MONTANA TIMBER PRODUCTS

Installation & Maintenance Guidelines

Best Practices for Prefinished Natural Wood Cladding

Effective September 2025 – Supersedes All Previous Versions

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1. Introduction & Scope

Montana Timber Products (MTP) is a specialty lumber supplier of prefinished natural wood products for exterior and interior applications, including siding, trim, timbers, and more.
This manual presents industry-established best practices for the installation and maintenance of MTP products.
MTP does not provide installation services; always consult with a qualified contractor and follow local building codes.

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2. Quick Reference Checklist

- Store and acclimate wood properly
- Install WRB and flashing
- Use furring strips (min. 1-1/4" thick) or rainscreen system with vented cavity (strongly recommended)
- Provide 1-1/4" solid wood backing for all fasteners
- Use only 304 or 316 stainless steel ring-shank nails or trim head screws (strongly recommended)
- Seal all field cuts before installation
- Maintain clear venting and proper clearances

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3. Safety & General Notes

- Read all instructions before starting installation.
- Use appropriate personal protective equipment (PPE).
- Comply with all local, state, and federal building codes.
- These guidelines are not a substitute for professional judgment or code requirements.

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4. Deliver, Inspection & Storage

Delivery & Offloading

- MTP materials are shipped on contracted flatbeds or LTL carriers. Ensure adequate space for trucks to safely access and leave the delivery site.
- Units are typically 48" wide and up to 20' long (timbers may be longer). Depending on order size, bundles can weigh over 4,000 lbs.
- **A customer-provided forklift is required for offloading.**

Inspection at Delivery

- The receiving party must inspect the product upon delivery.
- If materials are damaged in transit, note it on the freight bill before signing the Bill of Lading and notify MTP immediately.
- Report any visible defects to MTP before installation. **Installation without prior notification constitutes acceptance.**

On-Site Storage

- Until installation, protect materials from direct sunlight, water saturation, dust, debris, and construction activity damage.
- Store units flat and off the ground on stringers or blocks so bottom boards do not absorb moisture.
- Cover with a waterproof tarp or wrap, elevated in the center to allow water to shed.
- Do not completely seal the bundle — proper air circulation is required.
- Ideal storage is in a dry enclosed building, such as a garage.

Handling

- Always lift, don't drag, to avoid surface damage.
  Protect edges and factory finish during handling and transport around the jobsite.

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5. Acclimation & Moisture Content

Proper acclimation is essential for long-term performance of natural wood siding, trim, and timbers. All wood products must be brought to equilibrium with site conditions before installation.

General Guidance

- Store materials on-site for a minimum of 7–10 days prior to installation.

- Keep bundles off the ground, covered on top only, and spaced with stickers to allow airflow.
- Avoid direct sun, rain, or ground moisture exposure during acclimation.
- Use a moisture meter to verify siding, trim, and timbers are within recommended ranges before installation. Do not rely solely on elapsed time.
- Test at least 10% of the material (siding, trim, sheathing) to establish an accurate average.

Recommended Moisture Content at Time of Installation (USDA Wood Handbook)

- Most of U.S.: Average 12%, individual pieces 9–14%
- Dry, Southwestern States: Average 9%, individual pieces 7–12%
- Damp, Warm Southeastern Coastal Areas: Average 12%, individual pieces 9–14%

*Installing outside of these ranges increases risk of shrinkage, swelling, cracking, or finish failure.

Special Note: Thermally Modified Wood (TMW)

- MTP thermally modified wood products are shipped at or below 9% moisture content.
- While TMW can absorb some additional moisture once on-site, it remains dimensionally stable and will not swell or shrink to the same degree as unmodified wood.
- Use a moisture meter to verify readings before installation. Expect values at the lower end of the recommended ranges (typically 6–9%), which are suitable for installation.
- Follow the same acclimation practices: store off the ground, allow airflow, cover only on top, and protect from direct sun and moisture.

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6. Wall Preparation

- Ensure the wall substrate is dry, flat, and structurally sound.
- Install a code-compliant weather-resistant barrier (WRB) over all wall framing and sheathing.
- Properly flash all penetrations, windows, doors, and transitions to direct water away from the wall assembly.
- Inspect WRB and flashing for correct installation before proceeding.

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7. Furring Strips & Rainscreen Systems

Montana Timber Products siding should be installed over a drainable rainscreen system. While a lattice of vertical and horizontal furring strips or entangled mesh products may be used, MTP recommends simplifying the assembly using horizontal or vertical furring strips only, depending on the siding orientation (*see linked diagrams below*).

7.1 Furring Strips (Best Practice)

Horizontal Siding Applications

- Furring: Use horizontal furring strips only, spaced 1"–2" apart vertically to create a continuous ventilation path behind the siding.
- Installation:
  - Use 5/4" × 2 ½" horizontal furring strips.
  - Fasten with #10–#12 stainless steel or epoxy-coated wood screws at 16"–24" O.C., with a minimum embedment of 1 ¼".
  - Keep furring strip lengths to 8'–10" maximum to ensure consistent airflow.
- Air Cavity: Maintain a continuous drainage and ventilation gap.

Vertical Siding Applications

- Furring: Use vertical furring strips only, spaced 16"–24" O.C. to align with stud locations.
- Installation:
  - Fasten vertical furring strips directly to studs with #10–#12 stainless steel or epoxy-coated screws, 1 ¼" minimum embedment.
  - Ensure consistent spacing and continuity of the cavity for ventilation.
- Optional: Horizontal furring strips may be added at the base or head for trim/transition support but are not required throughout.

MTP 3D Horizontal Installation Diagram
MTP 3D Vertical Installation Diagram

Shared Requirements for Both Orientations

- WRB: Use a self-adhered or fluid-applied weather-resistant barrier, properly lapped and flashed at all transitions and penetrations.

- Base & Terminations: Install bug screens, metal drip flashing, and integrate with stem walls or subfloors to prevent moisture intrusion.
- Airflow: Continuous airflow must be maintained throughout the rainscreen cavity to promote drying and durability.

7.2 Alternative Rainscreen Systems

- Contractors may elect to use manufactured rainscreen systems (such as Keene Driwall, Cor-A-Vent, HydroGap or similar) instead of wood furring strips.
- These systems must provide continuous ventilation and drainage behind the siding.
- All siding and trim fasteners must still penetrate a minimum of 1-1/4" into solid wood backing, achieved by furring strips, blocking, or other wood substrate within the wall assembly.
- The primary objective is proper ventilation and moisture management behind all wood siding.

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8. Fastening Guidelines

Use of stainless steel fasteners is strongly recommended for best performance and appearance.

- Use only 304/5 or 316 stainless steel fasteners—either ring-shank nails or trim head screws.
    - Nails: 2" or longer, ring-shank, stainless steel (304 or 316). [Link to Simpson Strong Tie]
    - Screws: No. 8 (or larger), trim head, 1-1/2" or longer as needed, stainless steel (305 or 316). [Link to Starborn]
- All fasteners must penetrate a minimum of 1-1/4" into solid wood backing (furring strip, blocking, or wall framing).
- Place two fasteners per board at each furring strip or solid wood backing, 1" from each edge and 1-1/2" from board ends. Predrill to avoid splitting, as necessary.
- Blind fastening is not recommended for exterior siding. See specific MTP guidelines below Tex Gap profile installation and tongue & groove..
- Do not overdrive fasteners; heads should be flush with the wood surface.
- Do not use galvanized, coated, or non-stainless fasteners, as these may corrode and stain the wood.
- All field cuts must be sealed with a matching finish before installation.
- **Predrilling thermally modified wood is strongly recommended.**

9. Siding Installation

- Confirm furring strips or rainscreen systems are securely installed and provide the required solid wood backing.
- Begin siding installation at the base of the wall, ensuring the first course is level and properly supported.
- Maintain a minimum 6" clearance from grade.
- Stagger end joints and use best practice for up to 1/8" gap at butt joints for expansion.
- Do not install siding tight against trim; leave up to an 1/8" gap and back-seal ends with finish.
- Allow for natural expansion and contraction of the wood.
- Install siding per the manufacturer's recommendations for the chosen profile (lap, shiplap, tongue & groove, board & batten, etc.).
- For vertical siding, ensure horizontal furring or blocking provides adequate solid wood backing for fasteners at all points.

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10. Trim & Accessories

Install trim boards over furring strips or rainscreen systems, ensuring solid wood backing for all fasteners. Use 304 or 316 stainless steel fasteners as specified for siding. Maintain up to a 1/8" expansion gap at all trim joints and back-seal all end cuts. Use appropriate trim profiles (corner boards, window/door trim, water tables, fascia, etc.) per project requirements. Integrate trim with flashing and the weather resistive barrier (WRB) for weather-tightness.

Corner Boards

- Maintain up to a 1/8" expansion gap where boards meet.
- Back-seal all cuts to prevent moisture intrusion.
- Fasten with stainless steel nails or screws into solid wood backing, not sheathing alone.
- Install siding with up to a 1/8" gap against corner boards for drainage and expansion.

Window & Door Trim

- Flash rough openings with WRB and flashing tape before installing trim.

- Install head flashing (drip cap) over the top trim board, lapping behind WRB.
- Maintain up to a 1/8" gap between siding and trim, back-sealing cut ends.
- Do not caulk horizontal siding-to-trim joints; allow for drainage.
- Use high-quality, paintable sealant only at vertical joints or penetrations.

Fascia

Fascia boards finish and protect the roof edge while complementing siding and trim packages. Because fascia is directly exposed to weather, careful detailing is required to ensure durability.

- Flashing: Always install drip-edge flashing to direct water away from fascia.
- Joints: Use scarf joints for end-to-end connections; avoid exposed butt joints.
- Fastening: Use the same stainless steel fasteners specified for trim, driven flush but not overdriven.
- Orientation: Install fascia vertically at rafter tails or truss ends, directly beneath the roof drip edge.
- Best Practices:
    - Slightly slope the top edge to promote drainage.
    - Avoid exposed end-grain facing upward.
    - Protect wide horizontal surfaces with flashing or drip edge to prevent standing water.

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11. Timbers

Montana Timber Products supplies prefinished timbers for use in posts, beams, braces, and other exposed structural or decorative applications. These products are designed to complement siding and trim packages, and are finished with the same factory-applied sealants for durability and consistent aesthetics.

Product Types:

- Kiln-dried, free-of-heart center Douglas Fir (#1 or better)
- Kiln-dried, box-heart Douglas Fir timbers
- Cedar timbers

Key Considerations:

- Splits and surface checks are natural characteristics of large timbers as they season. Kiln drying reduces, but does not eliminate, these occurrences.
- All timbers should be sized and specified by a qualified design professional.
- Timbers should be handled with care to avoid surface damage and staining before installation.

Installation:

- Only qualified contractors familiar with heavy timber assemblies should install these products.
- Use job-specific methods for hoisting, securing, and fastening.
- Follow all relevant building codes and engineering requirements.

Fastening Guidelines (General):

- All structural connections should be designed and approved by the project's architect or engineer.
- Use heavy-duty, exterior-grade fasteners (e.g., hot-dip galvanized, stainless steel, or epoxy-coated structural screws/bolts) appropriate to the environment.
- Pre-drill pilot holes where necessary to prevent splitting.
- Avoid countersinking or overdriving fasteners, as this can damage the factory-applied finish.
- All cut ends and drill holes should be sealed with two coats of MTP-approved Seal-Once before installation.
- Decorative hardware (straps, plates, bolts) may be used to complement the design and provide additional protection at key connections.

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12. Prefabricated Trusses

MTP also provides prefabricated timber trusses and truss components to complement siding and timber packages. These elements combine MTP's finishes with engineered structural design.

Key Considerations:

- All prefabricated trusses must be structurally engineered by others.

- MTP provides shop drawings for review and design team approval prior to fabrication.
- Trusses are shipped prefinished and ready for installation.

Installation:

- Installation should only be performed by experienced contractors under the direction of a qualified engineer.
- Follow approved shop drawings and engineering specifications.
- Use proper lifting equipment and safe rigging methods to prevent structural or finish damage.

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13. Field Finishing & Touch-Up

Cut Ends & Exposed Surfaces

- All field cuts, rips, notches, and drill holes must be sealed immediately with the supplied Seal-Once product (or other MTP-approved stain/sealer).
- Apply two liberal coats to cut ends before installation to maintain the integrity of the finish system.

Handling & Storage Damage

- Use touch-up stain to repair any scratches, dings, or abrasions from handling, storage, or installation.
- Apply sparingly with a small brush or rag, feathering to blend with the surrounding factory finish.

Product Notes

- Use only MTP-supplied stain products to ensure color consistency with the factory-applied finish.
- Shake or stir stain thoroughly before each use, as pigments may settle.
- Apply in temperatures above 45°F, allowing adequate dry time before exposure to moisture.

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14. Maintenance & Cleaning

MTP materials are prefinished with Seal-Once, which carries a 10-year limited warranty for vertical surfaces and 6-year limited warranty for flat/horizontal surfaces when applied and maintained according to UC Coatings/Seal-Once instructions. With proper installation and maintenance, MTP materials can last be expected to last the life of the structure.

Resealing Intervals

- Most projects require re-staining every 3–7 years depending on exposure and conditions.
- High UV exposure (south- and west-facing walls), high moisture, or coastal climates may require re-application sooner.
- Warranty coverage requires use of Seal-Once products provided or approved by MTP.

Preparation

- Surfaces must be clean, dry, and free of dust or contaminants.
- Wash with mild detergent cleaner; rinse thoroughly.

Application

- Do not apply below 45°F, in rain, or when rain is imminent.
- Mix thoroughly before use. Do not thin.
- Apply two coats wet-on-damp with garden sprayer, brush, or airless sprayer. Use a medium spray pattern.
- For best results, apply in cooler temperatures, ideally shaded from direct sun.
- If applying in hot, sunny conditions, lightly mist the surface with water and apply immediately. Coat all exposed wood surfaces.
- A third coat may be applied on areas with extreme exposure (south- or west-facing elevations).
- Coverage is approximately 200 sq. ft. per gallon, depending on wood porosity.

Drying & Cure Times

- Typically touch-dry in 1–2 hours.
- Allow 24–48 hours for full cure, depending on temperature and humidity.
- Protect from rain until fully dry.

Clean-Up & Storage

- Clean equipment with warm, soapy water.
- Store unused product above 32°F and protect from freezing.

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15. Troubleshooting & Common Issues

- Warping/Cupping: Ensure proper acclimation, fastening, and ventilation. Wood movement is minimized with correct installation.
- Staining/Discoloration: Use only stainless steel fasteners. Address water management issues to prevent moisture-related staining.
- Loose Boards: Confirm fasteners penetrate 1-1/4" into solid wood backing and are properly spaced.
- Mold/Mildew: Maintain ventilation and keep the siding clean and dry.
- Finish Wear: Inspect and refinish as needed to maintain protection and appearance.
- Sap Bleed: All wood releases sap; remove it only in cold (~32°F) by gently scraping or chipping without altering the finish—warm removal makes it worse.

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16. Limited Warranty

Prefinished Seal-Once

- Montana Timber Products materials are prefinished with UC Coatings/Seal-Once.
- Seal-Once carries a limited warranty of 10 years on vertical surfaces and 6 years on horizontal surfaces against water ingress leading to rot and decay.
- Finish fading and color change are not covered.
- For full terms, see the MTP Limited Warranty document.

Thermally Modified Wood Substrates

- Montana Timber Products Thermally Modified Wood (TMW) products carry a 20-year limited warranty against rot and decay through ThermaWood Technologies (TWT). This warranty covers the substrate material and is independent of the Seal-Once finish warranty.
- For full terms, see the ThermaWood Technologies Limited Warranty document.

17. Diagrams & Visuals

The following visuals are provided to illustrate best practices for installation of Montana Timber Products siding. These details are intended as general guidance for architects, builders, installers, and homeowners evaluating profile options.

These diagrams highlight:

- Siding attached to a furring strip or rainscreen system, rather than directly to sheathing.
- Furring strips or rainscreen mats installed over a weather resistive barrier (WRB), creating an airflow and drainage cavity.
- Fasteners penetrating a minimum of 1-1/4" into solid wood backing.

Note: These diagrams are intended to communicate overall principles of rainscreen cladding systems and best-practice details. **Always confirm specific project requirements with local codes, project specifications, and MTP product recommendations.**

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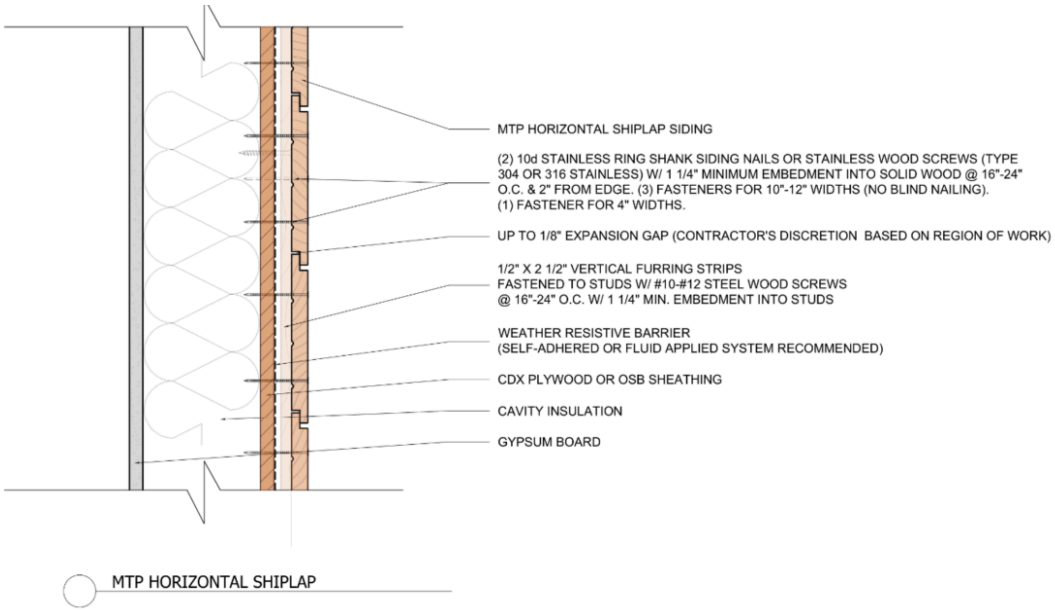
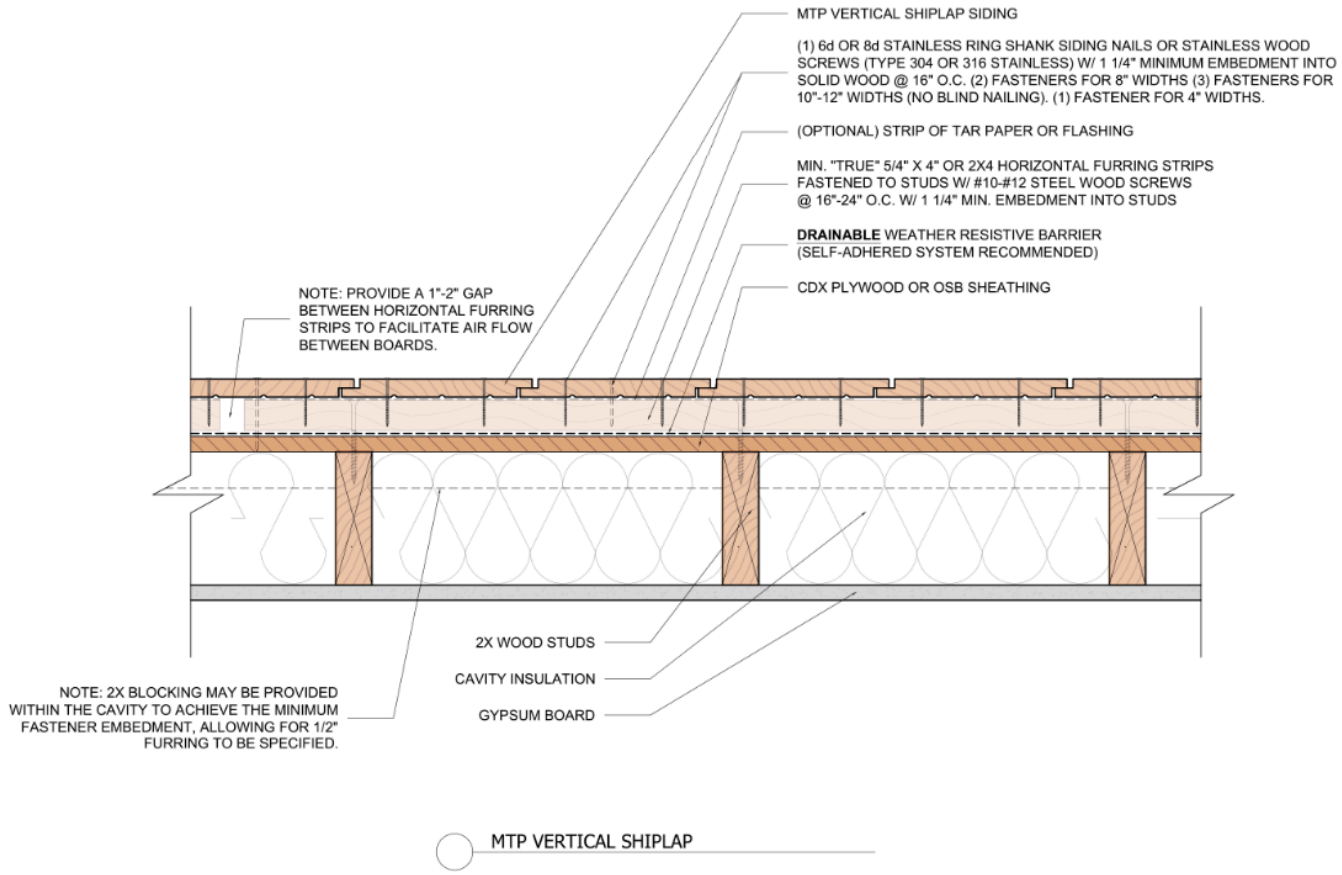
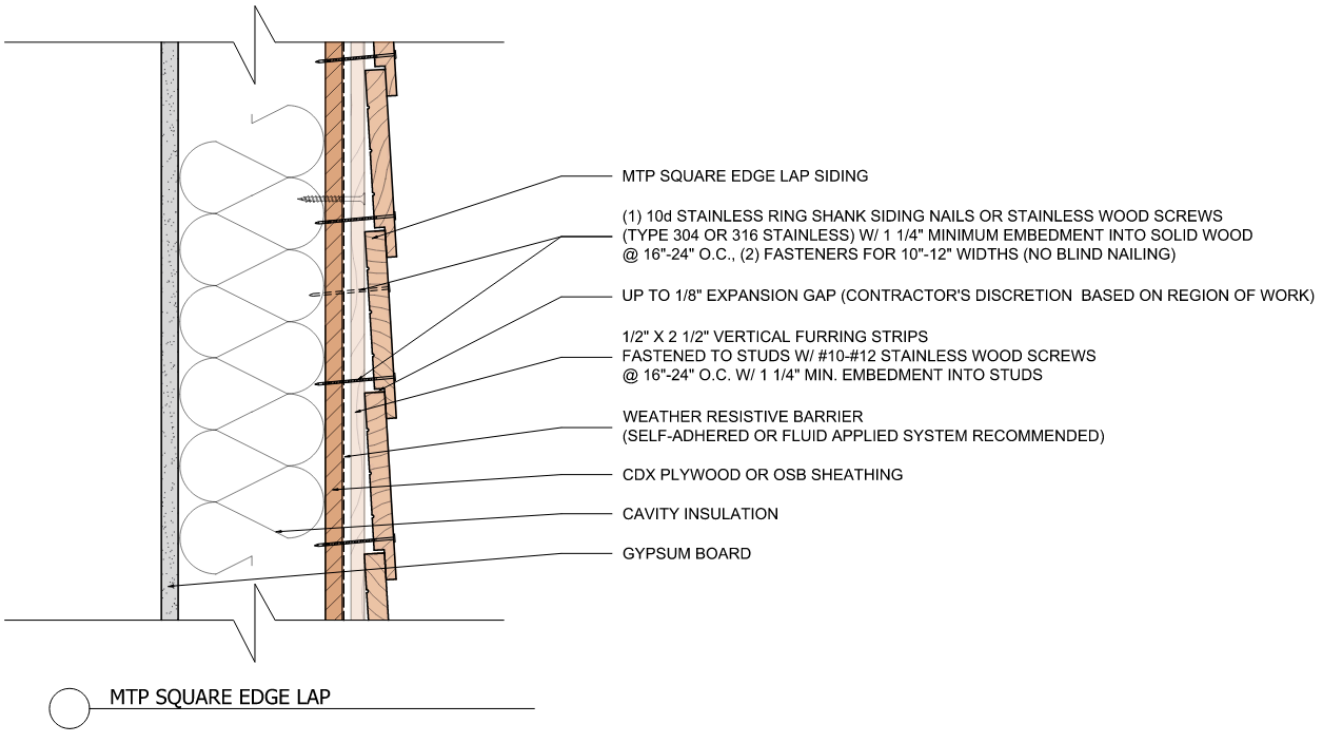
a. Shiplap



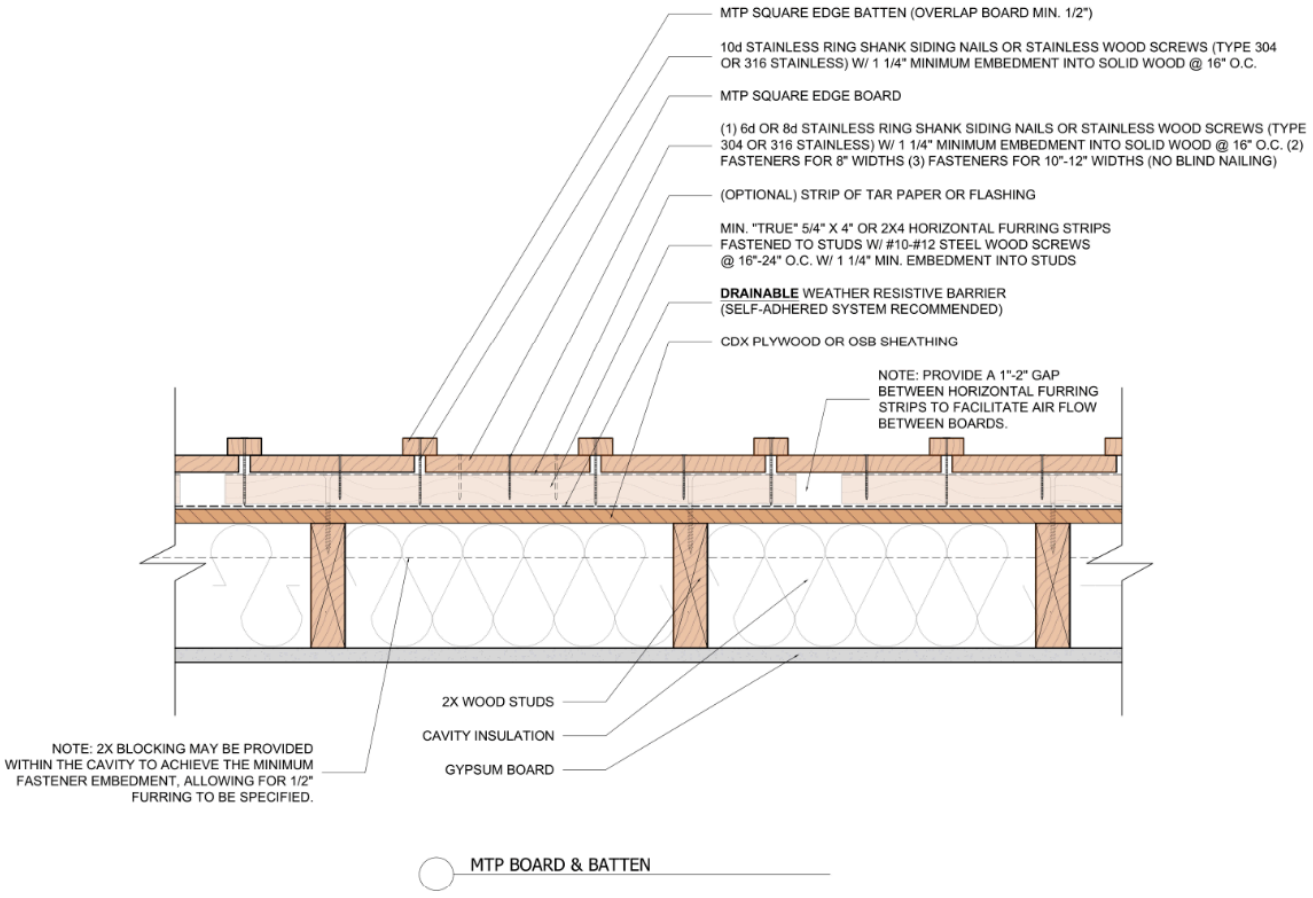


MTP VERTICAL SHIPLAP

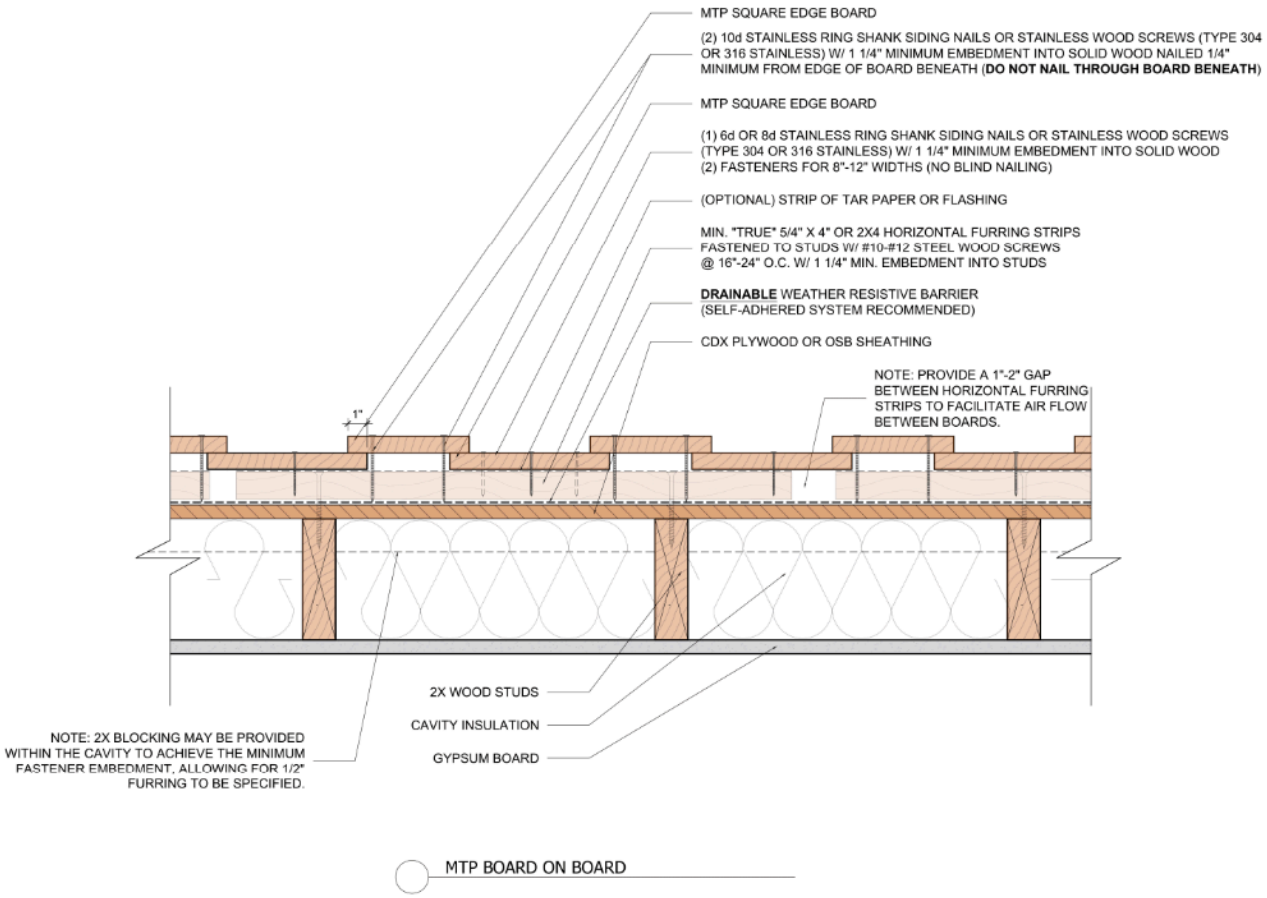
b. Square Edge Lap



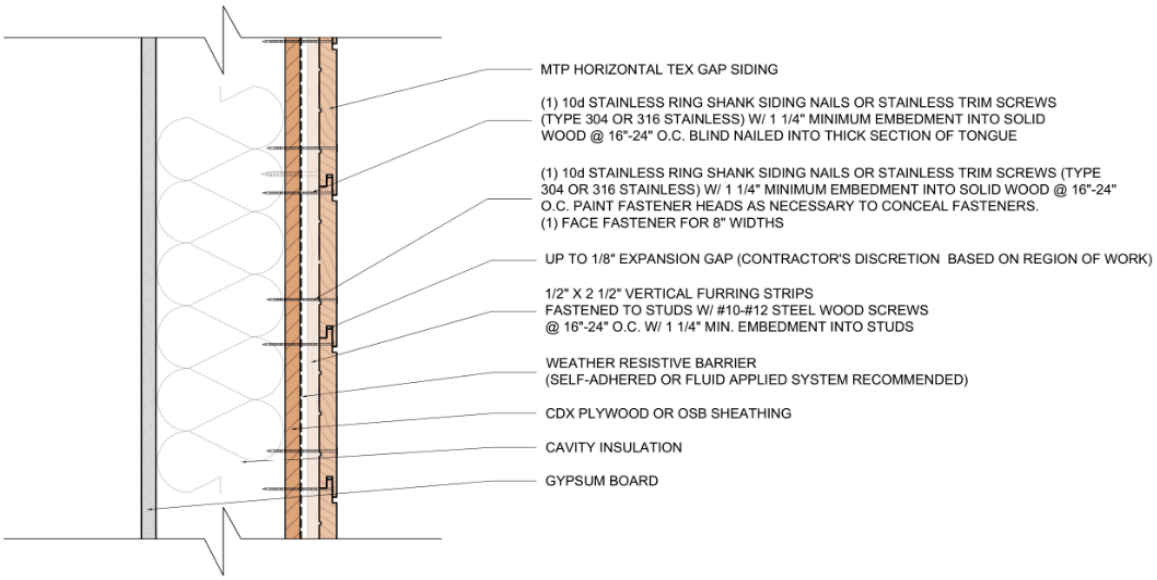
c. Board & Batten



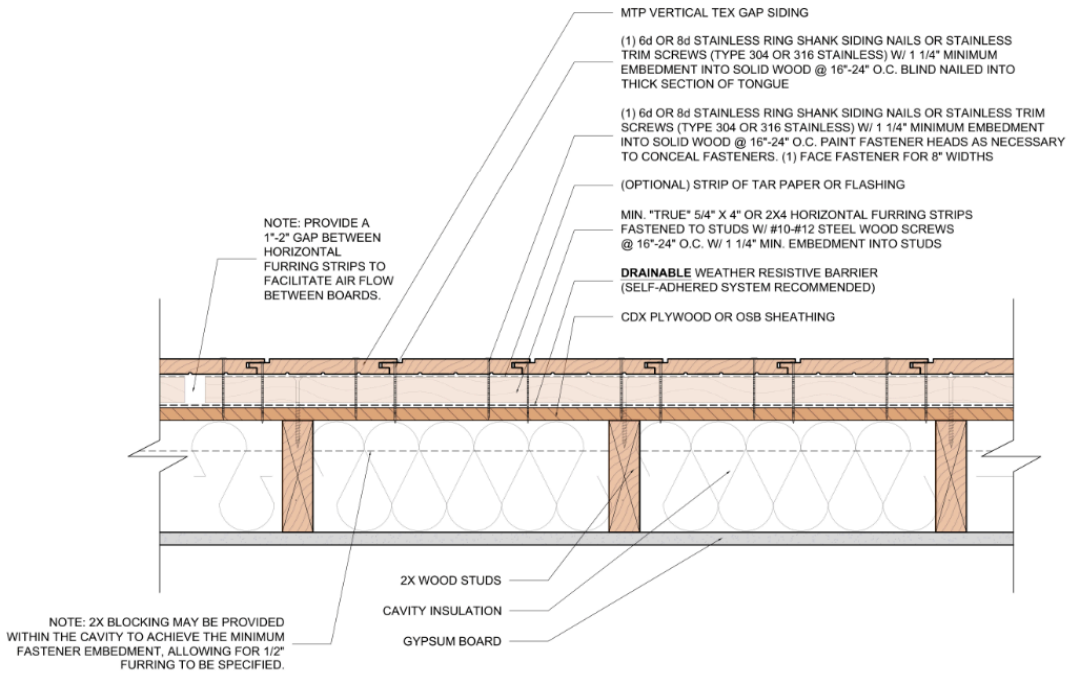
d. Board on Board



e. Tex Gap

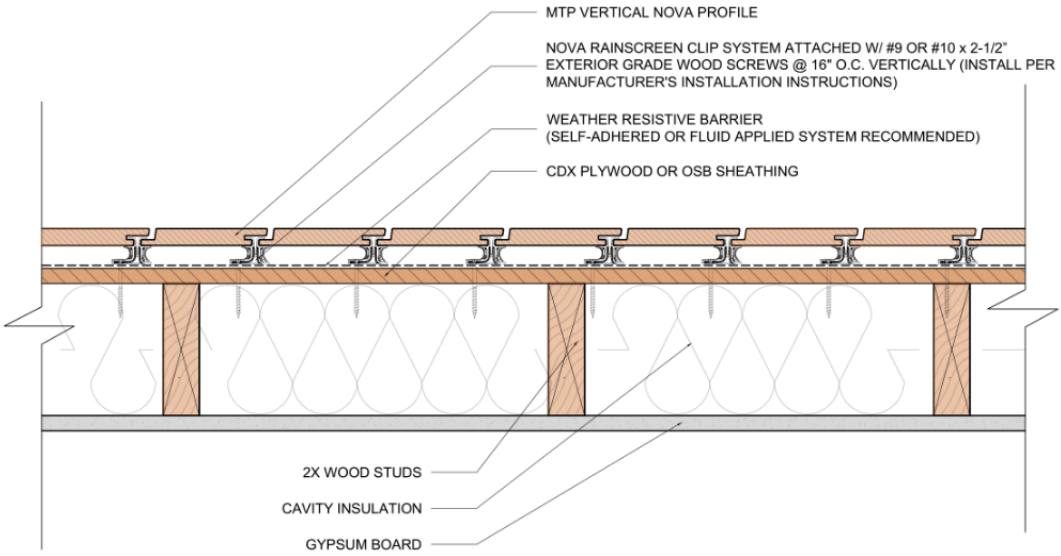


MTP HORIZONTALTEX GAP

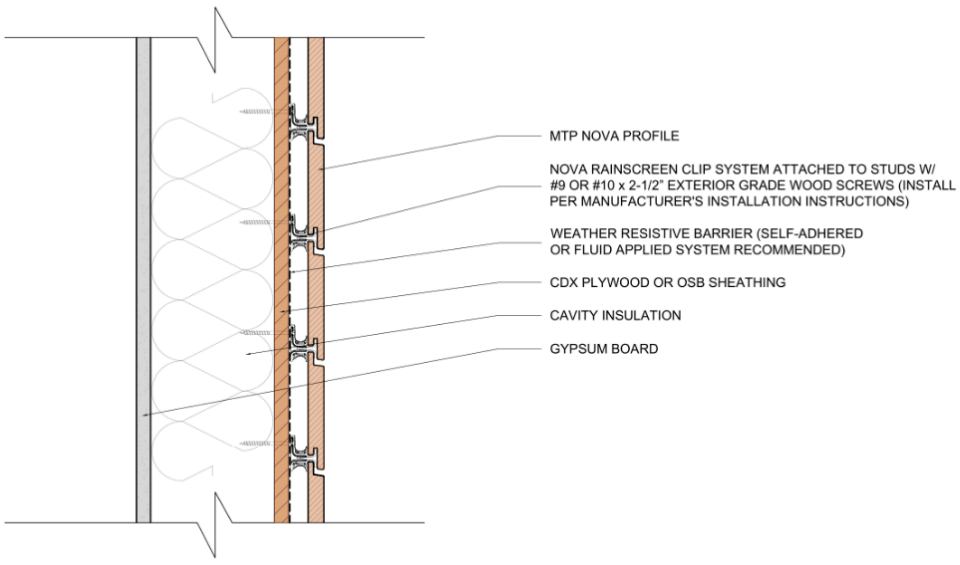


MTP VERTICAL TEX GAP

f. Nova ExoClad Clip

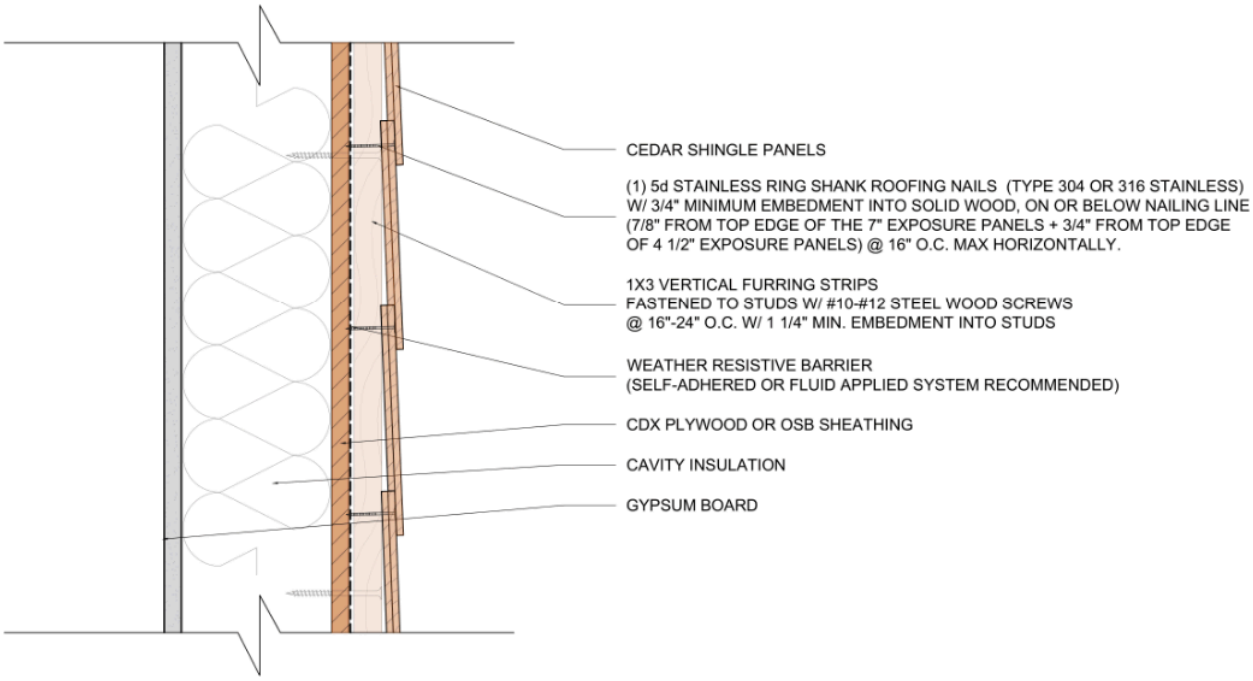


MTP VERTICAL NOVA CLIP



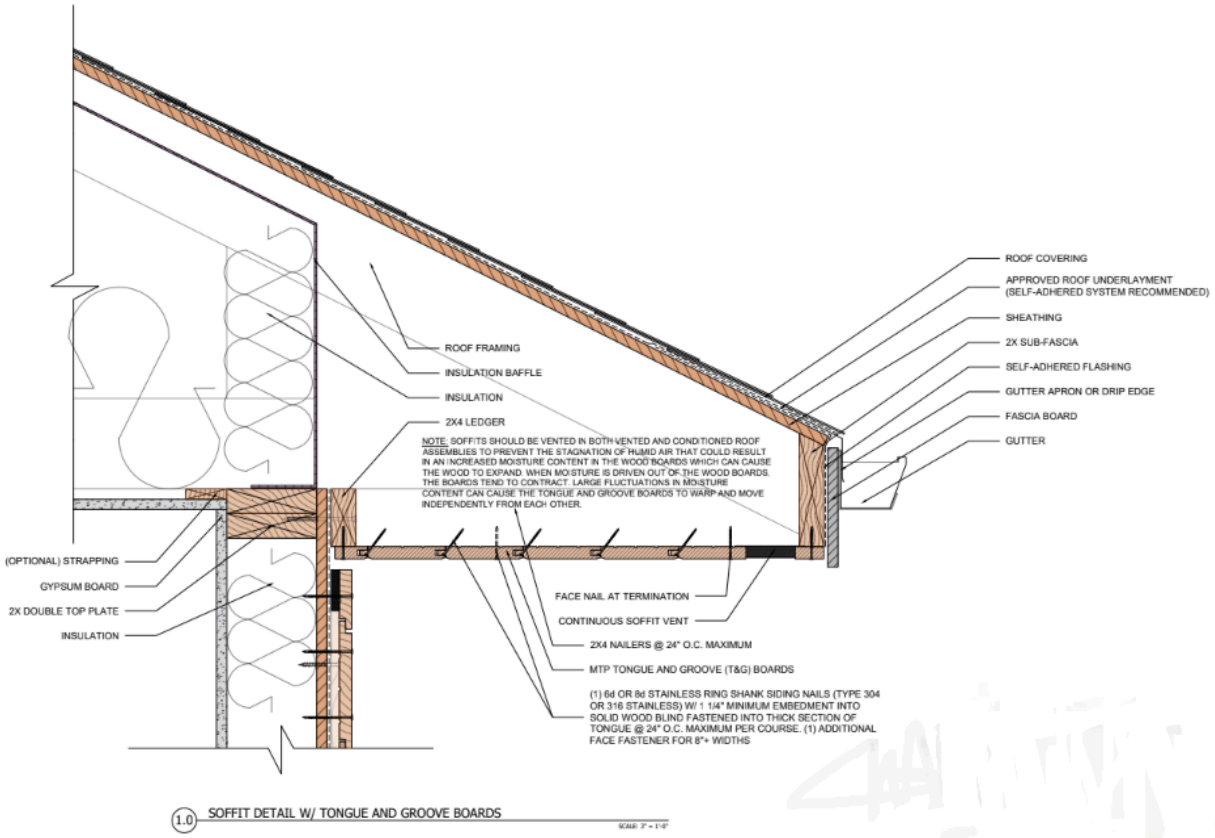
MTP HORIZONTAL NOVA CLIP

g. Cedar Shingle Panel

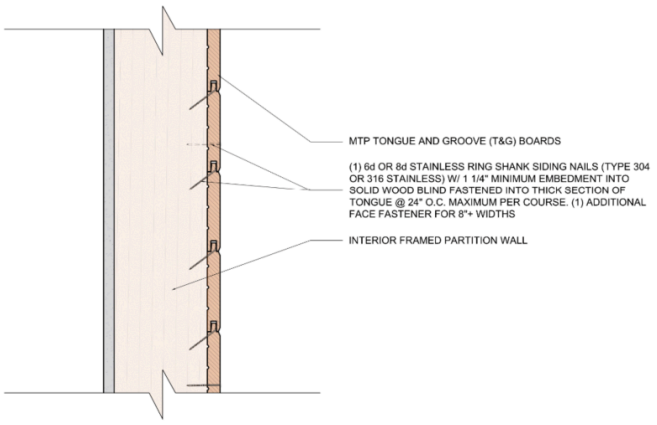


CEDAR SHINGLE PANELS

h. Tongue & Groove



1.0 SOFFIT DETAIL W/ TONGUE AND GROOVE BOARDS



MTP TONGUE & GROOVE