



GUIDE SPECIFICATION

Manufacturer:
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SECTION 10 82 13

EXTRUDED ALUMINUM BATTEN SCREENS

This guide specification has been prepared by Lumabuilt, in printed and electronic media, as an aid to specifiers in preparing written construction documents for the Mosaic (Alumaboard) extruded aluminum Batten system for decorative wall, soffit, ceiling, and sun screens with a variety of finishes including wood grains, solid colors, and specialty finishes.

Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary, and descriptive type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. Remove these notes before final printing of specification.

This guide specification is written around the Construction Specifications Institute (CSI), Section Format standards references to section names and numbers are based on MasterFormat 2020.

For specification assistance on specific product applications, please contact our offices above or any of our 50 local service centers throughout the country.

Lumabuilt reserves the right to modify these guide specifications at any time. Updates to this guide specification will be posted to the manufacturer's web site and/or in printed matter as they occur. Lumabuilt makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Extruded aluminum decorative batten screens for [wall] [soffit] [ceiling] [sunscreen trellis] application.
 - 2. Trim and accessories for complete installation.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at project site.
 - 1. Meet with Contractor, Architect, metal composite material panel Installer, metal composite material panel manufacturer's representative, structural support Installer, and installers whose work interfaces with or affects metal composite material panels, including installers of doors, windows, and louvers.

2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 3. Review methods and procedures related to metal composite material panel installation, including manufacturer's written instructions.
 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 5. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that affect metal composite material panels.
 6. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
 7. Review procedures for repair of panels damaged after installation.
 8. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.
- 1.3 ACTION SUBMITTALS
- A. Product Data: For each type of product.
 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of Batten and accessory.
 - B. Shop Drawings:
 1. Include fabrication and installation layouts of aluminum battens; details of conditions, joints batten profiles, anchorages, attachment system, and accessories; and special details.
 2. Accessories: Include details of anchorage systems, at a scale of not less than 1- 1/2 inches per 12 inches.
 3. Delegated Design: Provide shop drawings signed and sealed by a structural engineer licensed to practice in the location of the project, indicating ability of system and attachment to supporting construction to resist indicated or code required loads.
 - C. LEED or Environmentally Required Documents:
 1. Use primary and secondary 6XXX series aluminum alloys. Approximately 40% extruded products are produced with recycled secondary aluminum (32% post-consumer content and 8% pre-consumer content); material received and recycled by local suppliers. The remaining percentage of our production is to be processed from primary billet which typically contains 3 - 5% recycled aluminum. Aluminum products shall be 100% recyclable with no downgrading of the material qualities.
 - a) MR2.1 and 2.2: Construction waste management: 1-2 points
 - Aluminum recycling
 - b) MR4.1 and 4.2: Recycled Content: 1-2 points
 - Recycled content in aluminum extrusions
 - c) MR5.1 and 5.2: Regional Materials: 1-2 points
 - Recycled content recovered, reprocessed near project
 - d) ID1: Innovation in Design: 1 point
 - For use of Cradle-to-Cradle certified materials
 - D. Samples:
 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns (typical 3"x6")(76 mm x 152mm). Include similar Samples of trim and accessories involving color selection (typical 6" length)(152 mm).
 2. Verification Samples: 6 inches (152 mm) long by actual panel width. Include fasteners, closures, and other metal panel accessories.
 - E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- 1.4 INFORMATIONAL SUBMITTALS
- A. Sample Warranties: For special warranties.
 - B. Submit sustainability documentation for recycled content and other pertinent attributes in support of project's sustainability goals.
- 1.5 CLOSEOUT SUBMITTALS
- A. Maintenance Data: For metal cladding to include in maintenance manuals.
- 1.6 QUALITY ASSURANCE
- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
 - B. **[Mockups]**: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic

effects, and to set quality standards for fabrication and installation.

1. Build mockup of typical installation as indicated on Drawings; approximately four units wide, including attachments and accessories.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, aluminum battens, and other manufactured items so as not to be damaged or deformed. Package aluminum battens for protection during transportation and handling.
- B. Unload, store, and erect aluminum battens in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack aluminum battens horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store battens to ensure dryness, with positive slope for drainage of water. Do not store battens in contact with other materials that might cause staining, denting, or other surface damage..

1.8 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of battens to be performed in accordance with manufacturers' written instructions and warranty requirements.

1.9 COORDINATION

- A. Coordinate batten installation with rain drainage work, flashing, trim, construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

1. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal cladding systems that fail in materials or workmanship within specified warranty period. Warranty terms and conditions, found in Lumabuilt's warranty, apply.
 - a. Failures include, but are not limited to, the following:
 - b. Buckling not associated with the substrate and/or structure to which the Mosaic system is attached. Defined as 1/16" out of plane per linear foot.

2. Warranty on Cladding Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal cladding that show evidence of deterioration of factory-applied finishes within specified warranty period. Warranty terms and conditions, found in Lumabuilt's warranty, apply.
 - a. **[Solid Color Finish]** Deterioration includes, but is not limited to, the following:
 - i. Color Retention: Color fading more than 7 units from the original color, when tested in accordance with ASTM D2244.
 - ii. Gloss Retention: Finish will exhibit gloss retention of a minimum of 50% of the original gloss when measured in accordance to ASTM D523 at a 60° angle.
 - iii. Chalking Resistance: Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214 Test Method A.
 - iv. Checking and Cracking: Will not visibly check or crack in such a way as to significantly adversely affect the appearance of the surface.
 - v. **Finish Warranty Period: 20 years.**
 - b. **[Woodgrain Finish Standard]** Deterioration includes, but is not limited to, the following:
 - i. Color Retention: Color fading more than 5 units from the original color, when tested in accordance with ASTM D2244.
 - ii. Gloss Retention: The coated surface will exhibit gloss retention to a minimum of 30% from the original gloss.
 - iii. Chalking Resistance: Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - iv. Checking and Cracking: There will be no clearly visible checking or cracking of the painted finish on the products installed on the building.
 - v. Paint Adhesion: Adhesion of Painted Finish when initially applied to test panels and measured by reference to AAMA 2604-02; Clause 7.4.2 will show no evidence of film removal.
 - vi. **Finish Warranty Period: Standard 15 years.**
 - c. **[Woodgrain Finish Optional]** Deterioration includes, but is not limited to, the following:
 - i. Color Retention: Color fading more than 5 units from the original color, when tested in accordance with ASTM D2244.
 - ii. Gloss Retention: The coated surface will exhibit gloss retention to a minimum of 30% from the original gloss.
 - iii. Chalking Resistance: Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - iv. Checking and Cracking: There will be no clearly visible checking or cracking of the painted finish on the products installed on the building.
 - v. Paint Adhesion: Adhesion of Painted Finish when initially applied to test panels and measured by reference to AAMA 2604-02; Clause 7.4.2 will show no evidence of film removal.
 - i. Finish Warranty Period: **[Enhanced 20 years] [AAMA 2604 10-year or AAMA 2605 20-year American Standard]**

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide battens capable of withstanding the effects of the following loads, based on testing in accordance with ASTM E1592:
 1. Wind Loads: As indicated on Drawings or as required to meet applicable building codes.
 2. Deflection Limits: For wind loads, no greater than 1/180 of the span.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- C. Flame Spread: Meets ATM E84, Class A.

2.2 BATTENS

- A. Provide aluminum battens designed to be installed by mechanically attaching to supports using exposed or concealed fasteners. Include accessories required for weathertight installation.
- B. Battens: Extruded shapes, fabricated from either one- or two-piece construction (depending on profile selected).
 - 1. Acceptable Manufacturer and Product: Lumabuilt Mosaic (Alumaboard); www.lumabuilt.com
 - 2. Substitutions: Submit in accordance with Section 01 60 00.
- C. Materials: Extruded aluminum meeting ASTM B221, Alloy 6063-T5, of 0.063 inch thickness.
 - 1. Standard Batten Length: 24 feet (7.2 M).

In 2 below, make batten profile and joint type selection.

- 2. Size and Configuration:
 - a. [Solid battens:] [1x3] [1x4] [1x5] [1x6] [1x8] [4x10.75 cee fin] inches.]
 - b. [2-piece assembled battens:] [6x1] [2x2] [2x3] [2x4] [2x6] [2x8] [2x10] [2x12] [4x2] [1x3] [1x4] [1x5] [1x6] [4x8] inches.
 - c. [L-connect battens:] [1x3] [1x4] [1x5] [1x6] [4x8]

2.3 FABRICATION

- A. Fabricate and finish battens and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

2.4 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

In C below, select desired panel finish(s), and if known, specific color. Type of finish and color has a significant impact on cost, so as much detail as possible is encouraged.

C. Aluminum Battens

- 1. Pretreatment: Chrome Free five stage aluminum pretreatment system. Complies with AAMA 2603 AAMA 2604 and AAMA 2605 Superior Performance Standard and meets EPA, OSHA, State and Local environmental requirements and contains no chromates, cyanides or other heavy metals. Waste treatment is usually a simple pH neutralization and disposal to the sanitary sewer.

[Select finish] Remove if not applicable

- a) [Wood Grains]: Premium wood finishes using a polyurethane powder coat with ink-based wood grain patterns sublimated into the base powder. The combined effect creates all the aesthetic aspects of real wood. Color: [_____]
- b) [Solid Colors]: Premium finishes using a polyurethane powder coat available in smooth or fine textured finish. Color: [_____]
- c) [Specialty Finishes]: Premium finishes using a polyurethane powder coat with ink-based patterns sublimated into the base powder. The combined effect creates all the aesthetic aspects of finishes such as weathered steel, concrete, stone, marble, and other offerings. Color: [_____]

- 2. Contact Lumabuilt for available wood grains, solid color options, and texture finishes.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, batten supports, and other conditions affecting performance of the Work.
 - 1. Examine framing to verify that girts, angles, channels, studs, and other structural batten support members and anchorage have been installed within alignment tolerances required by the batten manufacturer.
 - 2. Examine sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by batten manufacturer if applicable.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install battens in accordance with manufacturer's written instructions in orientation, sizes, and locations indicated. Anchor battens and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Shim or otherwise plumb substrates receiving battens.
 - 2. Locate and space fastenings in uniform vertical and horizontal alignment.
- B. Fasteners:
 - 1. Use aluminum or epoxy-coated steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
- C. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion.

3.3 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as battens are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of batten installation, clean finished surfaces as recommended by manufacturer. Maintain in a clean condition during construction.
- B. After batten installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

END OF SECTION 10 82 13



Lumabuilt

Cavasson Nationwide Building

Mosaic

Planks and Battens

Mosaic works beautifully on exteriors as well as interiors and has a wide variety of profiles for use for cladding, soffits, enclosure screens, ceilings, walls, partitions, and a variety of custom solutions. The design capabilities are endless with the versatility of Mosaic. The product is lightweight, durable and our licensed proprietary sublimation process will make its low maintenance beauty last for years.

USES:

Soffits, Cladding, Privacy, Enclosure Screens, Ceilings, Walls, Battens, Decorative Elements, Signage, Vertical or Horizontal Installations

WOOD FINISHES

 WHITE OAK V1   	 LIGHT MAPLE V2	 DRIFTWOOD V3    	 LIGHT PECAN V3	 RED OAK V3   	 LIGHT SUPER WIDE GRAIN V3	 WEATHERED TEAK V3	 COASTLINE V3	 BASSWOOD V3	 CREAM FIR V1
 WHITE BAMBOO V1	 BLACK WALNUT V1   	 DARK NATIONAL WALNUT V1	 LIGHT NATIONAL WALNUT V1	 AMERICAN WALNUT V2	 LIGHT AMERICAN WALNUT V2	 TABLE WALNUT V3	 LIGHT TABLE WALNUT V3	 WHITE AMERICAN WALNUT V2	 SUPER OAK V3
 DARK SUPER OAK V3	 DARK SUPER WIDE GRAIN V3	 SUPER WIDE GRAIN V3	 AMBER BAMBOO V1	 DARK AMBER BAMBOO V1	 AFRICAN ROSEWOOD V1	 LIGHT AFRICAN ROSEWOOD V1	 LIGHT HAZELNUT BROWN V1	 HAZELNUT BROWN V1	 DARK FIR V1
 LIGHT FIR V1	 COLONY MAPLE V3	 DARK COLONY MAPLE V3	 DARK KNOTTY PINE V2	 EXTRA DARK KNOTTY PINE V2	 MEDIUM CHERRY V3	 DARK CHERRY V3	 PHOENIX COPPER    	<p>V-RATING V1 - MINIMAL VARIANCE V2- COLOR OR PATTERN VARIANCE V3- COLOR AND PATTERN VARIANCE</p>     	
							   		

SMOOTH & TEXTURE FINISHES

 OIL RUBBED BRONZE	 DARK BRONZE	 BLACK	 SERIOUS GRAY	 GRAPHITE   	 CHARCOAL	 SIGNAL WHITE	 SIERRA TAN	 RUST SPICE   	 WEATHERING STEEL   
 ARIZONA BLUE	 TURMERIC	 RED BRICK	 BURNT GARNET	 LUCKY GREEN	 INK BLACK	 DEEP OLIVE	 AEGEAN BLUE	 SUMMER SAGE   	 CALIFORNIA BRONZE  

FEATURES & BENEFITS:

- Lightweight & Durable
- Time & Labor Savings with Ease of Installation
- 100% Recyclable
- Matching End Caps in Solid Colors or Wood Grain Finishes (Battens)
- Architectural Soffit & Wall Applications
- Installed Over Open Framing or Solid Substrate
- Battens Mechanically Attached with Internal Fastening
- 15 Year Finish Warranty, 20 Year Specialty Warranties on Request
- Perfect for Exterior or Interior Applications
- Paint Finish Testing: AAMA 2604 & Class "A" Fire Rating
- Custom Colors & Color Matching Available
- Ask us about our other product lines; Cor, AP400 & Rollfab

DIMENSIONS:

PLANKS (12' OR 24' LENGTHS)

- 2.5" V-GROOVE
- 4" V-GROOVE
- 6" V-GROOVE
- 8" V-GROOVE
- 10" V-GROOVE
- 6" FLUSH PLANK

SOLID BATTENS (24' LENGTHS)

- 1"×3"
- 1"×4"
- 1"×5"
- 1"×6"
- 1"×8"
- 2"×8" (2 or 6 screw bosses)

BATTEN ASSEMBLIES (24' LENGTHS)

- 2"×2"
 - 2"×3"
 - 2"×4"
 - 2"×6"
 - 2"×8"
 - 2"×10"
 - 2"×12"
 - 4"×2"
 - 6"×1"
 - 1"×3" L-Connect
 - 1"×4" L-Connect
 - 1"×5" L-Connect
 - 1"×6" L-Connect
 - 4"×8" L Connect
- Some batten assemblies are available in various configurations*

Lumabuilt

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For more info visit: Lumabuilt.com

For accurate color selections
please request color samples.



Lumabuilt

Please note that RMP Rollfab Architectural Solutions has been rebranded as **Lumabuilt**.

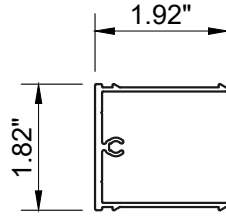
Product names have also been changed; the product specifications, warranties, accessories, and all things related to the products, have not changed. The products have been rebranded in name only.

Rebranding began June 26, 2023.

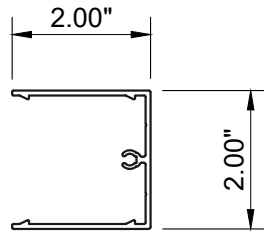
Mosaic is now the new product name for Alumaboard for Planks and Battens.

Mosaic
Planks and Battens

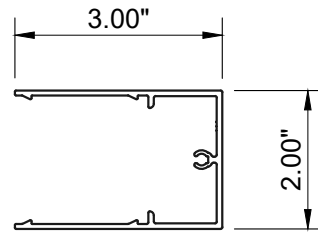
MOSAIC 2" BATTEN ASSEMBLY COMPONENTS



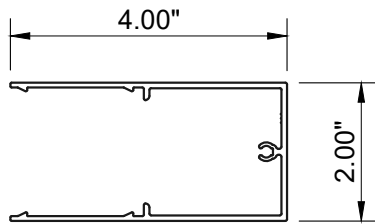
MOSAIC BATTEN BASE 2"



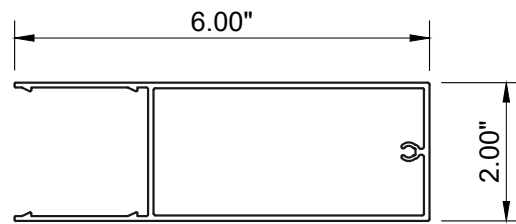
MOSAIC BATTEN CAP 2"X2"



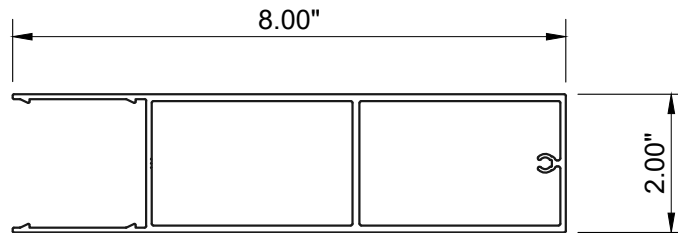
MOSAIC BATTEN CAP 2"X3"



MOSAIC BATTEN CAP 2"X4"

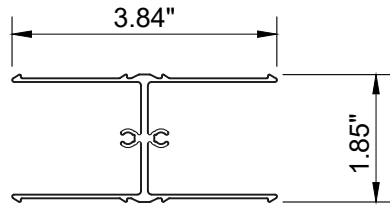


MOSAIC BATTEN CAP 2"X6"

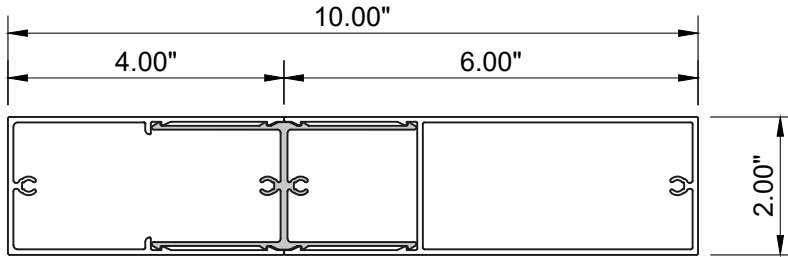


MOSAIC BATTEN CAP 2"X8"

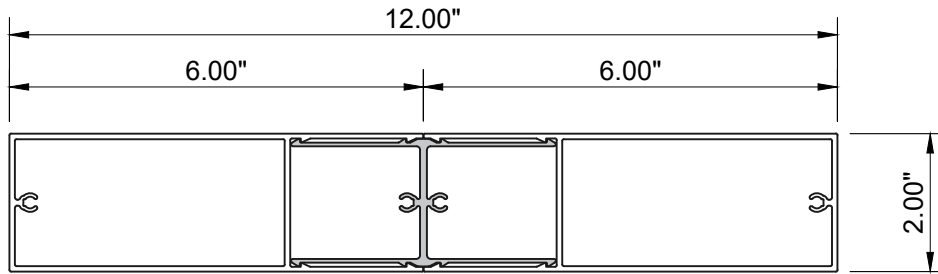
MOSAIC 2" BATTEN COMBINATIONS USING AN EXTENSION



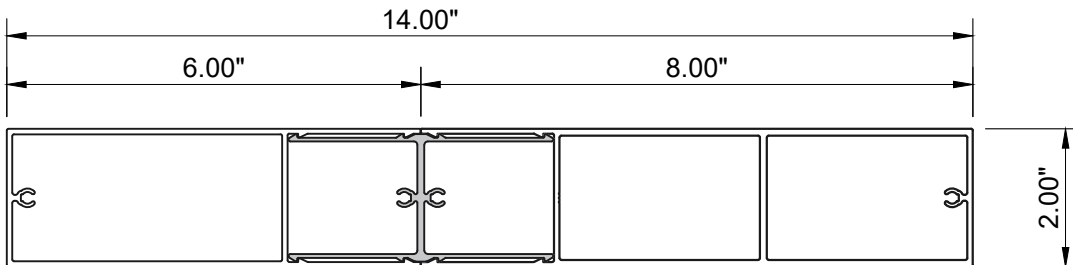
MOSAIC BATTEN EXTENSION 2"



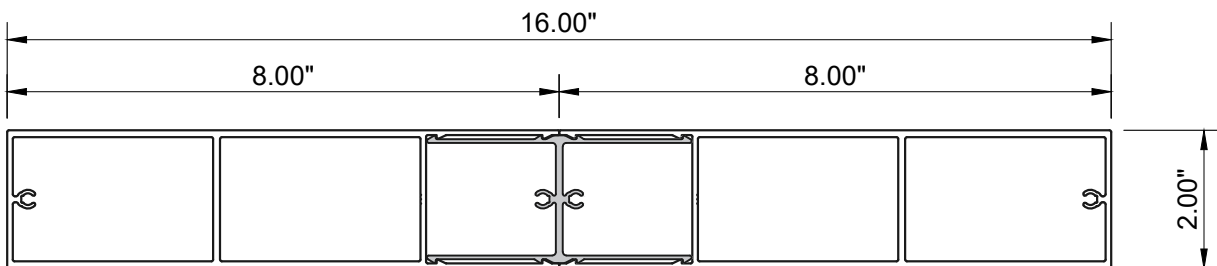
MOSAIC BATTEN ASSEMBLY 4" WITH 6" = 10"



MOSAIC BATTEN ASSEMBLY 6" WITH 6" = 12"



MOSAIC BATTEN ASSEMBLY 6" WITH 8" = 14"



MOSAIC BATTEN ASSEMBLY 8" WITH 8" = 16"



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2" BATTEN COMBINATION COMPONENTS

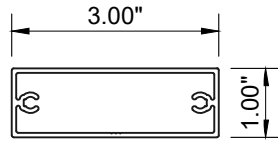
C1

SCALE: NTS

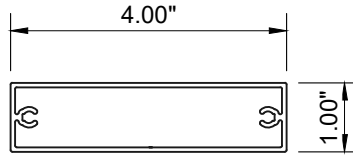
11.02.23

SYSTEM = MOSAIC BATTENS

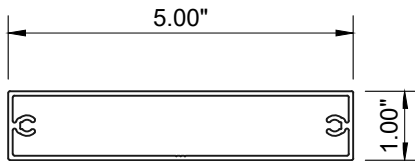
MOSAIC SOLID BATTENS



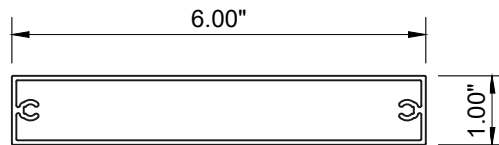
MOSAIC SOLID BATTEN 1\"X3\"



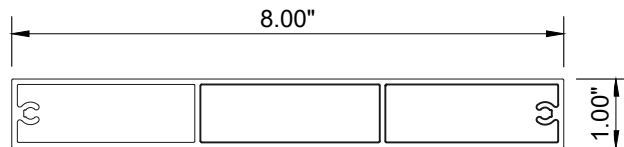
MOSAIC SOLID BATTEN 1\"X4\"



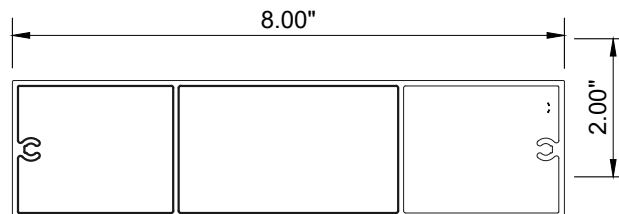
MOSAIC SOLID BATTEN 1\"X5\"



MOSAIC SOLID BATTEN 1\"X6\"

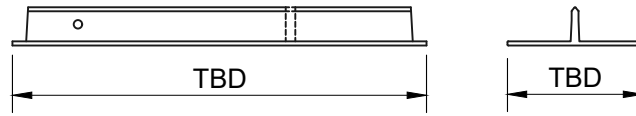


MOSAIC SOLID BATTEN 1\"X8\"



MOSAIC SOLID BATTEN 2\"X8\"

MOSAIC BATTEN COMPONENTS



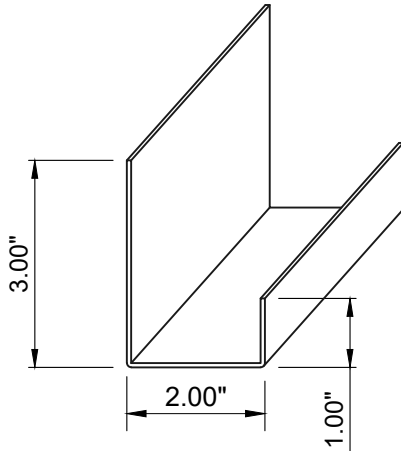
BATTEN T-END CAP

BATTEN T-END CAPS AVAILABLE IN:
1"x (UP TO 8" LG.) & 2"x (UP TO 16" LG.)

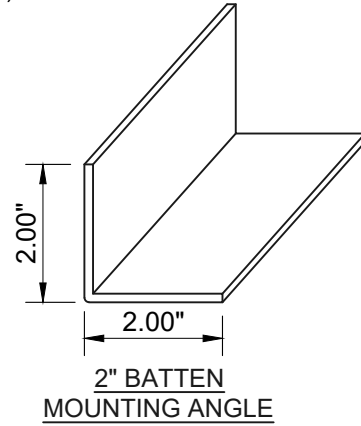


BATTEN FLAT END CAP

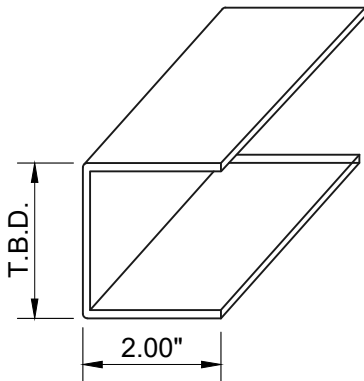
BATTEN FLAT END CAPS AVAILABLE IN:
1"x (UP TO 8" LG.) & 2"x (UP TO 16" LG.)



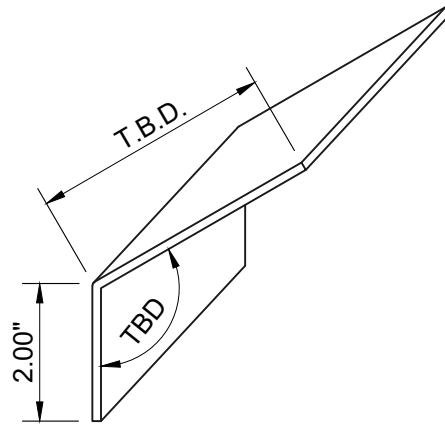
CARRIER TRACK



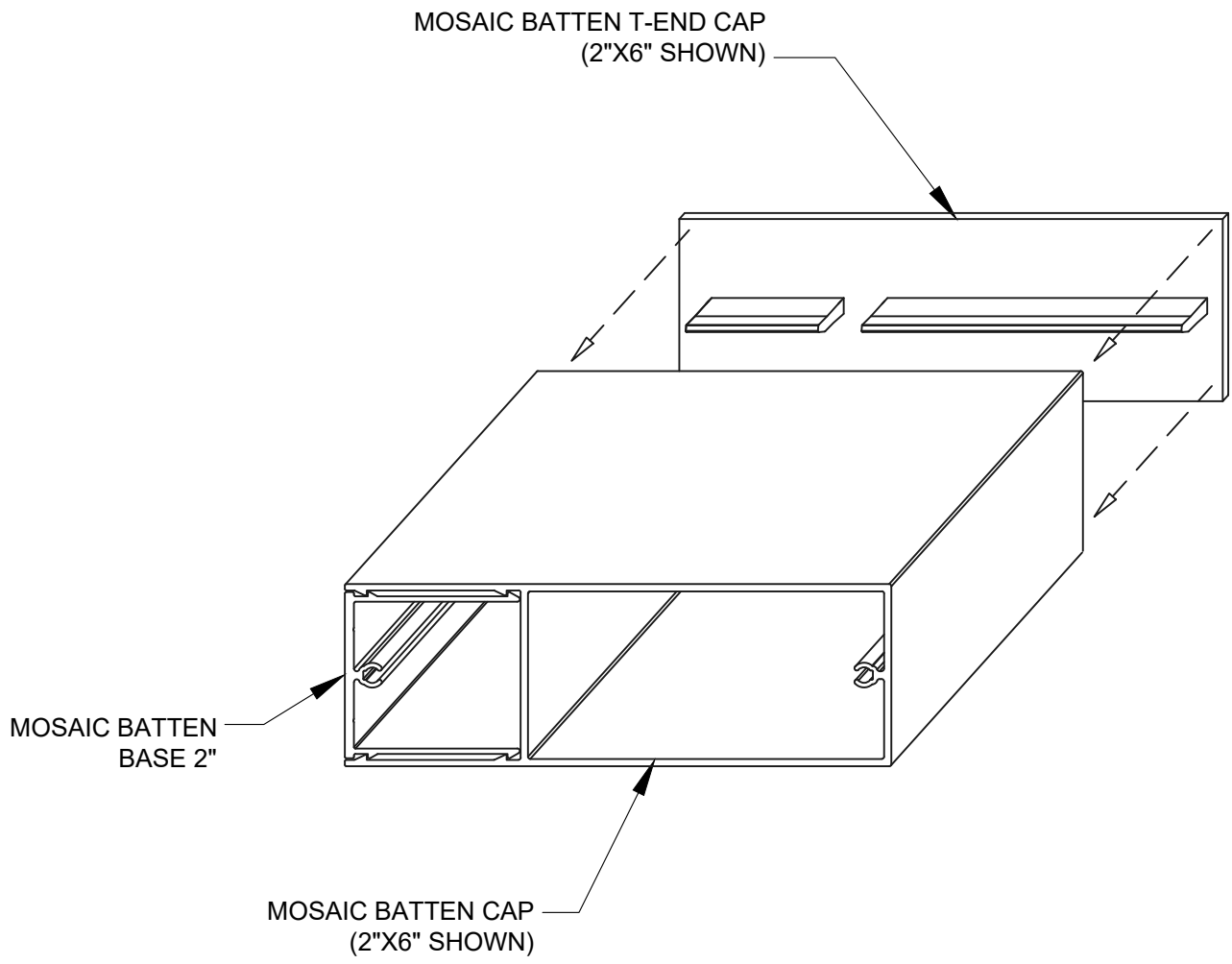
2" BATTEN MOUNTING ANGLE



2" BATTEN EXTERIOR MOUNTING CHANNEL



2" BATTEN OFFSET MOUNTING ANGLE



* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"x2", 2"x3", 2"x4", 2"x8", 2"x10", 2"x12", 2"x14" AND 2"x16".



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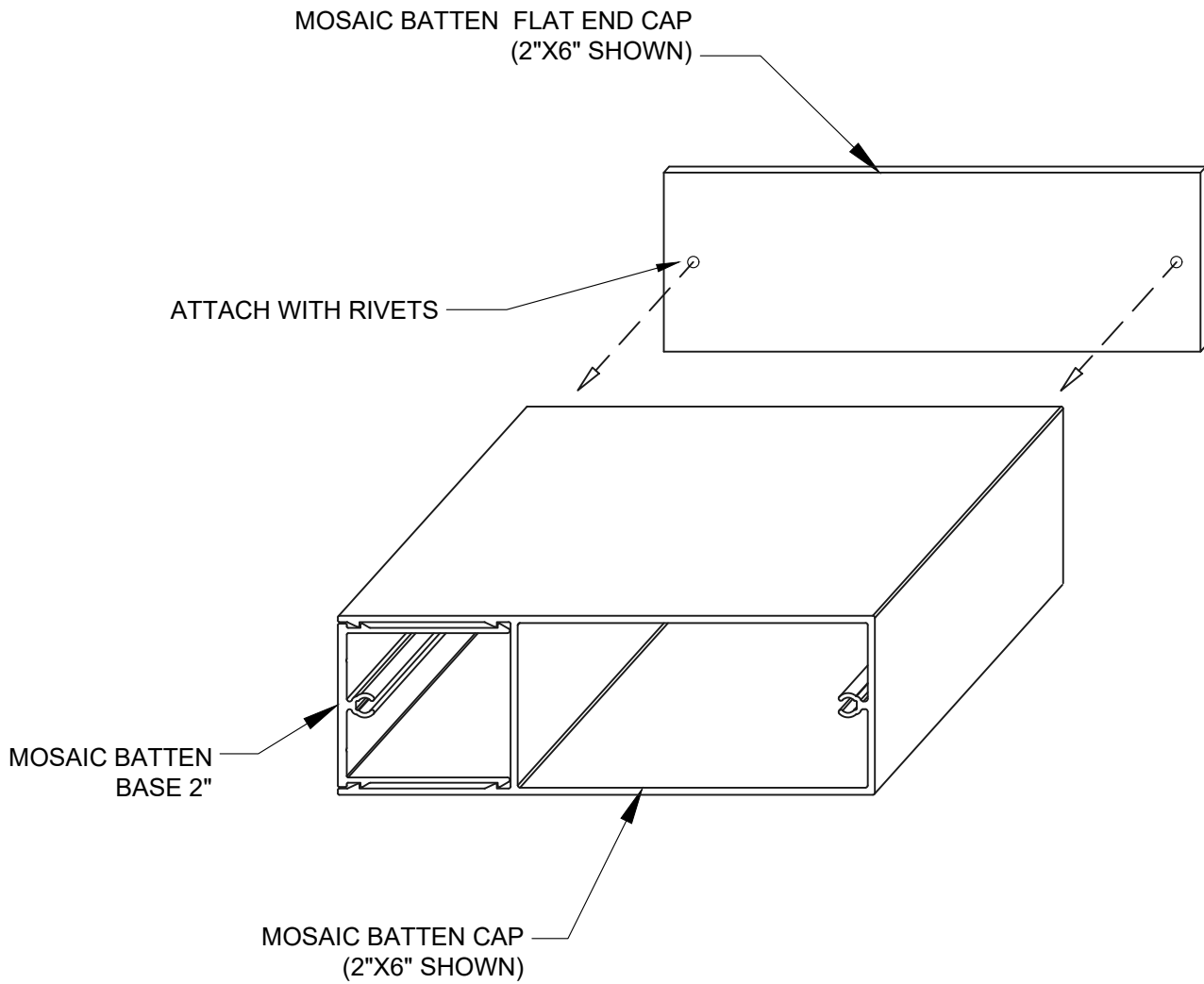
2" BATTEN T-END CAP DETAIL

C4

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS



* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"x2", 2"x3", 2"x4", 2"x8", 2"x10", 2"x12", 2"x14" AND 2"x16".



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2" BATTEN FLAT END CAP DETAIL

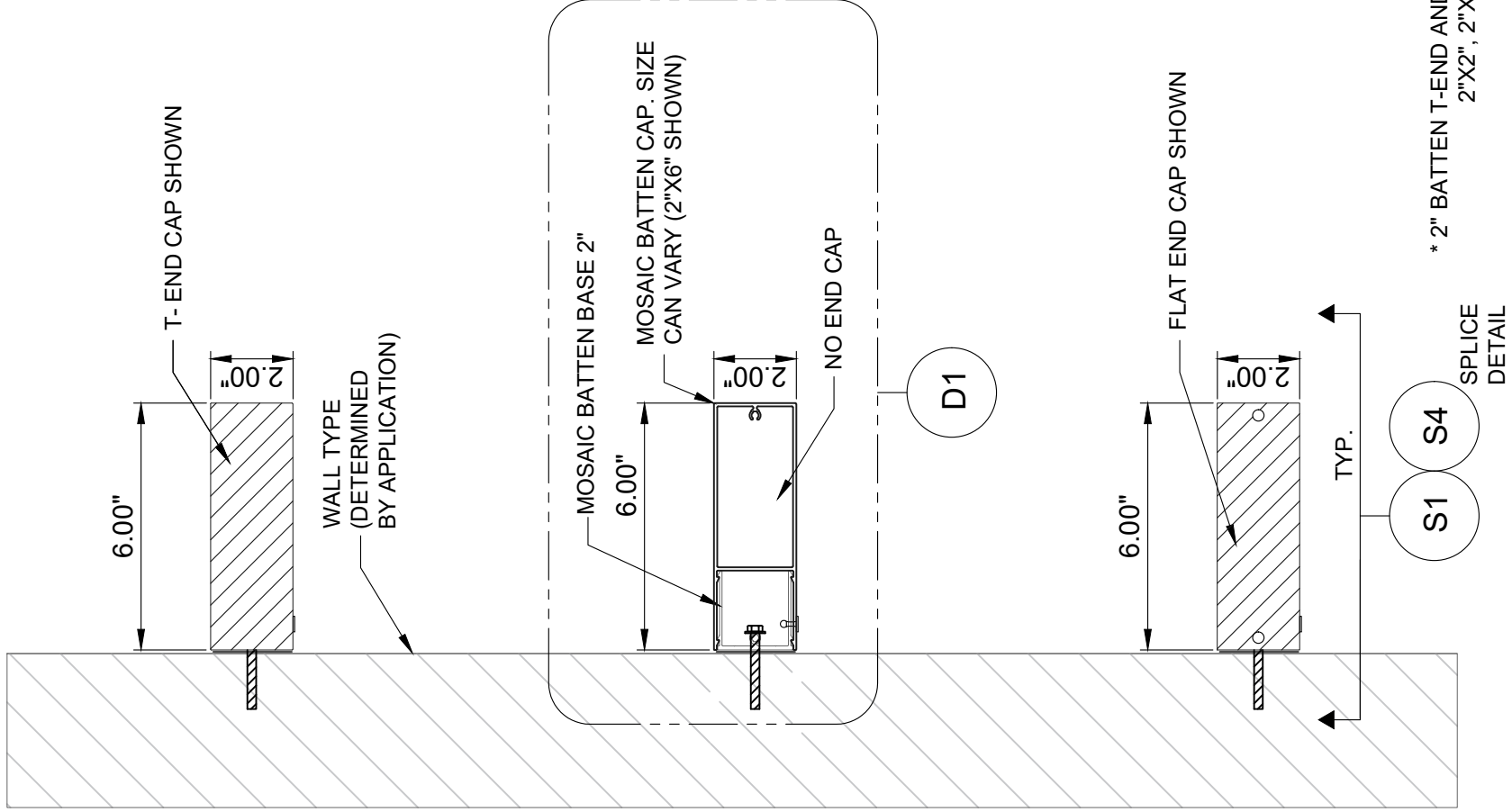
C5

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

ALL BATTENS CAN BE USED IN VERTICAL & HORIZONTAL APPLICATIONS. SPACING T.B.D. BY PROJECT DESIGN



* 2" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".

S1 S4
SPLICE
DETAIL

PLAN VIEW

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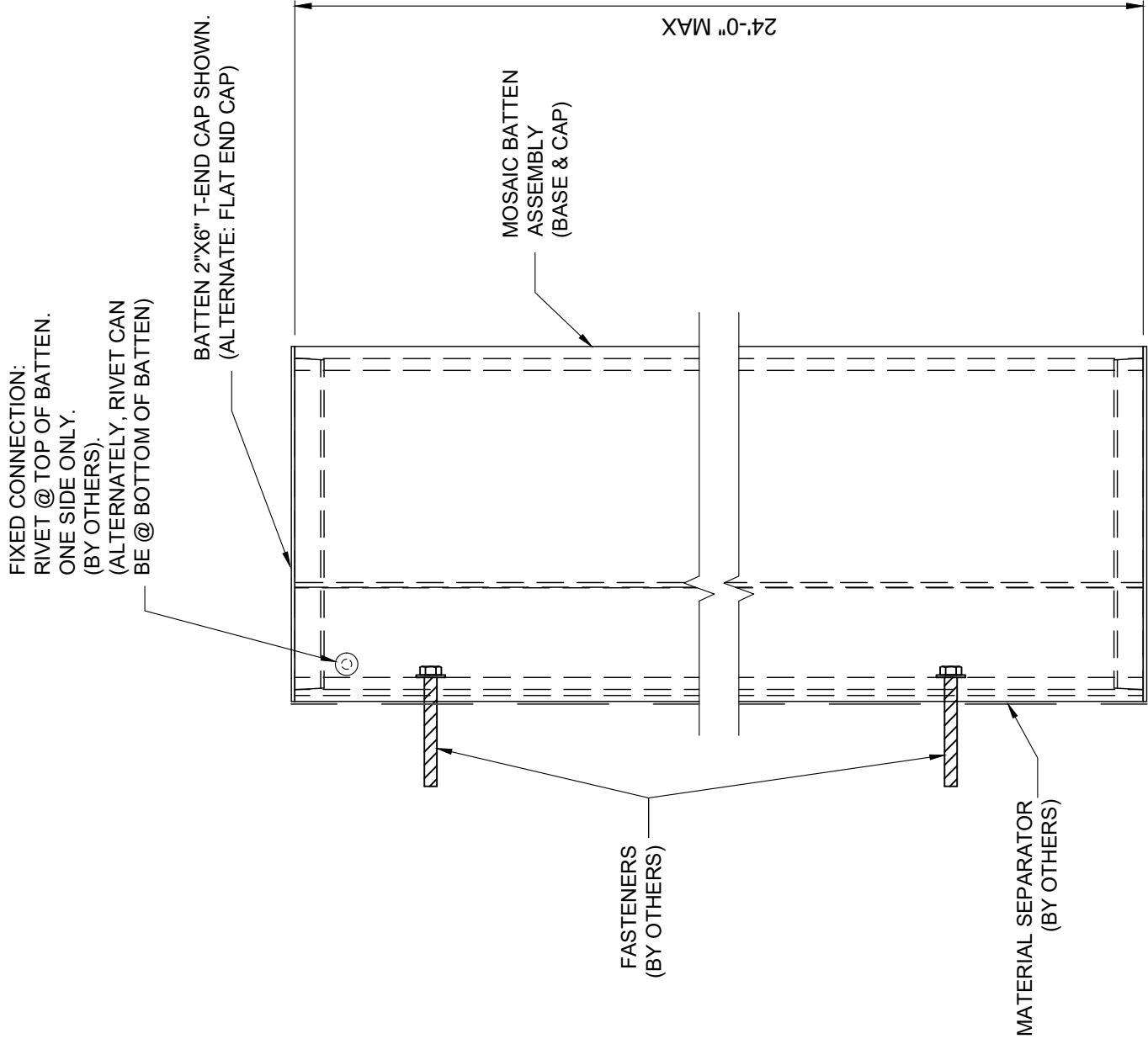


2" BATTEN ASSEMBLY PLAN: WALL TYPE 1

SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS



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2" BATTEN SECTION: WALL TYPE 1

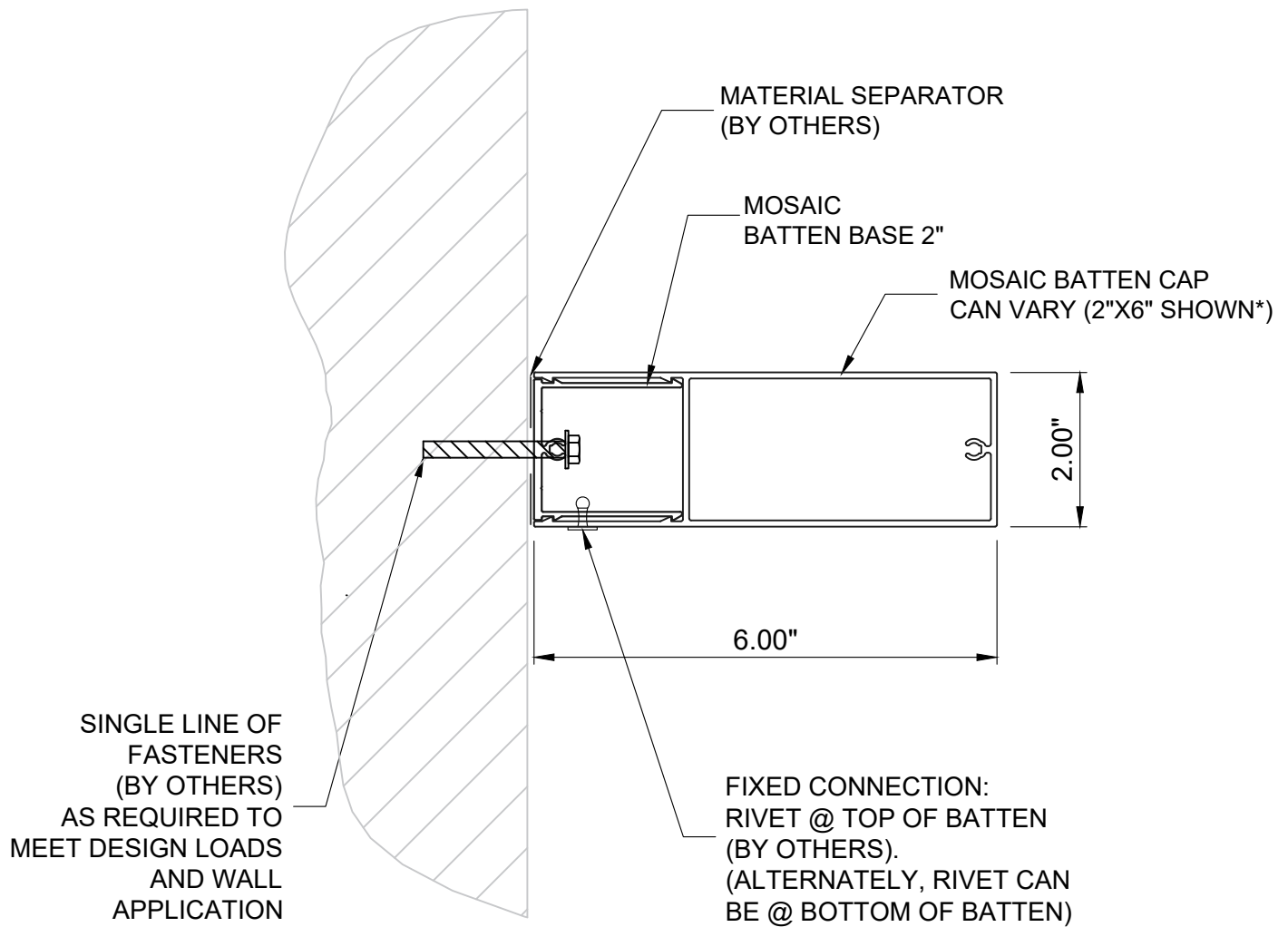
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

S1

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE:
BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENERS.
HOLE SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION.
VERIFY WITH ENGINEER.

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".



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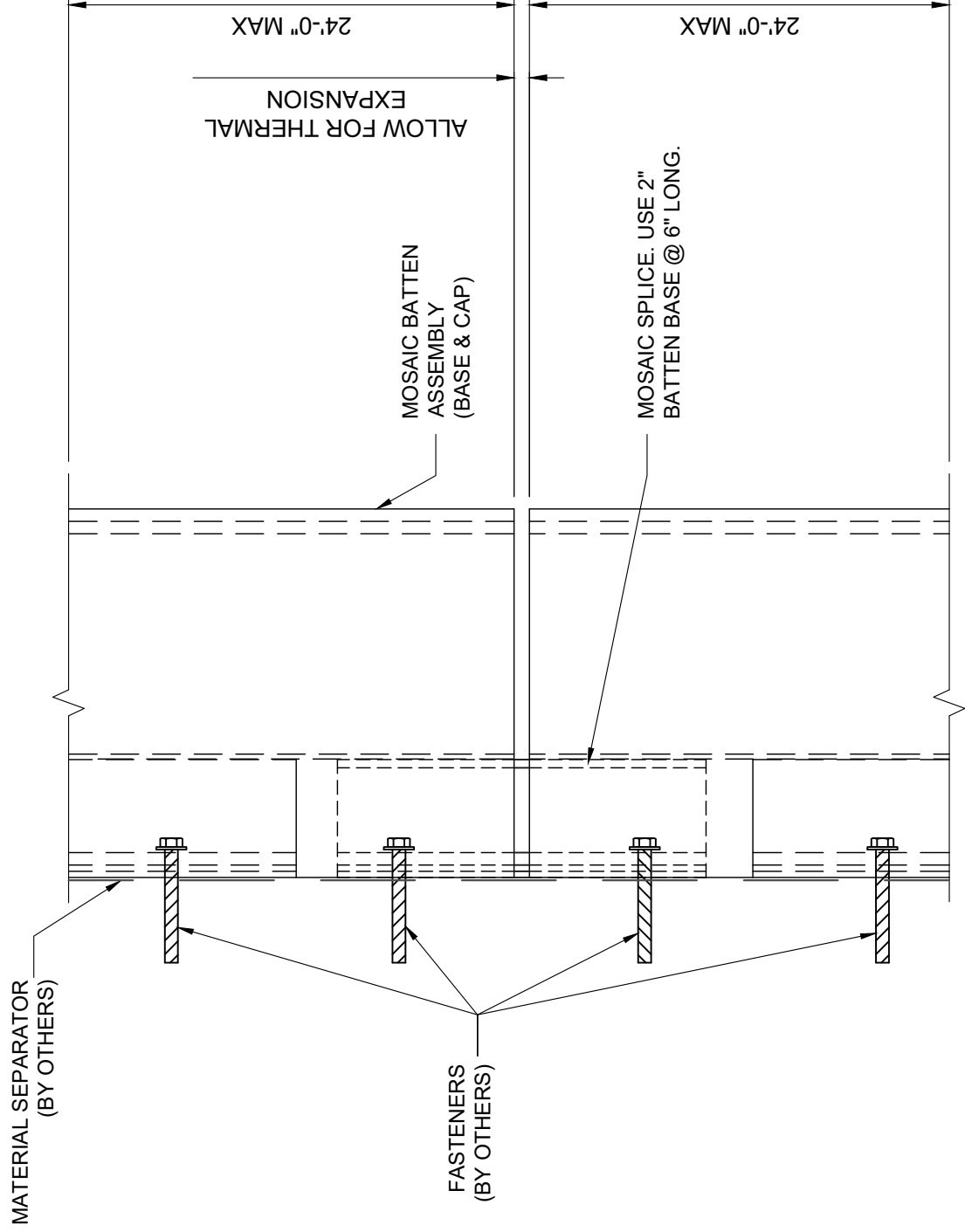
2" BATTEN ASSEMBLY - WALL DETAIL

D1

SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS



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2" BATTEN SECTION: SPLICE DETAIL

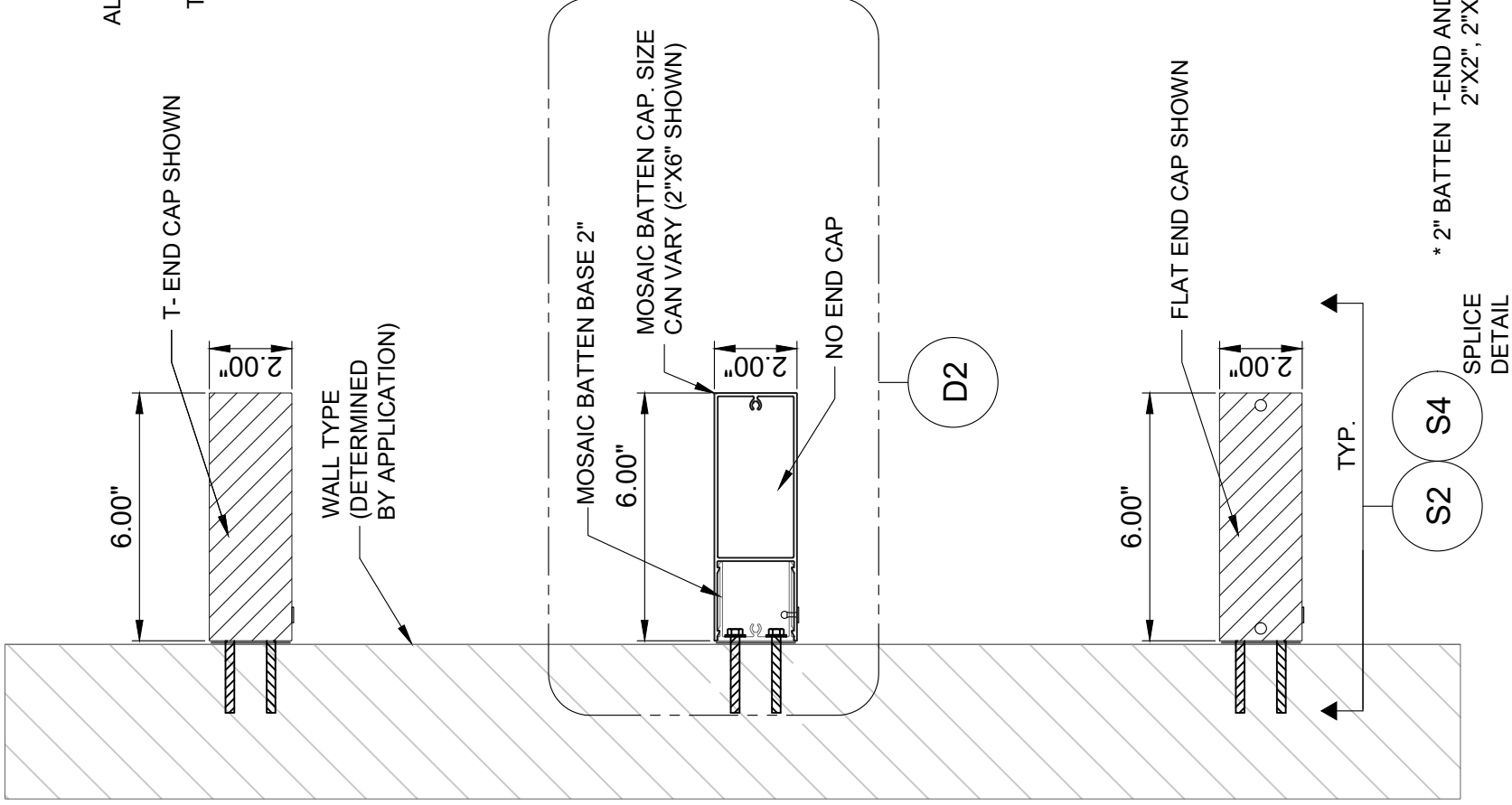
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

S4

ALL BATTENS CAN BE USED IN VERTICAL & HORIZONTAL APPLICATIONS. SPACING T.B.D. BY PROJECT DESIGN



* 2" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".

SPLICE
DETAIL

S2 S4

PLAN VIEW

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2" BATTEN ASSEMBLY PLAN: WALL TYPE 2

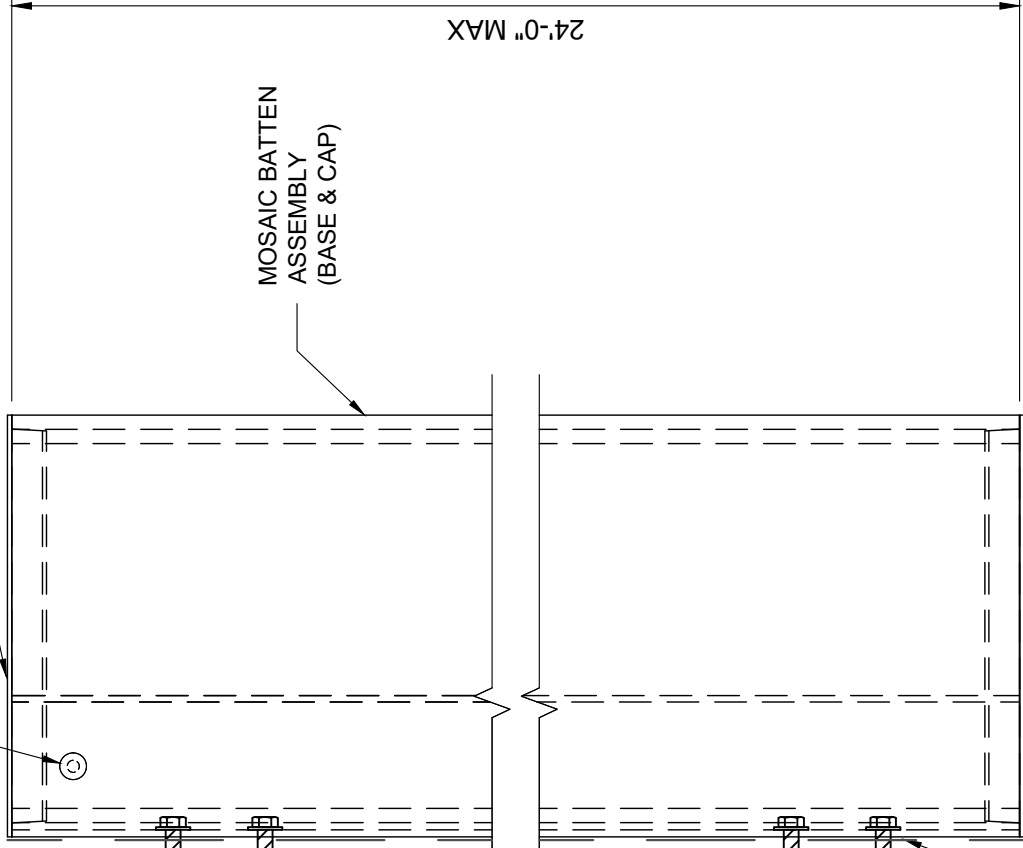
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

FIXED CONNECTION:
RIVET @ TOP OF BATTEN.
ONE SIDE ONLY.
(BY OTHERS).
(ALTERNATELY, RIVET CAN
BE @ BOTTOM OF BATTEN)

BATTEN 2"X6" T-END CAP SHOWN.
(ALTERNATE: FLAT END CAP)



PAIRS OF
STAGGERED
FASTENERS
(BY OTHERS)

MATERIAL SEPARATOR
(BY OTHERS)

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2" BATTEN SECTION: WALL TYPE 2

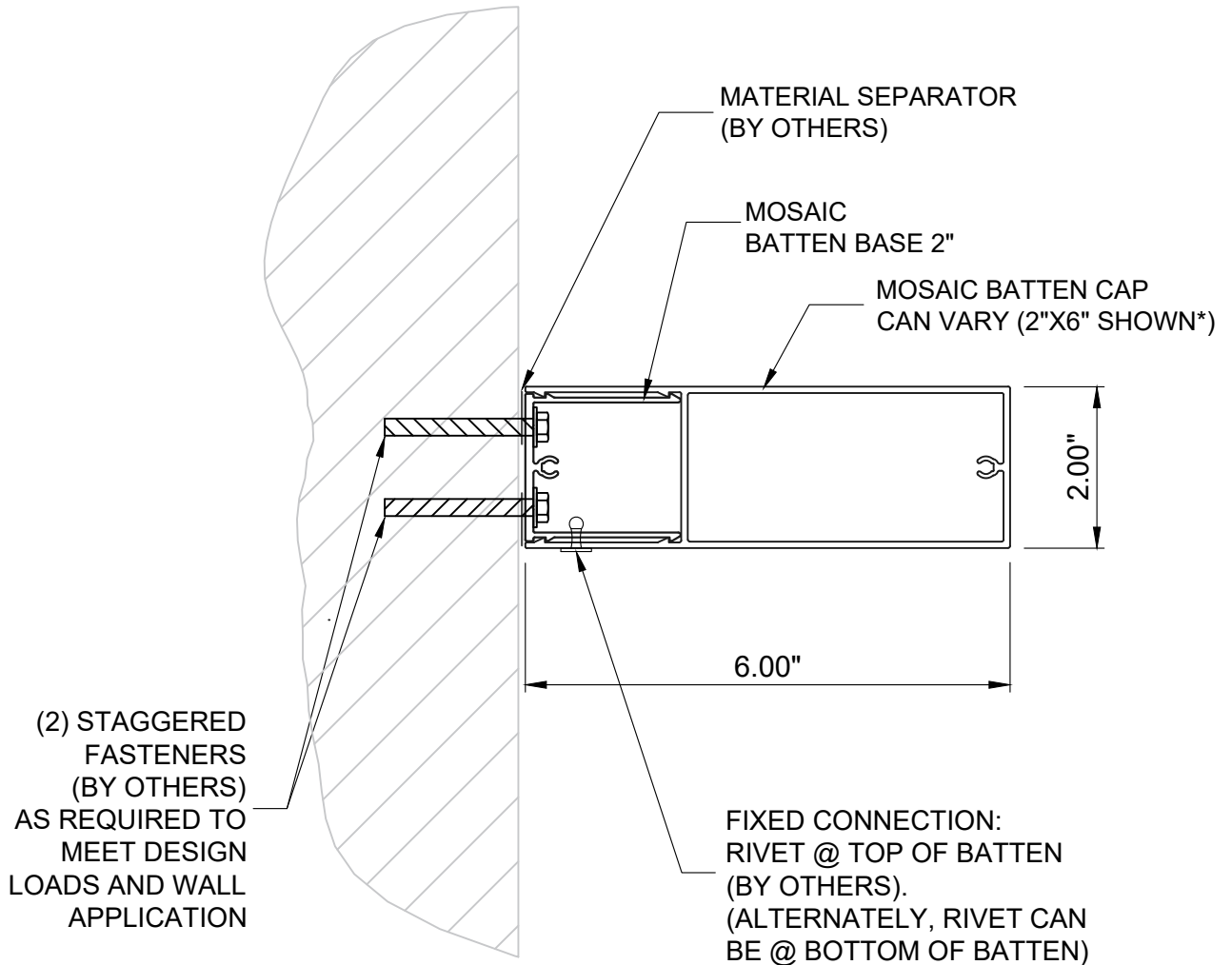
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

S2

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE:
BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENERS.
HOLE SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION.
VERIFY WITH ENGINEER.

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".



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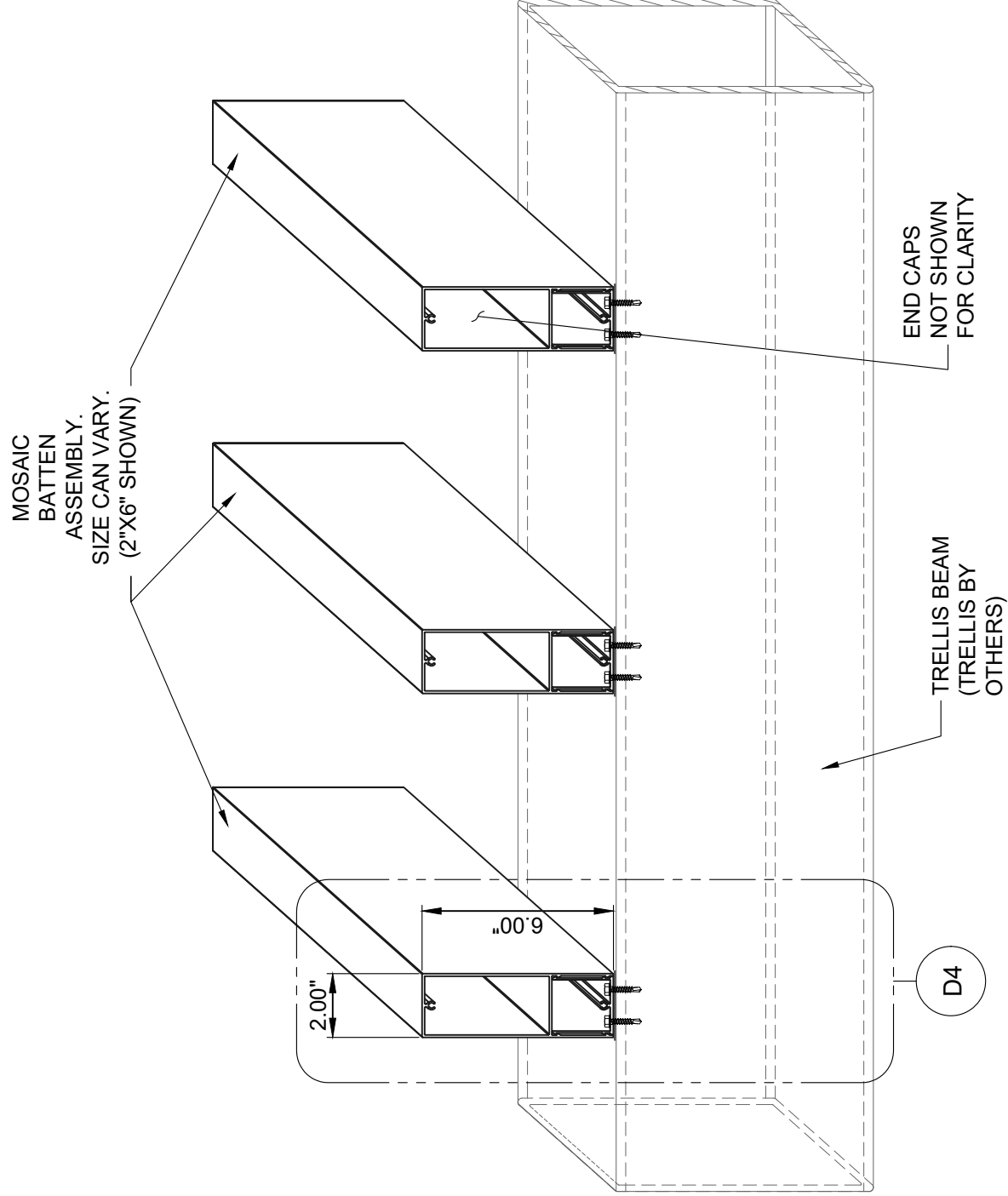
2" BATTEN ASSEMBLY - WALL DETAIL

D2

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS



ISO ELEVATION VIEW

SEE DETAIL SHEET 'D4'

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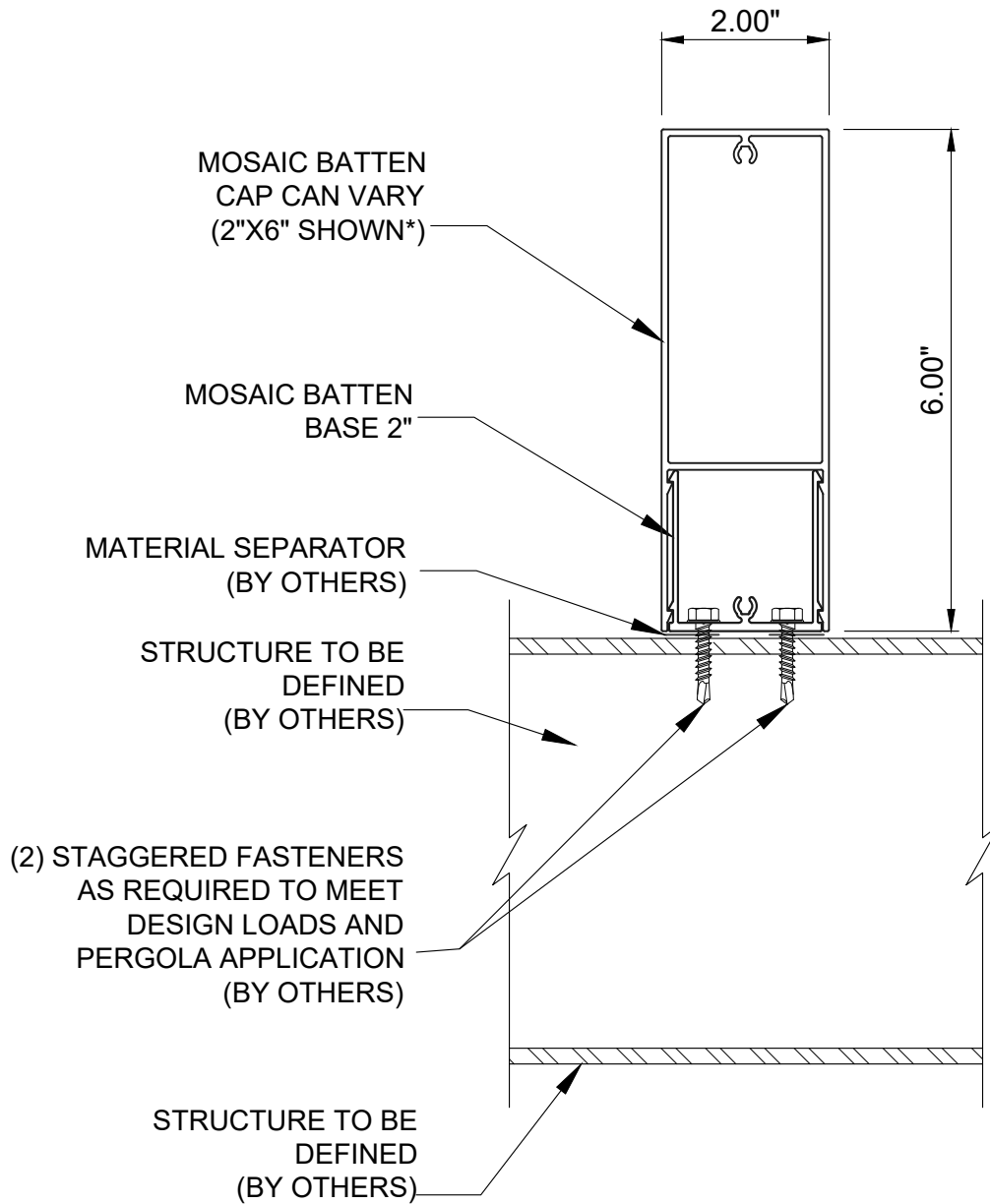
2" BATTEN ELEVATION: TRELLIS

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE:
BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENERS.
SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION.
VERIFY WITH ENGINEER.

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".



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2" BATTEN ASSEMBLY - TRELLIS DETAIL

D4

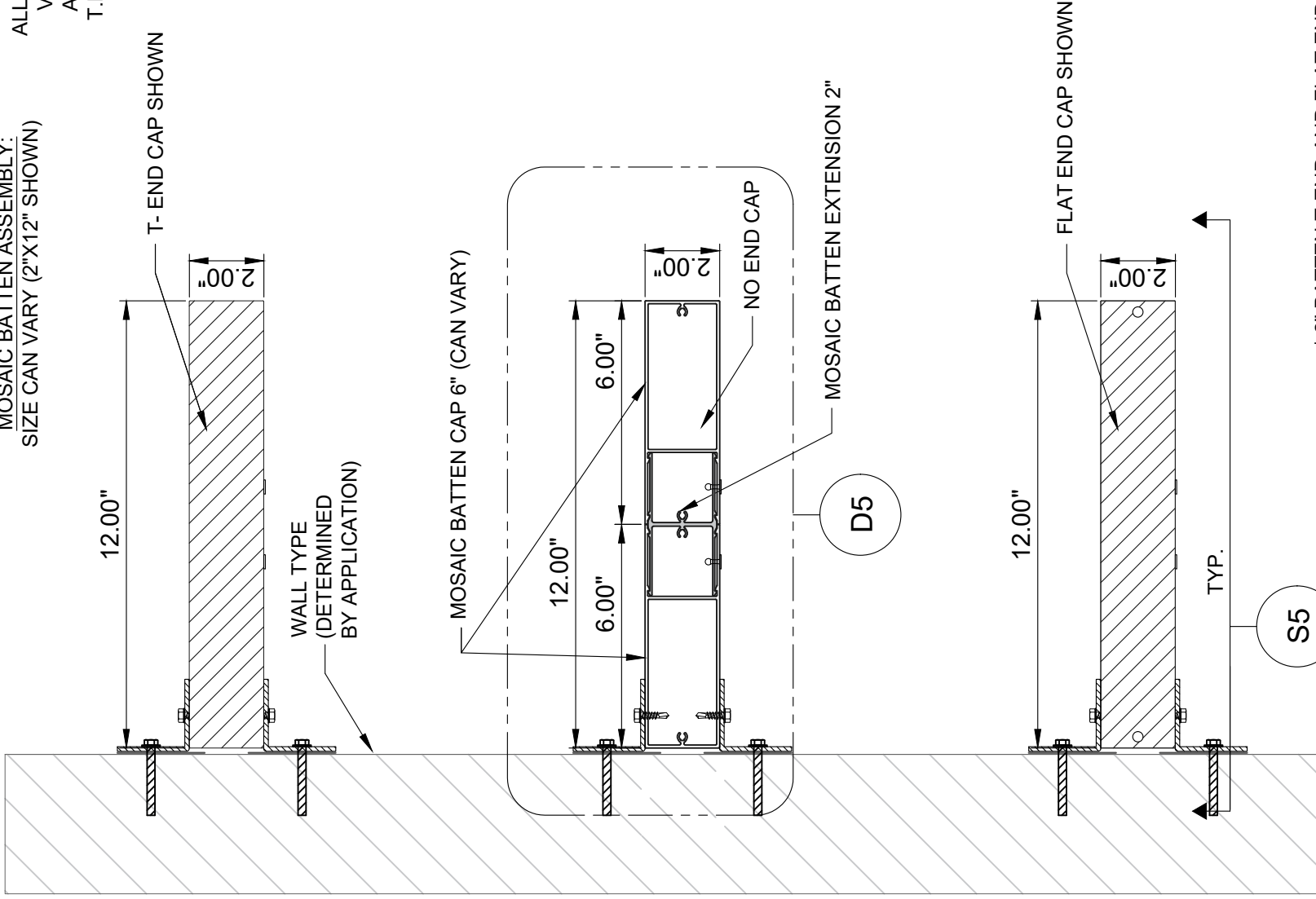
SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

MOSAIC BATTEN ASSEMBLY:
 SIZE CAN VARY (2"X12" SHOWN)

ALL BATTENS CAN BE USED IN
 VERTICAL & HORIZONTAL
 APPLICATIONS. SPACING
 T.B.D. BY PROJECT DESIGN



* 2" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 2"X10", 2"X14" AND 2"X16".

PLAN VIEW

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2" BATTEN ASSEMBLY PLAN: WALL TYPE 3

P4

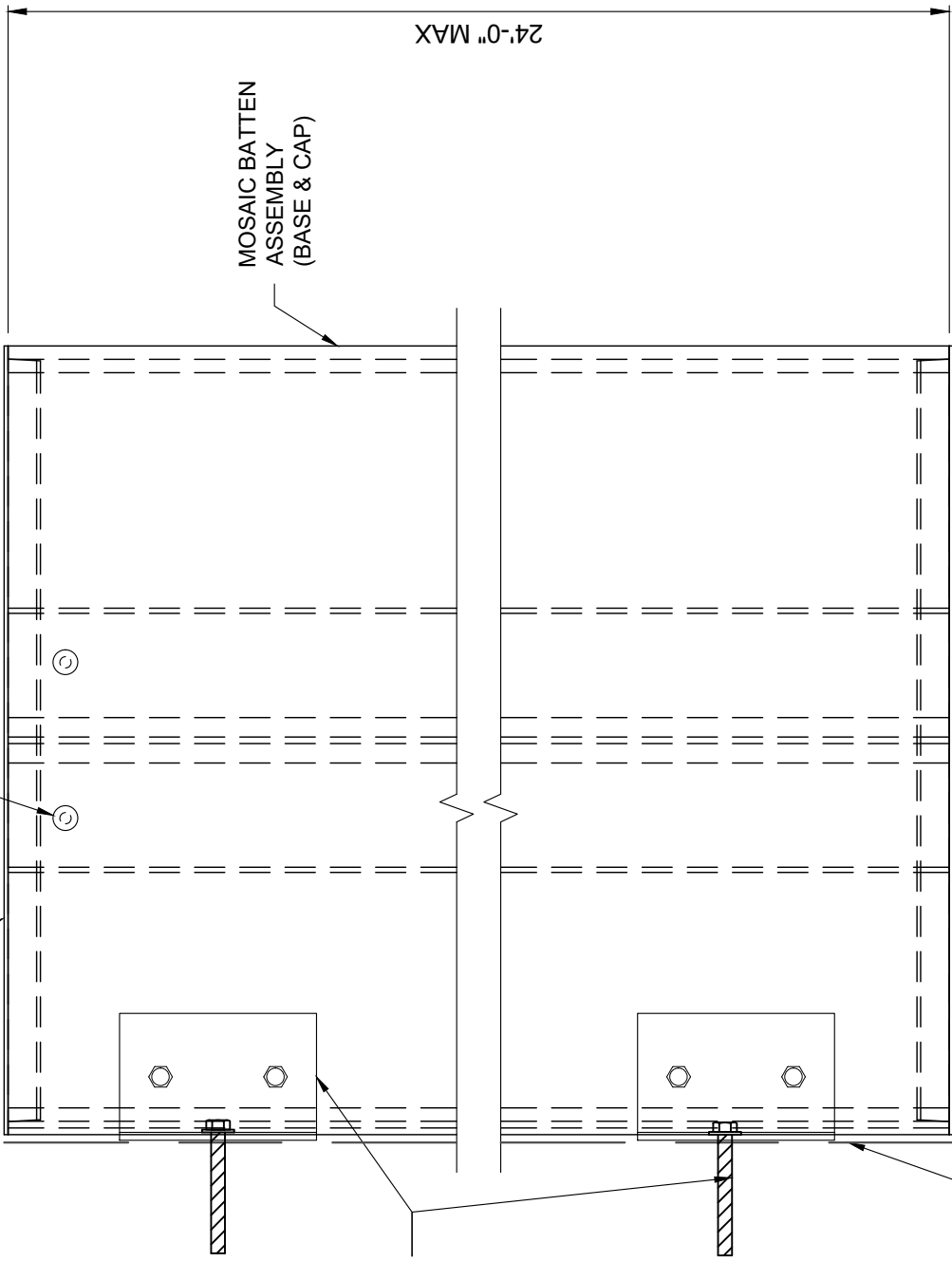
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

FIXED CONNECTION:
RIVET @ TOP OF BATTEN.
ONE SIDE ONLY.
(BY OTHERS).
(ALTERNATELY, RIVET CAN
BE @ BOTTOM OF BATTEN)

BATTEN 2"X12" FLAT-END CAP SHOWN.
(ALTERNATE: FLAT END CAP)



2" BATTEN
MOUNTING
ANGLE W/
FASTENERS
(BY OTHERS)

MATERIAL
SEPARATOR
(BY OTHERS)

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2" BATTEN SECTION: WALL TYPE 3

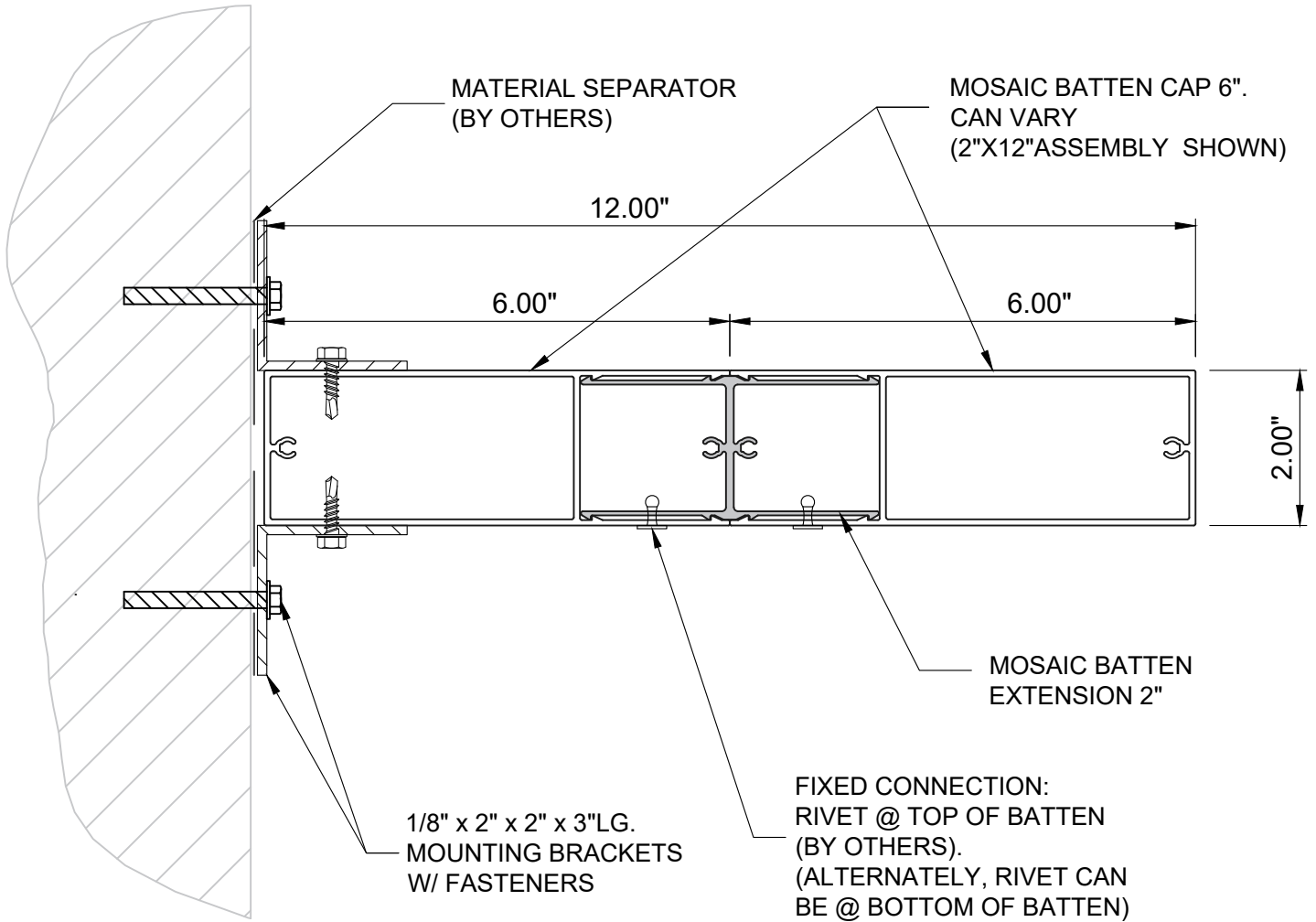
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

S5

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X10", 2"X14" AND 2"X16".



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2" BATTEN ASSEMBLY - WALL DETAIL

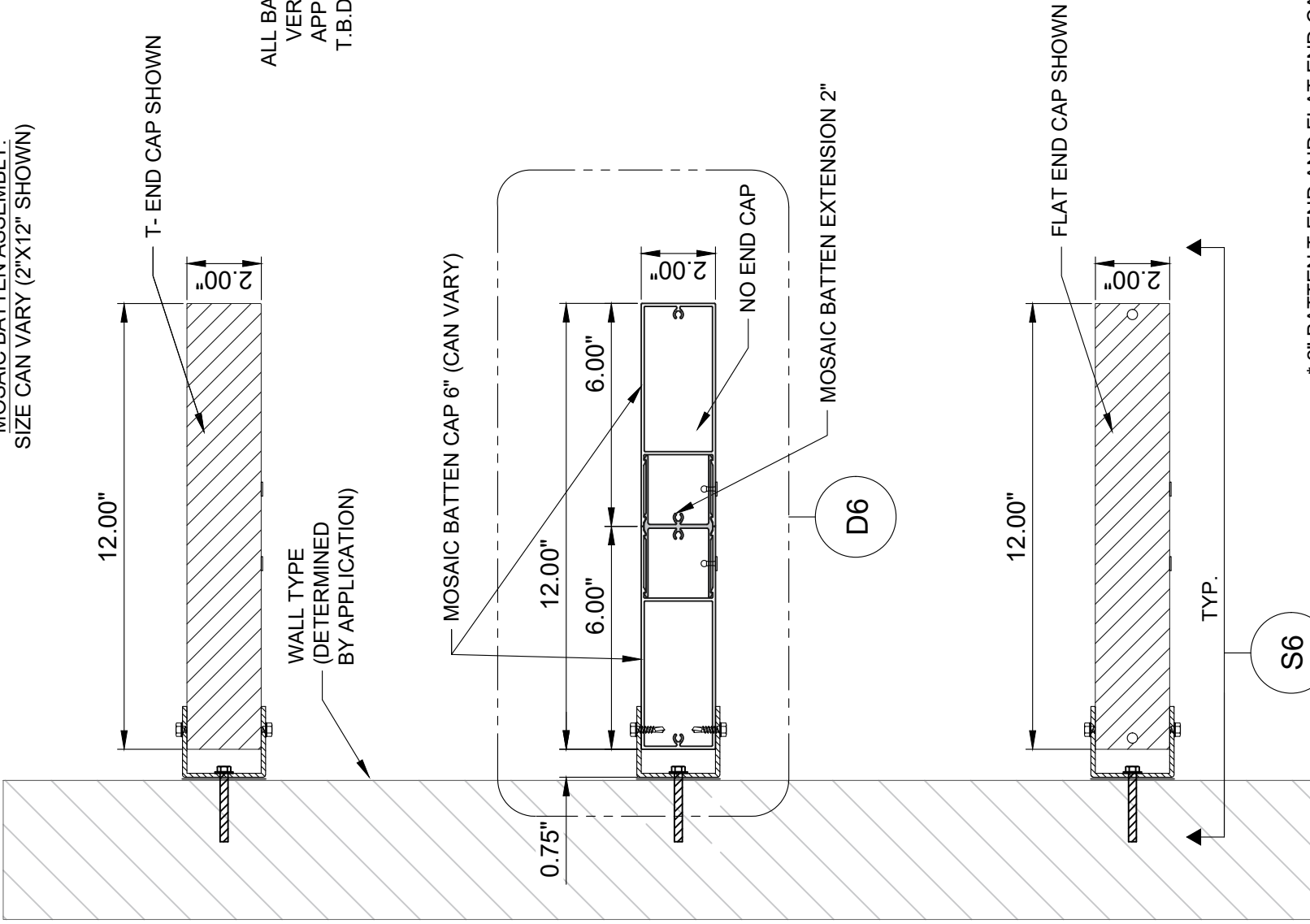
D5

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

MOSAIC BATTEN ASSEMBLY:
 SIZE CAN VARY (2"X12" SHOWN)



ALL BATTENS CAN BE USED IN
 VERTICAL & HORIZONTAL
 APPLICATIONS. SPACING
 T.B.D. BY PROJECT DESIGN

* 2" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 2"X10", 2"X14" AND 2"X16".

PLAN VIEW

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2" BATTEN ASSEMBLY PLAN: WALL TYPE 4

P5

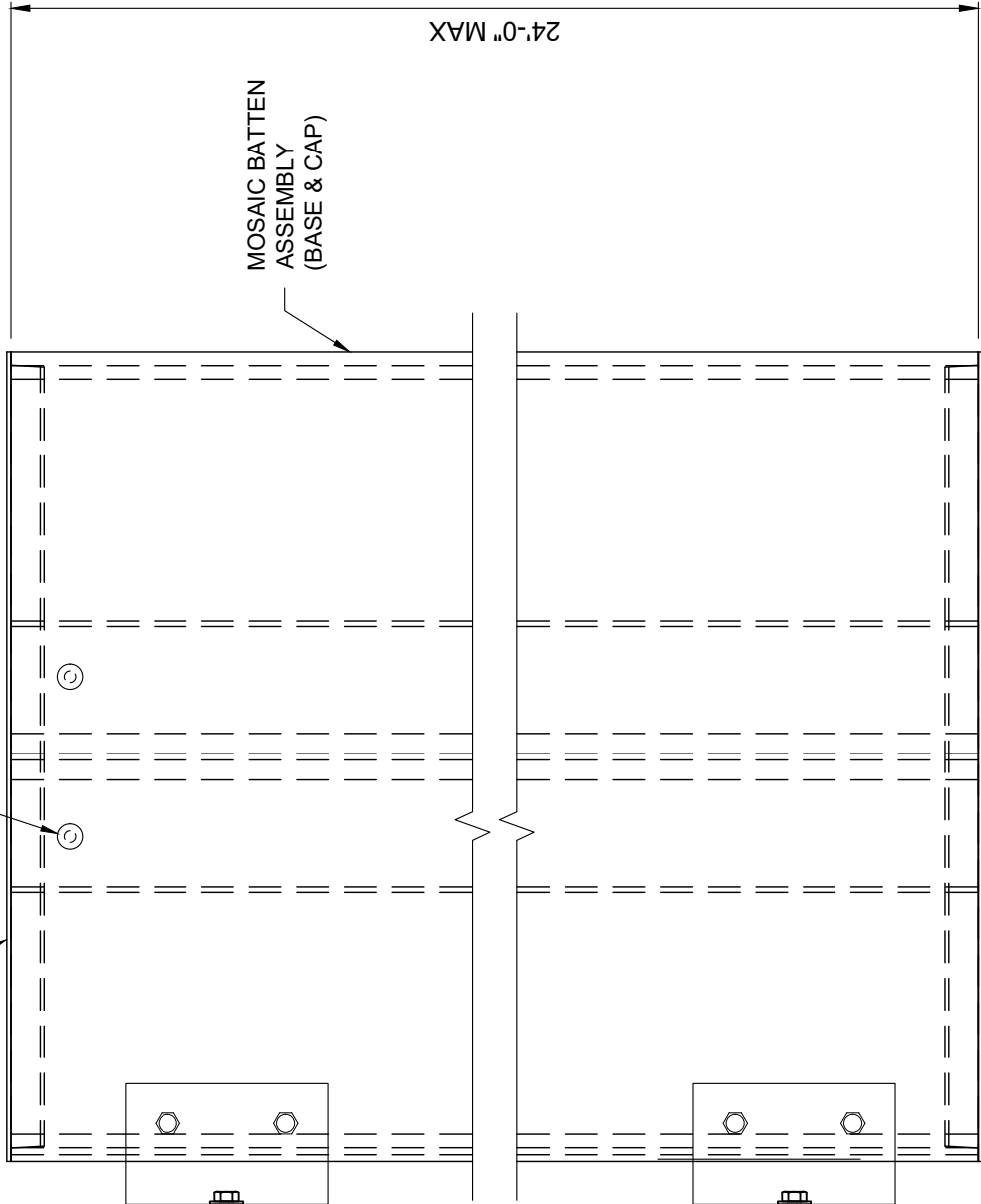
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

FIXED CONNECTION:
RIVET @ TOP OF BATTEN.
ONE SIDE ONLY.
(BY OTHERS).
(ALTERNATELY, RIVET CAN
BE @ BOTTOM OF BATTEN)

BATTEN 2"X12" T-END CAP SHOWN.
(ALTERNATE: FLAT END CAP)



2" BATTEN
EXTERIOR
MOUNTING
CHANNEL
BRACKET W/
FASTENERS
(BY OTHERS)

MATERIAL
SEPARATOR
(BY OTHERS)

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2" BATTEN SECTION: WALL TYPE 4

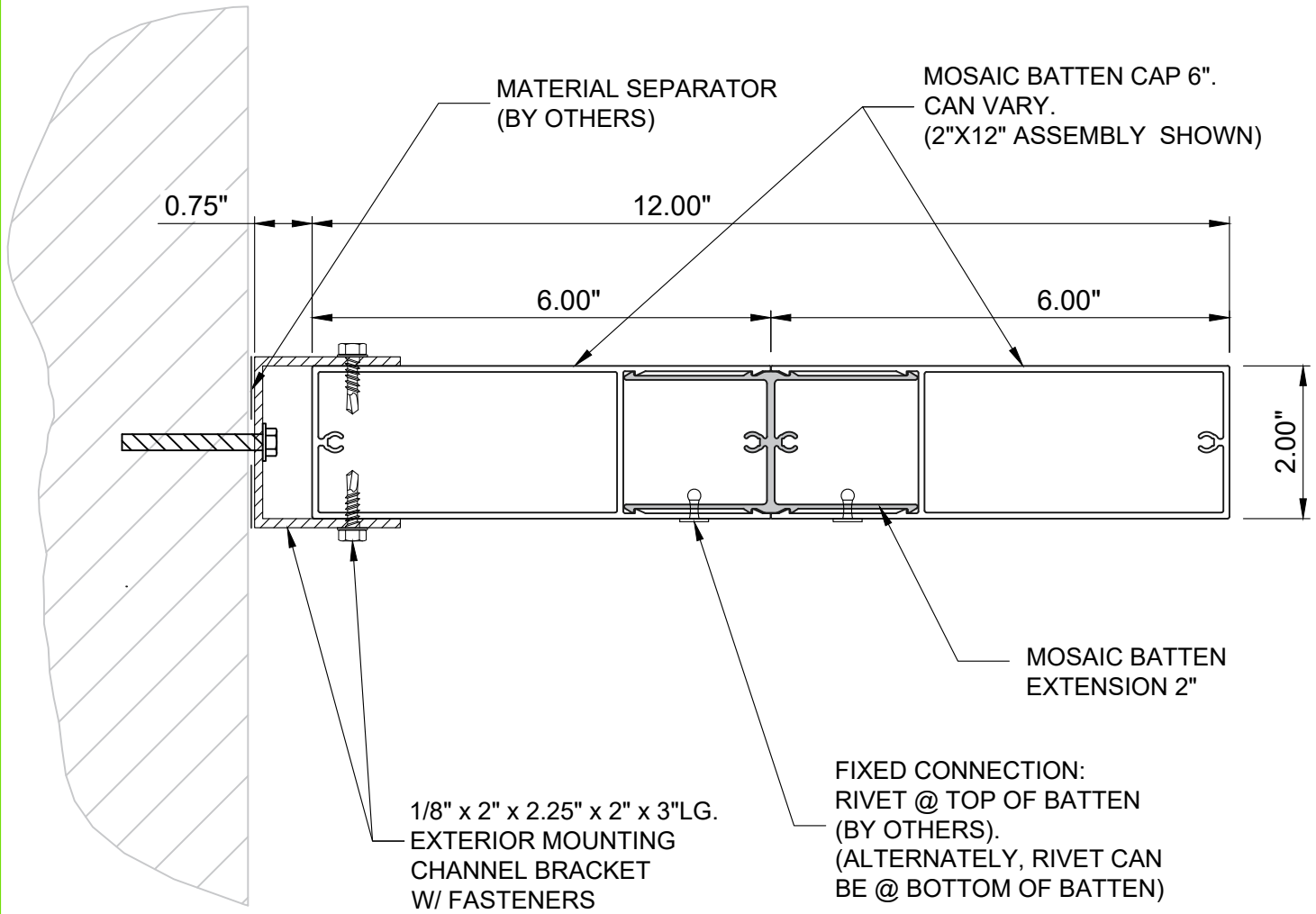
SCALE: NTS

10.16.23

SYSTEM = MOSAIC BATTENS

S6

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X10", 2"X14" AND 2"X16".



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2" BATTEN ASSEMBLY - WALL DETAIL

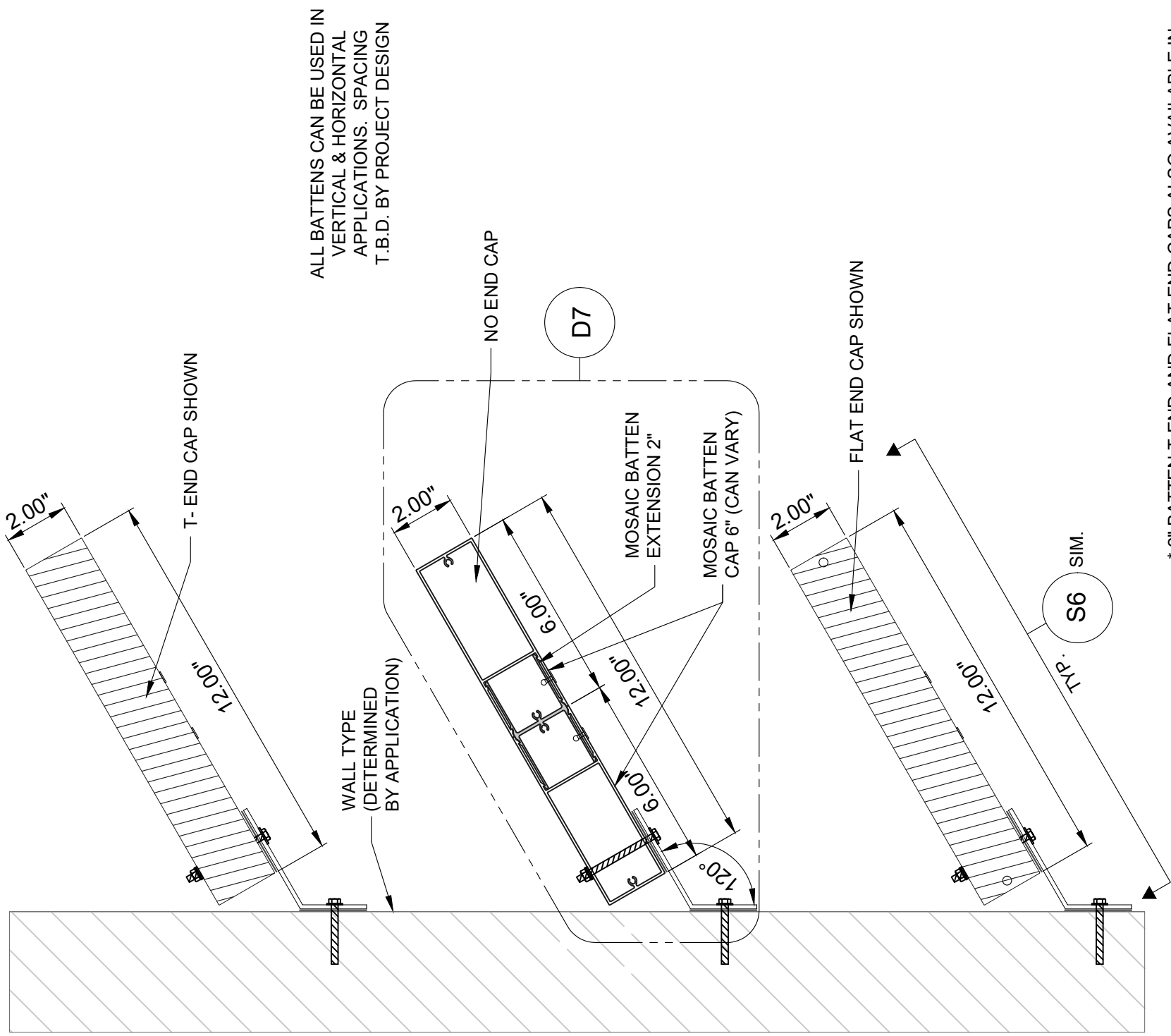
D6

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

MOSAIC BATTEN ASSEMBLY:
 SIZE CAN VARY (2"x12" SHOWN)



ALL BATTENS CAN BE USED IN
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 T.B.D. BY PROJECT DESIGN

* 2" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 2"x10", 2"x14" AND 2"x16".

PLAN VIEW

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SCALE: NTS

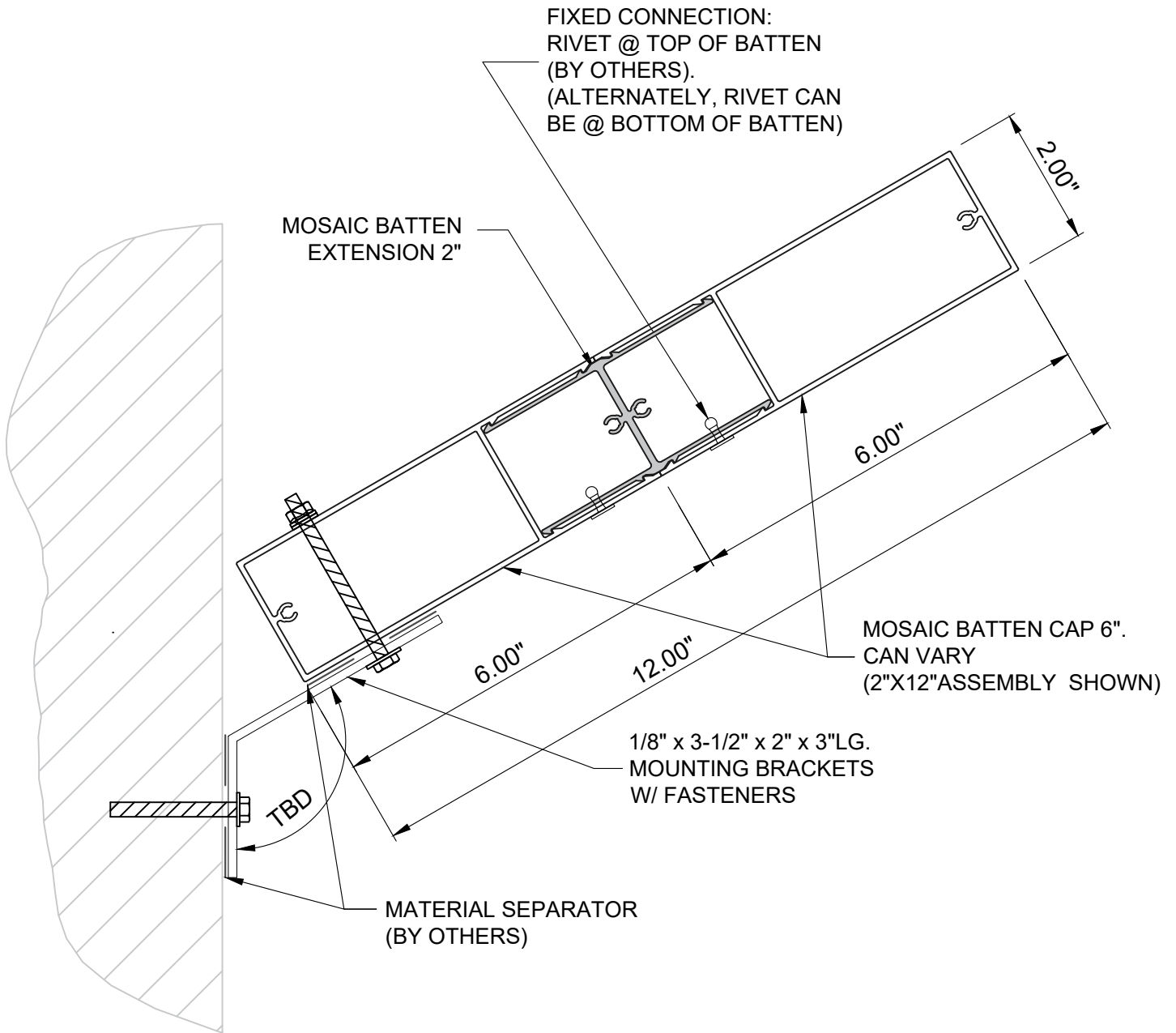
10.16.23

SYSTEM = MOSAIC BATTENS

2" BATTEN ASSEMBLY PLAN: WALL TYPE 5

P6

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X10", 2"X14" AND 2"X16".



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2" BATTEN ASSEMBLY - WALL DETAIL

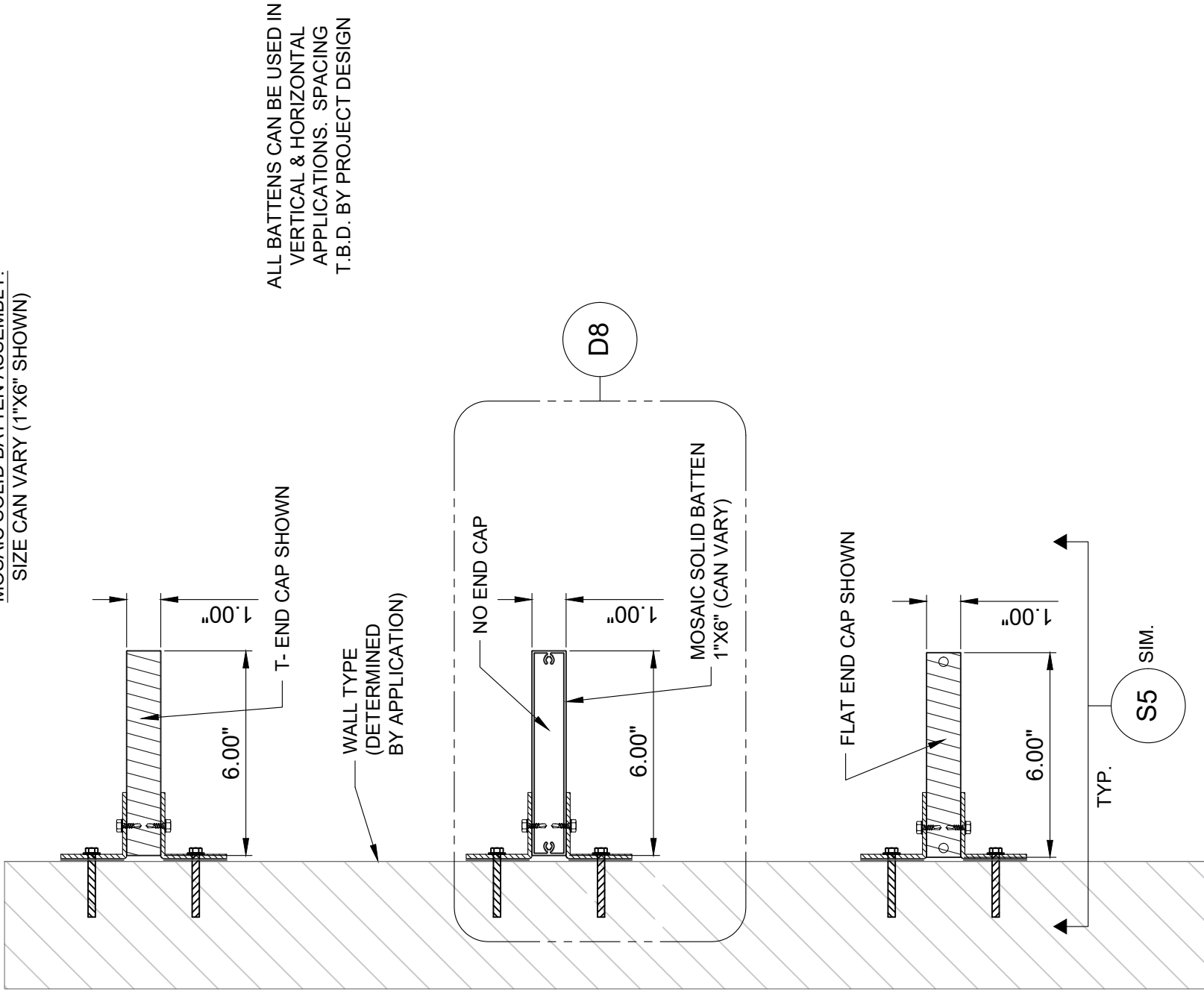
D7

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

MOSAIC SOLID BATTEN ASSEMBLY:
 SIZE CAN VARY (1"X6" SHOWN)



ALL BATTENS CAN BE USED IN
 VERTICAL & HORIZONTAL
 APPLICATIONS. SPACING
 T.B.D. BY PROJECT DESIGN

* 1" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".

PLAN VIEW

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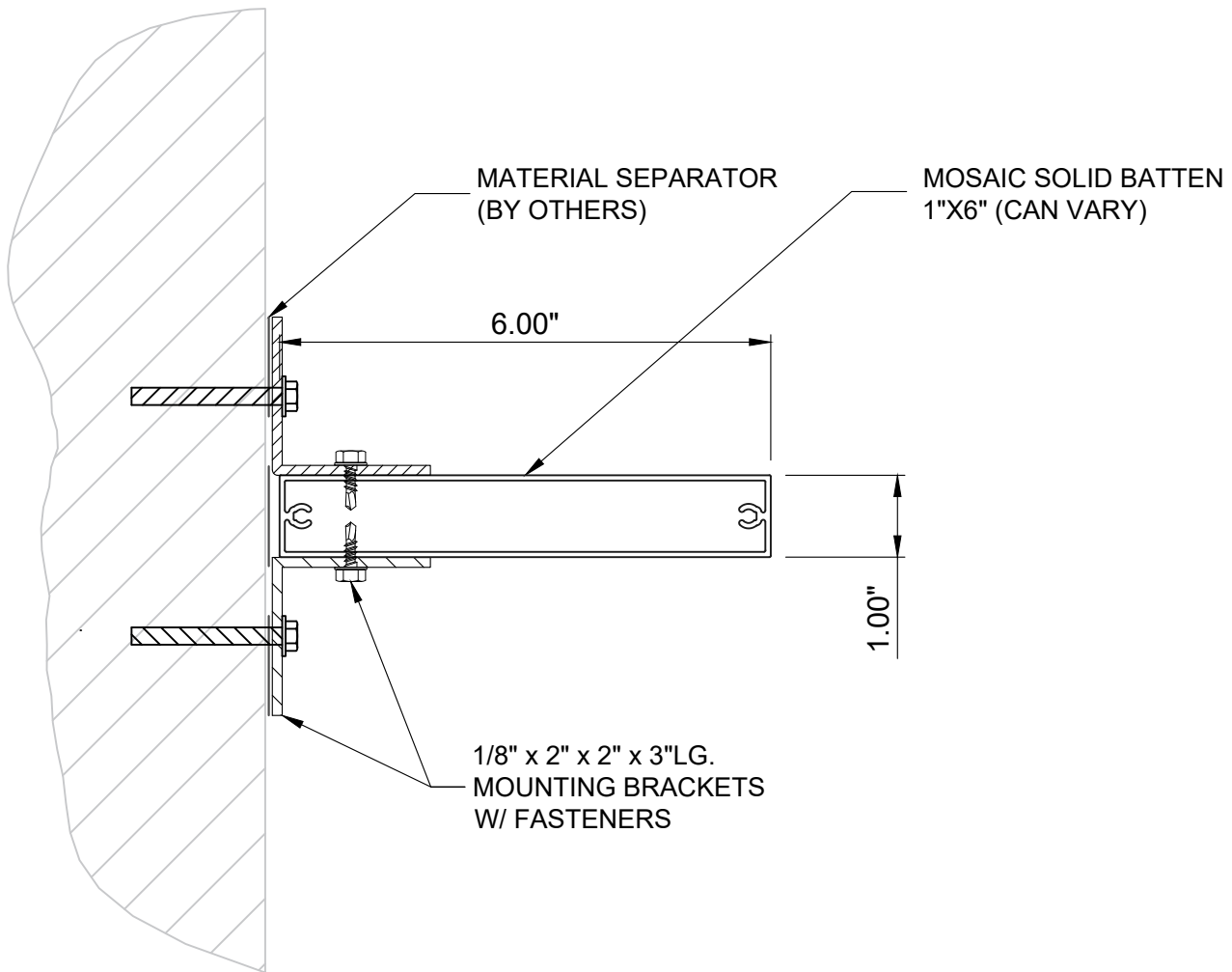
SOLID BATTEN PLAN: WALL TYPE 6

SCALE: NTS

11/02/23

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* SOLID BATTENS ALSO AVAILABLE IN 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".



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SOLID BATTEN - WALL DETAIL

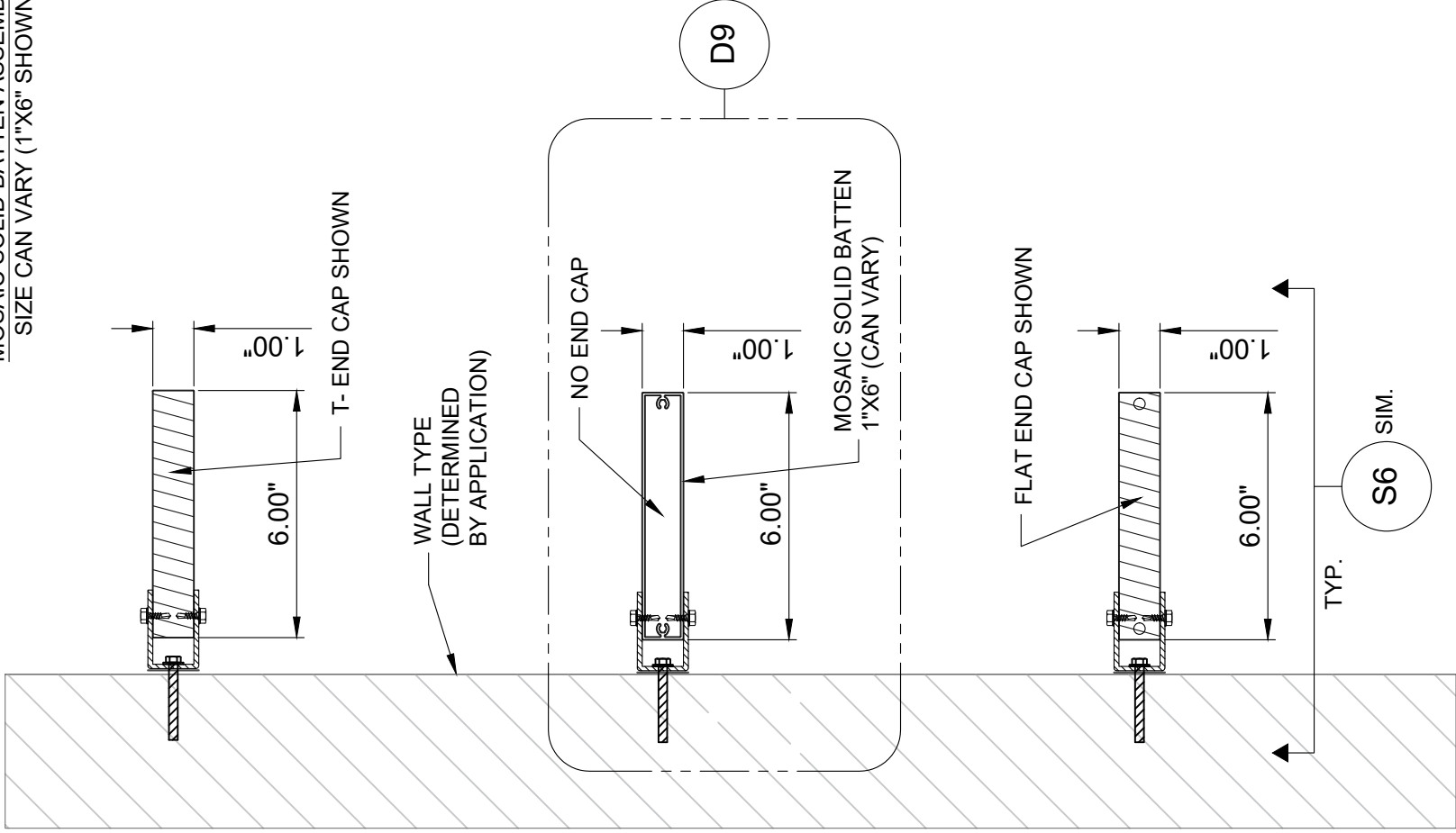
SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

D8

MOSAIC SOLID BATTEN ASSEMBLY:
 SIZE CAN VARY (1"X6" SHOWN)



ALL BATTENS CAN BE USED IN
 VERTICAL & HORIZONTAL
 APPLICATIONS. SPACING
 T.B.D. BY PROJECT DESIGN

* 1" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".

PLAN VIEW

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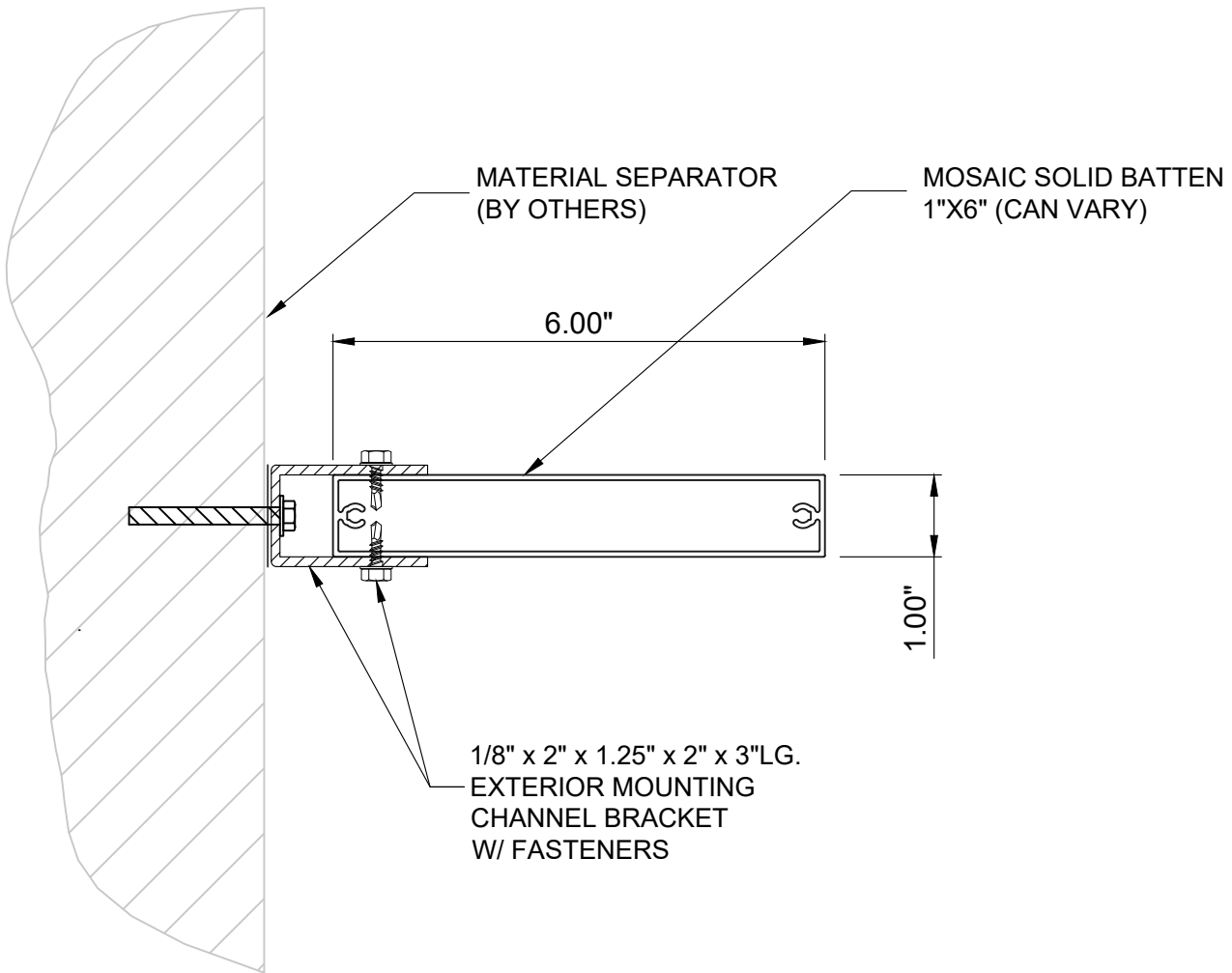
SOLID BATTEN PLAN: WALL TYPE 7

SCALE: NTS

11/02/23

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* SOLID BATTENS ALSO AVAILABLE IN 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".



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SOLID BATTEN - WALL DETAIL

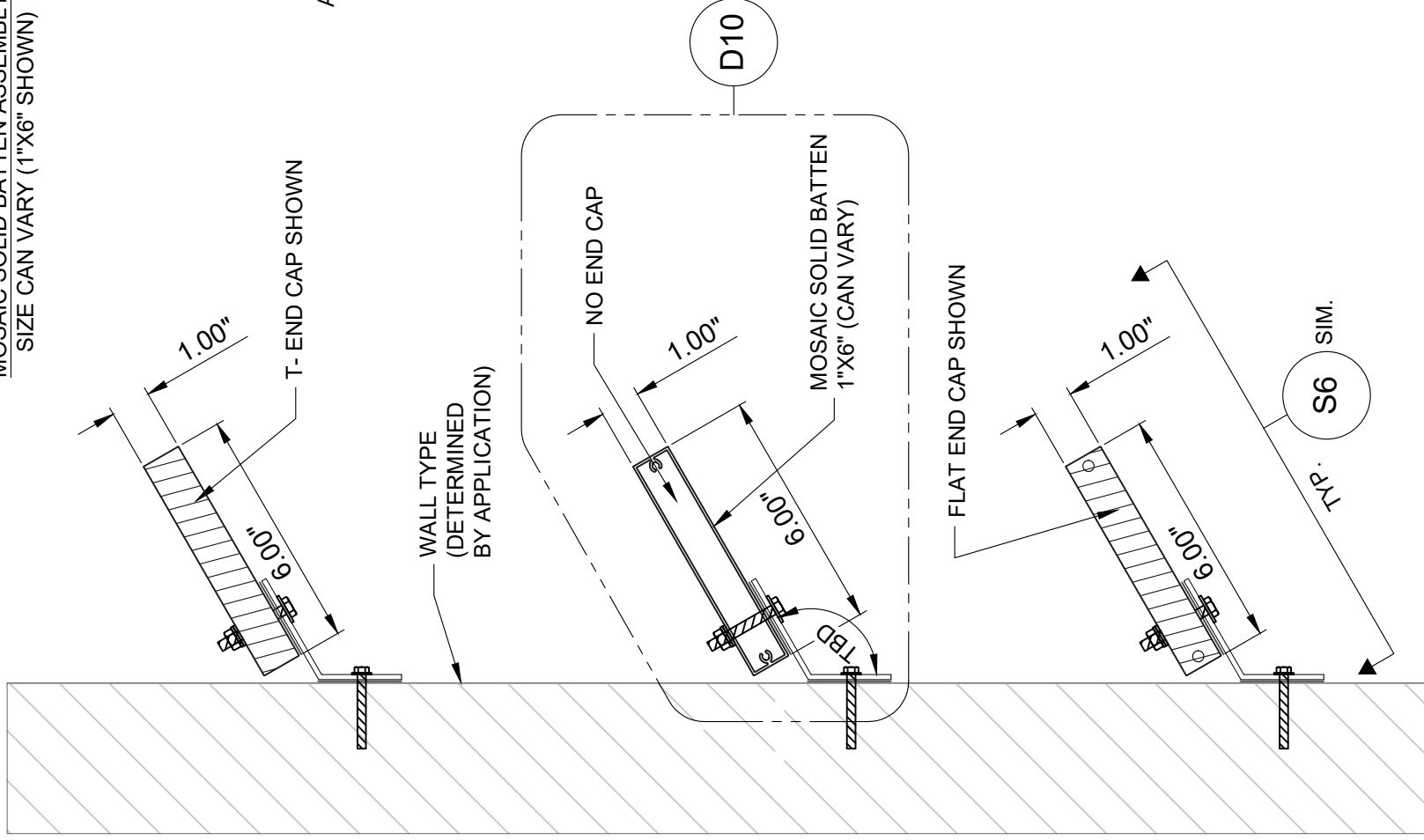
SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

D9

MOSAIC SOLID BATTEN ASSEMBLY:
 SIZE CAN VARY (1"X6" SHOWN)



ALL BATTENS CAN BE USED IN
 VERTICAL & HORIZONTAL
 APPLICATIONS. SPACING
 T.B.D. BY PROJECT DESIGN

* 1" BATTEN T-END AND FLAT END CAPS ALSO AVAILABLE IN:
 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".

PLAN VIEW

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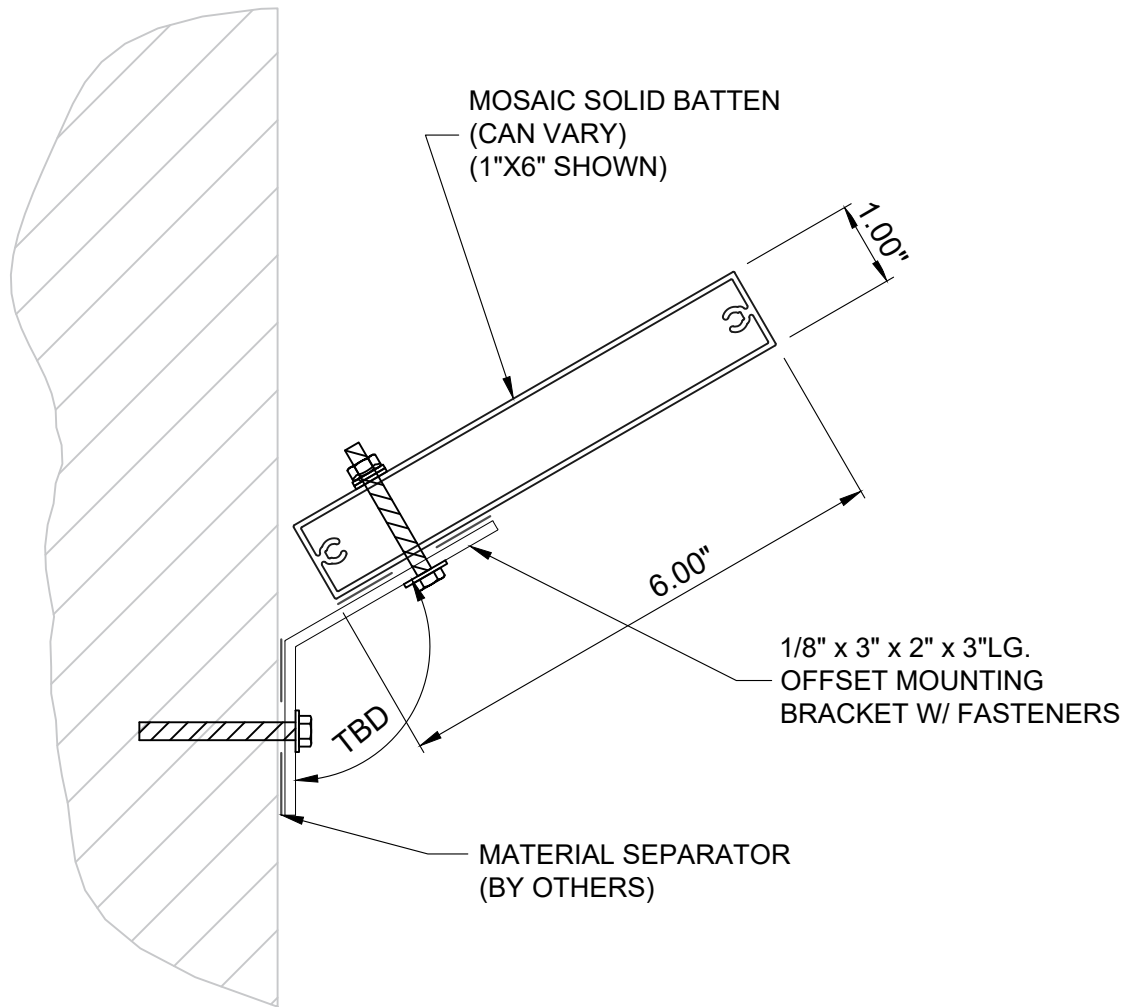
SOLID BATTEN PLAN: WALL TYPE 8

SCALE: NTS

11/02/23

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



* SOLID BATTENS ALSO AVAILABLE IN 1"X3", 1"X4", 1"X5", 1"X8" AND 2"X8".



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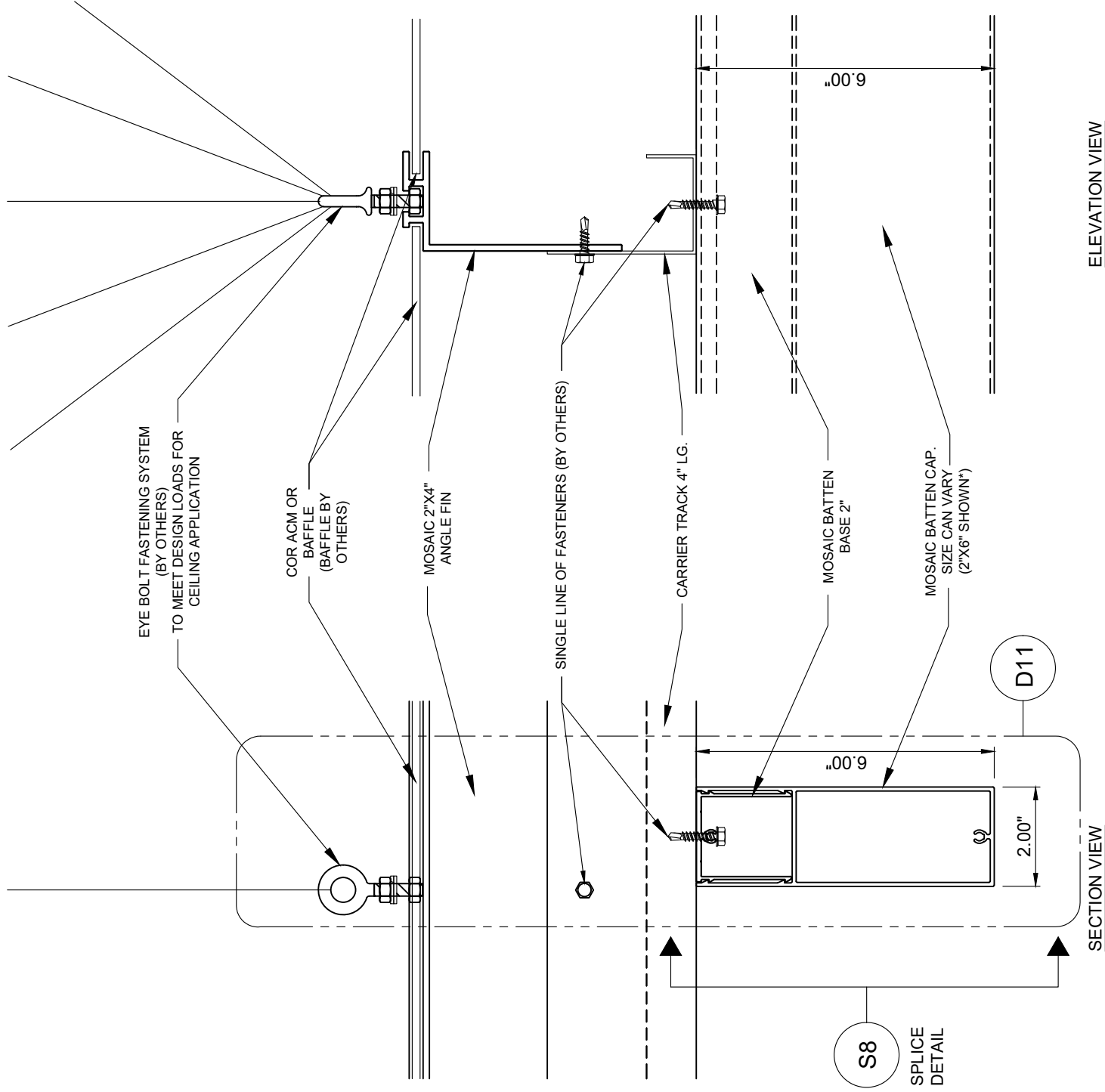
SOLID BATTEN - WALL DETAIL

D10

SCALE: NTS

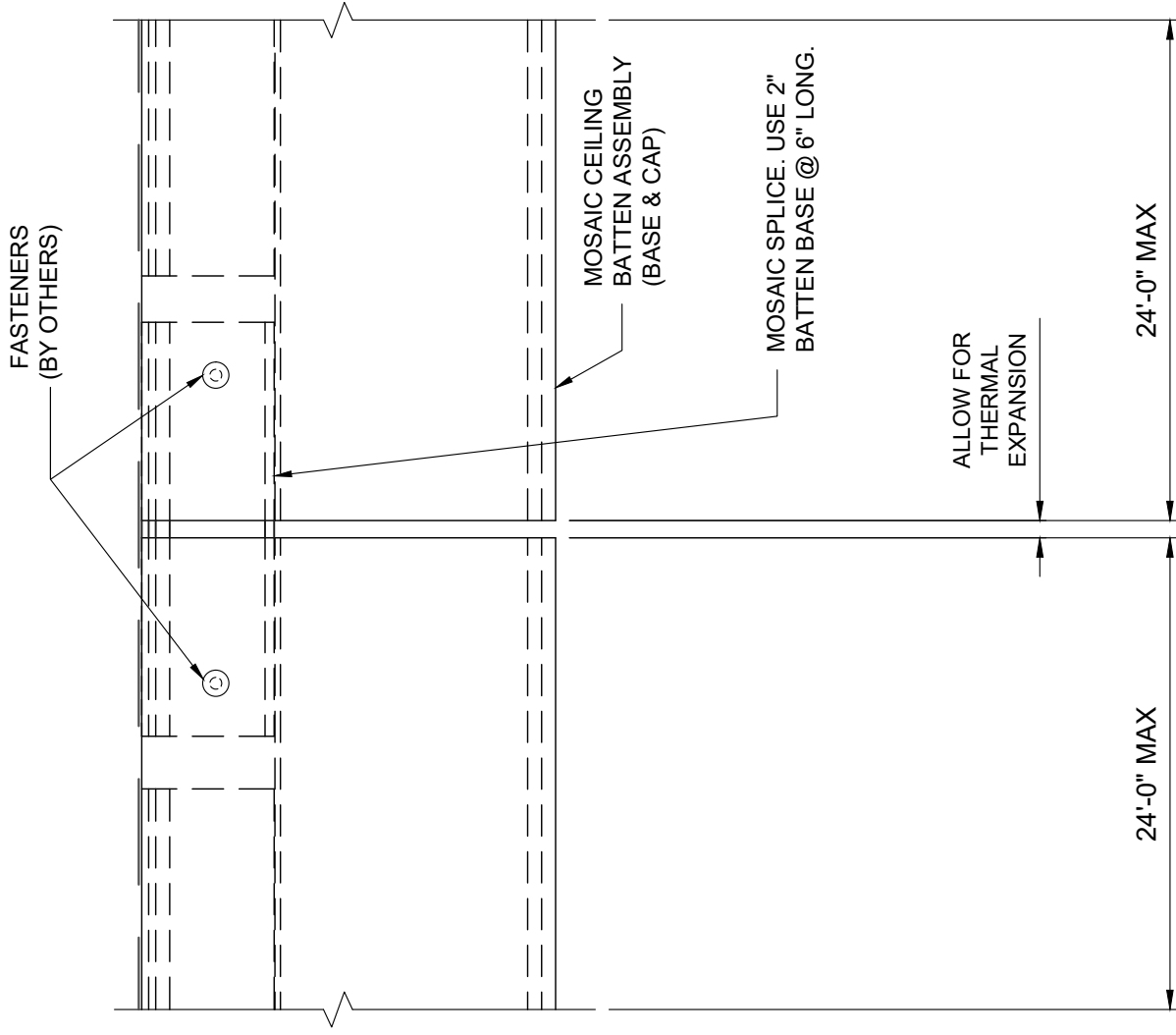
10.04.23

SYSTEM = MOSAIC BATTENS



BATTEN SPACING T.B.D. BY PROJECT DESIGN

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"x2", 2"x3", 2"x4", 2"x5" AND 2"x8".



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2" BATTEN SECTION: SPLICE DETAIL

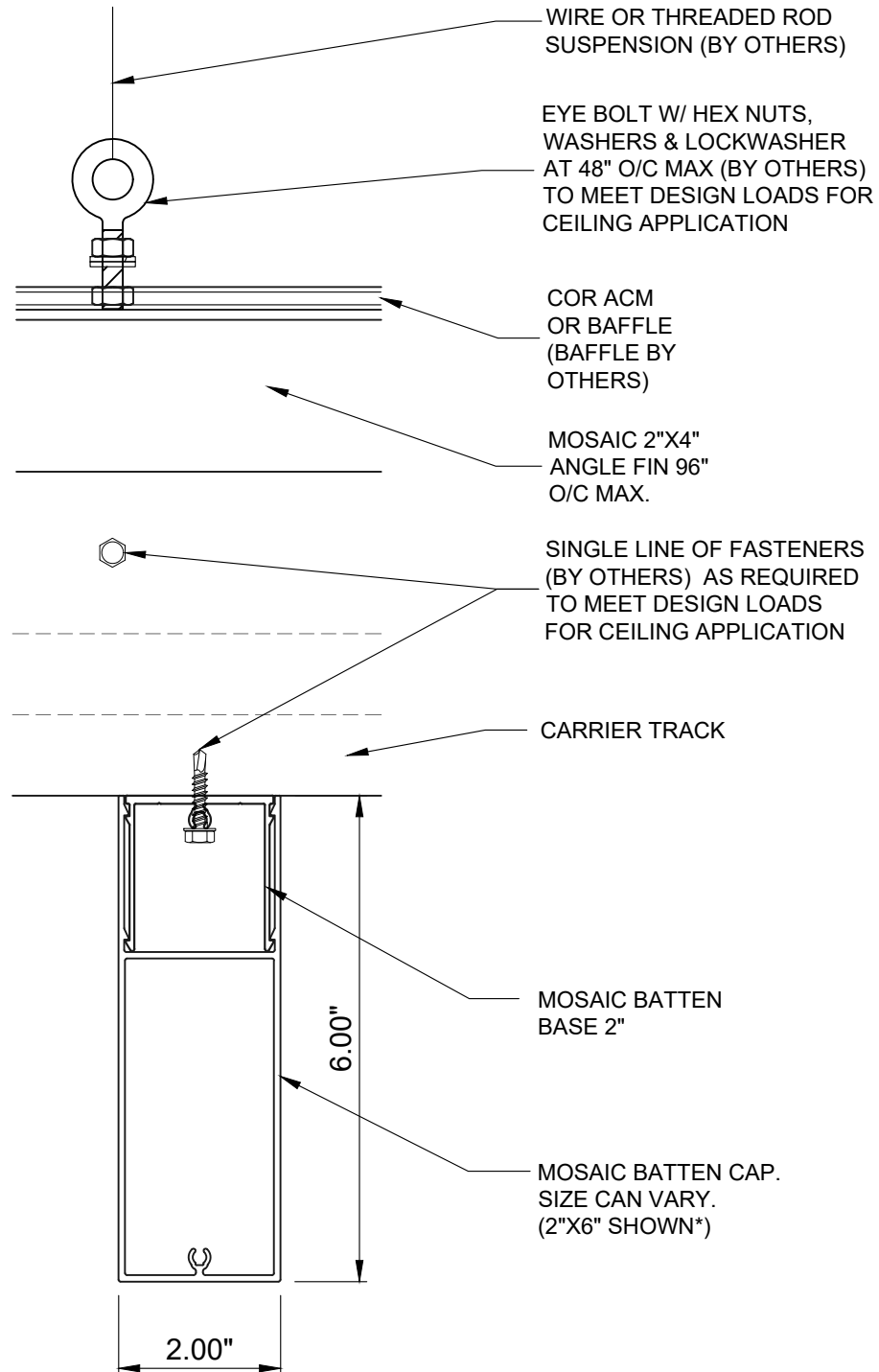
SCALE: NTS

10.24.23

SYSTEM = MOSAIC BATTENS

S8

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE #1:
BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENER.
SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION.
VERIFY WITH ENGINEER.

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".



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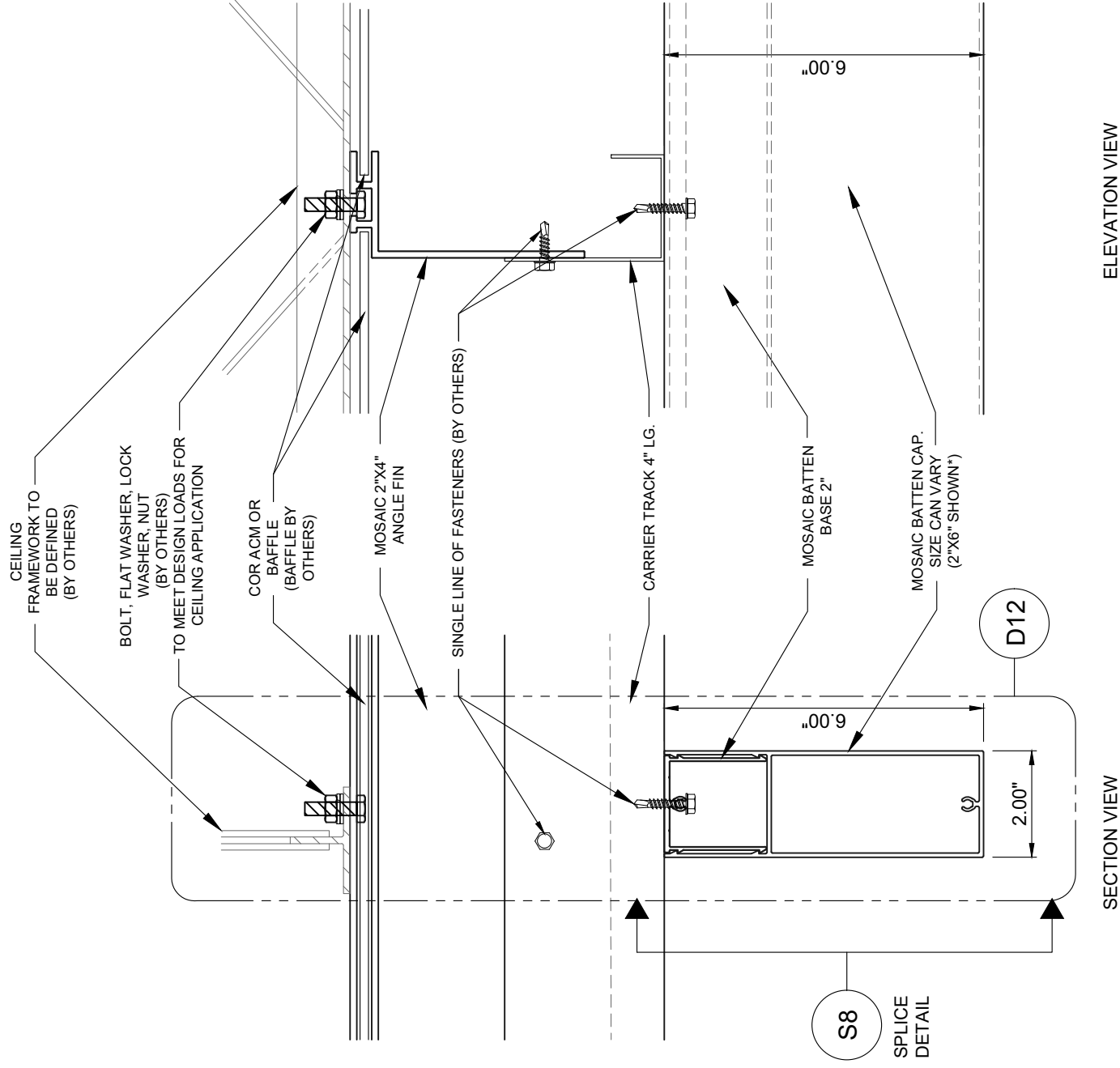
2" BATTEN ASSEMBLY - CEILING DETAIL

D11

SCALE: NTS

10.04.23

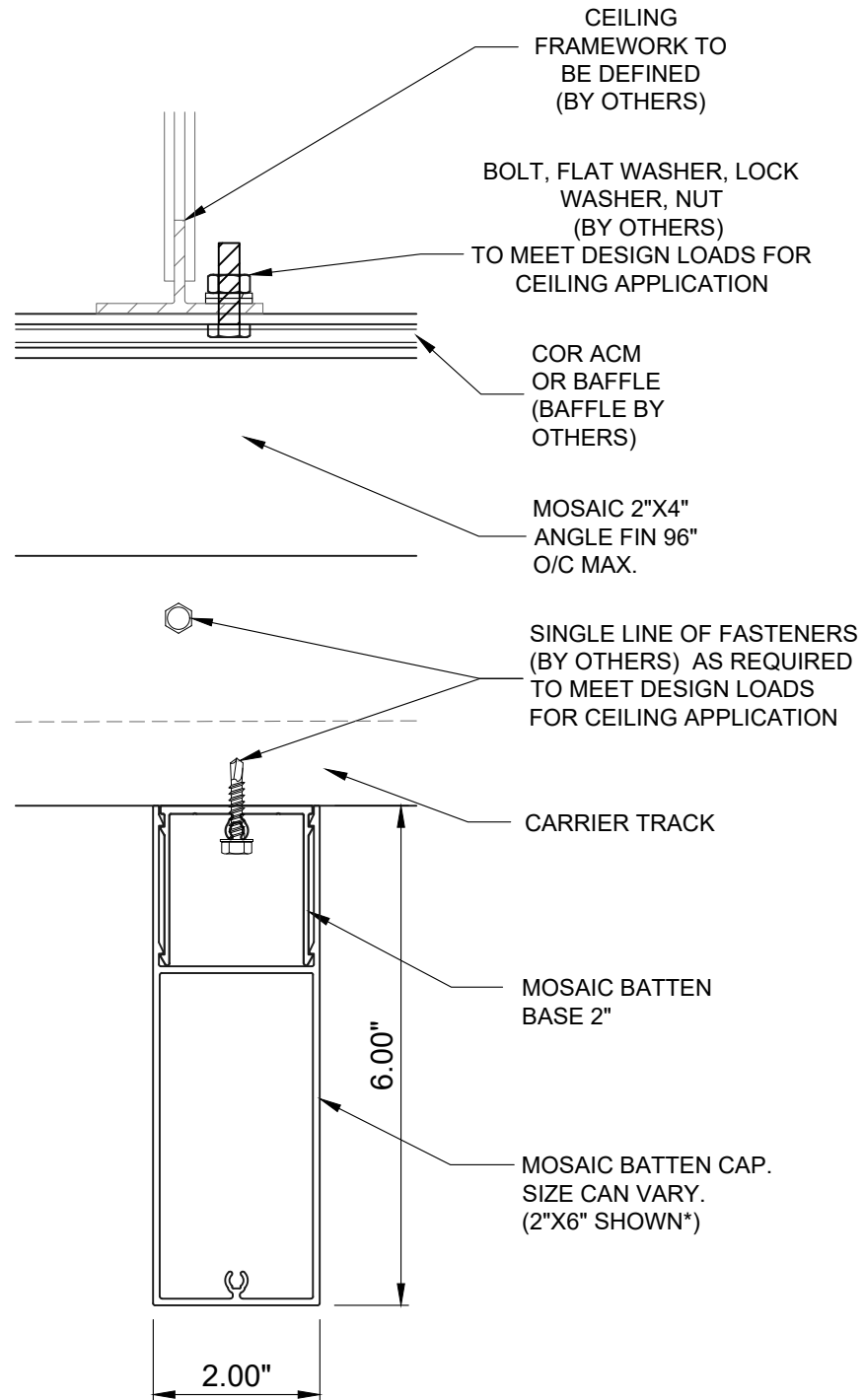
SYSTEM = MOSAIC BATTENS



BATTEN SPACING T.B.D. BY PROJECT DESIGN

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"x2', 2"x3", 2"x4", 2"x5" AND 2"x8".

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE #1:

BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENER. SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION. VERIFY WITH ENGINEER.

* 2" BATTEN ASSEMBLIES ALSO AVAILABLE IN 2"X2", 2"X3", 2"X4", 2"X5" AND 2"X8".



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2" BATTEN ASSEMBLY - CEILING DETAIL

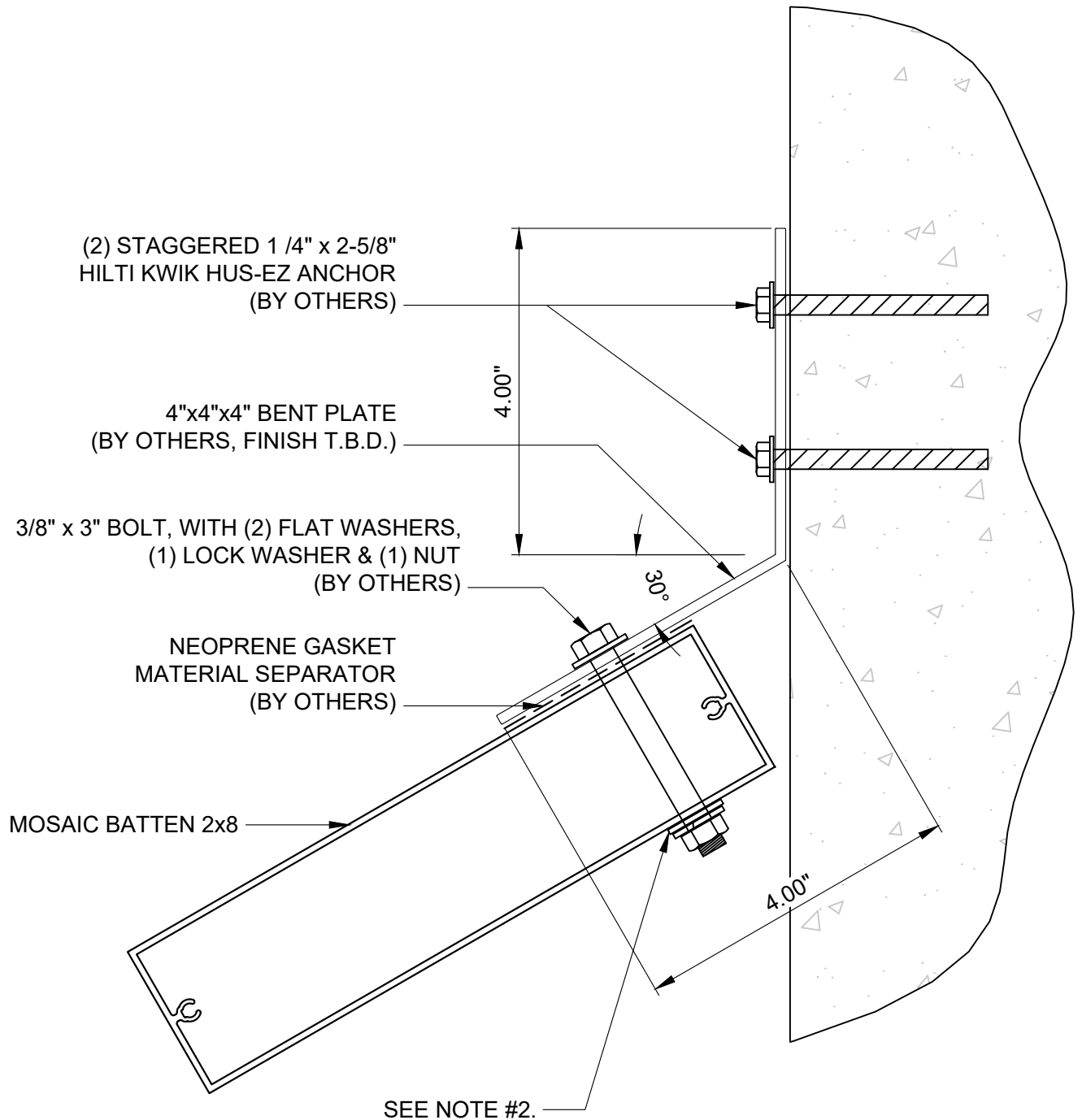
D12

SCALE: NTS

10.04.23

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE #2: WASHERS & HOLE SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION. VERIFY WITH ENGINEER.



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Alumaboard

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FAX: (602) 275-1739
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2x8 BATTEN VERTICAL WALL DETAIL

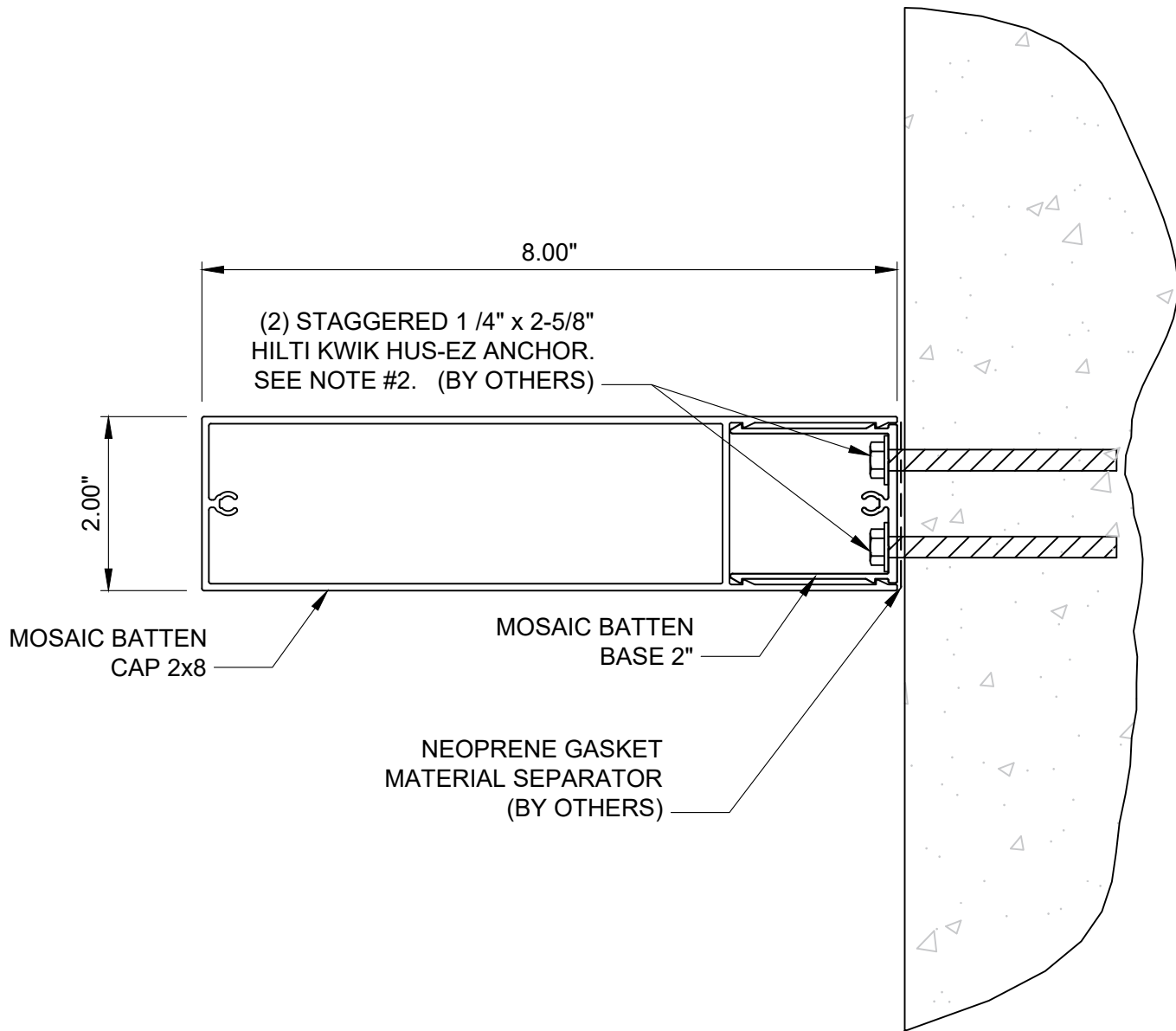
SCALE: NTS

5.26.2021

SYSTEM = MOSAIC BATTENS

B1

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE #2: WASHERS & HOLE SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION. VERIFY WITH ENGINEER.



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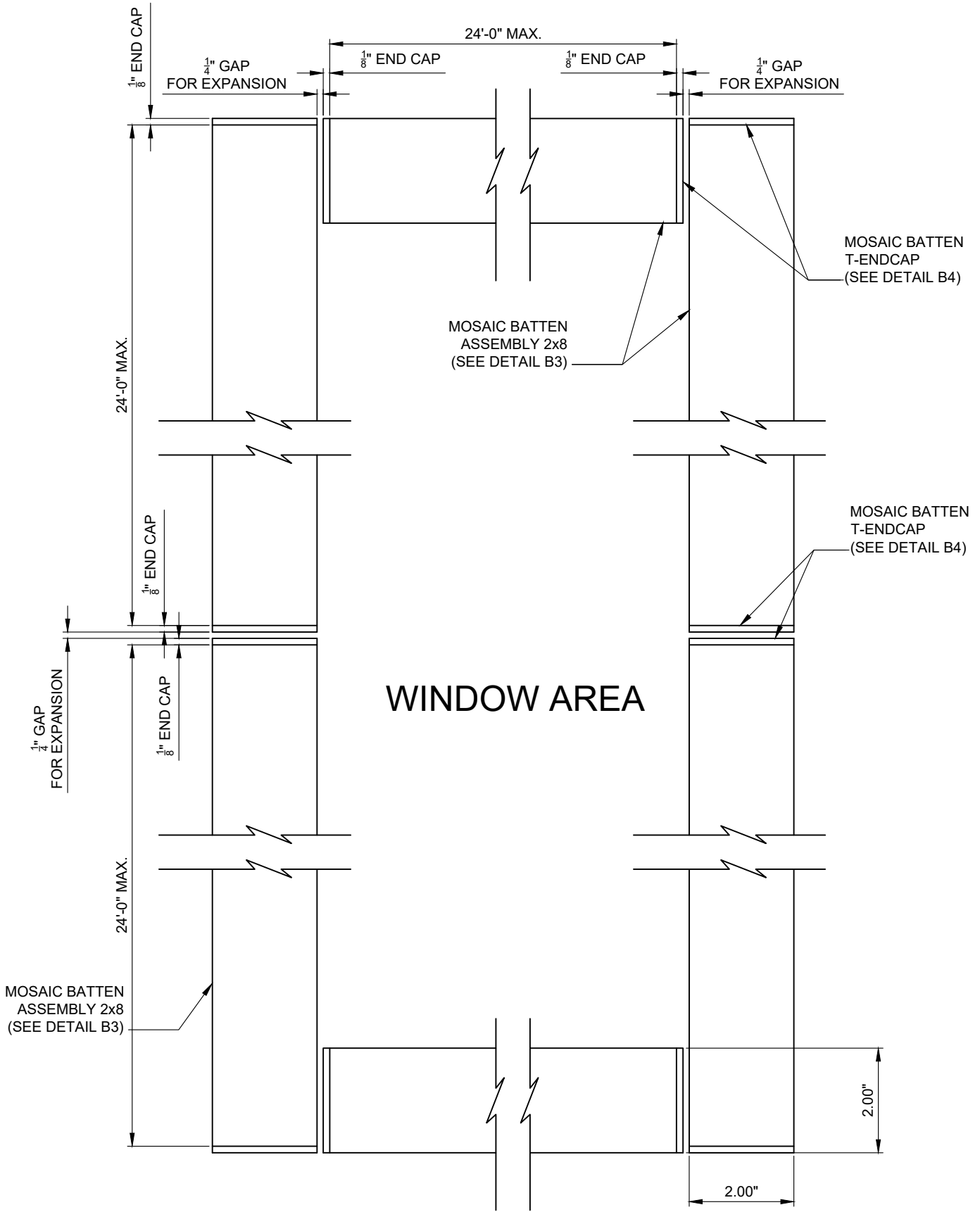
2x8 BATTEN ASSEMBLY WALL DETAIL

SCALE: NTS

5.26.2021

SYSTEM = MOSAIC BATTENS

B2



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TYPICAL ELEVATION @ WINDOW AREA

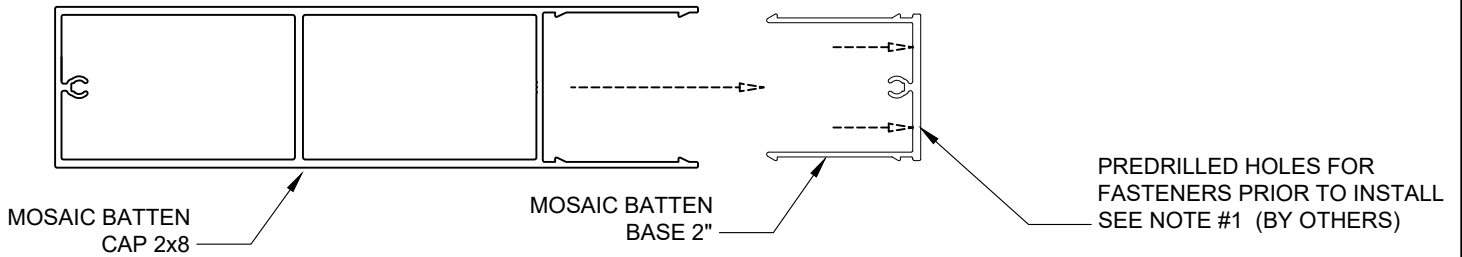
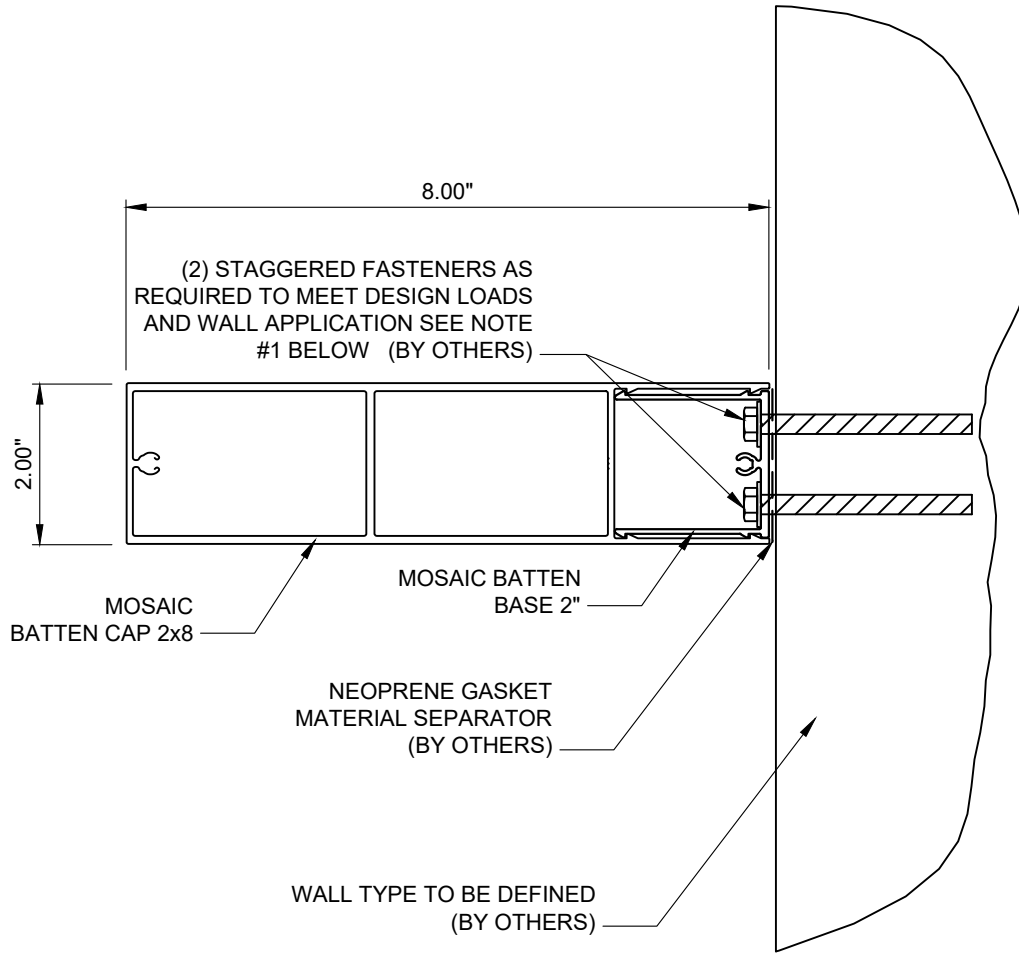
E1

SCALE: NTS

4.1.2022

SYSTEM = MOSAIC BATTENS

NOTE: ALL MATERIALS & SIZES ARE TO BE CONFIRMED BY ENGINEER FOR PROJECT SPECIFIC USE.



NOTE #1:
BATTEN BASE TO HAVE FIELD PREDRILLED HOLES FOR FASTENER
WASHERS & HOLE SIZES TO BE DEFINED BY MOVEMENT REQUIREMENTS OF THIS APPLICATION.
VERIFY WITH ENGINEER.

SEE DETAIL B4 FOR T-ENDCAP CONNECTION.



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TYPICAL 2x8 BATTEN ASSEMBLY ATTACHMENT

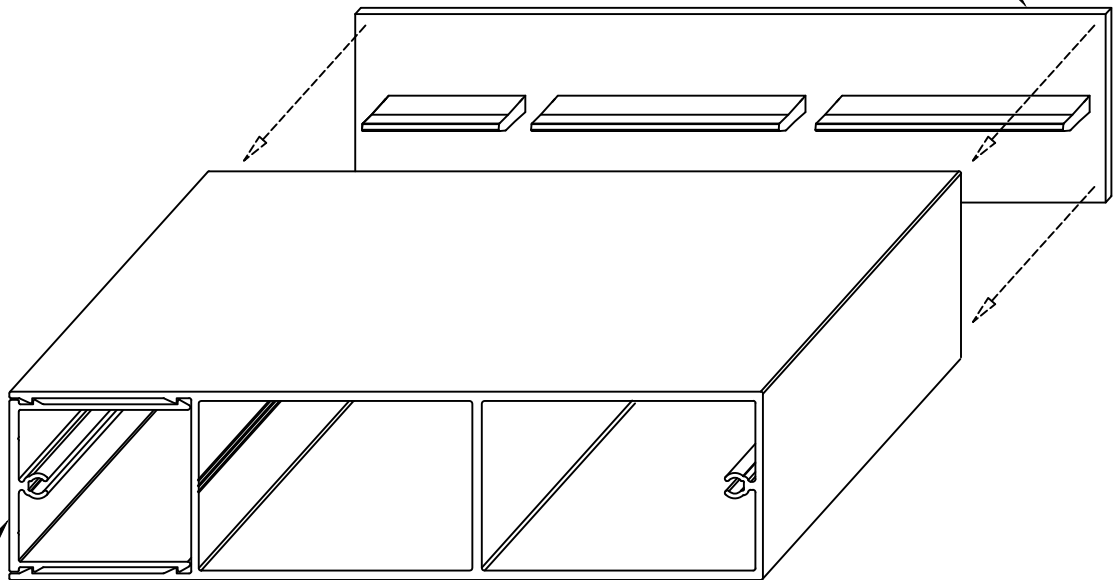
SCALE: NTS

4.1.2022

SYSTEM = MOSAIC BATTENS

B3

MOSAIC BATTEN T-ENDCAP 2x8
(SEE ENDCAP INSTALL GUIDE FOR MORE INFORMATION)



MOSAIC BATTEN
BASE 2"
(SEE DETAIL B3)

MOSAIC BATTEN
CAP 2x8
(SEE DETAIL B3)

Span Table Analysis

2" Snap Tubes
2"x2", 2"x3", 2"x6", 2"x8"

Report K2115.01-122-34

Rendered to:

ROLLFAB METAL PRODUCTS, LLC
2529 West Jackson Street
Phoenix, Arizona 85009

Prepared by:

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September 30, 2019

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Michael J. Thorley, P.E.
Engineer Team Leader

	PROJECT: 2" Snap Tube Span Tables	BY: DCC DATE: 09/30/2019
	PROJECT NO.: K2215.01-122-34	CKD: MJT SHEET: 2 OF 22

Scope

Architectural Testing, Inc., an Intertek company, was contracted by Rollfab Metal Products, LLC to calculate allowable design pressures for extruded aluminum tube products. Various Rollfab 2" snap tubes are evaluated as shown in the referenced drawings.

The analyses performed satisfy the methods and requirements of the following:

Aluminum Design Manual 2010, The Aluminum Association, Inc., 2010.

AAMA TIR-A9-14 *Metal Curtain Wall Fasteners*, American Architectural Manufacturers Association, 2015.

The calculations presented herein are for the integrity of the structural performance of the snap tubes only. The mechanical connections and weather tightness of the installation is not addressed by this report. The air/water/structural performance of the individual products is not proven by this report.

The building substrate is assumed to have the integrity to resist the anchor loads developed by the products. Furthermore, the results of the analyses present a solution that satisfies the scope of the project, but other feasible solutions may exist.

Analyses

Section Properties

The section properties are calculated for each individual part in both the X axis and Y axis since the section may be loaded in either direction. The members are extruded 6063-T6 aluminum unless noted otherwise. Geometric properties of the members are calculated on page 7 through page 11. Table 1 below summarizes the self-weight of the parts. Table 2 and 3 provide the moment of inertia (I), maximum centroid distance (C_{max}), and minimum section modulus (S_{min}) of parts for loading in either the X axis or Y axis. Table 4 (page 4) combines the 2"x base with the various 2x snap caps to provide total I and S for each section.

Table 1: Area and Self Weight of Tube Parts

Part	Area (in ²)	Weight (lb/ft)
2"x Snap Tube Base	0.4462	0.5221
2"x2" Snap Tube Cap	0.4652	0.5443
2"x3" Snap Tube Cap	0.6693	0.7831
2"x6" Snap Tube Cap	1.2706	1.4866
2"x8" Snap Tube Cap	1.7383	2.0338

Table 2: X Axis Section Properties of Individual Parts

Part	I (in ⁴)	C_{max} (in)	S_{min} (in ³)
2"x Snap Tube Base	0.1632	1.3679	0.1193
2"x2" Snap Tube Cap	0.1958	1.3317	0.1470
2"x3" Snap Tube Cap	0.6085	1.9278	0.3156
2"x6" Snap Tube Cap	4.3730	3.3396	1.3094
2"x8" Snap Tube Cap	9.9778	4.3640	2.2864

Table 3: Y Axis Section Properties of Individual Parts

Part	I (in ⁴)	C _{max} (in)	S _{min} (in ³)
2"x Snap Tube Base	0.2151	0.9243	0.2327
2"x2" Snap Tube Cap	0.3125	1.0000	0.3125
2"x3" Snap Tube Cap	0.4839	1.0000	0.4839
2"x6" Snap Tube Cap	0.9498	1.0000	0.9498
2"x8" Snap Tube Cap	1.2868	1.0000	1.2868

Table 4: Combined X and Y Axis Section Properties of Combined Parts

Section	X Axis		Y Axis	
	I (in ⁴)	S _{min} (in ³)	I (in ⁴)	S _{min} (in ³)
2"x2" Snap Tube Cap with Base	0.3590	0.2663	0.5276	0.5452
2"x3" Snap Tube Cap with Base	0.7717	0.4350	0.6990	0.7166
2"x6" Snap Tube Cap with Base	4.5362	1.4287	1.1649	1.1825
2"x8" Snap Tube Cap with Base	10.1410	2.4057	1.5019	1.5195

Allowable Design Pressure Analysis

Stress and deflection analyses were conducted for the free-spanning members. The members were analyzed as a simply supported beam. The sections were analyzed for spans from 2 feet to 10 feet in 1 foot increments and load widths from 1 foot to 4 foot in six inch increments. The proposed geometry is used to verify that the deflections are less than $\ell/240$. In addition, the member stresses are checked against the allowable stress design (ASD) values. The allowable design pressure at each span and load width is back calculated for the limiting case between the stress and the deflection. Additionally, end reactions are calculated for the sections based on the span, spacing, and calculated design pressure. The design pressures are limited to a maximum of 75 psf to keep reactions to a reasonable limit. A representative calculation is provided on page 12 through page 13 and all of the analyses are summarized in tables on page 14 through page 21.

Limitations

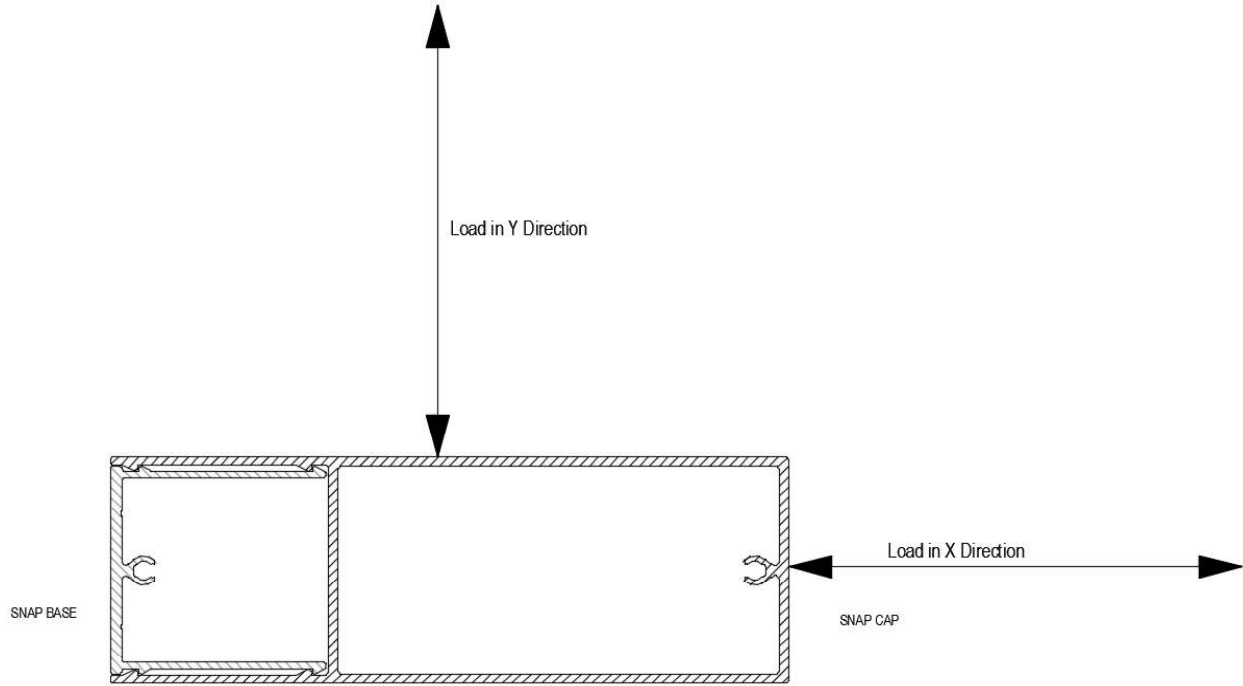
This report is intended only to address the structural capacity of the snap tubes. The connection of the individual snap tube piece to each other is outside the scope of this report. The anchorage of the snap tubes to project substrates should be checked for exact project spans and design loads on a project by project basis. All attributes of the tube system beyond the structural loads (i.e. air water, fire, durability, weathering, thermal) are outside the scope of this report. This report is provided for informational purposes and project specific calculations on design loads, spans, tributary widths, and anchorage should be calculated prior to installation.

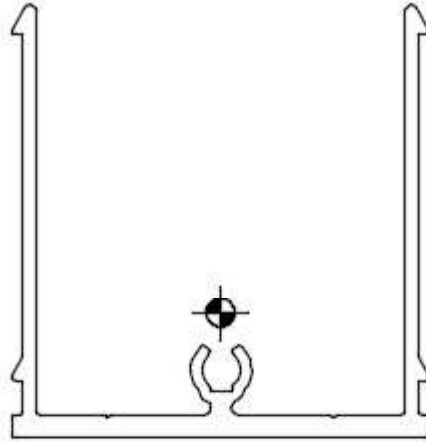
Referenced Drawings

The referenced drawings are the basis of the analysis presented herein and may not reflect the requirements established by this analysis.

2x Snap Tube. RollFab Metal Products. Revision 0, 09/07/17 (5 pages)

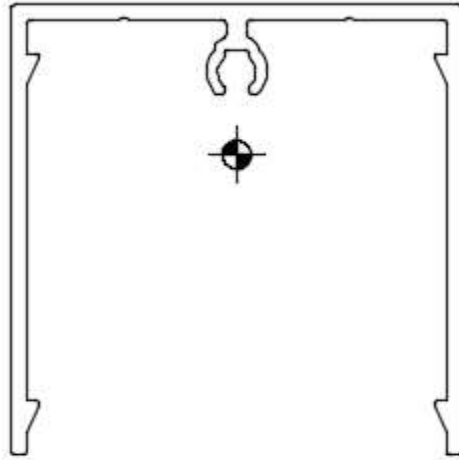
Typical Load Direction





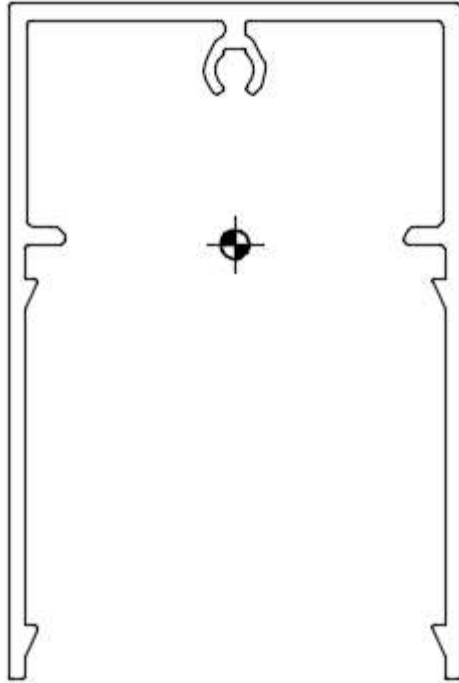
----- 2x Base -----

Area:	0.4462
Bounding box:	X: -0.9243 -- 0.9239 Y: -0.5521 -- 1.3679
Moments of inertia:	X: 0.1632 Y: 0.2151
Radii of gyration:	X: 0.6048 Y: 0.6944



----- 2x2 Cap -----

Area:	0.4652		
Bounding box:	X: -1.0000	--	1.0000
	Y: -1.3317	--	0.6683
Moments of inertia:	X: 0.1958		
	Y: 0.3125		
Radii of gyration:	X: 0.6488		
	Y: 0.8196		



2x3 Cap

Area:

0.6693

Bounding box:

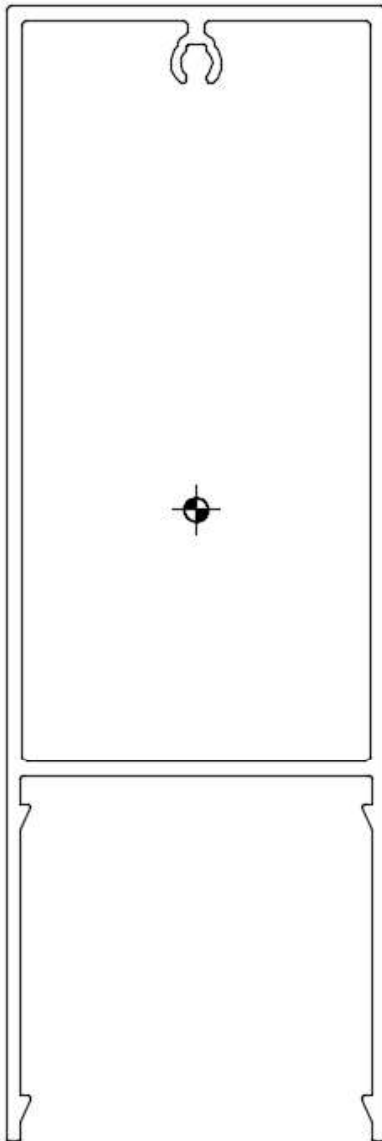
X: -1.0000 -- 1.0000
Y: -1.9278 -- 1.0722

Moments of inertia:

X: 0.6085
Y: 0.4839

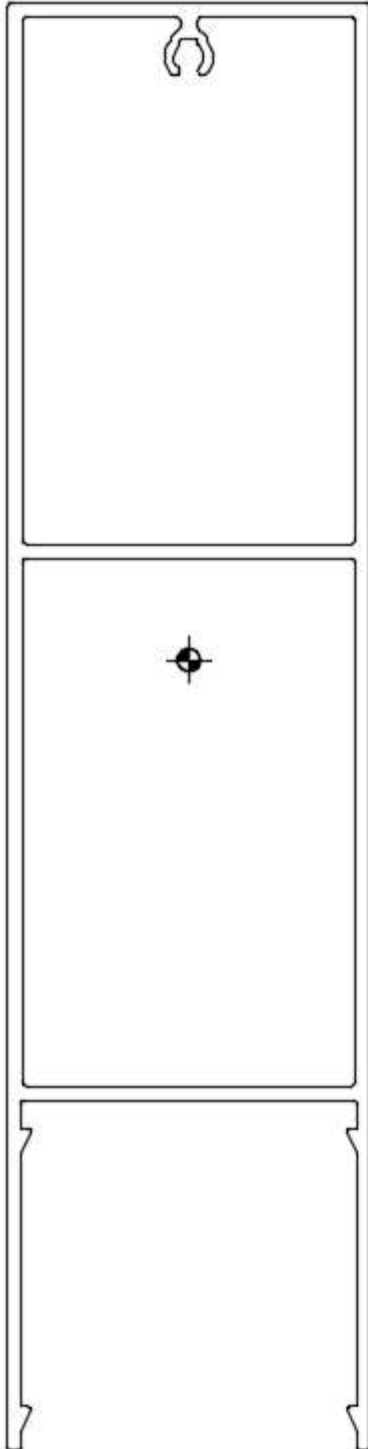
Radii of gyration:

X: 0.9535
Y: 0.8503



----- 2x6 Cap -----

Area: 1.2706
Bounding box: X: -1.0000 -- 1.0000
Y: -3.3396 -- 2.6604
Moments of inertia: X: 4.3730
Y: 0.9498
Radii of gyration: X: 1.8552
Y: 0.8646



-----	2x8 Cap	-----
Area:	1.7383	
Bounding box:	X: -1.0000 -- 1.0000	
	Y: -4.3640 -- 3.6360	
Moments of inertia:	X: 9.9778	
	Y: 1.2868	
Radif of gyration:	X: 2.3958	
	Y: 0.8604	

Example Calculation

2x Base Tube with 2x2 Snap Tube Cap Loaded in X Direction

Analyze a 4-0 Span With 3-0 Load Width

Assuming Pinned-Pinned End Conditions and Uniform Loading

6063-T6 Aluminum

$E = 10,000,000$ psi

$F_b = 15,152$ psi

Deflection Limit is $L/240$

Stress

$F_b = M/S$

$M = W L^2/8 = DP(\text{width}) L^2/8$

Combine and Solve For DP

$DP = 8 F_b S / \text{Width } L^2$

$DP = (8)(15,152 \text{ psi})(0.2663 \text{ in}^3)/(36\")(48\")^2$

$DP = 0.4378$ psi (63.0 psf)

Example Calculation (Continued)

Deflection

$$\Delta_{\max} = L/240 = 5 w L^4 / 384 EI$$

$$W = DP \times \text{Width}$$

Combine and Solve For DP

$$DP = 384 EI / 5 \text{ width } L^3 \cdot 240$$

$$DP = 384 (10,000,000 \text{ psi})(0.3590 \text{ in}^4) / (5)(36")(48")^3(240)$$

$$DP = 0.2885 \text{ psi (41.6 psf)}$$

Limiting Deflection

Minimum of Stress and Deflection

Top out at 75 psf for practical design limit

$$\text{Minimum (63.0 psf, 41.6 psf, 75.0 psf) = 41.6 psf}$$

Reaction

$$R = V = wL/2$$

$$R = DP \text{ width } L/2$$

$$R = (41.6 \text{ psf})(1 \text{ ft}^2/144 \text{ in}^2)(36")(48"/2)$$

$$R = 250 \text{ lb}$$

2x Base with 2x2 Snap Cap

Loaded in X Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		Tributary Width						
		12"	18"	24"	30"	36"	42"	48"
Product Span	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	74 psf 443
	48"	>75 psf 150	>75 psf 225	62 psf 249	50 psf 249	42 psf 249	36 psf 249	31 psf 249
	60"	64 psf 160	43 psf 160	32 psf 160	26 psf 160	21 psf 160	18 psf 160	16 psf 160
	72"	37 psf 111	25 psf 111	18 psf 111	15 psf 111	12 psf 111	11 psf 111	9 psf 111
	84"	23 psf 81	16 psf 81	12 psf 81	9 psf 81	8 psf 81	7 psf 81	6 psf 81
	96"	16 psf 62	10 psf 62	8 psf 62	6 psf 62	5 psf 62	4 psf 62	4 psf 62
	108"	11 psf 49	7 psf 49	5 psf 49	4 psf 49	4 psf 49	3 psf 49	3 psf 49
	120"	8 psf 40	5 psf 40	4 psf 40	3 psf 40	3 psf 40	2 psf 40	2 psf 40

2x Base with 2x2 Snap Cap

Loaded in Y Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		<u>Tributary Width</u>						
		12"	18"	24"	30"	36"	42"	48"
<u>Product Span</u>	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	73 psf 366	61 psf 366	52 psf 366	46 psf 366
	60"	>75 psf 188	63 psf 234	47 psf 234	38 psf 234	31 psf 234	27 psf 234	23 psf 234
	72"	54 psf 163	36 psf 163	27 psf 163	22 psf 163	18 psf 163	16 psf 163	14 psf 163
	84"	34 psf 120	23 psf 120	17 psf 120	14 psf 120	11 psf 120	10 psf 120	9 psf 120
	96"	23 psf 92	15 psf 92	11 psf 92	9 psf 92	8 psf 92	7 psf 92	6 psf 92
	108"	16 psf 72	11 psf 72	8 psf 72	6 psf 72	5 psf 72	5 psf 72	4 psf 72
	120"	12 psf 59	8 psf 59	6 psf 59	5 psf 59	4 psf 59	3 psf 59	3 psf 59

2x Base with 2x3 Snap Cap

Loaded in X Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP
Tributary Width

		12"	18"	24"	30"	36"	42"	48"
Product Span	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	>75 psf 525	67 psf 536
	60"	>75 psf 188	>75 psf 281	69 psf 343	55 psf 343	46 psf 343	39 psf 343	34 psf 343
	72"	>75 psf 225	53 psf 238	40 psf 238	32 psf 238	26 psf 238	23 psf 238	20 psf 238
	84"	50 psf 175	33 psf 175	25 psf 175	20 psf 175	17 psf 175	14 psf 175	12 psf 175
	96"	33 psf 134	22 psf 134	17 psf 134	13 psf 134	11 psf 134	10 psf 134	8 psf 134
	108"	24 psf 106	16 psf 106	12 psf 106	9 psf 106	8 psf 106	7 psf 106	6 psf 106
	120"	17 psf 86	11 psf 86	9 psf 86	7 psf 86	6 psf 86	5 psf 86	4 psf 86

2x Base with 2x3 Snap Cap

Loaded in Y Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		<u>Tributary Width</u>						
		12"	18"	24"	30"	36"	42"	48"
<u>Product Span</u>	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	69 psf 485	61 psf 485
	60"	>75 psf 188	>75 psf 281	62 psf 311	50 psf 311	41 psf 311	36 psf 311	31 psf 311
	72"	72 psf 216	48 psf 216	36 psf 216	29 psf 216	24 psf 216	21 psf 216	18 psf 216
	84"	45 psf 159	30 psf 159	23 psf 159	18 psf 159	15 psf 159	13 psf 159	11 psf 159
	96"	30 psf 121	20 psf 121	15 psf 121	12 psf 121	10 psf 121	9 psf 121	8 psf 121
	108"	21 psf 96	14 psf 96	11 psf 96	9 psf 96	7 psf 96	6 psf 96	5 psf 96
	120"	16 psf 78	10 psf 78	8 psf 78	6 psf 78	5 psf 78	4 psf 78	4 psf 78

2x Base with 2x6 Snap Cap

Loaded in X Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		Tributary Width						
		12"	18"	24"	30"	36"	42"	48"
Product Span	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	>75 psf 525	>75 psf 600
	60"	>75 psf 188	>75 psf 281	>75 psf 375	>75 psf 469	>75 psf 563	>75 psf 656	>75 psf 750
	72"	>75 psf 225	>75 psf 338	>75 psf 450	>75 psf 563	>75 psf 675	>75 psf 788	>75 psf 900
	84"	>75 psf 263	>75 psf 394	>75 psf 525	>75 psf 656	>75 psf 788	>75 psf 919	73 psf 1029
	96"	>75 psf 300	>75 psf 450	>75 psf 600	>75 psf 750	66 psf 788	56 psf 788	49 psf 788
	108"	>75 psf 338	>75 psf 506	69 psf 622	55 psf 622	46 psf 622	40 psf 622	35 psf 622
	120"	>75 psf 375	67 psf 504	50 psf 504	40 psf 504	34 psf 504	29 psf 504	25 psf 504

2x Base with 2x6 Snap Cap

Loaded in Y Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		<u>Tributary Width</u>						
		12"	18"	24"	30"	36"	42"	48"
<u>Product Span</u>	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	>75 psf 525	>75 psf 600
	60"	>75 psf 188	>75 psf 281	>75 psf 375	>75 psf 469	69 psf 518	59 psf 518	52 psf 518
	72"	>75 psf 225	>75 psf 338	60 psf 360	48 psf 360	40 psf 360	34 psf 360	30 psf 360
	84"	>75 psf 263	50 psf 264	38 psf 264	30 psf 264	25 psf 264	22 psf 264	19 psf 264
	96"	51 psf 202	34 psf 202	25 psf 202	20 psf 202	17 psf 202	14 psf 202	13 psf 202
	108"	36 psf 160	24 psf 160	18 psf 160	14 psf 160	12 psf 160	10 psf 160	9 psf 160
	120"	26 psf 129	17 psf 129	13 psf 129	10 psf 129	9 psf 129	7 psf 129	6 psf 129

2x Base with 2x8 Snap Cap

Loaded in X Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		Tributary Width						
		12"	18"	24"	30"	36"	42"	48"
Product Span	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	>75 psf 525	>75 psf 600
	60"	>75 psf 188	>75 psf 281	>75 psf 375	>75 psf 469	>75 psf 563	>75 psf 656	>75 psf 750
	72"	>75 psf 225	>75 psf 338	>75 psf 450	>75 psf 563	>75 psf 675	>75 psf 788	>75 psf 900
	84"	>75 psf 263	>75 psf 394	>75 psf 525	>75 psf 656	>75 psf 788	>75 psf 919	>75 psf 1050
	96"	>75 psf 300	>75 psf 450	>75 psf 600	>75 psf 750	>75 psf 900	>75 psf 1050	>75 psf 1200
	108"	>75 psf 338	>75 psf 506	>75 psf 675	>75 psf 844	>75 psf 1013	>75 psf 1181	>75 psf 1350
	120"	>75 psf 375	>75 psf 563	>75 psf 750	>75 psf 938	>75 psf 1125	64 psf 1127	56 psf 1127

2x Base with 2x8 Snap Cap

Loaded in Y Axis

Member DP (psf)
Member End Reactions (lbs) at Maximum Calculated DP

		<u>Tributary Width</u>						
		12"	18"	24"	30"	36"	42"	48"
<u>Product Span</u>	24"	>75 psf 75	>75 psf 113	>75 psf 150	>75 psf 188	>75 psf 225	>75 psf 263	>75 psf 300
	36"	>75 psf 113	>75 psf 169	>75 psf 225	>75 psf 281	>75 psf 338	>75 psf 394	>75 psf 450
	48"	>75 psf 150	>75 psf 225	>75 psf 300	>75 psf 375	>75 psf 450	>75 psf 525	>75 psf 600
	60"	>75 psf 188	>75 psf 281	>75 psf 375	>75 psf 469	>75 psf 563	>75 psf 656	67 psf 668
	72"	>75 psf 225	>75 psf 338	>75 psf 450	62 psf 464	52 psf 464	44 psf 464	39 psf 464
	84"	>75 psf 263	65 psf 341	49 psf 341	39 psf 341	32 psf 341	28 psf 341	24 psf 341
	96"	65 psf 261	43 psf 261	33 psf 261	26 psf 261	22 psf 261	19 psf 261	16 psf 261
	108"	46 psf 206	31 psf 206	23 psf 206	18 psf 206	15 psf 206	13 psf 206	11 psf 206
	120"	33 psf 167	22 psf 167	17 psf 167	13 psf 167	11 psf 167	10 psf 167	8 psf 167



PROJECT: 2" Snap Tube Span Tables

BY: DCC DATE: 09/30/2019

PROJECT NO.: K2215.01-122-34

CKD: MJT SHEET: 22 OF 22

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	09/30/19	N/A	Original report issue



Lumabuilt

Lumaplate
Full Depth Aluminum Plate

Mosaic
Planks and Battens

THE USE OF LUMABUILT PRODUCTS MAY CONTRIBUTE TO THE LEED CREDITS

Lumabuilt produces and supplies aluminum extruded products for our valued customers made from both primary and secondary 6XXX series aluminum alloys. In total, approximately 40% of our extruded products are produced with recycled secondary aluminum (32% being post-consumer content and 8% being from pre-consumer content); this material is received and recycled by local suppliers. The remaining percentage of our production is processed from primary billet which typically contains 3 - 5% recycled aluminum. All of Lumabuilt's end aluminum products are 100% recyclable with no downgrading of the material qualities.



THE USE OF LUMABUILT PRODUCTS MAY CONTRIBUTE TO THE LEED CREDITS

Lumabuilt LEED v4 Exterior Systems Summary

LEED CREDIT	DESCRIPTION	POINTS
MR2.1 and 2.2: Construction waste management	Aluminum recycling	1-2 points
MR4.1 and 4.2: Recycled Content	Recycled content in aluminum extrusions	1-2 points
MR5.1 and 5.2: Regional Materials	Recycled content recovered, reprocessed near project	1-2 points
ID1: Innovation in Design	For use of Cradle-to-Cradle certified materials	1 point



1. Ensure you have designed your layout to accommodate an end cap install. You must have clearance on the end of the batten to install the End Cap. If your desired install is to be close to a surface, then you must install end caps prior to installing the batten base on the wall
2. When using an end cap, the batten must be located 1/8" distance from the desired finished end
3. If you are using a two-piece batten you must ensure that both batten base and cap are cut square and to the same length prior to end cap installation

T-SHAPED END CAP (NO EXPOSED FASTENERS)



- Ensure the extrusion end is cut square to the extrusion shape
- Remove any metal burrs
- Apply touch up paint on bare aluminum edges if desired
- Apply a small drop of clear silicone in each screw boss location at the end of the extrusion just prior to inserting the precut end cap into place
- Use a rubber mallet to seat the end cap to its final flush location
- This will be a firm fit and will complete the install

PRE-PUNCHED END CAP (FASTENERS REQUIRED TO INSTALL)



- Ensure the extrusion end is cut square to the extrusion shape
- Remove any metal burrs
- Apply touch up paint on bare aluminum edges if desired
- Crimp the screw boss end slightly to increase the grip of the customer supplied rivet
- Customer supplied rivet shall be an 1/8" dia. Aluminum or Stainless Steel
- Apply a small drop of clear silicone in each screw boss location at the end of the extrusion just prior to inserting the pre-punched end cap into place
- Insert rivet (Customer supplied) through pre-punched hole in the end cap and secure rivet with rivet tool (customer supplied)
- Install all rivets for provided holes to complete the installation process
- Alternatively a #10 diameter screw may be used for attachment

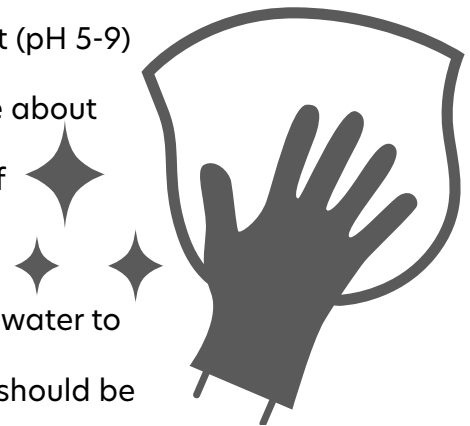


CLEANING INSTRUCTIONS FOR SOFFIT AND SIDING

To preserve the original beauty of Mosaic (Alumaboard) products a regular cleaning schedule is required with the warranties. General surface cleaning will prevent dirt and other particles from accumulating. These build-ups and deposits take away from the original beauty of Mosaic (Alumaboard) Products.

After installation you will need to thoroughly clean your Mosaic (Alumaboard) products to remove all construction elements that may have accumulated.

- Clean the finish surface with water and a soft cloth or sponge until it is free of debris. Avoid excessive rubbing as this will alter the finish.
- If required the finish surface may be also cleaned with a mild detergent (pH 5-9) or a cleaning agent diluted to 1:50 parts of water.
- Certain cleaning agents may damage the paint finish. If you are unsure about possibly damaging the surface, do a spot test on an area that is not easily visible. If the solution causes any damage or changes the look of the paint finish or gloss, immediately discontinue use.
- Always observe the recommended safety precautions including appropriate skin and eye protection to prevent irritations or burns.
- After each cleaning occurs, the surface must thoroughly be rinsed with water to remove any cleaner residue.
- To minimize the appearance of water spots and streaking, the surface should be wiped dry with a clean, soft, dry cloth.



LUMABUILT RECOMMENDED CLEANING SCHEDULE

Active Construction Site	Monthly
Industrial Area	Quarterly
Pools	Quarterly
Coastal Areas	Quarterly
Tropical Areas	Bi-Yearly
All Other Areas	Yearly

CAUTION

- Do NOT use a pressure washer.
- Do NOT use steel wool, abrasive pads or dirty rags.
- Do NOT use acetone, paint thinner or any type of stripper/remover.
- Do NOT use highly acidic or alkaline solutions of any kind especially any that react with metal.
- Do NOT clean in freezing temperatures or in extreme heat.



MAINTENANCE LOG

DATE	CLEANING PRODUCT	MAINTENANCE COMPANY	MAINTENANCE PERSON	INSPECTOR SIGNATURE





MOSAIC (ALUMABOARD) PRODUCT WARRANTY

15 YEAR FINISH WARRANTY

To: (OWNER)

From: LUMABUILT

Project Name and Location: (PROJECT NAME
(STREET NUMBER & NAME)
(CITY, STATE ZIP)

Commencement Date of Warranty: (Date is Required)

LUMABUILT hereby warrants to the Customer that the MOSAIC (ALUMABOARD) line of products supplied by LUMABUILT to the Customer pursuant to the order placed by Customer and accepted by LUMABUILT are, at the time of shipment, free from manufacturing defects.

When soffits and siding are applied according to the MOSAIC (ALUMABOARD) Installation instructions and properly maintained, such product is guaranteed against the following:

A. Aluminum Materials and workmanship, within the warranty period of Fifty (50) years.

1. **Buckling:** The product itself will be free of any buckling that is not associated with the substrate and/or structure to which the MOSAIC (ALUMABOARD) system is attached. Buckling shall be defined as warping of the product(s) exceeding one sixteenth of an inch out of plane per linear foot, for the purpose of this warranty.
2. **Rusting and Corrosion:** When applied according to LUMABUILT instructions and properly maintained per LUMABUILT guidelines, MOSAIC (ALUMABOARD) products are guaranteed against rusting and corrosion, subject to the limitations set out in section **C**.
3. **LUMABUILT Responsibility:** If, within the Limited Warranty Period, the Product(s) are defective in material or workmanship, LUMABUILT will; at its sole discretion; either repair or replace the defective portion of the Product(s), or, during the first 1st through the 50th year, LUMABUILT will reimburse the Covered Party for the original retail cost of the defective portion of the MOSAIC (ALUMABOARD) Product(s). Upon the 51st year, from the original retail sales date, this Limited Warranty will expire and shall no longer be applicable. If the original retail cost cannot be established by the Covered Person to LUMABUILT's reasonable satisfaction, the cost value shall be determined by LUMABUILT at its sole and reasonable discretion. LUMABUILT's reimbursement or replacement of the defective



Product(s) covered by this Limited Warranty, are the exclusive remedy for the Covered Party with regards to any defect in materials or workmanship only. LUMABUILT WILL NOT REFUND OR PAY ANY ASSOCIATED COSTS, CHARGES, OR FEES WITH REGARDS TO DELIVERY COST, INSTALLATION LABOR, OR ACCESSORY MATERIALS.

B. Paint Finishes, within the warranty period of Fifteen (15) years.

1. **Checking and Cracking:** There will be no clearly visible checking or cracking of the Painted Finish on the Product(s) installed on the building.
2. **Chalking Resistance:** There will be no chalking of the Painted Finish on the Product(s), installed on the building, in excess of that represented by the “No.8 rating” based on ASTM D4214.
3. **Color Retention:** There will be no color change of the Painted Finish on the building greater than 5 CIE Lab AE units calculated in accordance with ASTM 2244; Section 6.3. Color changes shall be measured on the exposed painted surface which has been cleaned of oil, grease, chalk, oxidized film or other contaminants, corresponding values shall be measured on the original retained batch Product(s) (Product(s) are stored in the dark at temperatures below 30° C).
4. **Gloss Retention:** The coated surface will exhibit gloss retention to a minimum of 30% from the original gloss. Gloss retention shall be measured on the exposed painted surface which has been cleaned of oil, grease, chalk, oxidized film or other contaminants, corresponding values shall be measured on the original retained batch Product(s) (Product(s) are stored in the dark at temperatures below 30° C).
5. **Paint Adhesion:** Adhesion of Painted Finish when initially applied to test panels and measured by reference to AAMA 2604-02; Clause 7.4.2 will show no evidence of film removal.

C. Warranty Terms and Conditions.

1. Registration of the purchased Product(s) is required for this warranty to be in effect. This warranty is valid to the original purchaser and one owner of the structure, where the Product(s) have been installed.
2. “Normal atmospheric conditions” excludes corrosive or aggressive atmospheres such as those contaminated with chemical fumes, salts, or other corrosive elements, including areas within proximity of a body of salt water. LUMABUILT recommends freshwater cleaning and maintenance program(s) be in effect to prevent corrosion from accumulated deposits.
3. The warranty will not extend or cover:
 - a. Damages to the coated metal caused by handling, shipping, processing and/or installation; or
 - b. Damages to the coated metal caused by scratching or abrading after installation; or
 - c. Damages to the coated metal as a result of standing water in horizontal installations.
 - d. The warranty will not be applicable to damage or failure, which is caused by acts of God, falling objects, external forces, explosions, fire, riots, civil commotion’s, acts of war, or other such similar or dissimilar occurrences beyond LUMABUILT’s control.
 - e. Customer shall make available to LUMABUILT the dates of the installation of the coated metal, the maintenance records including details of washing and cleaning procedures in compliance with the annual cleaning requirements as stated in the “Required

LUMABUILT Warranty Number:
Warranty Expiration Date:

Page 2



Maintenance” section of this warranty. Customers that demonstrate the failure of the coated metal was due to a breach of the warranty stated herein.

- f. Claims must be made in writing to LUMABUILT within 30 days of the discovery of a problem and authorization obtained prior to beginning any repair and/or refinishing work. The claimant must provide proof of coverage. Claims must be made by writing and can be sent to the customer service department at LUMABUILT. After receiving such notice, LUMABUILT must be given a reasonable opportunity to inspect and verify the claim.
- g. LUMABUILT’s exclusive liabilities, under this warranty, or otherwise, will be limited to refinishing and/or repairing, at LUMABUILT’s sole discretion, the defective powder coating. The warranty on any refinished, repaired or replaced coated metal supplied hereunder shall be for the remainder of the warranty period applicable to the originally coated metal. All warranty work will be performed by a company or contractor selected by LUMABUILT. Color variance between refinished and/or repainted product and original shall not be indicative of a defect.

- 6. This warranty represents the entire agreement between all parties in relation to its subject matter and supersedes any previous agreement whether written or oral between the parties in relation to its subject matter. The limited warranties state the entire liability of LUMABUILT with respect to the Product(s) covered by them. LUMABUILT shall have no liability for any incidental or consequential damages. No person is authorized to make any representation or warranty on behalf of LUMABUILT except as expressly set forth above, and any such statement shall not be binding on LUMABUILT except as expressly set forth above. LUMABUILT makes no warranty of any kind, express or implied, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. Warranties shall be the duration of this limited warranty, or such shorter duration as provided under applicable local law. These limited warranties give you specific legal rights, and you may also have other rights which vary from region to region and state by state.
- 7. NOTHING WITHIN THIS WARRANTY SHALL BE CONSTRUED AS A WARRANTY OF THE WORKMANSHIP OF ANY INSTALLER OR AS IMPOSING ON LUMABUILT ANY LIABILITY FOR UNSATISFACTORY PERFORMANCE CAUSED BY FAULTY WORKMANSHIP BEFORE, DURING, OR AFTER INSTALLATION.
- 8. It is agreed, by all parties involved, that all claims and disputes relating to this agreement, which cannot be settled through negotiation, will try in good faith to first settle the dispute by mediation administered by the American Arbitration Association (Construction Industry Mediation Procedures) as a prelude to mandatory binding arbitration. Such binding arbitration is to be conducted and administered by the Construction Industry Arbitration Rules of the American Arbitration Association. Both seller and purchaser agree to share equally in the costs of both mediation and arbitration and that such binding arbitration will be the sole and final remedial action.

D. Required Maintenance.

On a semi-annual basis, use a soft sponge or cloth with water and mild detergent or a non-abrasive soap with the pH range of 5-9 to clean the powder coated area of dirt, grime and other debris. Pressure washing and the use of harsh detergents or chemicals is not recommended and may void this warranty. Include in your maintenance records the following: date, time, specific products used, name of maintenance person and their designation, maintenance company name and observed general condition of the powder coated finish.



Lumabuilt

Mosaic
Alumaboard

All notice given under or pursuant to this warranty shall be in writing in English and sent by Registered or Certified Mail, postage prepaid, return receipt requested to:

LUMABUILT
2529 West Jackson Street
Phoenix, Arizona 85009

Seller:

LUMABUILT

2529 West Jackson Street

Phoenix, AZ 85009

LUMABUILT Representative Signature

Printed Name Date

Customer:

Customer Signature

Printed Name Date

LUMABUILT Warranty Number: Warranty Expiration Date:	Page 4
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MOSAIC (MOSAIC (ALUMABOARD)) PRODUCT WARRANTY

20 YEAR FINISH WARRANTY

To: (OWNER)

From: LUMABUILT

Project Name and Location: (PROJECT NAME
(STREET NUMBER & NAME)
(CITY, STATE ZIP)

Commencement Date of Warranty: (Date is Required)

LUMABUILT hereby warrants to the Customer that the MOSAIC (ALUMABOARD) line of products supplied by LUMABUILT to Customer pursuant to the order placed by Customer and accepted by LUMABUILT are, at the time of shipment, free from manufacturing defects.

When soffits and siding are applied according to the MOSAIC (ALUMABOARD) Installation instructions and properly maintained, such product is guaranteed against the following:

Aluminum Materials and workmanship, within the warranty period of Fifty (50) years.

Buckling: The product itself will be free of any buckling that is not associated with the substrate and/or structure to which the MOSAIC (ALUMABOARD) system is attached. Buckling shall be defined as warping of the product(s) exceeding one sixteenth of an inch out of plane per linear foot, for the purpose of this warranty.

Rusting and Corrosion: When applied according to LUMABUILT instructions and properly maintained per LUMABUILT guidelines, MOSAIC (ALUMABOARD) products are guaranteed against rusting and corrosion, subject to the limitations set out in section C.

LUMABUILT Responsibility: If, within the Limited Warranty Period, the Product(s) are defective in material or workmanship, LUMABUILT will, at its sole discretion; either repair or replace the defective portion of the Product(s), or, during the first 1st through the 50th year, LUMABUILT will reimburse the Covered Party for the original retail cost of the defective portion of the MOSAIC (ALUMABOARD) Product(s). Upon the 51st year, from the original retail sales date, this Limited Warranty will expire and shall no longer be applicable. If the original retail cost cannot be established by the Covered Person to LUMABUILT's reasonable satisfaction, the cost value shall be determined by LUMABUILT at its sole and reasonable discretion. LUMABUILT's reimbursement or replacement of the defective Product(s)

LUMABUILT Warranty Number: Warranty Expiration Date:	Page 1
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covered by this Limited Warranty, are the exclusive remedy for the Covered Party with regards to any defect in materials or workmanship only. LUMABUILT WILL NOT REFUND OR PAY ANY ASSOCIATED COSTS, CHARGES, OR FEES WITH REGARDS TO DELIVERY COST, INSTALLATION LABOR, OR ACCESSORY MATERIALS.

Paint Finishes, within the warranty period of Twenty (20) years.

Checking and Cracking: There will be no clearly visible checking or cracking of the Painted Finish on the Product(s) installed on the building.

Chalking Resistance: There will be no chalking of the Painted Finish on the Product(s), installed on the building, in excess of that represented by the “No.8 rating” based on ASTM D4214 test method A.

Color Retention: There will be no color change of the Painted Finish on the building greater than 5 ΔE units as measured by Hunter Lab color difference as set forth per AAMA 2604 specifications as of the application date and in such way as to significantly adversely affect the appearance of the surface to which the product has been applied and result in damage to the surface. Color changes shall be measured on the exposed painted surface which has been cleaned of oil, grease, chalk, oxidized film or other contaminants, corresponding values shall be measured on the original retained batch Product(s) (Product(s) are stored in the dark at temperatures below 30° C).

Gloss Retention: The coated surface will exhibit gloss retention to a minimum of 30% from the original gloss using a 60-degree reading per AAMA 2604 specifications. Gloss retention shall be measured on the exposed painted surface which has been cleaned of oil, grease, chalk, oxidized film or other contaminants, corresponding values shall be measured on the original retained batch Product(s) (Product(s) are stored in the dark at temperatures below 30° C).

Paint Adhesion: Adhesion of Painted Finish when initially applied to test panels and measured by reference to AAMA 2604-02; Clause 7.4.2 will show no evidence of film removal.

Warranty Terms and Conditions.

1. Registration of the purchased Product(s) is required for this warranty to be in effect. This warranty is valid to the original purchaser and one owner of the structure, where the Product(s) have been installed.
2. “Normal atmospheric conditions” excludes corrosive or aggressive atmospheres such as those contaminated with chemical fumes, salts, or other corrosive elements, including areas within proximity of a body of salt water. LUMABUILT recommends freshwater cleaning and maintenance program(s) be in effect to prevent corrosion from accumulated deposits.
3. The warranty will not extend or cover.
 - a. Damages to the coated metal caused by handling, shipping, processing and/or installation; or
 - b. Damages to the coated metal caused by scratching or abrading after installation; or

LUMABUILT Warranty Number:
Warranty Expiration Date:



- c. Damages to the coated metal as a result of standing water in horizontal installations.
- d. The warranty will not be applicable to damage or failure, which is caused by acts of God, falling objects, external forces, explosions, fire, riots, civil commotion's, acts of war, or other such similar or dissimilar occurrences beyond LUMABUILT's control.
- e. Customer shall make available to LUMABUILT the dates of the installation of the coated metal, the maintenance records including details of washing and cleaning procedures in compliance with the annual cleaning requirements as stated in the "Required Maintenance" section of this warranty. Customers that demonstrate the failure of the coated metal was due to a breach of the warranty stated herein.
- f. Claims must be made in writing to LUMABUILT within 30 days of the discovery of a problem and authorization obtained prior to beginning any repair and/or refinishing work. The claimant must provide proof of coverage. Claims must be made by writing and can be sent to the customer service department at LUMABUILT. After receiving such notice, LUMABUILT must be given a reasonable opportunity to inspect and verify the claim.

LUMABUILT's exclusive liabilities, under this warranty, or otherwise, will be limited to refinishing and/or repairing, at LUMABUILT's sole discretion, the defective powder coating. The warranty on any refinished, repaired or replaced coated metal supplied hereunder shall be for the remainder of the warranty period applicable to the originally coated metal. All warranty work will be performed by a company or contractor selected by LUMABUILT. Color variance between refinished and/or repainted product and original shall not be indicative of a defect.

This warranty represents the entire agreement between all parties in relation to its subject matter and supersedes any previous agreement whether written or oral between the parties in relation to its subject matter. The limited warranties state the entire liability of LUMABUILT with respect to the Product(s) covered by them. LUMABUILT shall have no liability for any incidental or consequential damages. No person is authorized to make any representation or warranty on behalf of LUMABUILT except as expressly set forth above, and any such statement shall not be binding on LUMABUILT except as expressly set forth above. LUMABUILT makes no warranty of any kind, express or implied, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. Warranties shall be the duration of this limited warranty or such shorter duration as provided under applicable local law. These limited warranties give you specific legal rights, and you may also have other rights which vary from region to region and state by state.

NOTHING WITHIN THIS WARRANTY SHALL BE CONSTRUED AS A WARRANTY OF THE WORKMANSHIP OF ANY INSTALLER OR AS IMPOSING ON LUMABUILT ANY LIABILITY FOR UNSATISFACTORY PERFORMANCE CAUSED BY FAULTY WORKMANSHIP BEFORE, DURING, OR AFTER INSTALLATION.

It is agreed, by all parties involved, that all claims and disputes relating to this agreement, which cannot be settled through negotiation, will try in good faith to first settle the dispute by mediation administered by the American Arbitration Association (Construction Industry Mediation Procedures) as a prelude to mandatory binding arbitration. Such binding arbitration is to be conducted and administered by the Construction Industry Arbitration Rules of the American Arbitration Association. Both seller and

LUMABUILT Warranty Number: Warranty Expiration Date:	Page 3
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purchaser agree to share equally in the costs of both mediation and arbitration and that such binding arbitration will be the sole and final remedial action.

Required Maintenance.

On a semi-annual basis, use a soft sponge or cloth with water and mild detergent or a non-abrasive soap with the pH range of 5-9 to clean the powder coated area of dirt, grime and other debris. Pressure washing and the use of harsh detergents or chemicals is not recommended and may void this warranty. Include in your maintenance records the following: date, time, specific products used, name of maintenance person and their designation, maintenance company name and observed general condition of the powder coated finish.

All notice given under or pursuant to this warranty shall be in writing in English and sent by Registered or Certified Mail, postage prepaid, return receipt requested to:

LUMABUILT

2529 West Jackson Street

Phoenix, Arizona 85009

Seller:
LUMABUILT
2529 West Jackson Street
Phoenix, AZ 85009

LUMABUILT Representative Signature

Printed Name Date

Customer:

Customer Signature

Printed Name Date



Lumabuilt

Please note that RMP Rollfab Architectural Solutions has been rebranded as **Lumabuilt**.

Product names have also been changed; the product specifications, warranties, accessories, and all things related to the products, have not changed. The products have been rebranded in name only.

Rebranding began June 26, 2023.

Mosaic is now the new product name for Alumaboard for Planks and Battens.

Mosaic
Planks and Battens

Technical Data Sheet
BEIGE SERIE 700 RAGG
Cod. DS 716

Powder Coatings: TGIC FREE POLYURETHANE

Use: Outdoor

Suggested for: Base coat for heat transfer process

Application: Corona Charging

Curing Cycle:

<u>25' X 195°C (Metal Temperature)</u>	<u>25' X 383 °F</u>
<u>20' X 200°C (Metal Temperature)</u>	<u>20' X 392 °F</u>
<u>15' X 205°C (Metal Temperature)</u>	<u>15 X 401°F</u>

Chemical and Mechanical Properties

1 - Packing	20 Kg. Boxes with PE-bag, palletized and shrink-wrapped
2- Shelf-life	In a dry place with a temperature lower than 35 °C - 95°F for 12 months
3 - Specific weight	1.27 ± 0.03 g/cm ³
4 – Yield m ² /Kg. considering 60 microns film thickness	13,1 m ² /Kg
5 - Appearance	Rough

	RIF Standard	Miniumum Tolerance Limit	Result
6 - Gloss (Gardner 60°)	ISO 2813	8 ± 3	OK
7 - Buchholz hardness	ISO 2815	minimum 80	OK
8 - Adhesion	ISO 2409	No loss of Adhesion	OK
9 - Thickness (Minim. thickness)	ISO 2360	60 microns	OK
10 - Direct Impact Test *	ASTM D2794	2,5 N*m	No Coating detaching
11 - Reverse Impact Test	ASTM D2794	2,5 N*m	No Coating detaching
12 - Erichsen Identation *	ISO 1520	5 mm	No Coating detaching
13 - Bending *	ISO 1519	mandrino 5 mm mandrel 5mm	No Coating detaching
14 - Kesternich Test	ISO 3231	No Coating detaching or penetration higher than 1 mm.	OK
15 - Humidity Test**	DIN 50017	No blistering/coating detaching	OK
16 - Acetic acid - Salt Spray Test **	ISO 9227	Corrosion lower than 4 mm.	OK
17 - Accellerated weathering Test	ISO 11341	Rit. di Brill. >50% ΔE < 2	OK
18 - Pressure Cooker Test	Cap.Qualicoat	No blistering/coating detaching	OK
19 - Lime Resistance	Cap.Qualicoat	No blistering/coating detaching	OK

* Tests carried out on 1 mm. thickness alloy AA5005 H24 chromate aluminium sheets and 60 microns coating layer .

** Tests carried out on AA6060 extruded alloy

Note importanti:

Important information:

La brillantezza del film di vernice è influenzata dalla spessore della polvere applicata e dalle condizioni di polimerizzazione.

Brightness of powder coating layer could change by applied thickness and by the curing process.

Per ottenere le migliori performance di resistenza ai raggi uv il valore di brillantezza del film di vernice deve rispettare i valori indicati nella scheda tecnica.

To obtain best UV ray resistance performance, the powder coating brightness must comply technical data sheet value.

This technical information is reliable to the best of our and our customers' experience but non warranty or guarantee is implied. Users will assume responsibility for the application of the product testing its characteristics on their own equipment and carriers.

Emission Date 20/07/2004

Revision 06
Date Revision 25/09/2007

Technical Data Sheet

MARRONE 349 SERIE 700 RAGG
Cod. DS 733

Powder Coatings: TGIC FREE POLYURETHANE

Use: Outdoor

Suggested for: Base coat for heat transfer process

Application: Corona Charging

Curing Cycle:

<u>25' X 195°C (Metal Temperature)</u>	<u>25' X 383 °F</u>
<u>20' X 200°C (Metal Temperature)</u>	<u>20' X 392 °F</u>
<u>15' X 205°C (Metal Temperature)</u>	<u>15 X 401°F</u>

Chemical and Mechanical Properties

1 - Packing	20 Kg. Boxes with PE-bag, palletized and shrink-wrapped
2- Shelf-life	In a dry place with a temperature lower than 35 °C - 95°F for 12 months
3 - Specific weight	1.27 ± 0.03 g/cm ³
4 – Yield m ² /Kg. considering 60 microns film thickness	13,1 m ² /Kg
5 - Appearance	Rough

	RIF Standard	Miniumum Tollerance Limit	Result
6 - Gloss (Gardner 60°)	ISO 2813	8 ± 3	OK
7 - Buchholz hardness	ISO 2815	minimum 80	OK
8 - Adhesion	ISO 2409	No loss of Adhesion	OK
9 - Thickness (Minim. thickness)	ISO 2360	60 microns	OK
10 - Direct Impact Test *	ASTM D2794	2,5 N*m	No Coating detaching
11 - Reverse Impact Test	ASTM D2794	2,5 N*m	No Coating detaching
12 - Erichsen Identation *	ISO 1520	5 mm	No Coating detaching
13 - Bending *	ISO 1519	mandrino 5 mm mandrel 5mm	No Coating detaching
14 - Kesternich Test	ISO 3231	No Coating detaching or penetration higher than 1 mm.	OK
15 - Humidity Test**	DIN 50017	No blistering/coating detaching	OK
16 - Acetic acid - Salt Spray Test **	ISO 9227	Corrosion lower than 4 mm.	OK
17 - Accellerated weathering Test	ISO 11341	Rit. di Brill. >50% ΔE < 2	OK
18 - Pressure Cooker Test	Cap.Qualicoat	No blistering/coating detaching	OK
19 - Lime Resistance	Cap.Qualicoat	No blistering/coating detaching	OK

* Tests carried out on 1 mm. thickness alloy AA5005 H24 chromate aluminium sheets and 60 microns coating layer .

** Tests carried out on AA6060 extruded alloy

Note importanti:

Important information:

La brillantezza del film di vernice è influenzata dalla spessore della polvere applicata e dalle condizioni di polimerizzazione.

Brightness of powder coating layer could change by applied thickness and by the curing process.

Per ottenere le migliori performance di resistenza ai raggi uv il valore di brillantezza del film di vernice deve rispettare i valori indicati nella scheda tecnica.

To obtain best UV ray resistance performance, the powder coating brightness must comply technical data sheet value.

This technical information is reliable to the best of our and our customers' experience but non warranty or guarantee is implied.
Users will assume responsibility for the application of the product testing its characteristics on their own equipment and carriers.

Emission Date **20/07/2004**

Revision **06**
Date Revision **25/09/2007**



Lumabuilt

PRODUCT DATA SHEET 2" X 6" ARCHITECTURAL BATTEN ASSEMBLY

Mosaic
Planks and Battens

Product Name

Mosaic 2"x6" Architectural Batten Assembly

Manufacturer

Lumabuilt
Lumabuilt.com

Product Description

Mosaic Architectural Battens work beautifully as sunshades, grilles, privacy screens, signage, decorative elements, screen wall and fencing. The design capabilities are endless with the versatility of Mosaic. The product is lightweight, durable and our licensed proprietary sublimation process will make its low maintenance beauty last for years.

Finishes: Woodgrains, solid colors and specialty finishes available.

Installation

Mosaic batten assemblies attach with concealed or exposed fasteners. Matching finish on press fit End Caps are available. If using an end cap ensure you have designed your layout to accommodate an end cap install. Refer to installation instructions for full details.

Technical Data

- Class "A" Fire Rating.
- Paint finish testing: AAMA 2605
- Extruded aluminum shape
- Standard panel length is 24'-0".
- Lengths less than 24'-0" available upon request
- Weight 2.060 pounds/LF
- See Batten Extrusion Line Card for additional components.
- Tee shaped end cap offers no exposed fasteners
- Pre-punched end caps require fasteners to install

Warranty

Wood grains 15 year standard warranty. Wood Grains 20 year specialty warranties on request. Solid Colors 20 year standard warranty. Refer to warranty form for full details.

Maintenance

To preserve the original beauty of Mosaic products a regular cleaning schedule is suggested. Clean the finish surface with water and a soft brush or sponge until it is free of debris. If required the finish surface may be also cleaned with a mild detergent (pH 6-7) or a cleaning agent diluted to 1:50 parts of water. Refer to cleaning instructions for full details.



Lumabuilt

2529 W. Jackson St. | Phoenix, AZ 85009

602.275.1676 | Info@Lumabuilt.com

For more info visit: Lumabuilt.com

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 Lumabuilt





Lumabuilt

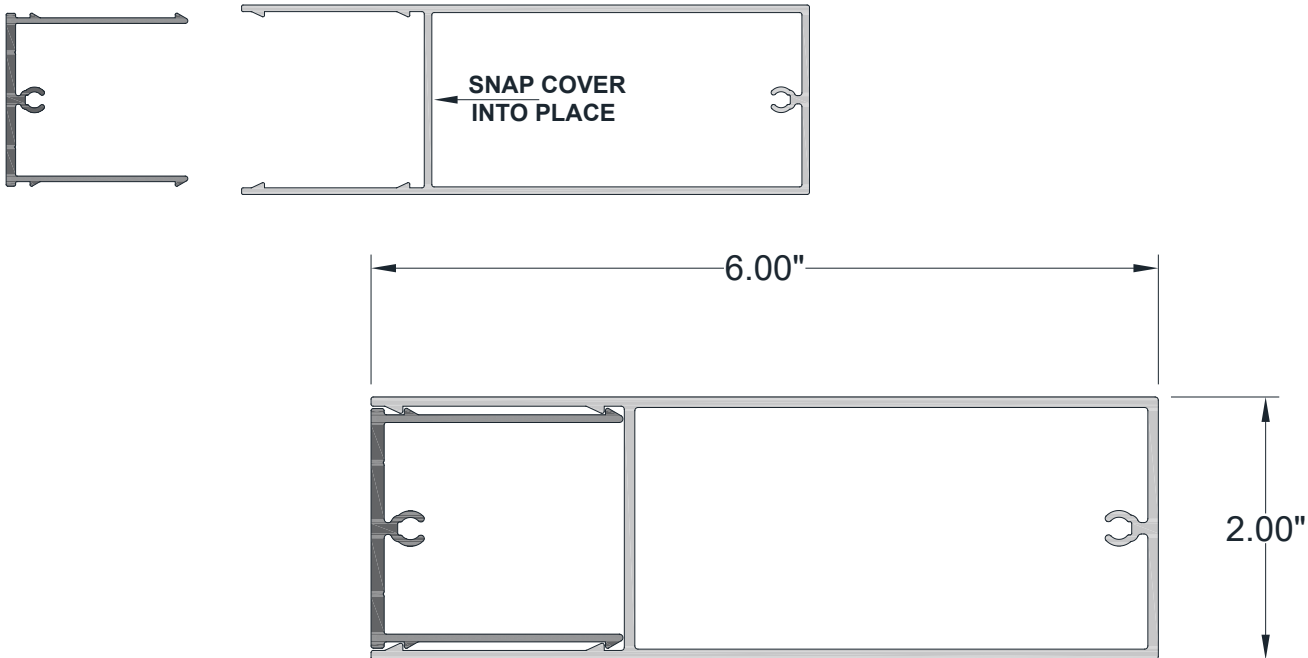
PRODUCT DATA SHEET 2" X 6" ARCHITECTURAL BATTEN ASSEMBLY

Mosaic
Planks and Battens



Product Information

- Architectural Batten Profile for sunshades, grilles, privacy screens, signage, decorative elements, screen wall & fencing
- Mechanically attach with concealed or exposed fasteners
- Finishes: Solid colors, woodgrains and specialty finishes available
- Matching finish on press fit End Caps available
- Extruded aluminum shape
- Paint finish testing: AAMA2605
- Class "A" Fire Rating
- Standard profile length is 24'-0"
- Lengths less than 24'-0" available upon request
- See Batten Extrusion Line Card for other Components



2" x 6" BATTEN ASSEMBLY