

2011 Star ROOF SYSTEM MAJESTIC SLATE™



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Pioneers in Sustainable Roofing

0.0

DRAWINGS INDEX & GENERAL INFORMATION



MAJESTIC SLATE TILES

DRAWING INDEX











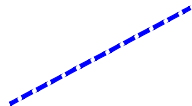

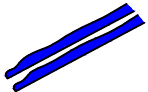




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DRAWING INDEX

DETAIL SERIES	DETAIL NO.	DESCRIPTION	<div>EcoStar: STEEP SLOPED ROOF SYSTEMS</div>	<div><div><div><div>EM</div><div></div></div><div>EcoStar MAJESTIC SLATE TILES</div></div><div><div><div>ES</div><div></div></div><div>EcoStar SENECA SHAKE TILES</div></div></div>		
EcoStar MAJESTIC (EM) SERIES DETAILS		3.0 ROOF SYSTEM DETAILS				
	EM	3.1			STARTER COURSE TILE APPLICATION 3D VIEW	
	EM	3.2			EAVE & RAKE EDGES – 3D VIEW	
	EM	3.3			EAVE & RAKE FLASHING WITH GUTTER	
	EM	3.4			RIDGE DETAIL WITH RIDGE VENT	
	EM	3.5			HIP DETAIL	
	EM	3.6			OPEN VALLEY FLASHING DETAIL	
	EM	3.7			GAMBREL ROOF DETAIL AT UPPER TRANSITION OF SLOPE	
	EM	3.8			GAMBREL ROOF DETAIL AT LOWER TRANSITION OF SLOPE	
	EM	3.8.1			GENERIC DETAIL OF SHEET METAL FLASHING AT SLOPE TRANSITION	
					4.0 WALL FLASHING DETAILS	
	EM	4.1			APRON FLASHING	
	EM	4.2			SIDE WALL FLASHING	
	EM	4.3			SECTION DETAILS OF RISING WALL – 1	
	EM	4.4			SECTION DETAILS OF RISING WALL – 2	
	EM	4.5			SECTION DETAILS OF RISING WALL – 3	
					5.0 ROOF PENETRATION DETAILS	
	EM	5.1			VENT STACK FLASHING DETAIL – 3D VIEW	
	EM	5.2			VENT STACK FLASHING – SECTION DETAIL	
	EM	5.3			VENT STACK – UNDERLAYMENT LAYOUT DETAILS	
					6.0 ROOF ACCESSORIES DETAIL	
	EM	6.1			COPPER SNOW GUARDS DETAIL	
	EM	6.2			ALUMINUM SNOW GUARDS DETAIL	
<div>EcoStar</div>					MAJESTIC SLATE TILES	
					DRAWING INDEX - PAGE 2 OF 2	
			EM0.2			

LEGEND

	EcoStar AQUA GUARD UNDERLAYMENT		EXISTING WOOD BLOCKING
	EcoStar GLACIER GUARD ICE & WATER UNDERLAYMENT		NEW WOOD BLOCKING
	ROOF TILES (MAJESTIC SLATES) SURFACE TEXTURE SHOWN IN ELEVATION, PLAN AND 3-D VIEWS.		BATT INSULATION
	EcoStar GLACIER GUARD ICE & WATER UNDERLAYMENT		EXISTING FACE BRICK
	EcoStar GLACIER GUARD – HATCH LINES DEPICT FULLY ADHERED WITH PRESSURE ROLLER.		EXISTING CMU (CONCRETE MASONRY UNITS)
	EcoStar AQUA GUARD UNDERLAYMENT		SNOW GUARD – COPPER
	ROOF TILES (MAJESTIC SLATES) SHOWN IN CROSS-SECTION OF A DETAIL		SNOW GUARD – ALUMINUM
	PLYWOOD OR OSB (ORIENTED STRAND BOARD) WOOD DECK	ABBREVIATIONS	
	EXISTING CAVITY WALL INSULATION	CL	CENTER LINE OF OBJECT
		DIA.	DIAMETER
		E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
		GSAA	GOLD STAR AUTHORIZED APPLICATORS. (ROOFERS TRAINED AND AUTHORIZED BY EcoStar TO INSTALL EcoStar PRODUCTS.
		MEP	MECHANICAL, ELECTRICAL, PLUMBING (DRAWINGS OR CONTRACTORS)
		RTU	ROOFTOP UNIT (LARGE AIR CONDITIONING UNITS FOR COOLING/HEATING)
		S.M.A.C.N.A	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
EcoStar ALL ROOF TILES PRODUCTS PRODUCTS LEGEND & ABBREVIATIONS - PAGE 1 OF 2		EM 0.3	

LEGEND



GAF/ELK VERSASHIELD UNDERLAYMENT



GAF/ELK VERSASHIELD OVER GLACIER GUARD
ICE & WATER UNDERLAYMENT



GAF/ELK VERSASHIELD UNDERLAYMENT



EcoStar ALL ROOF TILES PRODUCTS

PRODUCTS LEGEND & ABBREVIATIONS - PAGE 2 OF 2

EM0.4

GENERAL NOTES

A. INTRODUCTION

1. EcoStar PREPARED THE FOLLOWING DRAWINGS TO CONVEY THE DETAILING OF ROOFING PROJECTS FOR DESIGNERS & INSTALLATION FOR ROOFING CONTRACTORS. TWO SEPARATE SETS OF DETAILS ARE PREPARED BASED ON SLATE AND SHAKE ROOFS. PLEASE REQUEST THE DESIRED SET OF DETAILS FROM THE TECHNICAL STAFF OF EcoStar AT (800)211-7170 OR LOG ON www.ecostarllc.com.
2. ON NEW CONSTRUCTION, ARCHITECTS & ENGINEERS ARE ADVISED DURING DESIGN DEVELOPMENT STAGE TO REFER TO SHEET EM 1.1 TO ENSURE THAT REQUIRED ROOF SLOPE IS ANTICIPATED AT THIS STAGE TO ACHIEVE A DESIRED TILE EXPOSURE. A MINIMUM SLOPE OF 3:12 IS RECOMMENDED TO START THE DESIGN OF ROOF DECK.
3. ON EXISTING BUILDINGS, EcoStar RECOMMENDS THE OWNERS TO EMPLOY THE SERVICES OF A DESIGNER. THE USE OF WORD "DESIGNER" IN THIS DOCUMENT REPRESENTS A LICENSED ARCHITECT, A LICENSED ENGINEER AND A REGISTERED ROOF CONSULTANT. A QUALIFIED ROOFING AND A SHEET METAL CONTRACTOR AS APPROVED BY EcoStar, AND LISTED AS A "GOLD STAR AUTHORIZED APPLICATOR" (GSAA) MAY BE CONTACTED DURING THE DESIGN STAGE & DETAILING FOR CONSTRUCTION RELATED ISSUES.
4. ON RE-ROOFING PROJECTS, OWNERS ARE REQUESTED TO COORDINATE WITH EcoStar, IF DESIGNER IS NOT EMPLOYED YET TO CONVEY THE DESIGNING OF PROJECT.
5. ON PROJECTS, WHERE UNUSUAL DECKS EXIST, e.g., TECTUM DECK OR CATHEDRAL CEILING WITH INSULATION ABOVE THE DECK WITH OR WITHOUT VAPOR RETARDER MEMBRANES, THOSE MUST BE PROPERLY DESIGNED. THE REQUIRED FASTENER TYPES LENGTH & WARRANTY ISSUES SHOULD BE COORDINATED WITH EcoStar PRIOR TO DESIGNING & ROOFING. IN CATHEDRAL CEILINGS, CONCEALING OF PIPES, CONDUITS, SPRINKLER LINES, etc. UNDER RIGID BOARD INSULATION SHOULD ALSO BE EVALUATED PROPERLY AT EARLY STAGE.
6. CARE SHOULD BE TAKEN WHEN SELECTING A QUALIFIED CONTRACTOR TO INSTALL EcoStar PRODUCTS. WHEN A GOLDSTAR WARRANTY IS REQUIRED A GOLDSTAR APPROVED APPLICATOR MUST INSTALL THE SYSTEM.
7. ROOF INSTALLATIONS REQUIRING A CLASS A FIRE RATING REQUIRE THAT GAF/ELK VERSASHIELD BE USED IN ACCORDANCE WITH DRAWINGS 2.6 THROUGH 2.9, OR A MINIMUM OF 1/4" DENSDECK INSTALLED OVER ROOF SHEATHING. VERSASHIELD HAS NOT BEEN SHOWN IN DRAWINGS IN SECTION 3 AND HIGHER .

B. DRAWINGS

1. DESIGNER IS ADVISED TO EVALUATE THE EXISTING CONDITIONS OF EACH BUILDING TYPE, ITS ROOF AND SUBSTRATE MATERIALS TO PREPARE FINAL DETAILS. FOR INSTANCE, THE SHEET METAL FASCIA IS GENERICALLY SHOWN FOR ALL REGIONS, BUT DESIGNER MAY REQUIRE TO ADD SHEET METAL CLIPS OR WIND CLEATS IN HIGHER WIND SPEED AREAS OR i.e., IN SNOW & FREEZING REGIONS, USE OF ADDITIONAL STRIPPING OF GLACIER GUARD AS NEEDED AT CERTAIN DETAILS. SIMILAR CHANGES MAY BE REQUIRED IN OTHER DETAILS. PLEASE, COORDINATE WITH THE TECHNICAL STAFF OF EcoStar WHERE QUESTIONS ARISE.

2. THE DETAILS REPRESENT THE GENERIC & CONCEPTUAL LAYOUT OF ROOFING MATERIALS & THEIR FABRICATION. TO CLARIFY THE DETAILS, DETAILS ARE SIMPLIFIED WHILE DEPICTING LIMITED MATERIALS AS NEEDED. THESE DETAILS ARE FURTHER SUBSTANTIATED WITH ADDITIONAL SUPPORTING DETAILS IN 2D OR 3D AS NEEDED. DO NOT SCALE DRAWINGS, AS THESE DETAILS ARE NOT PRINTED ON SCALE. CONSEQUENTLY, ROOFER MUST FIELD VERIFY ALL DIMENSIONS & QUANTITIES, FOR THE ACCURACY OF COST ESTIMATE.
3. THE COORDINATION OF ROOFING DETAILS WITH OTHER TRADE DETAILS IS STRONGLY RECOMMENDED TO AVOID CONFLICT DURING CONSTRUCTION, i.e., WHERE VERTICAL CLEARANCES OF CURBS, PIPES, BOTTOM SILLS OF WINDOWS OR RISING WALLS & THEIR THROUGH-WALL FLASHING EXIST.
4. REFER TO SHEETS EM 2.0, EM 2.1, EM 2.6 & EM 2.7 FOR BASIC LAYOUT OF UNDERLAYMENTS AND THEIR DETAILING. THE SEQUENCE OF OVERLAPPING OF BOTH MEMBRANES MAY VARY AT DIFFERENT LOCATIONS.
5. MASONRY, WOOD CARPENTRY, SHEET METAL FLASHING AND PLUMBING WORK IS NOT INCLUDED IN THE SCOPE OF THIS DOCUMENT. A GENERIC LAYOUT IS DEPICTED TO REPRESENT EcoStar PRODUCTS IN DETAILS. DESIGNER SHOULD EVALUATE AND DESIGN FINAL DETAILS ACCORDINGLY, e.g., WHILE DESIGNING GUTTER SIZES, REFER TO REGIONAL RAIN INTENSITY, SLOPE & SIZES OF ROOFS, etc..
6. REFER TO S.M.A.C.N.A. HANDBOOK (LATEST EDITION) FOR SHEET METAL DETAILING AND CALCULATION OF GUTTER SIZES.

C. COORDINATION DURING CONSTRUCTION

1. GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER (CM) TO COORDINATE WITH ROOFER IN ADVANCE, DURING THE FABRICATION OF SUBSTRATE AREAS, i.e., DECK; WALLS; THROUGH-WALL FLASHING AND DESIRED VERTICAL/HORIZONTAL CLEARANCES FOR FLASHING ETC.. ROOFER TO INSPECT THE BUILT CONDITIONS OF SUBSTRATE IN ADVANCE, IN ORDER TO MAKE ANY NECESSARY CHANGES, WHICH ARE NOT ACCEPTABLE FOR PROPOSED ROOFING SYSTEM. ROOFER TO ENSURE THAT SUBSTRATE AREAS ARE ACCEPTABLE PRIOR TO ROOFING. REPORT ANY DEFICIENCIES OR UNACCEPTABLE CONDITIONS TO OWNER, OWNER'S REPRESENTATIVE AND EcoStar FOR CORRECTIONS IN SUBSTRATE AREAS TO ACHIEVE A QUALITY ROOFING SYSTEM.
2. GC/CM TO COORDINATE WITH MECHANICAL CONTRACTOR AND ROOFER, WHERE HVAC RELATED PENETRATIONS WILL AFFECT THE NEW ROOF INSTALLATION. SEQUENCE OF CONSTRUCTION BY DIFFERENT TRADES MUST BE CLARIFIED AT THIS STAGE TO AVOID UNNECESSARY FOOT TRAFFIC/WORK ON EcoStar ROOF. EcoStar DESIRES THAT INSTALLATION OF HVAC UNITS, MASONRY WALL CLADDING, STUCCO OR E.I.F.S (EXTERIOR INSULATION FINISH SYSTEM) RELATED WORK SHOULD NOT CAUSE DAMAGE OR DETERIORATION OF NEW ROOFING SYSTEM.



MAJESTIC SLATE TILES

EcoStar GENERAL NOTES PAGE 1 OF 2

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
PAGES OR
DETAIL(S):

EM0.6

EM 0.5

GENERAL NOTES

- 3. ON PROJECTS WHERE ROOF WILL DRAIN INTO SUB-SURFACE DRAIN LINES, THERE GC/CM TO COORDINATE WITH THE ROOFER AT INITIAL CIVIL WORK AT SITE, FOR PROPER COORDINATION OF DOWN SPOUTS WITH SUBSURFACE DRAIN PIPES, SLOPES & THEIR PROPER CONNECTIONS.
- 4. ON PROJECTS IN FREEZING REGIONS, WHERE ROOF DRAINAGE IS DESIGNED TO DISPOSE OF WATER ON THE SURFACE, THERE DESIGNER TO ENSURE THAT ROOF DRAINAGE SYSTEM WILL NOT CAUSE ICY CONDITIONS IN THE PEDESTRIAN TRAFFIC AREAS, PARTICULARLY NEAR THE ENTRANCES.



MAJESTIC SLATE TILES

EcoStar GENERAL NOTES PAGE 2 OF 2

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
PAGES OR
DETAIL(S):

EM0.5

EM0.6

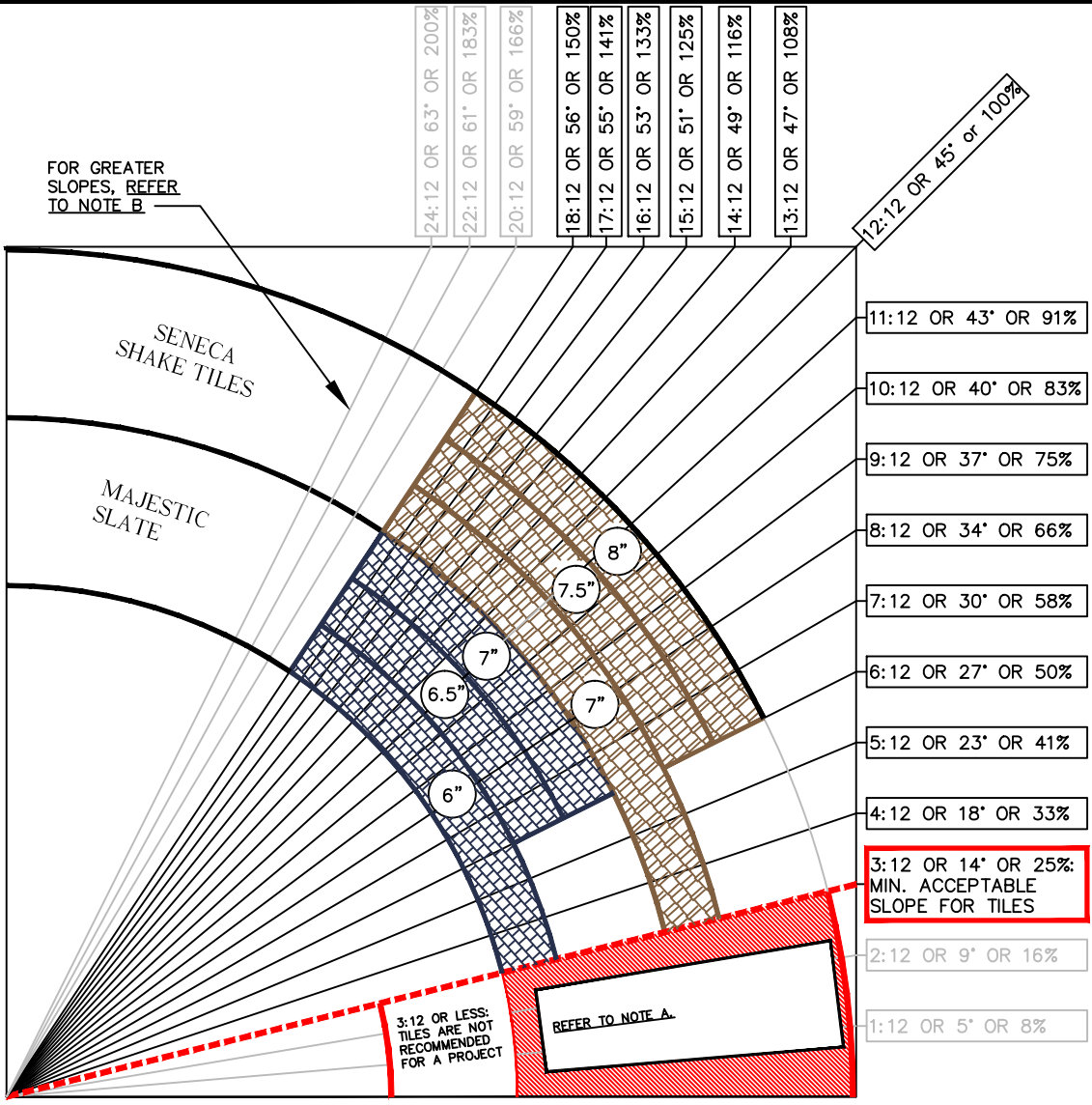
1.0

DESIGN DEVELOPMENT STAGE

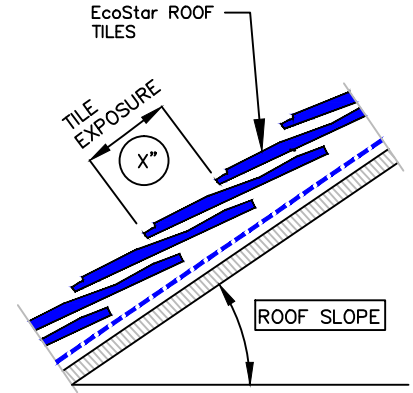


MAJESTIC SLATE TILES

FOR GREATER SLOPES, REFER TO NOTE B



ROOF SLOPE



A TILE EXPOSURE EXAMPLE DIAGRAM

NOTES:

- A. ROOF SLOPES LESS THAN 3:12**
1. EcoStar ROOF ASSEMBLIES ARE NOT PERMITTED ON ROOF SLOPES LESS THAN 3:12 WITHOUT PRIOR WRITTEN CONSENT OF EcoStar.
 2. ON LIMITED AREAS, WHERE DECK IS LESS THAN 3:12, THERE EcoStar MAY ALLOW THE TILE INSTALLATION, BUT ENTIRE DECK AREA SHALL BE REQUIRED TO COVER WITH GLACIER GUARD UNDERLAYMENT. SUBMIT ROOF PLAN WITH DETAILS OF SUBJECT AREAS VIA E-MAIL TO EcoStar FOR REVIEW
- B. ROOF SLOPES GREATER THAN 18:12**
1. COORDINATE WITH THE TECHNICAL STAFF OF EcoStar AT (800) 211-7170 FOR TECHNICAL REVIEW. SUBMIT ROOF PLAN WITH DETAILS OF SUBJECT AREAS VIA E-MAIL TO EcoStar FOR REVIEW.



EcoStar ALL ROOF TILES PRODUCTS
SLOPE SCHEDULE & MAXIMUM TILE EXPOSURE RECOMMENDATIONS

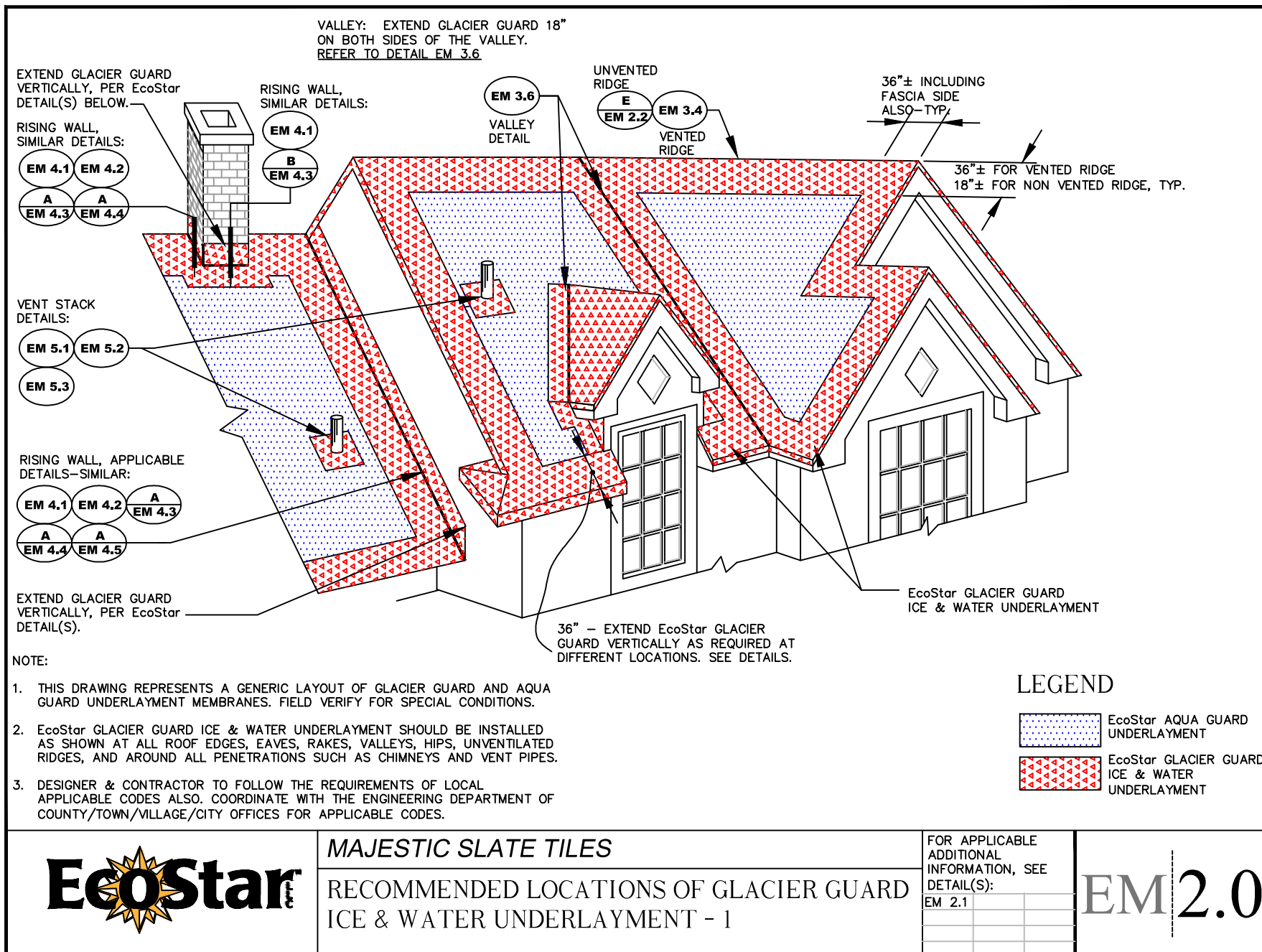
EM 1.1

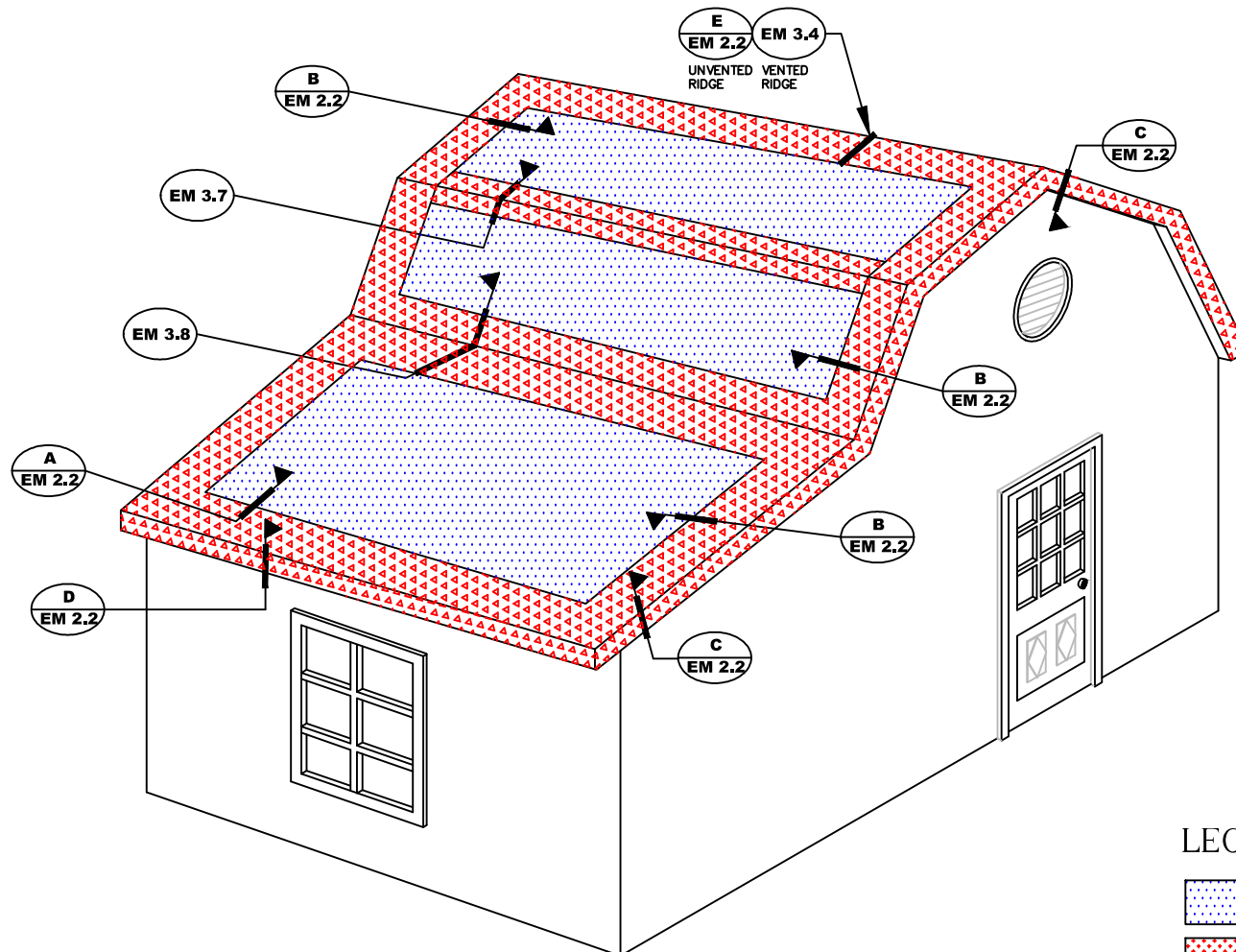
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UNDERLAYMENT LOCATIONS & GENERIC EDGE DETAILS



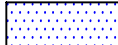

MAJESTIC SLATE TILES





GAMBREL ROOF

LEGEND

	EcoStar AQUA GUARD UNDERLAYMENT
	EcoStar GLACIER GUARD ICE & WATER UNDERLAYMENT



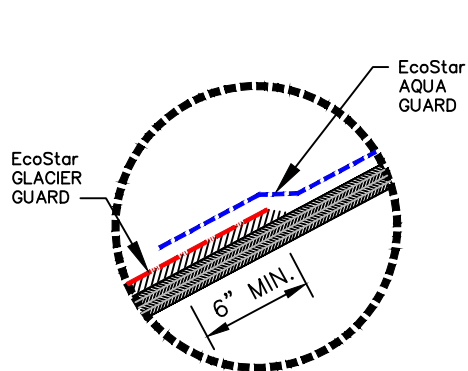
MAJESTIC SLATE TILES

RECOMMENDED LOCATIONS OF GLACIER GUARD ICE & WATER UNDERLAYMENT - 2

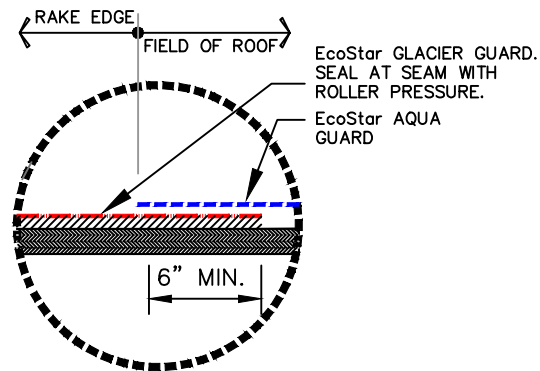
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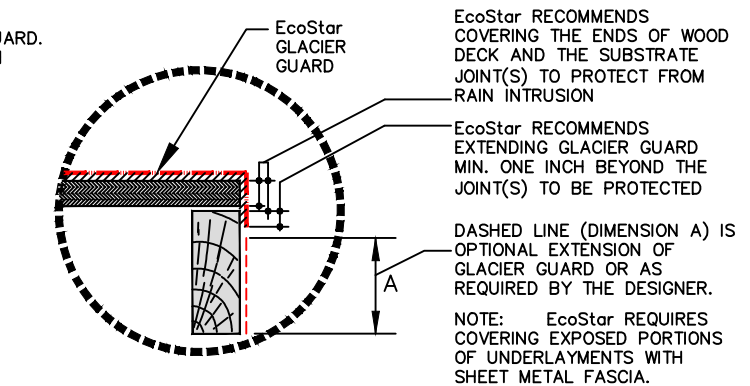
EM2.1



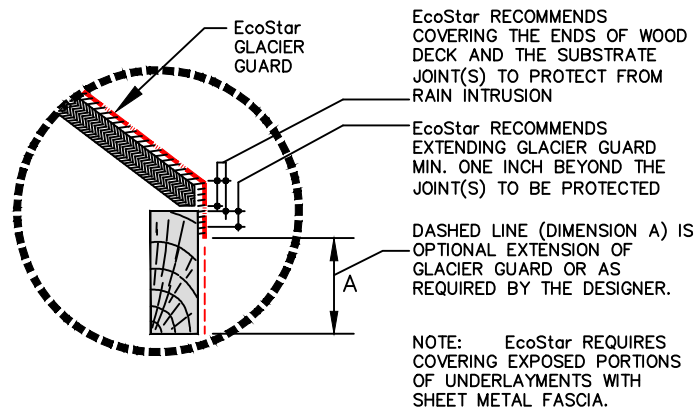
A UNDERLAYMENT LAPS
PARALLEL TO EAVES



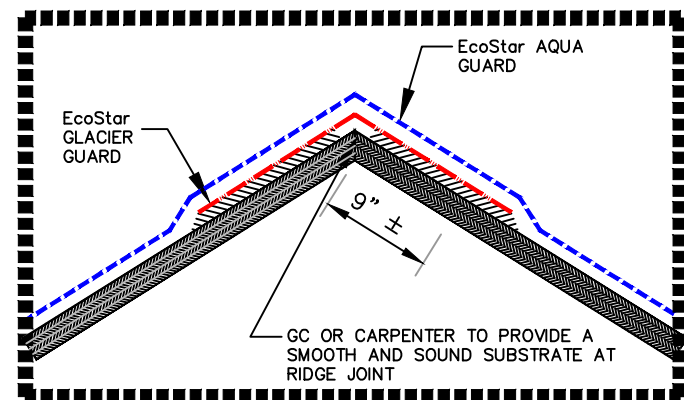
B UNDERLAYMENT LAPS
PARALLEL TO RAKES



C UNDERLAYMENT EXTENSION
AT RAKES



D UNDERLAYMENT EXTENSION
AT EAVE



E SOLID OR UNVENTED RIDGE



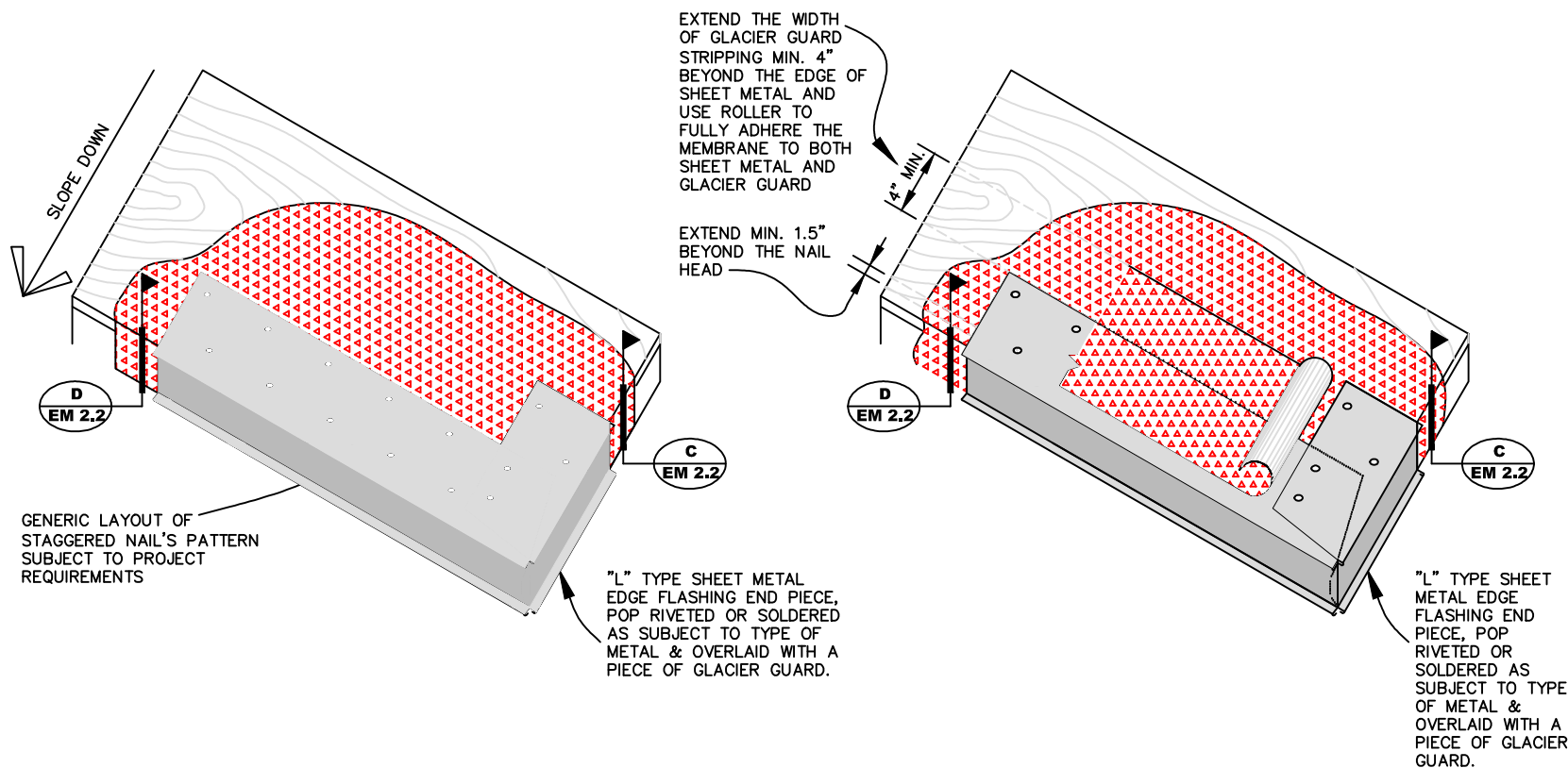
MAJESTIC SLATE TILES

RECOMMENDED DETAILING OF UNDERLAYMENTS - 1

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.3
EM2.4	EM2.5	

EM2.2



A SHEET METAL EDGE

B SHEET METAL EDGE - OPTIONAL WITH ADDITIONAL STRIPPING



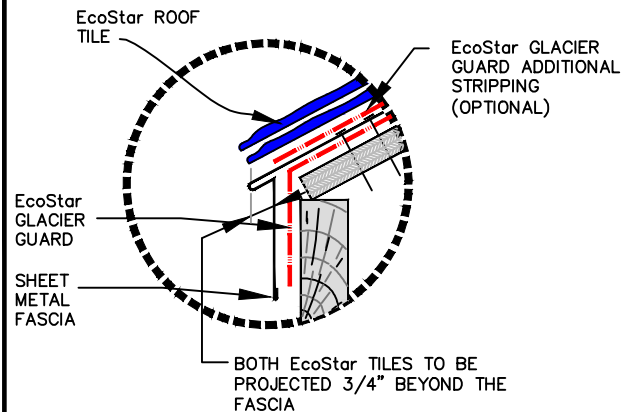
MAJESTIC SLATE TILES

RECOMMENDED DETAILING OF UNDERLAYMENTS - 2

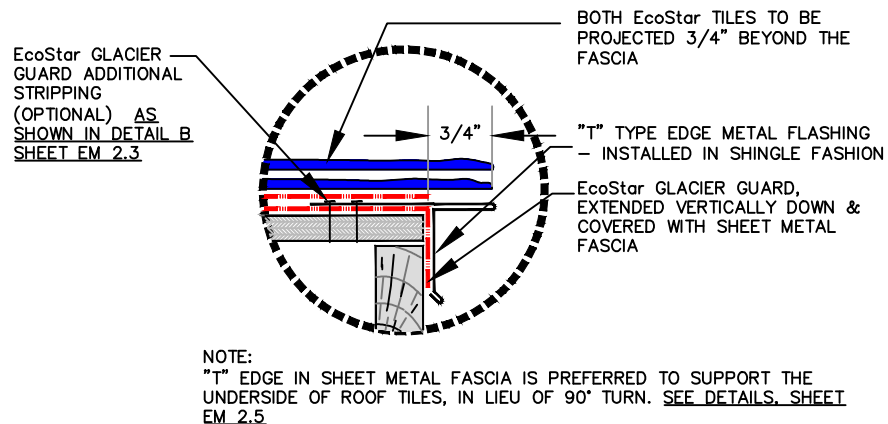
FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):

EM2.0	EM2.1	EM2.2
EM3.1	EM3.3	EM3.4

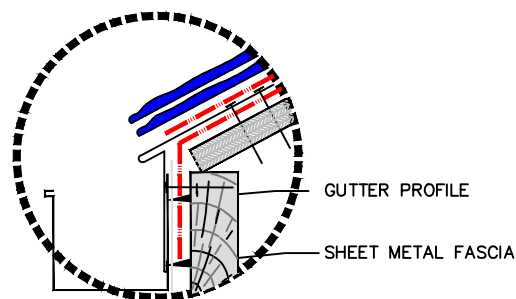
EM 2.3



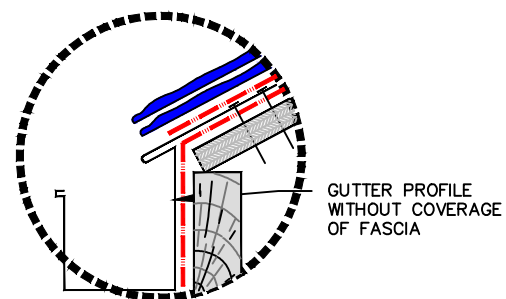
**(A) TILES' PROJECTION
AT EAVES - NO GUTTER**



**(B) TILES' PROJECTION
AT RAKES**



**(C) GUTTER PROFILE A
OPTION A**



**(D) GUTTER PROFILE B
OPTION B**



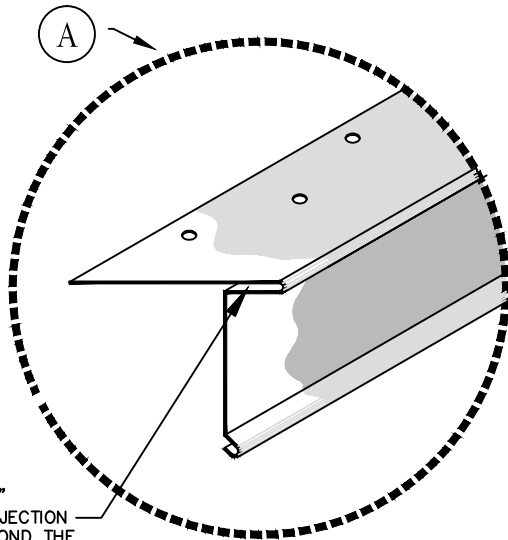
MAJESTIC SLATE TILES

**RECOMMENDED DETAILING OF TILES NEAR
EDGES**

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.5
EM3.1	EM3.3	EM3.4

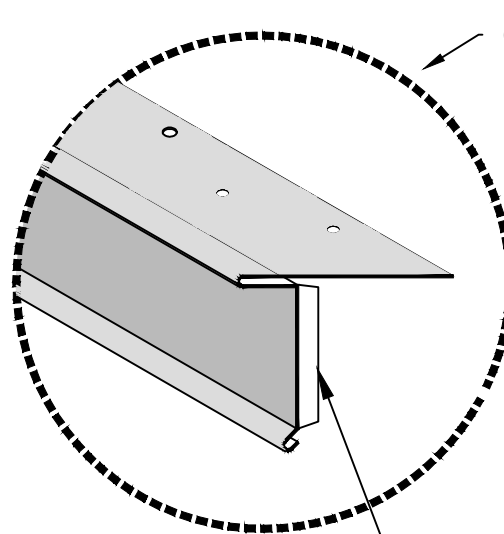
EM 2.4



3/4"
PROJECTION
BEYOND THE
FACE OF
FASCIA AT
BOTH RAKE
AND EAVE
DETAILS.

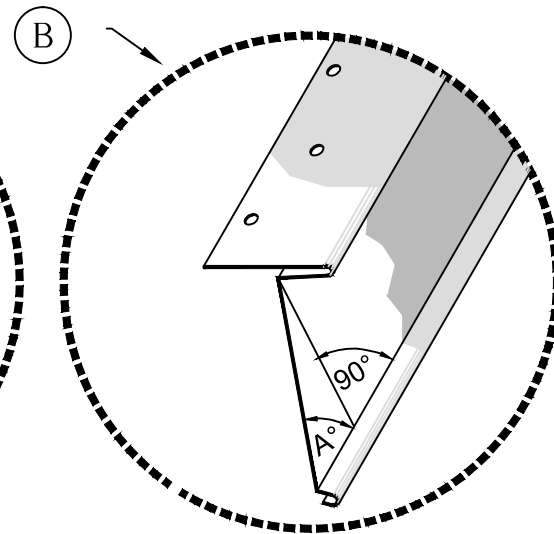
NOTE: DESIGNER/ROOFER TO DESIGN & FABRICATE CORNER
ENDS PER SLOPE OF THE ROOF

A "T" TYPE SHEET METAL FASCIA



CREASED CORNER FOR
POP RIVETED CORNER

1: "T" TYPE EAVE METAL



2: "T" TYPE RAKE METAL

NOTES:

1. ANGLE "A" IS SUBJECT TO SLOPE OF THE ROOF. CUT TO FIT THE CORNER JUNCTION.
2. BOTH PIECES TO BE JOINED WITH POP-RIVETED SEAM OR WELDED, DEPENDING ON THE TYPE OF METAL AND DETAILED DESIGN.

B GENERIC VIEW OF CORNER



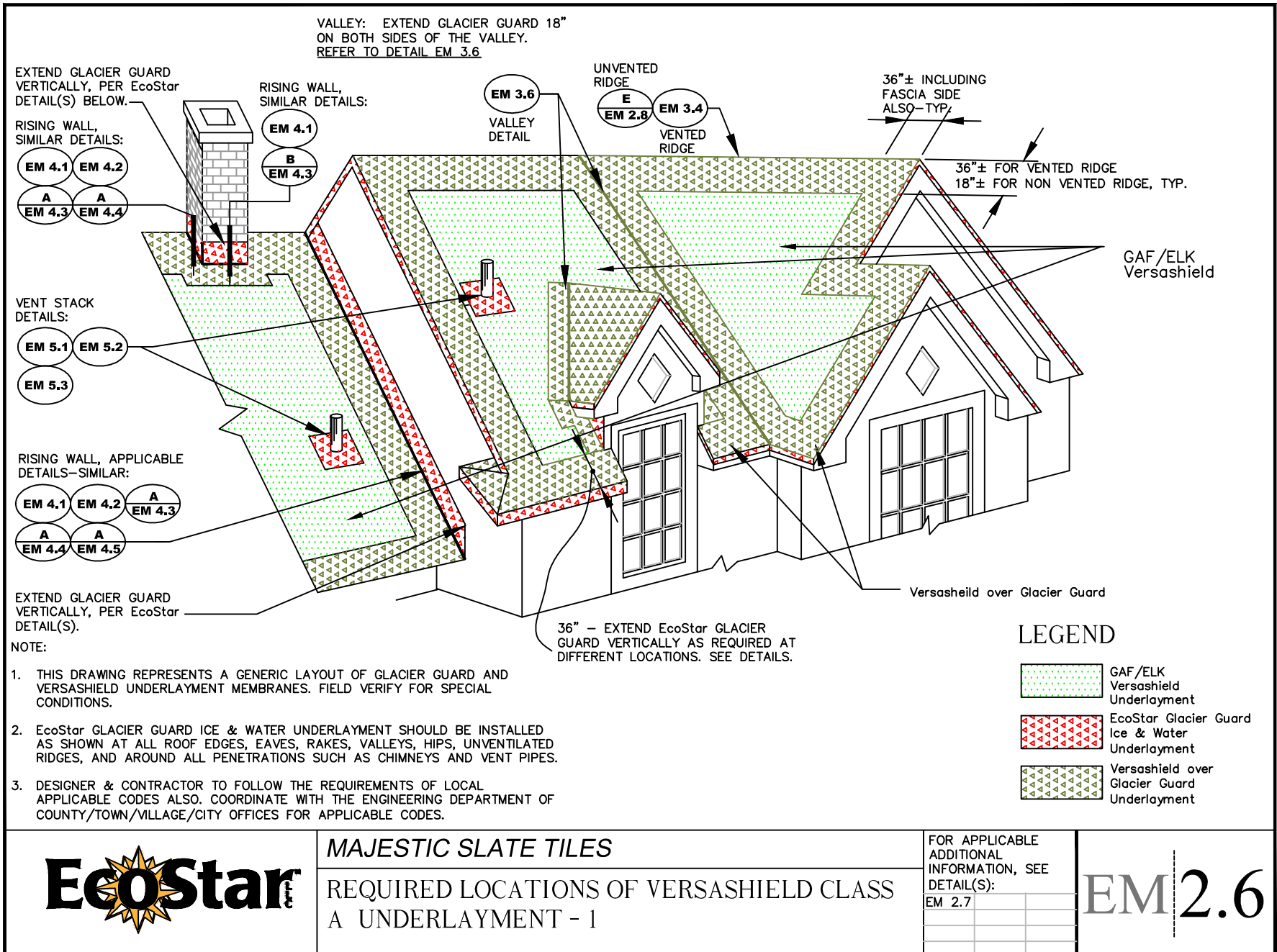
MAJESTIC SLATE TILES

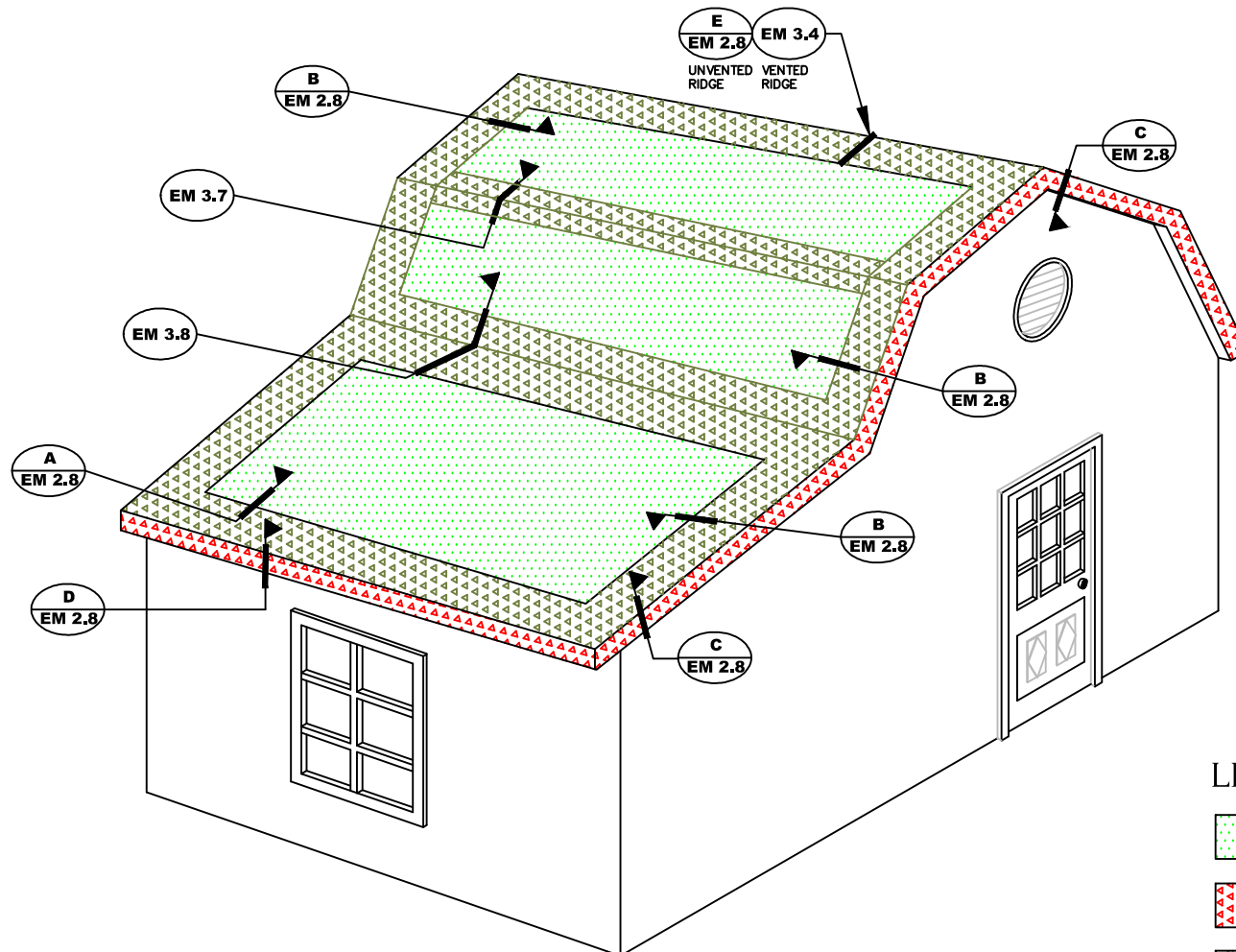
**RECOMMENDED DETAILING OF SHEET METAL
NEAR EDGES**

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.2	EM2.3	EM2.4
EM3.1	EM3.2	EM3.3




EM 2.5





GAMBREL ROOF

LEGEND

-  GAF/ELK Versashield Underlayment
-  EcoStar Glacier Guard Ice & Water Underlayment
-  Versashield over Glacier Guard Underlayment

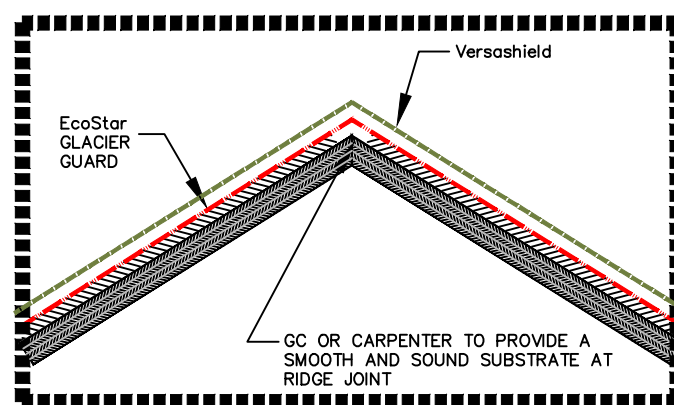
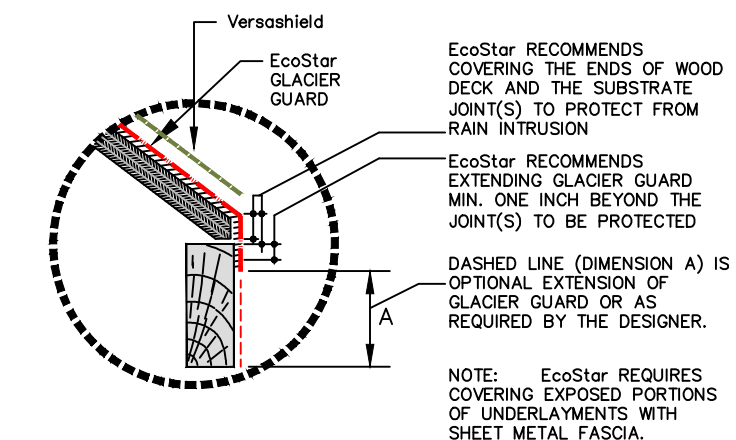
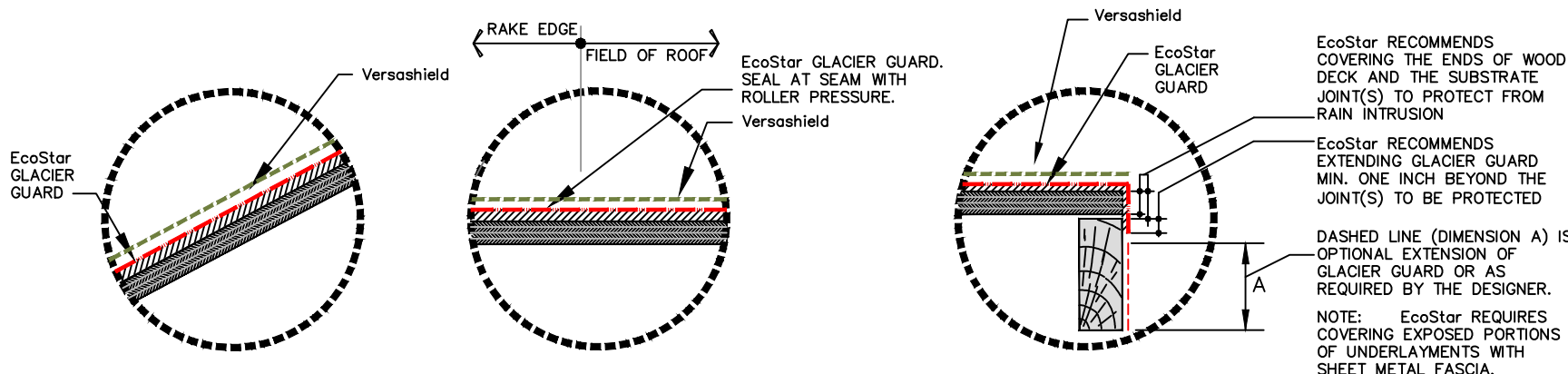


MAJESTIC SLATE TILES

REQUIRED LOCATIONS OF VERSASHIELD CLASS A UNDERLAYMENT - 2

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):
EM2.6

EM2.7



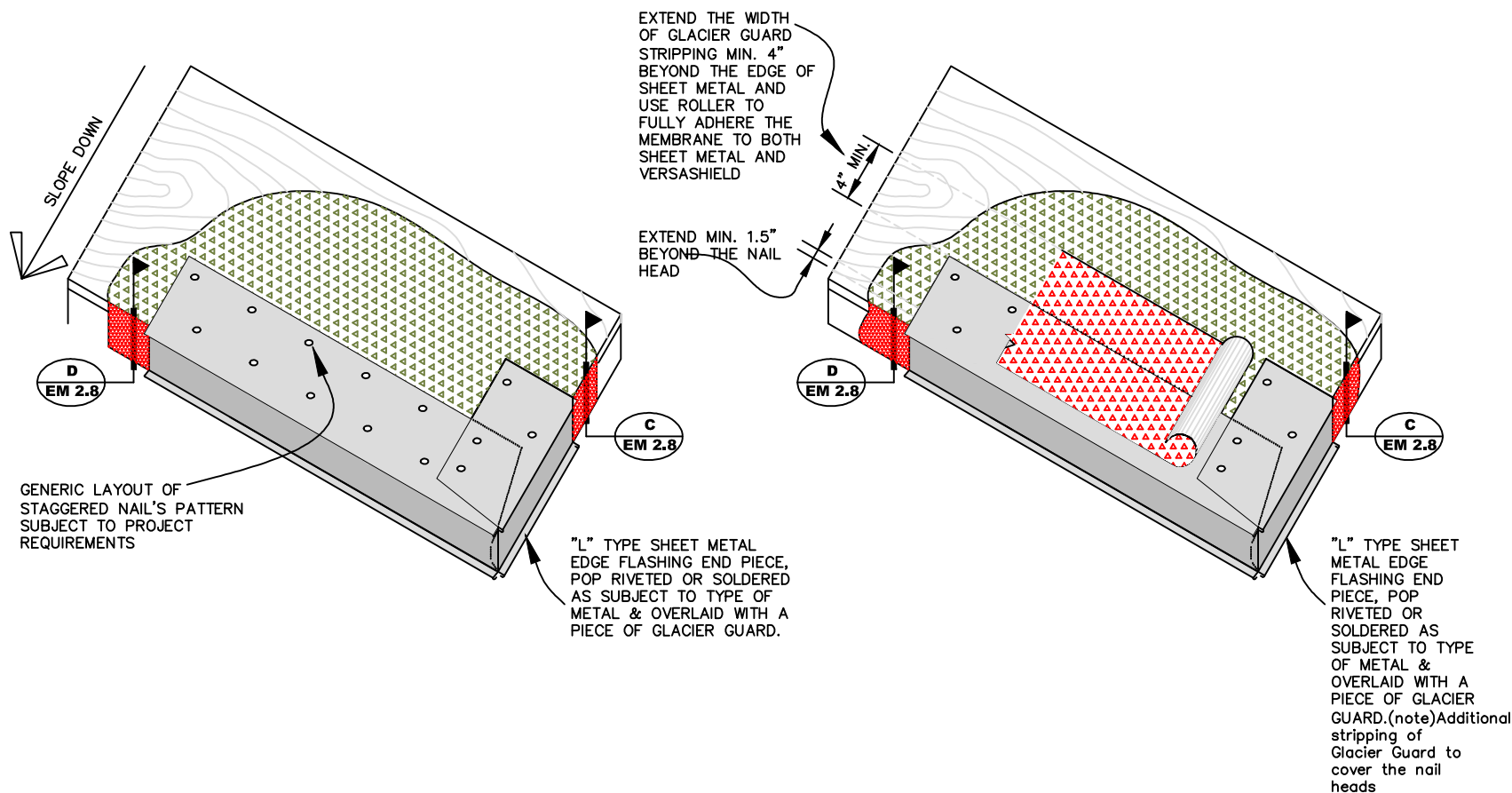
MAJESTIC SLATE TILES

REQUIRED DETAILING OF CLASS A UNDERLAYMENTS - 1

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.6	EM2.7	EM2.9
EM2.4	EM2.5	

EM 2.8



NOTE: SHEET METAL FASCIA IS INSTALLED AFTER THE INSTALLATION OF GLACIER GUARD AND OF VERSASHIELD PER THIS DETAIL. DESIGNER MAY REQUIRE ADDITIONAL STRIPPING OF GLACIER GUARD TO COVER THE NAIL HEADS FOR ADDITIONAL PROTECTION. REFER TO DETAIL B

A SHEET METAL EDGE

B SHEET METAL EDGE - OPTIONAL WITH ADDITIONAL STRIPPING



MAJESTIC SLATE TILES

REQUIRED DETAILING OF CLASS A UNDERLAYMENTS - 2

FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):

EM2.6	EM2.7	EM2.8
EM3.1	EM3.3	EM3.4

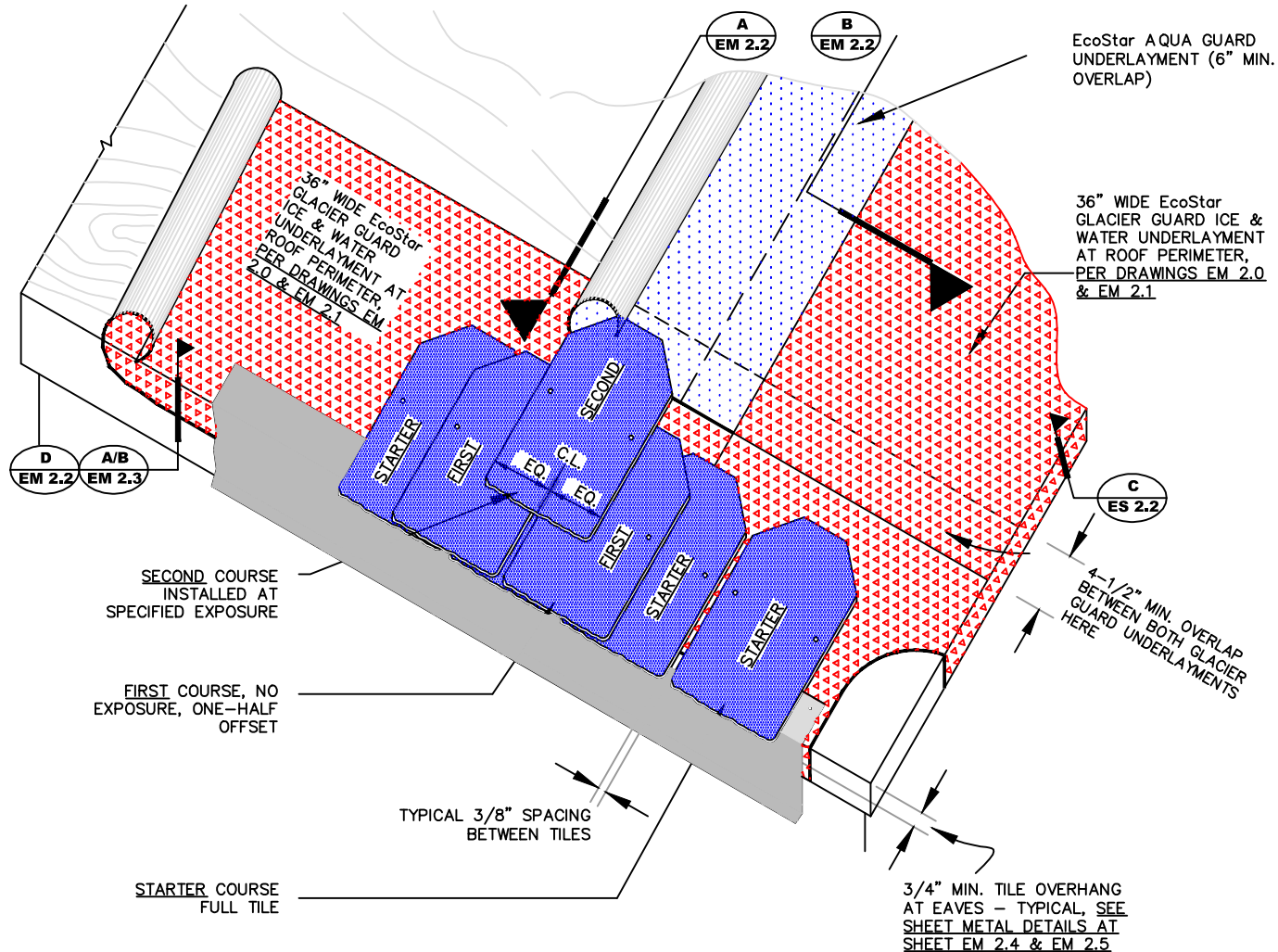
EM 2.9

3.0

ROOF SYSTEM DETAILS



MAJESTIC SLATE TILES



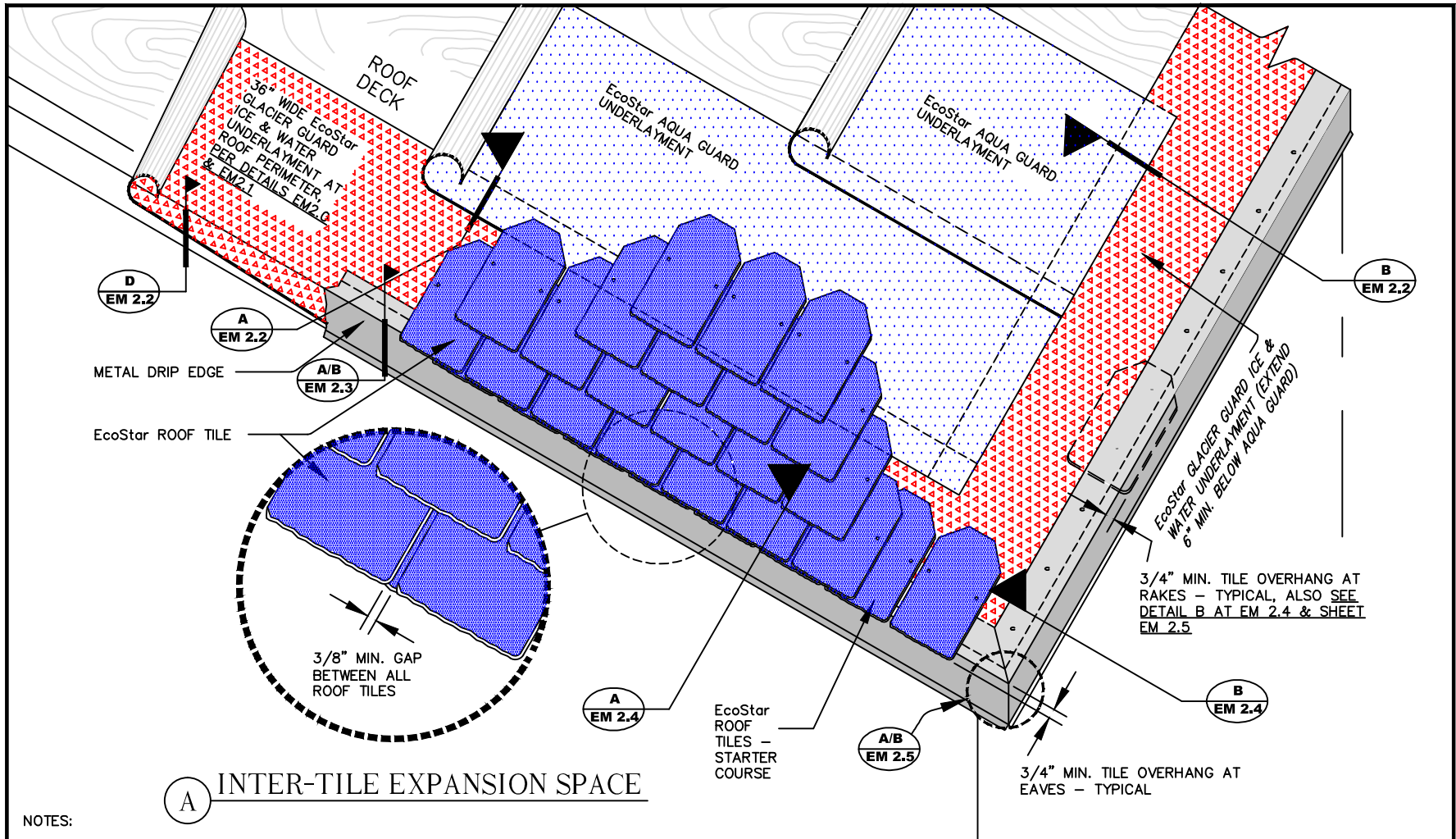
MAJESTIC SLATE TILES

STARTER COURSE TILE APPLICATION 3D VIEW

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.5
EM2.6	EM2.7	EM3.2
EM3.3	EM3.4	

EM3.1



NOTES:

1. A 3/8" MIN. GAP IS REQUIRED BETWEEN ROOF TILES TO ROOF TILES AS WELL AS BETWEEN ROOF TILES TO WALLS MEASURING THE EDGE OF TILE TO VERTICAL FACE OF SHEET METAL FLASHING.
2. PROVIDE 3/4" OVERHANG FOR ROOF TILES AT ALL ROOF EDGES AS SHOWN.

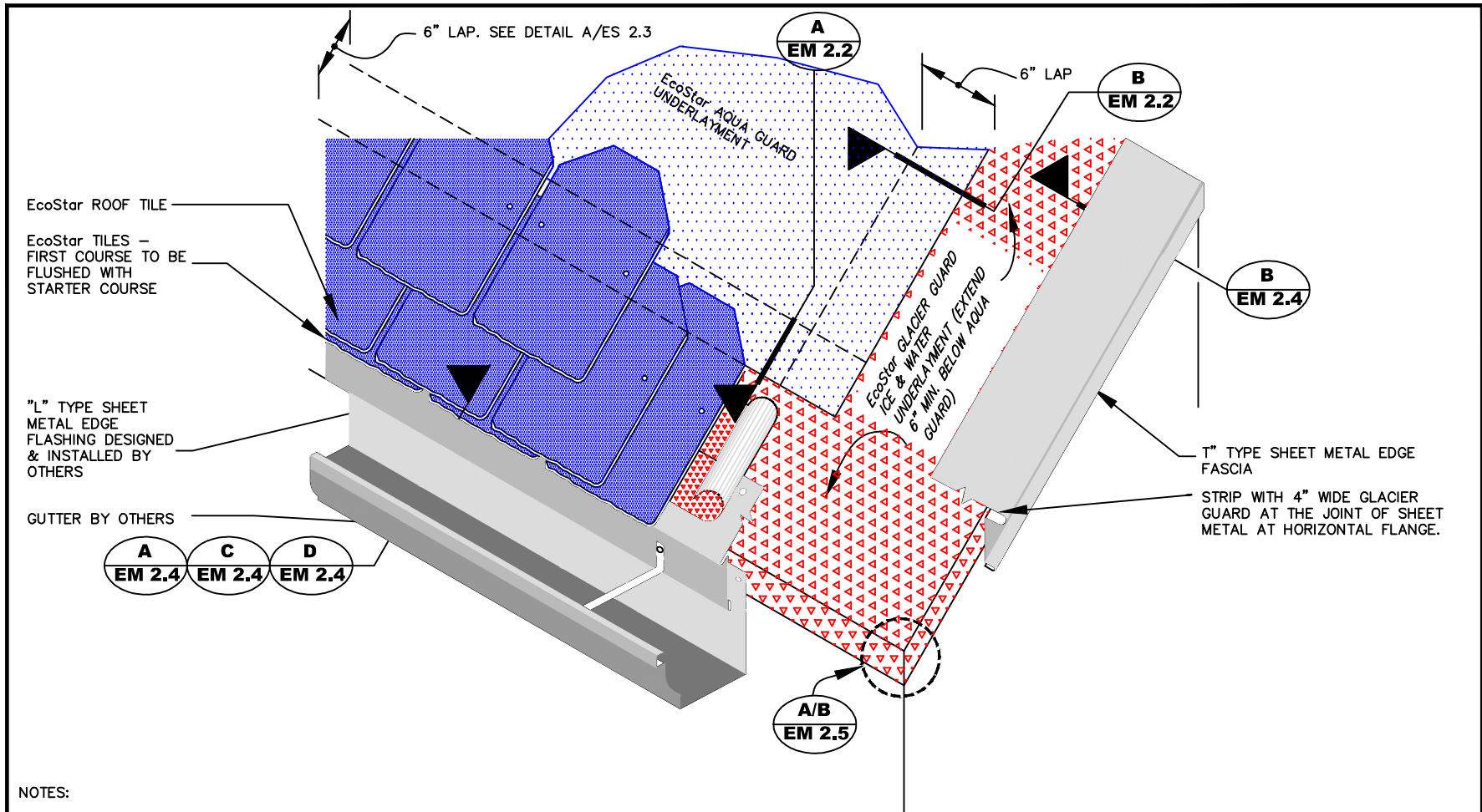


MAJESTIC SLATE TILES
EAVE & RAKE EDGES - 3D

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.6
EM2.7	EM3.1	EM3.3

EM3.2



NOTES:

1. GLACIER GUARD ICE & WATER SHIELD UNDERLAYMENT IS RECOMMENDED FOR USE AT ALL EAVE & RAKE EDGES. REFER TO DRAWINGS EM2.0 & EM2.1.
2. ALL SHEET METAL WORK PER DESIGNER'S DETAILS.
3. ALL SHEET METAL PROVIDED & INSTALLED BY OTHERS.
4. ADDITIONAL GLACIER GUARD STRIPPING OVER METAL FLANGE IS OPTIONAL.



MAJESTIC SLATE TILES

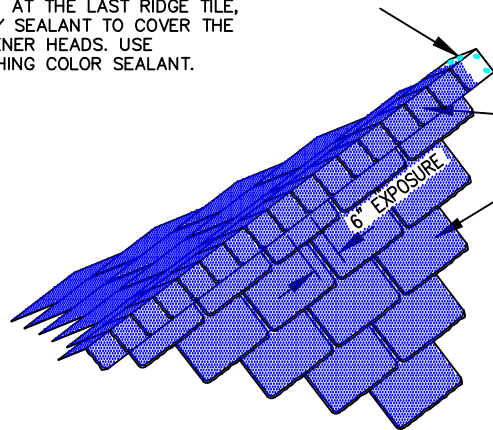
EAVE & RAKE FLASHING WITH GUTTER

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.2
EM2.4	EM2.5	EM2.6
EM2.7	EM3.1	EM3.2

EM 3.3

NOTE: AT THE LAST RIDGE TILE, APPLY SEALANT TO COVER THE FASTENER HEADS. USE MATCHING COLOR SEALANT.

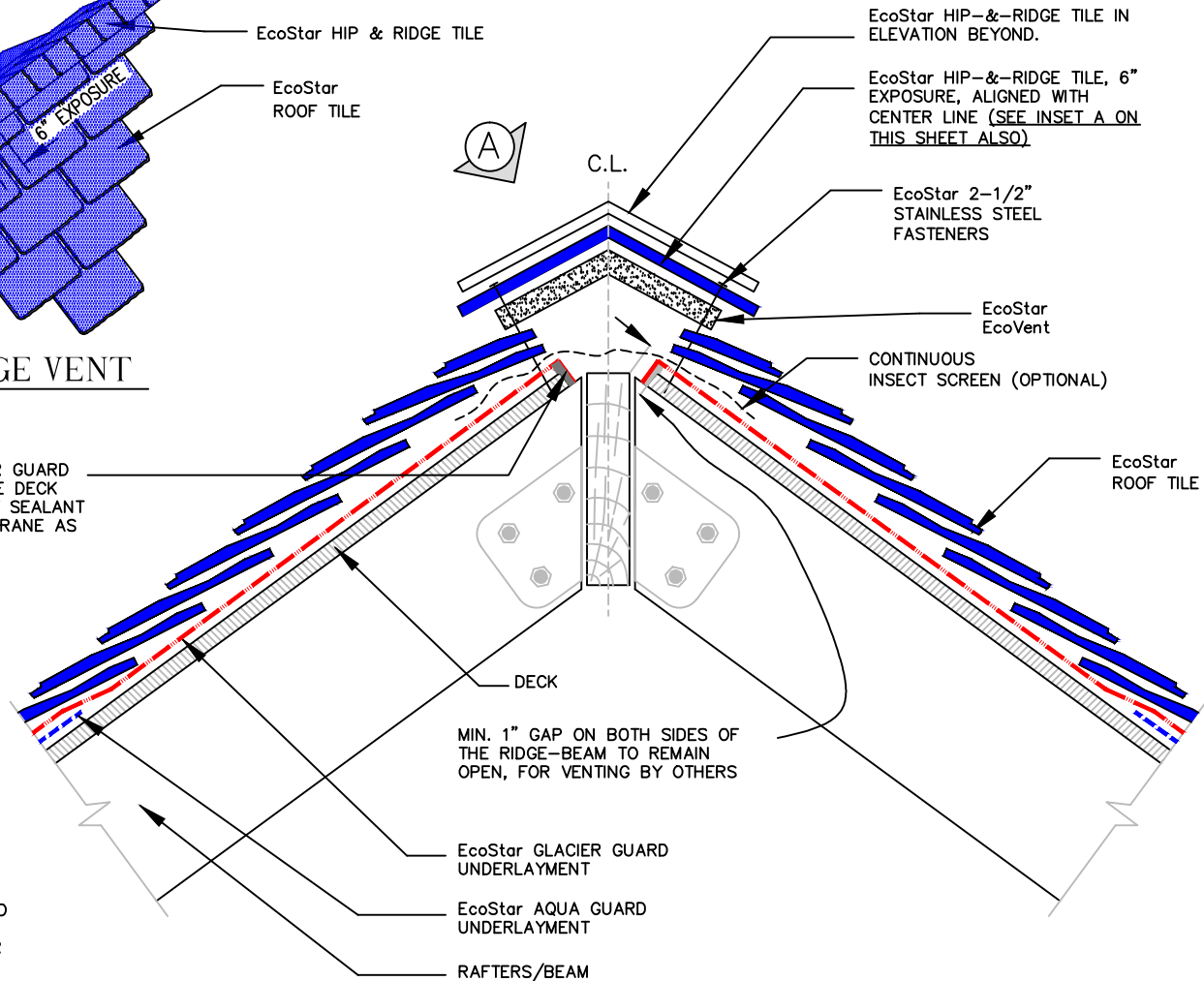


A 3D - VIEW OF RIDGE VENT

TURN EcoStar GLACIER GUARD EDGE TO PROTECT THE DECK EDGE AT VENT. APPLY SEALANT TO ATTACH THE MEMBRANE AS NEEDED.

NOTES:

1. DESIGNER MAY DESIGN A MOISTURE CONTAINER SYSTEM UNDER THE RIDGE VENT AREA, WHERE IT IS DEEMED NECESSARY TO CONTAIN MOISTURE IN A PAN.
2. ROOFER TO ENSURE THAT APPROVED LENGTH FASTENERS ARE USED TO INSTALL RIDGE TILES, WHICH ARE LONGER THAN REGULAR FASTENERS. REFER TO SPECIFICATIONS.

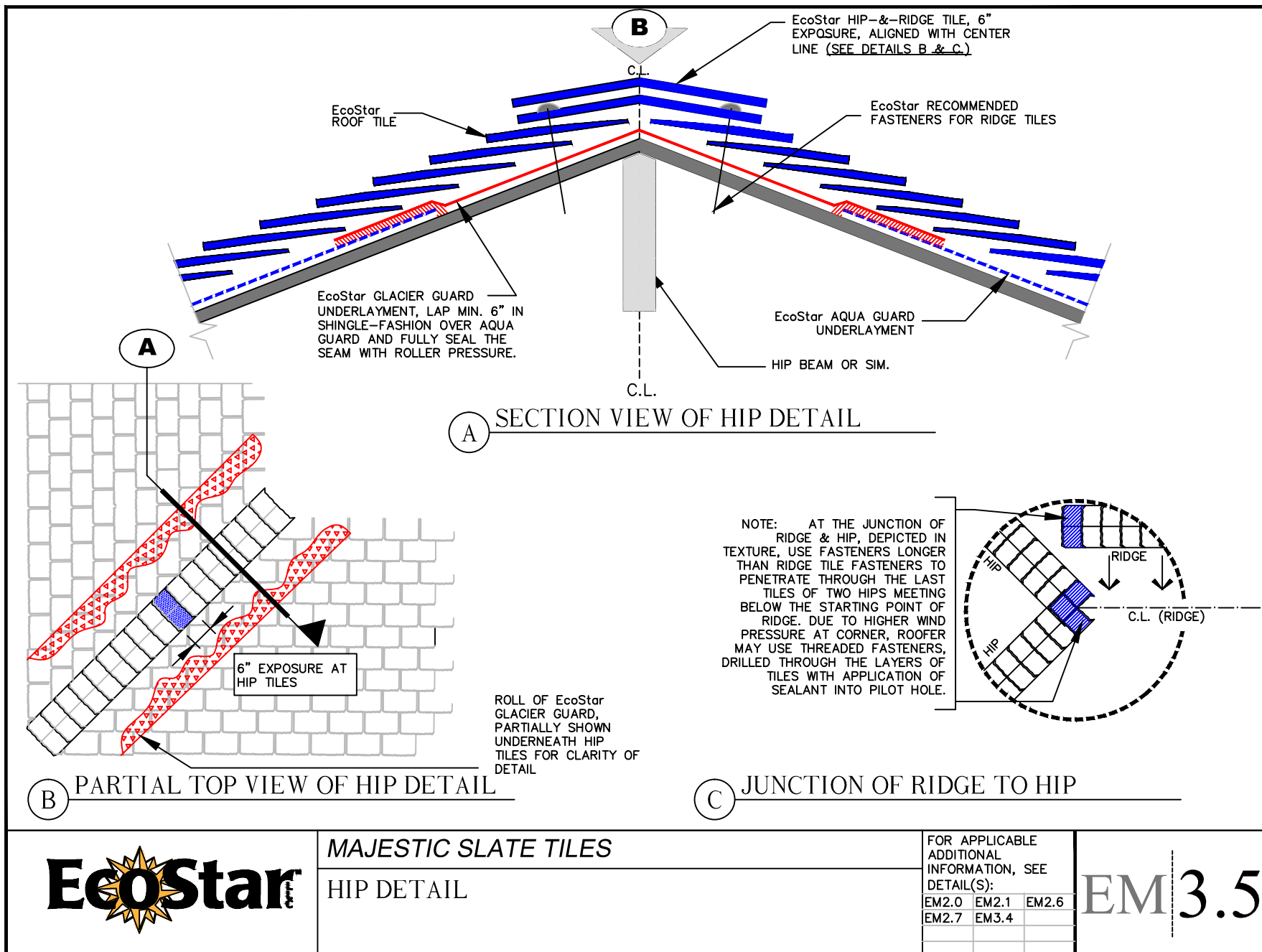


MAJESTIC SLATE TILES RIDGE DETAIL WITH RIDGE VENT

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.2
EM2.6	EM2.7	EM3.5

EM3.4



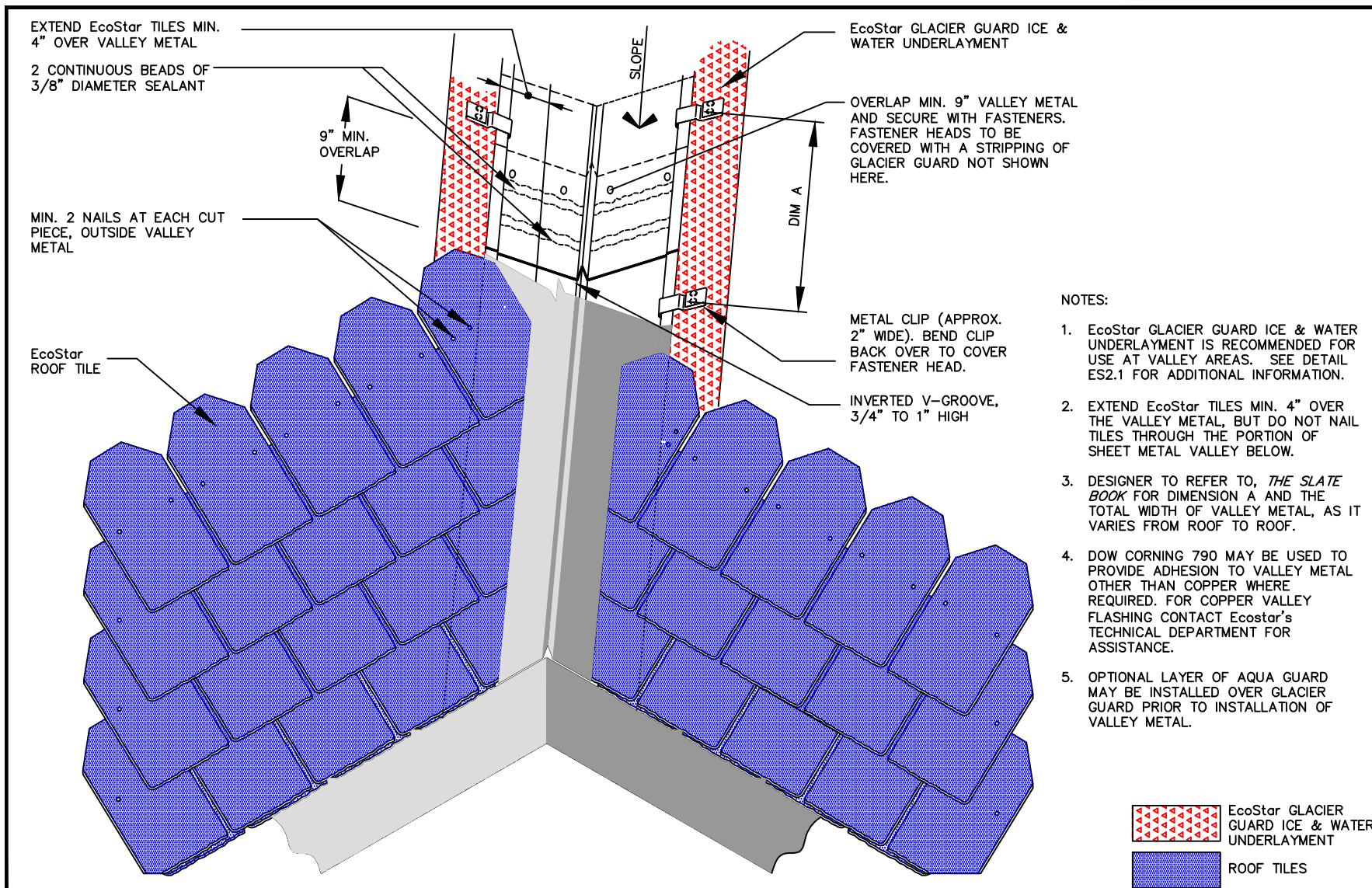
MAJESTIC SLATE TILES

HIP DETAIL

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.1	EM2.6
EM2.7	EM3.4	

EM3.5



MAJESTIC SLATE TILES

OPEN VALLEY FLASHING DETAIL

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0 EM2.1 EM2.6
EM2.7

EM3.6

NOTE: APPLICATION OF ADDITIONAL STRIPPING OF GLACIER GUARD IS RECOMMENDED IN SNOW COUNTRIES PER DETAIL A SHEET EM2.4 OR AS REQUIRED BY THE ROOF DESIGNER.

EM 3.7

EM 3.8

EM 3.1

SLOPE TRANSITION, SHEET METAL FASCIA SECURED WITH APPROVED LENGTH & TYPE OF FASTENERS.

SHEET METAL CLIP SECURED THROUGH THE TOP COURSE OF ROOF TILES WITH APPROVED LENGTH & TYPE OF FASTENERS.

CONTRACTOR TO ANTICIPATE A CONSISTENT EXPOSURE WITH ROOF

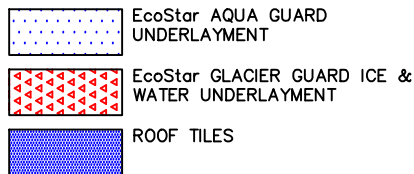
CONTINUOUS SHEET METAL CLIP

TYPICAL LAYOUT OF AQUA GUARD UNDERLAYMENT

THE FIRST ROLL OF UPPER SLOPE MAY START OVERLAPPING THE TOP OF LOWER SLOPE (OPTIONAL)

CUT TILES, IF REQUIRED, PER EcoStar APPROVED SPECIFICATIONS.

FIRST, INSTALL AN 18" WIDE ROLL OF GLACIER GUARD AS A REINFORCEMENT & CUSHION STRIP AT THE JOINT



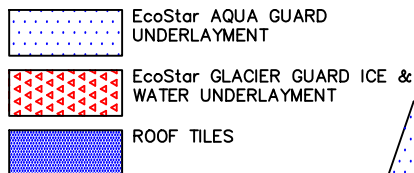
MAJESTIC SLATE TILES

GAMBREL ROOF DETAIL AT UPPER TRANSITION OF ROOF SLOPES

FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):

EM2.0	EM2.1	EM2.6
EM2.7	EM3.1	EM3.2
EM3.3		

EM 3.7



SLOPE TRANSITION, SHEET METAL FASCIA SECURED WITH APPROVED LENGTH & TYPE OF FASTENERS. SEE DETAIL EM 3.8.1

EM 3.1

TYPICAL LAYOUT OF AQUA GUARD UNDERLAYMENT MEMBRANES.

NOTE:

1. IN SNOW & FREEZING REGIONS, THE UPPER FLANGE OF METAL TO BE HIGHER AND STRIPPED WITH GLACIER GUARD, AS NEEDED.
2. AT TRANSITION METAL, IN LIEU OF WIND-CLIP, DESIGNER MAY USE HEAVIER GAUGE SHEET METAL TO DEVELOP STIFFNESS IN TRANSITION METAL.
3. WHERE SLOPE IS LESS THAN 3:12, ENTIRE DECK TO BE COVERED WITH GLACIER GUARD. PLEASE CONTACT TECHNICAL DEPARTMENT OF EcoStar FOR APPROVAL ON SLOPES LESS THAN 3:12.

CONTINUOUS SHEET METAL CLIP WITH GLACIER GUARD STRIPPING

GLACIER GUARD ONLY

FIRST, INSTALL AN 18" WIDE ROLL OF GLACIER GUARD AS A REINFORCEMENT & CUSHION STRIP AT THE VALLEY JOINT

EM 3.7

EM 3.8



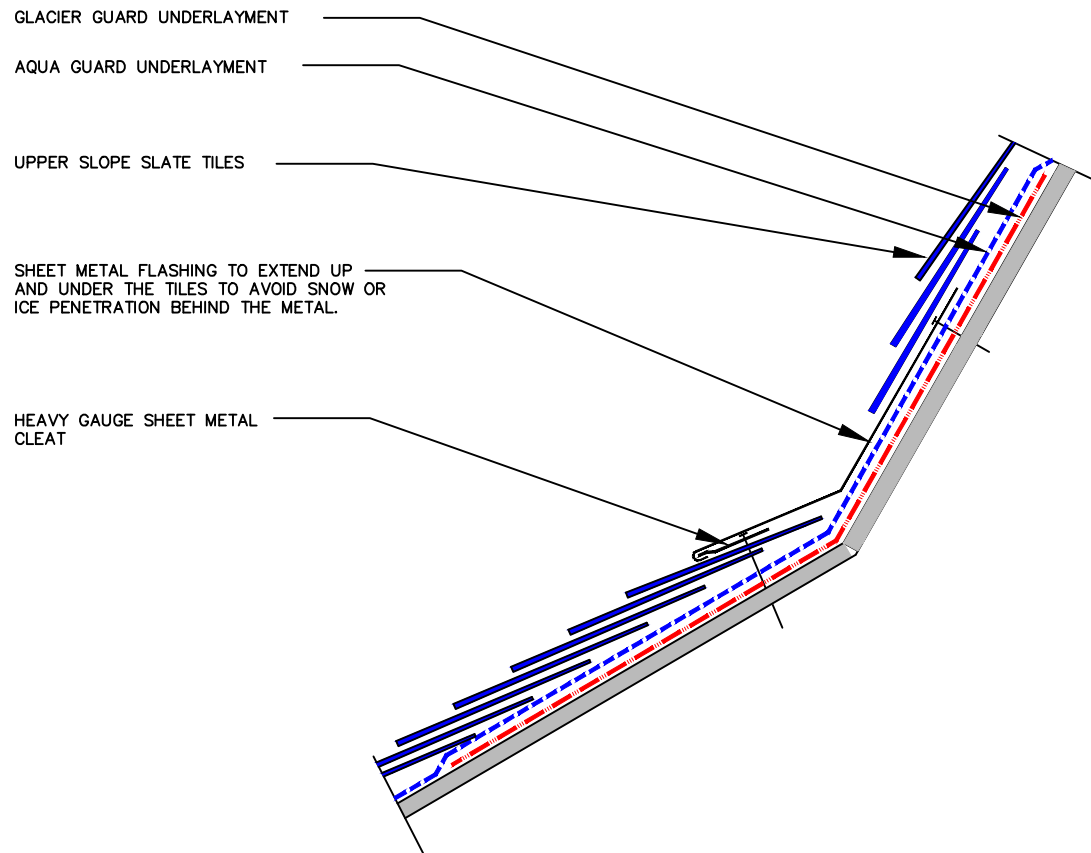
MAJESTIC SLATE TILES

GAMBREL ROOF DETAIL AT LOWER TRANSITION OF ROOF SLOPES

FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):

EM2.0	EM2.1	EM2.6
EM2.7	EM3.1	EM3.2
EM3.3	EM3.8.1	

EM 3.8



NOTE:

1. APPLICATION OF SEALANT AT SHEET METAL FASTENER'S PILOT HOLES FOR SHEET METAL FLASHING IS SUGGESTED FOR LOW SLOPES OR AREAS, WHERE WIND-DRIVEN RAIN OR MELTING ICE MAY PENETRATE AROUND FASTENER'S LOCATIONS.



MAJESTIC SLATE TILES

GENERIC DETAIL OF SHEET METAL FLASHING AT SLOPE TRANSITION

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.2	EM2.1	EM2.6
EM2.7	EM3.8	

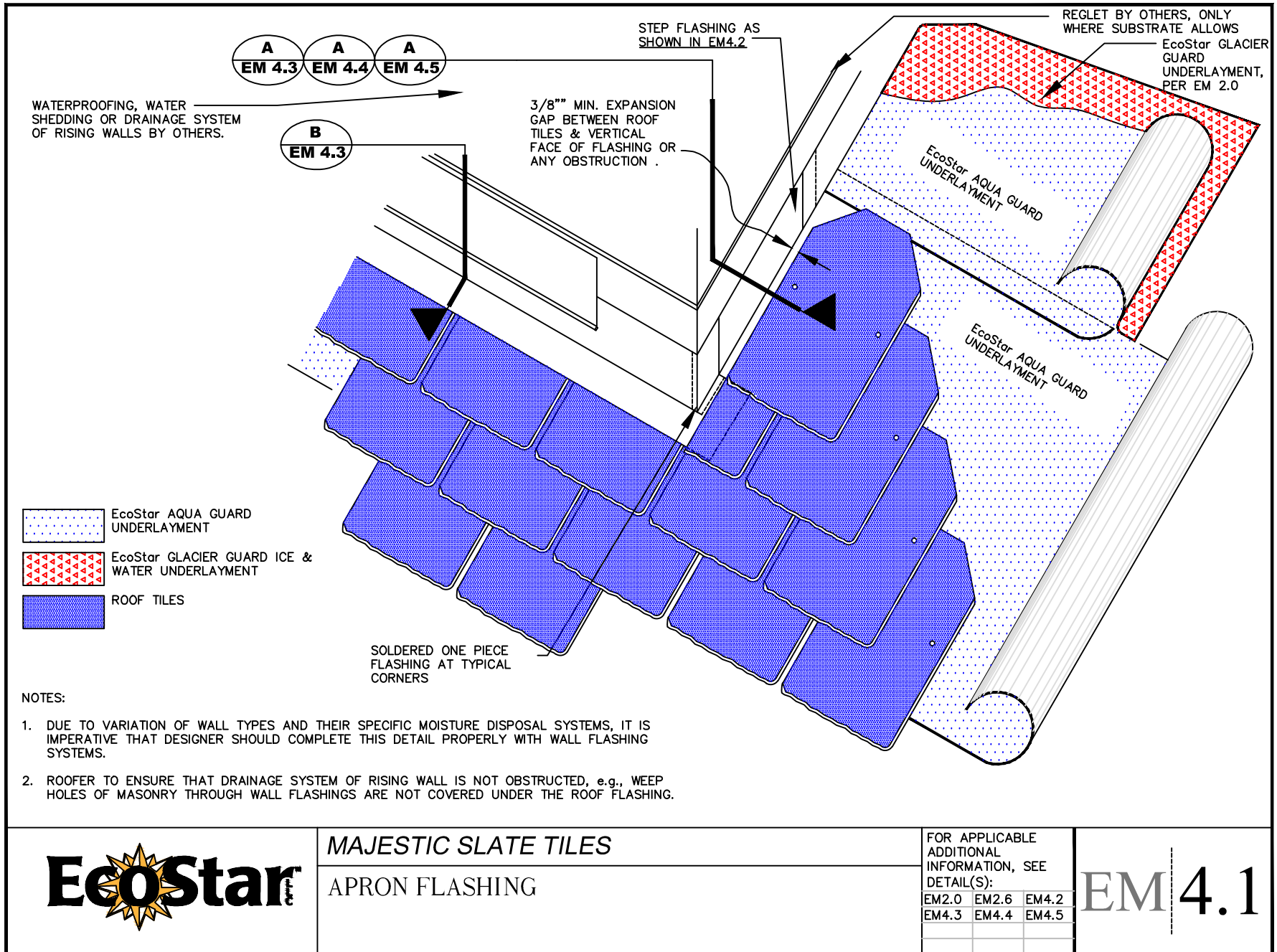
EM 3.8.1

4.0

WALL FLASHING DETAILS



MAJESTIC SLATE TILES



A **EM 4.3** **A** **EM 4.4** **A** **EM 4.5**

CONTINUE SIDING TO
COUNTER FLASHING
2" MIN. (SEE NOTE)

BUILDING PAPER, AIR
OR MOISTURE BARRIER
SHEET BY OTHERS
SHOULD BE A
SHINGLED-FASHION
OVER EcoStar SYSTEM

SHEET METAL
STEP FLASHING

APPROX.
4" MIN.

$\frac{3}{8}$ " MIN. GAP BETWEEN ROOF
TILES AND THE VERTICAL FACE
OF SHEET METAL FLASHING

NOTE: ALTERNATE COUNTER FLASHING PROFILES MAY BE USED.

A **SHEET METAL**
STEP FLASHING

NOTE: ALTERNATE COUNTER FLASHING PROFILES MAY BE USED.

MAJESTIC SLATE TILES

SIDE WALL FLASHING

TURN UP AQUA GUARD
UNDERLAYMENT AT WALL.
MIN. 6"

MIN. 6" MAX.
AS REQUIRED
BY DESIGN

12" MIN.
ON DECK

EcoStar GLACIER GUARD
ICE & WATER
UNDERLAYMENT

MAX. LENGTH EQUAL TO
ROOF TILE

MIN. 4" MAX.
AS REQUIRED
BY DESIGN

MIN. 4" EXPOSURE
EQUAL TO
TILE EXPOSURE

B **SHEET METAL**
STEP FLASHING

EcoStar
AQUA GUARD
UNDERLAYMENT

EcoStar
ROOF TILE

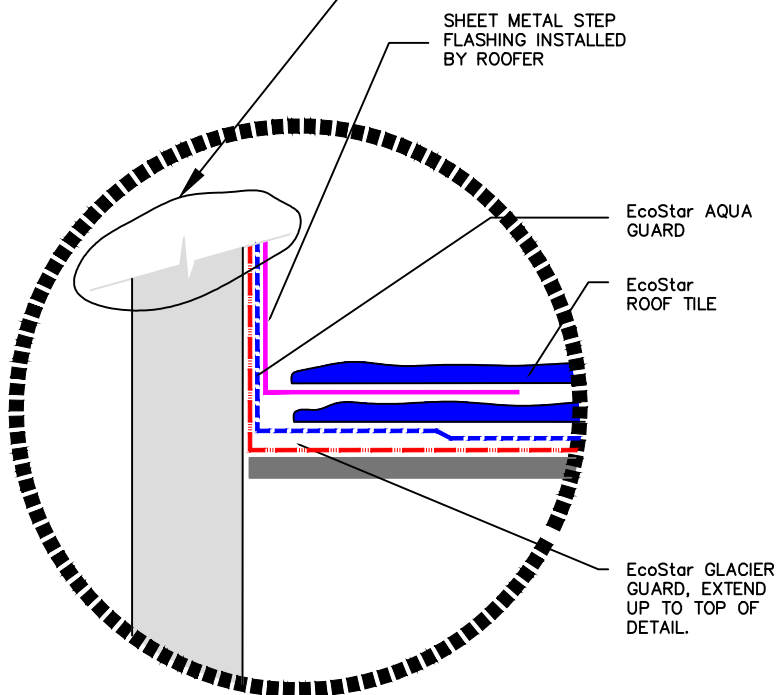


FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

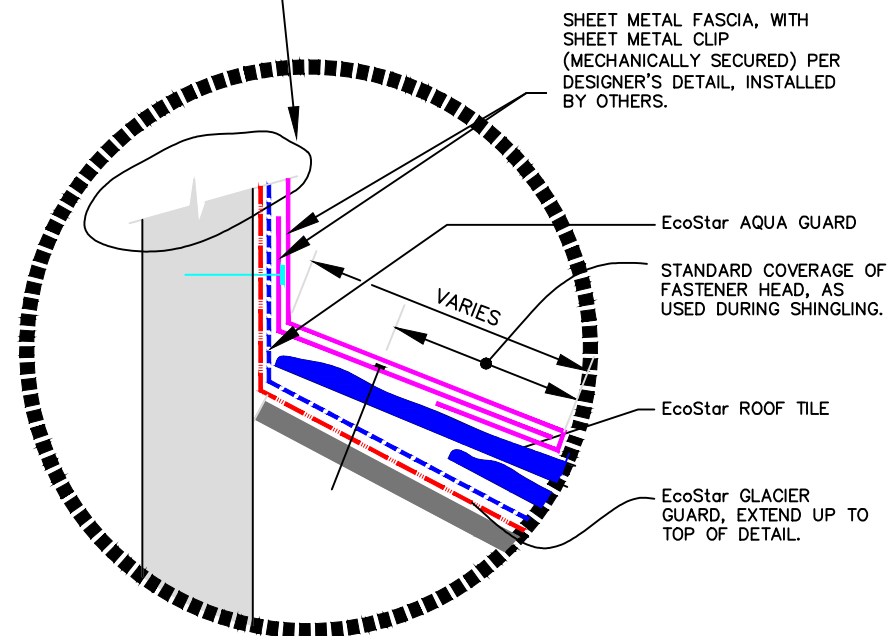
EM2.0	EM2.6	EM4.1
EM4.3	EM4.4	EM4.5

EM 4.2

A **EM 4.4** **A** **EM 4.5**
SIMILAR



A RISING SIDE-WALL FLASHING



B RISING WALL FLASHING AT TOP END OF ROOF

NOTE: CONTACT THE TECHNICAL STAFF OF EcoStar, WHERE A VENTING DETAIL IS REQUIRED AT THE BASE OF WALL.



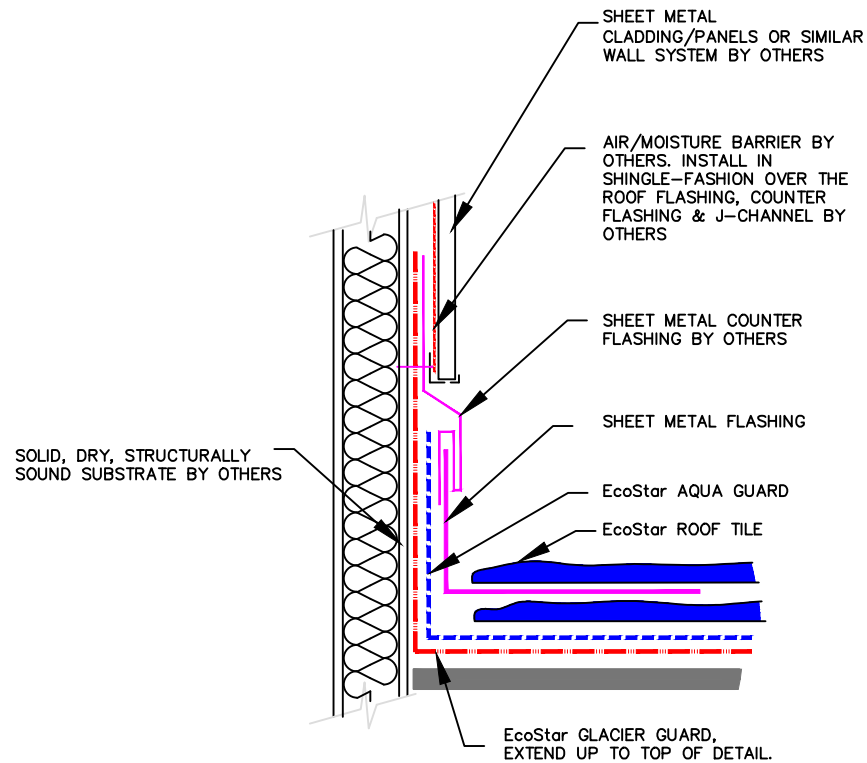
MAJESTIC SLATE TILES

SECTION DETAILS OF RISING WALL - 1

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.6	EM4.1
EM4.2	EM4.4	EM4.5

EM 4.3



A TYPE 'B' CONCEALED COUNTER FLASHING
WALL TYPES: SIDINGS, METAL PANELS



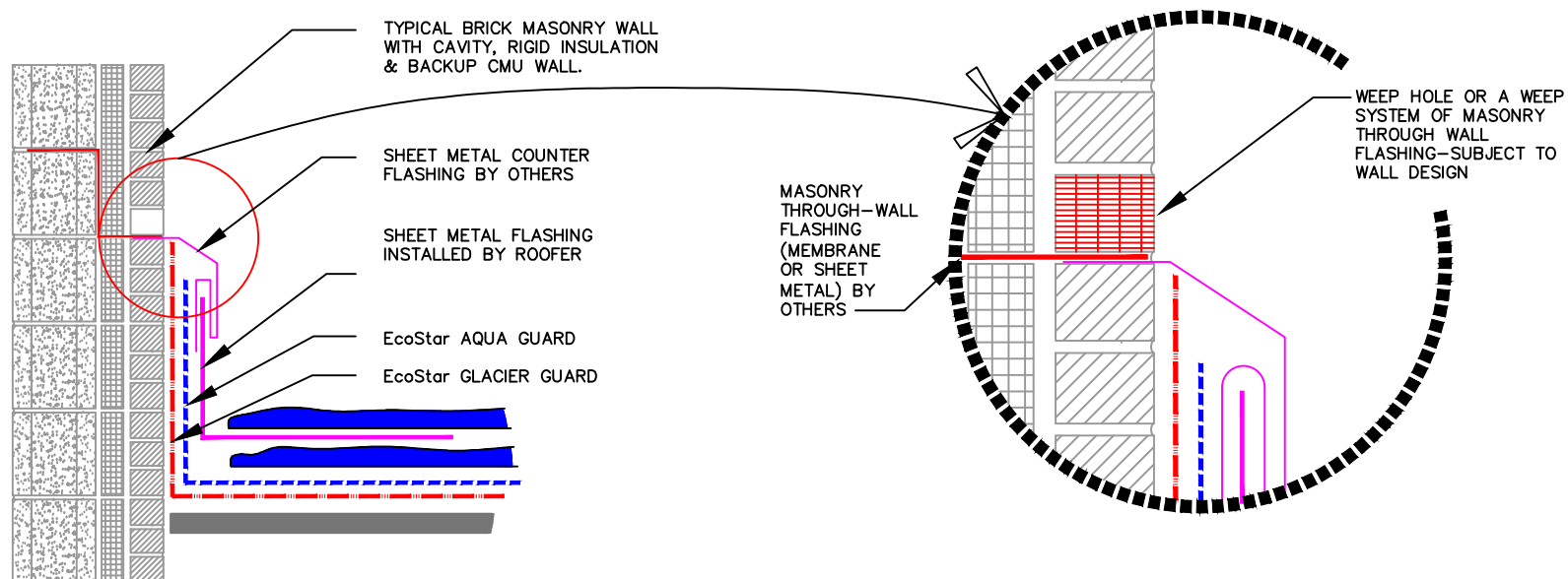
MAJESTIC SLATE TILES

SECTION DETAIL OF RISING WALL - 2

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.6	EM4.1
EM4.2	EM4.3	EM4.5

EM 4.4



NOTE:

1. ROOFER TO ENSURE THAT NO WEEP HOLES ARE COVERED UNDER FLASHING SYSTEM, AS STEP-DOWN MASONRY WALL FLASHING SYSTEM WILL HAVE WEEP HOLES AT DIFFERENT ELEVATIONS ALONG THE BASE OF WALL.
2. ROOFING FLASHING MUST BE BRIDGED UNDER THE SHEET METAL DRIP EDGE. EXTEND GLACIER GUARD TO BOTTOM OF SHEET METAL DRIP EDGE AND COVER WITH AQUA GUARD AND SHEET METAL

A TYPE 'C' BRIDGING TO THROUGH-WALL FLASHING
WALL TYPES: MASONRY WALL WITH ITS FLASHING SYSTEM



MAJESTIC SLATE TILES

SECTION DETAILS OF RISING WALL - 3

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM2.0	EM2.6	EM4.1
EM4.2	EM4.3	EM4.4

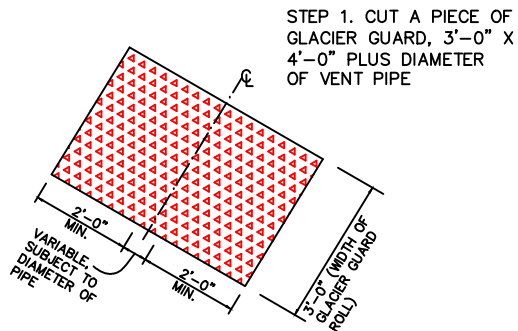
EM 4.5

5.0

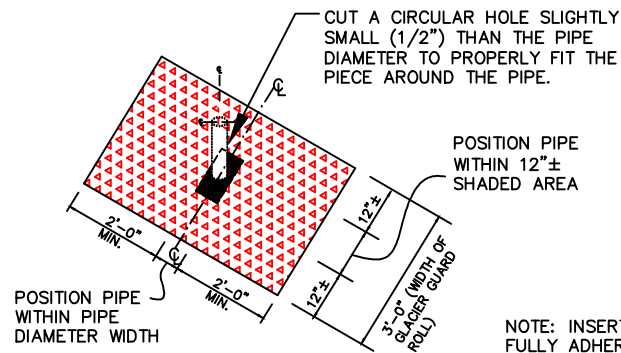
ROOF PENETRATION DETAILS



MAJESTIC SLATE TILES

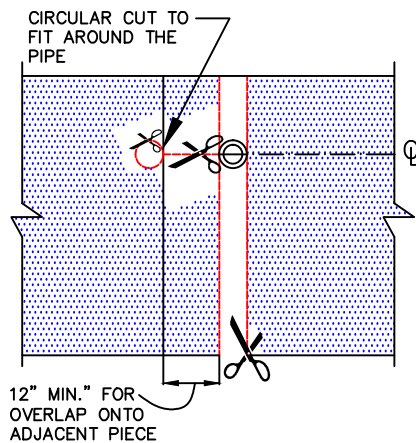


A STEP 1 - CUT A PIECE OF GLACIER GUARD

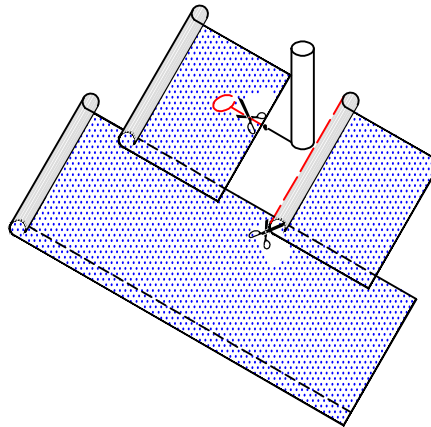


NOTE: INSERT THE PIECE OVER THE PIPE AND FULLY ADHERE TO ROOF DECK, PRIOR TO THE INSTALLATION OF AQUA GUARD UNDERLAYMENT

B STEP 2 - INSTALLATION OF PIECE

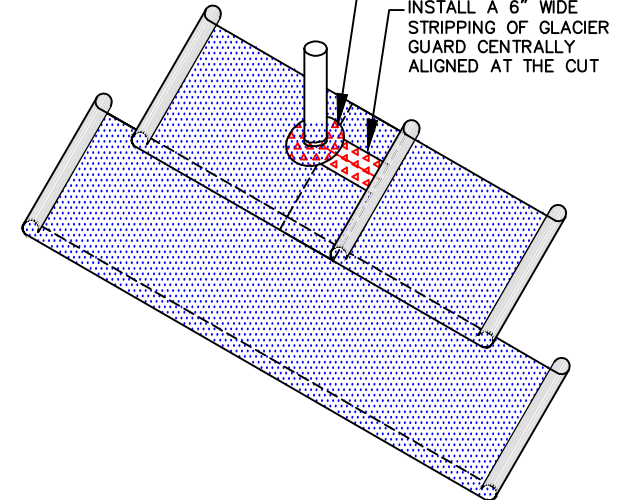


C STEP 3 - AQUA GUARD FABRICATION AT PIPE



D 3-D VIEW OF STEP 3

OPTIONAL: ADDITIONAL STRIPPING OF GLACIER GUARD AROUND THE PIPE. EXTEND MIN. 2" VERTICALLY UP. SEE DETAIL A SHEET EM 5.2.



E STEP 4 - INSTALLATION OF AQUA GUARD & STRIPPING



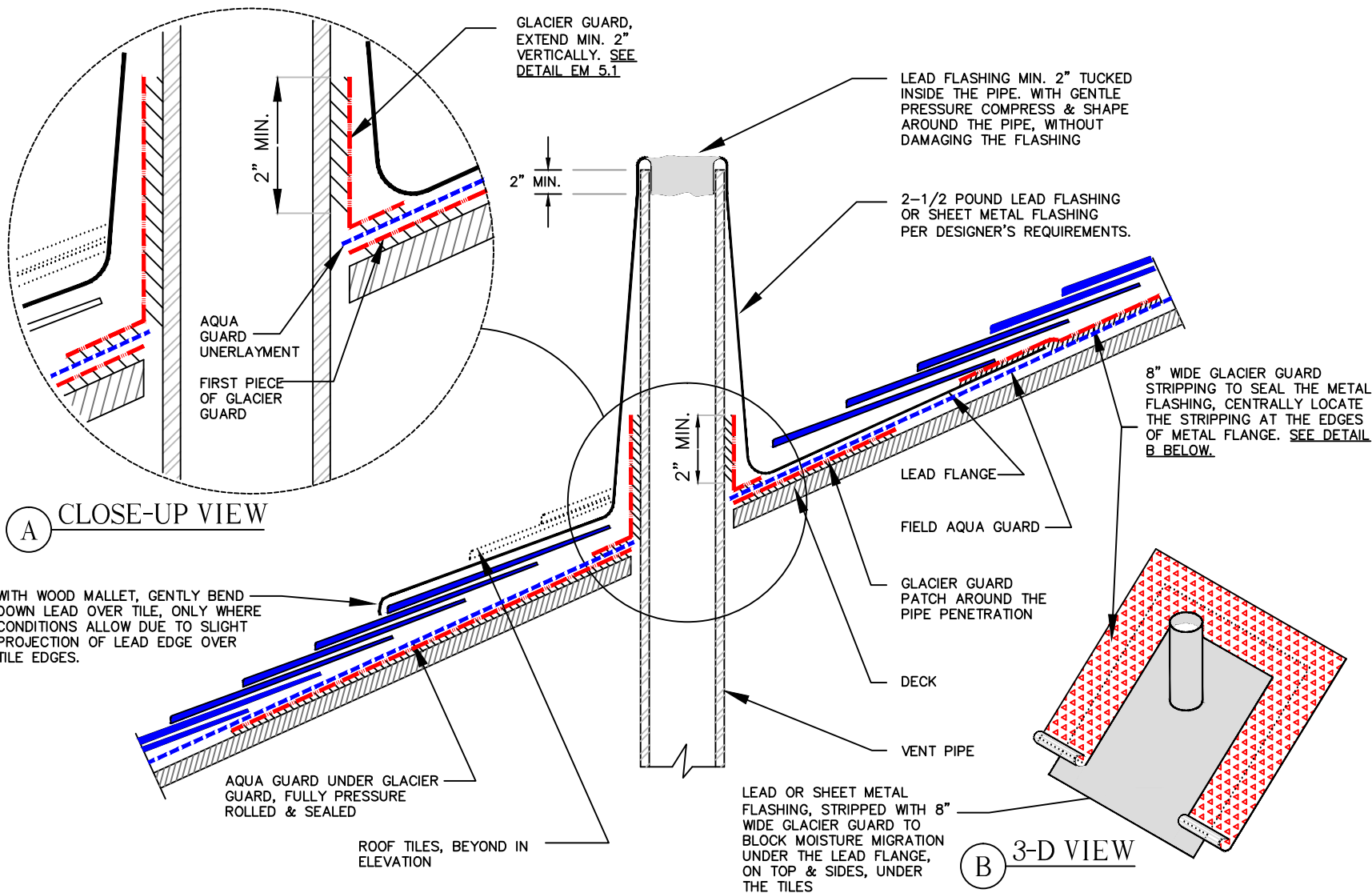
MAJESTIC SLATE TILES

VENT STACK (UNDERLAYMENT LAYOUT) PAGE 1 OF 3

FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):

EM5.2	EM5.3

EM 5.1



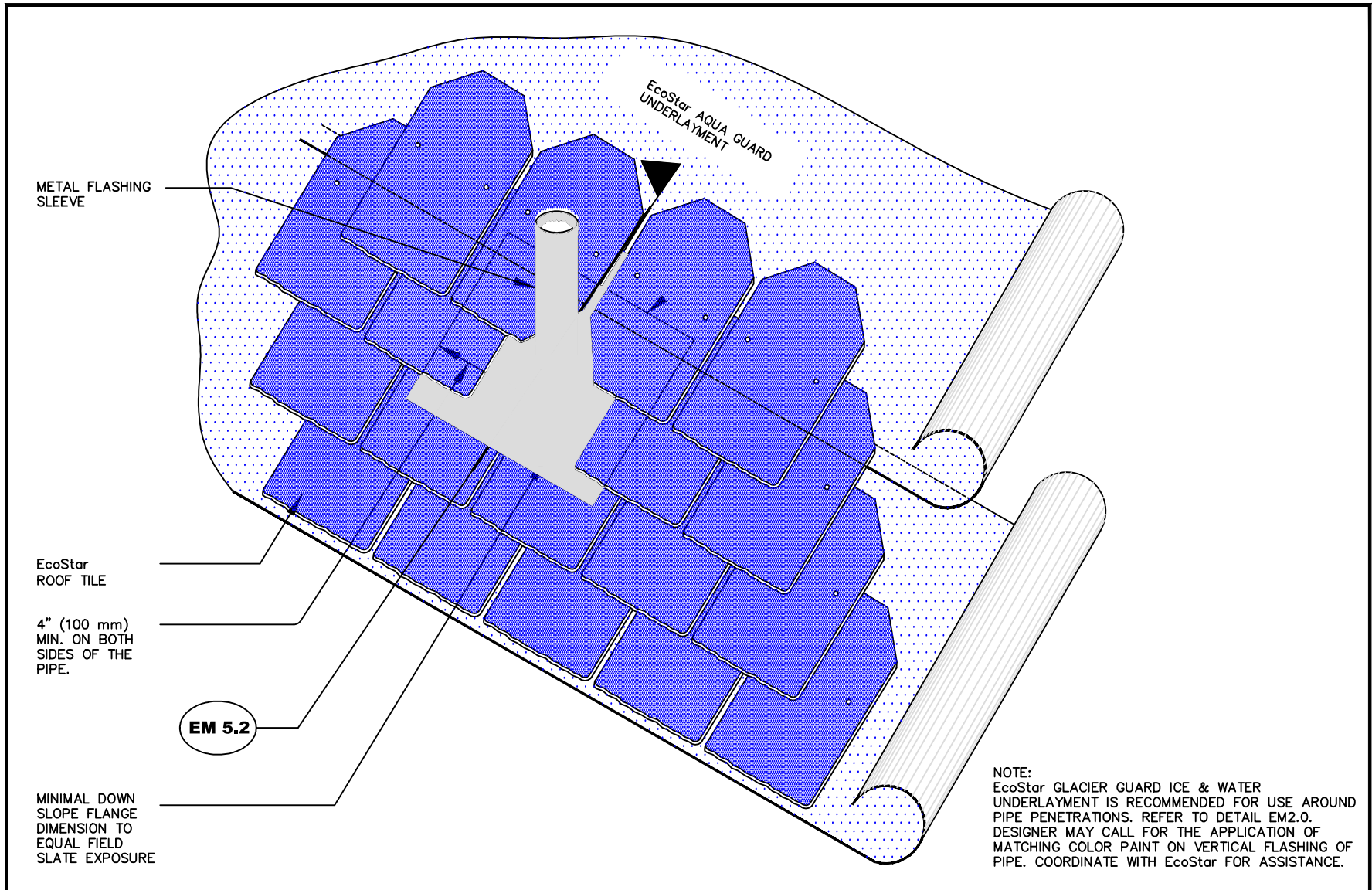
MAJESTIC SLATE TILES

VENT STACK (METAL FLASHING) PAGE 2 OF 3

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM5.1 EM5.3

EM 5.2



NOTE:
EcoStar GLACIER GUARD ICE & WATER UNDERLAYMENT IS RECOMMENDED FOR USE AROUND PIPE PENETRATIONS. REFER TO DETAIL EM2.0. DESIGNER MAY CALL FOR THE APPLICATION OF MATCHING COLOR PAINT ON VERTICAL FLASHING OF PIPE. COORDINATE WITH EcoStar FOR ASSISTANCE.



MAJESTIC SLATE TILES

VENT STACK (TILES 3D VIEW) PAGE 3 OF 3

FOR APPLICABLE ADDITIONAL INFORMATION, SEE DETAIL(S):		
EM5.1	EM5.2	

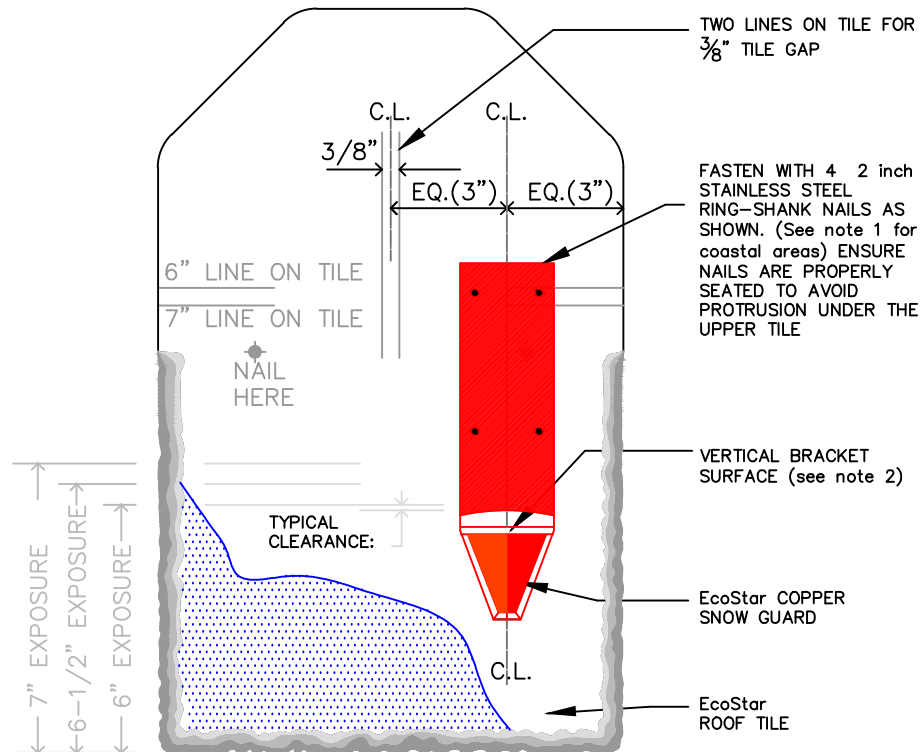
EM5.3

6.0

ROOF ACCESSORIES DETAILS

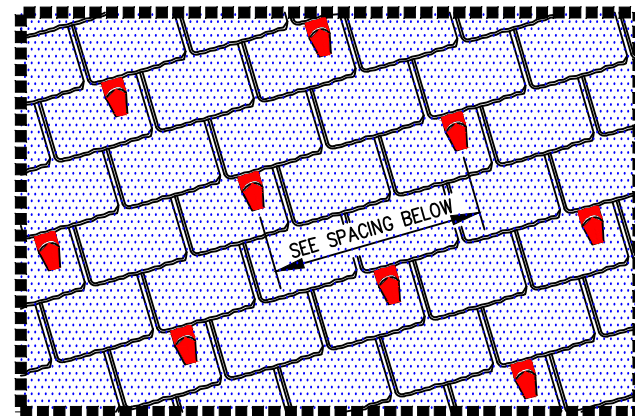


MAJESTIC SLATE TILES



A

EcoStar SNOW GUARD POSITIONING



MAJESTIC SLATE TRADITIONAL 24" O.C.

B

TYPICAL LAYOUT OF EcoStar SNOW GUARDS

NOTES:

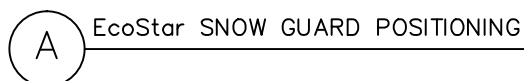
1. EcoStar APPROVED NAILS MUST BE USED WITH THE EcoStar SNOW GUARD TO ENSURE PROPER ATTACHMENT OF THE SNOW GUARD BRACKET. IN COASTAL AREAS (within 15 miles of a saltwater coastline) USE COPPER RING-SHANK NAILS FOR THE ATTACHMENT OF COPPER SNOW GUARDS.
2. ENSURE THE SNOW GUARD BRACKET IS LOW ENOUGH ON THE ROOF TILE TO ACCOMMODATE THE NEXT ROW OF TILES ABOVE IT. THE BOTTOM EDGE OF THE NEXT ROW OF TILES MUST BE NO CLOSER THAN 1/2" TO THE TOP OF THE VERTICAL BRACKET SURFACE.
3. PLACE THE SNOW GUARD BRACKET SO AS NOT TO BE DIRECTLY IN LINE WITH THE SPACE BETWEEN THE TILES ABOVE.
4. THE LOCATION AND NUMBER OF SNOW GUARDS IS DETERMINED BY THE SPECIFICS OF THE ROOF DESIGN AND PROJECT GEOGRAPHIC LOCATION. REFER TO LAYOUT CALCULATOR ON THE WEB SITE FOR JOB SPECIFIC LAYOUTS.
5. ADJUST THE LOCATION OF EcoStar SNOW GUARD, AS THE EXPOSURE CHANGES WITH THE ROOF SLOPE.



MAJESTIC SLATE TILES
COPPER SNOW GUARDS LAYOUT

FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM 6.1



B TYPICAL LAYOUT OF EcoStar SNOW GUARDS

1. EcoStar APPROVED NAILS MUST BE USED WITH THE EcoStar SNOW GUARD TO ENSURE PROPER ATTACHMENT OF THE SNOW GUARD BRACKET. IN COASTAL AREAS (within 15 miles of a saltwater coastline), USE ALUMINUM RING-SHANK NAILS FOR THE ATTACHMENT OF ALUMINUM SNOW GUARDS.
2. ENSURE THE SNOW GUARD BRACKET IS LOW ENOUGH ON THE ROOF TILE TO ACCOMMODATE THE NEXT ROW OF TILES ABOVE IT. THE BOTTOM EDGE OF THE NEXT ROW OF TILES MUST BE NO CLOSER THAN 1/2" TO THE TOP OF THE VERTICAL BRACKET SURFACE.
3. PLACE THE SNOW GUARD BRACKET SO AS NOT TO BE DIRECTLY IN LINE WITH THE SPACE BETWEEN THE TILES ABOVE.
4. THE LOCATION AND NUMBER OF SNOW GUARDS IS DETERMINED BY THE SPECIFICS OF THE ROOF DESIGN AND PROJECT GEOGRAPHIC LOCATION. REFER TO LAYOUT CALCULATOR ON THE WEB SITE FOR JOB SPECIFIC LAYOUTS.
5. ADJUST THE LOCATION OF EcoStar SNOW GUARD, AS THE EXPOSURE CHANGES WITH THE ROOF SLOPE.



FOR APPLICABLE
ADDITIONAL
INFORMATION, SEE
DETAIL(S):

EM 6.2