

Force Engineering & Testing  
19530 Ramblewood Drive  
Humble, Texas 77338  
Office: (281) 540-6603 Test Lab: (832) 720-4251  
[www.forceengineeringtesting.com](http://www.forceengineeringtesting.com)

**Product Evaluation Report**  
**McELROY METAL, INC.**

***238T Roof Panel Coverage over open framing***

**Florida Product Approval # 27197.1 R5**

Florida Building Code 2026  
Per Rule 61G20-3  
Method: 1 –D

Category: Structural Components  
Subcategory: Roof Deck  
Compliance Method: 61G20-3.005(1)(d)  
HVHZ

**Product Manufacturer:**

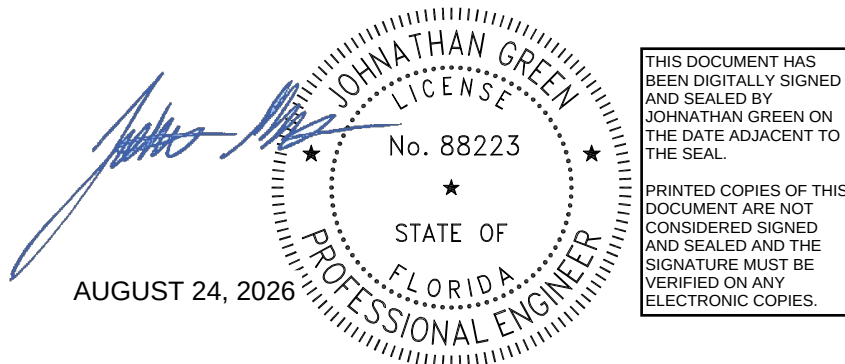
**McElroy Metal, Inc.**  
1500 Hamilton Road  
Bossier City, LA 71111

**Engineer Evaluator:**

**Johnathan Green, P.E. #88223**  
Florida Evaluation ANE ID: 12901

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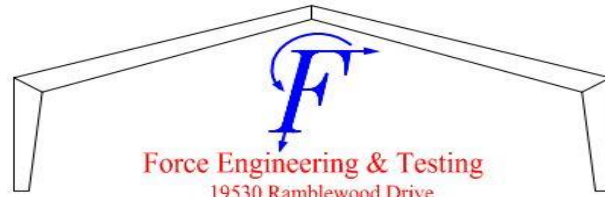
| <b>Compliance Statement:</b>              | The product as described in this report has demonstrated compliance with the Florida Building Code 2026, Sections 1504.3.2, 1518.9, 1523.6.5.2.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|------------|-------|------------|-----------|-----------------|-------|------------|
| <b>Product Description:</b>               | 238T 0.04" Aluminum Roof Panel, 16" Coverage, standing seam structural roof panel. Structural Application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Panel Material/Standards:</b>          | Material: 0.04" Aluminum, ASTM B209 3003 H14 Aluminum conforming to Florida Building Code 2026 Section 1507.4.3.<br>Paint Coating: Valspar Fluoropon Coating (Optional)<br>Corrosion Resistance: Panel Material shall comply with Florida Building Code 2026, Section 1507.4.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Panel Dimension(s):</b>                | Thickness: 0.040" min.<br>Coverage: 16" nominal coverage<br>Rib: 2 3/8" tall T Rib<br>Panel Seam: Mechanically seamed<br>Panel Seam Cap: 0.04" Aluminum with (2) beads of factory applied sealant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Panel Clip:</b>                        | Product Name: Standard Clip<br>Type: Fixed, 16 Ga. steel, 6" long<br>Product Name: 24 Ga. Multi-Span Clip<br>Type: Fixed, 24 Ga. painted steel ASTM A792 50 ksi<br>Corrosion Resistance: Per Florida Building Code 2026 Section 1506.7 and Section 1711 for installations within 3000 ft. of a saltwater coastline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Panel Clip Fastener:</b>               | (2) ¼-14 x 1 ¼" HWH SD no washer per clip<br>Corrosion Resistance: Per Florida Building Code 2026 Section 1517.6 and Section 1711 for installations within 3000 ft. of a saltwater coastline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Substrate Description:</b>             | Min. 16 Ga. Steel Framing. Must be designed in accordance w/ Florida Building Code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| <b>Allowable Design Uplift Pressures:</b> | <b>Panel Allowables for Uplift Pressures:</b><br>Maximum Bending Moment of the panel at Support: 125.57 lbs-ft<br>Maximum Bending Moment of the panel at Mid Span: 90.52 lbs-ft<br>Maximum Panel Interior Support Reaction: 268.0 lbs<br>Maximum Panel Exterior Support Reaction: 92.2 lbs<br>Maximum Allowable Deflection of Roof Panel = L/180<br>Panel EI Value: 987,715.0 lbs-in <sup>2</sup><br><b>Maximum Allowable Uplift Pressure for Panel with 16 Ga. Standard Clip:</b><br><table> <tr> <th>Clip Spacing</th><th>Uplift Pressure</th></tr> <tr> <td>5'-0"</td><td>-46.9 psf</td></tr> <tr> <td>4'-0"</td><td>-58.6 psf</td></tr> <tr> <td>3'-0"</td><td>-78.2 psf</td></tr> <tr> <td>2'-6"</td><td>-93.8 psf</td></tr> <tr> <td>2'-0"</td><td>-117.3 psf</td></tr> <tr> <td>1'-0"</td><td>-140.5 psf</td></tr> </table> <b>Maximum Allowable Uplift Pressure for Panel with 24 Ga. Multi Span Clip:</b><br><table> <tr> <th>Clip Span</th><th>Uplift Pressure</th></tr> <tr> <td>5'-0"</td><td>-114.5 psf</td></tr> </table> | Clip Spacing | Uplift Pressure | 5'-0" | -46.9 psf | 4'-0" | -58.6 psf | 3'-0" | -78.2 psf | 2'-6" | -93.8 psf | 2'-0" | -117.3 psf | 1'-0" | -140.5 psf | Clip Span | Uplift Pressure | 5'-0" | -114.5 psf |
| Clip Spacing                              | Uplift Pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 5'-0"                                     | -46.9 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 4'-0"                                     | -58.6 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 3'-0"                                     | -78.2 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 2'-6"                                     | -93.8 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 2'-0"                                     | -117.3 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 1'-0"                                     | -140.5 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| Clip Span                                 | Uplift Pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |
| 5'-0"                                     | -114.5 psf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                 |       |           |       |           |       |           |       |           |       |            |       |            |           |                 |       |            |



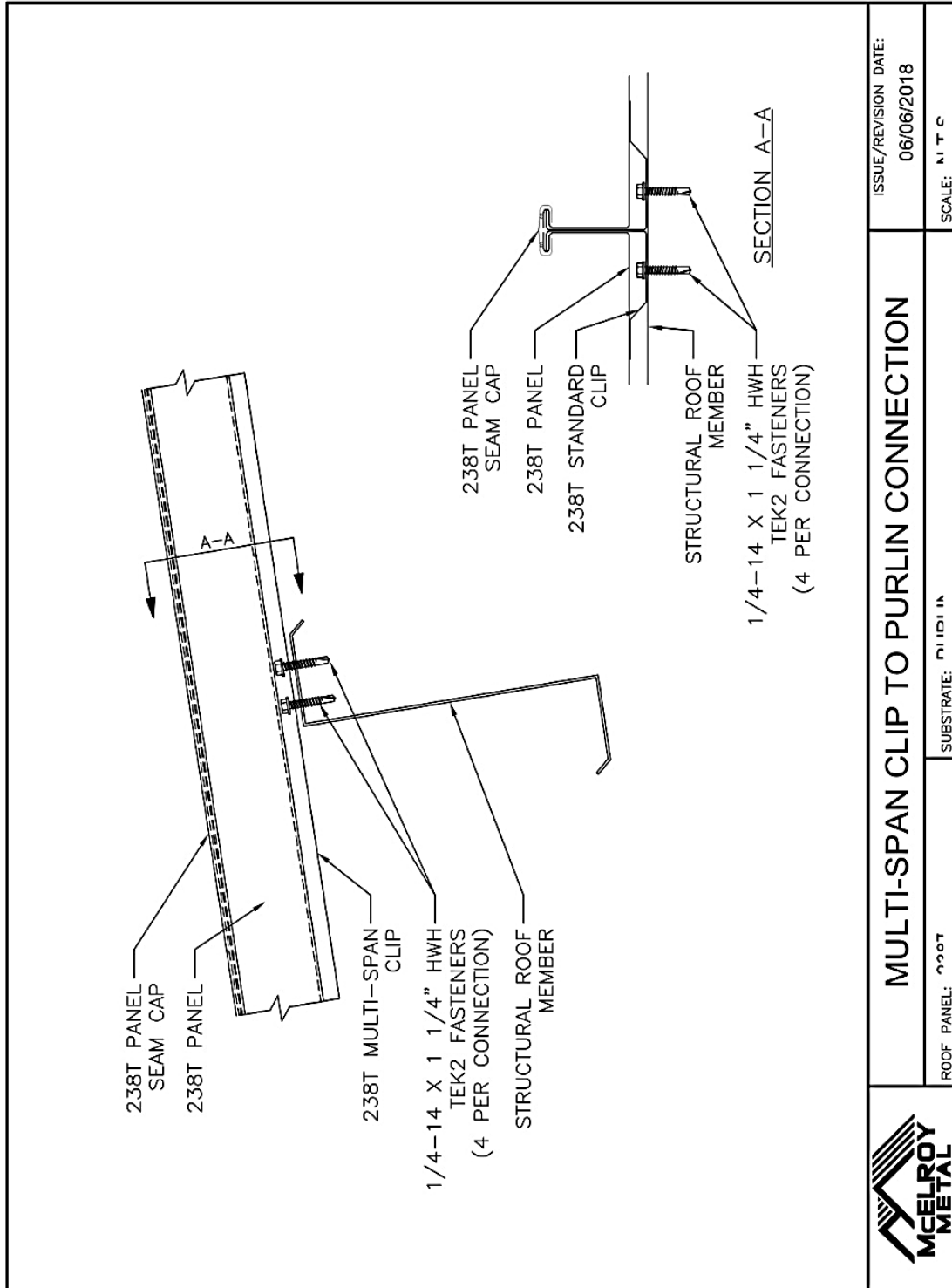
|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Code Compliance:</b>           | The product described herein has demonstrated compliance with The Florida Building Code 2026, Sections 1504.3.2, 1518.9, 1523.6.5.2.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Evaluation Report Scope:</b>   | The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2026, as relates to Rule 61G20-3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Performance Standards:</b>     | <p>The product described herein has demonstrated compliance with:</p> <ul style="list-style-type: none"><li>▪ TAS 125-03</li><li>▪ ASTM E 1592-05(2017) Test method for structural performance of sheet metal roof and siding systems by uniform static air pressure difference.</li><li>▪ TAS 201-94 - Impact Testing</li><li>▪ FM 4471 Appendix G for roof slopes less than 2:12.</li><li>▪ TAS 100-23 Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems</li><li>▪ TAS 110-00 - Accel. Weathering ASTM G155 / Salt Spray ASTM B 117</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Reference Data:</b>            | <ol style="list-style-type: none"><li>1. TAS 125-03: ASTM E 1592-05(2012)<br/>Force Engineering &amp; Testing, Inc. (FBC Organization # TST-5328)<br/>Report No. 90-0231T-16A, B &amp; 90-0014T-18C</li><li>2. TAS 201-94<br/>Force Engineering &amp; Testing, Inc. (FBC Organization # TST-5328)<br/>Report No. 90-0014T-18A</li><li>3. TAS 100-95<br/>Farabaugh Engineering &amp; Testing, Inc. (FBC Organization # TST-1654)<br/>Report No. T173-18</li><li>4. FM 4471 Appendix G<br/>Force Engineering &amp; Testing, Inc. (FBC Organization # TST-5328)<br/>Report No. 90-0014T-18B</li><li>5. TAS 110-00 Valspar Fluropon coated metal panel testing<br/>A) ASTM G 155 by PRI Construction Materials Technologies<br/>B) ASTM B 117 by PRI Construction Materials Technologies</li><li>6. UL Class A roof assembly per UL file #R6955</li><li>7. Certificate of Independence<br/>By Johnathan Green, P.E. (No. 88223) @ Force Engineering &amp; Testing<br/>(FBC Organization # ANE ID: 12901)</li></ol> |
| <b>Test Standard Equivalency:</b> | <p>The ASTM E1592-05(2012) test standard is equivalent to the ASTM E1592-05(2017) test standard.</p> <p>The TAS 100-95 test standard is equivalent to the TAS 100-23 test standard.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Quality Assurance Entity:</b>  | The manufacturer has established compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Minimum Slope Range:</b>       | 1/2:12. Minimum Slope shall comply with Florida Building Code 2026, including Section 1515.2.2 and in accordance with Manufacturers recommendations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



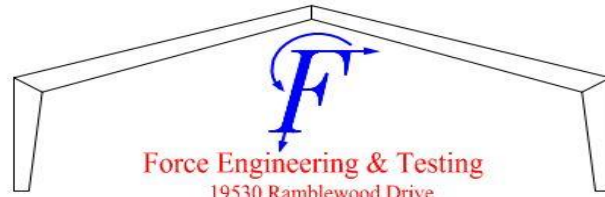
- Installation:** Install per manufacturer's recommended details and RAS 133.
- Limitation:** Metal hip and ridge covers are outside the scope of this evaluation report and must be in compliance with FBC 2026 Section 1504.3.1.1 through other product approval.
- Fire Classification:** Class A roof assembly.
- Shear Diaphragm:** Shear diaphragm values are outside the scope of this report.
- Design Procedure:** Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2026 for roof cladding wind loads. These component wind loads for roof cladding are compared to the allowable pressure listed above. The design professional shall select the appropriate erection details to reference in his drawings for proper fastener attachment to his structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with Florida Building Code 2026 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.



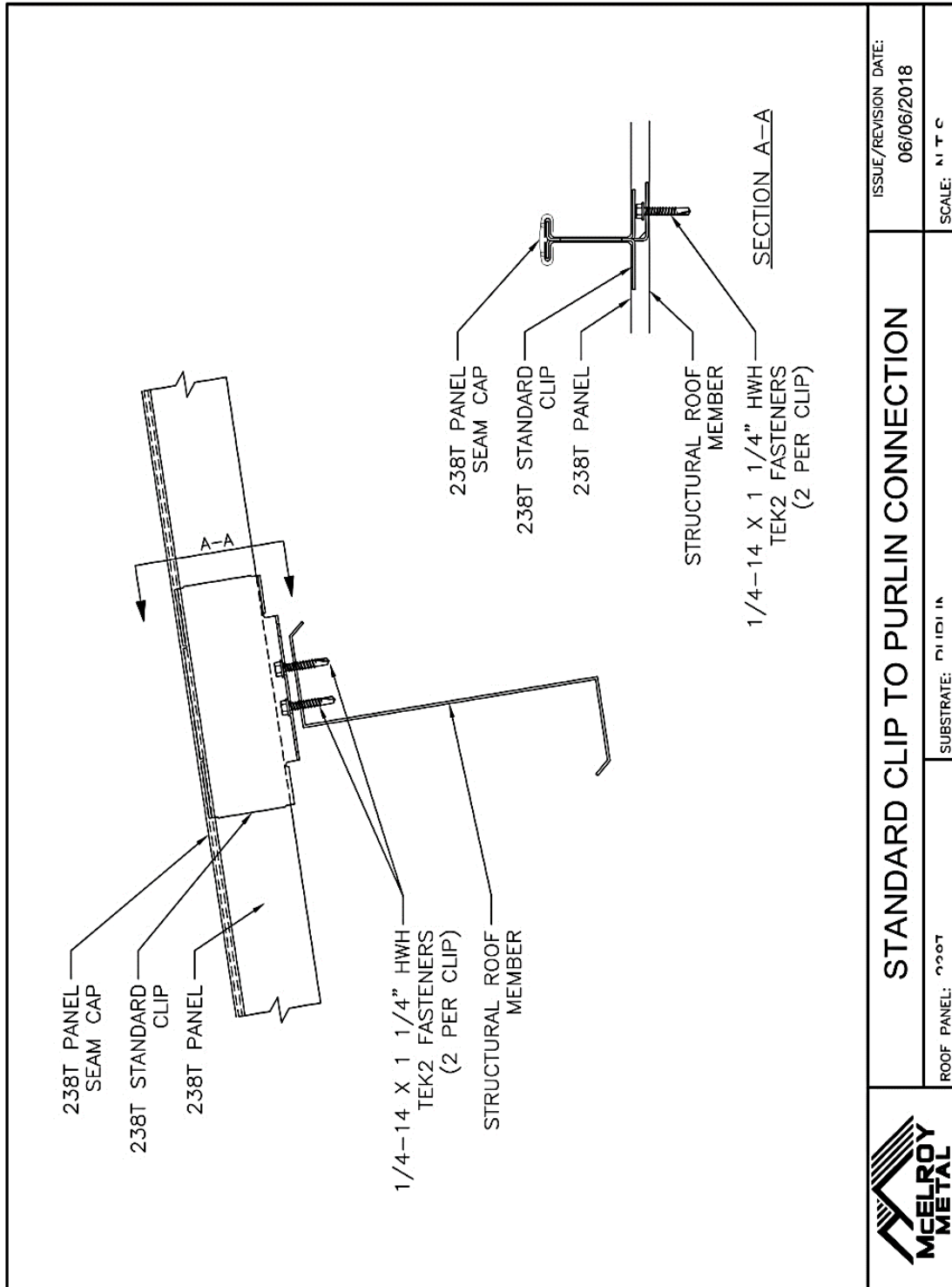
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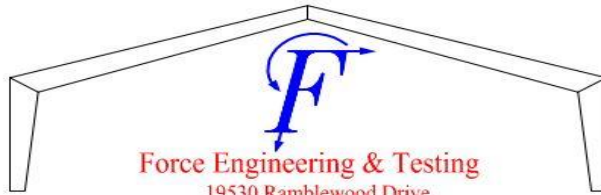
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|---------------------------------------------------------------------------------------|---------------------------------------------|---------------------|------------------------------------|
|  | <b>MULTI-SPAN CLIP TO PURLIN CONNECTION</b> |                     | ISSUE/REVISION DATE:<br>06/06/2018 |
|                                                                                       | ROOF PANEL: 990T                            | SUBSTRATE: PU101 IN | SCALE: N T C                       |



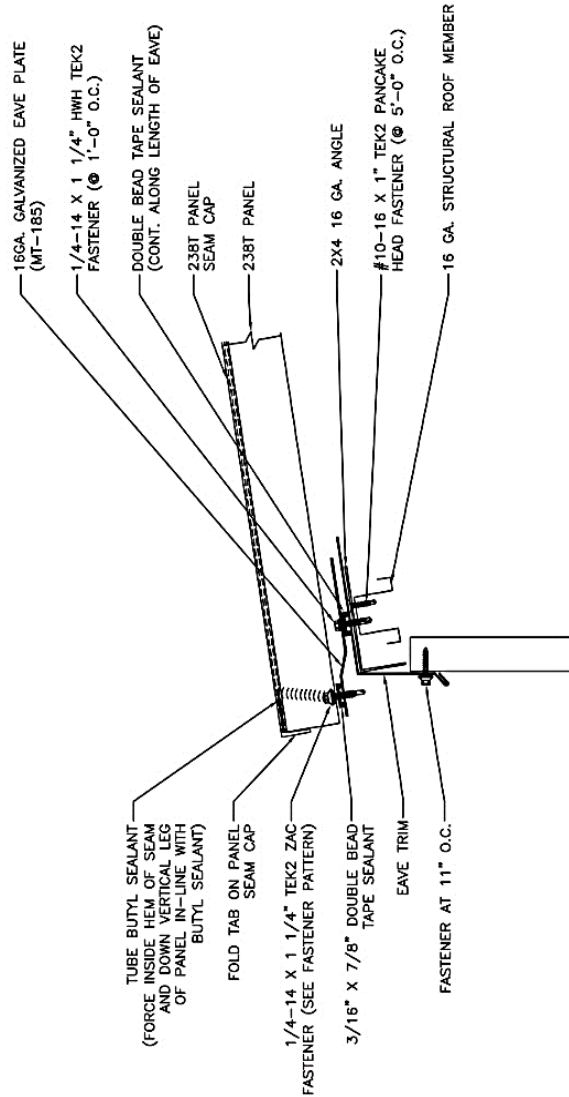
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|                                                                                       |                                    |                 |                                    |
|---------------------------------------------------------------------------------------|------------------------------------|-----------------|------------------------------------|
|  | STANDARD CLIP TO PURLIN CONNECTION |                 | ISSUE/REVISION DATE:<br>06/06/2018 |
|                                                                                       | ROOF PANEL: 238T                   | SUBSTRATE: 238T | SCALE: 1" = 1'-0"                  |



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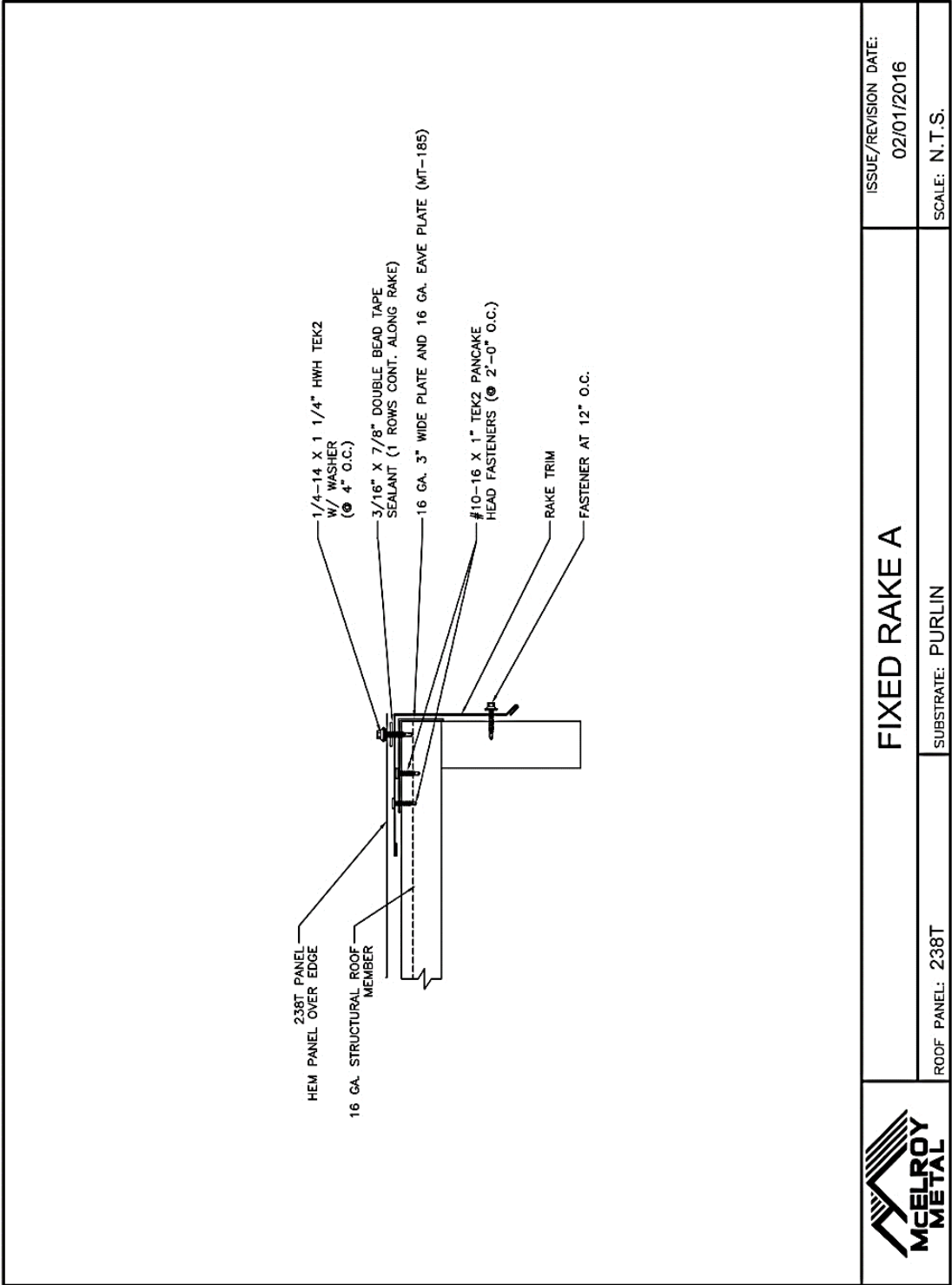
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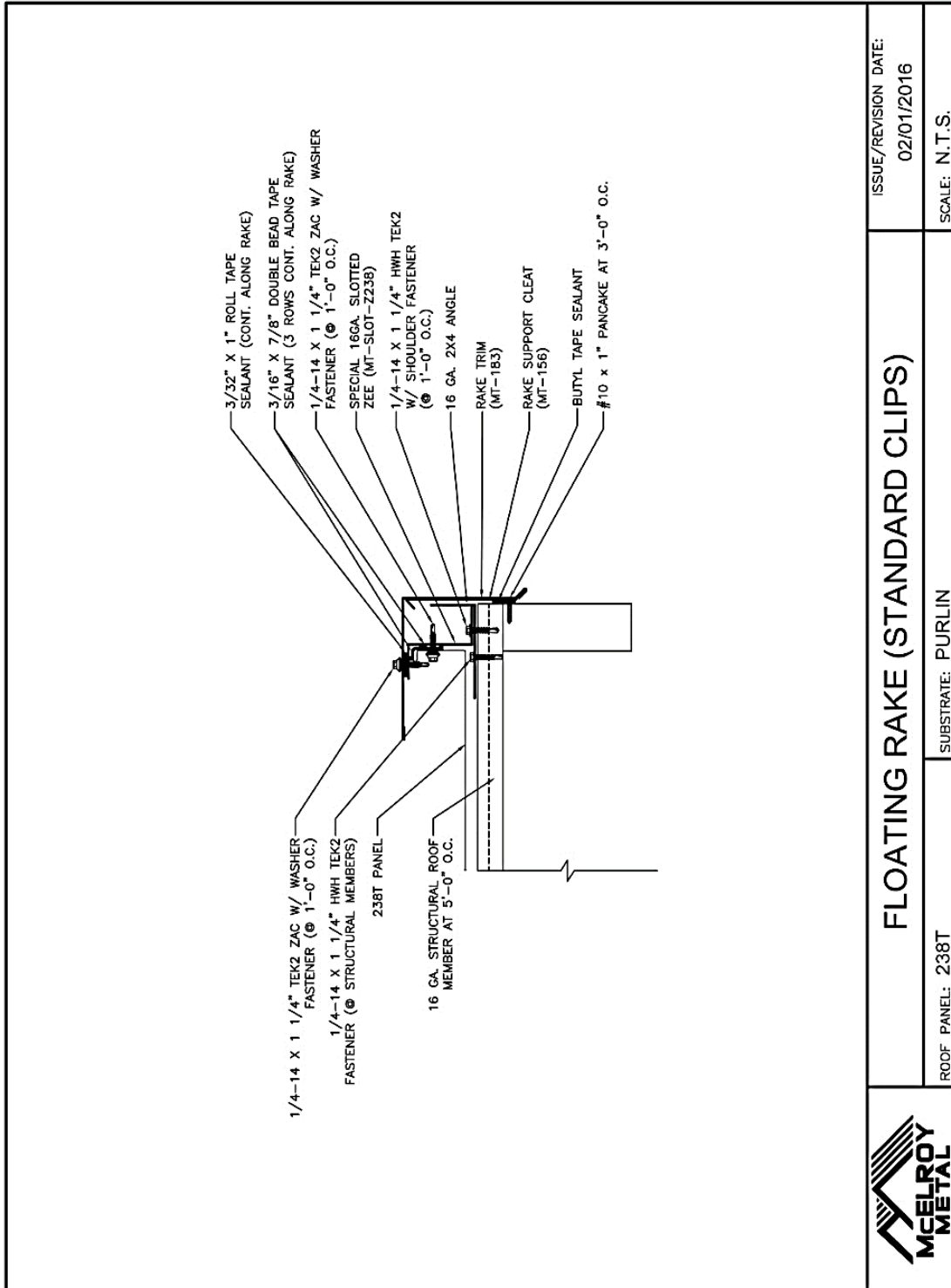
ISSUE/REVISION DATE:  
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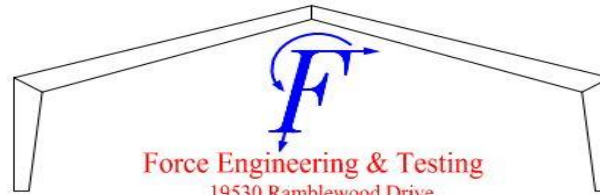
SCALE: N.T.S.

ROOF PANEL: 238T

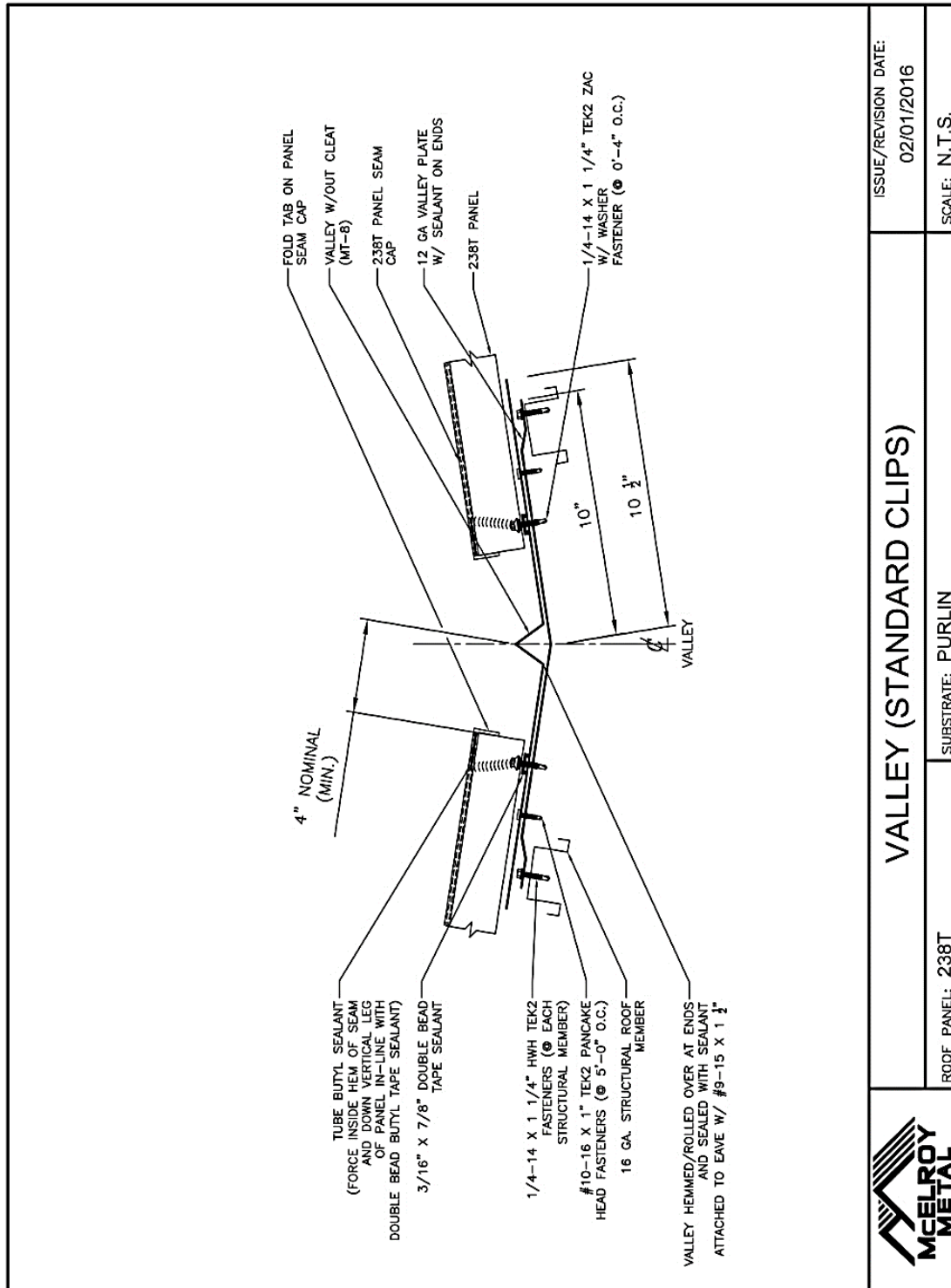
SUBSTRATE: PURLIN

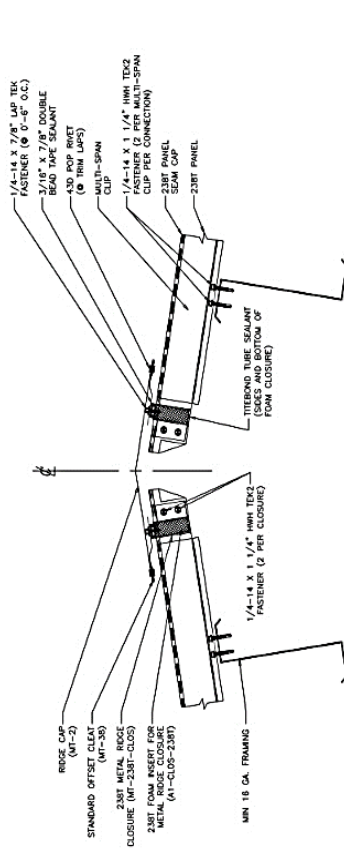




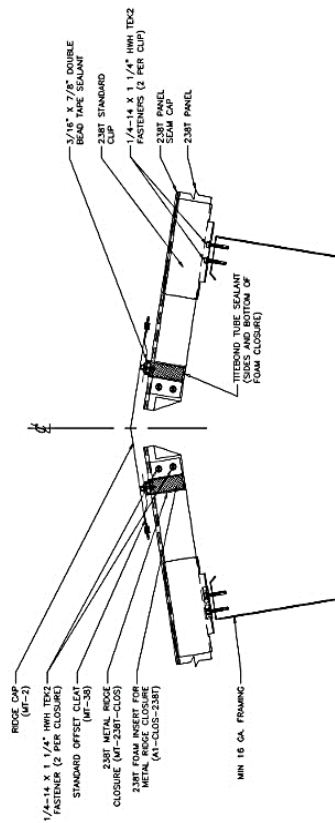


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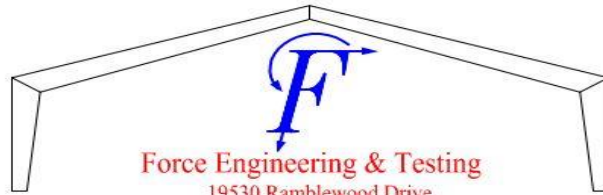




RIDGE

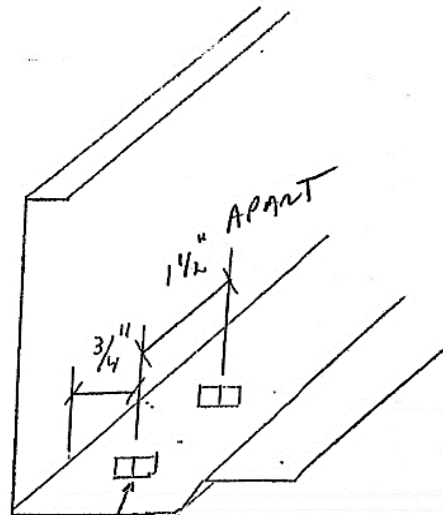
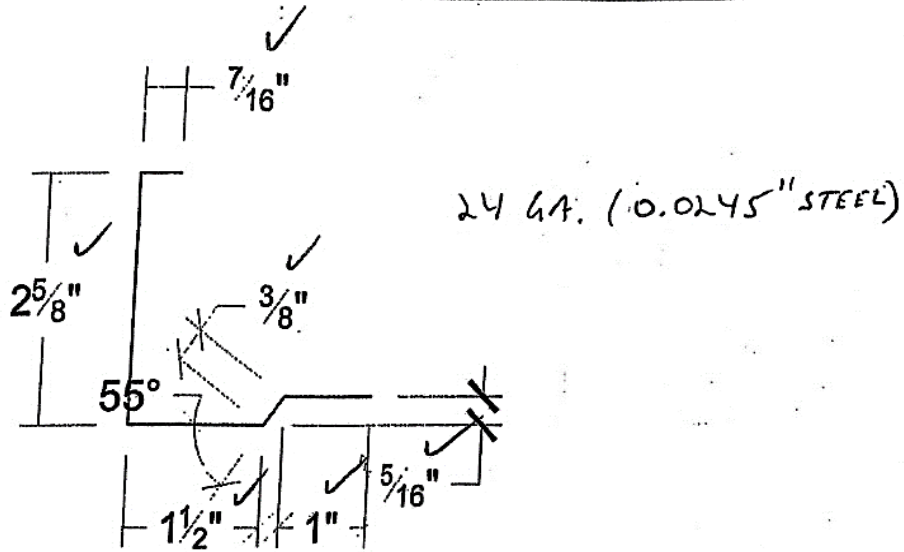


RIDGE



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|                                                                                   |                             |               |
|-----------------------------------------------------------------------------------|-----------------------------|---------------|
|  | <b>238T</b> MULTI SPAN CLIP | SALES ORDER#: |
|                                                                                   |                             | JOB NAME:     |



(2) 1/4-14 X 1 1/4" HWH NO WASHER  
 3/4" FROM VERTICAL, 1 1/2" APART