

Installation Details for Board & Batten Wall Panel Profile: Wood Substrates



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

50+ Years of SSMR, Installation & Technical Experience

www.sheffieldmetals.com

Table of Contents:

- General
- Safety Precautions
- Delivery & Storage
- Material Handling
- Pre-Installation
- System Installation Guidelines
- Clean Up
- Thermal Movement

Panel Profile

Installation Detail

Base of Wall

Top of Wall

Top of Wall at Soffit

Base of Wall at Soffit

End of Wall 1

End of Wall 2

Outside Corner 1

Outside Corner 2

Inside Corner 1

Inside Corner 2

Window/Door Sill

Window/Door Head

Window/Door Jamb

Horizontal Joint

GENERAL

The following installation details are suggestions or guidelines for installing SMI panels over wood, metal, or open frame substrates. The installation details shown here are proven methods to ensure a watertight installation but they are not intended to cover all building designs and might require changes based on specific project conditions. It is the designer's/installer's responsibility to ensure the details meet the particular building requirements and that watertight integrity of the building is maintained. Also, ensure that all project requirements are met with the chosen panel system i.e. applicable testing, wind loads, or any other performance requirement.

SAFETY PRECAUTIONS

Follow all OSHA safety practices and regulations.

Never walk on any component not designed for the weight of a person.

Extreme care should be taken when unloading, handling and installing metal walls. Material may be heavy and bulky; metal edges may be sharp; and working at heights is dangerous.

The installer should wear heavy duty gloves and a long sleeve shirt when handling metal items as they may be sharp and can cause severe cuts. Safety goggles should be worn when cutting and drilling metal items or installing fasteners.

Installer should be trained and wear the appropriate fall protection and foot wear when working on the job site.

DELIVERY & STORAGE

Unload and inspect the delivered materials for damage. Report any damaged materials promptly to the manufacturer.

The best way to reduce the possibility of damage during storage is to minimize the storage time. Other steps are designed to reduce the intrusion of water from rain, snow or condensation. A primary objective is to keep both painted and unpainted panels dry.

Storage under roof is always preferable.

Store away from materials that may contaminate the surface (such as diesel oil, paint, grease) and away from site traffic.

If panels must be stored outdoors:

Store panels in a level area away from construction activities in order to minimize the number of movements. Bundles stored on the ground must be raised several inches above a plastic ground cloth to avoid contact with puddles, allow for air circulation and to minimize condensation of water from the ground onto the panels.

Wet or treated lumber must not come in contact with the bundles.

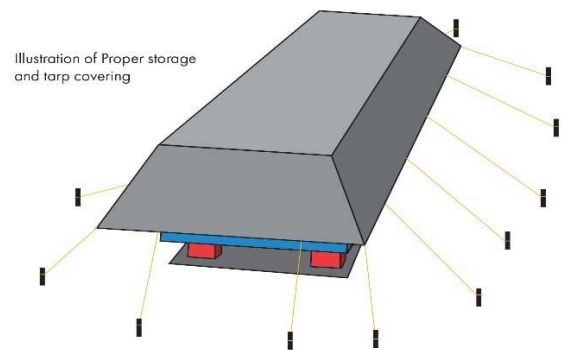
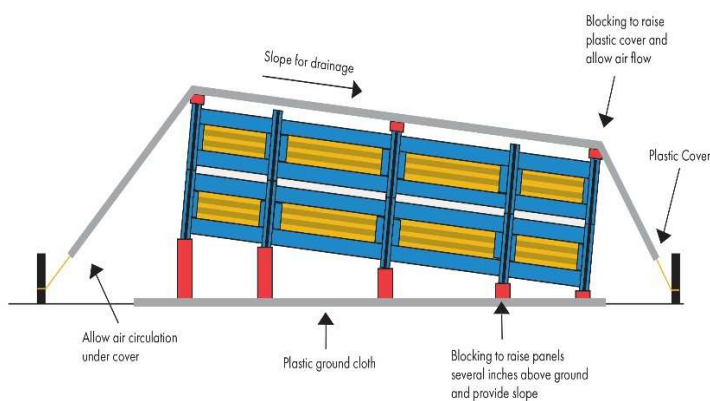
The panels must be stored at an angle to promote drainage, taking care that the bundle is properly supported at each crosswise runner along its length.

The bundle must be completely sheltered with a loose-fitting, waterproof tarp to protect the bundle from rain or snow while allowing for air circulation and drying of condensed water. The tarp also shades the bundle from direct sunlight, which helps to moderate temperature extremes and UV damage to protective masking.

If bundles of nested panels become wet, the panel sheets should be separated, wiped with a clean cloth without delay and then placed so that air circulation completes the drying process. This is true for both painted and unpainted panels.

Avoid prolonged exposure of bundled, pre-painted panels to wet conditions which can cause paint blistering or substrate corrosion.

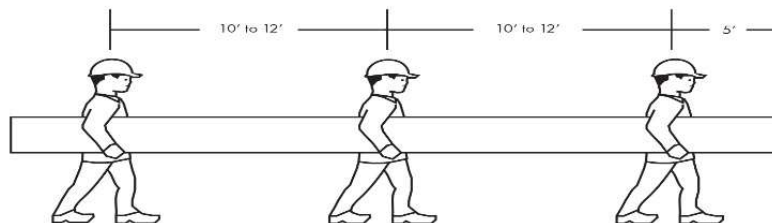
If panels are exposed to extreme heat or extensive solar radiation during storage or after installation, the strippable film may be very difficult to remove, and a residue may be left behind.



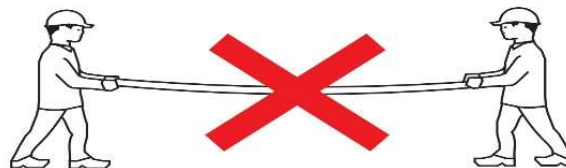
MATERIAL HANDLING

Handling of panels and the number of handlers required are determined by the panel length, width, experience of the handlers and the weather condition at the site. The final handling decision rests with the handlers themselves to ensure the metal panel does not bend or become distorted before the installation of the panel. Sheffield Metals suggests the following guidelines for handling procedures.

RIGHT WAY



WRONG WAY



Panel Length	Less than 6'	7'-15'	16'-30'	31'-45'	>45'
# of Handlers	1	2-3	3-4	4-5	4 or more using extreme care

PRE-INSTALLATION

All projects should conform to applicable building codes

Provide a written report of discrepancies to the architect. Do not begin the installation until unsatisfactory conditions have been corrected as starting installation usually indicates acceptance of the substrate.

SYSTEM INSTALLATION GUIDELINES

Assure the supplied materials are as specified and meet the project guidelines.

Install the air barrier per the manufacturer's written installation instructions.

Install the wall system per the manufacturer's specified engineering reports or per wind load calculations specific to the project and installation details.

Use only approved clips, fasteners, and accessories per the manufacturers' direction.

Tin Snips or a "Nibbler" type electric tool are recommended for field cutting panels. Circular saws, torches, and plasma cutters are not to be used. All metal filings must be removed to avoid rusting the metal surfaces which could void the paint finish warranty and shorten the life of the product.

When panels are installed in coastal environments it is recommended that stainless steel clips and fasteners are used in conjunction with aluminum wall panels.

Inspect project to ensure that there are no areas where dissimilar metals will come into contact with each other. Separate areas with the appropriate barriers as needed. This is to include pressure/fire treated wood that is corrosive to some metals.

CLEAN UP

Peel off any strippable film from the flashings as they are installed.

Complete all items on punch list.

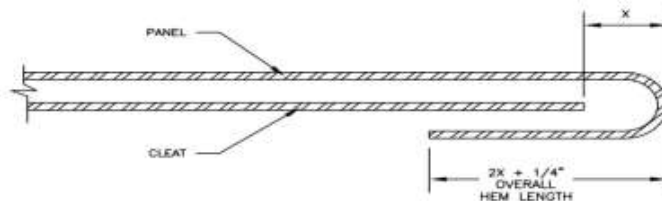
Touch-up minor scratches with appropriate paint or paint pen.

Remove all debris associated with the wall installation.

THERMAL MOVEMENT

A standing seam roof panel experiences changes in panel length with changes in panel temperature. One end of the panel is fixed to the substrate while the other end is free to move. The panel end that is free to move requires a hem that engages a cleat that is fixed to the substrate. The hem and cleat permit the panel end to move along the plane of the roof while holding the panel flat.

The thermal movement also requires proper design of the hem and cleat. The length of the hem needed at the end of a panel will vary with the temperature range that the panel experiences and the length of the panel. Unless a more exact analysis of the temperature during installation compared to the anticipated temperature range is conducted, use the following equation and the Thermal Movement Table. When installing panels, be sure to leave room at the end of the panel that will experience movement for the "starting gap" which is the required air space (X) between the panel and cleat. Be sure that the hem is not tight against the cleat (unless the panels are being installed in the coldest temperatures the panel will experience). Also be sure that the lower edge of the hem will not be in contact with any flashings when the panels contract.



THERMAL MOVEMENT TABLE

PANEL AND SUBSTRATE MATERIALS	PANEL LENGTH (FT.)			REQUIRED AIR SPACE (X)
	10'	50'	100'	
Steel on Rigid Insulation	1/8"	1/2"	7/8"	
Steel on Wood	1/16"	3/8"	5/8"	
Steel on Steel	1/16"	3/8"	5/8"	
Steel on Concrete	1/16"	3/8"	1/2"	
Aluminum on Rigid Insulation	3/16"	7/8"	1 9/16"	
Aluminum on Wood	3/16"	11/16"	1 3/8"	
Aluminum on Steel	1/8"	5/8"	1 3/16"	
Aluminum on Concrete	1/8"	5/8"	1 1/4"	

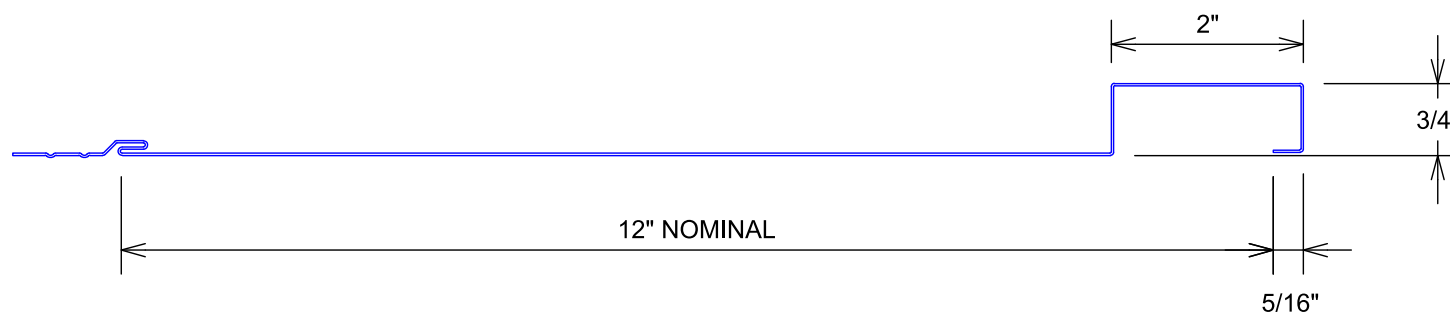
This table assumes a temperature change of 100°F for the panel and 50°F for the substrate.



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



SMI RECOMENDS THAT PANEL LENGHTS STAY AT 25 FEET OR LESS

THIS PANEL IS AVAILABLE IN 24 / 22 GA. STEEL WITH THE FOLLOWING TESTING:
-ASTM E 330 - STRUCTURAL PERFORMANCE

NOTE: PANEL ATTACHMENT IS DETERMINED BY DESIGN LOAD REQUIREMENTS PER PROJECT.

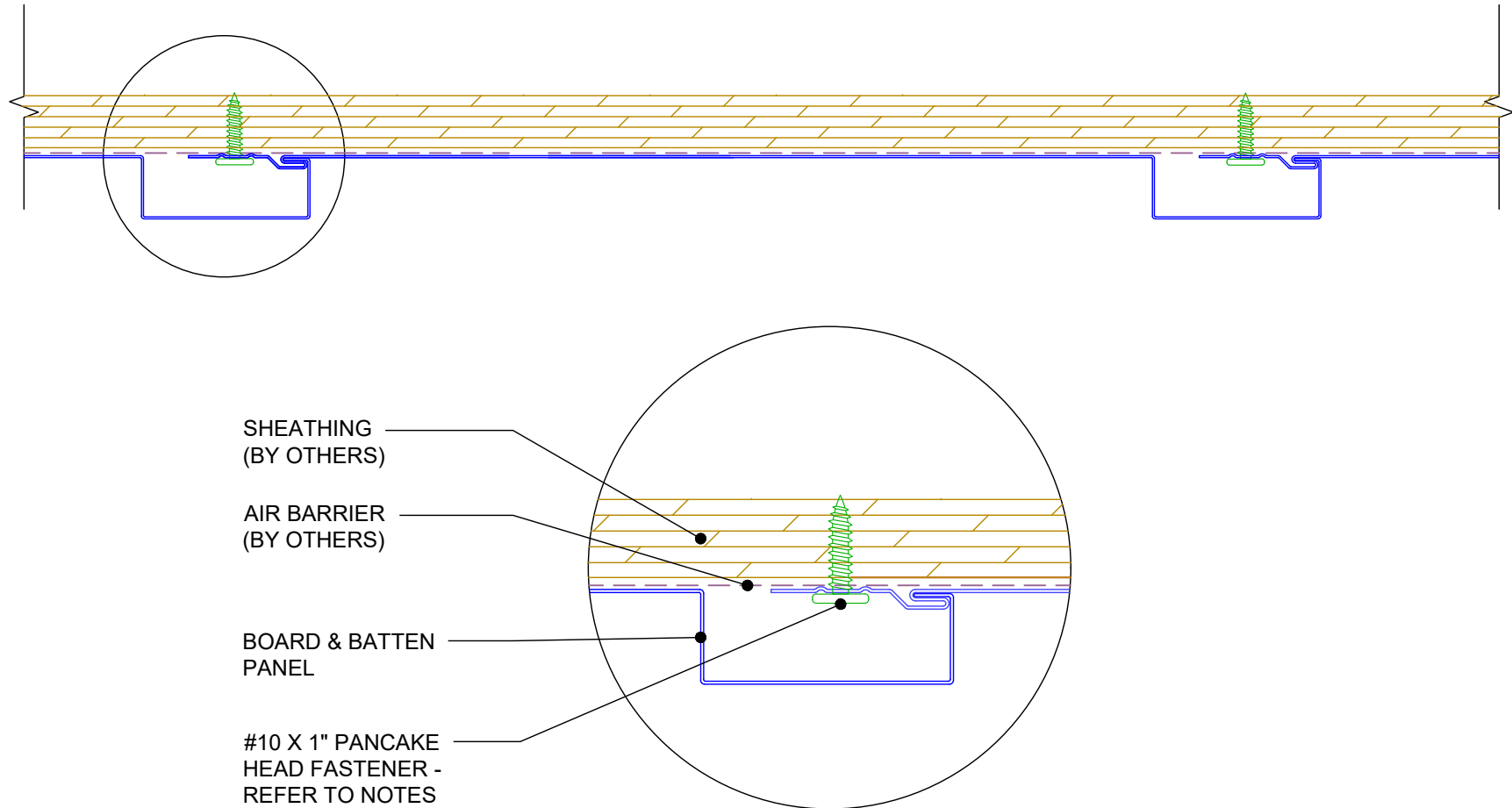
PANEL PROFILE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details

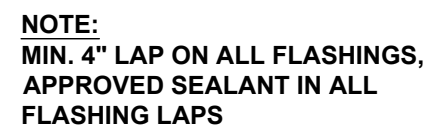


INSTALLATION DETAIL (PLAN VIEW)

NOT TO SCALE



Board & Batten Panel Details



BASE OF WALL

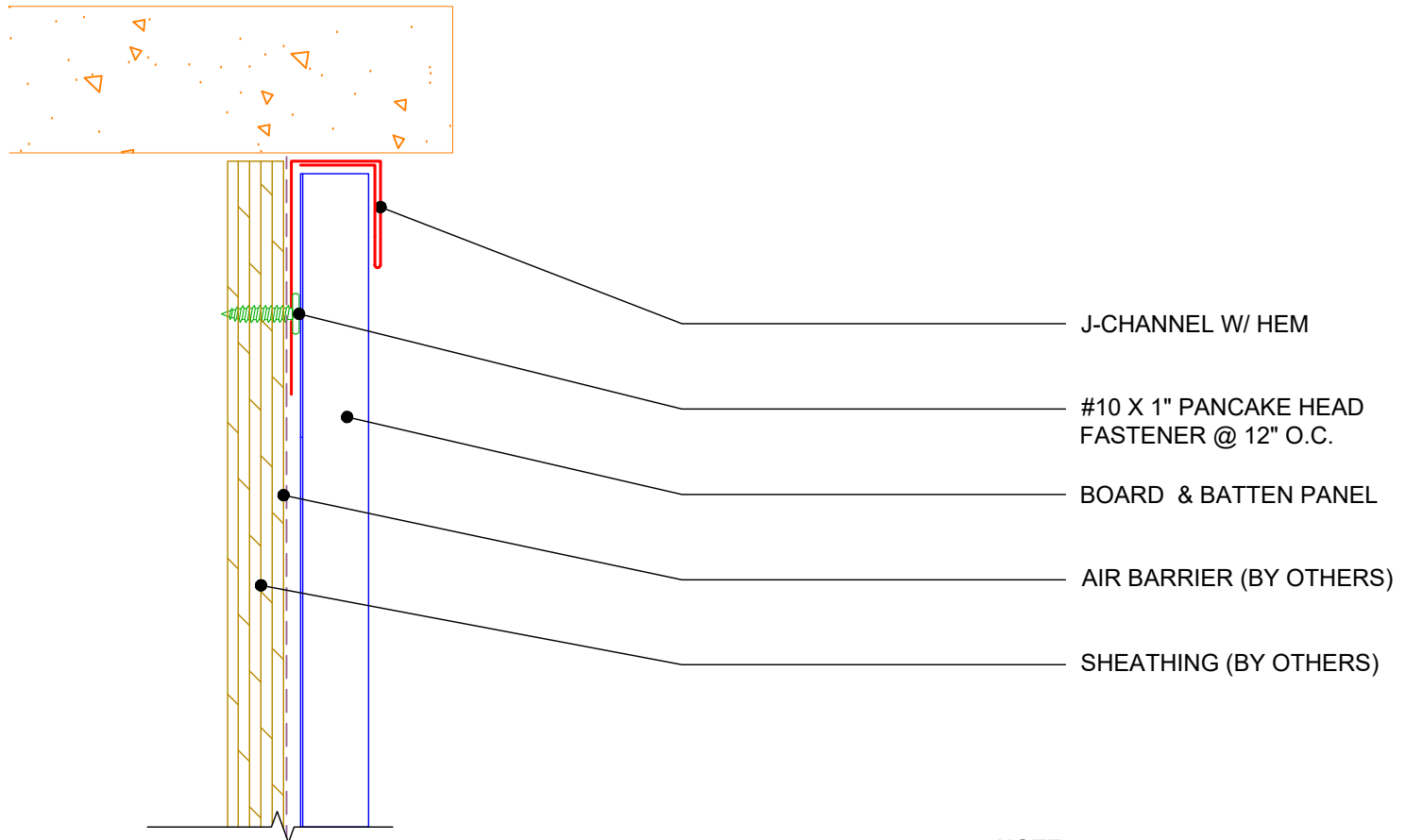
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



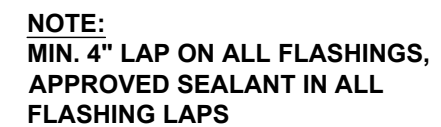
NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

TOP OF WALL

NOT TO SCALE



Board & Batten Panel Details



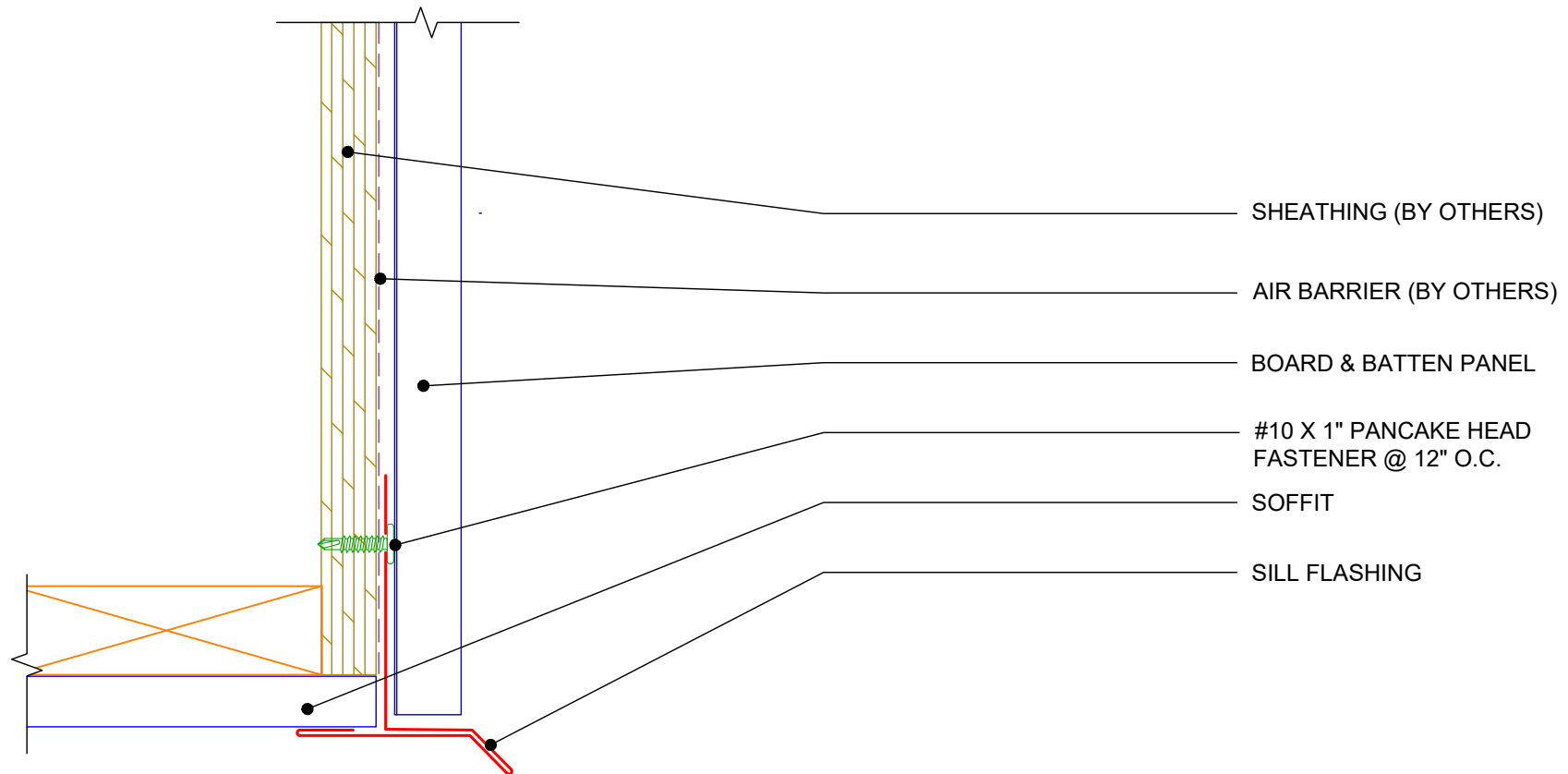
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

BASE OF WALL @ SOFFIT

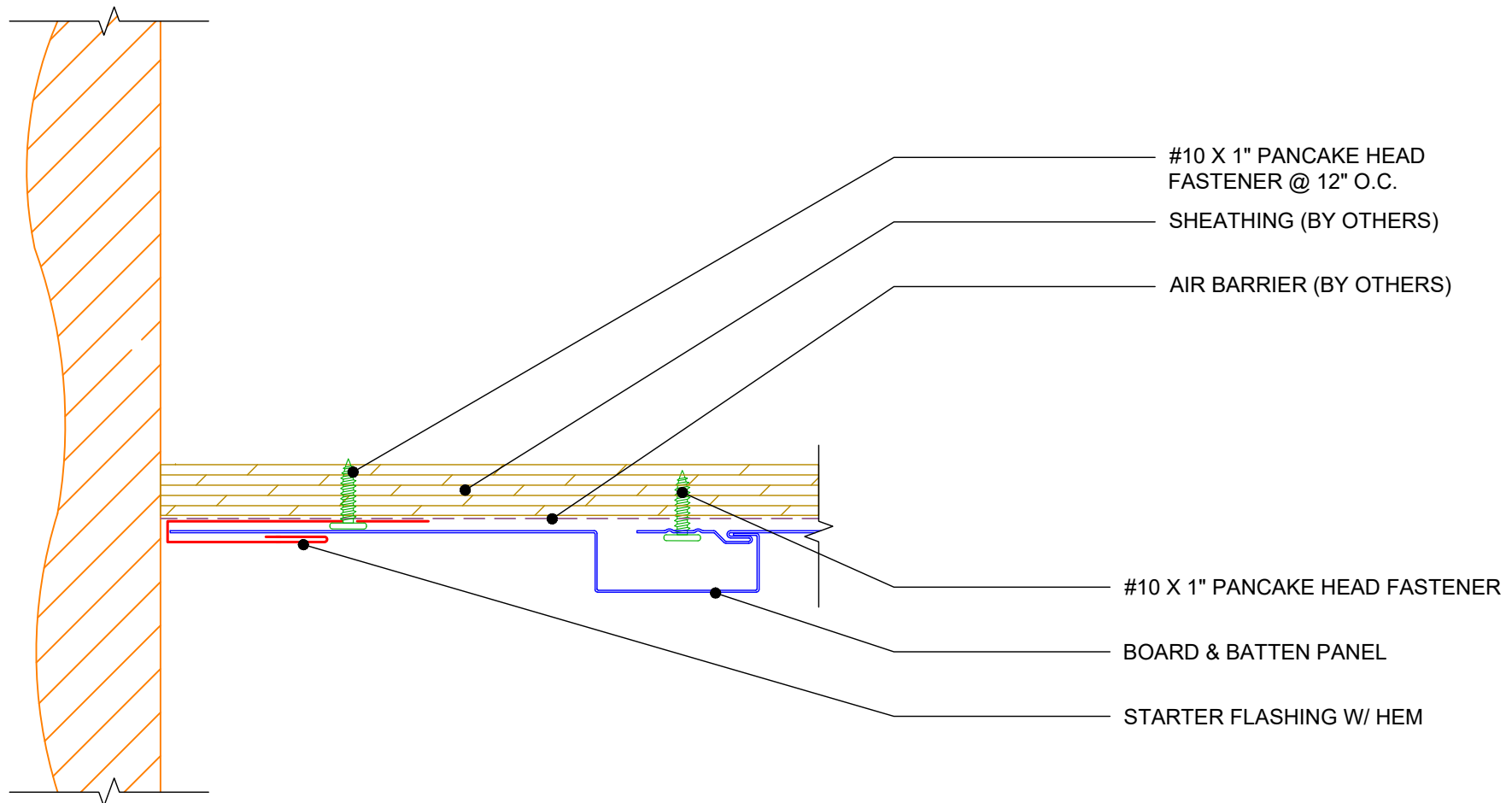
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

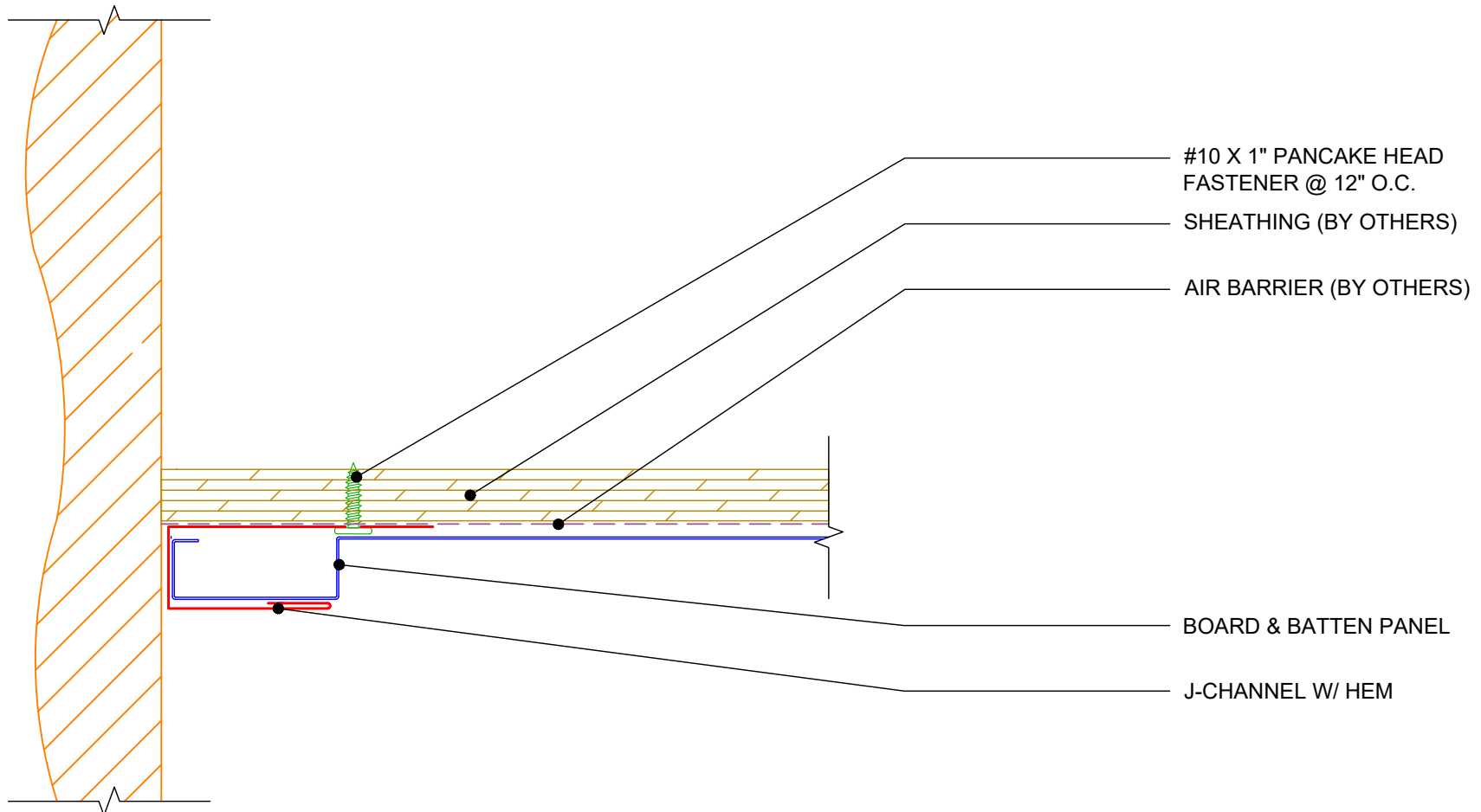
END OF WALL 1

NOT TO SCALE



**Sheffield Metals
International**
A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

END OF WALL 2

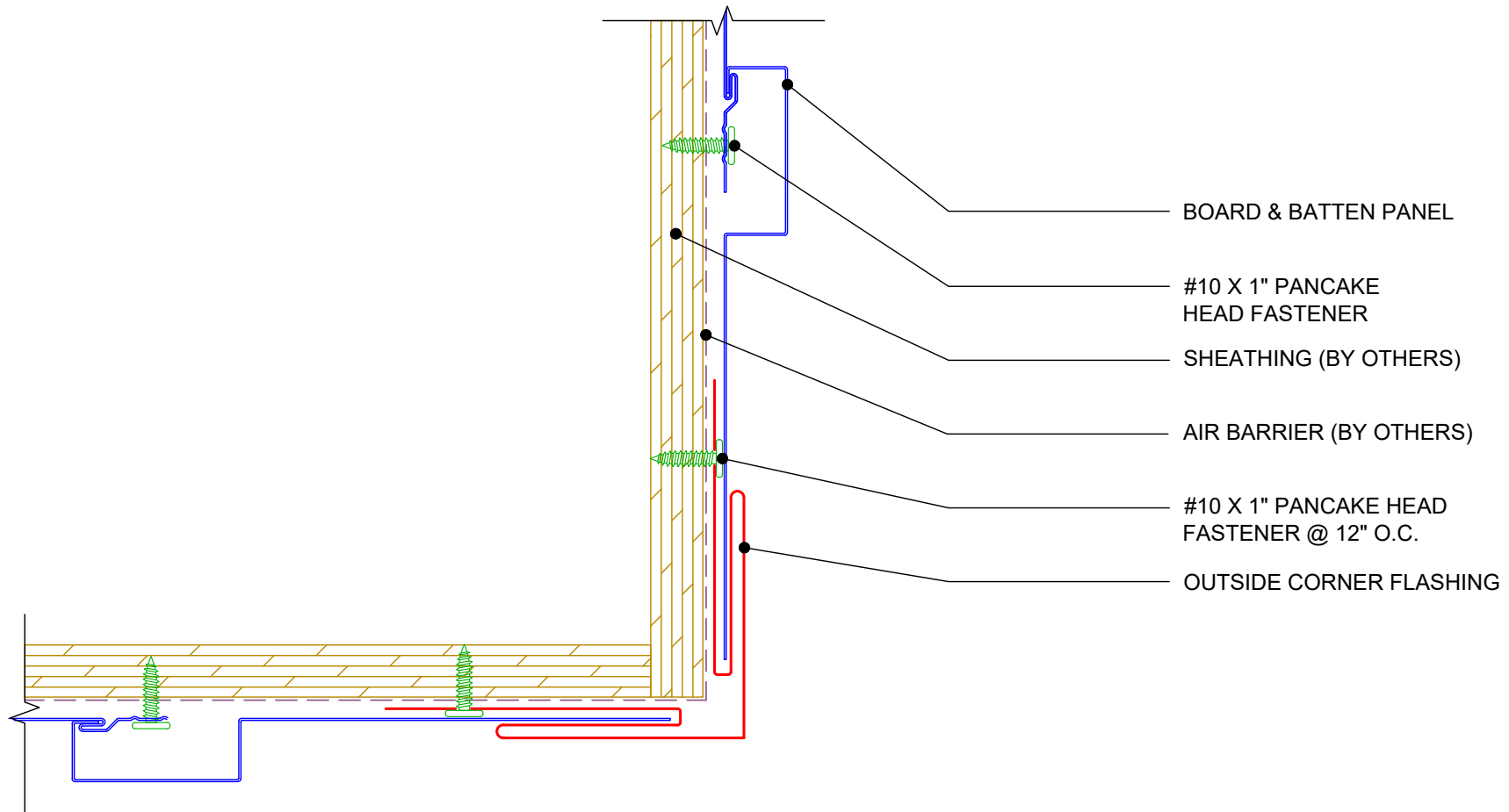
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:

MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

OUTSIDE CORNER 1

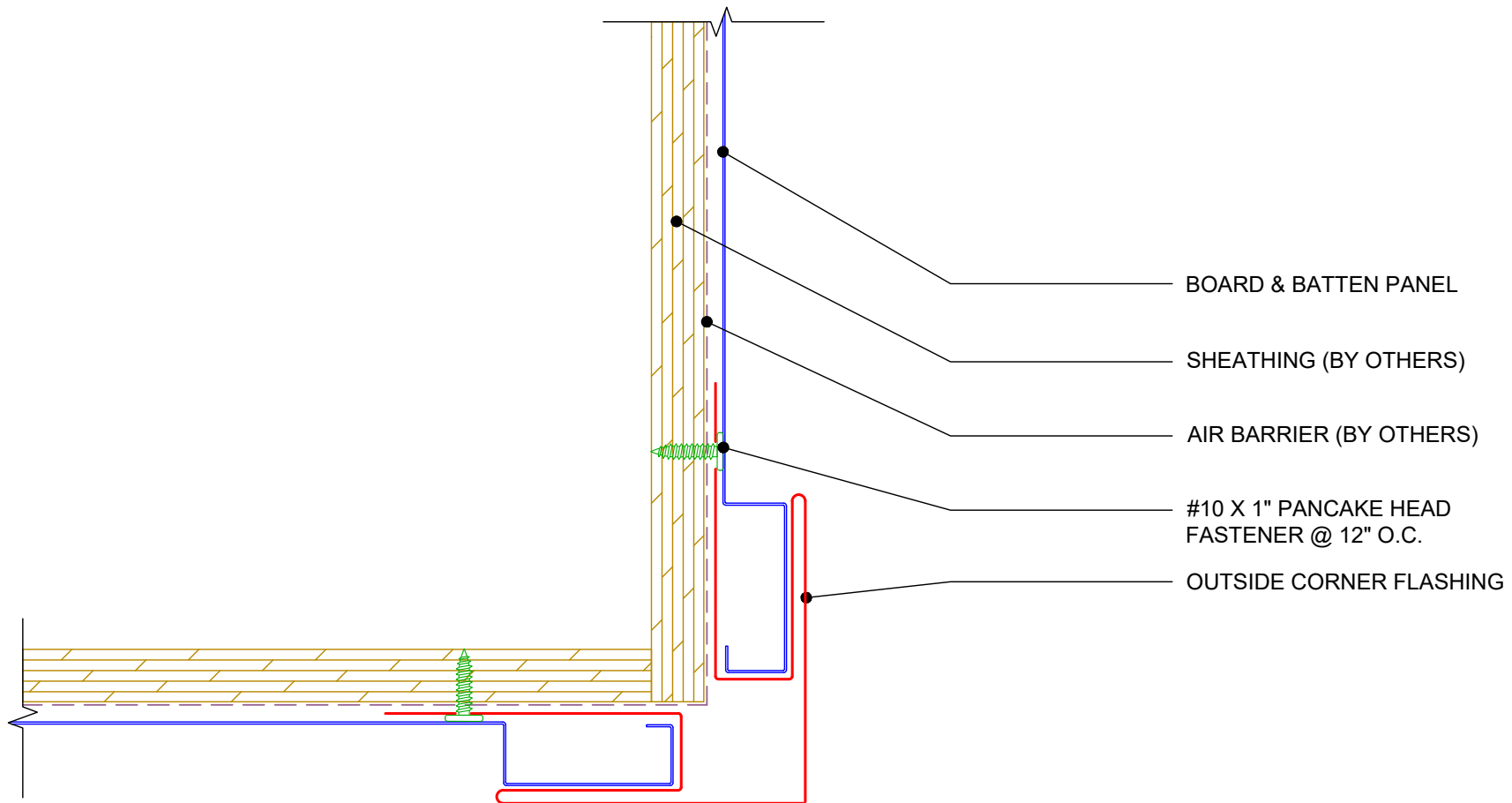
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

OUTSIDE CORNER 2

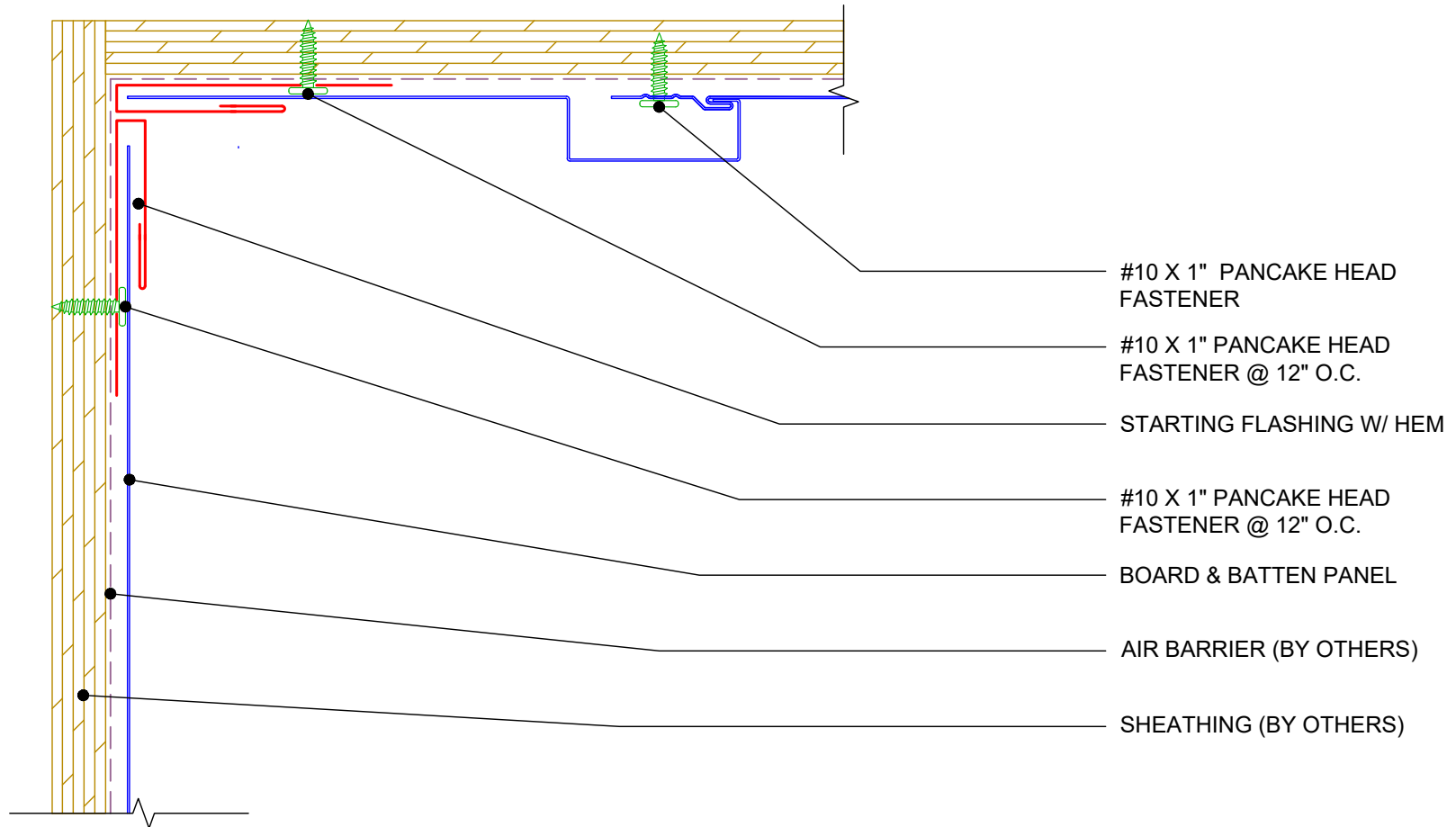
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

INSIDE CORNER 1

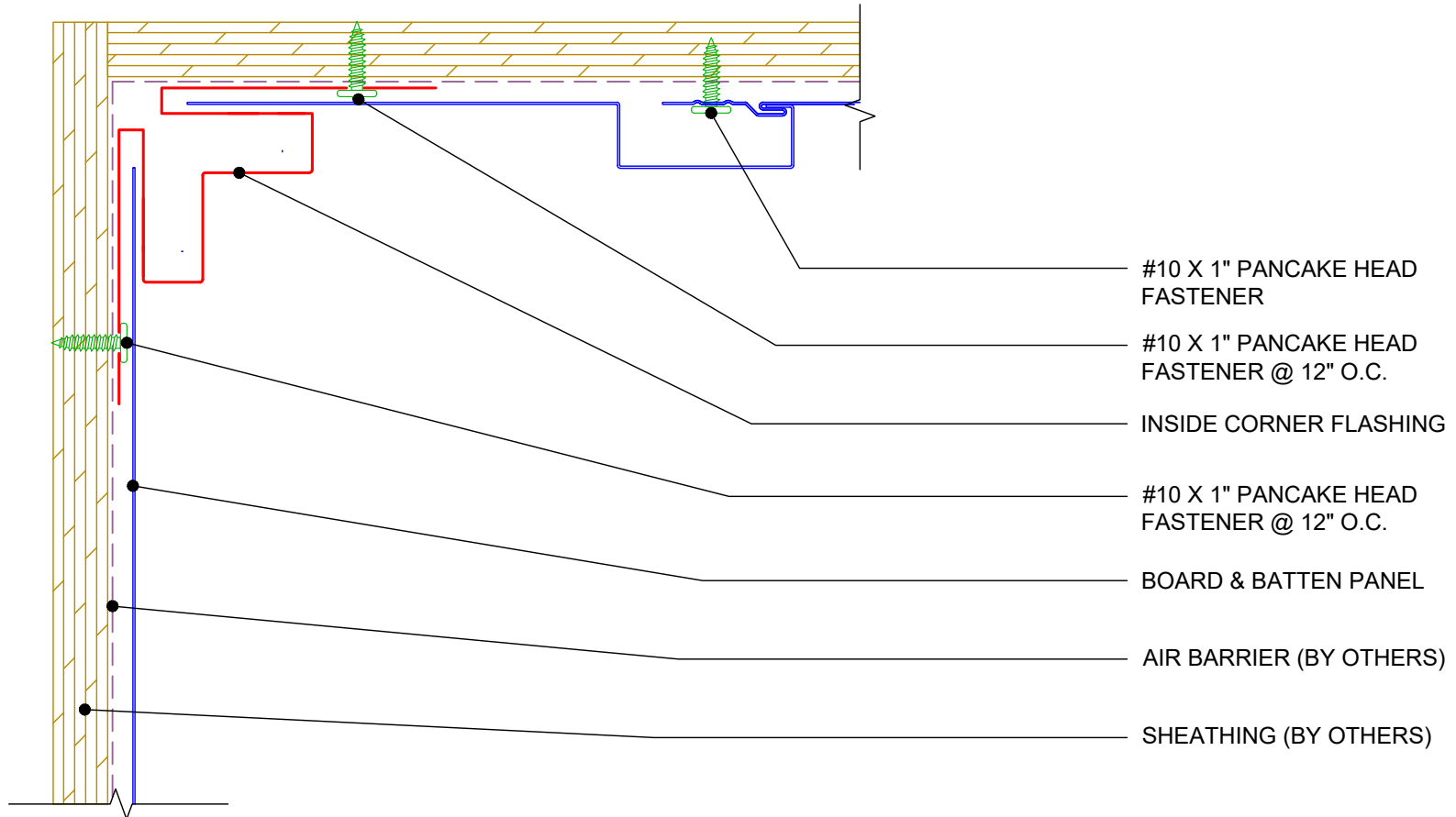
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

INSIDE CORNER 2

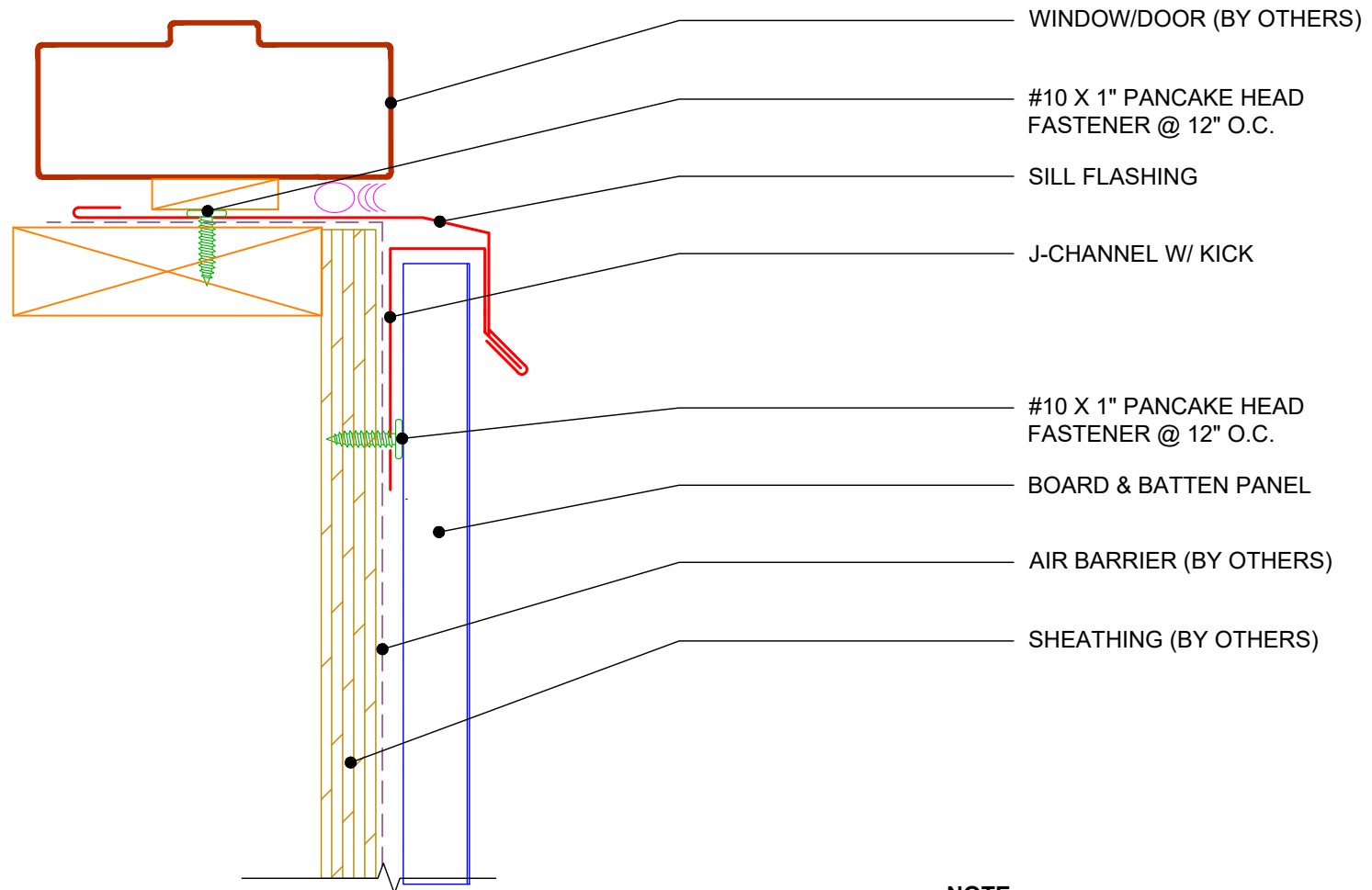
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

WINDOW/DOOR SILL

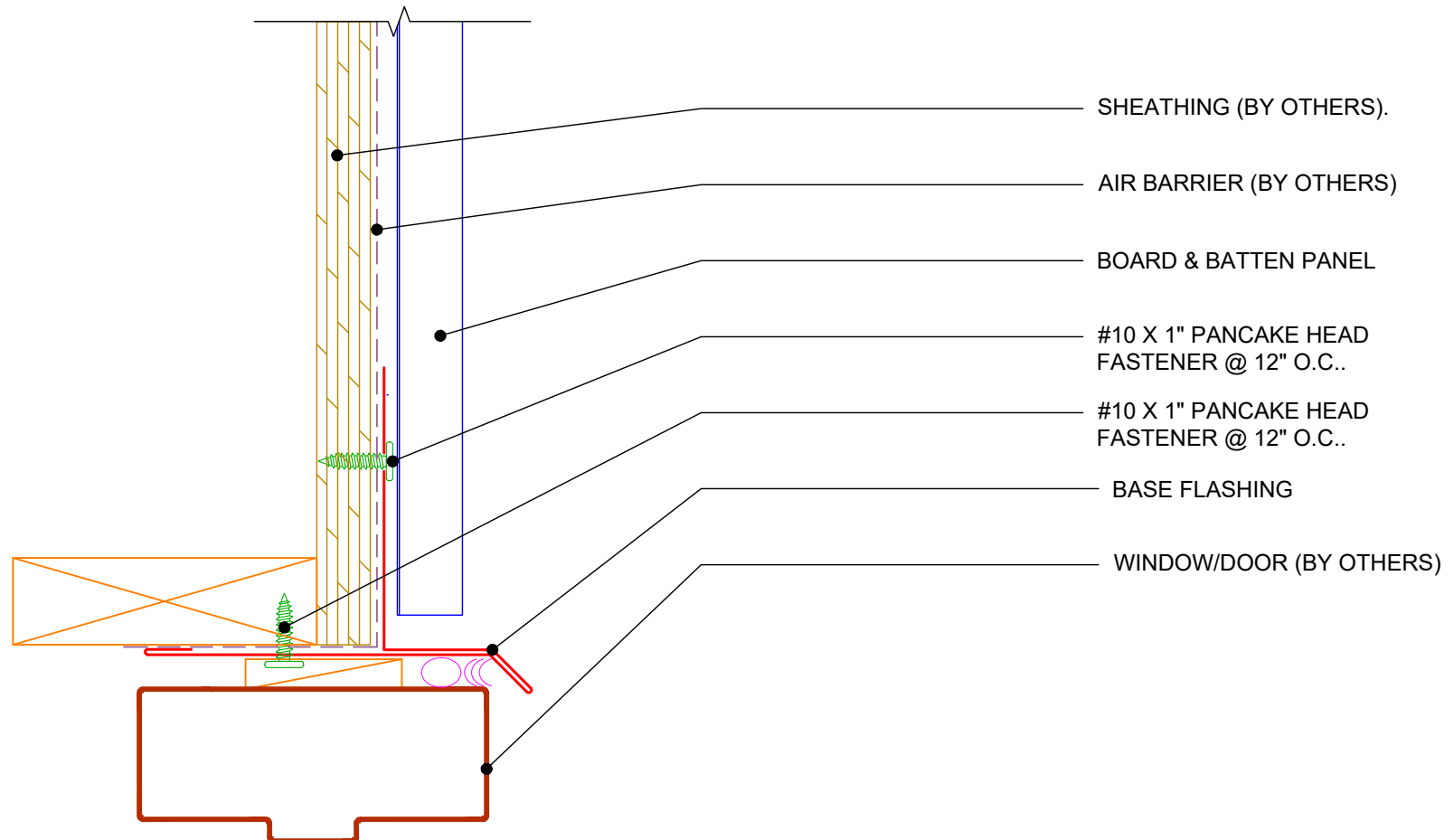
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

WINDOW/DOOR HEAD

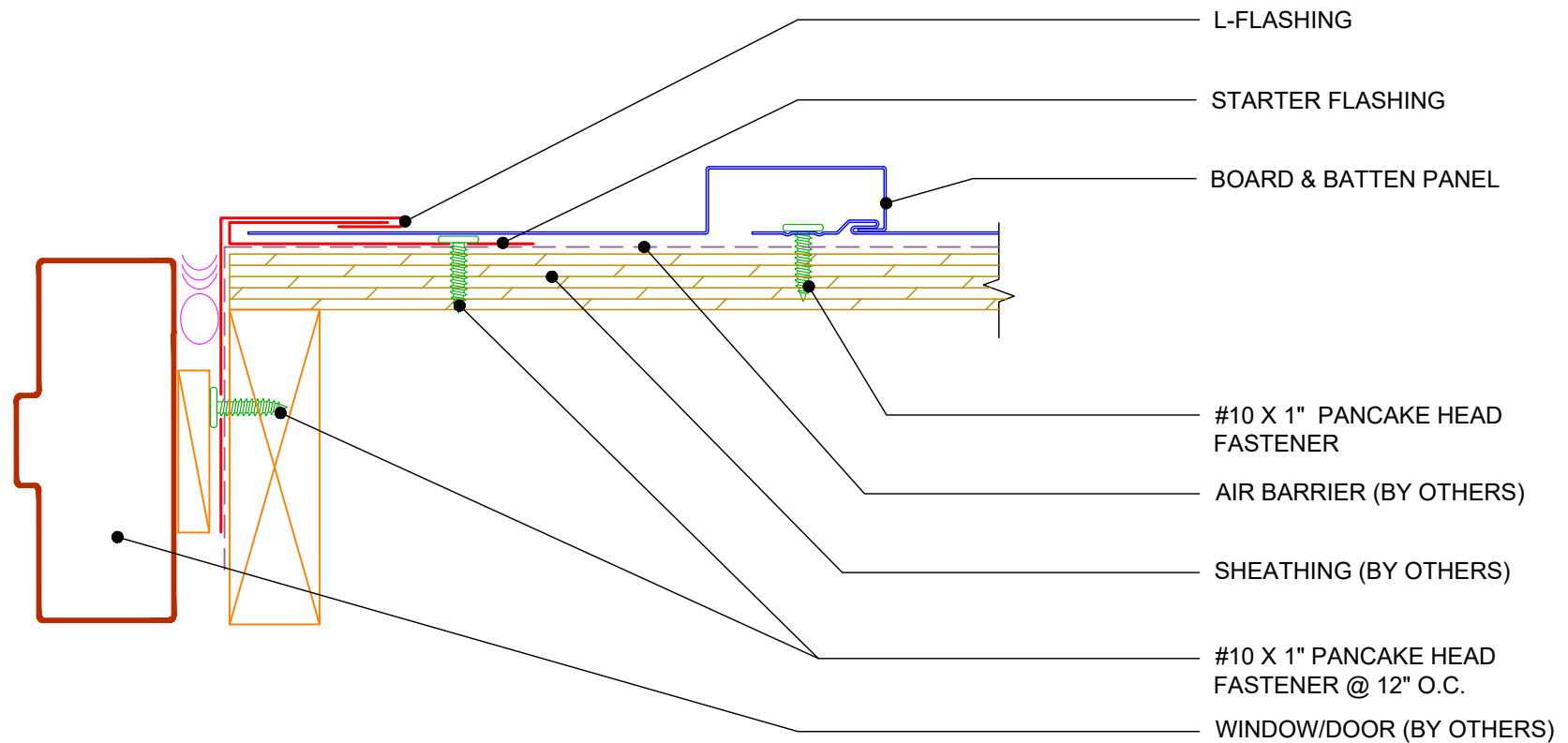
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

WINDOW/DOOR JAMB

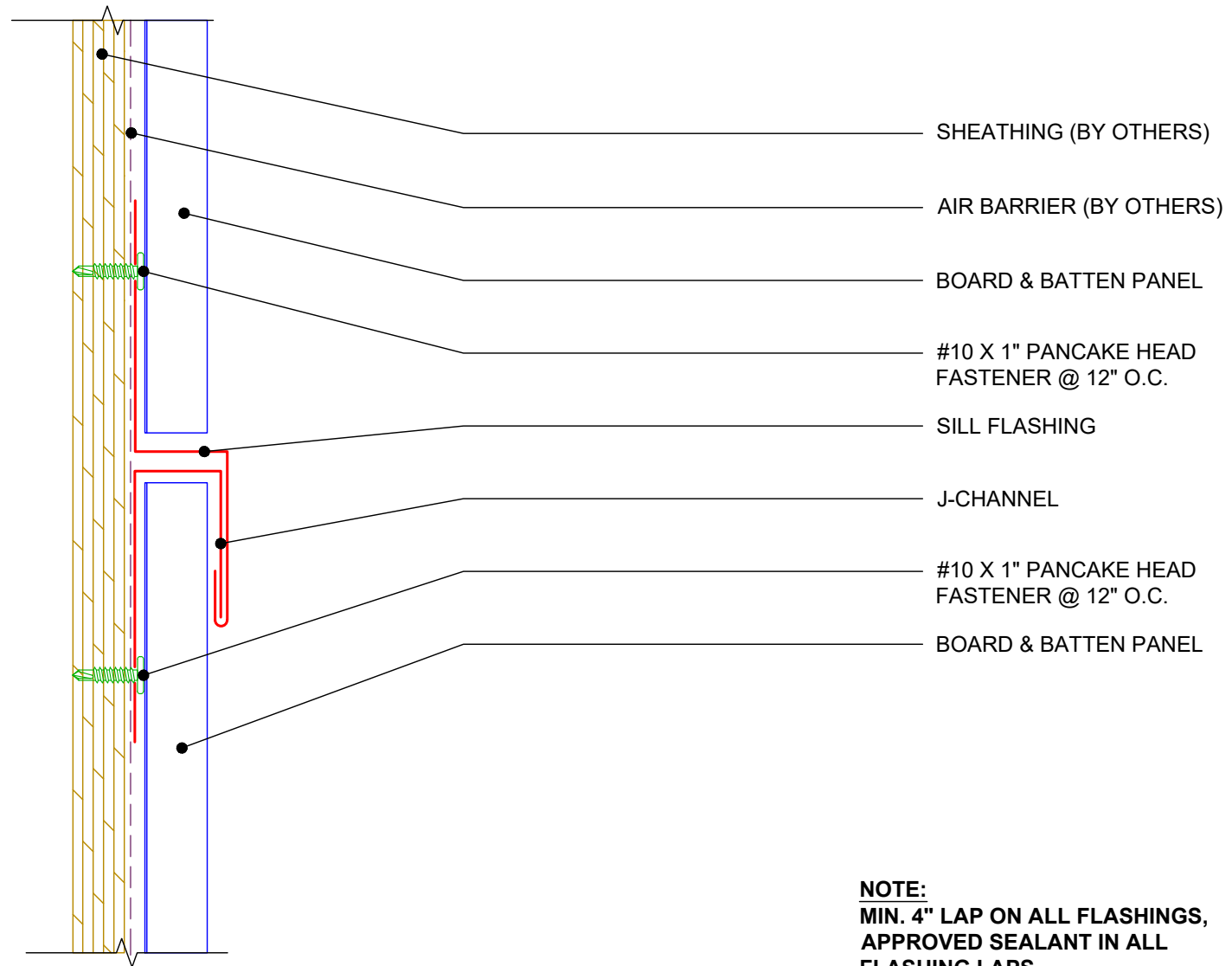
NOT TO SCALE



**Sheffield Metals
International**

A **MAZZELLA** COMPANY

Board & Batten Panel Details



NOTE:
MIN. 4" LAP ON ALL FLASHINGS,
APPROVED SEALANT IN ALL
FLASHING LAPS

HORIZONTAL JOINT

NOT TO SCALE