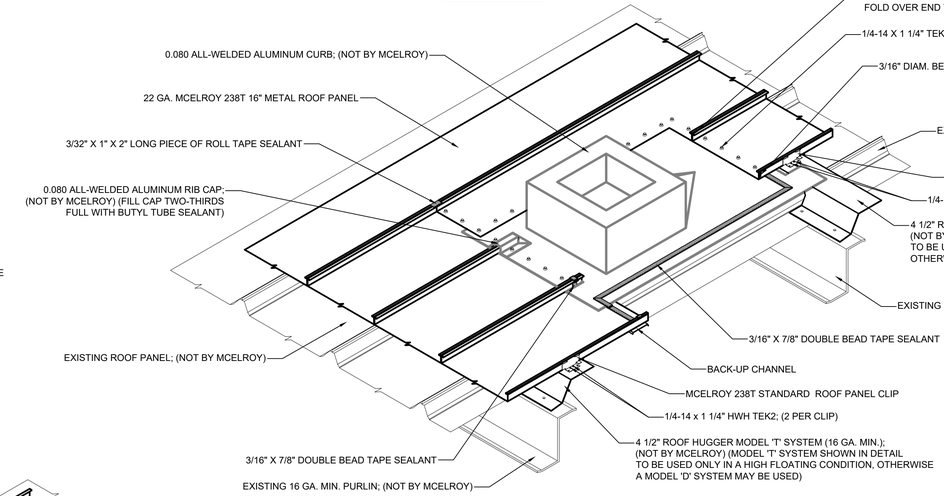

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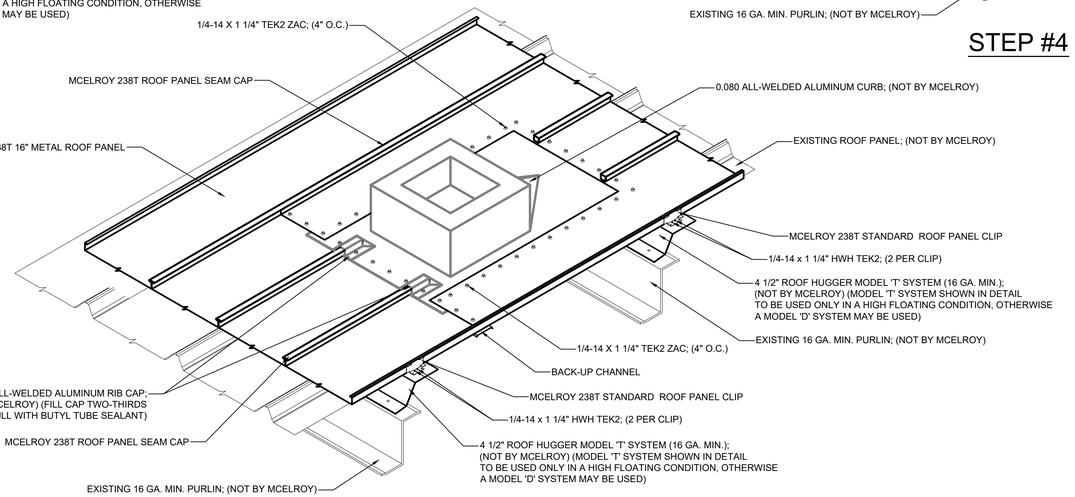


STEP #5

NOTE:
FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

11
D4

TYPICAL ROOF CURB INSTALLATION DETAIL (STEPS 1 THRU 5)

(FINE ARTS BLDG.)

PHASE	DESCRIPTION	DFTR	CHKR	ENG	DATE
A	DRAWINGS FOR APPROVAL 'A'	MS	-	ZIB	09/21/23
0	DRAWINGS FOR CONSTRUCTION '0'	MS	-	ZIB	11/20/23
B	DRAWINGS FOR APPROVAL 'B'	MS	-	ZIB	04/08/24
1	DRAWINGS FOR CONSTRUCTION '1'	MS	-	ZIB	04/11/24

MCELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA 71111
(318) 747-8000

PROJECT NAME:
PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)

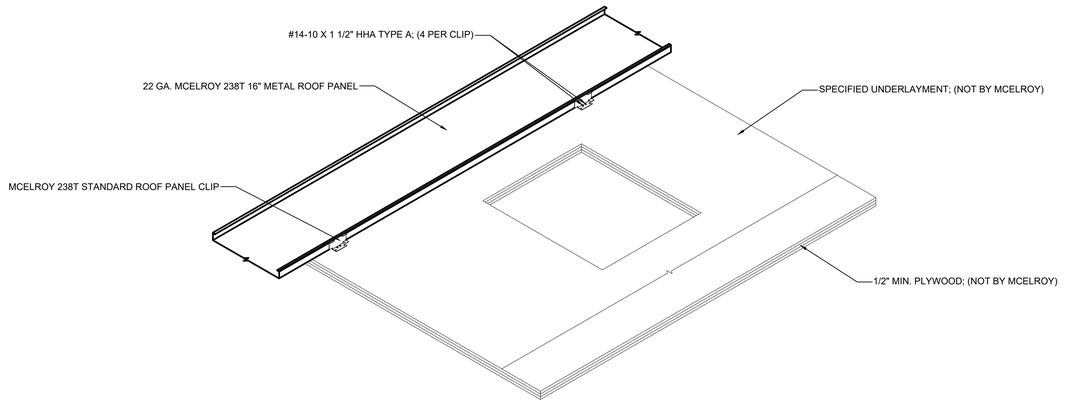
LOCATION:
PALACIOS, TX

CUSTOMER:

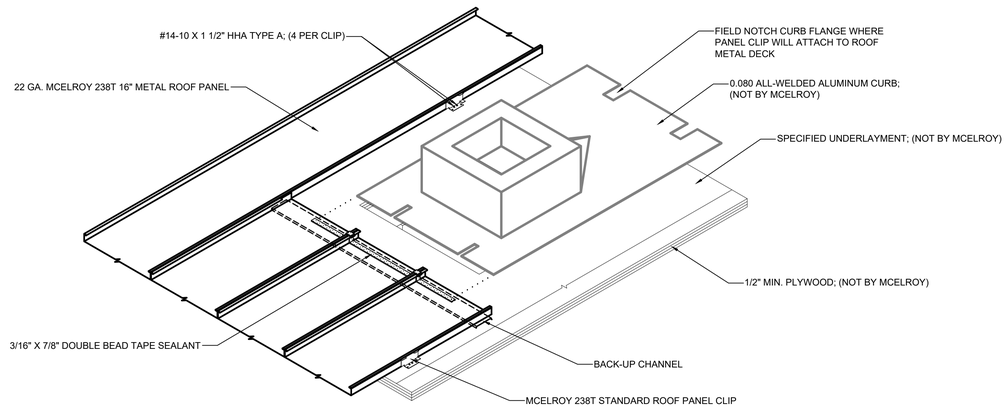
FOR CONSTRUCTION

233638-1

D4



STEP #1



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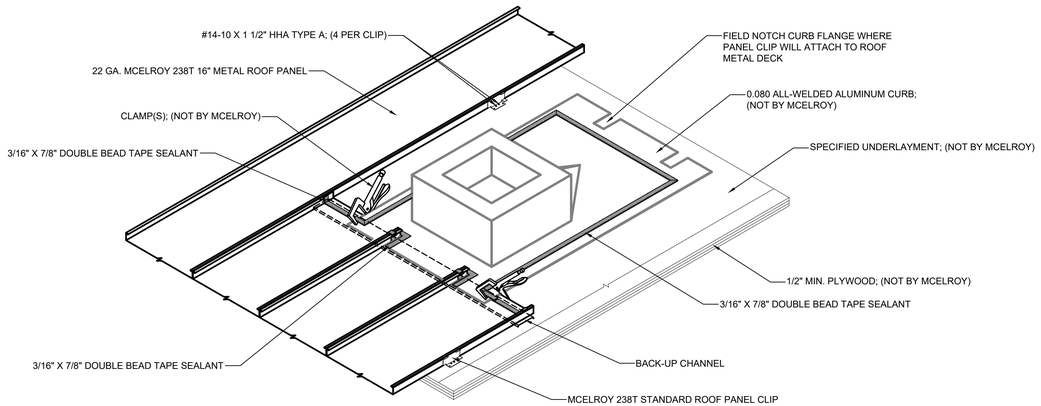
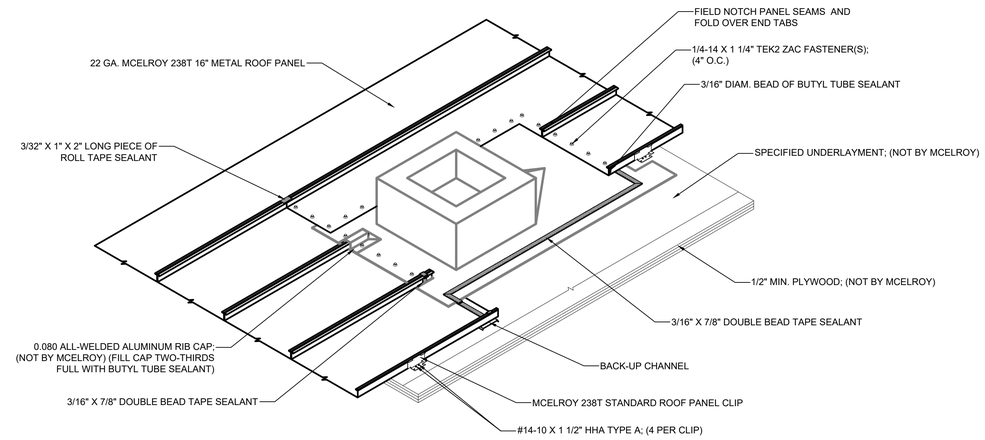
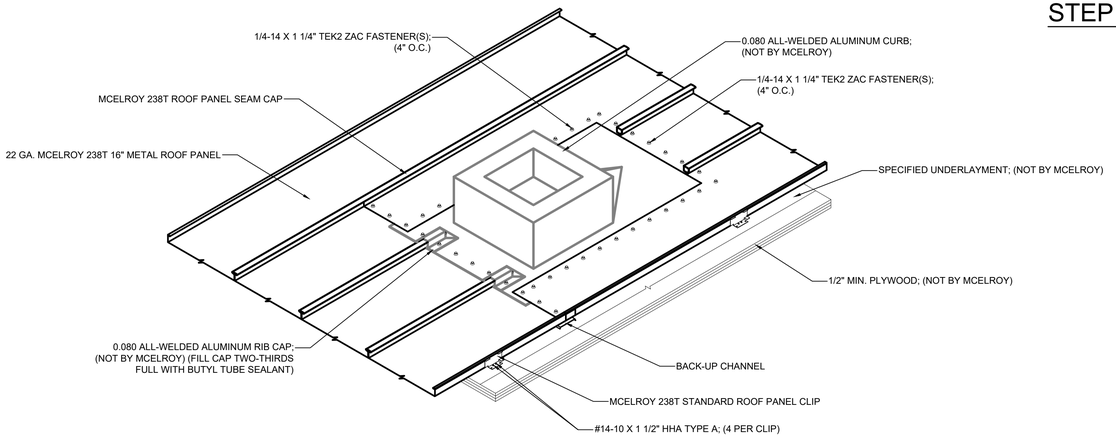


STEP #3



STEP #4



STEP #5

NOTE:
FOR WEATHERTIGHTNESS WARRANTIES, AN ALL WELDED ALUMINUM OR STAINLESS STEEL ROOF CURB IS REQUIRED. PLEASE CONTACT MCELROY METAL FOR REQUIRED SPECIFICATIONS ON ROOF CURBS.

12 / D5 TYPICAL ROOF CURB INSTALLATION DETAIL (STEPS 1 THRU 5)

(FOOTBALL BUILDINGS)

PHASE	DESCRIPTION	DFTR.	CHKR.	ENG.	DATE
A	DRAWINGS FOR APPROVAL 'A'	MS	-	ZIB	09/21/23
0	DRAWINGS FOR CONSTRUCTION '0'	MS	-	ZIB	11/20/23
B	DRAWINGS FOR APPROVAL 'B'	MS	-	ZIB	04/08/24
1	DRAWINGS FOR CONSTRUCTION '1'	MS	-	ZIB	04/11/24

McELROY METAL
1500 HAMILTON ROAD - BOSSIER CITY, LA. 71111
(318) 747-8000

PROJECT NAME: PALACIOS ISD (FINE ARTS & FOOTBALL BLDGS.)
LOCATION: PALACIOS, TX
CUSTOMER:

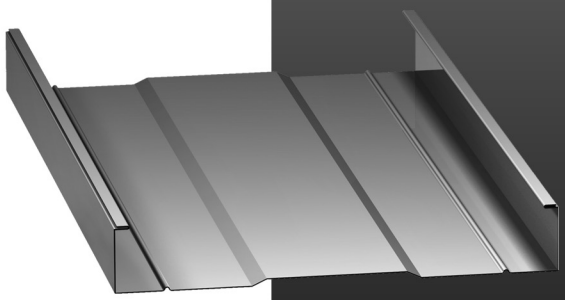
FOR CONSTRUCTION

233638-1

D5

238T

INSTALLATION



McELROY METAL

TABLE OF CONTENTS

GENERAL NOTES

The details shown on the following pages are suggestions or guidelines for installing the 238T roof panel 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. In addition, other details may be perfectly acceptable for use. Please contact McElroy Metal for assistance in determining if a detail is acceptable.

Installation procedures shall be in accordance with the manufacturer's printed instructions, details or approved shop drawings. Installers should thoroughly familiarize themselves with all instructions prior to beginning the installation process.

The designer/installer is responsible to ensure the following:

That the details here meet the particular building requirements.

Awareness of and allowance for expansion/contraction of the 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.

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

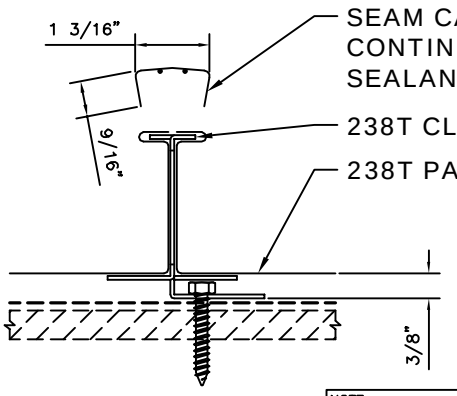
Some field cutting and fitting of panels and flashings is to be expected and to be considered a part of normal installation work. Workmanship shall be of the best industry standards and with installation performed by experienced metal craftsmen.

Oil canning of metal panels is inherent in the product and is not a cause for rejection. Plank or Striated panels are recommended as to reduce the appearance of oil canning.

Contents of this manual are subject to change without notice. To confirm this book is the most current copy, please visit McElroy Metal's website at www.mcelroymetal.com.

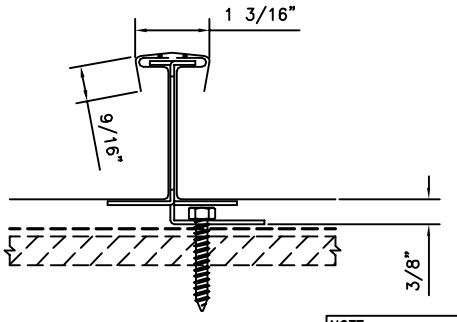
Optional details can also be found on our website.

GENERAL INFORMATION



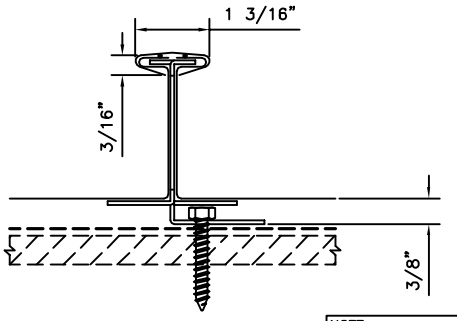
SEAM ENGAGEMENT

NOTE:
ALL DIMENSIONS ARE APPROXIMATE. SLIGHT DIFFERENCES IN THE FIELD ARE ACCEPTABLE.



BEFORE SEAMING

NOTE:
ALL DIMENSIONS ARE APPROXIMATE. SLIGHT DIFFERENCES IN THE FIELD ARE ACCEPTABLE.



AFTER SEAMING

NOTE:
ALL DIMENSIONS ARE APPROXIMATE. SLIGHT DIFFERENCES IN THE FIELD ARE ACCEPTABLE.

NOTE:
Mechanical seamers and hand seamers are available for rental through McElroy's approved seamer supplier at the following website.
Go to: http://www.mcelroyseamers.com

!!!ATTENTION!!!
If a panel or seam becomes damaged, the installer can rent a "de-seamer" through the same website listed above.

ATTENTION

READ THE SEAMER INFORMATION THOROUGHLY BEFORE STARTING THE SEAMING OPERATION. FAILURE TO ADHERE TO THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND DAMAGE TO THE SEAMER AND/OR PANELS. THE ERECTOR WILL BE HELD LIABLE FOR ANY COSTS INCURRED FOR REPLACEMENT OR REPAIR.

PRE-SEAMING INFORMATION

1. Locate seamer box. Check to make sure you received an electric seamer, parts box, return shipping label and an information booklet. If not, please call our Technical Services Department. (Hand Seamers must be rented.)
2. Locate power source and check against power requirements in the information booklet.
3. Check seams for proper engagement.
4. Clean dirt, debris and excess sealant from seams and panel surfaces to avoid interfering with the seaming operation.

HAND SEAMING OPERATION

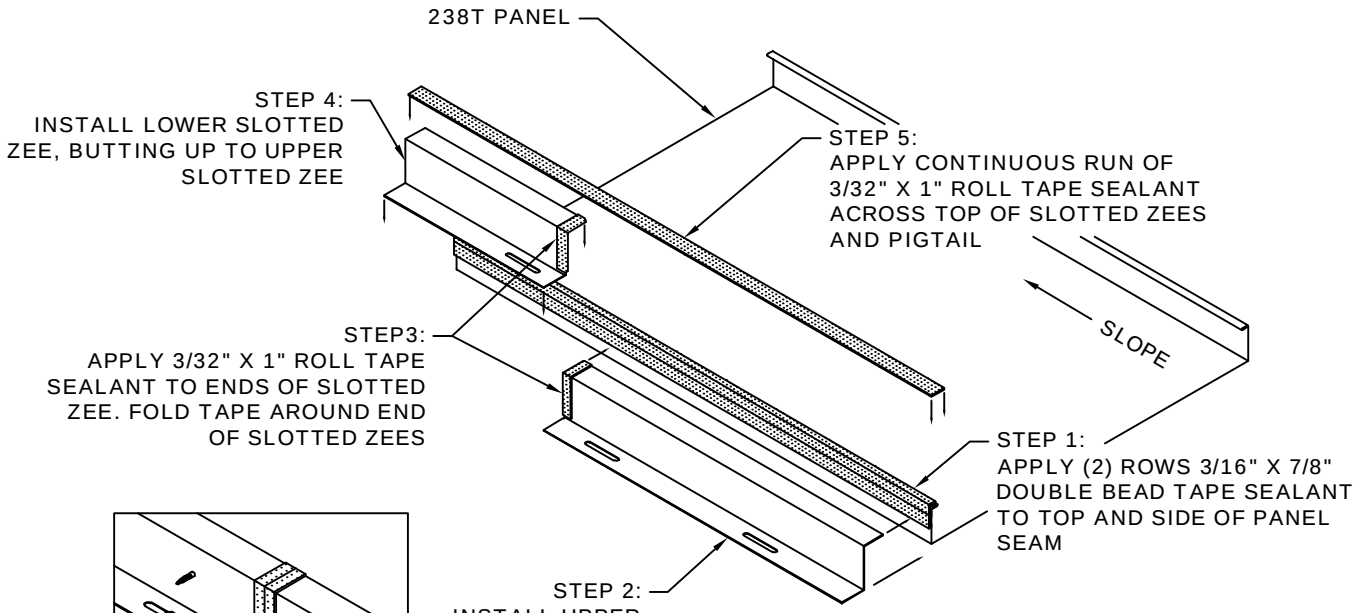
!!!ATTENTION!!!

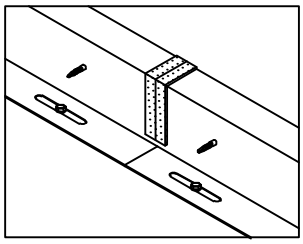
It is critical that the panel seams are crimped and folded before using the electric seamer. Failure to follow these guidelines will result in damaged seams.

To begin seaming, set the hand seamer on the seam. Align the edge of the hand seamer about one to two inches pass the edge of the panel. Crimp the panel 3 to 4 times along the seam for a total of 12" at the eave and 5 or 6 times along the seam for a total of 18" at the ridge and then at every clip.

CAUTION: The use of any seaming machine or tools other than that recommended by the manufacturer, may damage the panels, void all warranties and will void all engineering data.

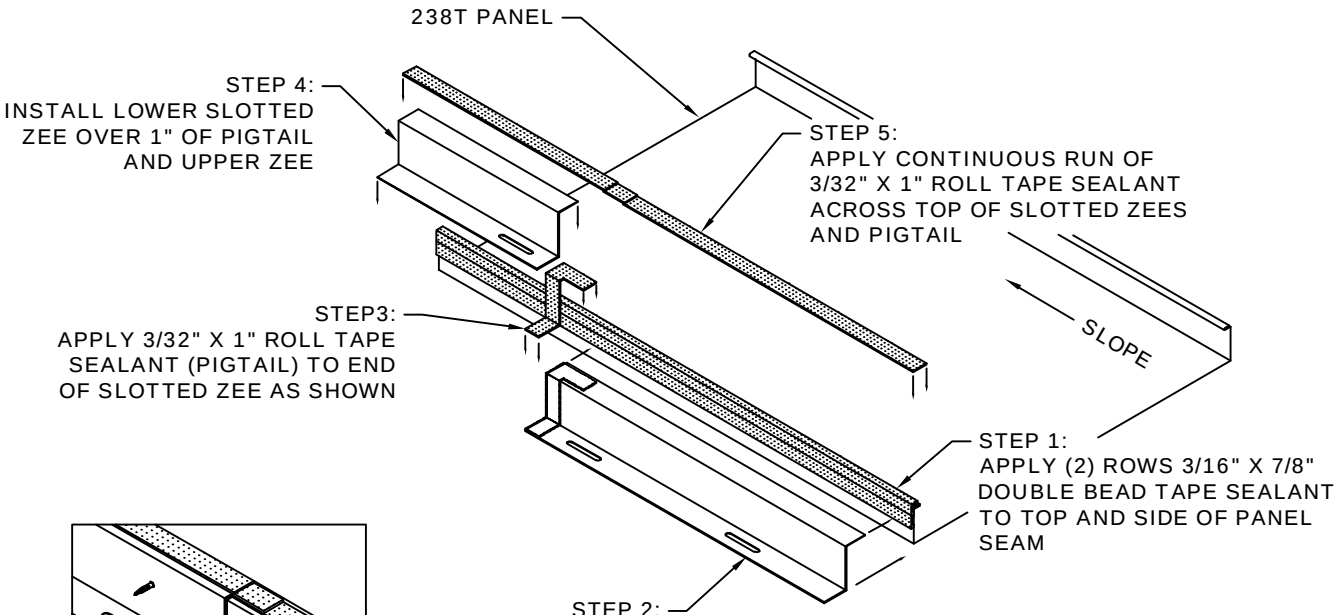
238T 16GA SLOTTED RAKE ZEE INSTALLATION

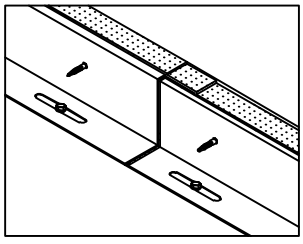




ASSEMBLY

BUTT JOINT METHOD



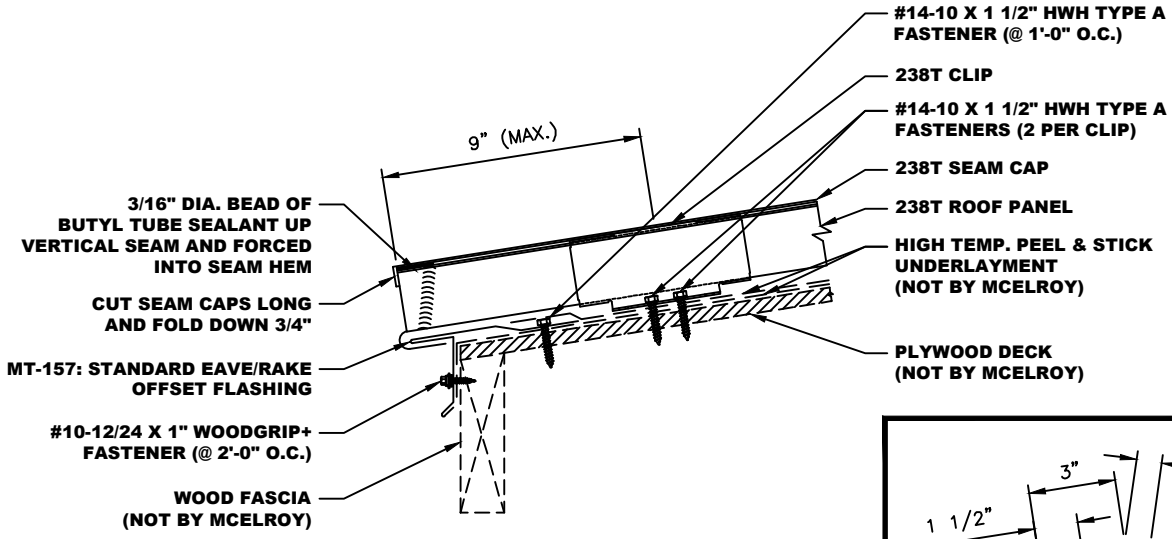


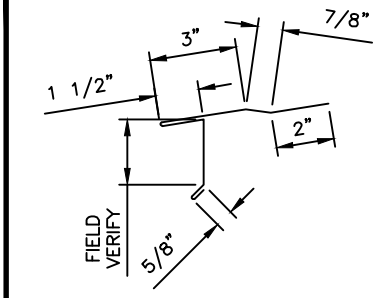
ASSEMBLY

LAPPING METHOD

238T

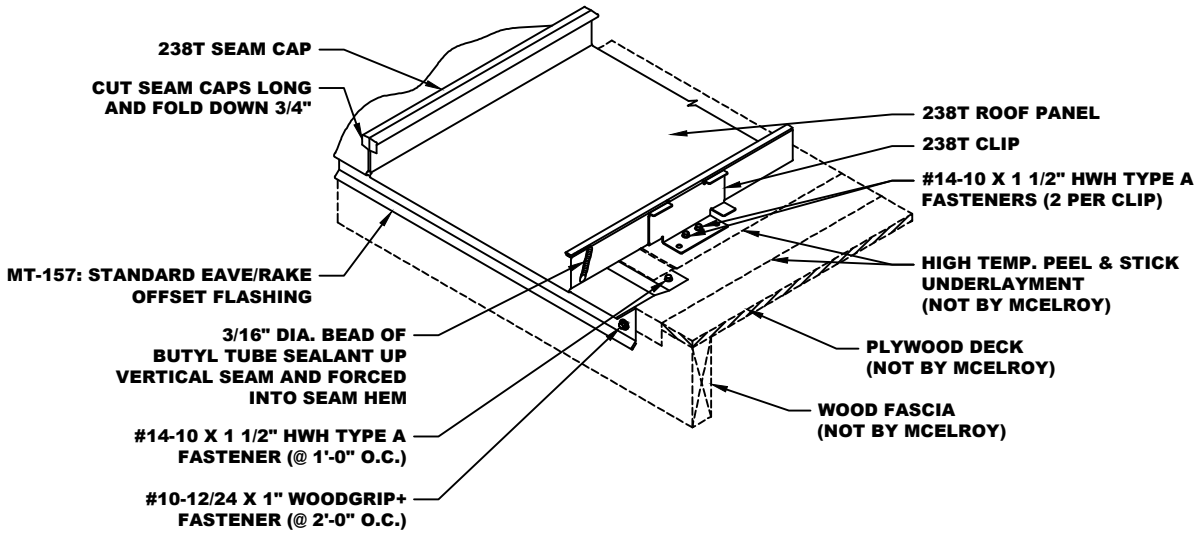
EAVE DRIP DETAIL





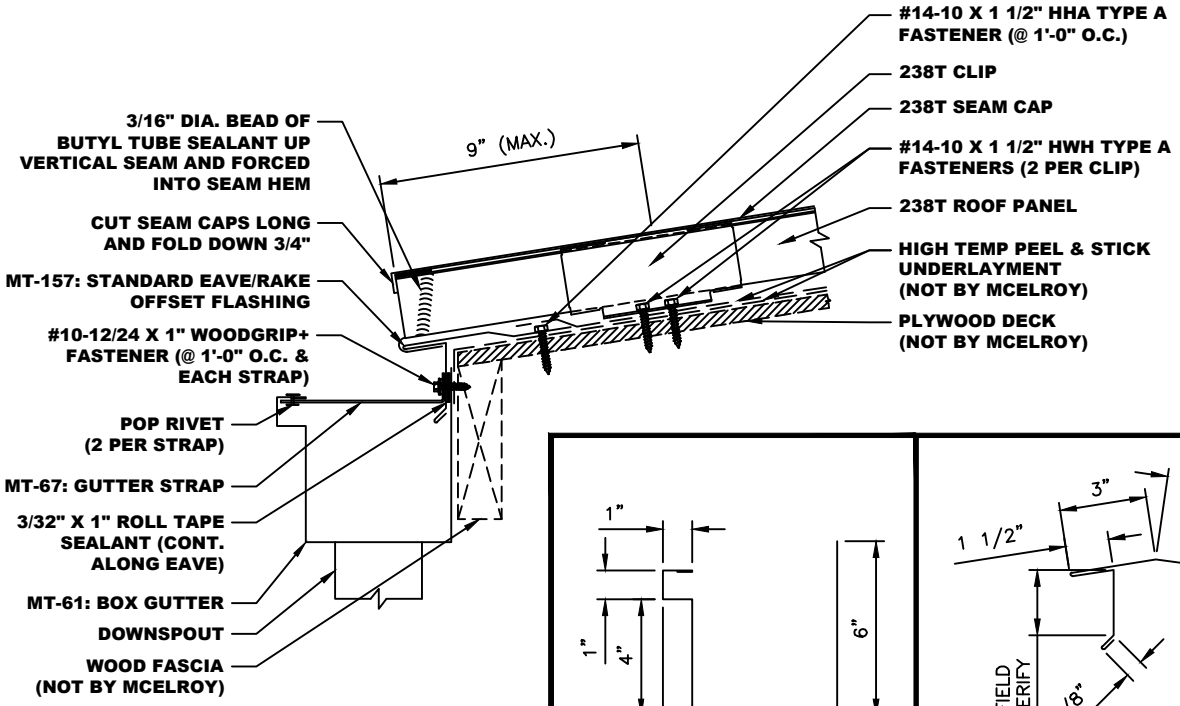
MT-157: STANDARD EAVE/RAKE OFFSET FLASHING

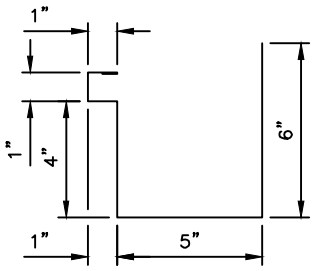
NOTES:
1. **MT-157 (Standard Eave/Rake Offset Flashing) to run from out of wall to out of wall.**
2. **Attach MT-157 (Standard Eave/Rake Offset Flashing) to decking with #14-10 x 1 1/2" HWH Type A Fastener @ 1'-0" O.C.**
3. **Attach MT-157 (Standard Eave/Rake Offset Flashing) to the Wood Fascia with #10-12/24 x 1" Woodgrip+ Fasteners @ 2'-0" O.C.**
4. **Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps.**
5. **Place a 3/16" Dia. Bead of Butyl Tube Sealant up vertical leg of panel and force into hem of seam.**



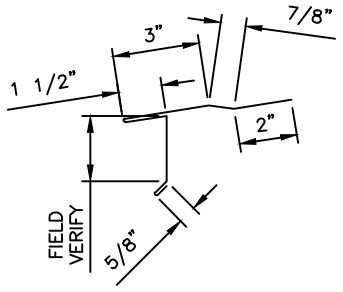
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

EAVE DRIP w/ GUTTER DETAIL



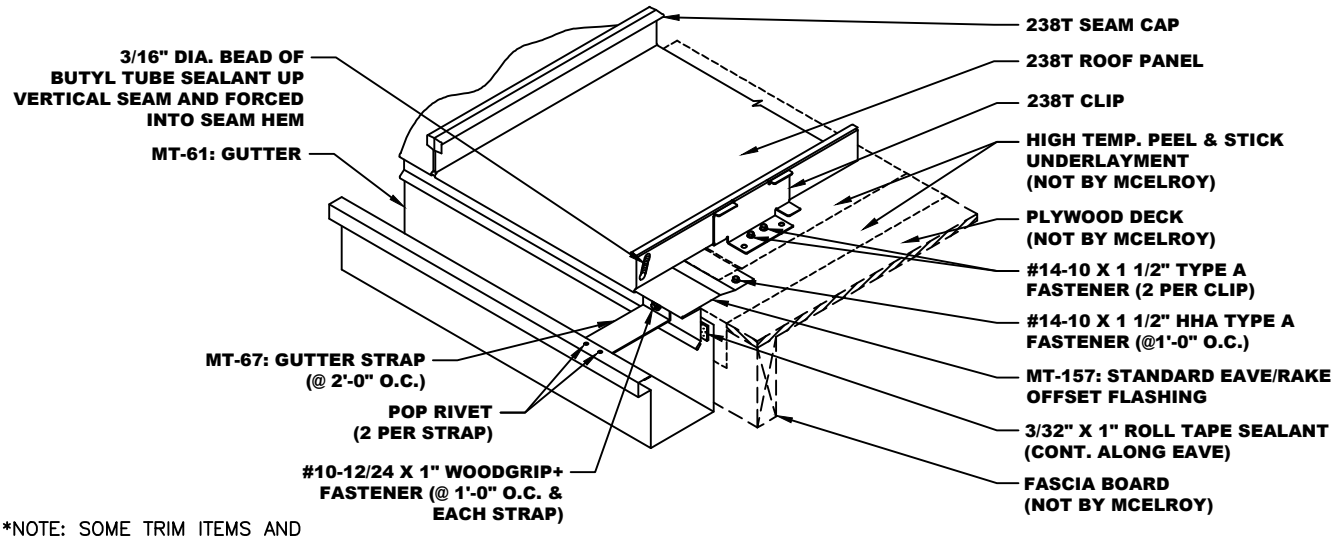


MT-61: GUTTER



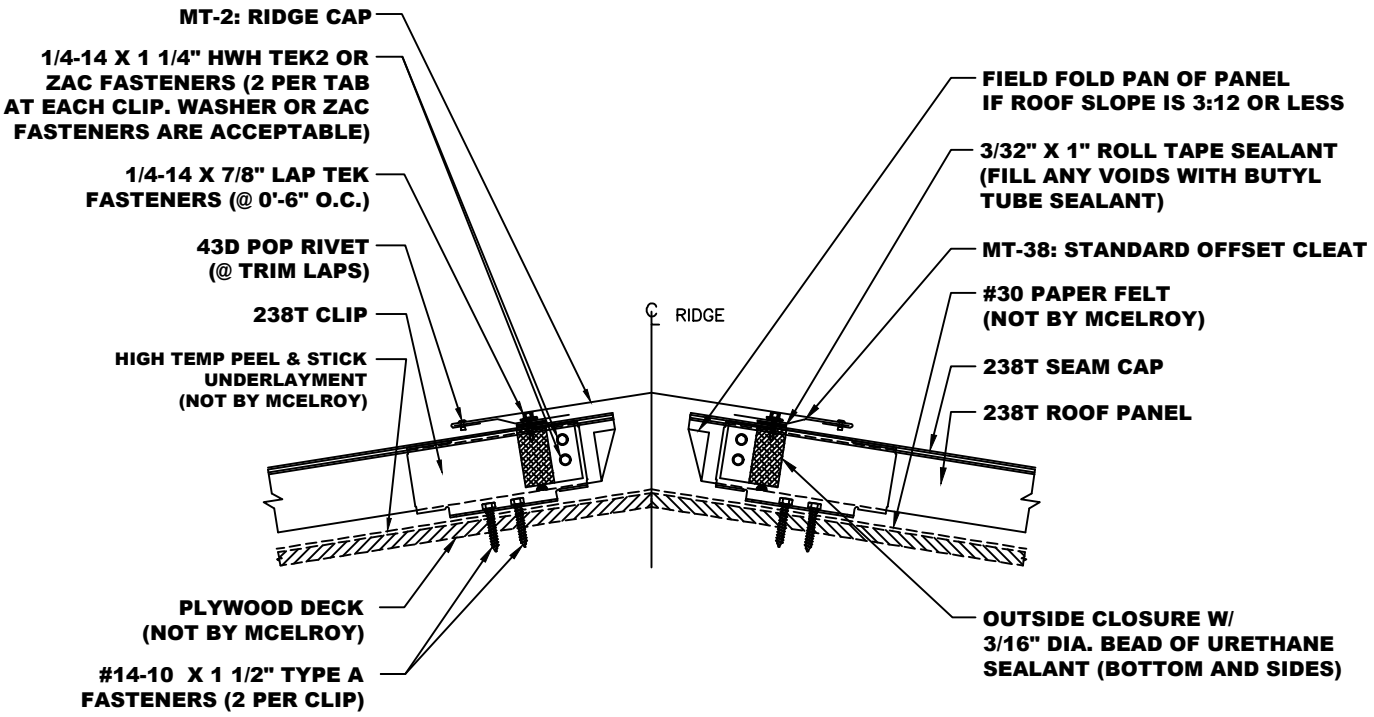
MT-157: STANDARD EAVE/RAKE OFFSET FLASHING

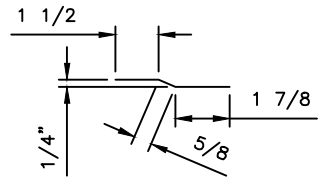
NOTES:
1. **MT-157 (Standard Eave/Rake Offset Flashing) and MT-61 (Box Gutter) to run from out of wall to out of wall.**
2. **Apply a continuous bead of 3/32" x 1" Roll Tape Sealant to the inside vertical leg of the MT-61 (Gutter). Attach MT-67 (Gutter Straps) to Gutter with (2) Pop Rivets as shown in detail.**
3. **Attach MT-157 (Standard Eave/Rake Offset Flashing) to decking with #14-10 x 1 1/2" HWH Type A Fastener @ 1'-0" O.C. Slide vertical leg of Gutter behind MT-157 (Standard Offset Eave Flashing) and fasten through MT-67 (Gutter Strap), MT-157 (Standard Eave/Rake Offset Flashing), Tape Sealant and Gutter with #10-12/24 x 1" Woodgrip+ Fastener into Fascia Board at 1'-0" O.C. and at each Gutter Strap.**
4. **Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps.**
5. **Place a 3/16" Dia. Bead of Butyl Tube Sealant up vertical leg of panel and force into hem of seam.**



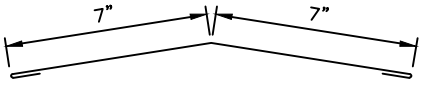
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

FIXED RIDGE DETAIL





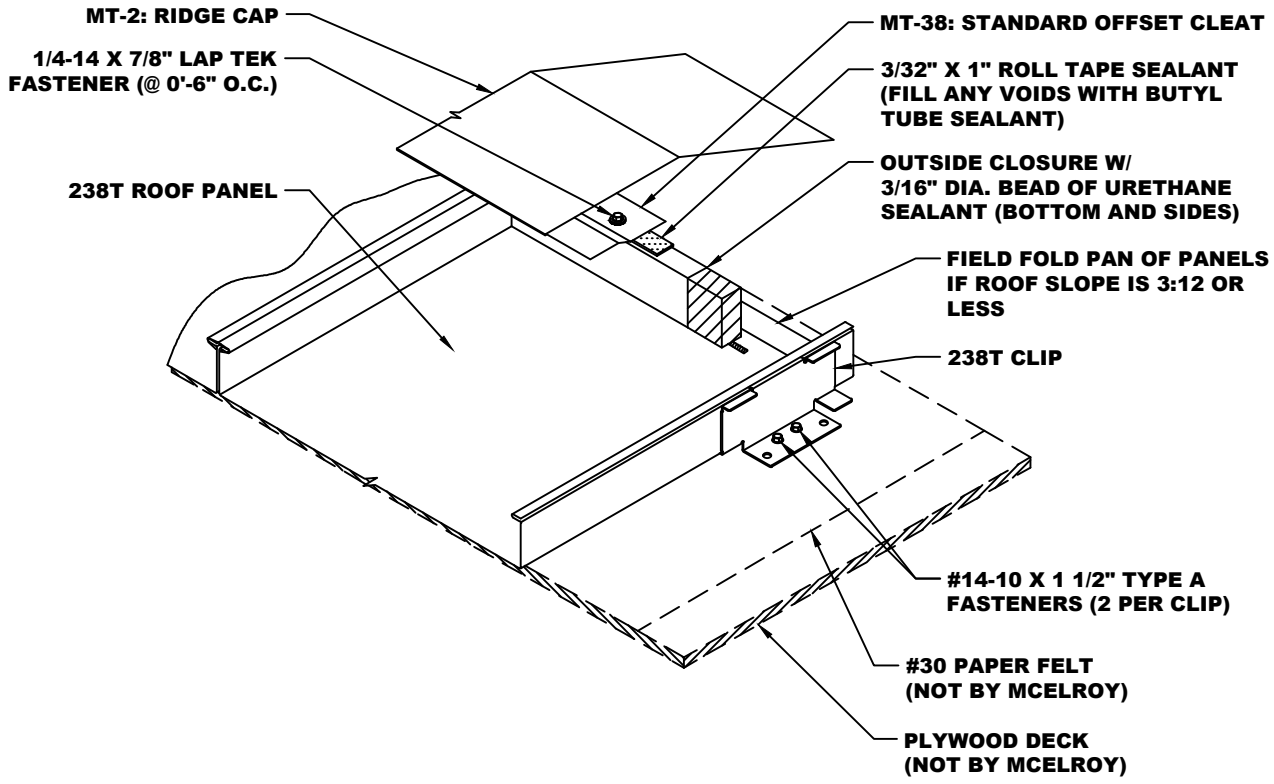
MT-38: STANDARD OFFSET CLEAT



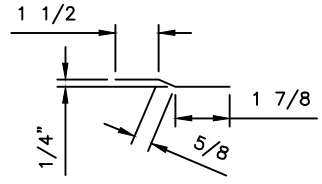
MT-2: RIDGE CAP

NOTES:
1. MT-2 (Ridge Cap) and MT-38 (Standard Offset Cleat) to run from out of wall to out of wall.
2. Using a panning tool, fold up the pan of the panel at the ridge if roof slope is 3:12 or less.
3. Install 238T panels and apply a 3/16" Dia. bead of Urethane Tube Sealant in the pan of the panel and up the the vertical legs where the foam closure will be placed.
4. Install Metal Closure Cover over the Foam Closure and secure to panel with (2) 1/4-14 x 1 1/14" HWH Tek2 or ZAC Fasteners, making sure to fasten through the clip to provide fixed point.
5. MT-2 (Ridge Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-38 (Standard Offset Cleat with Pop Rivets at Laps.

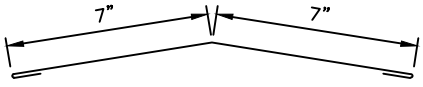
FIXED RIDGE DETAIL



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



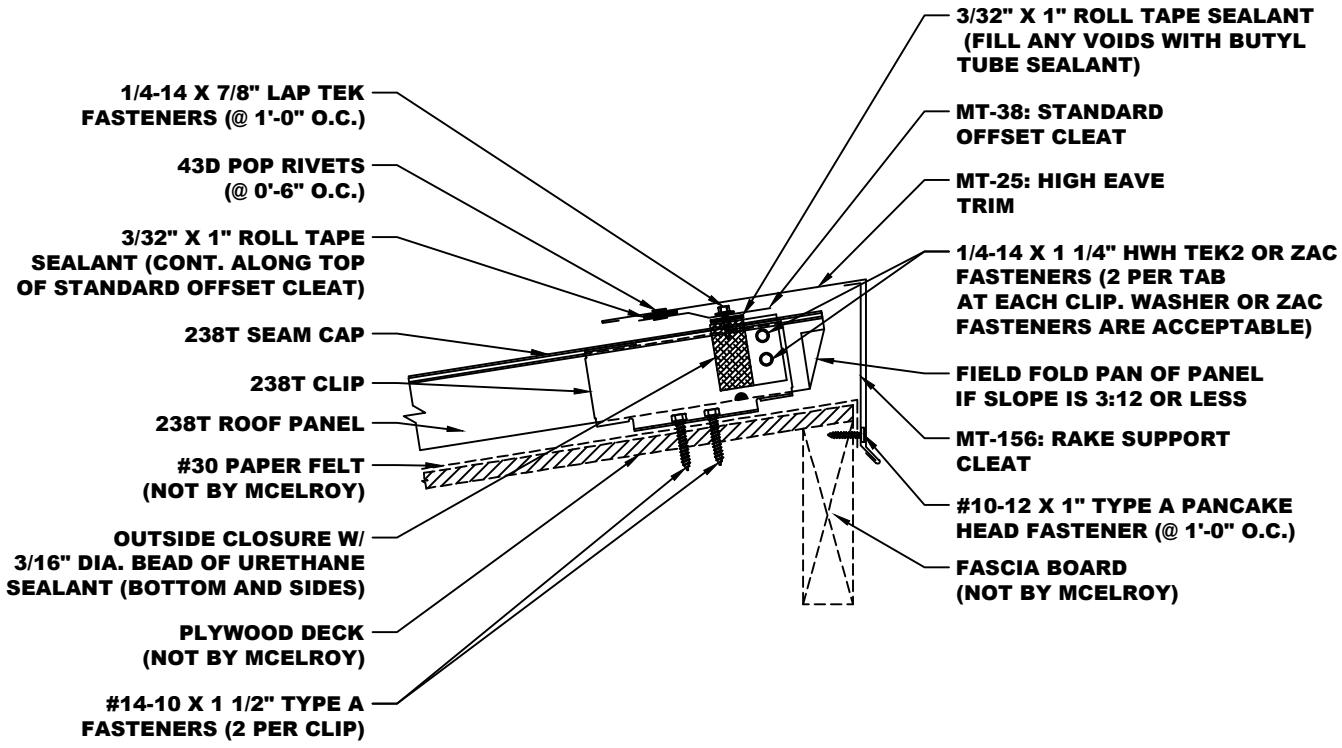
MT-38: STANDARD OFFSET CLEAT

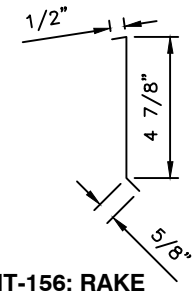


MT-2: RIDGE CAP

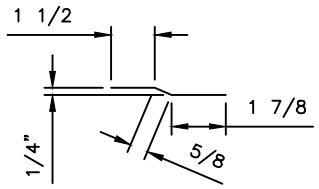
NOTES:
1. **MT-2 (Ridge Cap) and MT-38 (Standard Offset Cleat) to run from out of wall to out of wall.**
2. **Using a panning tool, fold up the pan of the panel at the ridge.**
3. **Install 238T panels and apply a 3/16" Dia. bead of Urethane Tube Sealant in the pan of the panel and up the the vertical legs where the foam closure will be placed.**
4. **Install Metal Closure Cover over the Foam Closure and secure to panel with (2) 1/4-14 x 1 1/14" HWH Tek2 or ZAC Fasteners, making sure to fasten through the clip to provide fixed point.**
5. **MT-2 (Ridge Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-38 (Standard Offset Cleat with Pop Rivets at Laps.**

FIXED HIGH EAVE DETAIL

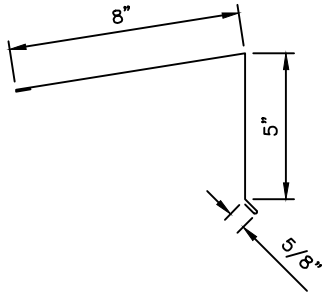




MT-156: RAKE SUPPORT CLEAT



MT-38: STANDARD OFFSET CLEAT



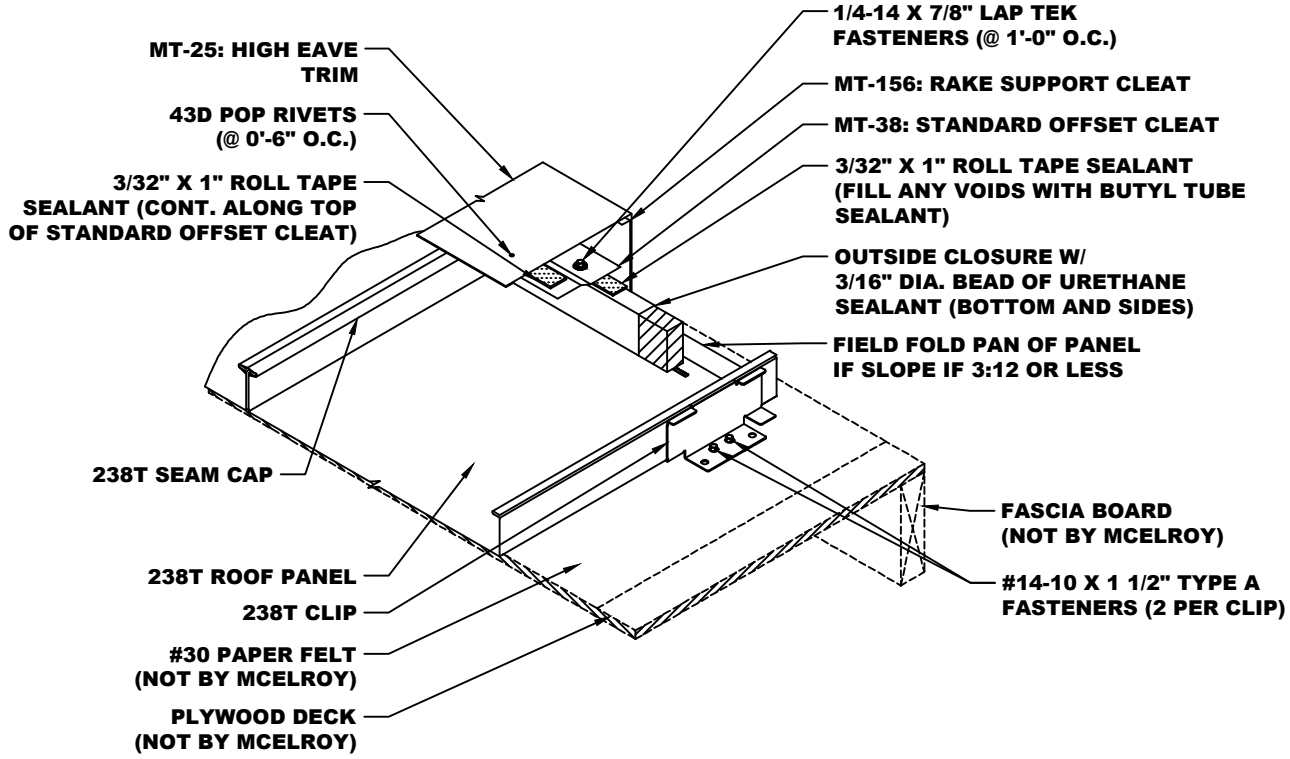
MT-25: HIGH EAVE TRIM

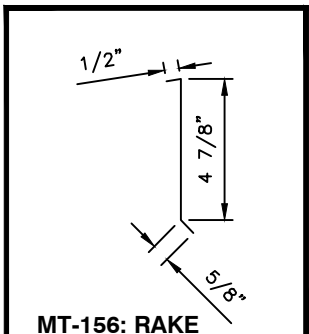
NOTES:

1. MT-25 (High Eave Trim), MT-156 (Rake Support Cleat) and MT-38 (Standard Offset Cleat) to run from out to out of building.
2. Attach MT-156 (Rake Support Cleat) to fascia board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.
3. Apply a 3/16" Dia. bead of Urethane Sealant to the pan and up the vertical legs of the panel where the Foam Outside Closure will be placed. Install Metal Closure Cover over Foam Outside Closure and attach to panels and clip with (2) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fasteners to provide a fixed point. Attach 1/4" Offset Cleat to Outside Closures with 1/4-14 x 7/8" Lap Tek fasteners at 1'-0" O.C.
4. Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the MT-38 (Standard Offset Cleat).
5. High Eave Trim to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet flashing. Offset Cleat will butt joint.

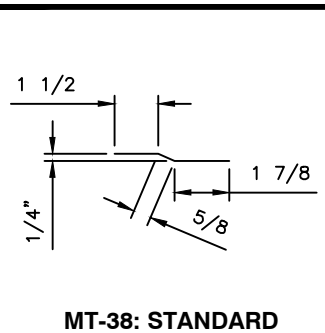
FIXED HIGH EAVE DETAIL

*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

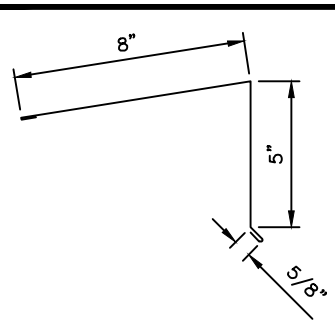




MT-156: RAKE SUPPORT CLEAT



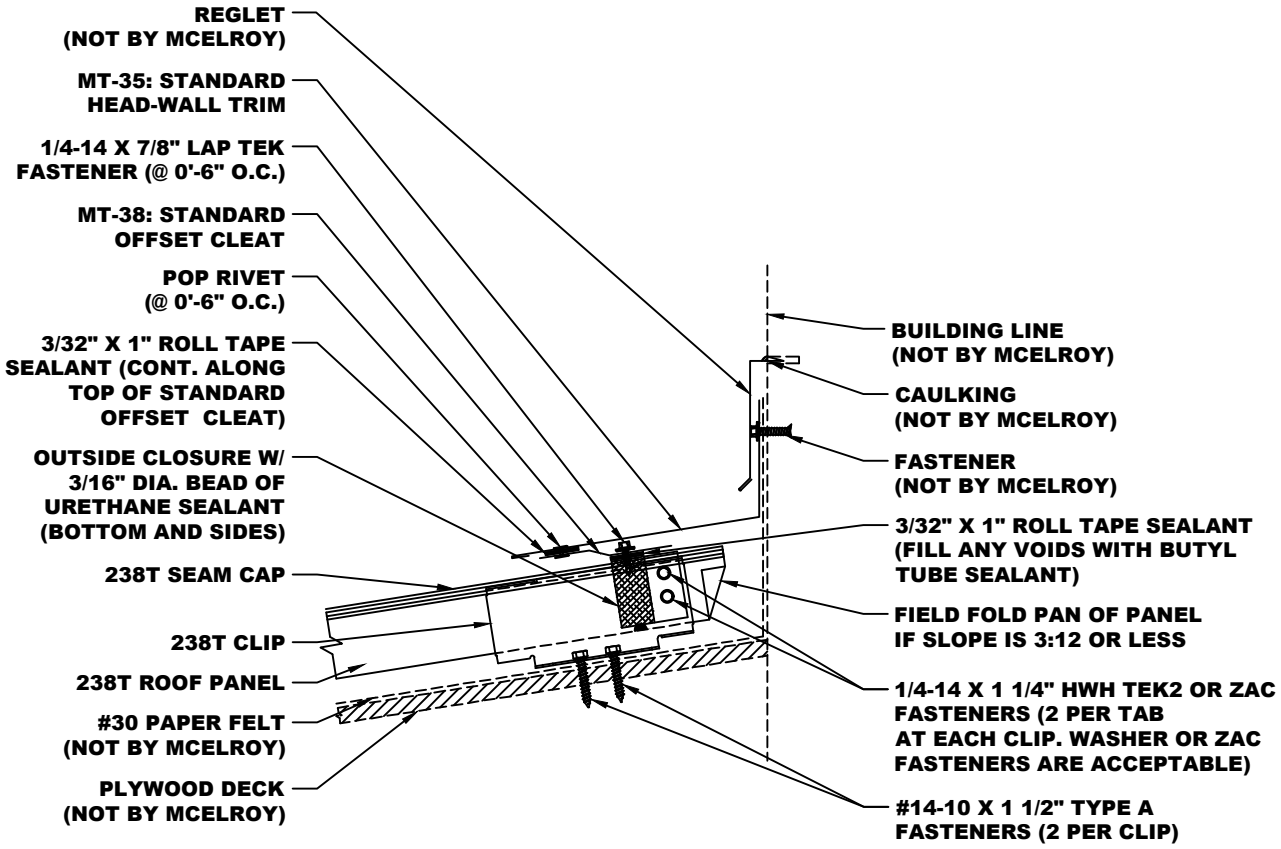
MT-38: STANDARD OFFSET CLEAT

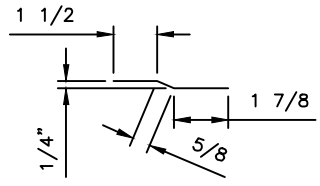


MT-25: HIGH EAVE TRIM

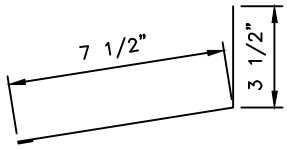
NOTES:
1. **MT-25 (High Eave Trim), MT-156 (Rake Support Cleat) and MT-38 (Standard Offset Cleat) to run from out to out of building.**
2. **Attach MT-156 (Rake Support Cleat) to fascia board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.**
3. **Apply a 3/16" Dia. bead of Urethane Sealant to the pan and up the vertical legs of the panel where the Foam Outside Closure will be placed. Install Metal Closure Cover over Foam Outside Closure and attach to panels and clip with (2) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fasteners to provide a fixed point. Attach 1/4" Offset Cleat to Outside Closures with 1/4-14 x 7/8" Lap Tek fasteners at 1'-0" O.C.**
4. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the MT-38 (Standard Offset Cleat).**
5. **High Eave Flashing to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet flashing. Offset Cleat will butt joint.**

FIXED HEADWALL DETAIL





MT-38: STANDARD
OFFSET CLEAT

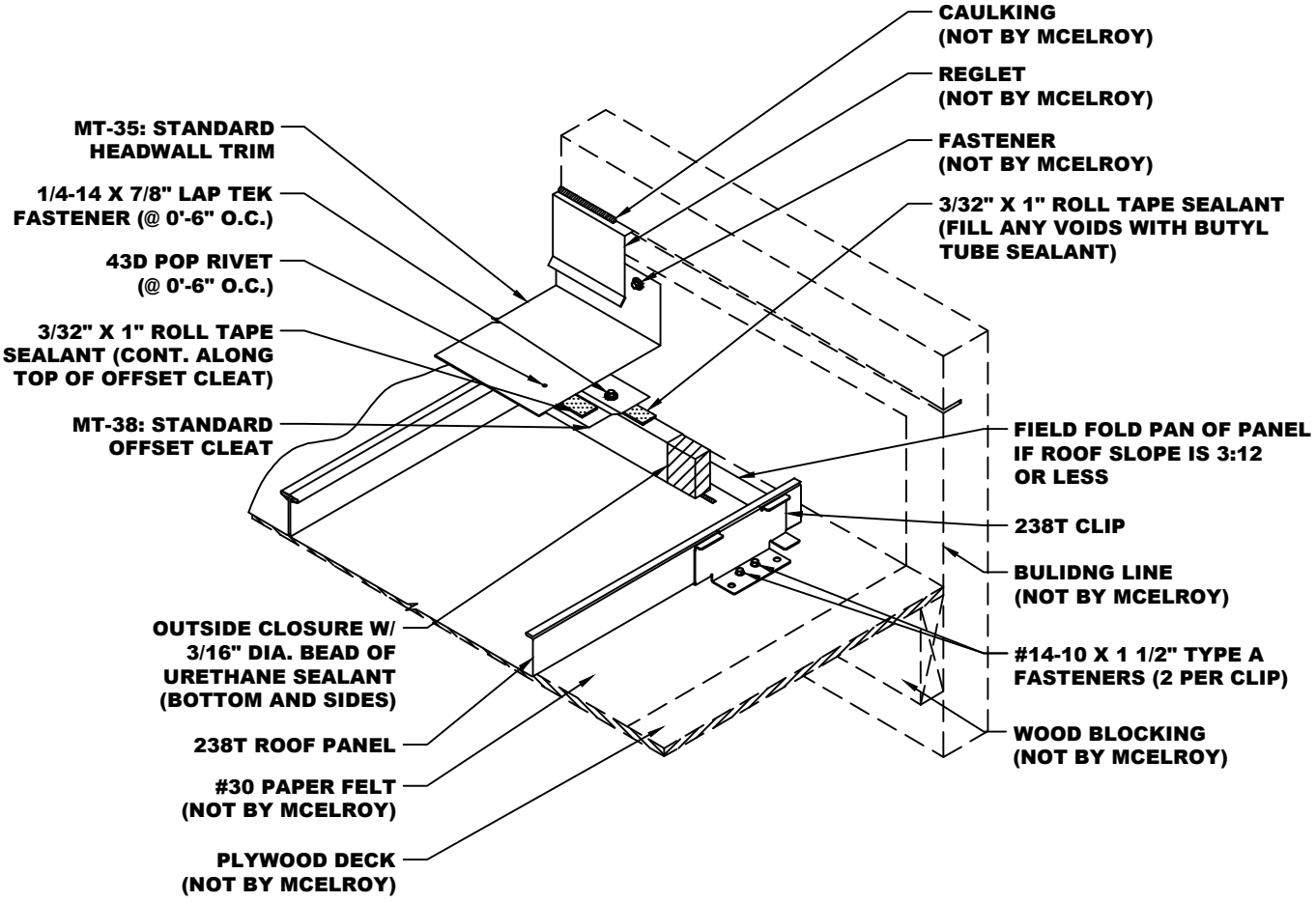


MT-35: STANDARD
HEADWALL TRIM

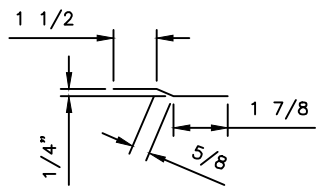
NOTES:
1. **MT-35 (Standard Headwall Trim) and MT-38 (Standard Offset Cleat) to run from out to out of building.**
2. **Apply a 3/16" Dia. bead of Urethane Sealant to the pan and up the vertical legs of the panel where the Foam Outside Closure will be placed. Install Metal Closure Cover over Foam Outside Closure and attach to panels and clip with (2) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fasteners to provide a fixed point.**
3. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the Metal Outside Closure. Attach 1/4" Offset Cleat to Outside Closure with 1/4-14 x 7/8" Lap Tek Fasteners at 0'-6" O.C.**
4. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the Offset Cleat.**
5. **MT-35 (Standard Headwall Trim) to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet flashing. MT-38 (Standard Offset Cleat) will butt joint.**

238T

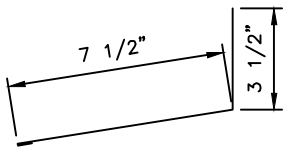
FIXED HEADWALL DETAIL



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



MT-38: STANDARD
OFFSET CLEAT

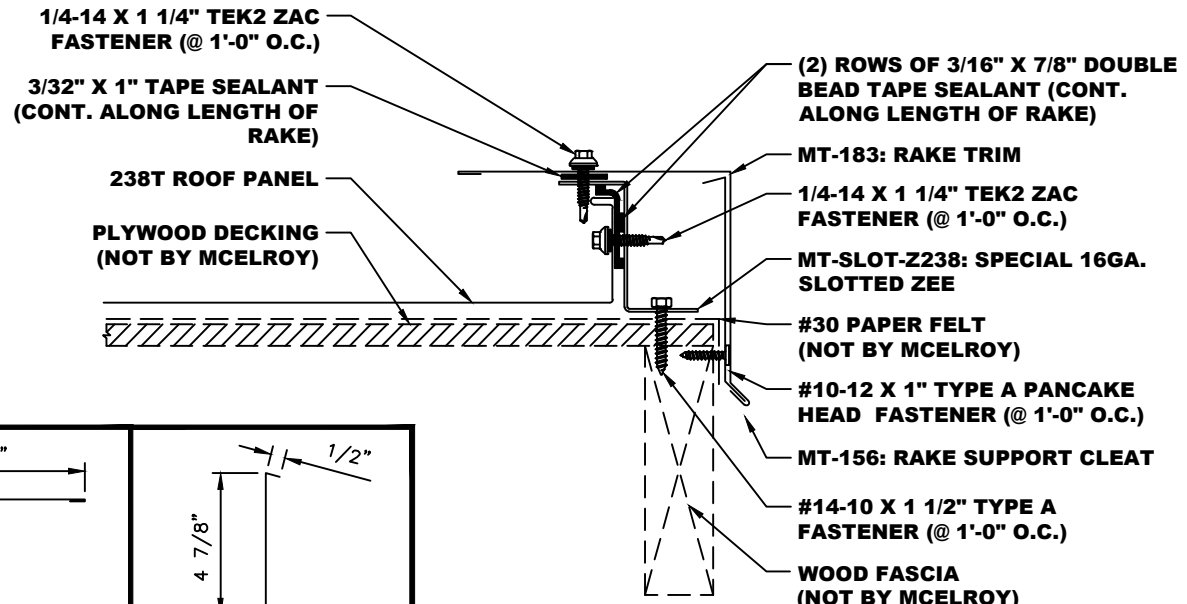


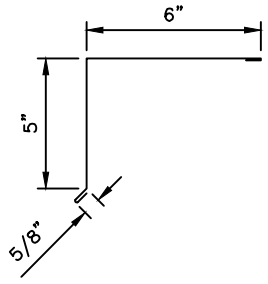
MT-35: STANDARD
HEADWALL TRIM

NOTES:
1. **MT-35 (Standard Headwall Trim) and MT-38 (Standard Offset Cleat) to run from out to out of building.**
2. **Apply a 3/16" Dia. bead of Urethane Sealant to the pan and up the vertical legs of the panel where the Foam Outside Closure will be placed. Install Metal Closure Cover over Foam Outside Closure and attach to panels and clip with (2) 1/4-14 x 1 1/4" HWH Tek2 or ZAC Fasteners to provide a fixed point.**
3. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the Metal Outside Closure. Attach 1/4" Offset Cleat to Outside Closure with 1/4-14 x 7/8" Lap Tek Fasteners at 0'-6" O.C.**
4. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant to the top flange of the Offset Cleat.**
5. **MT-35 (Standard Headwall Trim) to lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Pop Rivet flashing. MT-38 (Standard Offset Cleat) will butt joint.**

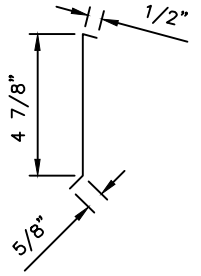
238T

FLOATING RAKE DETAIL





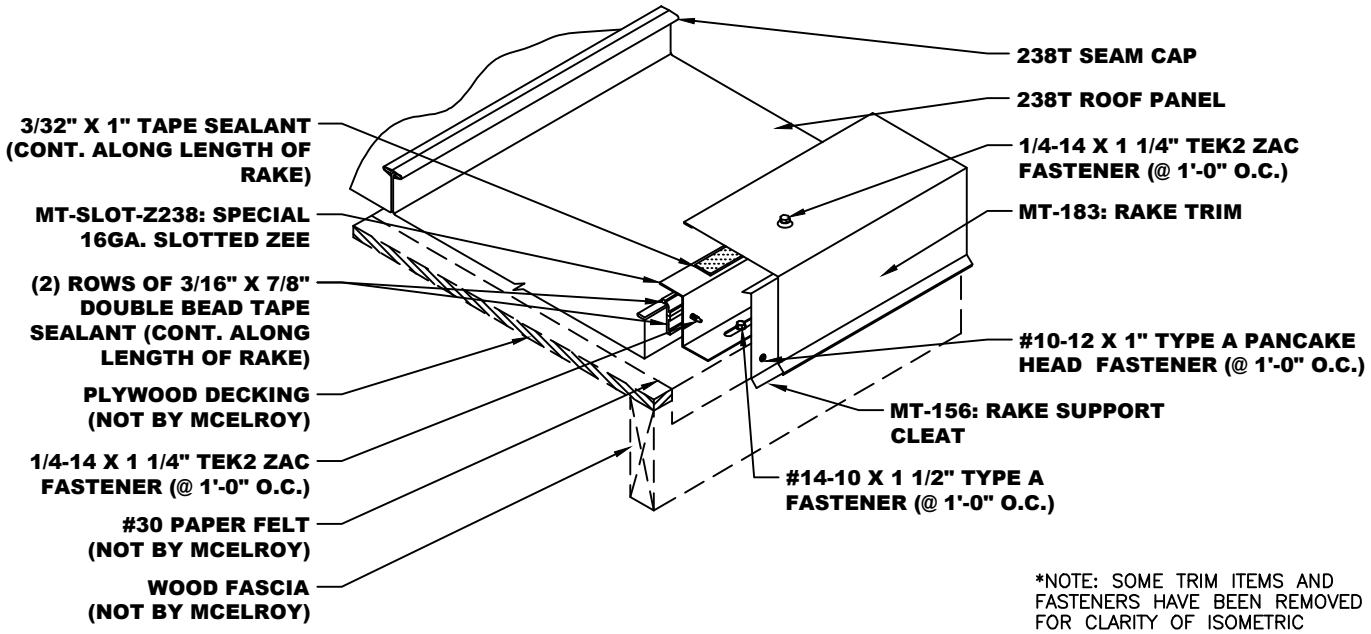
MT-183: RAKE TRIM



MT-156: RAKE SUPPORT CLEAT

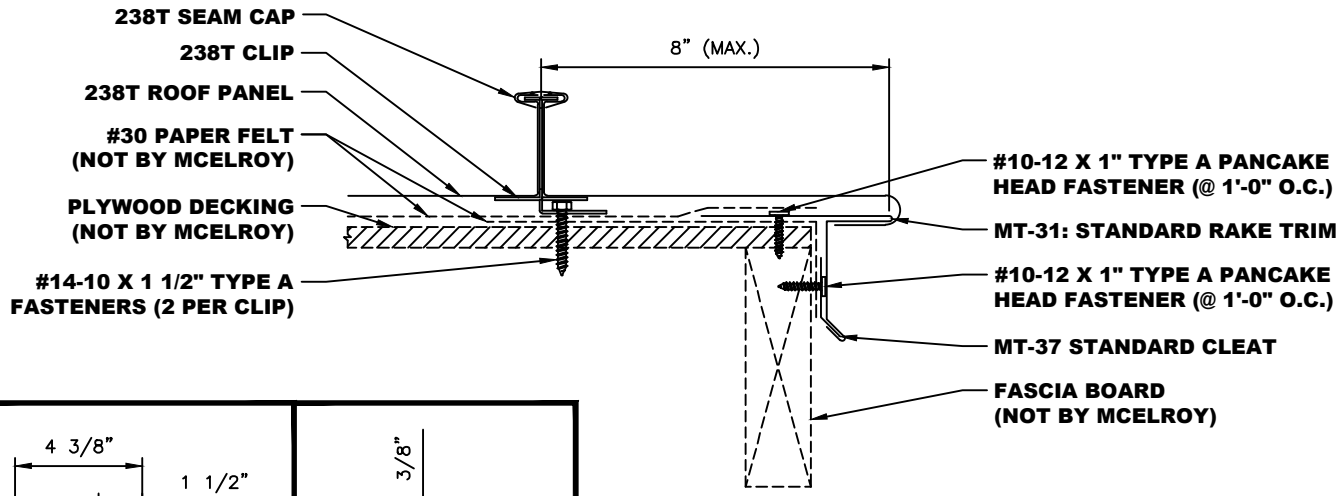
NOTES:

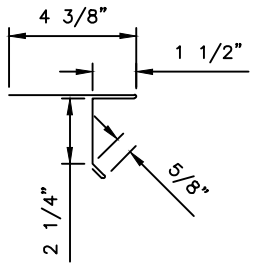
1. **MT-183 (Rake Trim), MT-156 (Rake Support Cleat) and MT-SLOT-Z238 (Special 16ga. Slotted Zee) to run from eave to ridge.**
2. **Attach MT-SLOT-Z238 (Special 16ga. Slotted Zee) to decking with #14-10 x 1 1/2" HWH Type A Fasteners at 1'-0" O.C.**
3. **Apply two (2) continuous rows of 3/16" x 7/8" Double Bead Tape Sealant to the vertical leg of the 238T panel. Install 238T panel and hold in place on the Slotted Zee with clamps. Fasten panel to Slotted Zee with 1/4-14 x 1 1/4" Tek2 ZAC Fasteners at 1'-0" O.C.**
4. **Apply a continuous bead of 3/32" x 1" Roll Tape Sealant to the top of the Slotted Zee and attach MT-183 (Rake Trim) with 1/4-14 x 1 1/4" Tek2 ZAC Fasteners at 1'-0" O.C.**
5. **Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Fasten to trims.**



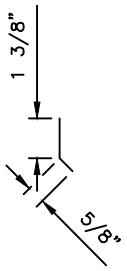
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

238T FLOATING RAKE DETAIL (ALT.)



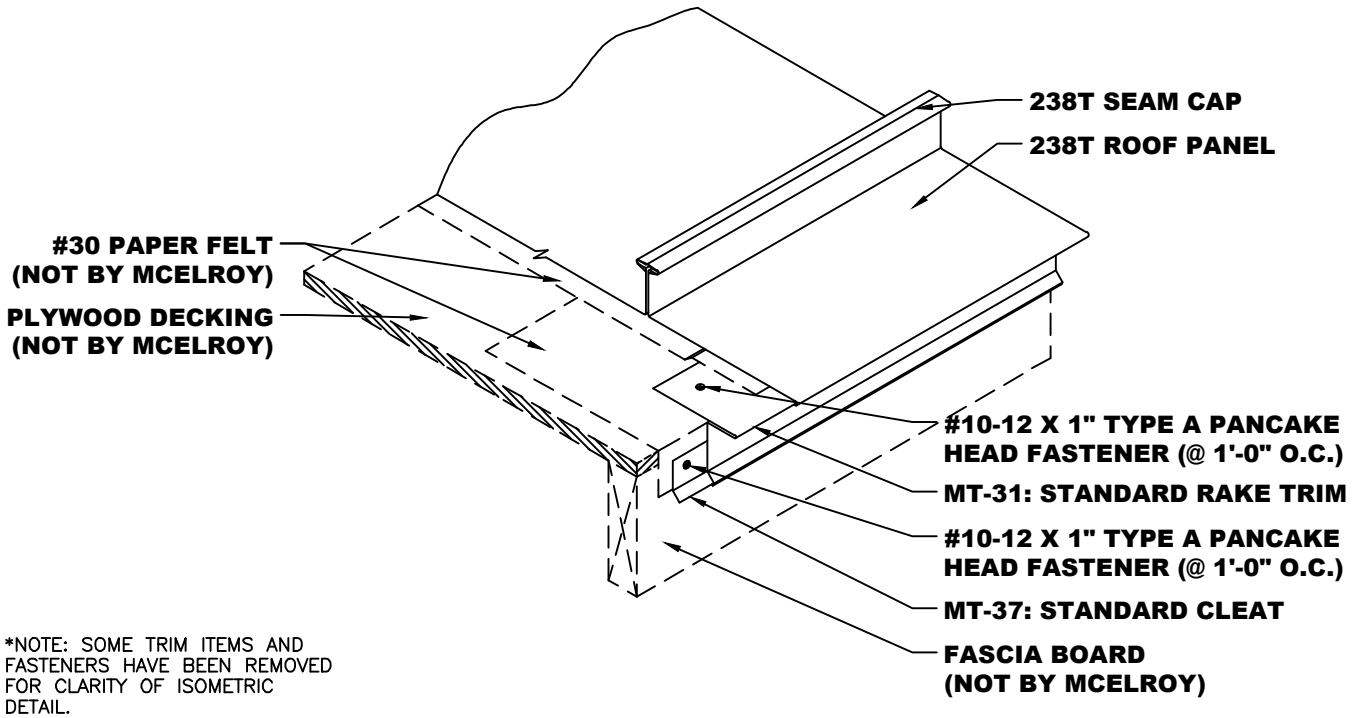


MT-31: STANDARD RAKE TRIM



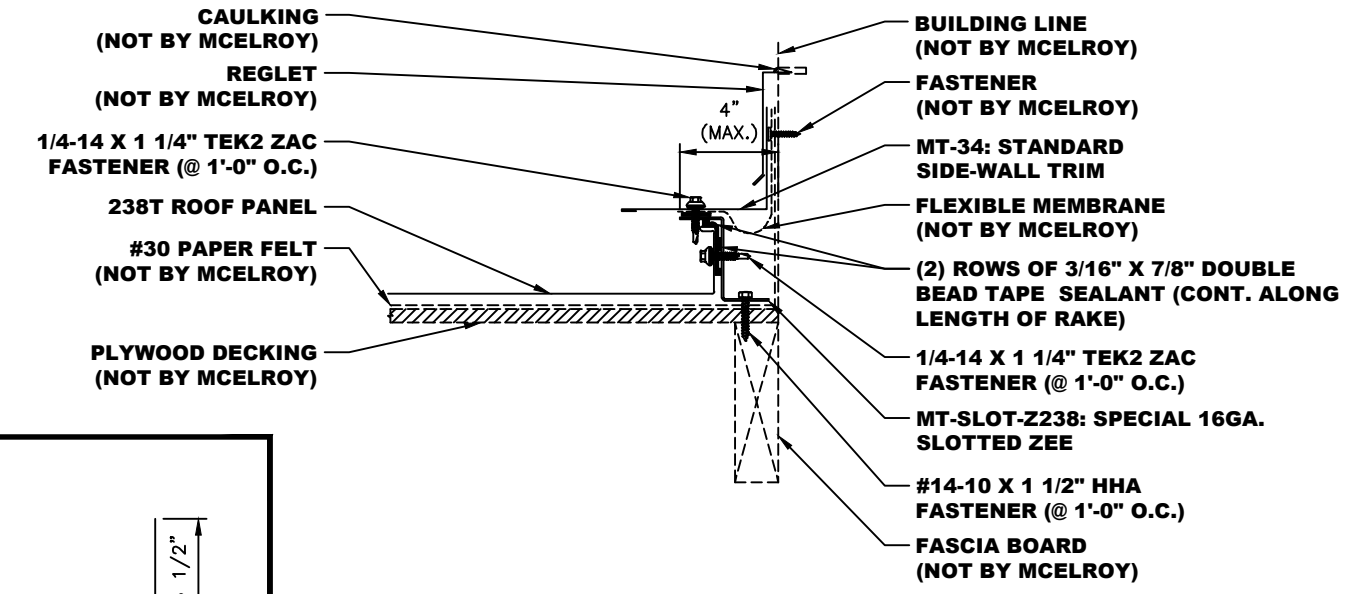
MT-37: STANDARD CLEAT

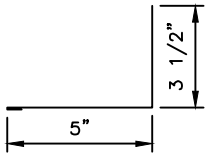
NOTES:
1. **MT-31 (Rake Trim) and MT-37 (Standard Cleat) to run from eave to ridge.**
2. **Attach MT-37 (Standard Cleat) to Fascia Board with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.**
3. **Attach MT-31 (Rake Trim) to MT-37 (Standard Cleat) and fasten to Plywood Decking with #10-12 x 1" Type A Pancake Head Fasteners at 1'-0" O.C.**
4. **Field cut leading edge of panel and fold panel down 180°.**



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

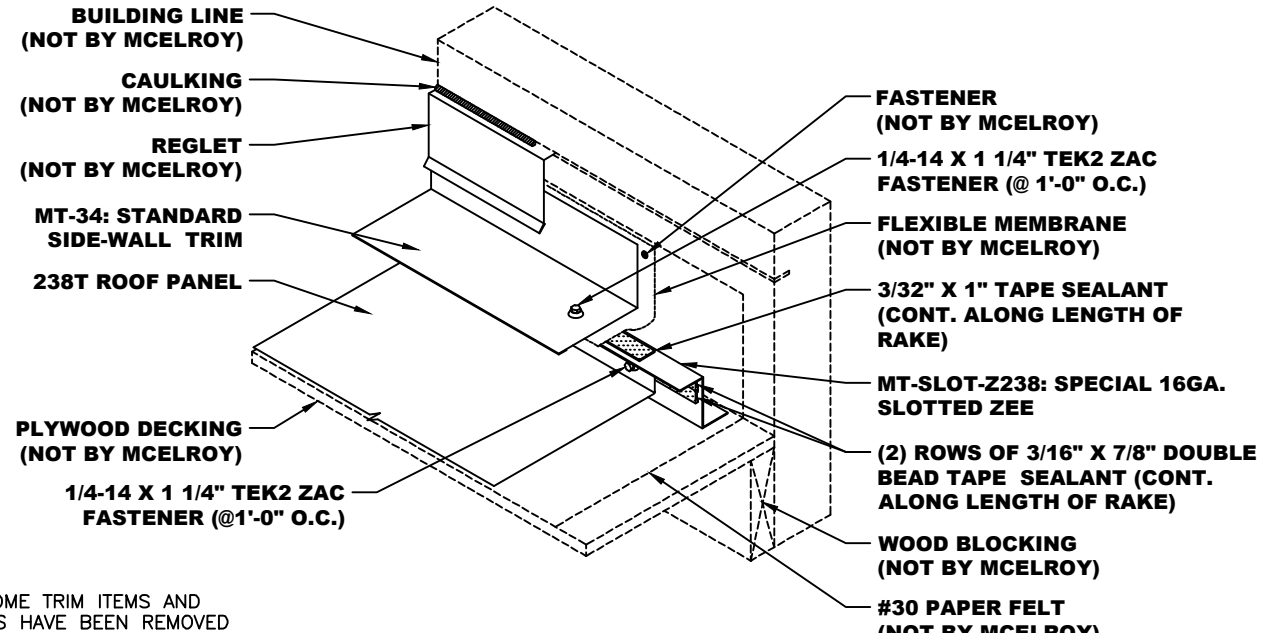
238T FLOATING SIDE-WALL TIE-IN DETAIL





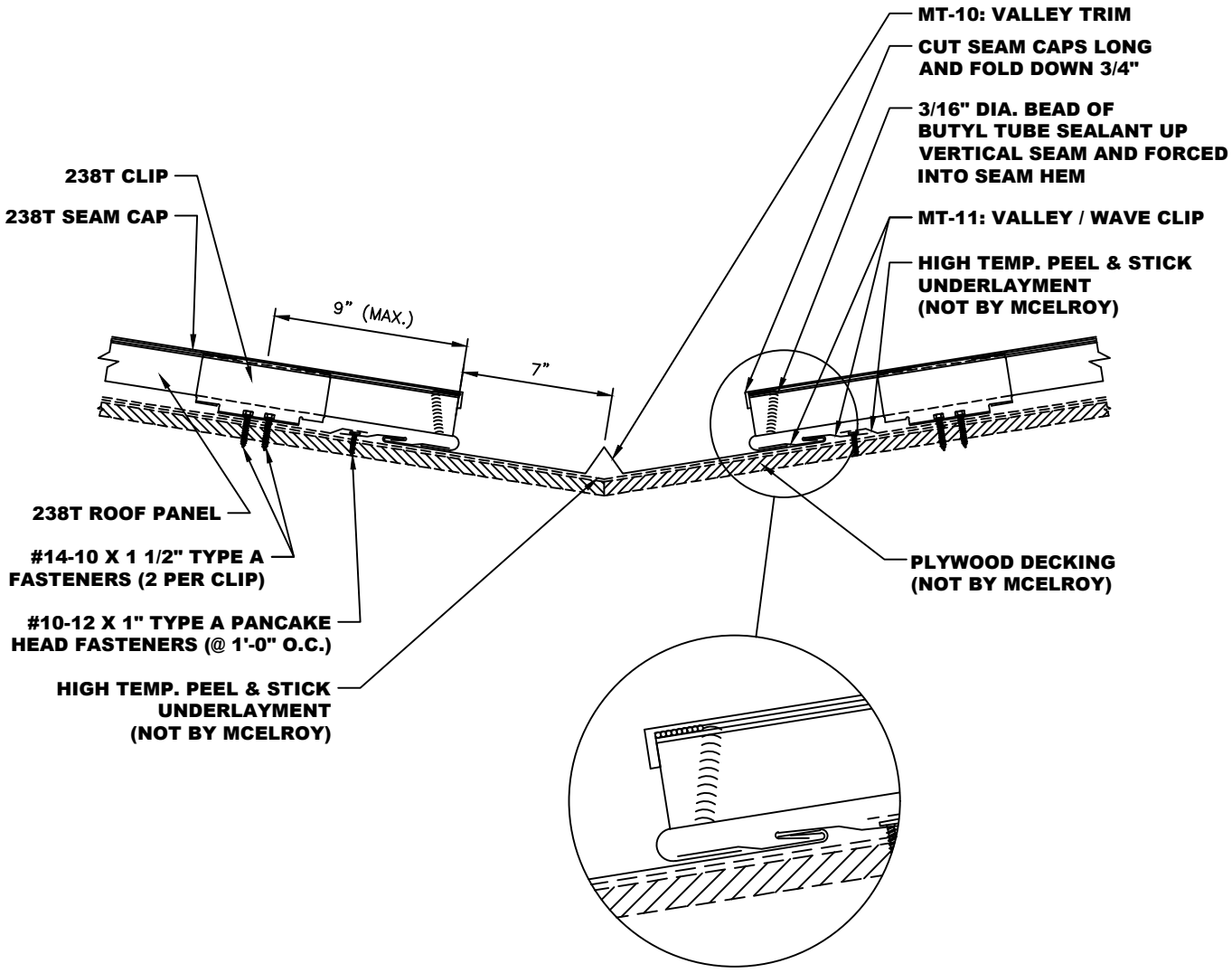
MT-34: STANDARD
SIDE-WALL TRIM

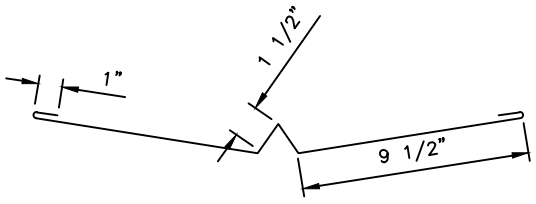
NOTES:
1. **MT-34 (Standard Side-Wall Trim) to run from Eave to Ridge.**
2. **Attach MT-SLOT-Z238 (Special 16ga. Slotted Zee) to decking with #14-10 x 1 1/2" HWH Type A Fasteners at 1'-0" O.C.**
3. **Apply two (2) continuous rows of 3/16" x 7/8" Double Bead Tape Sealant to the vertical leg of the 238T panel. Install 238T panel and hold in place on the Slotted Zee with clamps. Fasten panel to Slotted Zee with 1/4-14 x 1 1/4" Tek2 Zac Fasteners at 1'-0" O.C.**
4. **Apply a continuous run of 3/32" x 1" Roll Tape Sealant to the top of the Slotted Zee and attch MT-34 (Standard Side-Wall Trim) with 1/4-14 x 1 1/4" Tek2 ZAC Fasteners at 1'-0" O.C.**
5. **Trim pieces lap 2". Apply 3/32" x 3/8" Butyl Tape or Butyl Tube Sealant in trim laps and Fasten to trims.**



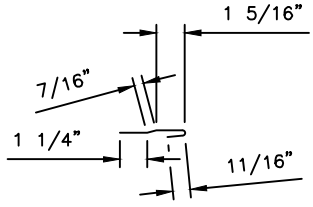
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

VALLEY DETAIL





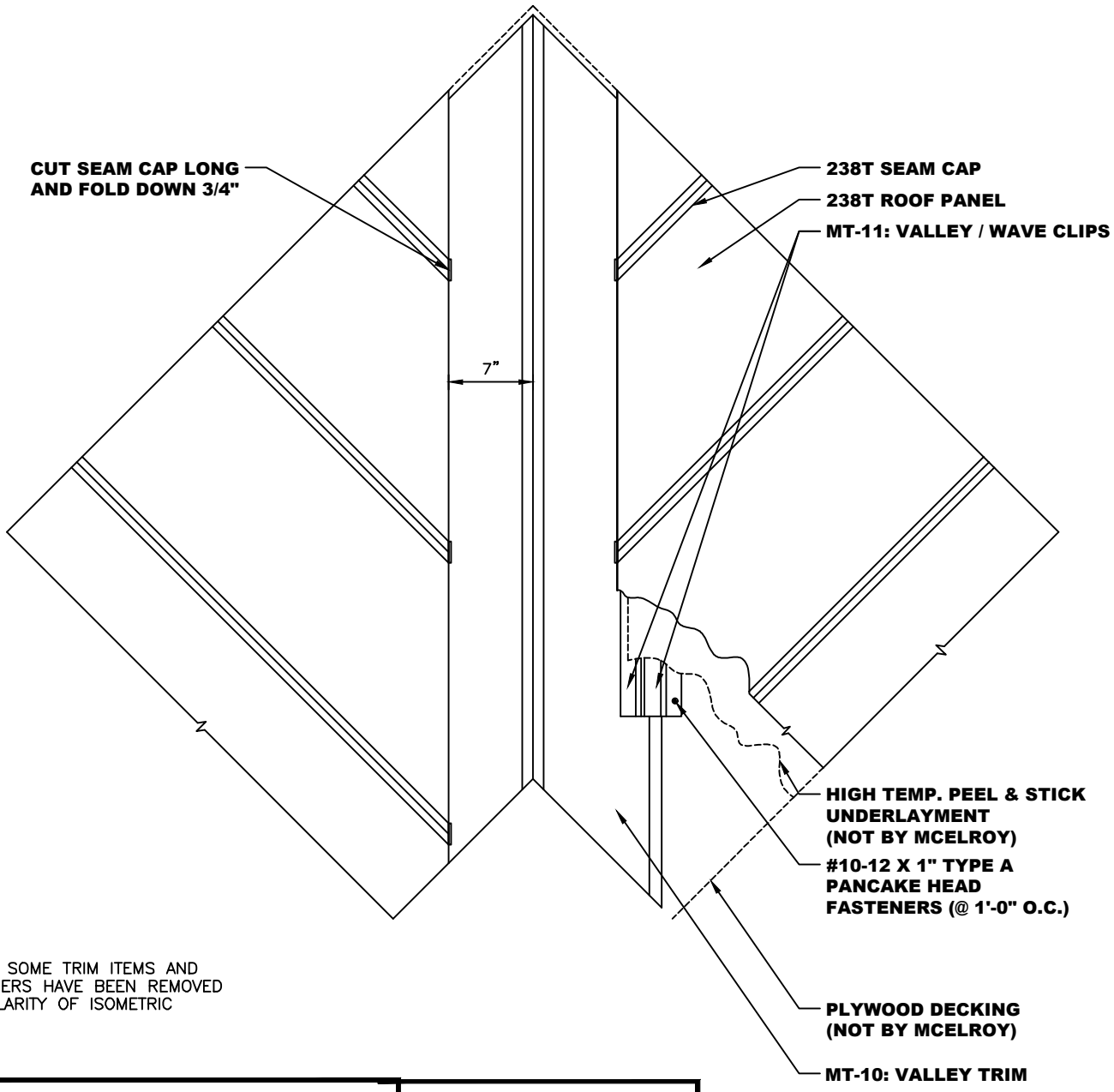
MT-10: VALLEY TRIM



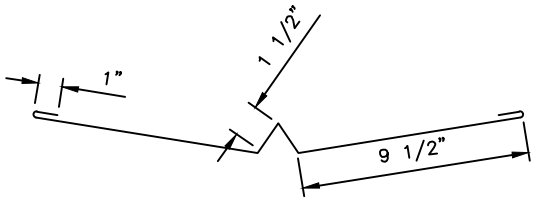
MT-11: VALLEY / WAVE CLIP

NOTES: 1. Install MT-10 (Valley Trim) from eave to ridge. MT-10 (Valley Trim) pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.
2. Cut panels at required bevel for valley condition.
3. Attach MT-11 (Valley / Wave Clip) with #10-12 x 1" Type A Pancake Head fasteners at 1'-0" O.C.

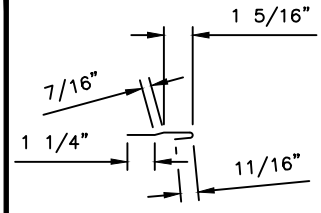
VALLEY DETAIL



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



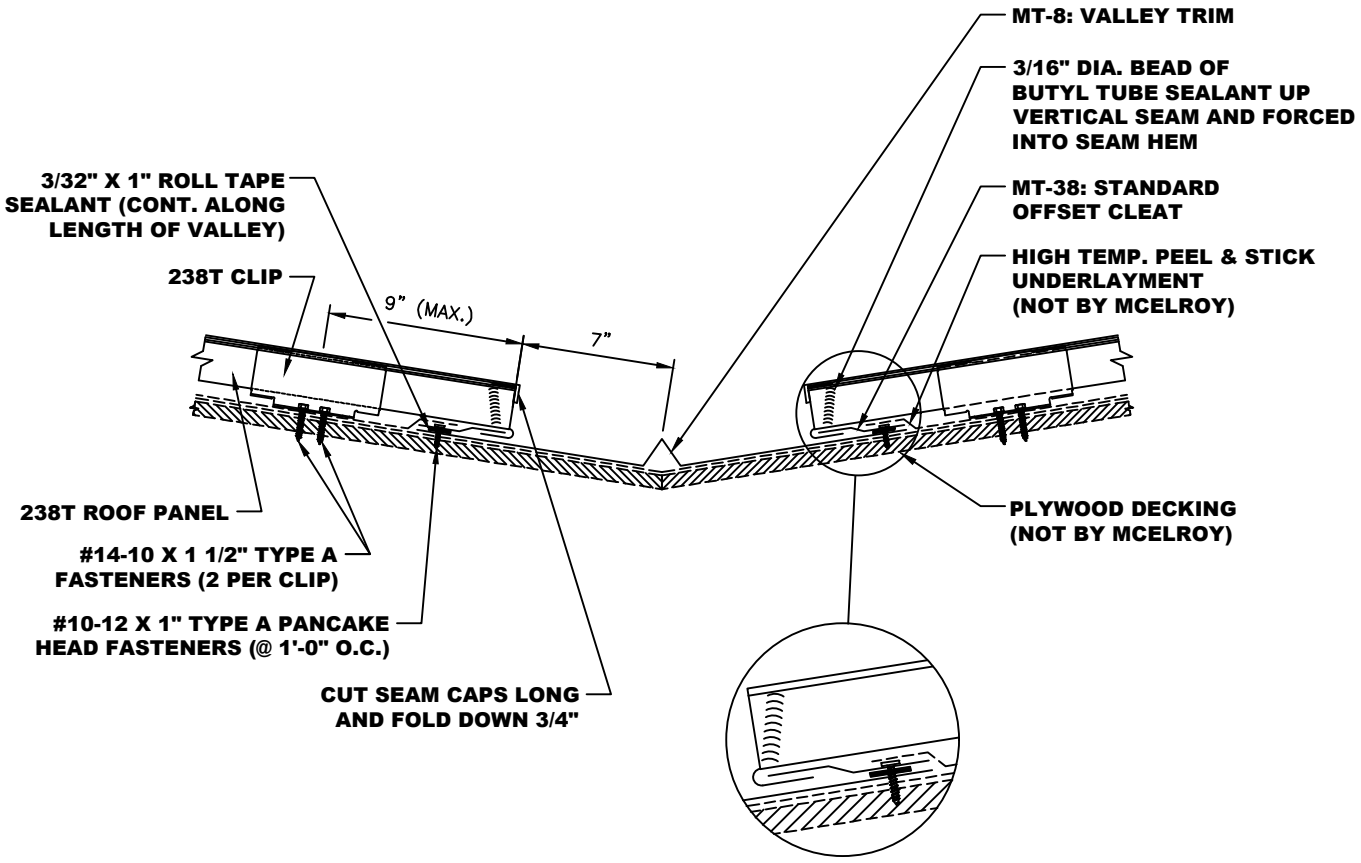
MT-10: VALLEY TRIM

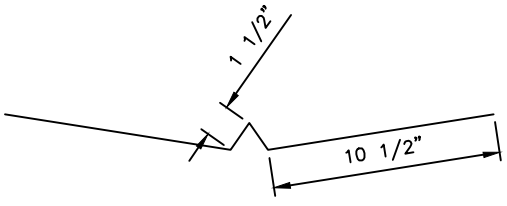


MT-11: VALLEY / WAVE CLIP

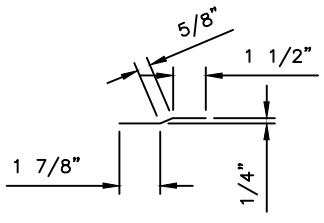
NOTES: 1. Install MT-10 (Valley Trim) from eave to ridge. MT-10 (Valley Trim) pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.
2. Cut panels at required bevel for valley condition.
3. Attach MT-11 (Valley / Wave Clip) with #10-12 x 1" Type A Pancake Head fasteners at 1'-0" O.C.

VALLEY DETAIL (ALT.)





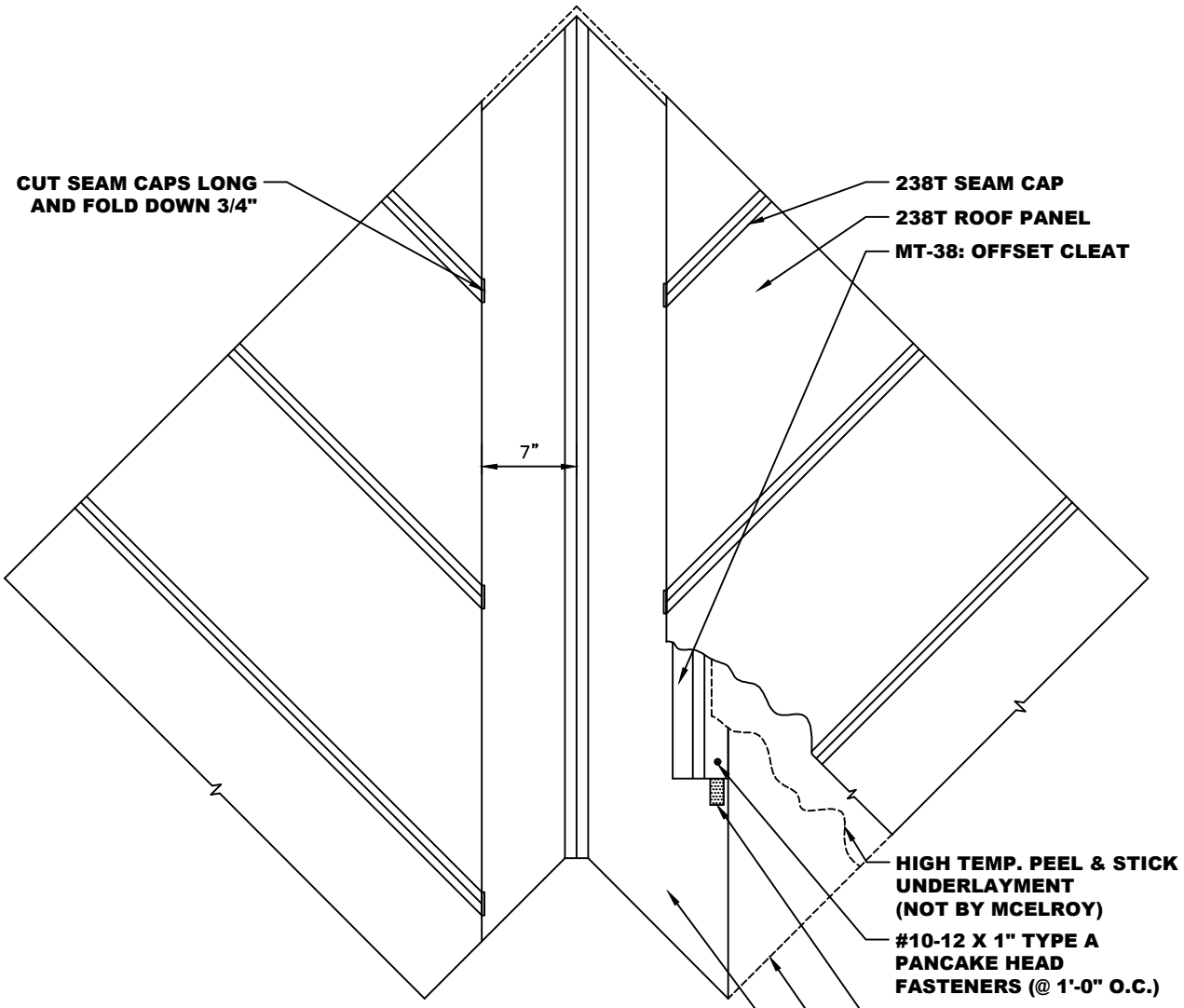
MT-8: VALLEY TRIM



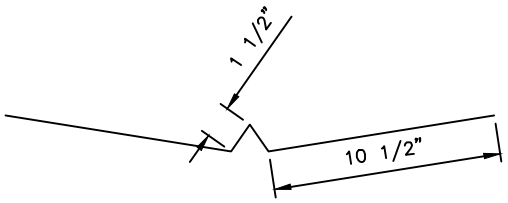
MT-38: STANDARD OFFSET CLEAT

NOTES:
1. **Install MT-8 (Valley Trim) from eave to ridge. MT-8 (Valley Trim) pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.**
2. **Cut panels at required bevel for valley condition.**
3. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant up both sides of MT-8 (Valley Trim).**
4. **Install MT-38 (Standard Offset Cleat) with #10-12 x 1" Type A Pancake Head fasteners at 1'-0" O.C.**

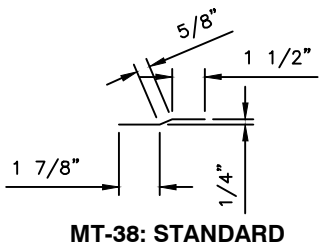
VALLEY DETAIL (ALT.)



*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



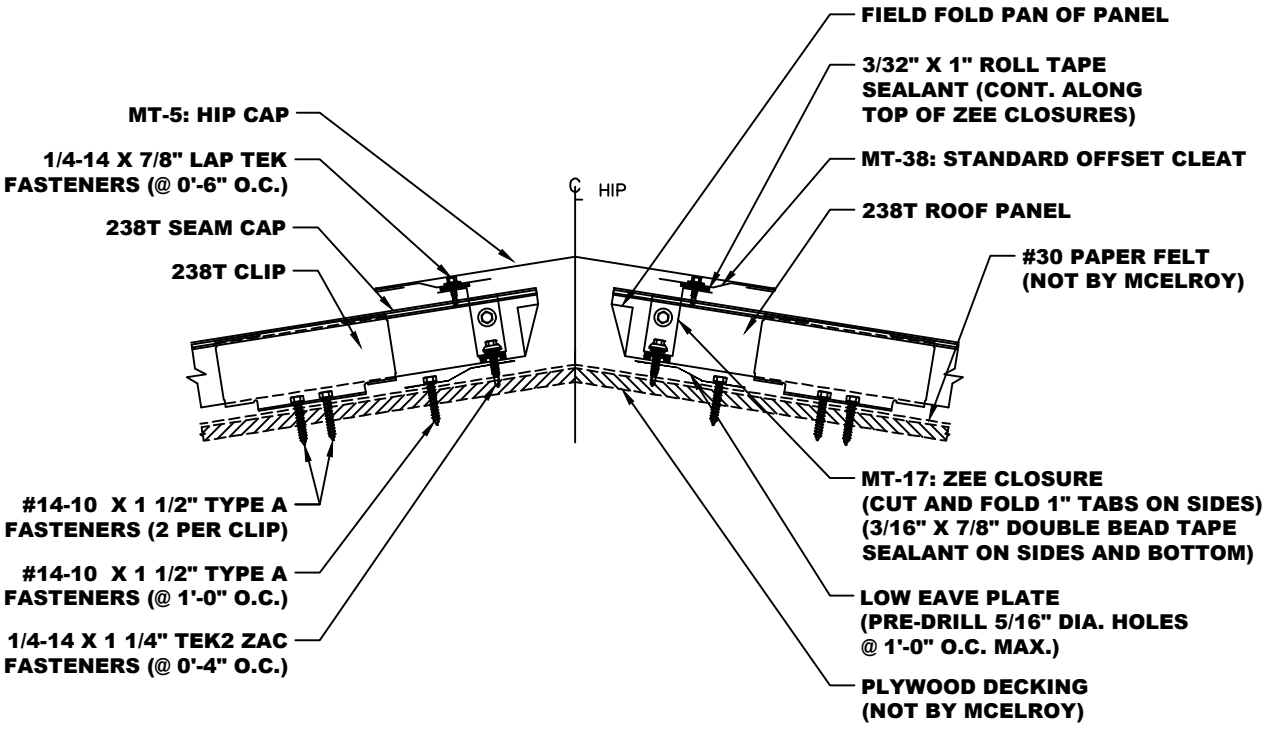
MT-8: VALLEY TRIM

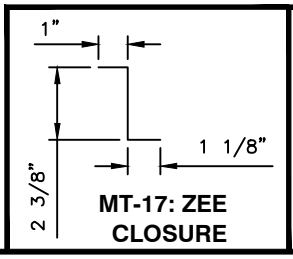


MT-38: STANDARD OFFSET CLEAT

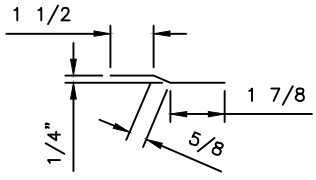
NOTES:
1. **Install MT-8 (Valley Trim) from eave to ridge. MT-8 (Valley Trim) pieces lap 6". Place 3/32" x 1" Butyl Tape or a 3/16" Dia. bead of Butyl Tube Sealant in laps.**
2. **Cut panels at required bevel for valley condition.**
3. **Apply a continuous line of 3/32" x 1" Roll Tape Sealant up both sides of MT-8 (Valley Trim).**
4. **Attach MT-38 (Standard Offset Cleat) with #10-12 x 1" Type A Pancake Head fasteners at 1'-0" O.C.**

HIP DETAIL

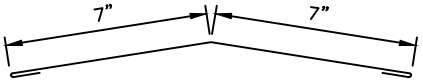




MT-17: ZEE CLOSURE



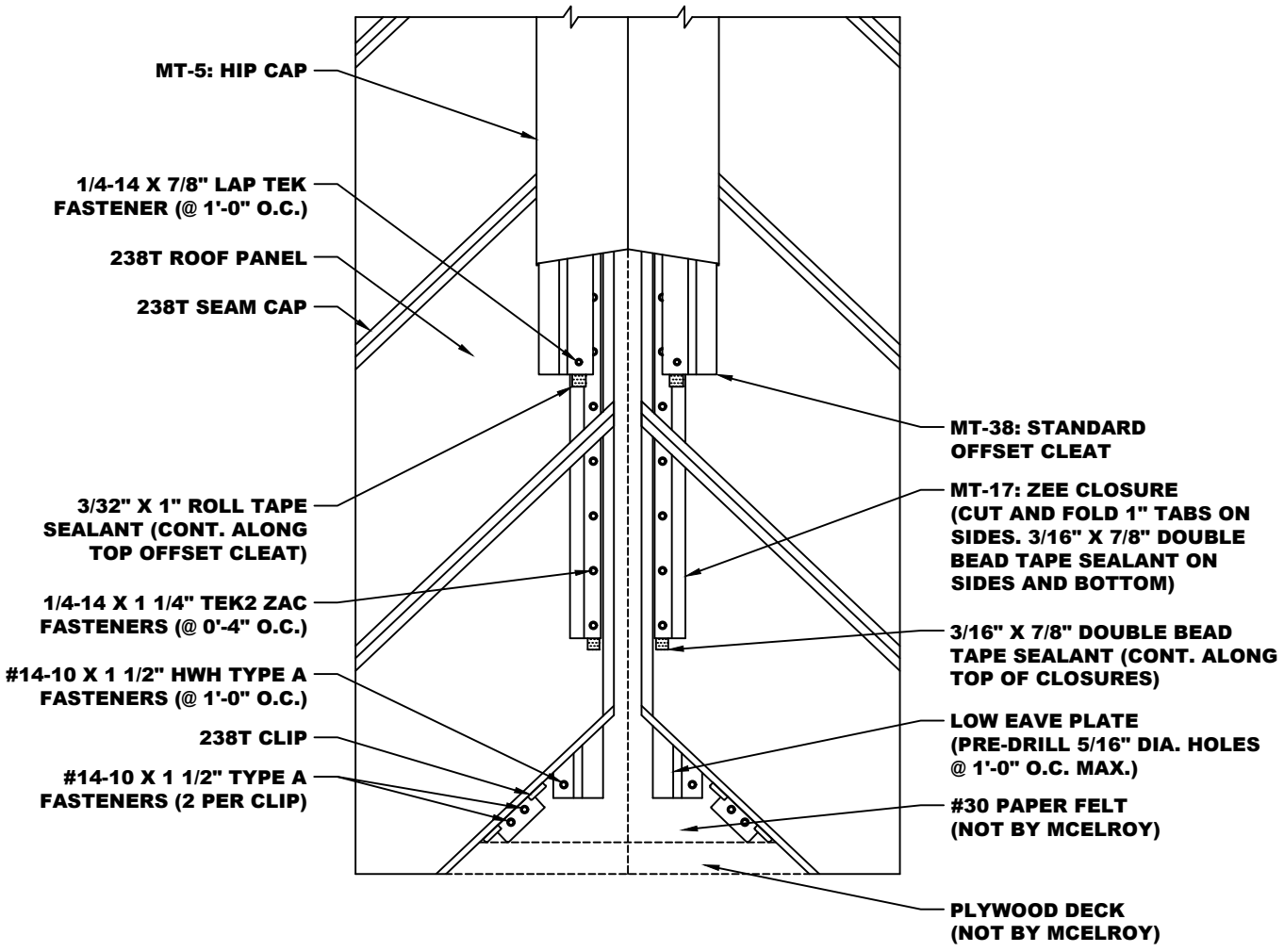
MT-38: STANDARD OFFSET CLEAT



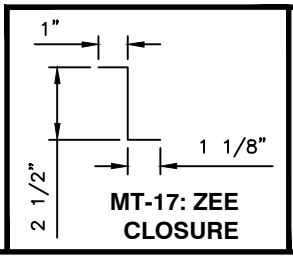
MT-5: HIP CAP

NOTES:
1. MT-5 (Hip Cap) to run from Eave to Ridge. MT-38 (Standard Offset Cleat) to run from Ridge to Eave.
2. Using a panning tool, fold up the pan of the panel at the Hip.
3. Install 238T panels as directed in this manual.
4. Cut individual Zee Closures with 1" Side Tabs from the MT-17 (Zee Closure). Apply a 3/16" x 7/8" Double Bead Tape Sealant to the bottom and sides of Zee Closures and install 2" down from end of panel. Fasten with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 0'-4" (Max.).
5. MT-5 (Hip Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-38 (Standard Offset Cleat with Pop Rivets at Laps.

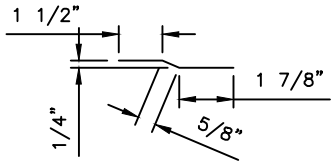
HIP DETAIL



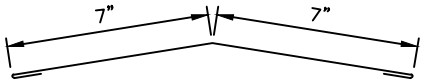
*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.



MT-17: ZEE CLOSURE



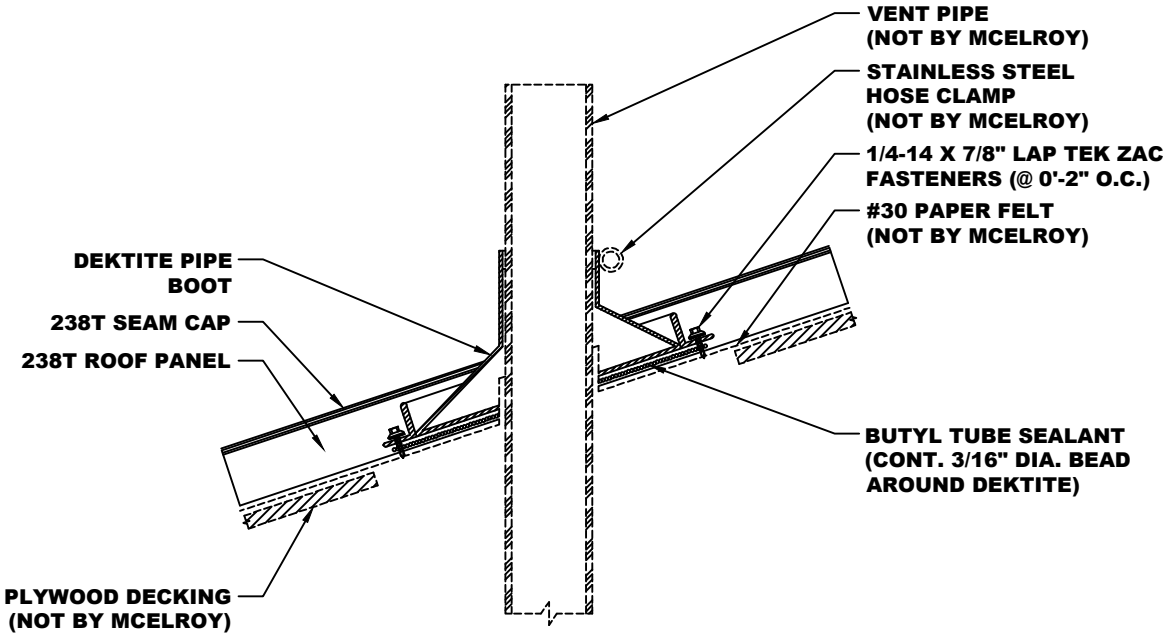
MT-38: STANDARD OFFSET CLEAT



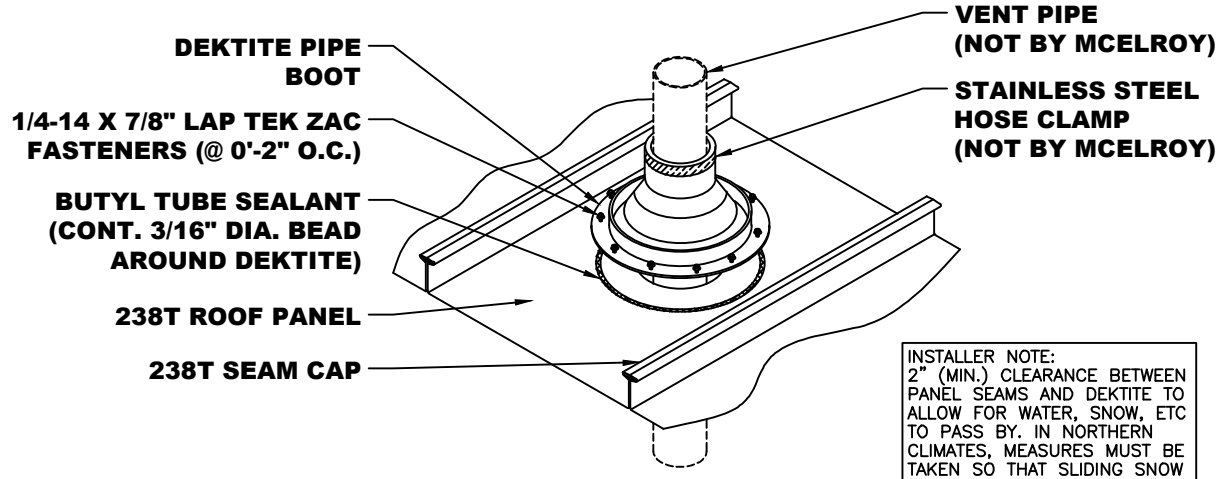
MT-5: HIP CAP

NOTES:
1. **MT-5 (Hip Cap) to run from Eave to Ridge. MT-38 (Standard Offset Cleat) to run from Ridge to Eave.**
2. **Using a panning tool, fold up the pan of the panel at the Hip.**
3. **Install 238T panels as directed in this manual.**
4. **Cut individual Zee Closures with 1" Side Tabs from the MT-17 (Zee Closure). Apply a 3/16" x 7/8" Double Bead Tape Sealant to the bottom and sides of Zee Closures and install 2" down from end of panel. Fasten with 1/4-14 x 1 1/4" Tek2 ZAC fasteners at 0'-4" (Max.).**
5. **MT-5 (Hip Cap) laps 2". Apply 3/32" x 1" Butyl Tape and Pop Rivet trims to MT-38 (Standard Offset Cleat with Pop Rivets at Laps.**

DEKTITE DETAIL



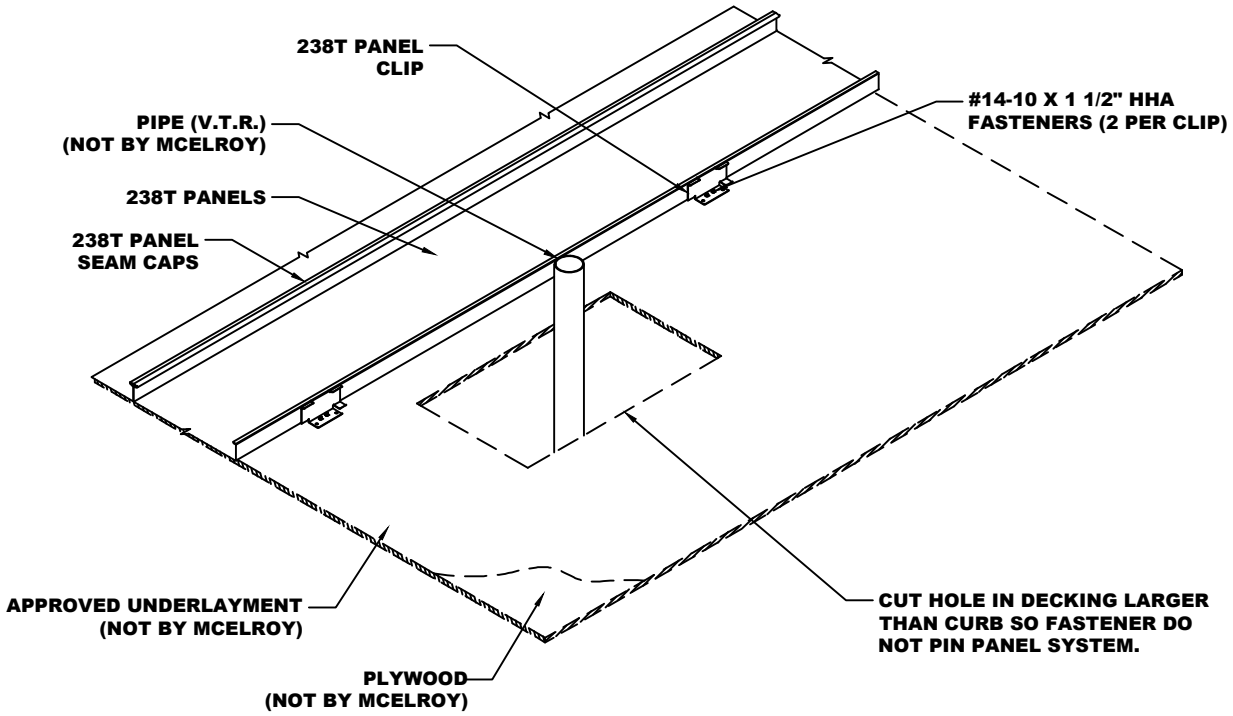
NOTES:
1. **Cut hole in panel 1" larger than pipe diameter. If installing over a solid substrate, over-cut hole in substrate so fastener do not pin system from thermal movement.**
2. **Cut hole in top of Dektite Boot so that it fits snuggly around pipe. Apply a 3/16" Dia. bead of Tube Butyl sealant around the base flange of boot. Secure to panel with 1/4-14 x 7/8" Lap Tek ZAC fasteners 2" O.C.**
3. **Dektite boot MUST fit in pan of panel. Do not fasten to standing seams.**



INSTALLER NOTE:
2" (MIN.) CLEARANCE BETWEEN PANEL SEAMS AND DEKTITE TO ALLOW FOR WATER, SNOW, ETC TO PASS BY. IN NORTHERN CLIMATES, MEASURES MUST BE TAKEN SO THAT SLIDING SNOW WILL NOT DAMAGE THE DEKTITE.

*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

238T ALTERNATE DEKTITE INSTALATION DETAILS



STEP #1

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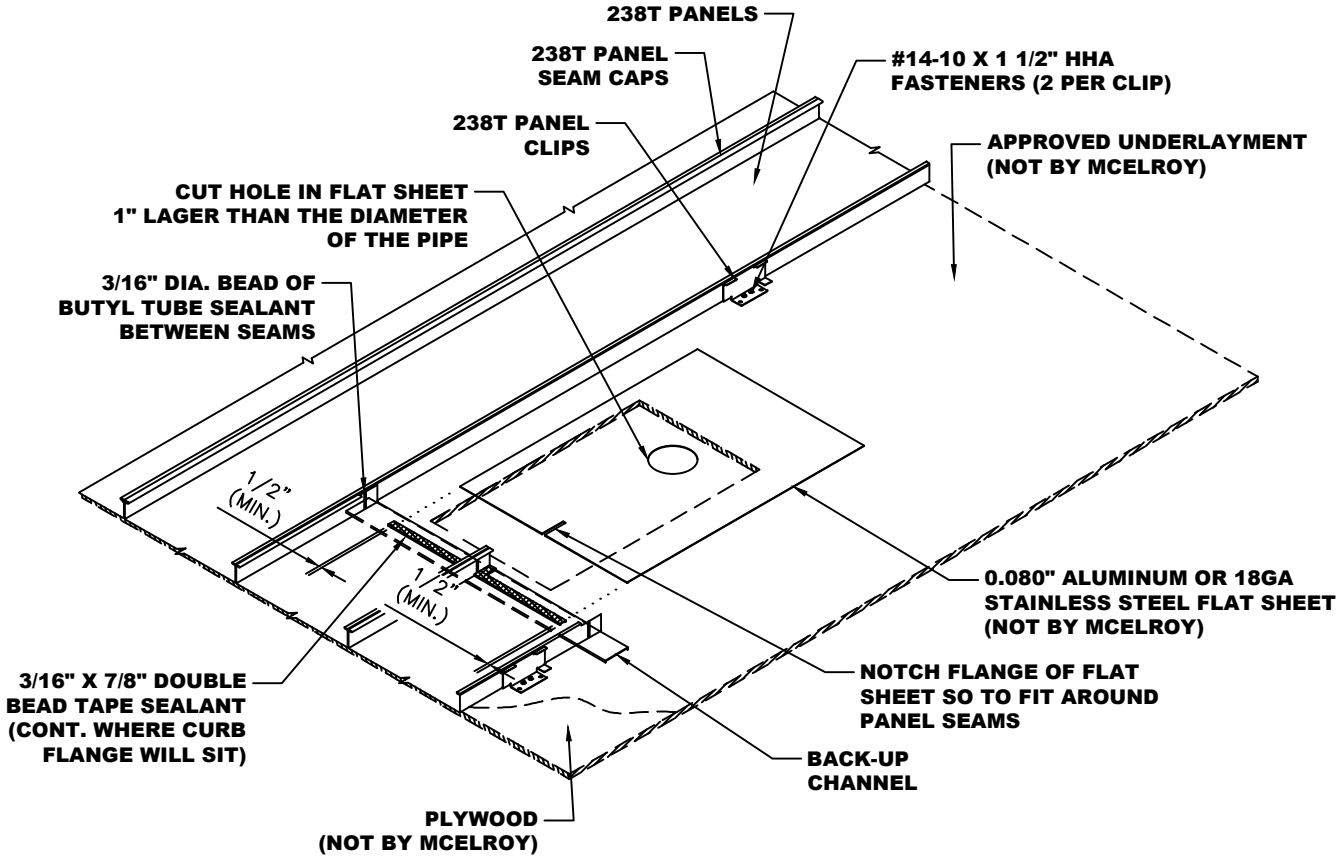
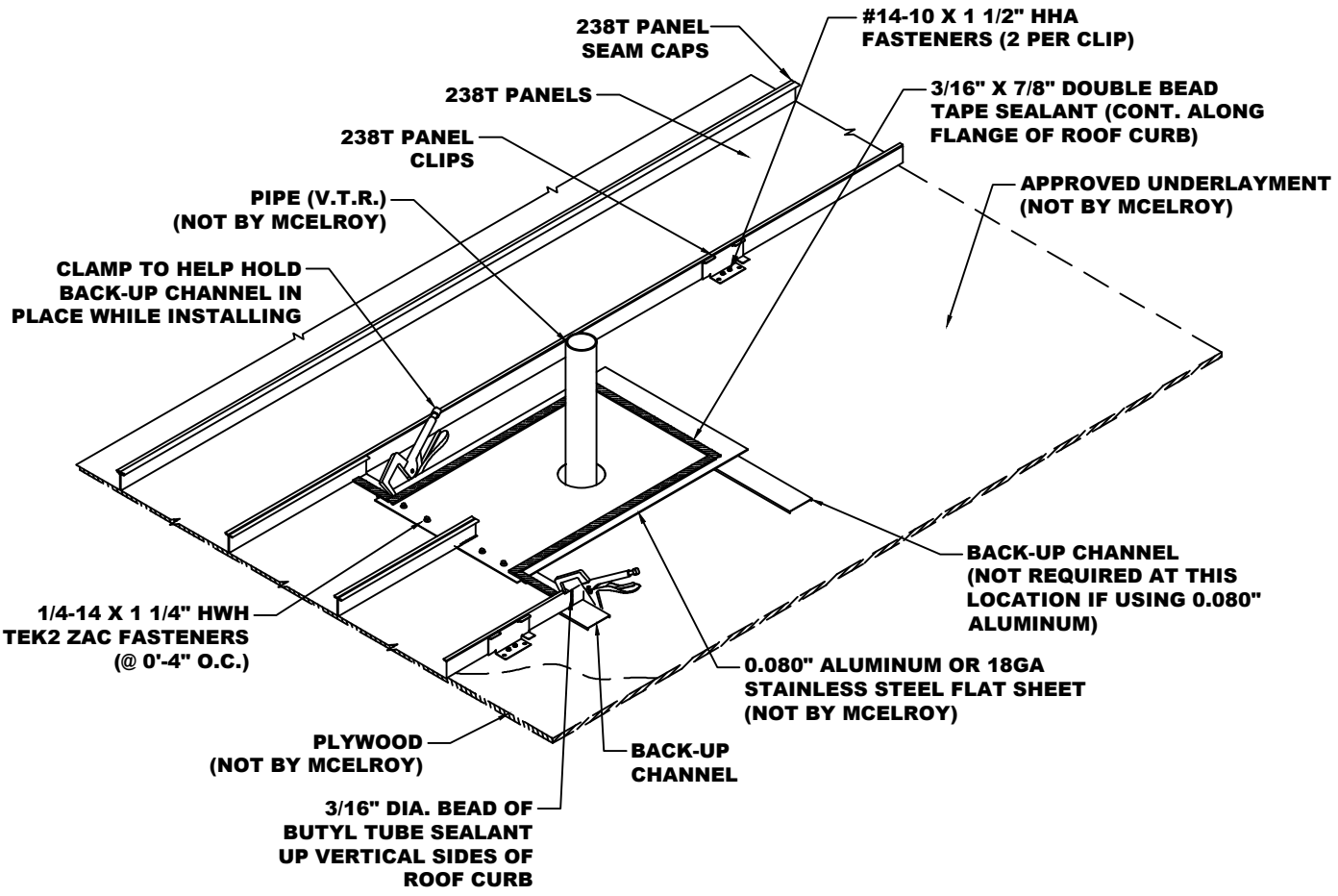


STEP #2

*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

238T ALTERNATE DEKTITE INSTALLATION DETAILS



STEP #3

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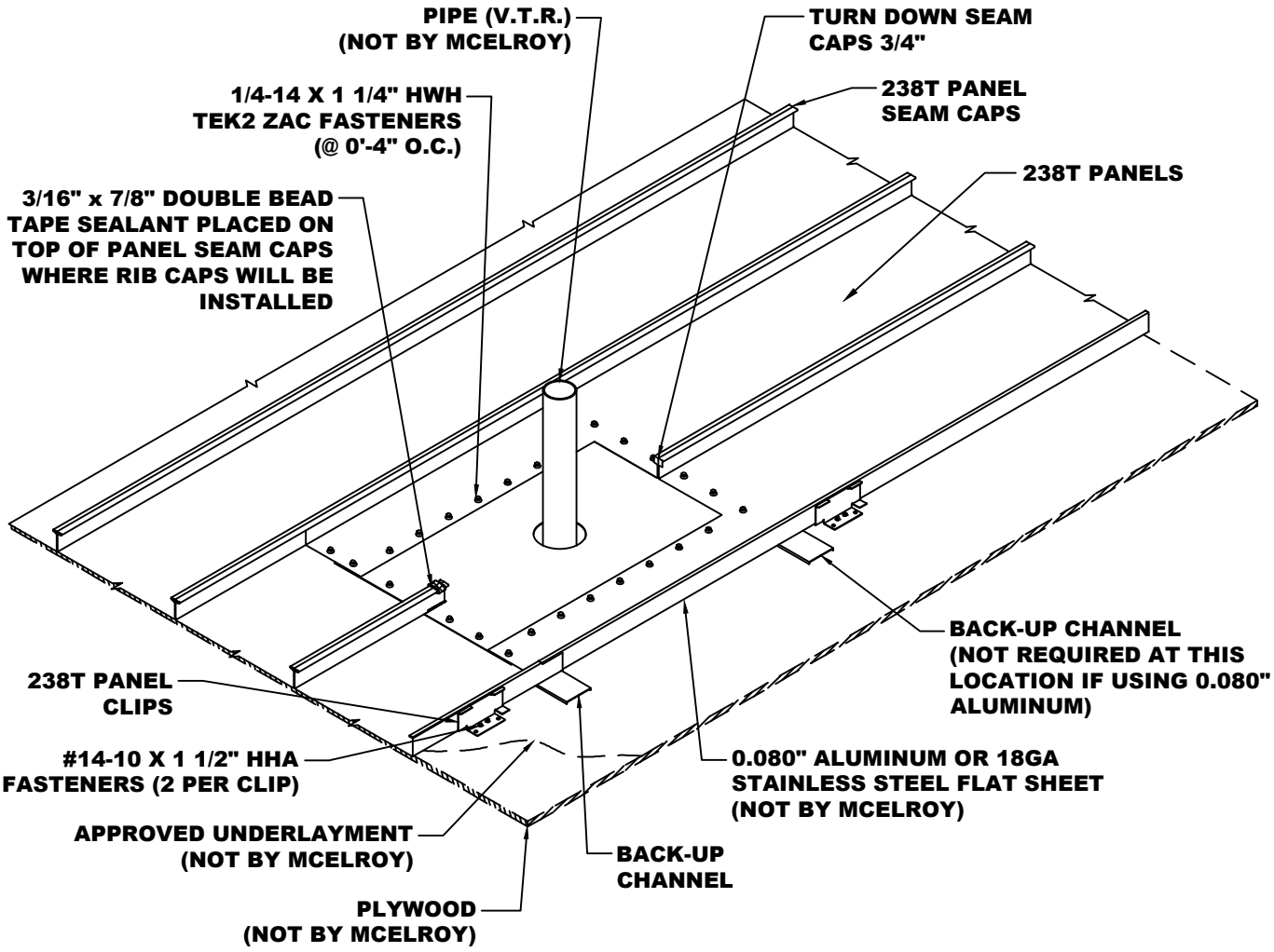
238T ALTERNATE DEKTITE INSTALLATION DETAILS



STEP #4

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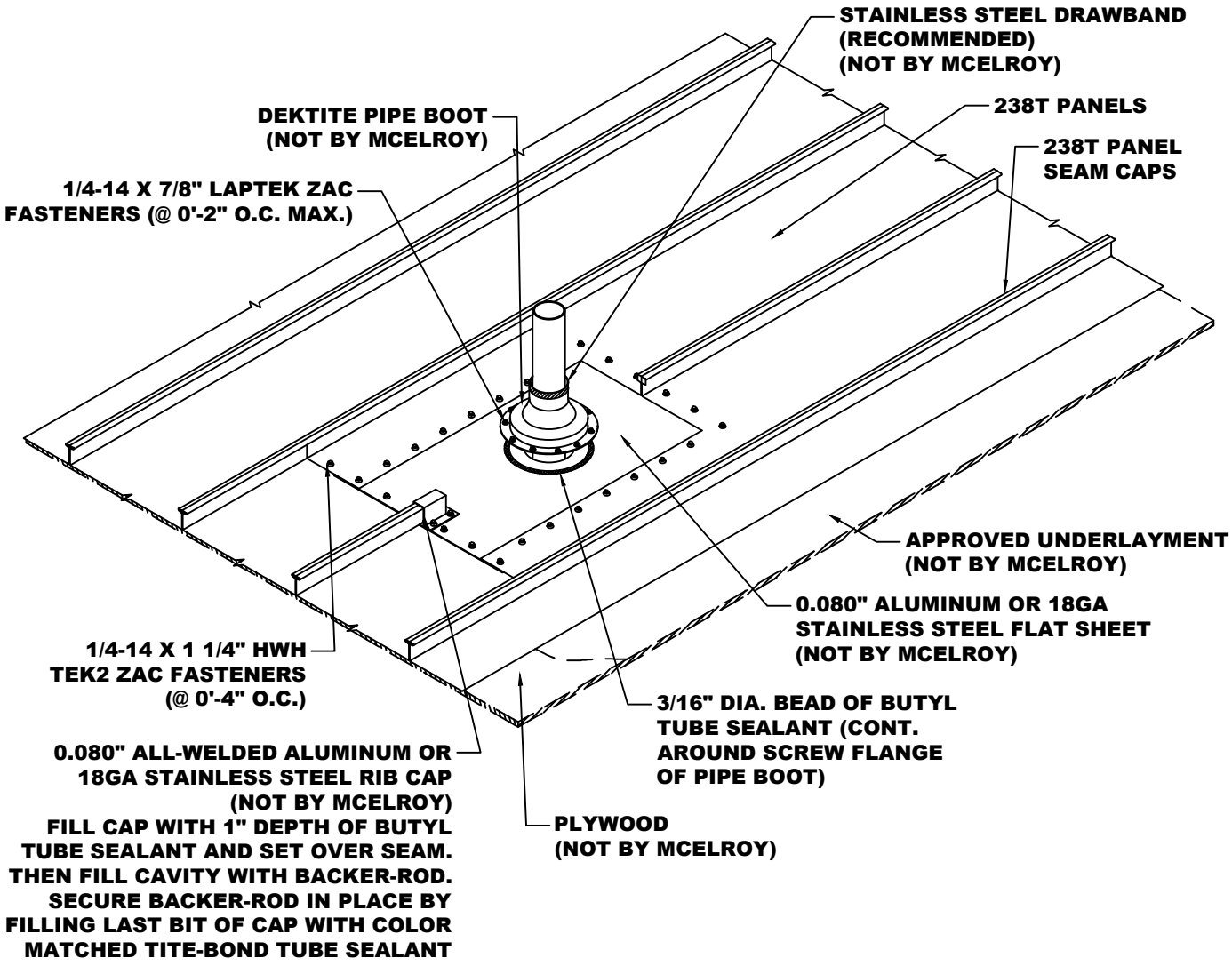
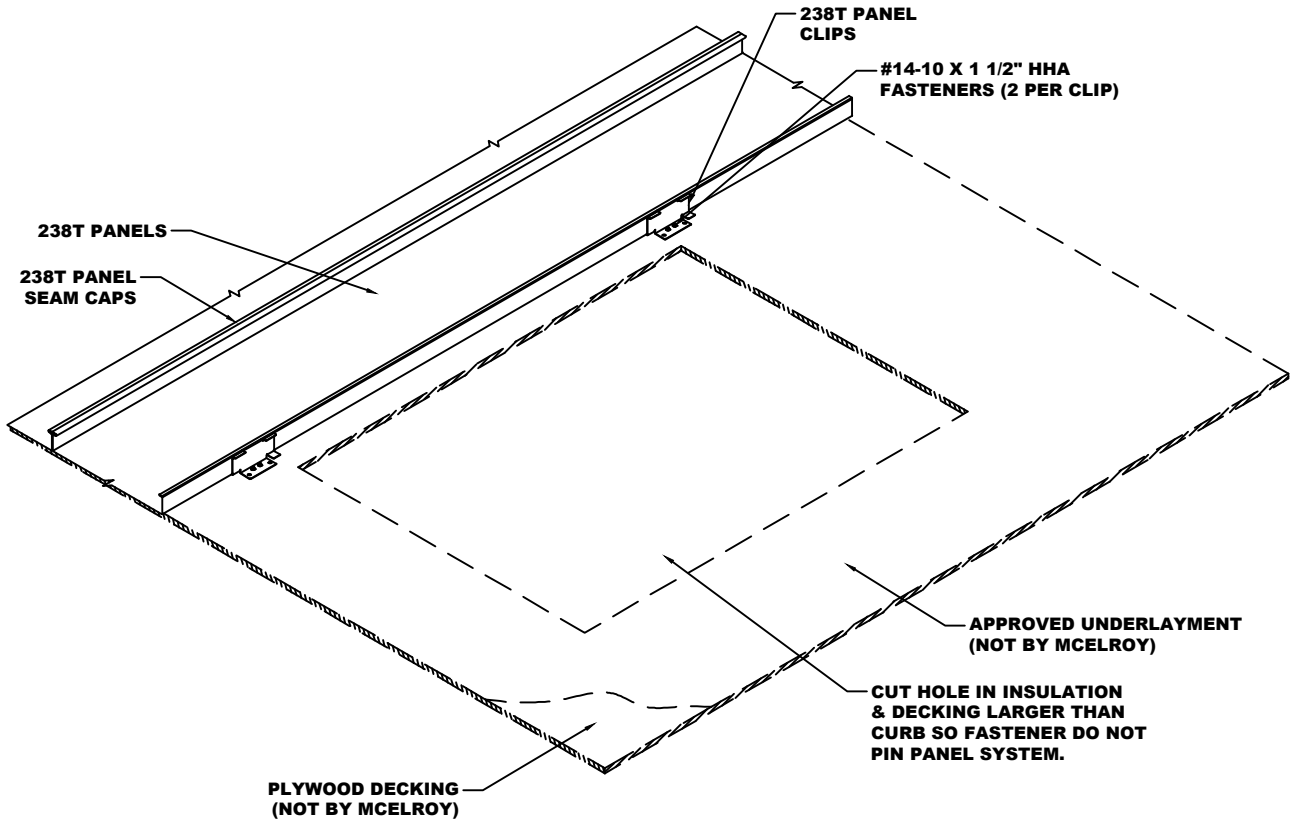
238T ALTERNATE DEKTITE INSTALLATION DETAILS



STEP #5

*NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

238T SHINGLED ROOF CURB INSTALLATION DETAILS



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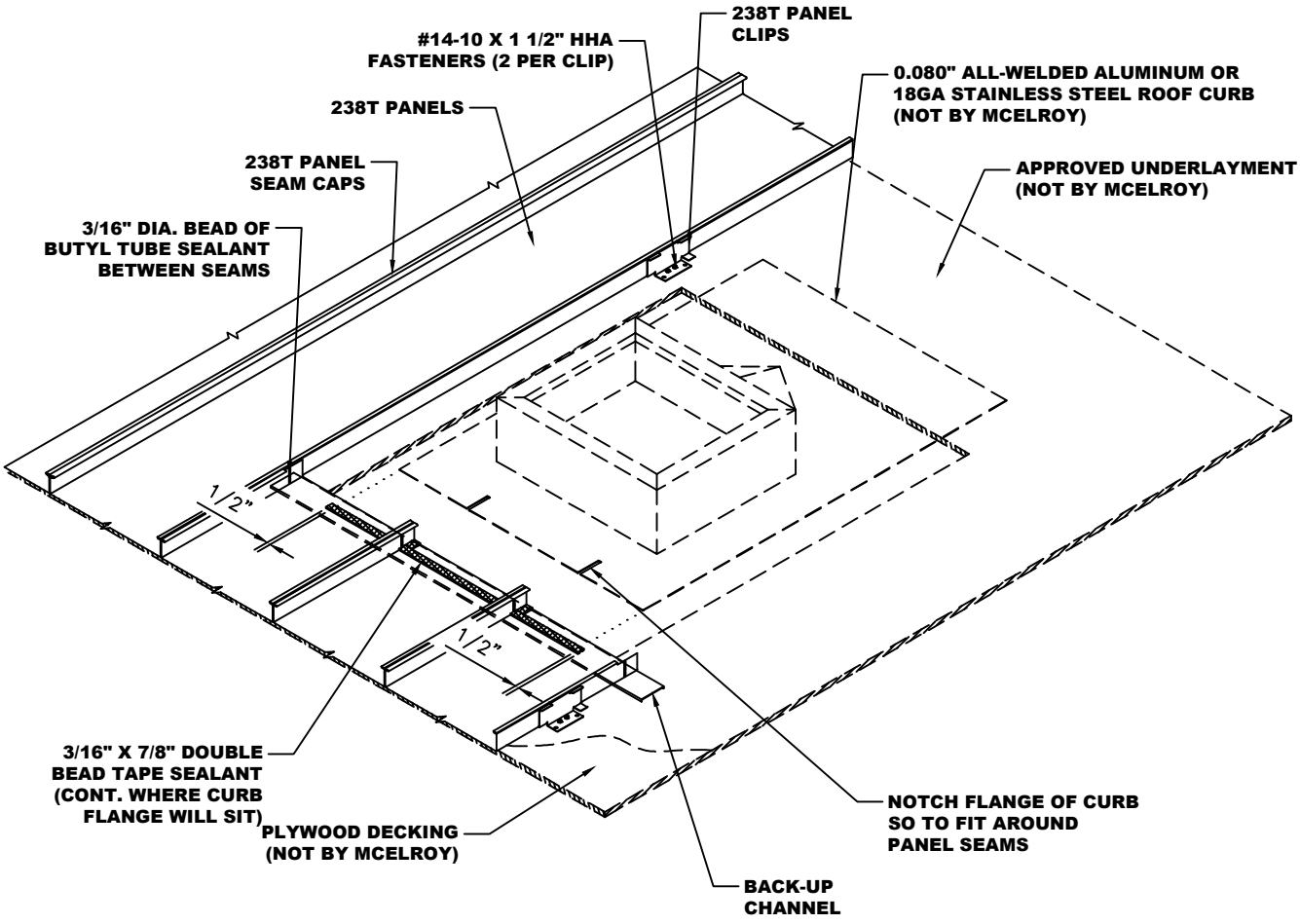

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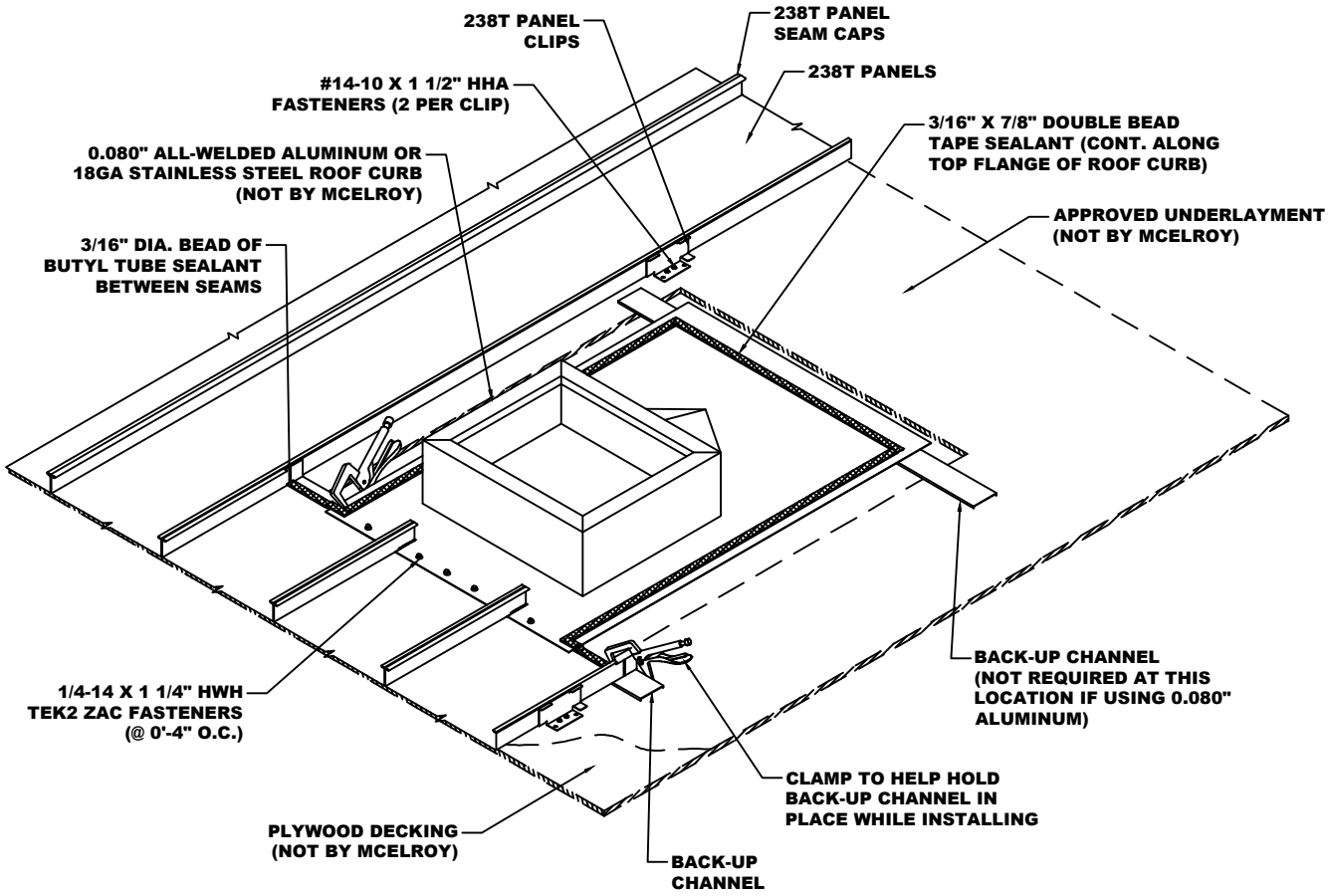

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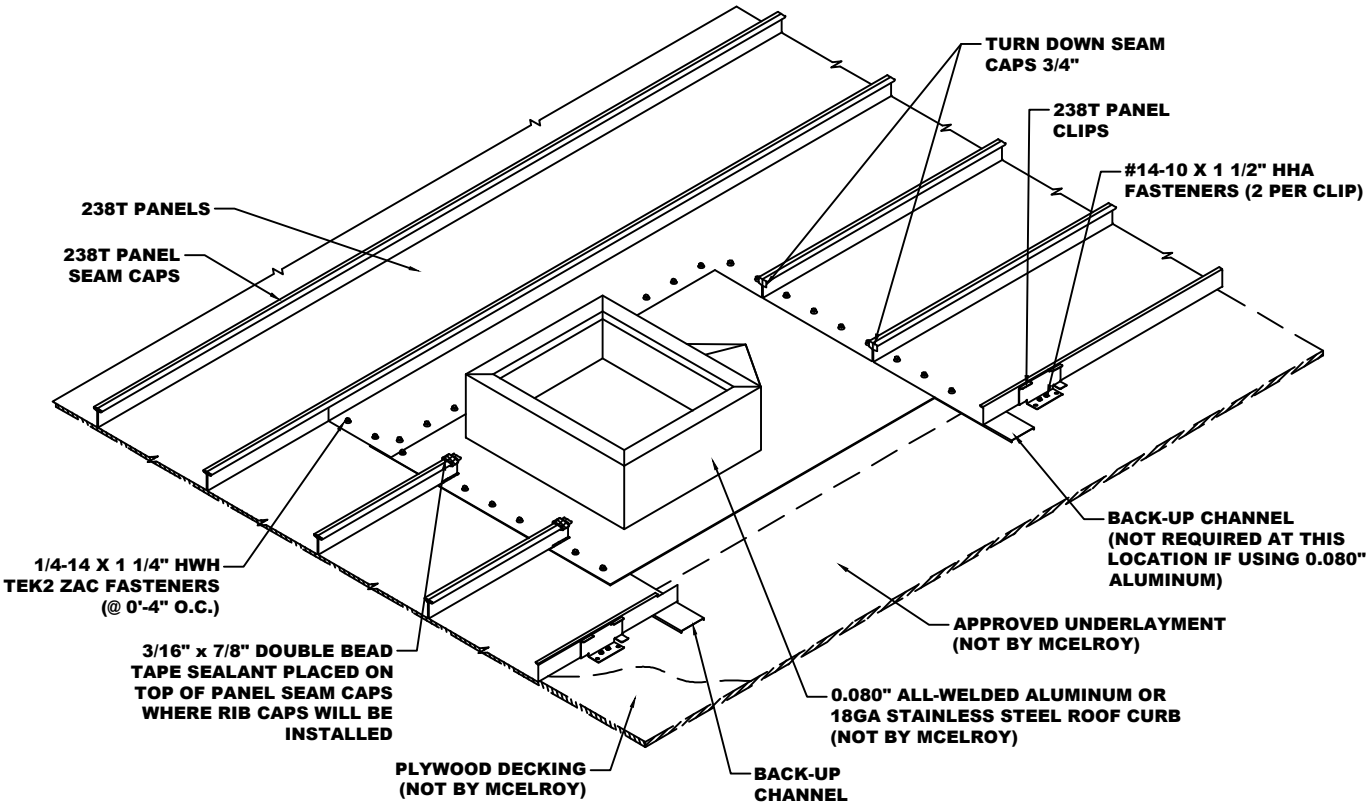

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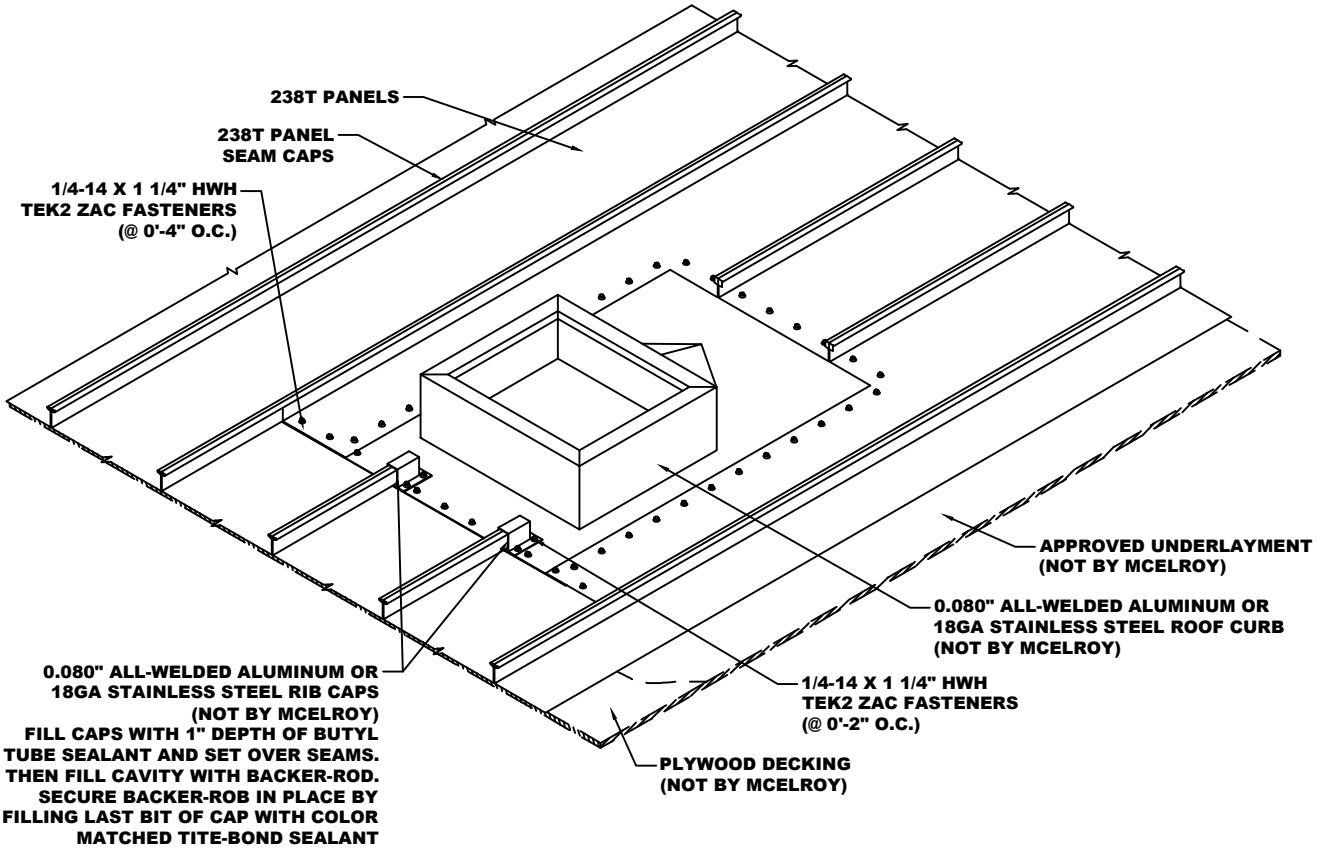

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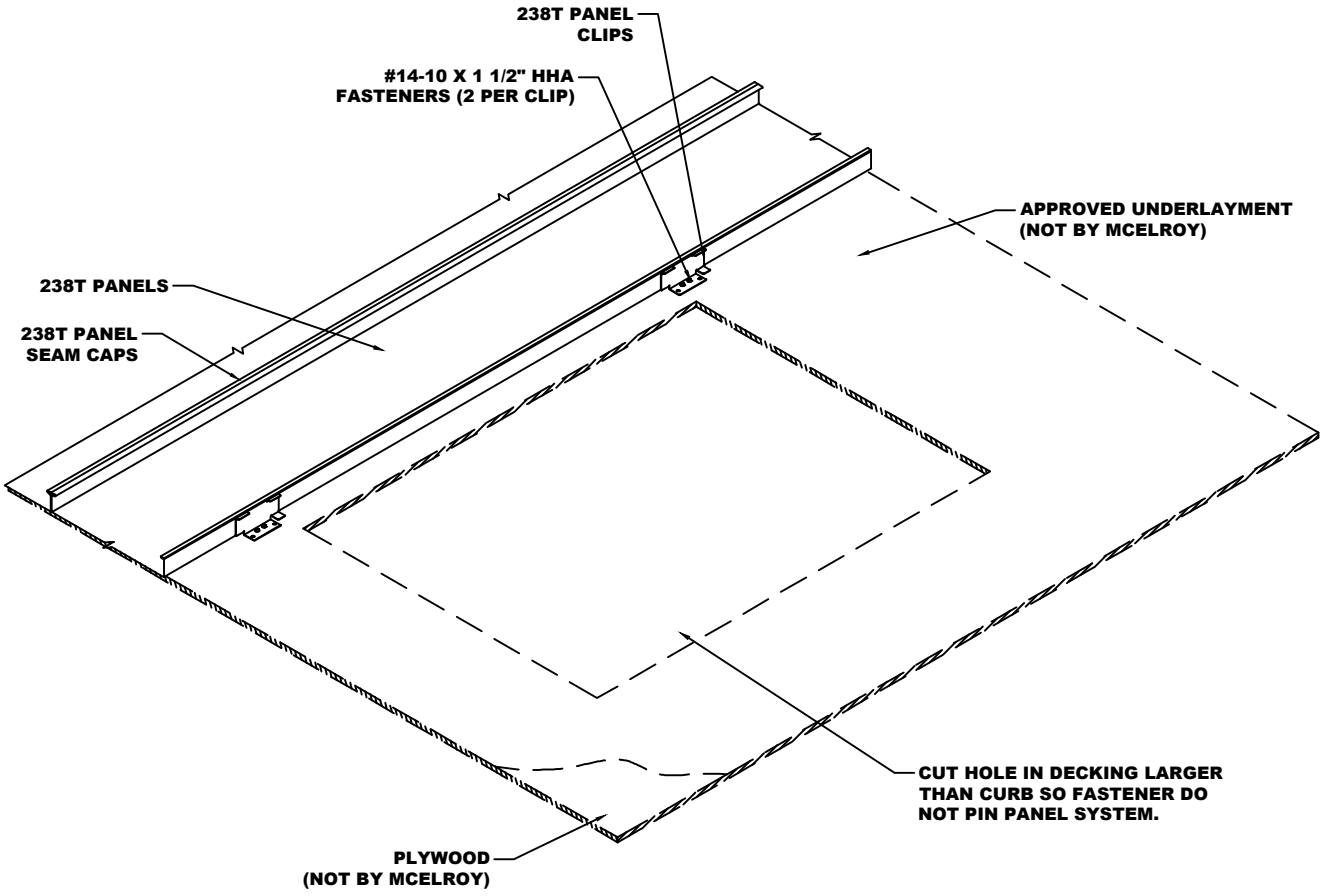
SEAM TO SEAM ROOF CURB INSTALLATION DETAILS



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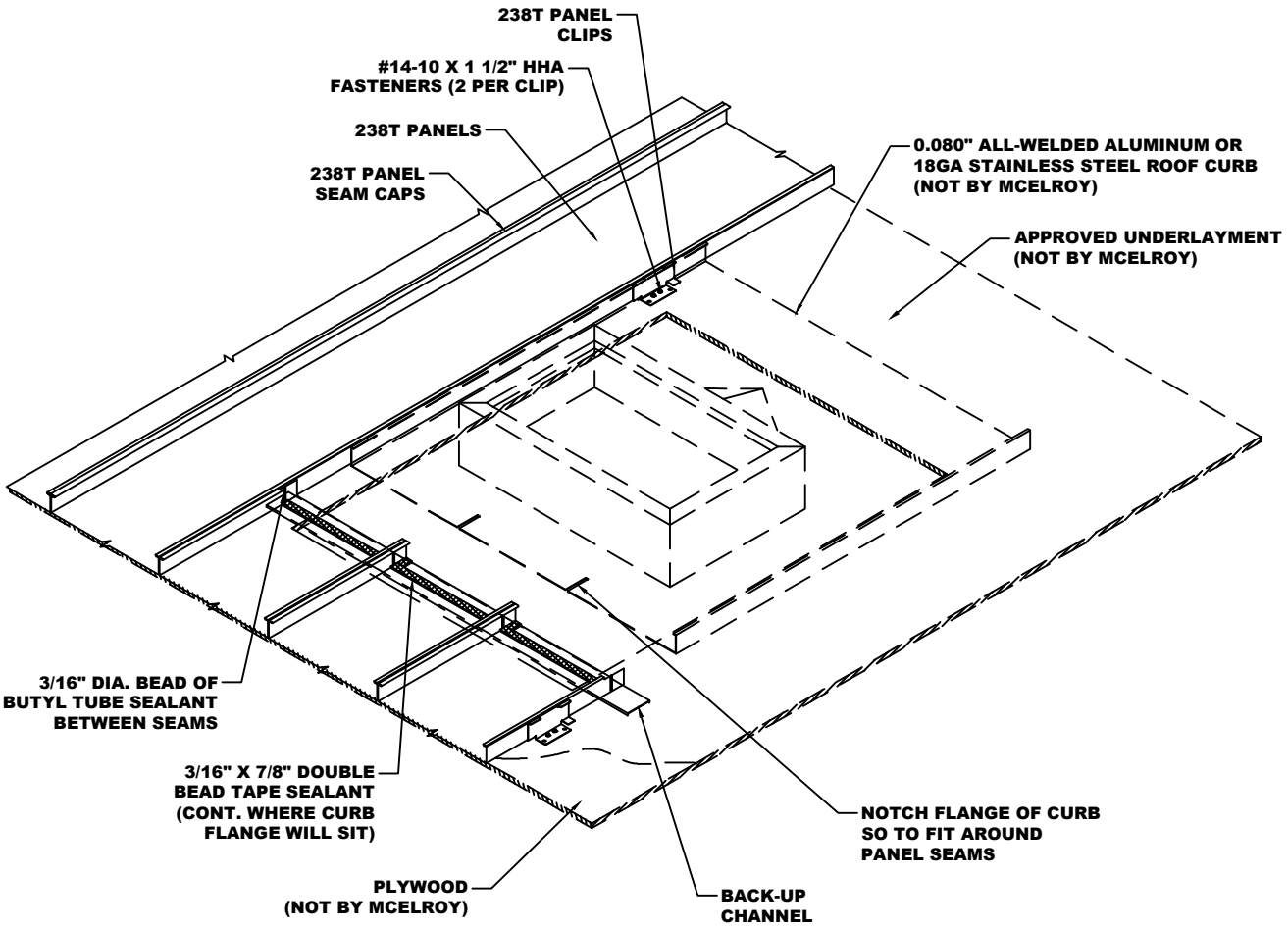

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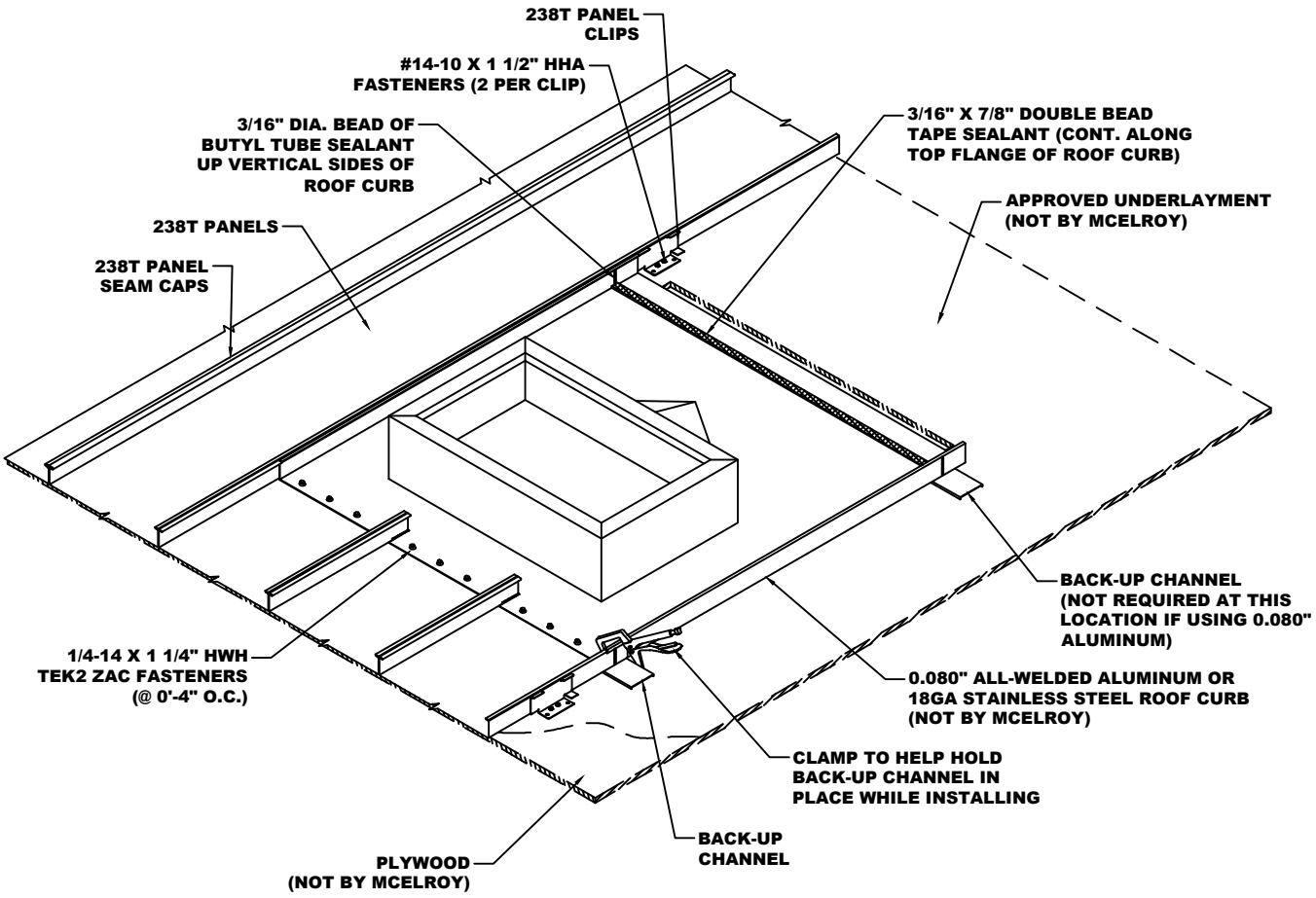
SEAM TO SEAM ROOF CURB INSTALLATION DETAILS



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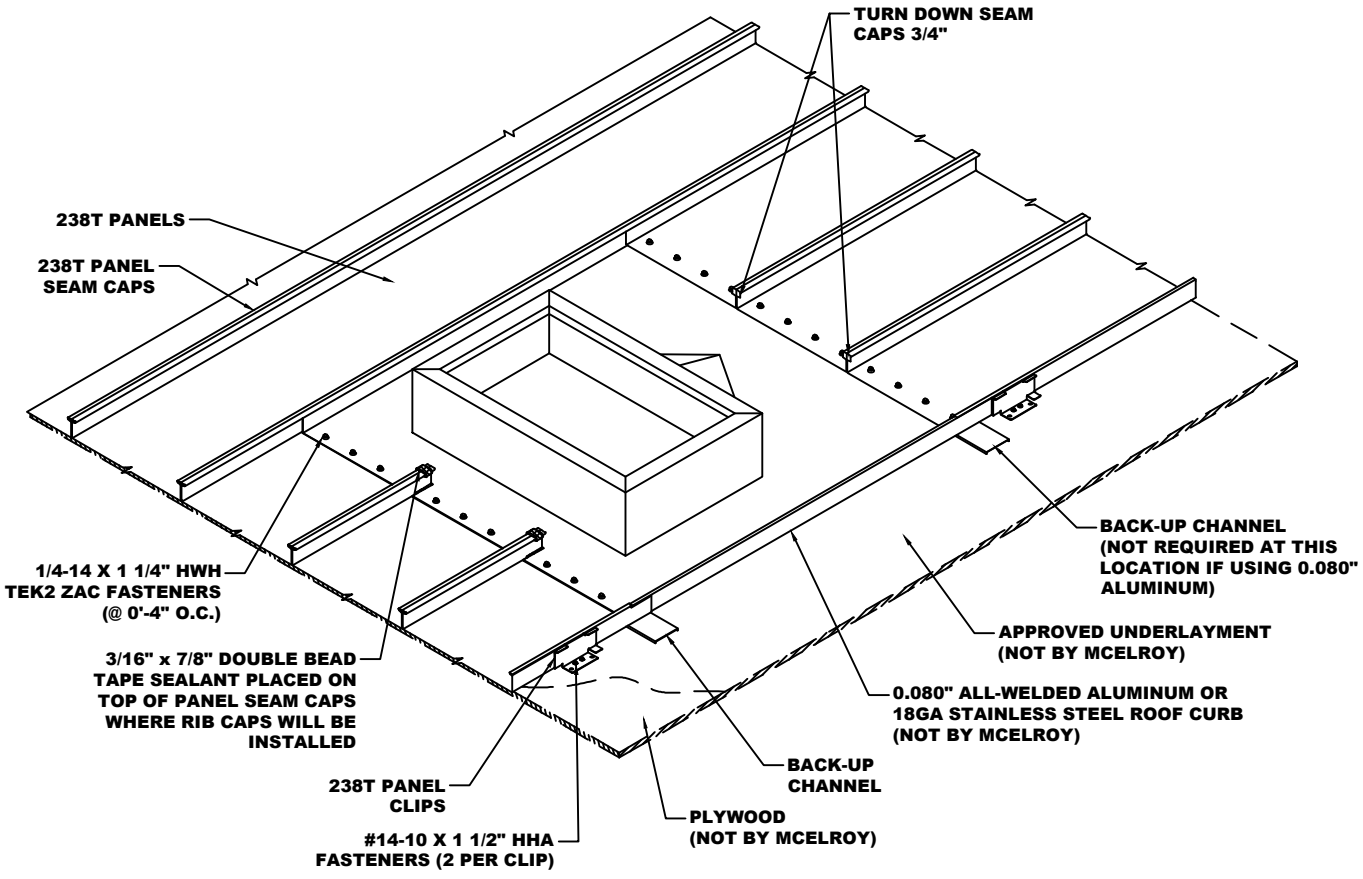

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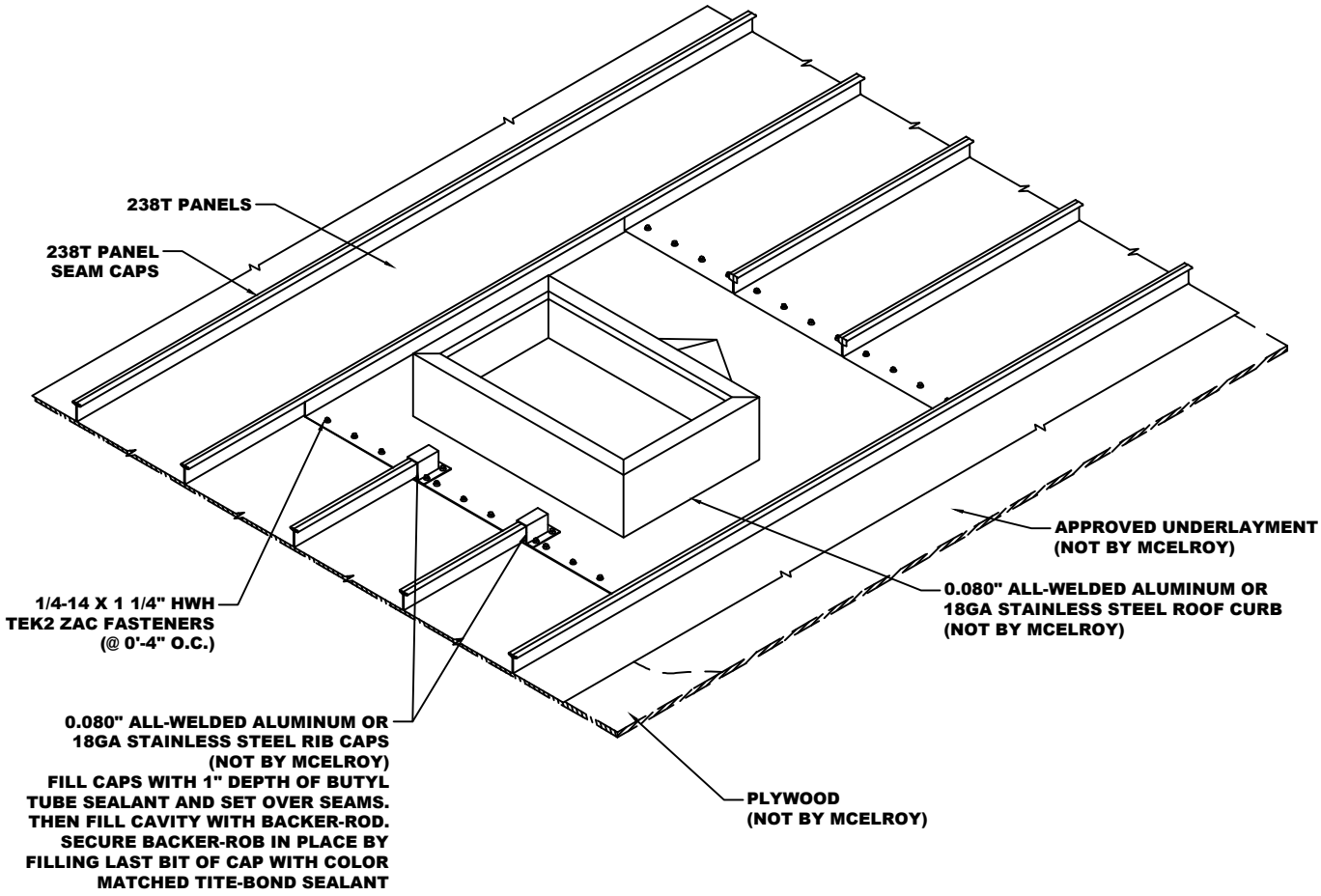
SEAM TO SEAM ROOF CURB INSTALLATION DETAILS



STEP #5

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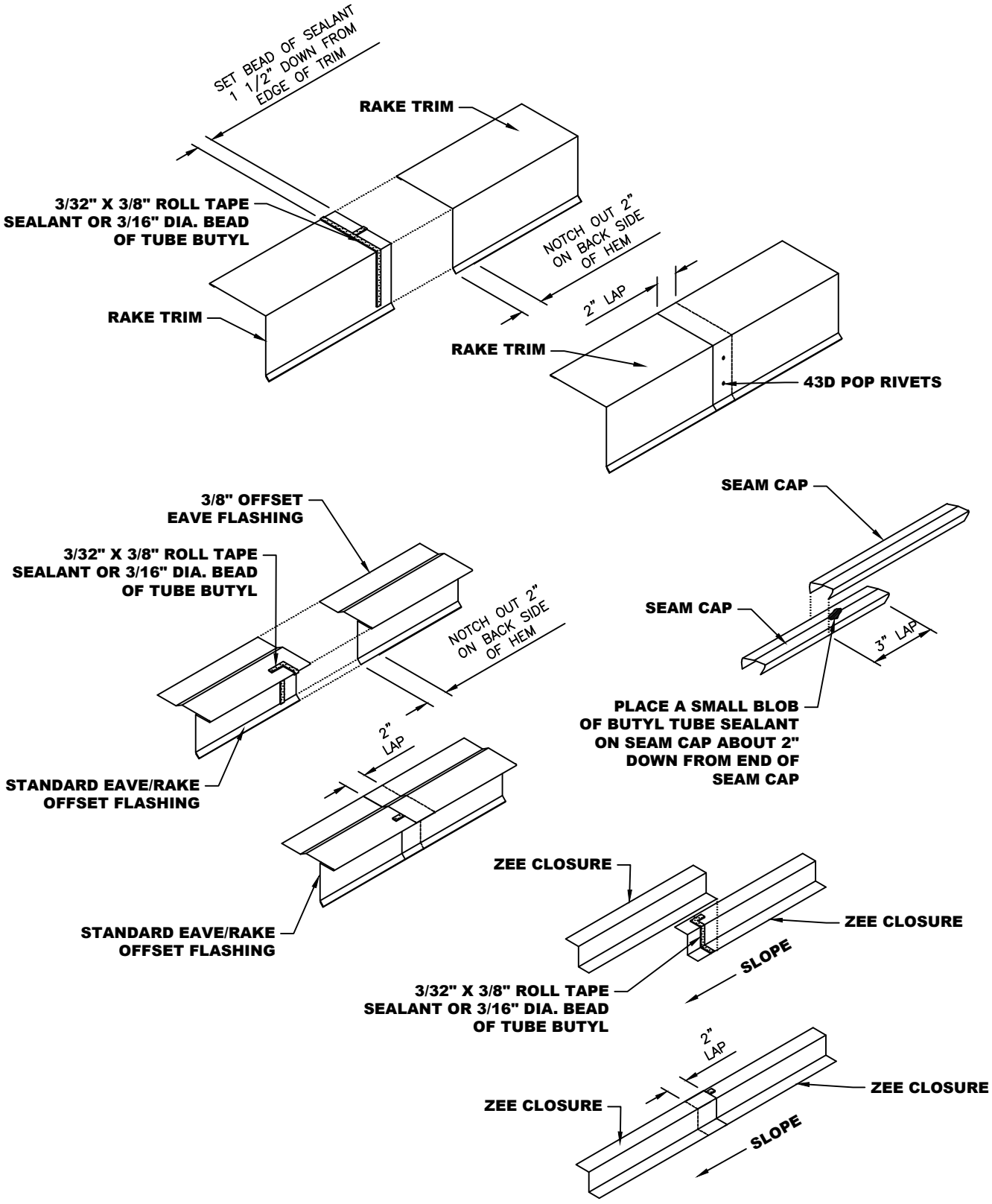
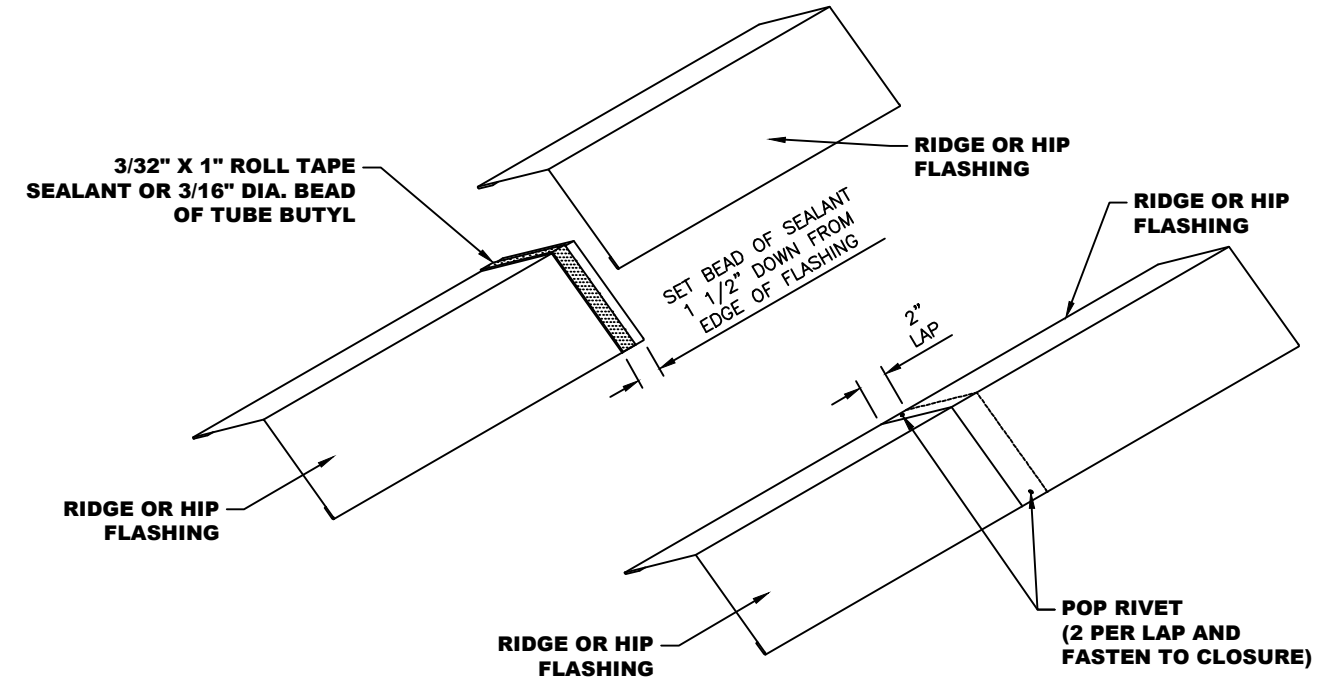
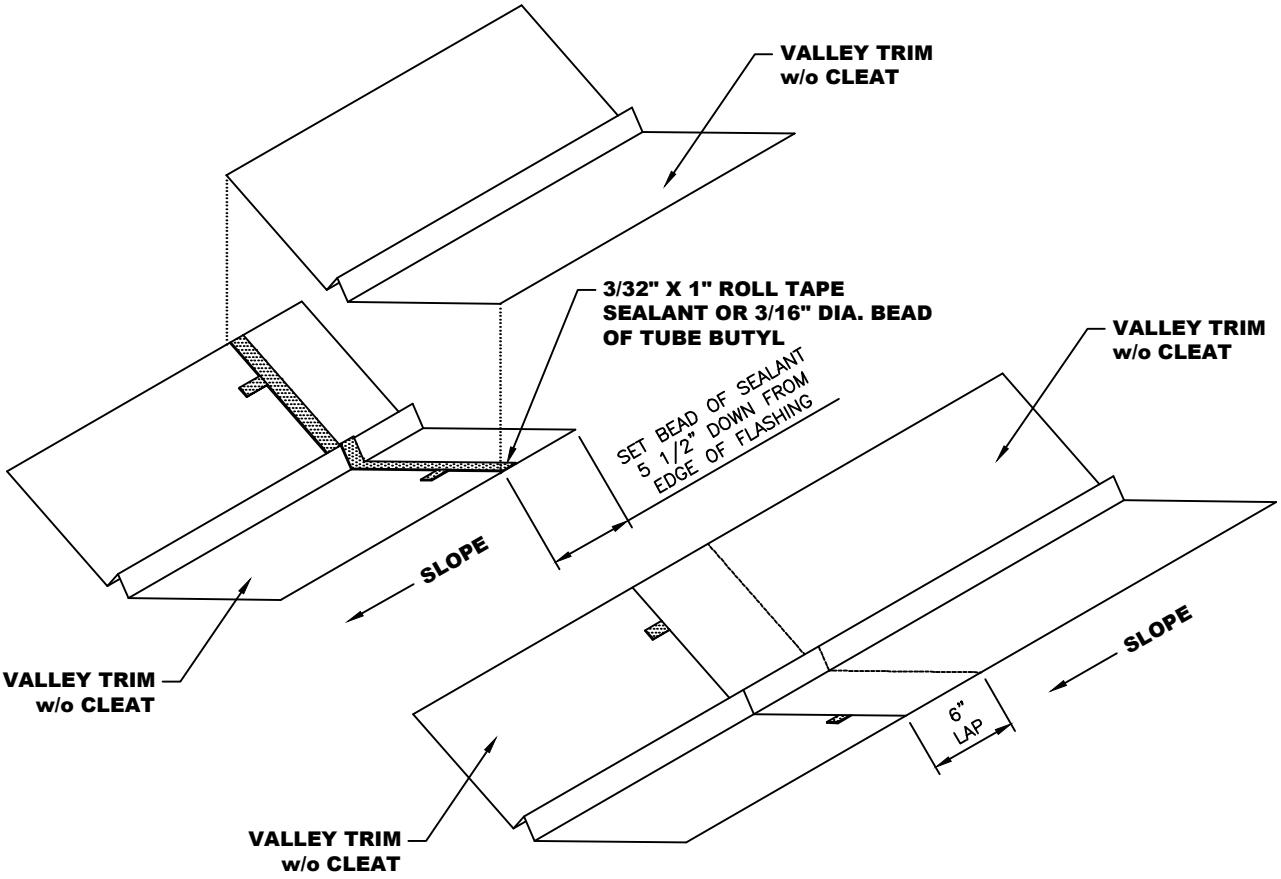
TYPICAL TRIM LAP DETAIL



NOTE: 1. Apply 3/32" x 3/8" Roll Tape Sealant or a 3/16" Dia. bead of Tube Butyl 1 1/2" back from the edge of the trim. Also, apply a piece of tape sealant or bead of Tube Butyl as a Pigtail to completely seal joint.
2. Notch the hems on the upper trim piece 2" so that the trim will fit flat in the lap joint.
3. Secure trim laps with Pop Rivets as shown above.

TYPICAL TRIM LAP DETAIL





NOTE: 1. Apply 3/32" x 1" Roll Tape Sealant or a 3/16" Dia. bead of Tube Butyl 1 1/2" back from the edge of the trim.
2. Notch the hems on the upper trim piece 2" so that the trim will fit flat in the lap joint.
3. Secure trim laps with Pop Rivets as shown above.

McELROY METAL
Employee Owned

☆ MANUFACTURING LOCATIONS ● SERVICE CENTERS ★ MANUFACTURING AND SERVICE CENTER

CORPORATE OFFICE
1500 HAMILTON RD.
BOSSIER CITY, LA 71111

MANUFACTURING LOCATIONS

ADELANTO, CA | **ASHBURN, GA** | **BOSSIER CITY, LA** | **CLINTON, IL** | **DIAMOND, MO**

HOUSTON, TX | **LEWISPORT, KY** | **LOCKHART, TX** | **MARSHALL, MI** | **MAUSTON, WI**

MERKEL, TX | **PEACHTREE CITY, GA** | **SUNNYVALE, TX** | **WINCHESTER, VA**

McELROY METAL
SERVICE
CENTER
EMPLOYEE OWNED

17031 Koala Road
Adelanto, CA 92301

3052 Yadkin Road
Chesapeake, VA 23323

409 Lovejoy Road
Ft. Walton Beach, FL 32548

10504 E. 59th Street
Indianapolis, IN 46236

1020 Veterans Street
Mauston, WI 53948

613 North Bierdeman Rd.
Pearl, MS 39208

8200 Berry Ave. Suite 100
Sacramento, CA 95828

325 McGhee Rd.
Winchester, VA 22603

5215 Leo St.
Alexandria, LA 71301

9476 Meadowbrook Rd.
Clinton, IL 61727

3014 Lincoln Court
Garland, TX 75041

32 Industrial Circle
Lancaster, PA 17601

5123 Terminal Dr.
McFarland, WI 53558

8511 Industrial Drive
Pearland, TX 77584

1365 Dean Forest Rd.
Savannah, GA 31405

1007 Wilso Dr,
Baltimore, MD 21223

3215 Highway 59
Diamond, MO 64840

1440 Aldine Bender Road
Houston, TX 77032

9435 US Hwy. 60 W.
Lewisport, KY 42351

514 Cave Road
Nashville, TN 37210

2755 Hwy 60
Pendergrass, GA 30567

7355 Oakley Industrial Blvd.
Union City, GA 30291

1500 Hamilton Rd.
Bossier City, LA 71111

390 N. Valley Dell Dr.
Fenton, MO 63026

221 Benelli Drive
Hutto, TX 78634

2701 Cahill Street
Lockhart, TX 78644

8304 Hwy. 70 E.
North Little Rock, AR 72117

7450 Tower Street
Richland Hills, TX 76118

1144 Silstar Rd.
West Columbia, SC 29170

TECH DATA

Retrofit Roof Framing 13145

-ROOF HUGGER™

1. MANUFACTURER

ROOF HUGGER, LLC
142 Whitaker Road
Lutz, Florida 33549
(800) 771-1711
Fax: (877) 202-2254
Email: sales@roofhugger.com
Website: www.roofhugger.com

2. PRODUCT NAME/DESCRIPTION

ROOF HUGGER Sub-Purlin System

BASIC USE

ROOF HUGGER, established in 1991 is the original manufacturer of Structural Factory-Notched Sub-Purlins for existing sloped metal roofs.

As an innovator in "Metal-over-Metal" re-roofing systems, ROOF HUGGER has made numerous product and technological contributions to the industry and continues to offer the latest technology for retrofitting over existing metal roofs.

ADVANTAGES

- ROOF HUGGER Sub-purlins are installed on the exterior of the existing building so operations within can continue without interruptions during the retrofit process.
- ROOF HUGGER Sub-purlins are custom punched to the profile of the existing metal roof allowing for the maximum structure to structure connection of the framing members
- ROOF HUGGER Sub-purlins can be fabricated to any specific height from 1.25" tall up to 10" tall to accommodate any specified thickness of insulation.
- ROOF HUGGER Sub-Purlins have had extensive E-1592 performance testing
- ROOF HUGGER has several Florida Product Approved and FM approved assemblies.
- ROOF HUGGER Sub-Purlins have been demonstrated, in some cases, to add capacity to the existing purlins.
- ROOF HUGGER projects can be engineered on a "project specific" basis for installations requiring any non-standard condition to be addressed.
- ROOF HUGGER patented anti-rotational Sub-purlins can be used to address drag load conditions, points of fixity conditions and existing tall clip metal roof assemblies
- The cavity created by the ROOF HUGGER Sub-Purlins can be incorporated to add insulation, thermal collection and above sheeting ventilation.

PRODUCT TYPES

- MODEL "C" – This part is 1.83" tall and designed to accommodate existing ribbed metal roofing panels with 1-1/2" or less major ribs spaced at 12" on center.

Model "C" Profile

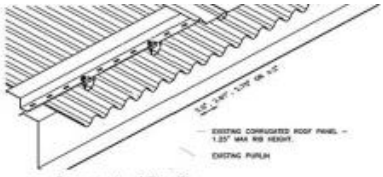
- MODEL "D" – This part is 4.5" tall and designed to accommodate existing 24" o.c. Trapezoidal SSR metal roof panels that do not have tall clips and thermal spacers.

Trapezoidal Rib SSR Profile Model - D

- MODEL "T" – This part is 4.5" tall and designed with a patented anti-rotational arm to accommodate existing 24" o.c. Trapezoidal SSR metal roof panels that are installed with tall clips and/or thermal spacers.

SPECIAL 1.5 x 4.5 x 2 (Model T) FOR EXISTING TRAP SSR W/ TALL CLIPS

- CORRU-FIT© HUGGERS – This system is a 2.75" total height 2-piece assembly consisting of a 1.25" or 1.625" spacer mounted under a 1.625" or 1.125" respective Zee, with slots in the base flange specifically designed for corrugated roofs.



Corrugated Profile

- CUSTOM HUGGERS – This term refers to ROOF HUGGER Sub-Purlins that are produced to a non-standard panel profile or height to accommodate the project needs. Custom Huggers are sometimes mixed with the above parts when conditions require.

3. COMPOSITION & MATERIALS

ROOF HUGGER Sub-Purlin System base materials is minimum 50 ksi yield strength G-90 galvanized finished steel sheet per ASTM A-446 or A-570. Material is US Produced Steel 0.060" minimum material thickness 16 gauge tested to meet design loads. 14 gauge is also available as is stainless steel or other special materials.

4. TECHNICAL DATA

APPLICABLE STANDARDS

American Iron and Steel Institute – AISI *Light Gauge Cold-Formed Steel Design Manual and American Society for Testing and Materials (ASTM)*

- ASTM A-446 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality
- ASTM E-1592 Standard Test Method for Structural Performance of Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
- Florida Product Approvals
  FL 9352-R-3 and FL 9352.1 – 9352.5

5. INSTALLATION

PREPARTORY WORK

Handle and store product according to ROOF HUGGER recommendations. Protect products from damage during transit and at project site. Store components in dry storage area to prevent exposure to moisture.

The installer must first locate existing purlins or joist. If the existing roof is an exposed fastener system, then this process will be completed easily due to the existing structural member fasteners being exposed. If the existing roof system is a standing seam roof, inspection from the underside of the roof will be necessary. This will permit the installer to locate the existing purlins or joist. In this case, the installer must transfer the location of these members to the topside of the roof. Refer to the requirements mentioned above concerning existing standing seam roofs with thermal spacers and stand-off clips.

METHODS

Install and anchor in accordance with the ROOF HUGGER erection documents. Locate and attach ROOF HUGGER Sub-Purlin members to existing roof secondary support purlins or joist with the engineered quantity of anchors. The anchors are to attach through the pre-punched pilot holes. Fasteners must satisfy minimum wind uplift loads as determined by the project specifications.

PRECAUTIONS

Do not overload roof structure with stored materials. Do not proceed with installation until unsatisfactory conditions have been corrected. Isolate dissimilar metals to minimize possibility of galvanic actions. ROOF HUGGER sub-purlins and related systems are not watertight prior to new roof panel installation. Schedule construction to cover framing as installed or seal all fastener penetrations. Some standing seam panels may experience "panel rumble" under certain conditions if installed without insulation. Consult panel supplier for their specific installation recommendations.

BUILDING CODES

Current data on building code requirements and product compliance may be obtained from ROOF HUGGER technical support specialists. Installation must comply with the requirements of all applicable local, state and national code jurisdictions.

6. LIMITATIONS

ROOF HUGGER Sub-purlins are intended to attach directly above and to the existing building secondary support members. These members are most commonly zee shaped purlins, steel bar joist or other types of framing. When these members exceed the maximum spacing as dictated by the new roof panel system, the ROOF HUGGER Sub-purlins must employ "sub-rafter" and/or "struts that span over the existing purlins. By doing this, the ROOF HUGGER Sub-purlins can be installed at mid-span conditions (between existing purlins).

7. AVAILABILITY & COST

AVAILABILITY

ROOF HUGGER services the United States, Canada, Guam, Mexico and the Caribbean through direct sales and licensees. Contact the manufacturer for more information.

COST

Budget installed cost information may be obtained from a local ROOF HUGGER service office.

OFFERING

ROOF HUGGER Sub-purlins are offered as a component part or on a project-by-project lump-sum basis. ROOF HUGGER does not provide engineering analysis for anchors. For product performance data, refer to Section 9 on this page.

7. WARRANTY

ROOF HUGGER issues a standard 1 year industry workmanship warranty. Additional warranty lengths are available upon request. In addition, test reports, technical bulletins and engineering data are available from the manufacturer upon request.

8. MAINTENANCE

Once the new roof has been installed, the ROOF HUGGER Sub-purlins require no maintenance.

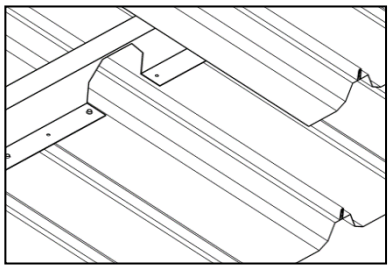
9. TECHNICAL DOCUMENTS

ROOF HUGGER's Design and Installation Guide is available for download at www.roofhugger.com. This manual contains specifications, applications and product information including complete installation details. CAD details are also available for download on the website.

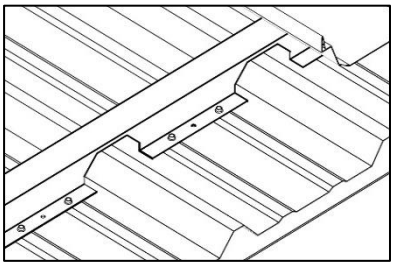
10. TECHNICAL SERVICES

Technical assistance and preliminary design load estimates are available at no charge upon request. Additional assistance and information is available from the manufacturer upon request.

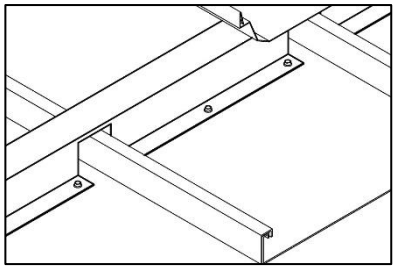
The illustrations and photos below show some of our standard profile sub-purlin systems.



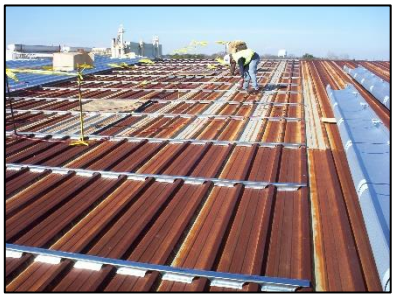
ROOF HUGGER Sub-purlin for existing Trapezoidal Rib standing seam panels with new Trapezoidal Rib SSR.

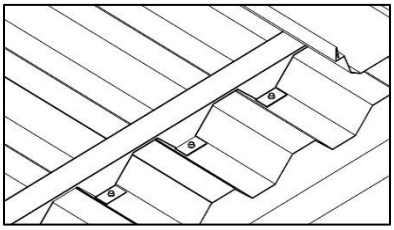


Model "C" ROOF HUGGER Sub-Purlin System installed over existing exposed fastener Ribbed Panel with new Trapezoidal Rib SSR. Also, available for existing 6" to 10" rib spacing.



ROOF HUGGER Sub-purlin for existing Vertical Rib standing seam panels with new Trapezoidal Rib SSR..





ROOF HUGGER Sub-purlin for existing exposed fastened 7.2" Ribbed Panels with new Trapezoidal Rib SSR (see photo to right).

Photo of 7.2" Rib as shown in illustration to Left

PORTABLE #6

PORTABLE #7

WORK AREA, REFER TO LEGEND

WORK AREA, REFER TO LEGEND

BUILDING 'C'

BUILDING 'D'

WORK AREA, REFER TO LEGEND

WORK AREA, REFER TO LEGEND

BUILDING 'B'

BUILDING 'E'

WORK AREA, REFER TO LEGEND

WORK AREA, REFER TO LEGEND

WORK AREA, REFER TO LEGEND

BUILDING 'A' (N.I.C.)

01

REPLACE CORRODED ROOF FRAMING BEHIND FASCIA, AND REPLACE FASCIA. PATCH, REPAIR, AND FINISH TO MATCH EXISTING, REF. TO A3.04

PORTABLE #3

PORTABLE #4

PORTABLE #5

WORK AREA, REFER TO LEGEND

REPLACE RUSTED PURLINS

WORK AREA, REFER TO LEGEND

REPLACE RUSTED PURLINS

PORTABLE #1

PORTABLE #2

WORK AREA, REFER TO LEGEND

BUILDING 'F'

WORK AREA, REFER TO LEGEND

BUILDING 'G'

WORK AREA, REFER TO LEGEND

01 CAMPUS SITE PLAN

SCALE: 1" = 20'-0"

NORTH

- REPLACE RUSTED PURLIN
- REPLACE RUSTED BOLTS AND NUTS
- REMOVE RUST ON COLUMN AND TREAT WITH GALVANIZING COATING
- REPLACE GALVANIZED ANGLE AND INSTALL WITH BOLTS
- LAP SEAM ROOF PANEL TO REMAIN REPLACE TRIM, DOWNSPOUTS AND ACCESSORIES.
- AVADEK TO REMAIN NO WORK AT THESE LOCATIONS

IDEA DONNA PHASE 2

No.	REVISIONS	BY
01	091925-S.O.W. CLARIFICATIONS	GMS

GMS ARCHITECTS

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IDEA PUBLIC SCHOOLS
EXTERIOR SIDEWALK CANOPY REPAIRS
DONNA, TEXAS

IDEA Public Schools

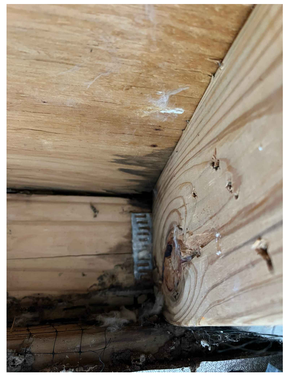
REGISTERED ARCHITECT ROAN GOMEZ 23675 STATE OF TEXAS
10-25-25

Date:	September 2025
Scale:	As Noted
Project Architect:	Roan Gomez, AIA
Drawn By:	CG, RG
Job No.	IDEA DONNA
Sheet:	A1.01

PORTABLE BUILDING REPAIRS

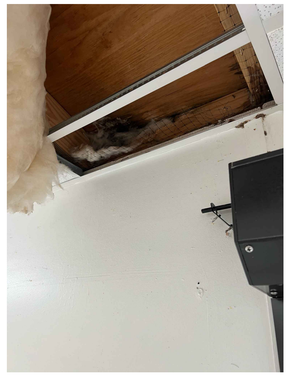
01 DAMAGE AT CLG.
SCALE: NTS

02 DAMAGE AT TOP PLATE
SCALE: NTS

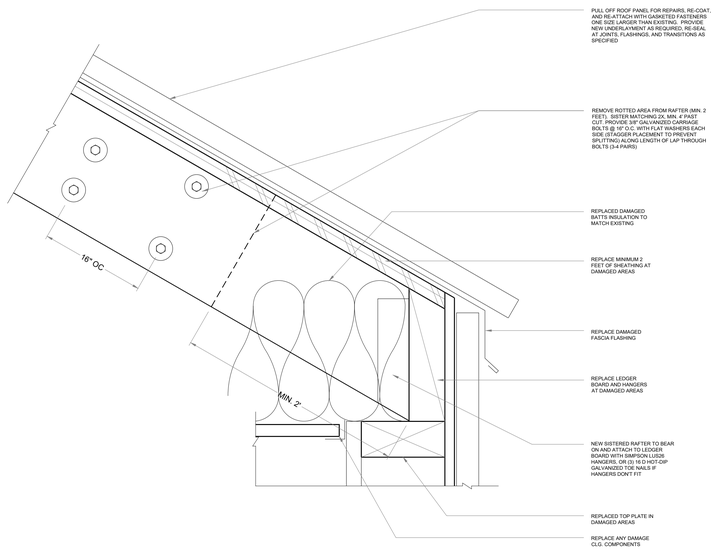


03 DAMAGE AT RAFTER TO LEDGER
SCALE: NTS

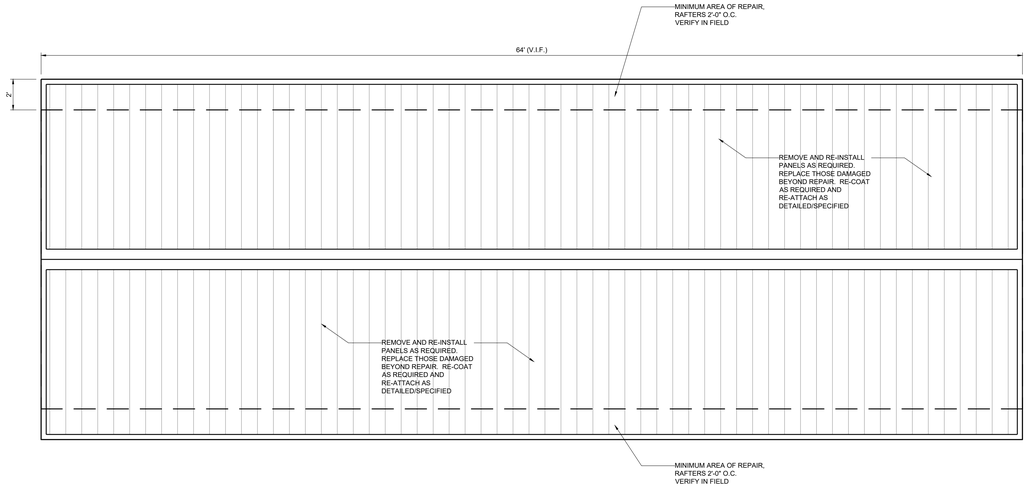
04 DAMAGE AT ROOF SHEATHING/INSUL.
SCALE: NTS



05 DAMAGE AT ROOF SHEATHING/INSUL.
SCALE: NTS



06 EAVE REPAIR AT DAMAGED AREAS
SCALE: NTS



07 PORTABLE BUILDING ROOF PLAN
SCALE: 1/4"= 1'-0"

No.	REVISIONS	BY
1	091925-S.O.W. CLARIFICATIONS	GMS

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IDEA PUBLIC SCHOOLS
EXTERIOR FACILITY IMPROVEMENTS
DONNA, TEXAS
IDEA Public Schools

IDEA DONNA PHASE 2

Date: September 2025
Scale: As Noted
Project Architect: Roan Gomez, AIA
Drawn By: CG,RG
Job No: IDEA FACILITIES
Sheet: A3.04