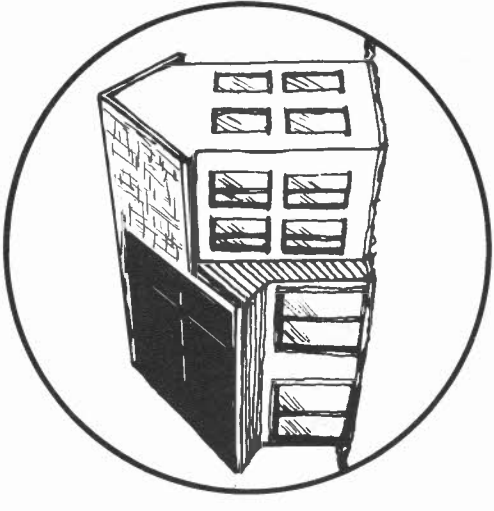
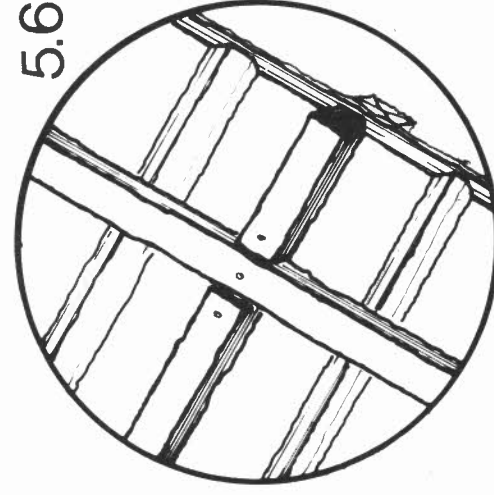
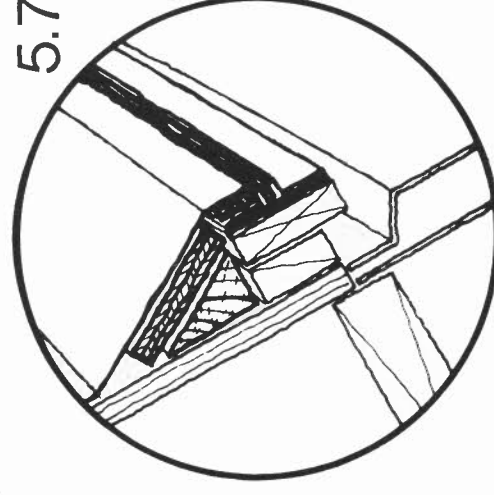
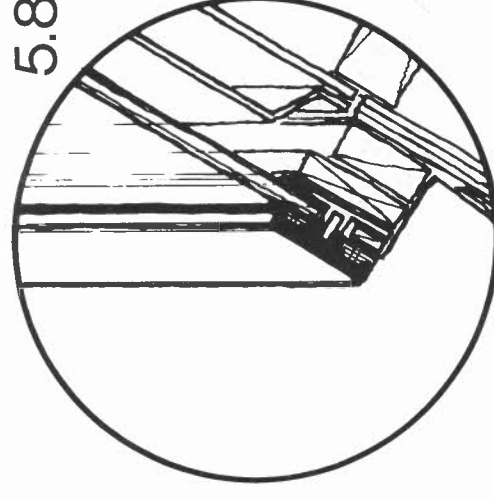
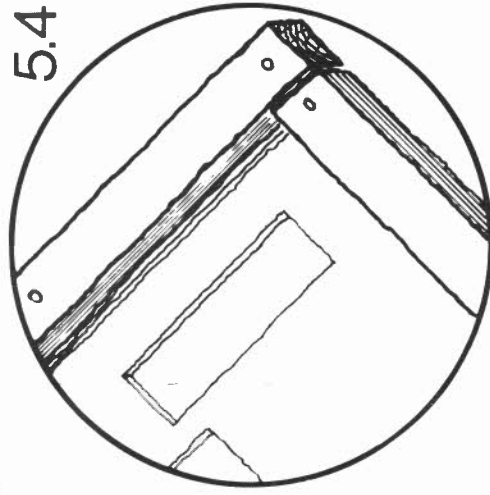
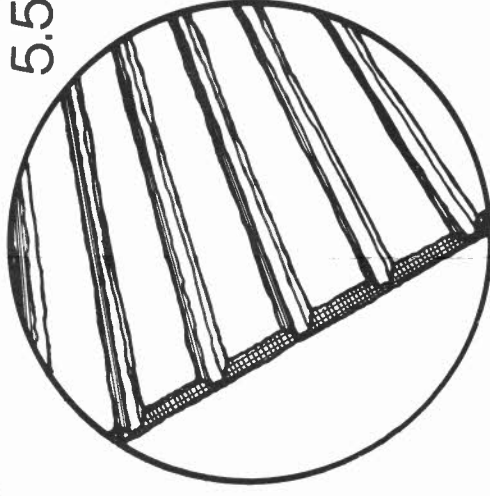
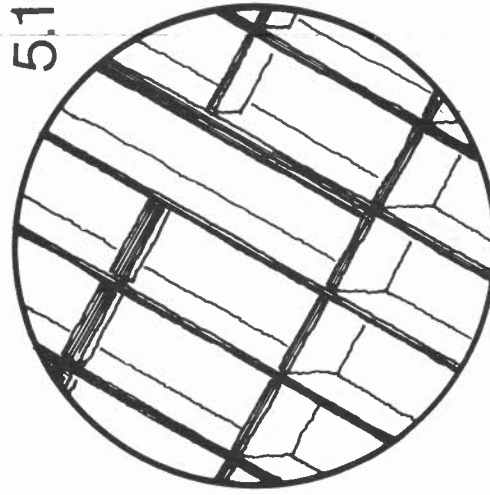
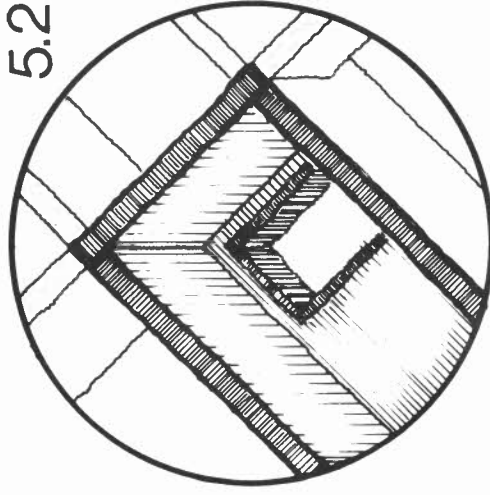
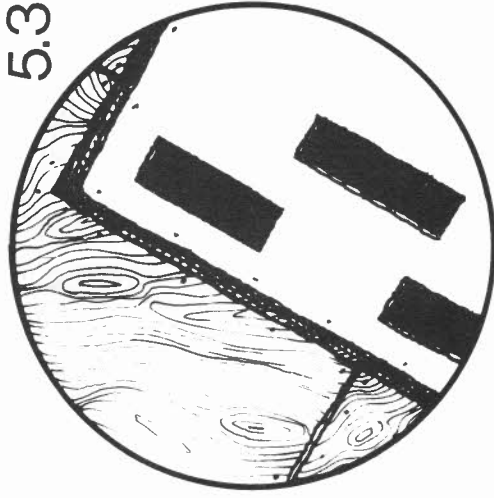


# ROOF COLLECTOR



## CONSTRUCTION SEQUENCE:

1. FRAMING
2. MANIFOLD PANS
3. SHEATHING
4. PERIMETER BLOCKING
5. ABSORBER PLATE
6. BATTENS
7. GLAZING PREPARATION
8. GLAZING & FINISHING



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### NOTICE

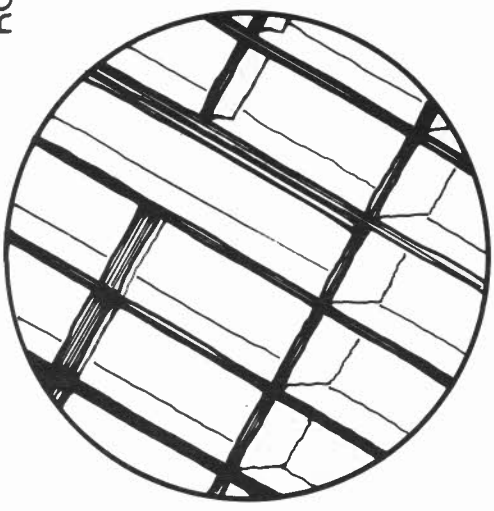
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FEBRUARY, 1980

# FRAMING 1

ROOF



MATERIALS:  
FRAMING LUMBER

FASTENERS:  
10d COMMON NAILS

CAULK AT:  
NOT APPLICABLE

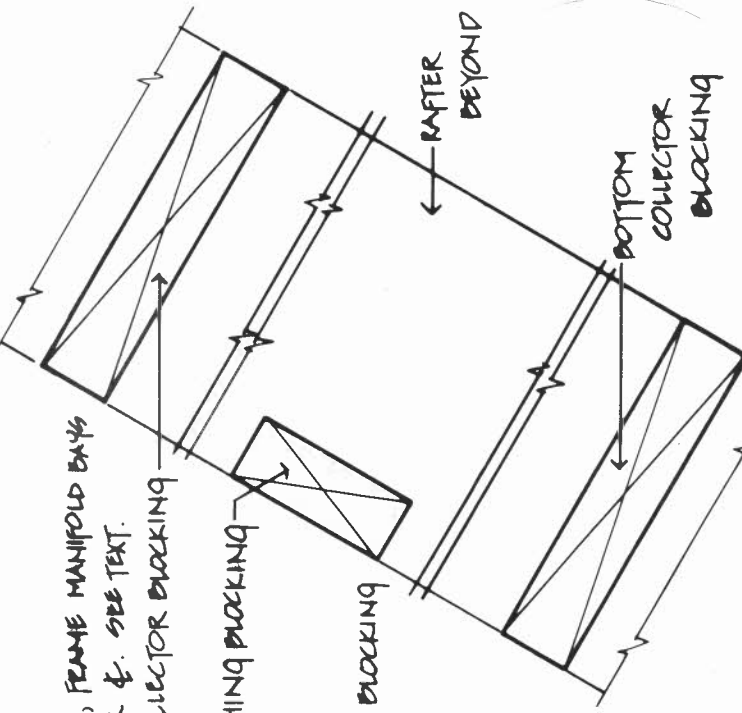
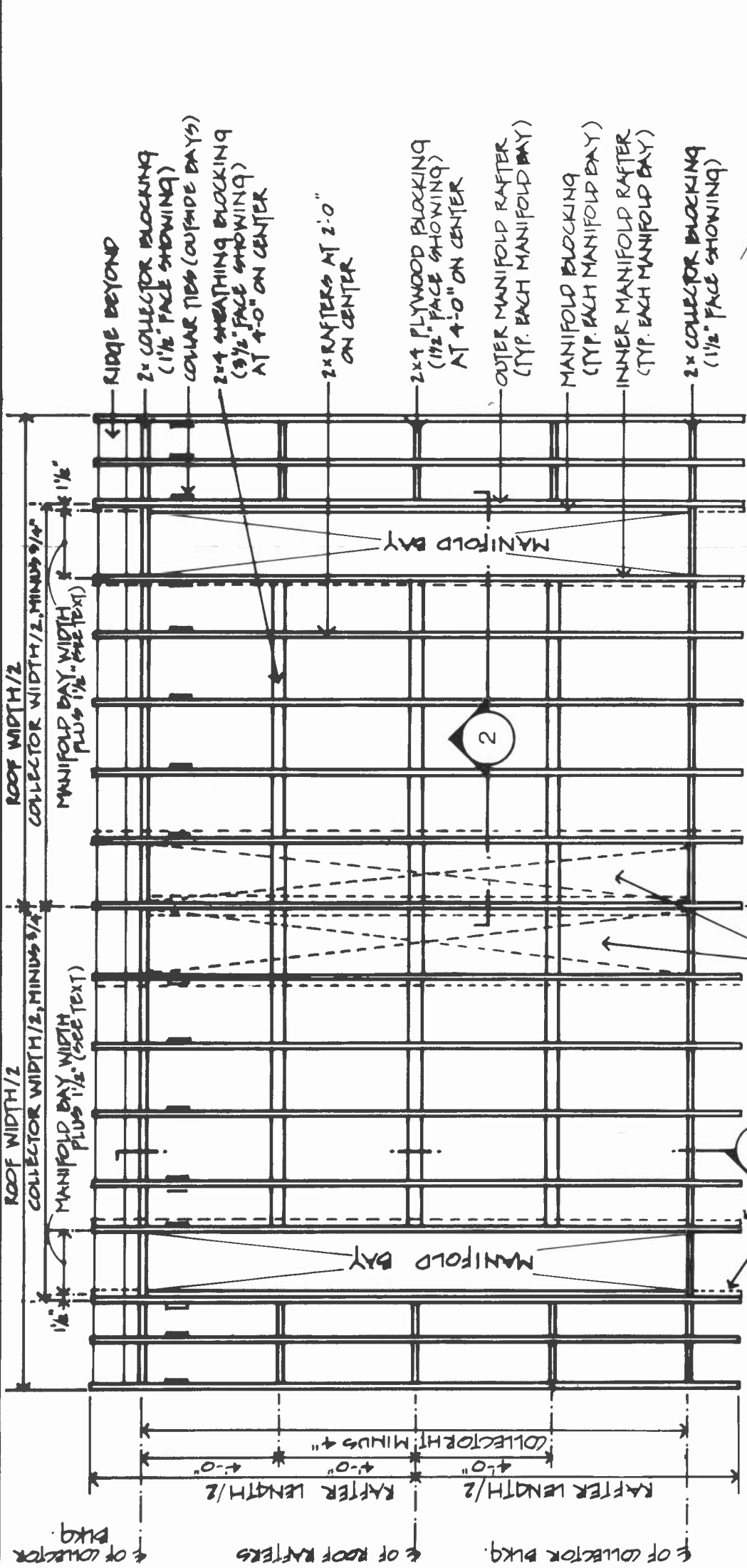


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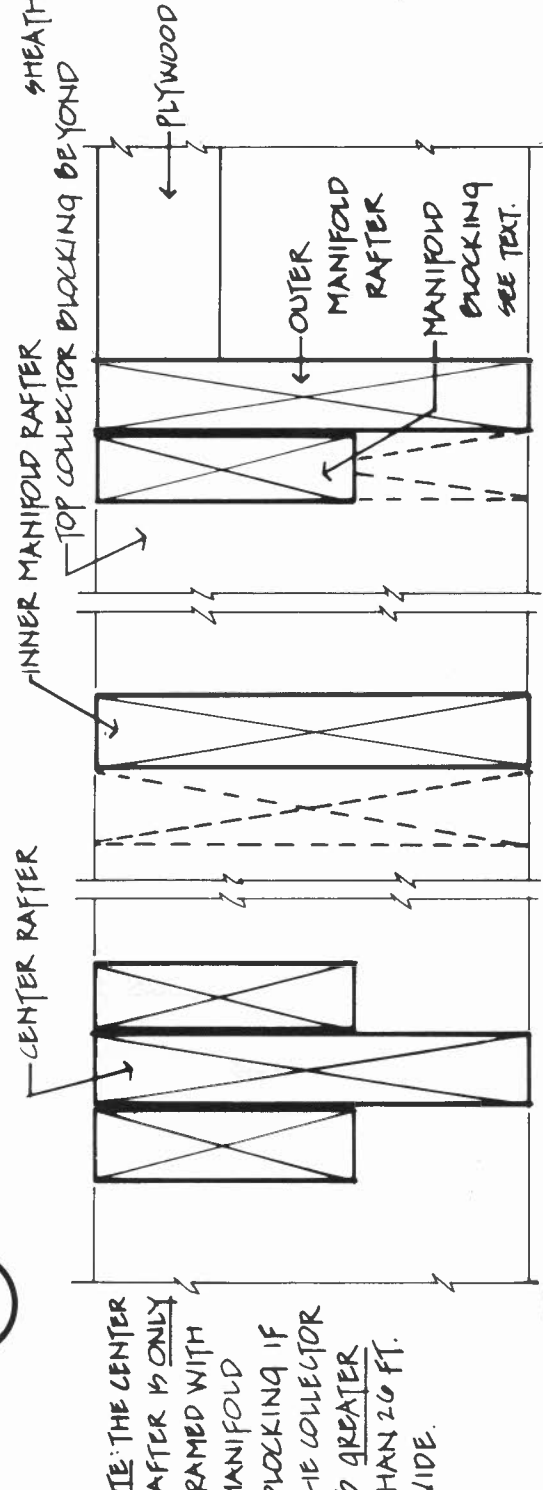
FEBRUARY, 1980



IF MANIFOLD BAY WIDTH PLUS 3" IS GREATER THAN 24", REMOVE IT ON BOTH RAFTERS

## 1 PLAN - FRAMING & BLOCKING

SCALE: 1/4" = 1'-0"



NOTE: THE CENTER RAFTER IS ONLY FRAMED WITH MANIFOLD BLOCKING IF THE COLLECTOR IS GREATER THAN 26 FT. WIDE.

## 2 MANIFOLD RAFTERS

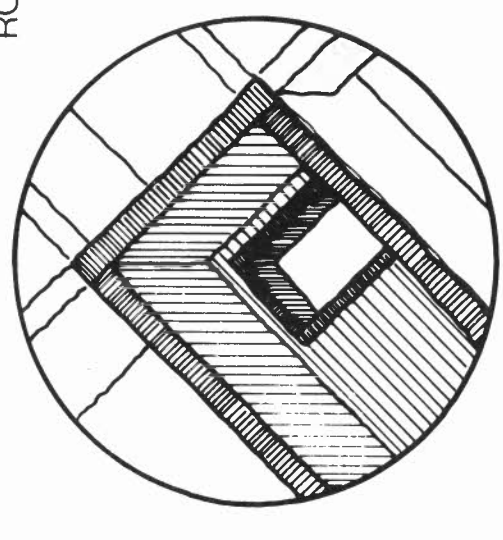
SCALE: 3/8" = 1'-0"

## 3 BLOCKING

SCALE: 3/8" = 1'-0"

# MANIFOLD PANS 2

ROOF



**MATERIALS:**  
 PREFABRICATED MANIFOLD PANS OF 30 GAUGE GALVANIZED SHEET METAL WITH 1/2" NAILING FLANGES, OVERLAPPED AND SOLDERED AT ALL FOUR CORNERS; COLLAR FASTENERS:  
 1" GALVANIZED ROOFING NAILS  
 1/4" PHILLIPS PAN HEAD SHEET METAL SCREWS - #6

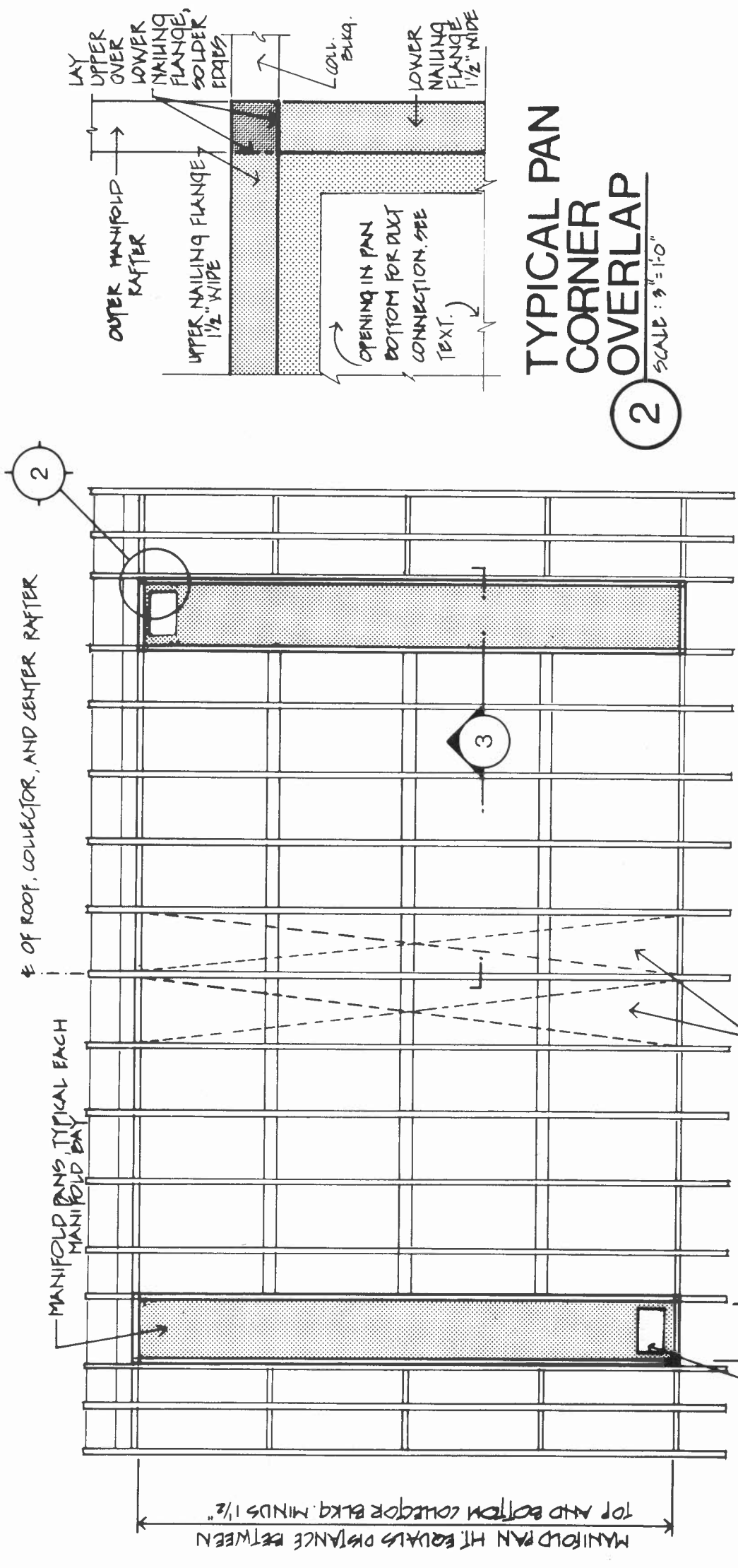
**CAULK AT:**  
 CONTINUOUS, UNDER FLANGE OF DUCT COLLAR



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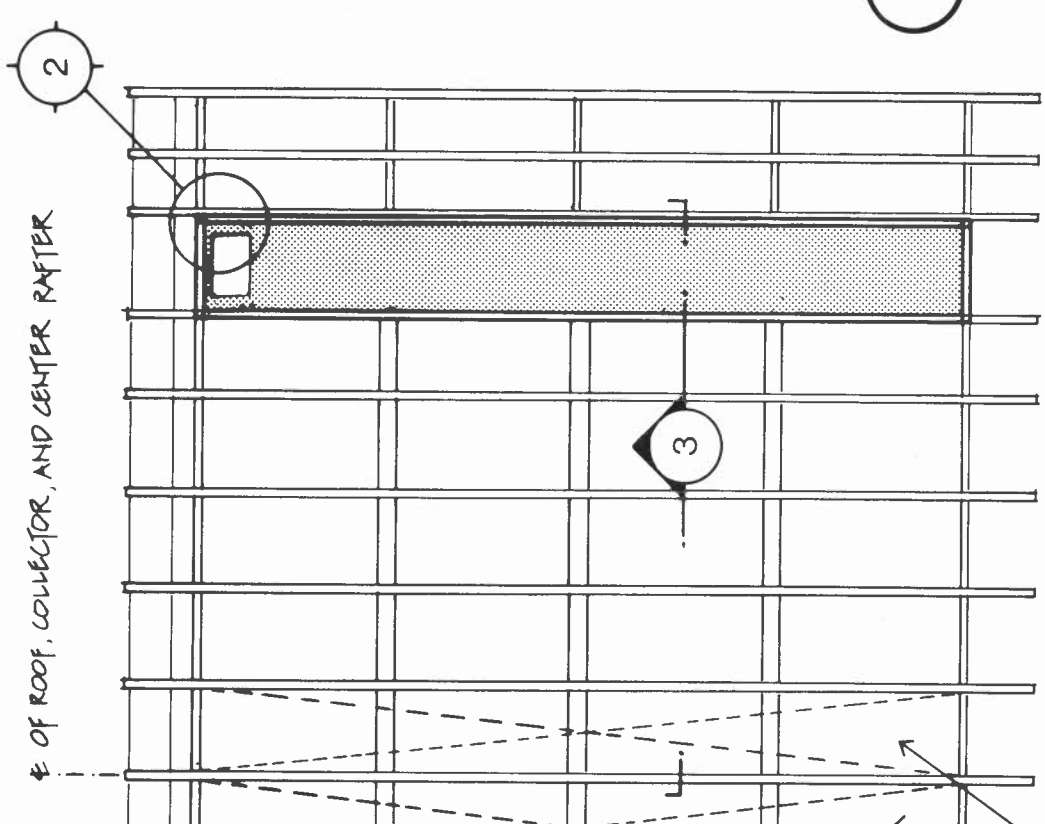
DESIGNED BY: J.A. ADAMS  
 FEBRUARY, 1980



OPENING TO RETURN AIR DUCT; ACTUAL PLACEMENT WILL DEPEND ON STORAGE LOCATION. SEE TEXT

## 1 MANIFOLD PANS

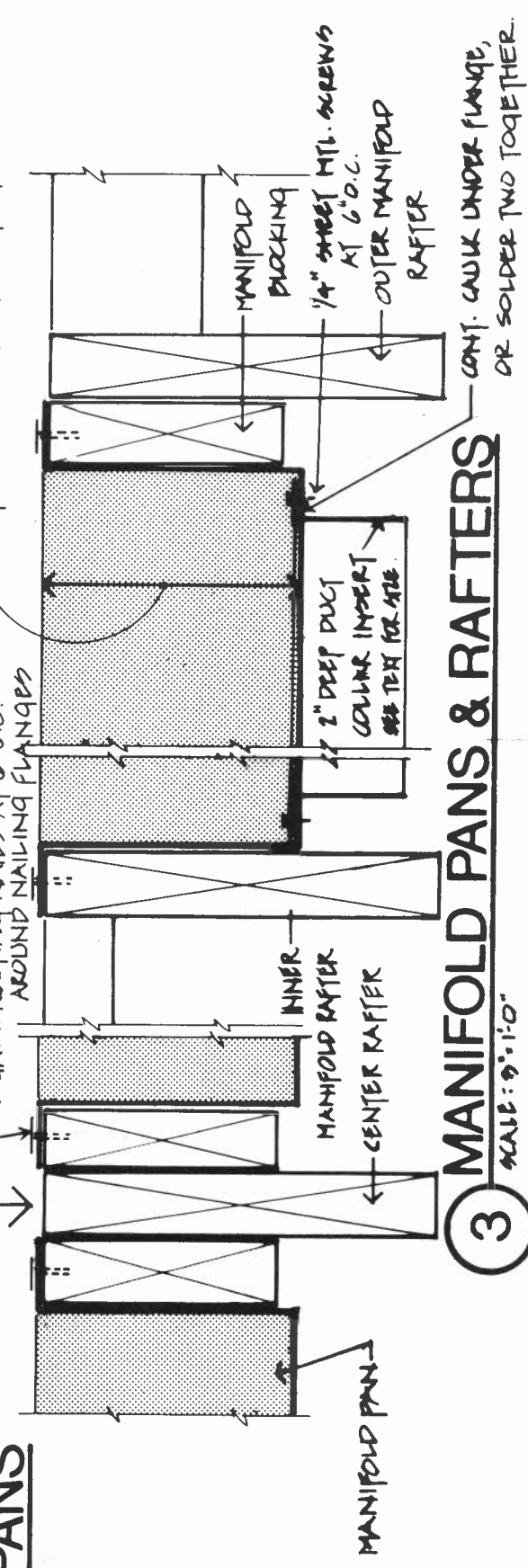
SCALE: 1/4" = 1'-0"



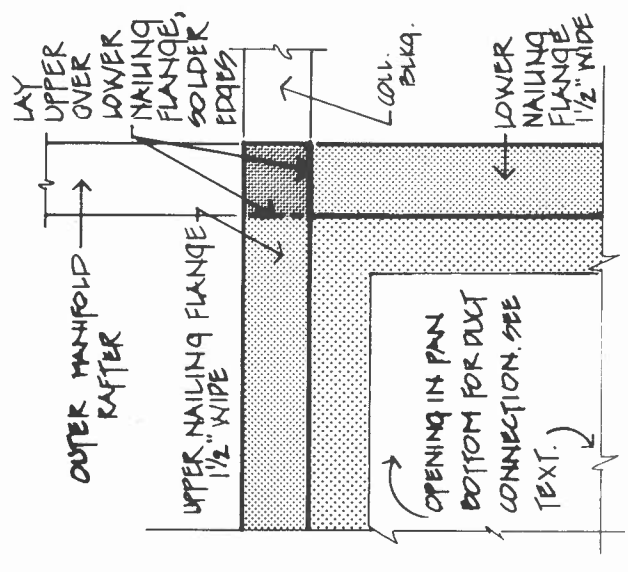
NOTE: INCLUDE MANIFOLD PANS TO EACH SIDE OF CENTER RAFTER, IF COLLECTOR WIDTH IS GREATER THAN 26 FT. WIDE

## 3 MANIFOLD PANS & RAFTERS

SCALE: 3/4" = 1'-0"



CONT. CAULK UNDER FLANGE, OR SOLDER TWO TOGETHER.



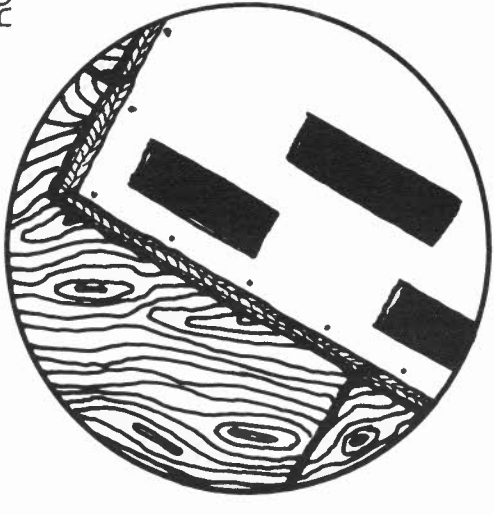
## 2 TYPICAL PAN CORNER OVERLAP

SCALE: 3/4" = 1'-0"

OPENING IN PAN BOTTOM FOR DUCT CONNECTION. SEE TEXT.

# SHEATHING 3

ROOF



**MATERIALS:**  
 4x8 SHEETS OF SUPER-STRENGTH (OWE) THERMO-PLY™  
 4x8 SHEETS 1/2" CDX PLYWOOD

**FASTENERS:**  
 THERMO-PLY: 1" GALVANIZED ROOFING NAILS OR 7/16" CROWN DIVERGENT STAPLES  
 PLYWOOD: 8d-2 1/2" COMMON NAILS

**CAULK AT:**  
 (1) OVER NAILING FLANGES OF MANIFOLD PANS  
 (2) BETWEEN SEAMS IN THERMO-PLY  
 (3) BETWEEN SEAM AT INTERSECTION OF PLYWOOD AND THERMO-PLY.

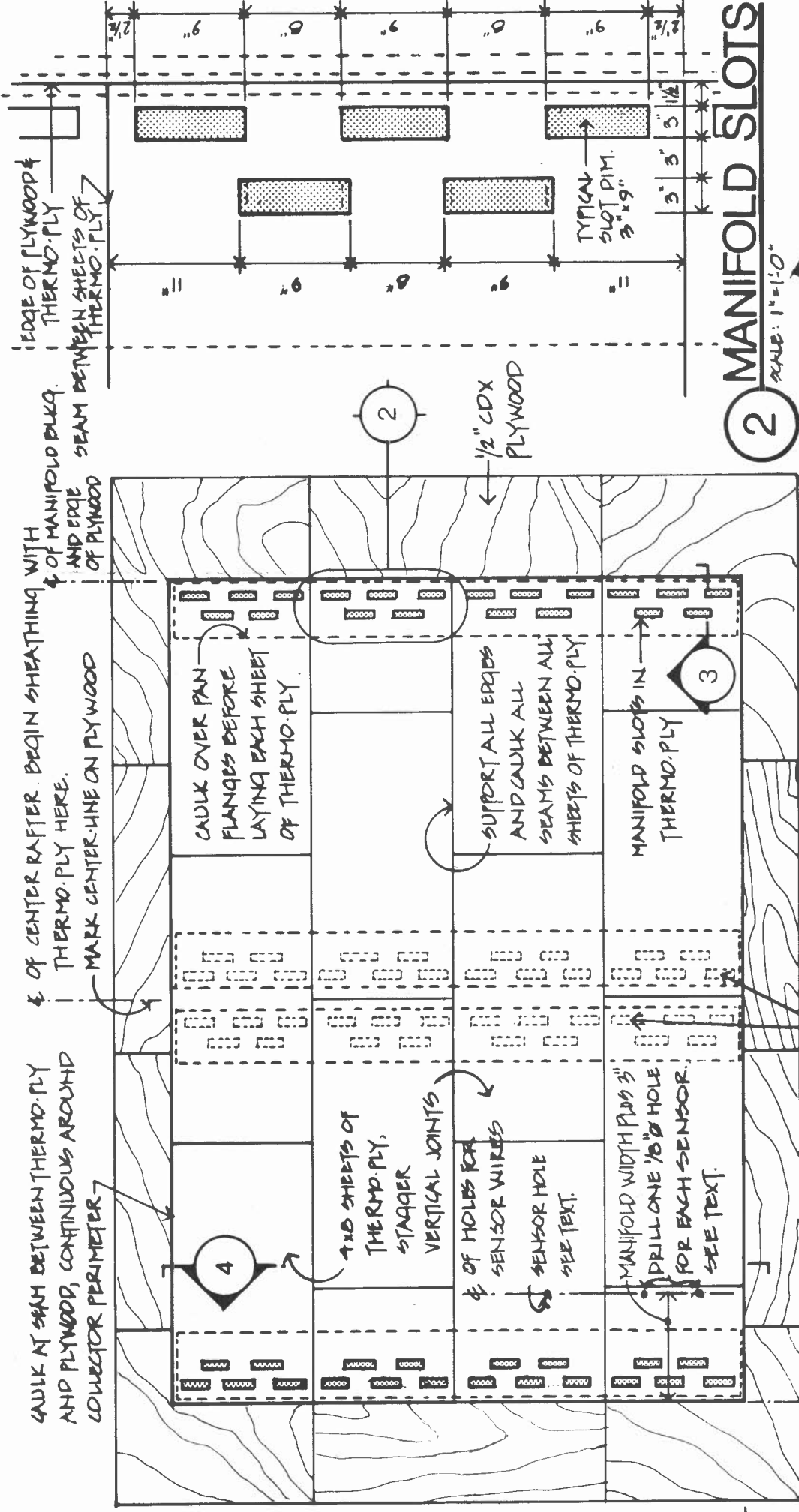


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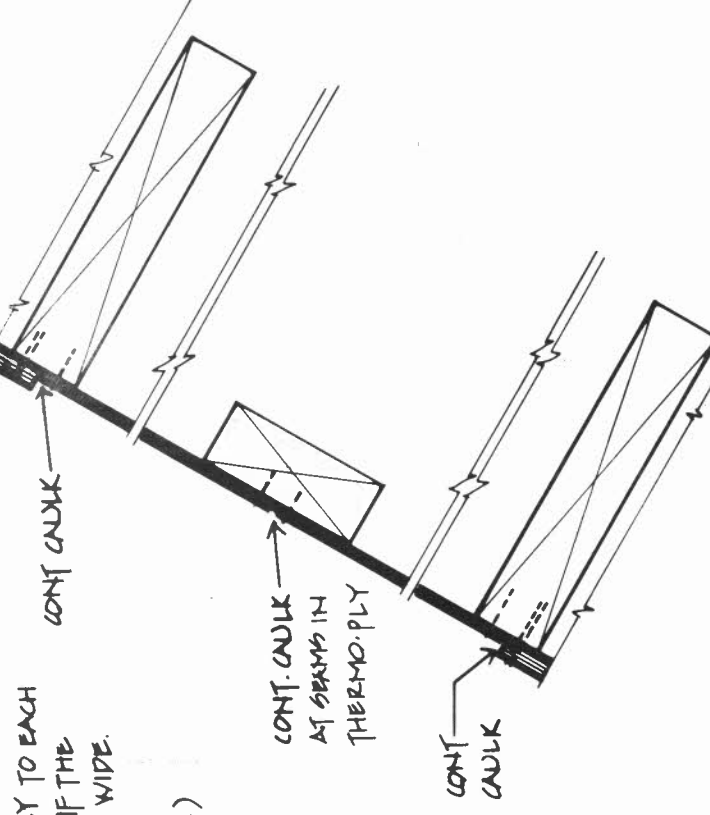
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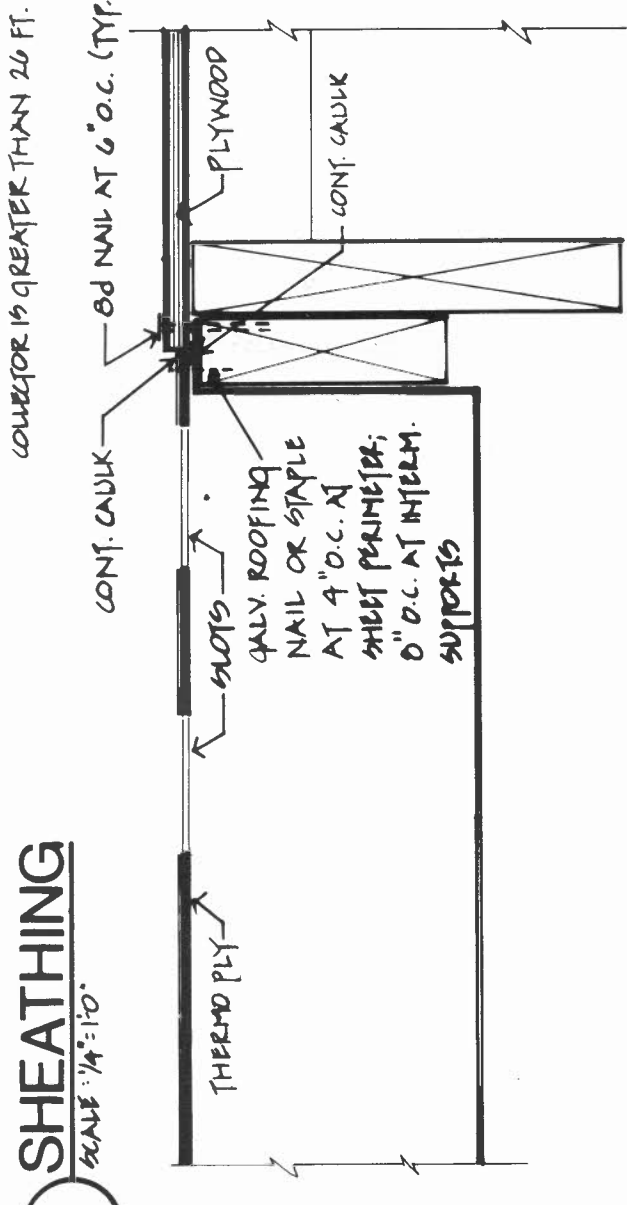
FEBRUARY, 1980



SHEATH WITH THERMO-PLY FROM & OF BOTTOM TO & OF TOP COLLECTOR BLOCKING START AT TOP, AS BOTTOM PIECE TO FIT.



## 4 VERTICAL SECTION



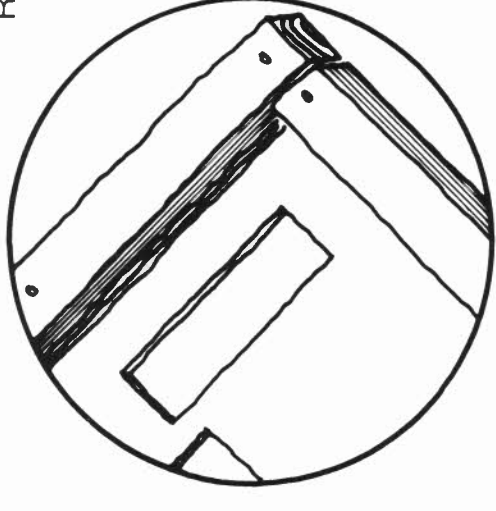
## 1 SHEATHING

## 3 SIDE SECTION



# PERIMETER BLOCKING 4

ROOF



## MATERIALS:

1x6 FIR OR SPRUCE, CUT TO 2 1/4" AND 2" WIDTHS.

## FASTENERS:

3" DRYWALL SCREWS.

## CAULK AT:

NOT APPLICABLE.



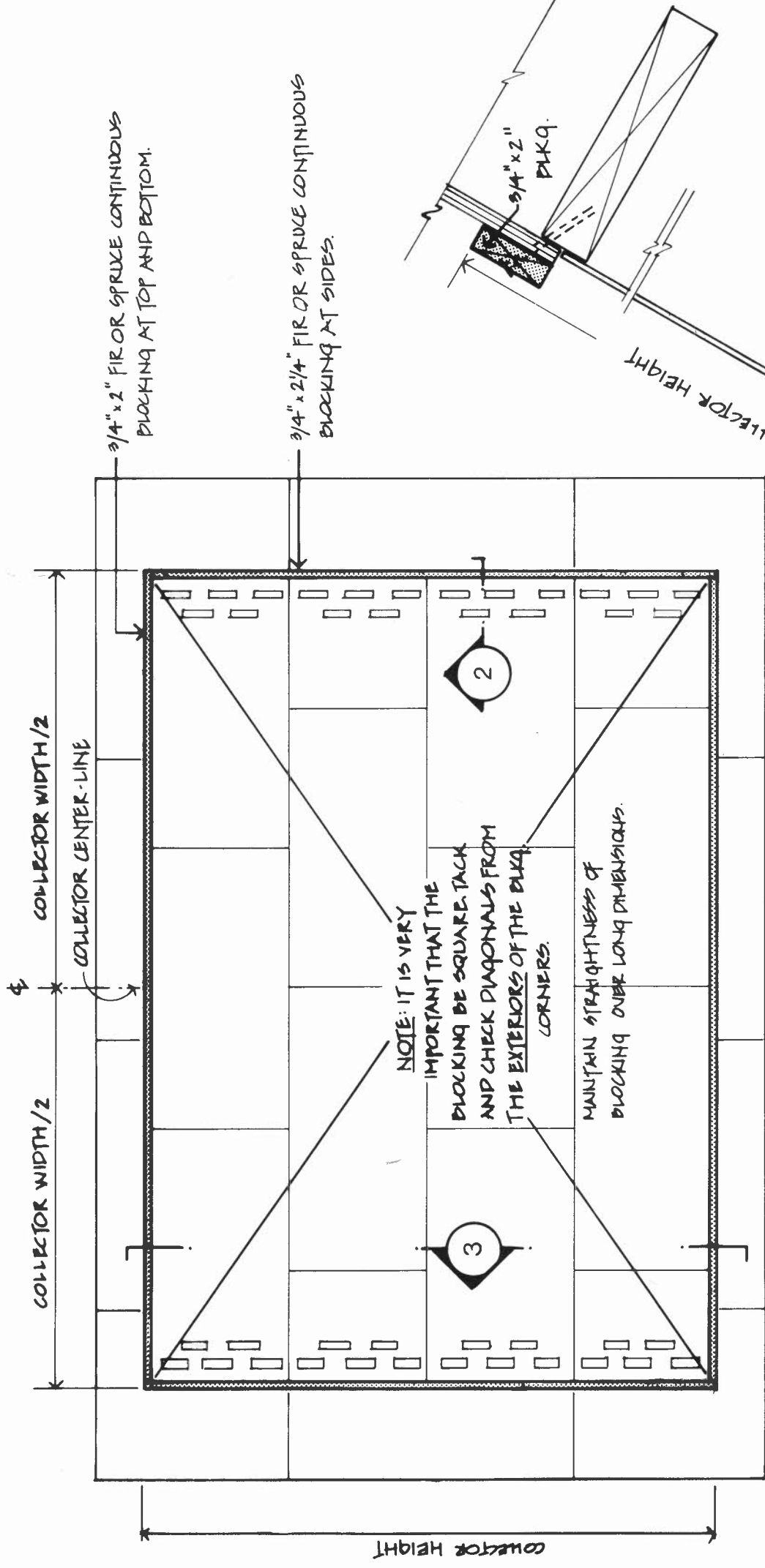
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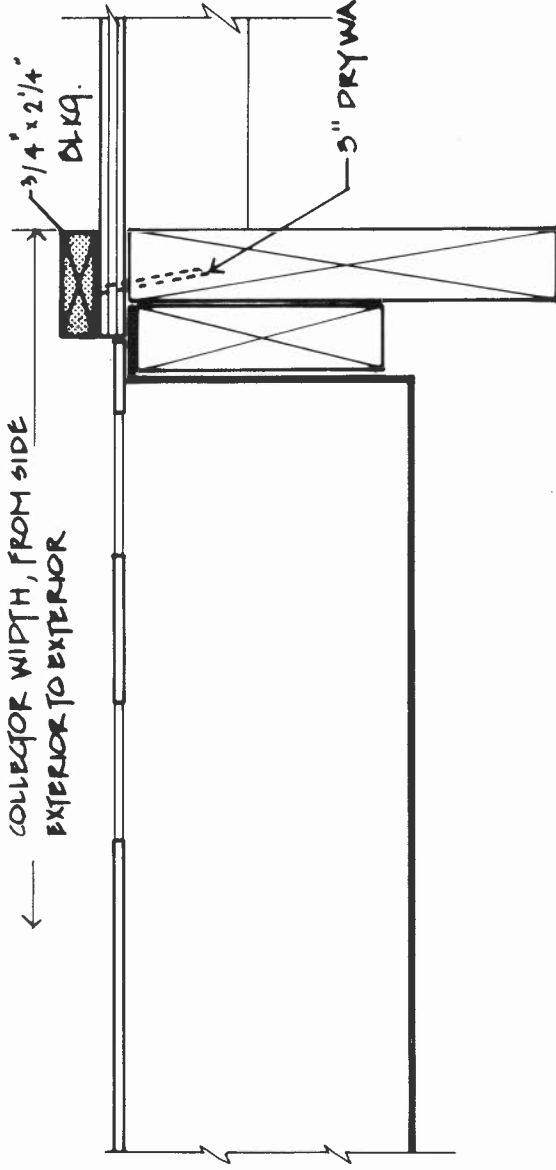
FEBRUARY, 1980



## 1 PERIMETER BLOCKING

SCALE: 1/4" = 1'-0"

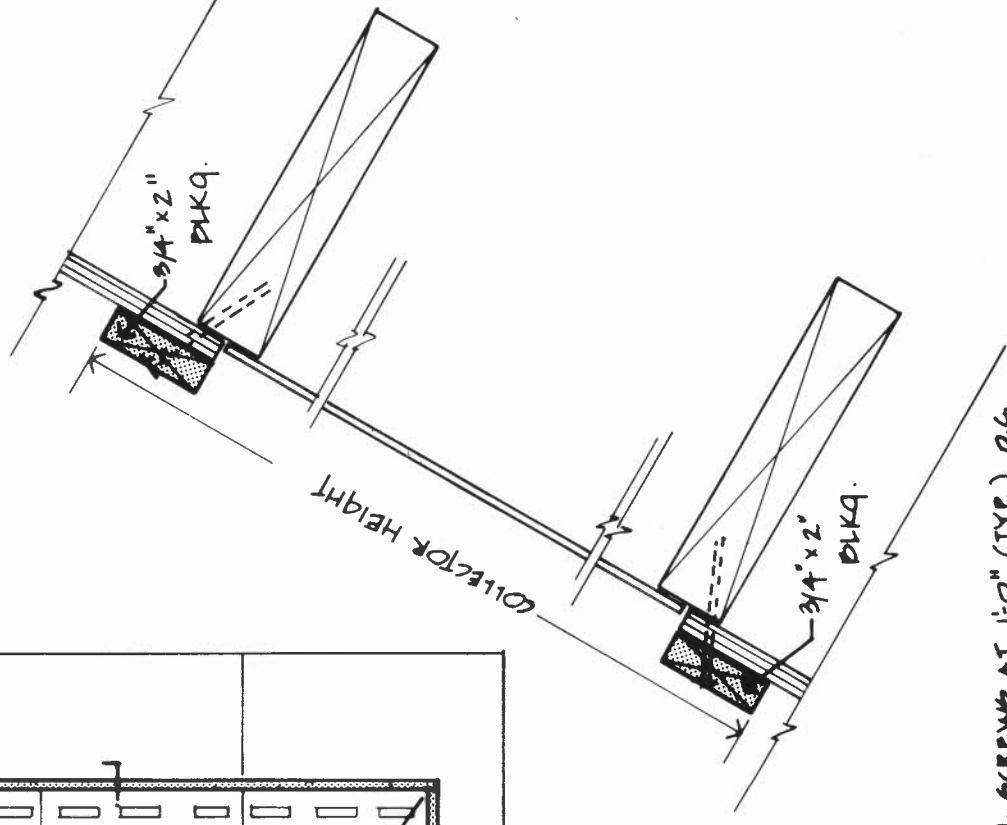
← COLLECTOR WIDTH, FROM SIDE EXTERIOR TO EXTERIOR



## 2 SIDE BLKG.

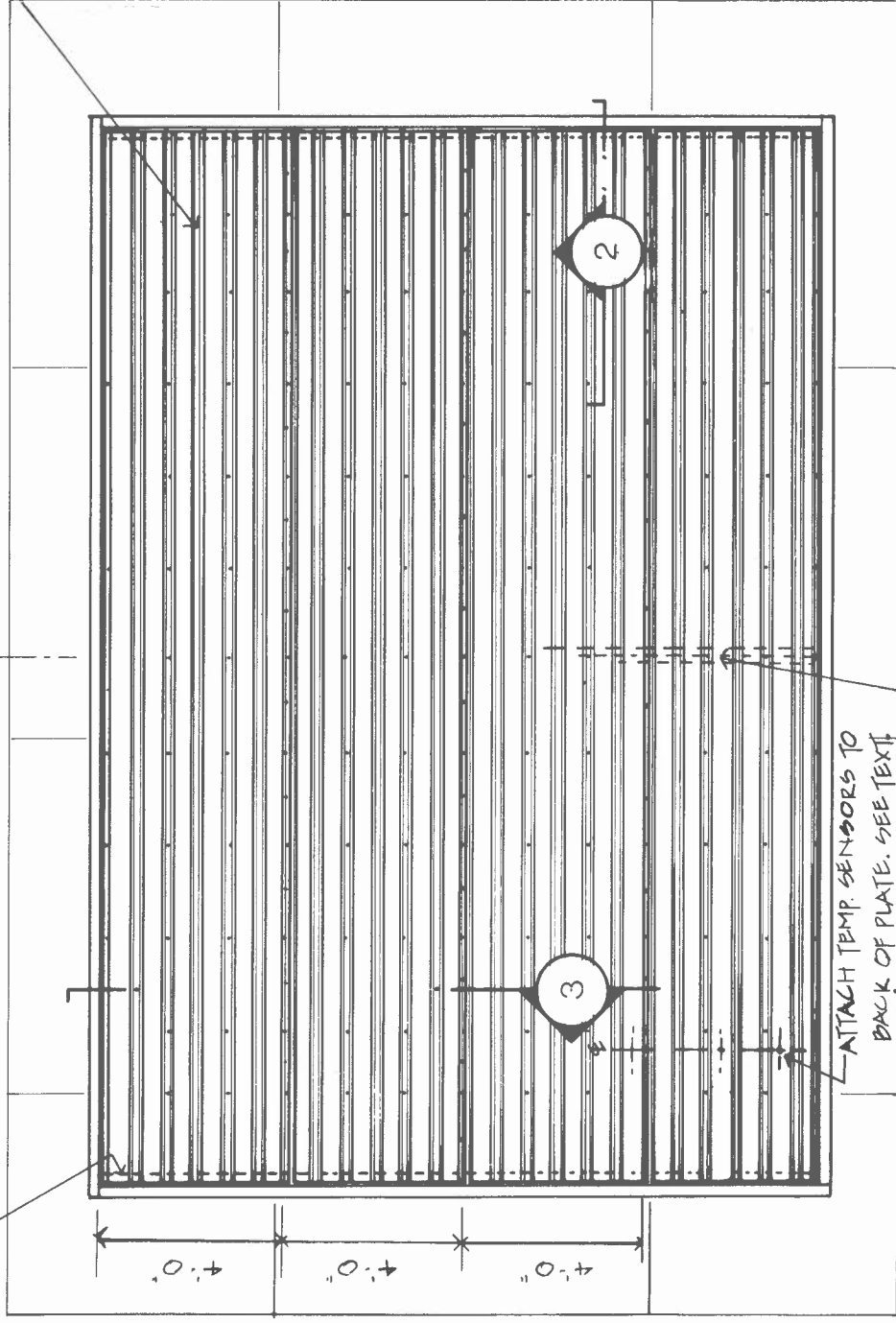
SCALE: 3/8" = 1'-0"

## 3 TOP/BOTTOM BLKG. SCALE: 3/8" = 1'-0"



EPDM END CLOSURE STRIPS, EACH SIDE

EPDM END CLOSURE STRIPS, EACH SIDE



**1 ABSORBER PLATE**  
SCALE: 1/4" = 1'-0"

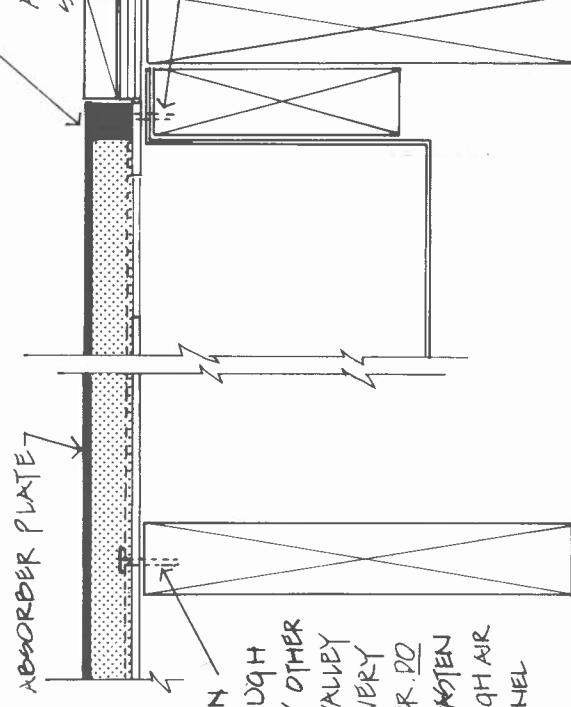
INCLUDE END CLOSURE STRIPS (2 SETS) UP & OF COLLECTOR ONLY IF COLLECTOR IS GREATER THAN 24 FT. WIDE. & BETWEEN MANIFOLDS

EPDM END CLOSURE STRIPS AT SIDES. CAULK BETWEEN STRIPS AND THERMO. PLY, AND BETWEEN STRIPS AND ABSORBER

FASTEN AT EVERY RIB VALLEY, THROUGH END CLOSURE STRIPS AT SIDES, AT THE SAME TIME AS THROUGH ABSORBER

FASTEN THROUGH EVERY OTHER RIB VALLEY AT EVERY RIB. DO NOT FASTEN THROUGH AIR CHANNEL

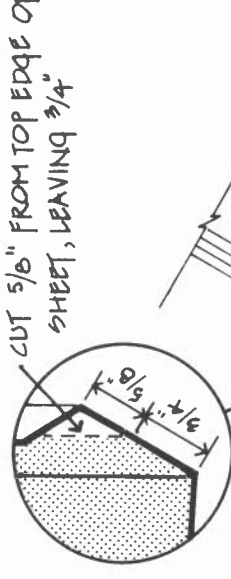
**2 END CLOSURE STRIPS**  
SCALE: 3" = 1'-0"



INSIDE PERIMETER BLOCKING:

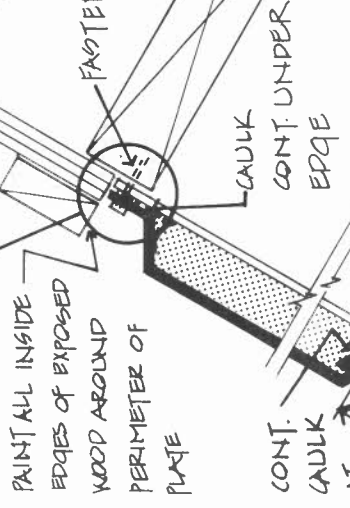
ALUMINUM INDUSTRIAL SIDING AS ABSORBER PLATE. CUT TOP AND BOTTOM SHEETS. OVERLAP AT BLOCKING. ATTACH TEMPERATURE SENSOR. LAY OVER END CLOSURE STRIPS. PREPARE, PRIME AND PAINT ABSORBER. SEE TEXT.

CUT 5/8" FROM TOP EDGE OF TOP SHEET, LEAVING 3/4"



PAINT ALL INSIDE EDGES OF EXPOSED WOOD AROUND PERIMETER OF PLATE

FASTEN AT 6" O.C.

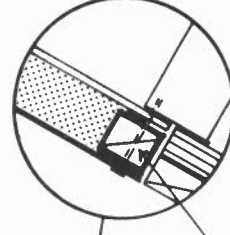


CONT. CAULK AT OVERLAP

FASTEN AT 6" O.C.

OVERLAP OVER BLOCKING

FASTEN TEMPERATURE SENSORS TO BACK OF PLATE IN RIB. TIE A KNOT IN THE WIRES BEFORE PASSING THROUGH THERMO. PLY. CAULK HOLES.



IF PLATE IS CUT ACROSS RIB, FASTEN OVER 1" x 1" FIRE BLOCKING (CONT.) WITH 2 1/2" SCREENS AT 6" O.C. CAULK OVER AND UNDER BLOCKING.

**3 TEMPERATURE SENSOR**  
SCALE: 3" = 1'-0"



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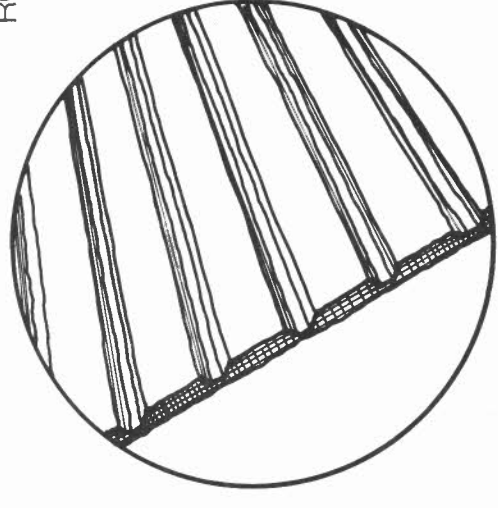
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SCALE: 3" = 1'-0"

**ABSORBER PLATE 5**  
ROOF



**MATERIALS: SEE TEXT FOR RECOMMENDATIONS.**

- (1) ALUMINUM INDUSTRIAL SIDING, 8" RIB, .032" GAUGE, MILL FINISH, 48" COVERAGE, AND EPDM "INSIDE" END CLOSURE STRIPS, (2) 1" x 1" FIRE BLOCKING, (3) TEMPERATURE SENSORS, AND (4) PAINT & PRIMER.

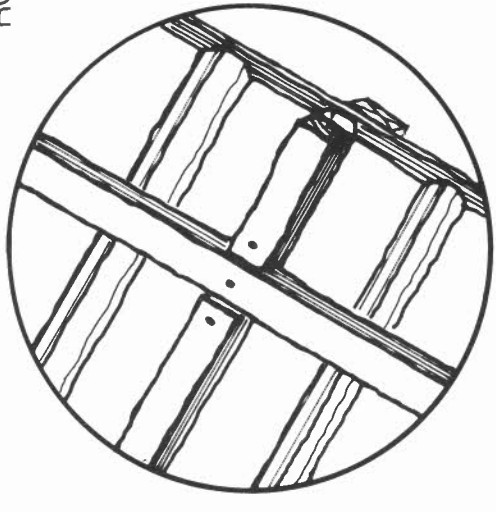
**FASTENERS:**

- ALUMINUM OR 18-8 STAINLESS STEEL #12 x 1/4" PHILLIPS, PAN HEAD SHEET METAL SCREWS, AND #12 x 2 1/2"

**CAULK AT:**

- (1) UNDER EPDM END CLOSURE STRIPS, CONTINUOUS.
- (2) UNDER FOUR SIDES OF EACH ABSORBER PLATE SHEET, CONTINUOUS, INCLUDING OVERLAYS AND EPDM.
- (3) IN SENSOR HOLES IN THERMO PLY AND ABS. PLATE.

# BATTENS 6 ROOF



## MATERIALS:

1. 1x3 FIR OR SPRUCE.
2. 1x2 FIR OR SPRUCE (UNDER HORIZONTAL BATTEN AT  $\frac{1}{4}$  OF COLLECTOR ONLY)
3. PAINT. SEE TEXT

## FASTENERS:

1. ALUMINUM OR 18-8 STAINLESS STEEL #14 x 1 1/2", #14 x 3" PHILLIPS FLAT HEAD WOOD SCREWS.
  2. 3" DRYWALL SCREWS (FOR BATTENS AROUND PERIMETER ONLY, NOT THROUGH ADDORDER)
- CAULK AT:  
NOT APPLICABLE.



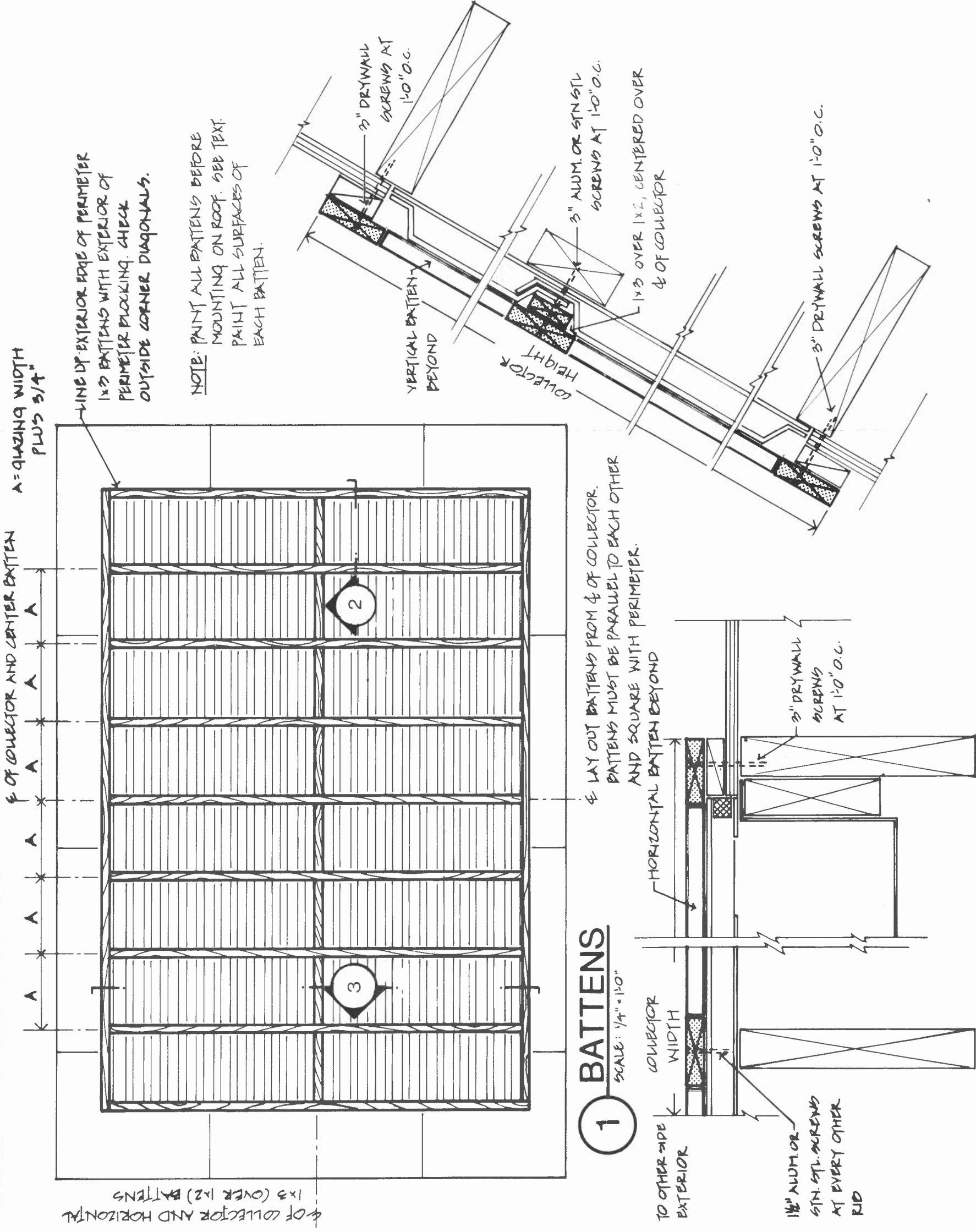
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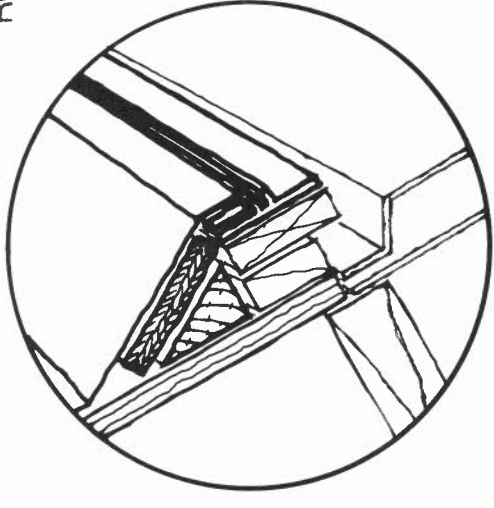
3 VERTICAL SECTION  
SCALE: 3" = 1'-0"

2 HORIZ. SECTION  
SCALE: 3" = 1'-0"

1 BATTENS  
SCALE: 1/4" = 1'-0"

# GLAZING PREPARATION 7

ROOF



## MATERIALS:

- (1) 1/4" x 1/4" x 1/4" LOWER EPDM GASKET.
- (2) 3/16" x 3/4" WOOD SHIMS.
- (3) 2 x 4 CANT STRIP, AND 1/2" CDX
- (4) .019" ALUMINUM FLASHING, AND (5) ROOFING

## FASTENERS:

- (1) 7/16" CROWN DIVERGENT STAPLES
- (2) 1" GALVANIZED ROOFING NAILS
- (3) 10d - 3" COMMON NAILS.

## CAULK AT:

INTERSECTION OF LOWER GASKETS



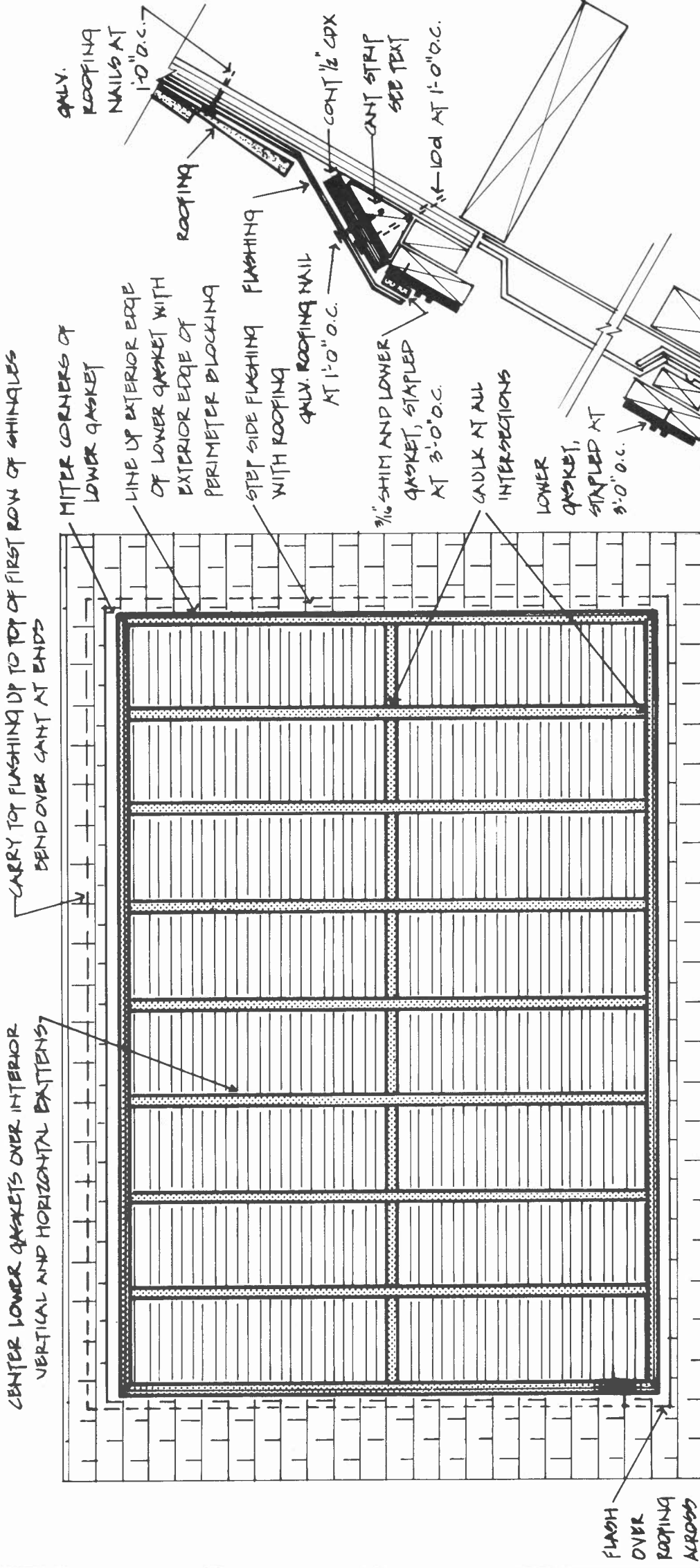
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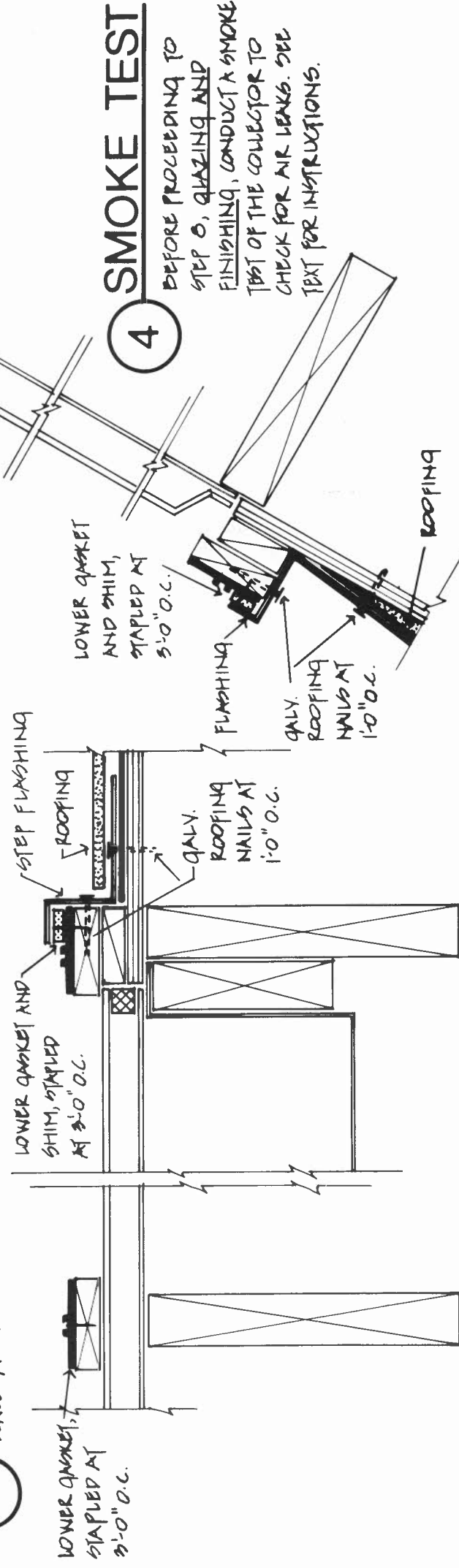
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## 1 GLAZING PREPARATION - LOWER GASKET

SCALE: 1/4" = 1'-0"



## 2 SHIM & FLASHING

SCALE: 3/4" = 1'-0"

## 4 SMOKE TEST

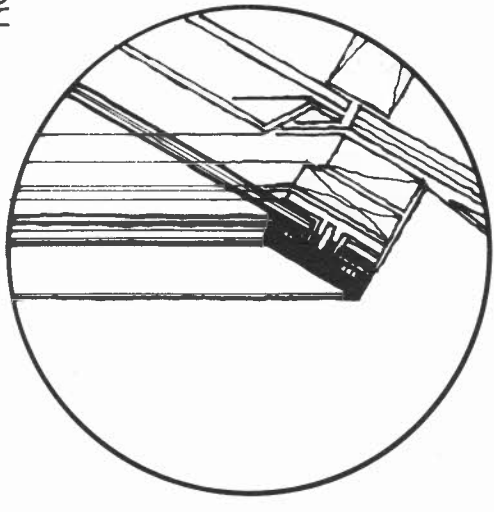
BEFORE PROCEEDING TO STEP 5, GLAZING AND FINISHING, CONDUCT A SMOKE TEST OF THE COLLECTOR TO CHECK FOR AIR LEAKS. SEE TEXT FOR INSTRUCTIONS.

## 3 CANT, SHIM & FLASHING

SCALE: 3/4" = 1'-0"



# GLAZING & FINISHING 8 ROOF



## MATERIALS:

1. 3/16" x 34" x 96" SOLAR GLASS
2. CY/RO<sub>3</sub> UG'S ALUMINUM CLAMPING BAR AND UPPER EPDM GASKETS
3. RIGID & FIBERGLASS BATT INSULATION

## FASTENERS:

- ALUMINUM OR 10-0 STAINLESS STEEL #12 x 2" PHILLIPS PAN HEAD SHEET METAL SCREWS WITH NEOPRENE WASHERS

## CAULK AT:

1. INTERSECTIONS OF CLAMPING BARS.
2. AT ANY HOLES IN THERMOPLY WHERE FASTENERS PUNCTURED IT, BEFORE INSULATING BETWEEN RAFTERS

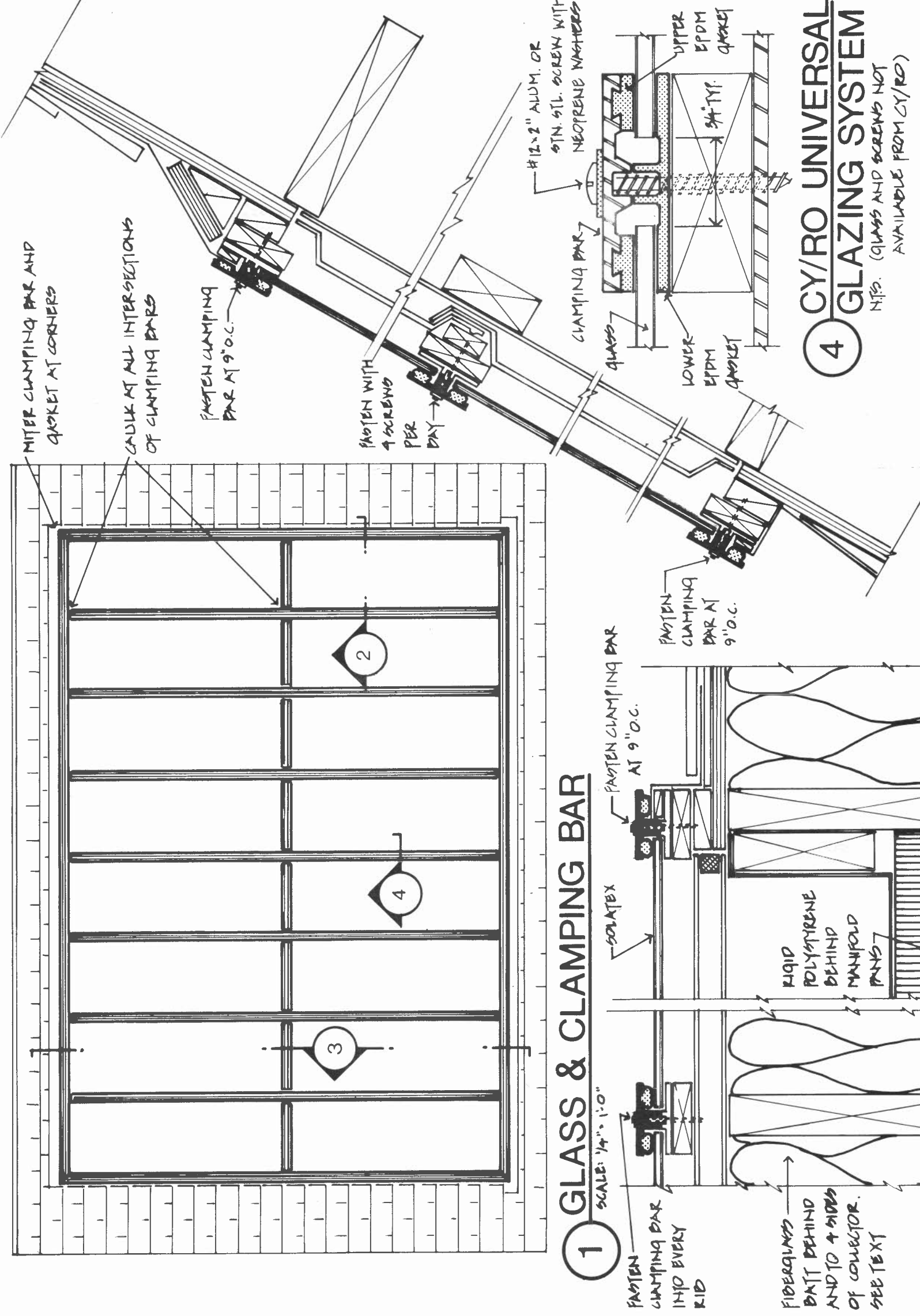


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**4 CY/RO UNIVERSAL GLAZING SYSTEM**  
NFS. (GLASS AND SCREWS NOT AVAILABLE FROM CY/RO)

**3 VERTICAL SECTION**  
SCALE: 3" = 1'-0"

**1 GLASS & CLAMPING BAR**  
SCALE: 1/4" = 1'-0"

**2 INSULATION**  
SCALE: 3" = 1'-0"