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**FIELD ASSEMBLY
AND
INSTALLATION INSTRUCTIONS
FOR PENTHOUSES**

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FIELD ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR PENTHOUSES

This booklet is provided to offer basic assembly and installation instructions for standard Ruskin penthouses. While these instructions should be useful for most standard penthouse models and applications, "special" penthouse designs or installation conditions may not be covered. Ruskin penthouses are designed to withstand 20 psf wind and snow loads unless otherwise instructed. Since the construction and material utilized on curbs vary, fasteners to anchor the penthouse to the curb are not designed or provided by Ruskin. Consult the Engineer of Record on your project for the size, type and quantity of fasteners required.

RECEIVING/INSPECTION

Upon delivery, inspect shipping containers and contents closely. If shipping containers are damaged, contents could also be damaged. Note any damage on trucker's delivery receipt. Contact the freight company within 24 hours for inspection. All products are shipped f.o.b. Ruskin plant; receiver of the shipments is responsible for filing freight claims with the freight company.

STORAGE

Store in an orderly manner at a safe location away from construction traffic, material, etc. to prevent damage. Cover with plastic sheeting to protect from excessive moisture, dirt and debris.

DRAWING EXPLANATION

Ruskin penthouses are offered in two types of construction; mitered corner (PHM) and boxed corner (PHB). The drawings and details referenced in the instructions below can be found in the following pages and are grouped by PHM and PHB construction.

PRE-ASSEMBLY

1. Remove penthouse and accessories from shipping containers and inspect for damage. Small penthouses will be shipped fully assembled. Larger units will be shipped in sections to be assembled at the job site. Care must be taken when handling components. Lift louver sections carefully by the supports or frames; avoid lifting by the louver blades. Do not apply

excessive force to any one point of the section. Lift at multiple points, if necessary, to avoid deformation or racking of components.

2. Inspect penthouse and components after removal from containers. Verify that all components and fasteners are accounted for. Use the exploded drawings and details found in this booklet to identify parts. Report any shortages immediately to the Ruskin plant that manufactured the penthouse.
3. Inspect the curb that the penthouse will be installed on. Verify that the unit will fit prior to installation. With mitered corner penthouses (PHM), the louver HVBS (Hidden Vertical Blade Supports) should rest on the curb with the louver blades extending beyond the front of the curb. With boxed corner penthouses (PHB), the louver sill frames rest on the curb with the HVBS extending inside the curb. Extended sill flashing rests on top of the curb. Apply caulk to the top of the curb for the extended sill flashing to rest on before installing the flashing (caulk is not provided by Ruskin). Reference the drawings in this booklet for identification of penthouse components.

SINGLE SECTION INSTALLATION

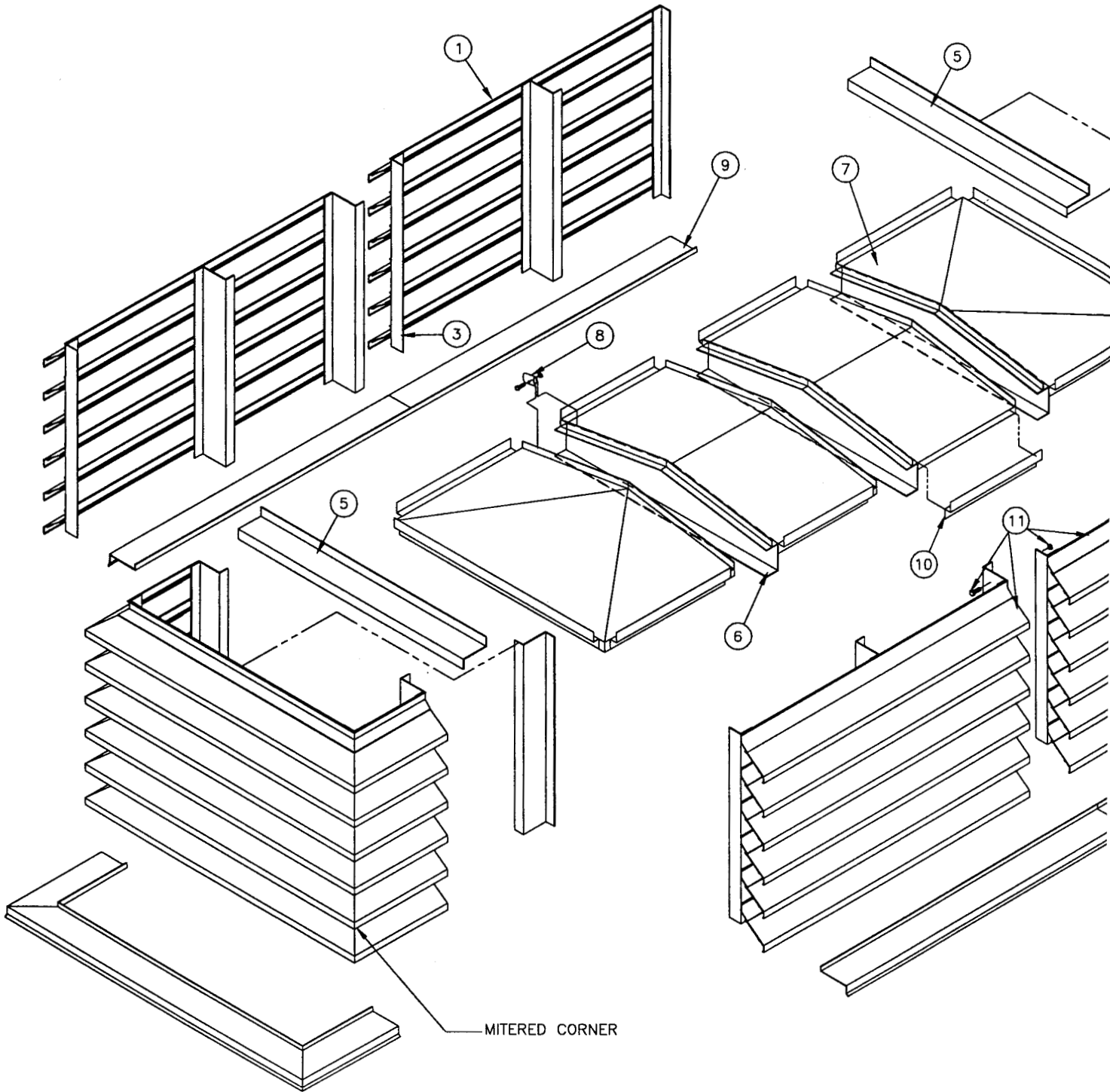
1. Place extended sill flashing on top of curb. Fasten flashing to curb (fasteners not provided by Ruskin). Caulk the heads of penetrating fasteners. Note: small penthouses may be provided from the factory with the extended sill flashing welded to the bottom of the assembly. No further anchorage of the sills are required in this case.
2. Remove the roof panels from the penthouse assembly.
3. Place the penthouse assembly on the curb on top of the extended sill flashing.
4. Anchor the penthouse to the curb through the roof opening. Clip angles and fasteners for clip angle-to-penthouse connection are provided. Fasteners for clip angle-to-curb connection are not provided by Ruskin. Reference details 60-021320-00A (PHM) and 60-021323-00A (PHB).
5. Re-install the roof panels to the penthouse assembly using the same fasteners.

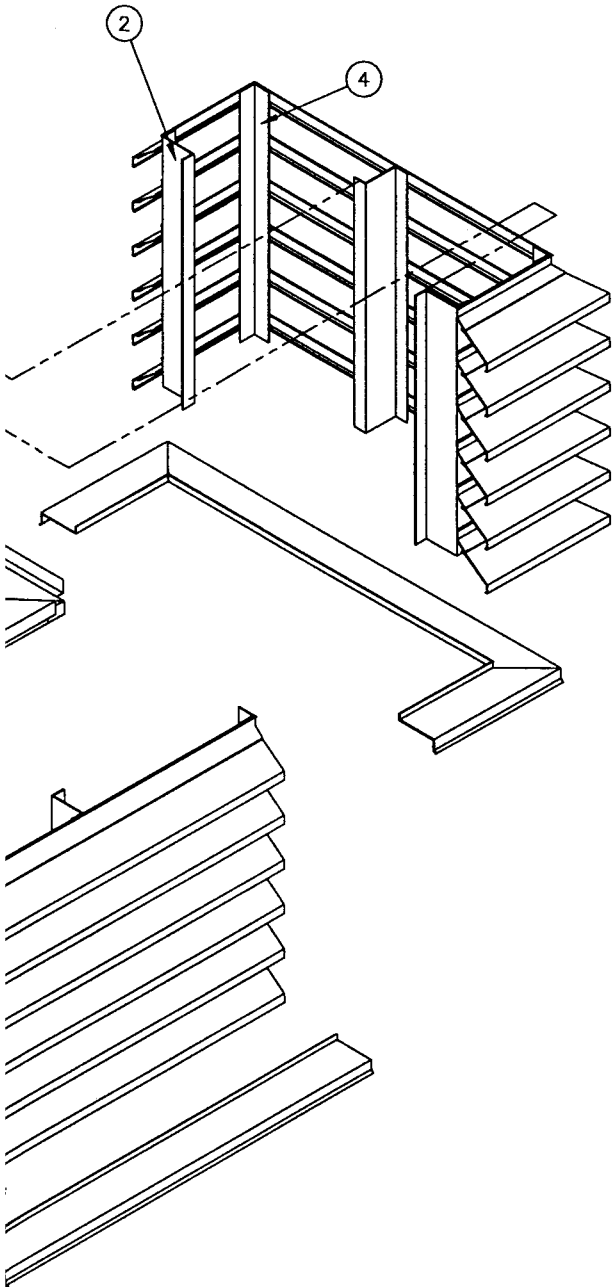
MULTIPLE SECTION ASSEMBLY/INSTALLATION

1. Place extended sill flashing on top of curb. Large sills will be provided in sections. Fasten flashing to the curb (fasteners not provided by Ruskin). Apply a continuous bead of caulk at heads of penetrating fasteners and any section seam where moisture could seep.

2. Position the louver sections around curb as they will be installed. On large units with sides composed of multiple sections, locate the tag numbers on each section and place consecutive numbered sections in order.
3. Assemble the short sides of the penthouse. On mitered corner units, assemble the corners to the short sides. Reference details 60-021488-00A for ship section connection (PHM) and 60-021495-00A for visible mullion connection (PHB). Short sides and corners may be provided from the factory pre-assembled in a "U" Shape.
4. Assemble the long sides of the penthouse. Reference details 60-021488-00A for ship section connection and 60-021495-00A for visible mullion connection on boxed corner units.
5. Place the short sides and mitered corners, if applicable, on the curb on top of the extended sill flashing.
6. Anchor the short sides and mitered corners, if applicable, to the curb. Clip angles and fasteners for clip angle-to-penthouse connection are provided. Fasteners for clip angle-to-curb connection are not provided by Ruskin. Reference details 60-021320-00A (PHM) and 60-021323-00A (PHB).
7. Place the long sides on the curb on top of the extended sill flashing.
8. Connect long sides to mitered corners or short side. Reference section connection details identified above.
9. Anchor the long sides to the curb. See step 5.
10. On boxed corner units, install corner cover angle to adjacent louver jamb frames with screws provided. Reference detail 60-021324-00A.
11. Install rafters to the HVBS members of the long sides. Reference details 60-021320-00A (PHM) and 60-021323-00A (PHB).
12. Place roof panels on rafters. Reference details 60-021319-00A (PHM) and 60-021322-00A (PHB).
13. Fasten roof panels and water baffle zeos to rafters and sides with screws provided. Reference details 60-021320-00A (PHM) and 60-021323-00A (PHB).
14. Place "U" clamp on roof panel seams.
15. Drill 5/16" diameter holes through the clamp and roof panel seam lips.
16. Install 1/4" diameter bolts and nuts through seams. Reference detail 60-021460-00A.
17. Caulk any exposed seams or joints in the roof that could allow water seepage.

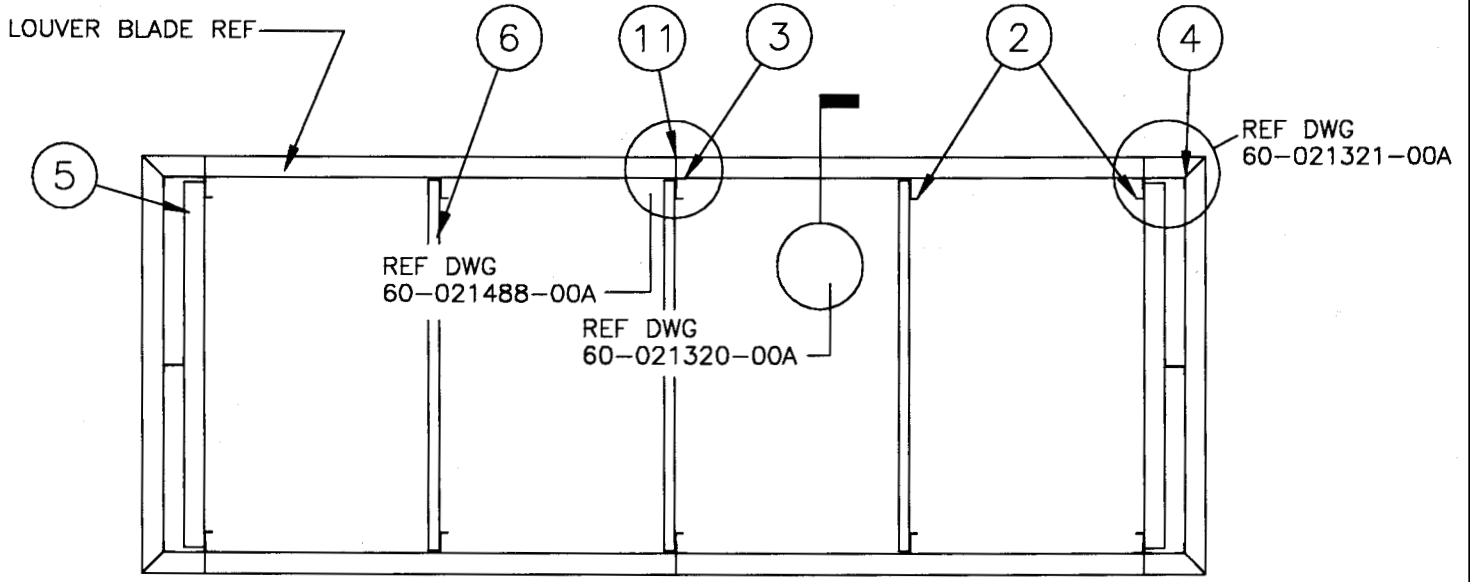
MITERED CORNER PENTHOUSE



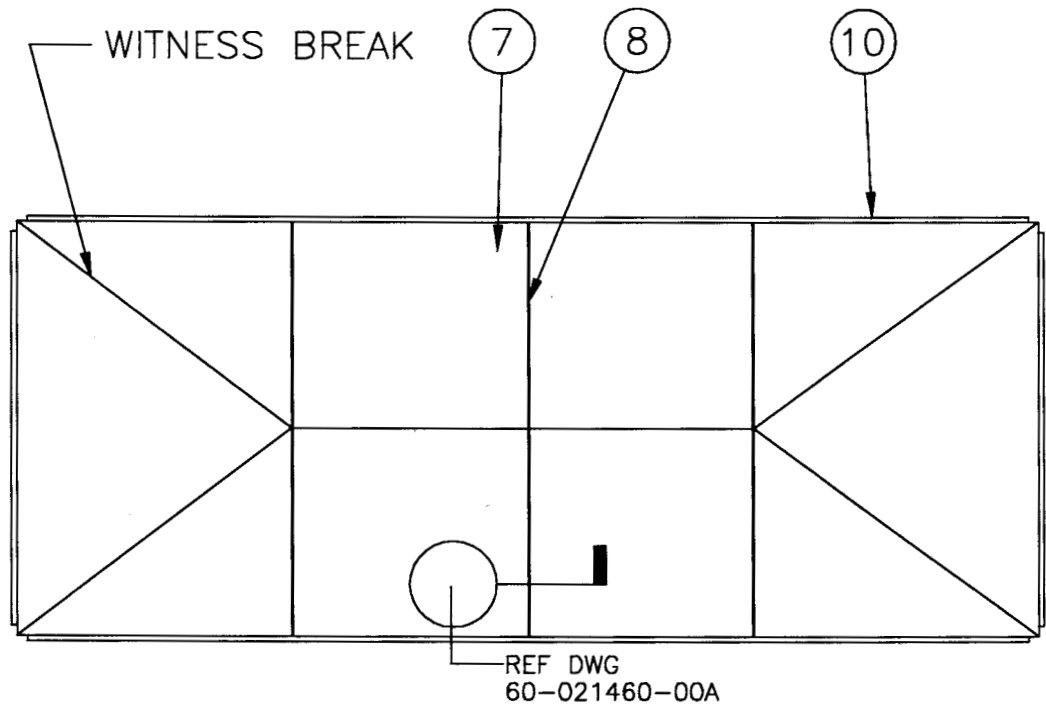


LEGEND

- ① = LOUVER SECTION (SHIP LOOSE)
- ② = LOUVER HVBS (HIDDEN VERTICAL BLADE SUPPORT) REF. 4 ADDITIONAL SUPPORTS (1 @ EACH END) MAY BE ADDED TO EACH END OF LONG SIDES OF PENTHOUSE TO ACCOMMODATE ZEE JOISTS REF NOTE 5.
- ③ = HVBS ATTACHMENT ANGLE AT SHIP SECTIONS ONLY (SIZE VARIES). ATTACHES TO HVBS W/ 1/4"-20 X 1 1/2" HHB & SERRATED FLANGE NUT AT 18" O/C & 6" FROM ENDS IN FIELD.
- ④ = CORNER ATTACHMENT ANGLE ATTACHES TO LOUVER BLADE BRACE AT EACH CORNER. ASSEMBLED @ PLANT
- ⑤ = 1 1/2" X 4" X 1 1/2" X 1/8" ZEE JOIST REQ'D. @ UNITS W/ MORE THAN 2 SHIP SECTIONS, ATTACHES TO HVBS @ EACH END OF LONG SIDES OF PENTHOUSE & TO EACH INTERMEDIATE HVBS @ EACH SHORT SIDE OF PENTHOUSE. 2 ZEE JOISTS REQ'D. TOTAL. (SHIP LOOSE)
- ⑥ = RAFTERS (SIZE VARIES) SPAN ACROSS SHORT SIDE OF PENTHOUSE ATTACHES TO HVBS. SIZE & NUMBER OF BOLTS VARY. (SHIP LOOSE)
- ⑦ = ROOF PANELS (46" WIDE MAX.) SIZE & THICKNESS VARY. (SHIP LOOSE)
- ⑧ = CONTINUOUS "U" CLAMP ROOF SEAM ATTACHMENT. ATTACHES ROOF PANELS TOGETHER W/ 1/4"-20 X 1" HHB & SERRATED FLANGE NUT AT 18" O/C & 3" FROM ENDS IN FIELD. (SHIP LOOSE)
- ⑨ = EXTENDED SILL (DEPTH VARIES) ATTACHED TO LOUVER SILL & IS TO BE CAULKED AT SHIP SECTIONS. ATTACHES TO CURB IN FIELD.
- ⑩ = WATER BAFFLE ZEE ATTACHES THRU ROOF PANELS & TOP LEG OF LOUVER BLADE W/ #10 TEKS @ 18" O/C & 3" FROM ENDS IN FIELD. (MUST START 1" AWAY FROM ENDS MIN.) (SHIP LOOSE)
- ⑪ = ARCHITECTURAL SHIP SECTION: REF DWG 60-021488-00A FOR CONNECTION DETAIL

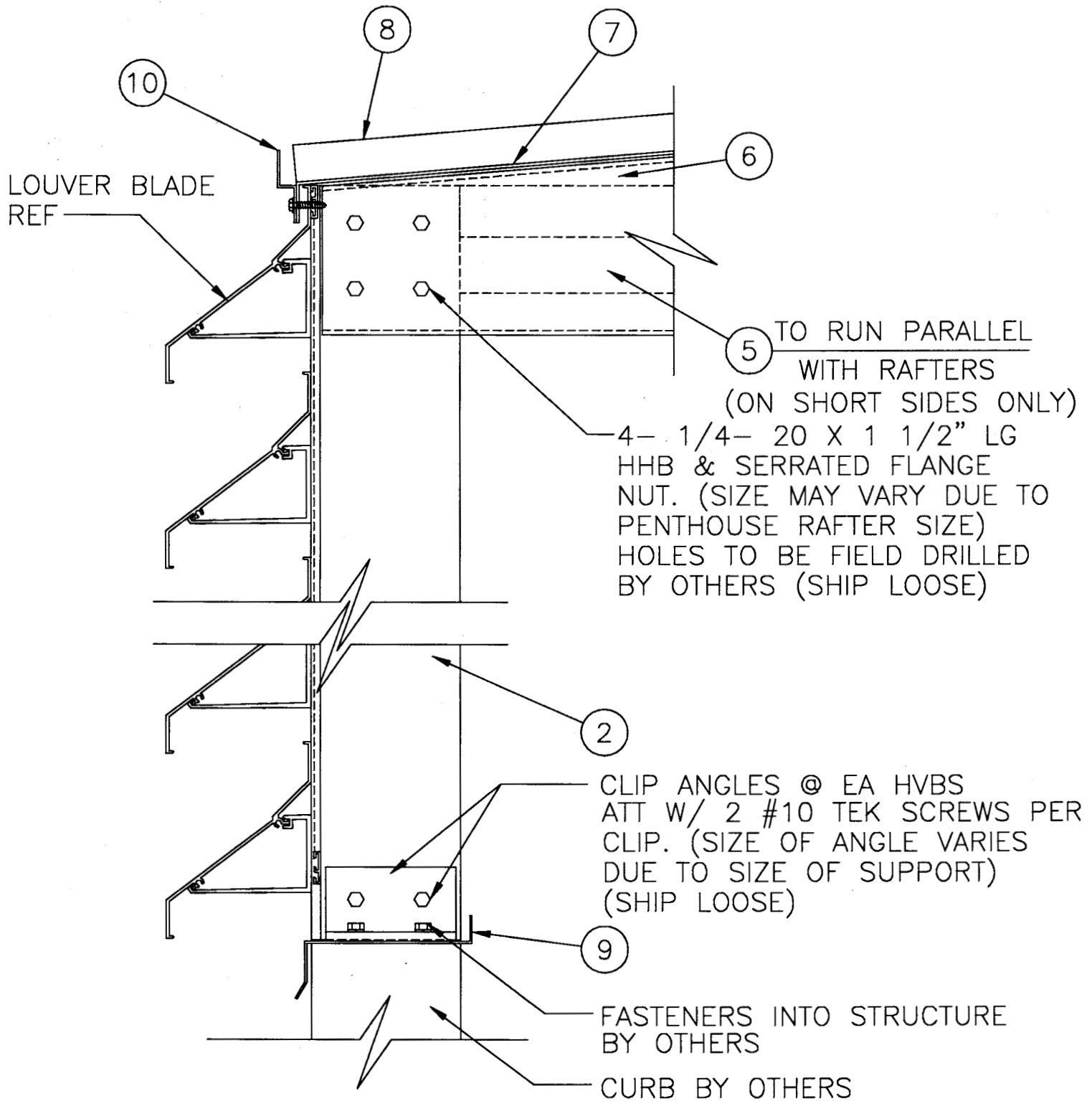


PLANVIEW FOR A MITERED CORNER PENTHOUSE



ROOF PLAN FOR A MITERED CORNER PENTHOUSE

RUSKIN Mfg. air handling specialties 3900 DR. GREAVES RD. KANSAS CITY, MD 64030		
TITLE 6 PLAN VIEWS FOR MITERED CORNER PENTHOUSES	DATE 8-23-96	DWG NO. 60-021319-00A



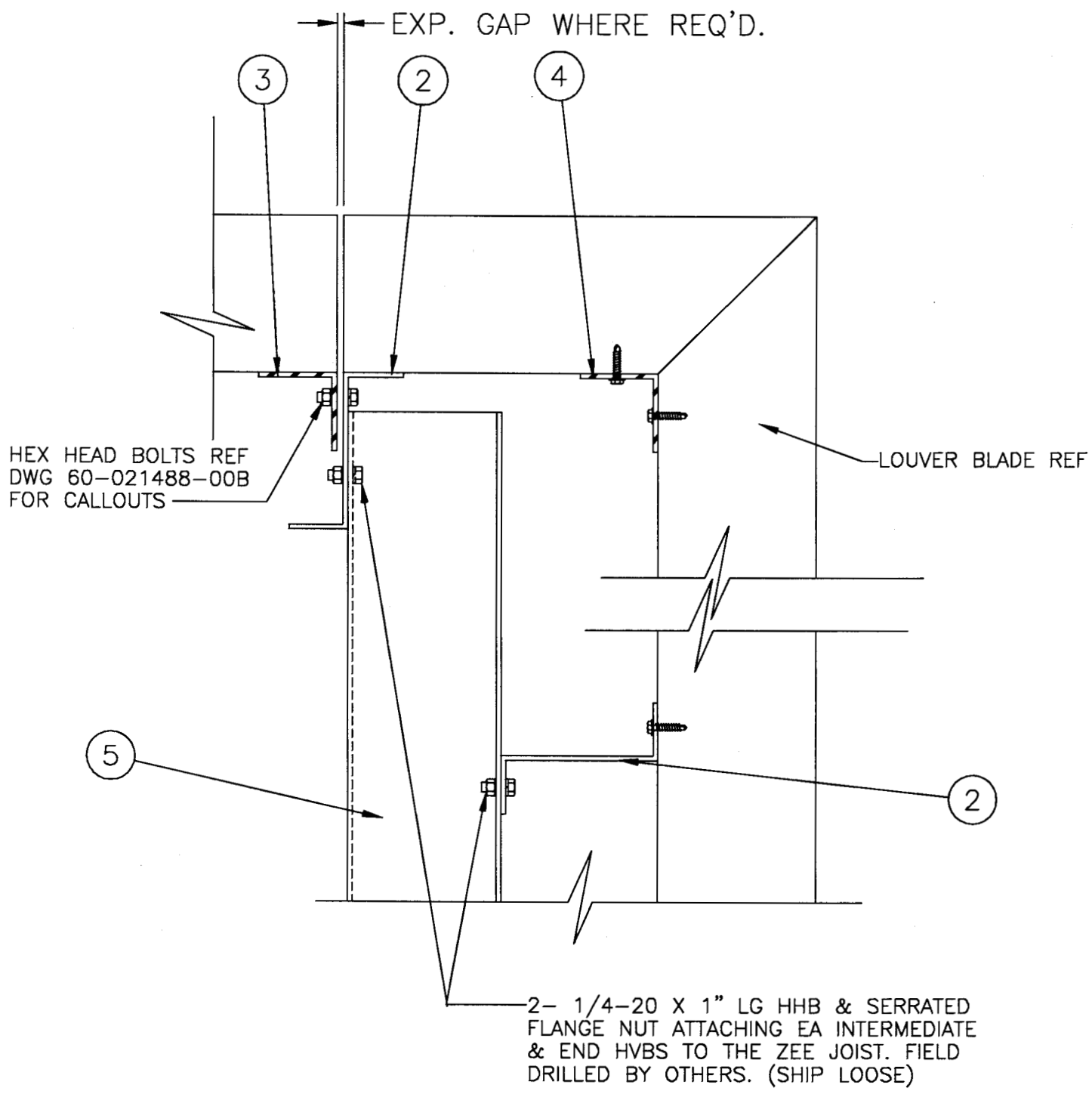
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TITLE
 SECTION THRU MITERED
 CORNER PENTHOUSE

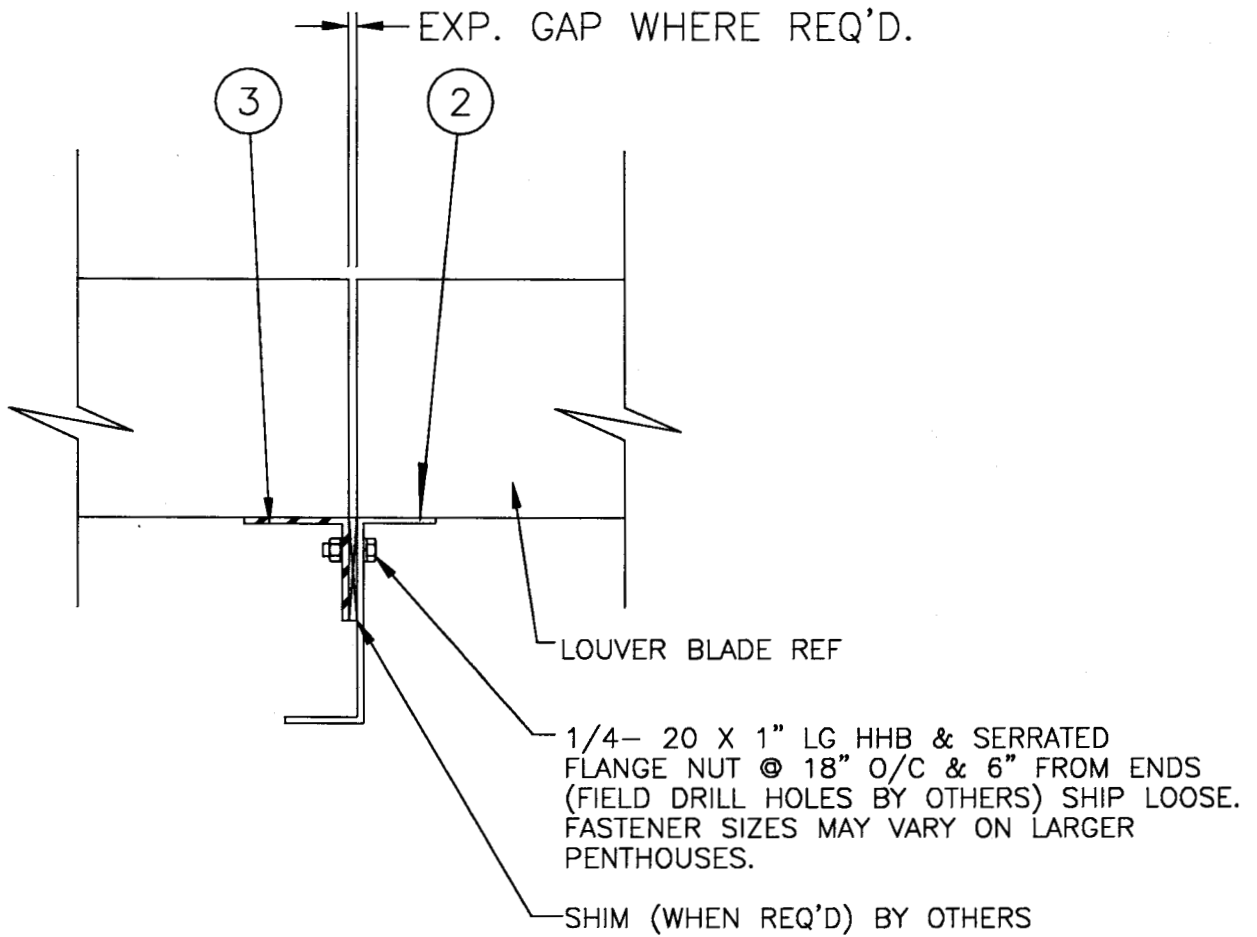
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DWG NO.
 60-021320-00A



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TITLE MITERED CORNER PLAN DETAIL	DATE 8-23-96	DWG NO. 60-021321-00A
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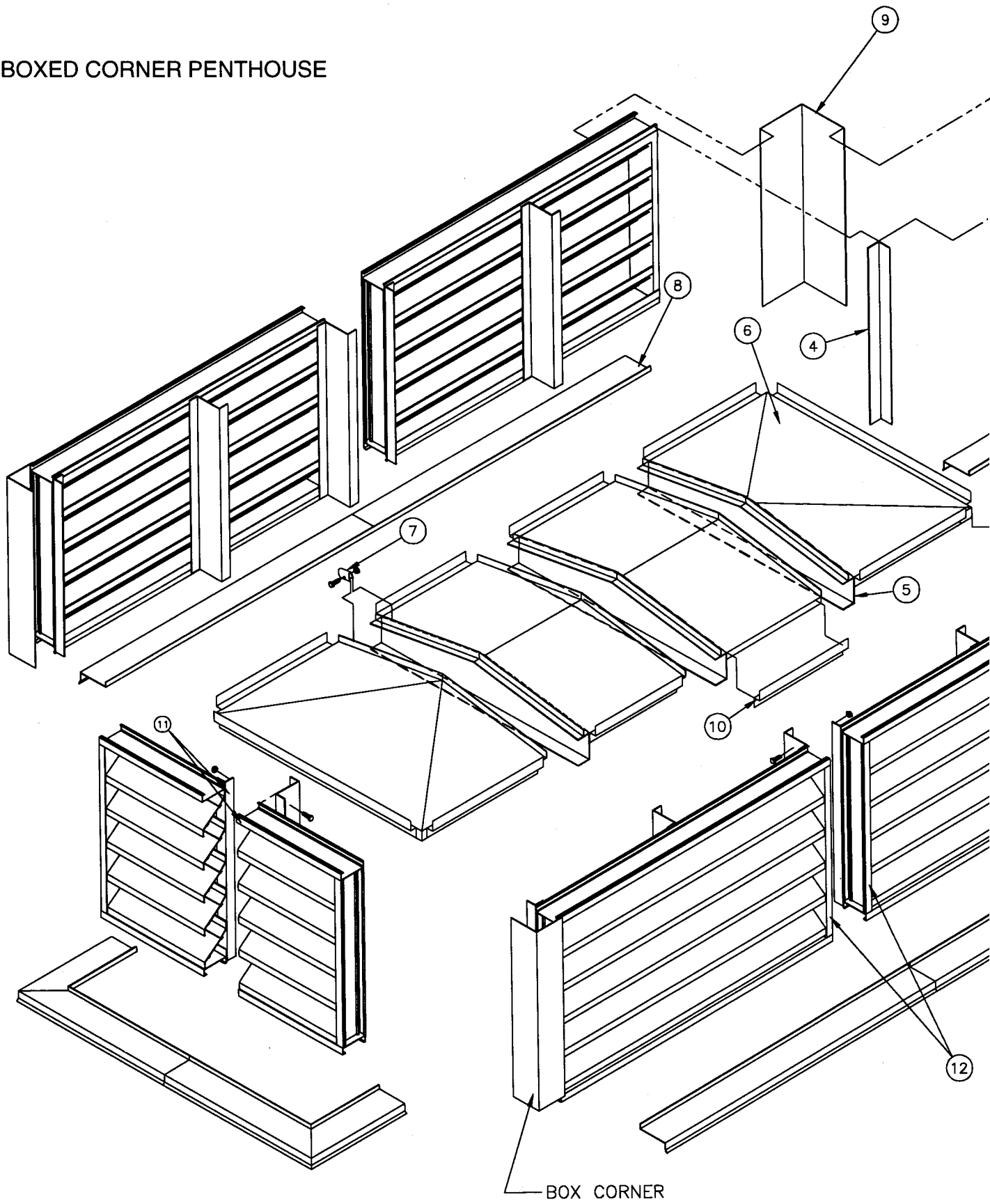
air handling specialties
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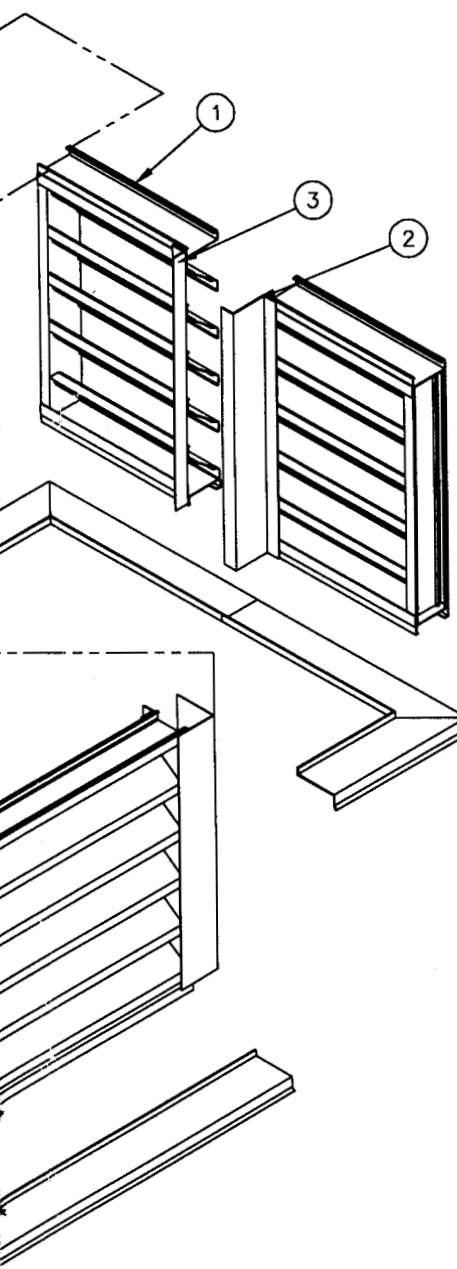
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SHIP SECTION CONNECTION DETAIL

DATE
8-14-97

DWG NO.
60-021488-00A

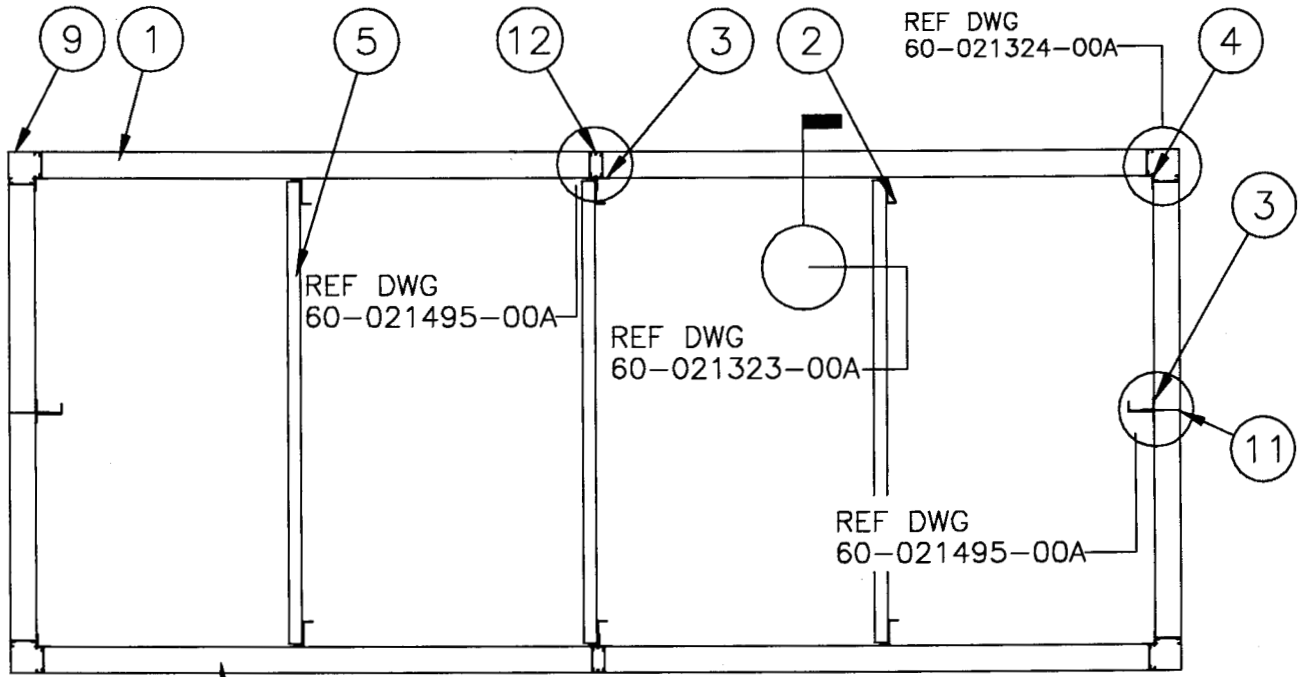
BOXED CORNER PENTHOUSE





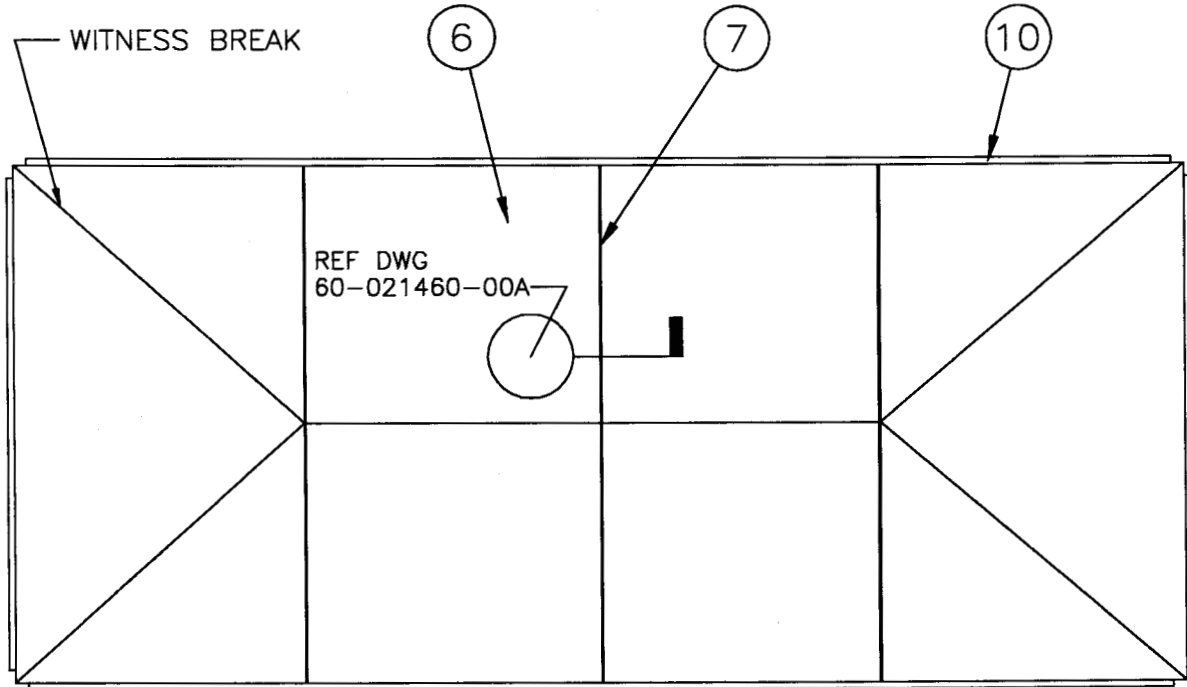
LEGEND

- ① = LOUVER SECTION (SHIP LOOSE)
- ② = LOUVER HVBS (HIDDEN VERTICAL BLADE SUPPORT) REF. (SHIP SECTIONS ARE NOT ALWAYS NECESSARY AT SHORTER ENDS OF PENTHOUSES).
- ③ = HVBS ATTACHMENT ANGLE AT SHIP SECTIONS ONLY (SIZE VARIES). ATTACHES TO HVBS W/ 1/4"-20 X 1 1/2" HHB & SERRATED FLANGE NUT AT 18" O/C & 6" FROM ENDS IN FIELD.
- ④ = CORNER ATTACHMENT ANGLE ATTACHES TO LOUVER FRAMES (AT EACH CORNER) W/ #10 TEKS AT 18" O/C & 6" FROM ENDS. SHIPPED ATTACHED TO ONE FRAME @ PLANT ATTACHED TO ADJACENT FRAME IN FIELD BY OTHERS
- ⑤ = RAFTERS (SIZE VARIES) SPAN ACROSS SHORT SIDE OF PENTHOUSE AND ATTACHES TO HVBS - SIZE & NUMBER OF BOLTS VARY. SHIP LOOSE
- ⑥ = ROOF PANELS (46" WIDE MAX.), SIZE & THICKNESS VARIES. SHIP LOOSE
- ⑦ = CONTINUOUS "U" CLAMP ROOF SEAM ATTACHMENT. ATTACHES ROOF PANELS TOGETHER W/ 1/4"-20 X 1" HHB & SERRATED FLANGE NUT AT 18" O/C & 3" FROM ENDS IN FIELD. SHIP LOOSE
- ⑧ = EXTENDED SILL (DEPTH VARIES) TO BE CAULKED AT SHIP SECTIONS. ATTACHES TO CURB IN FIELD. SHIP LOOSE. (WELDED TO LOUVER SILL FRAMES ON SMALLER UNITS)
- ⑨ = CORNER COVER ANGLE ATTACHES TO LOUVER FRAMES W/ #10 TEKS AT 18" O/C & 6" FROM ENDS. SHIPPED ATTACHED TO ONE FRAME @ PLANT AND ATTACHED TO ADJACENT FRAME IN FIELD BY OTHERS.
- ⑩ = WATER BAFFLE ZEE ATTACHES THROUGH ROOF PANEL & LOUVER HEAD FRAME W/ #10 TEKS AT 18" O/C & 3" FROM ENDS IN FIELD. (MUST START 1" AWAY FROM ENDS IN FIELD) SHIP LOOSE.
- ⑪ = ARCHITECTURAL SHIP SECTION ON NON-DRAINABLE LOUVER MODELS. REF DWG 60-021488-00A FOR CONNECTION DETAIL
- ⑫ = VISIBLE MULLIONS ARE REQ'D FOR ANY DRAINABLE LOUVER MODEL OVER 10'-0". REF DWG 60-021495-00A FOR CONNECTION DETAIL.



LOUVER BLADE REF

PLANVIEW FOR A BOXED CORNER PENTHOUSE

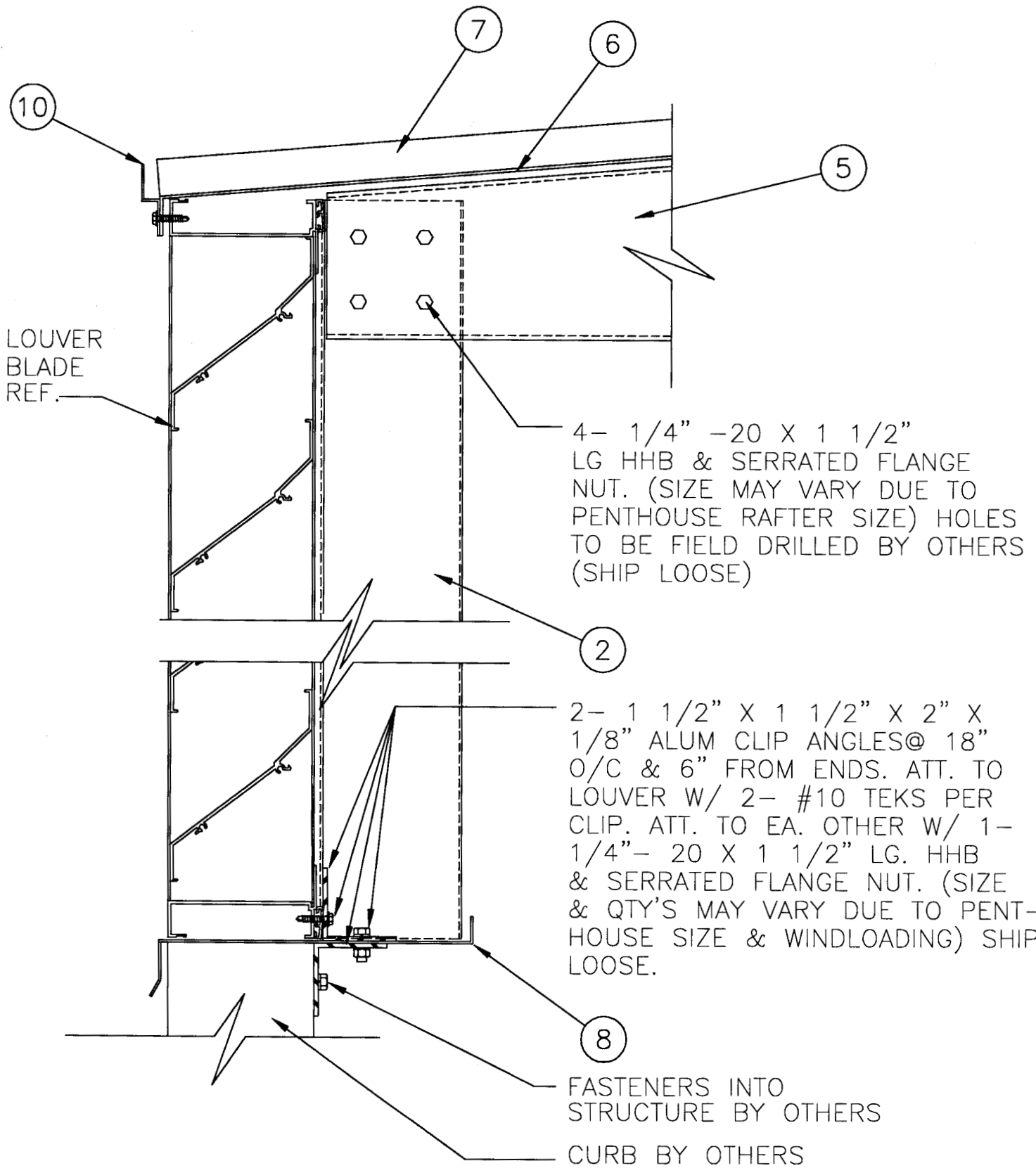


ROOF PLAN FOR A BOXED CORNER PENTHOUSE

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TITLE BOXED CORNER PLAN VIEW AND ROOF PLAN VIEW	DATE 8-14-96	DWG NO. 60-021322-00A
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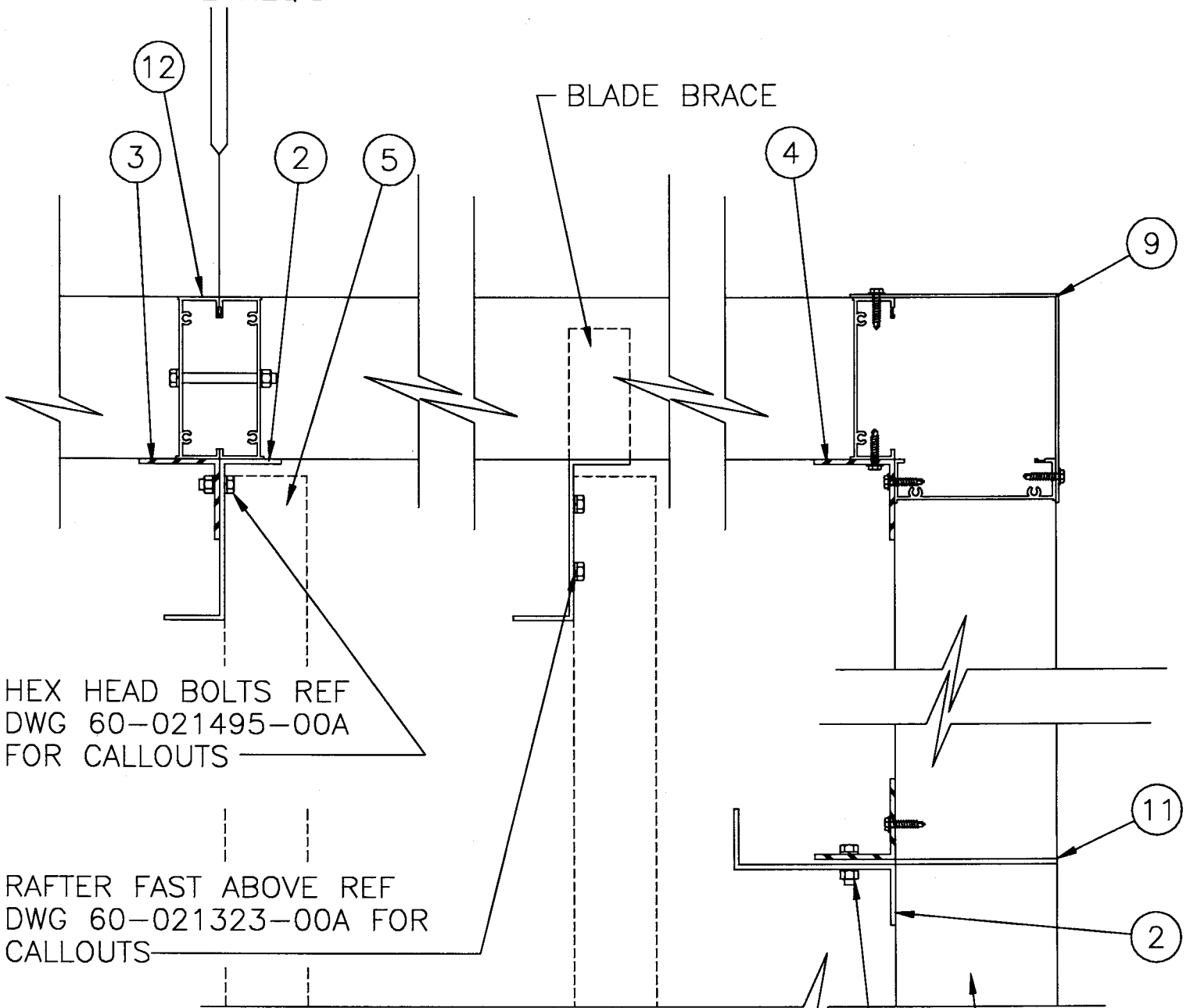
SECTION THRU BOXED
CORNER PENTHOUSE

DATE
8-14-96

DWG NO.
60-021323-00A

EXP GAP
WHERE REQ'D

BLADE BRACE



HEX HEAD BOLTS REF
DWG 60-021495-00A
FOR CALLOUTS

RAFTER FAST ABOVE REF
DWG 60-021323-00A FOR
CALLOUTS

HEX HEAD BOLTS REF
DWG 60-021488-00A
FOR CALLOUTS

LOUVER BLADE REF

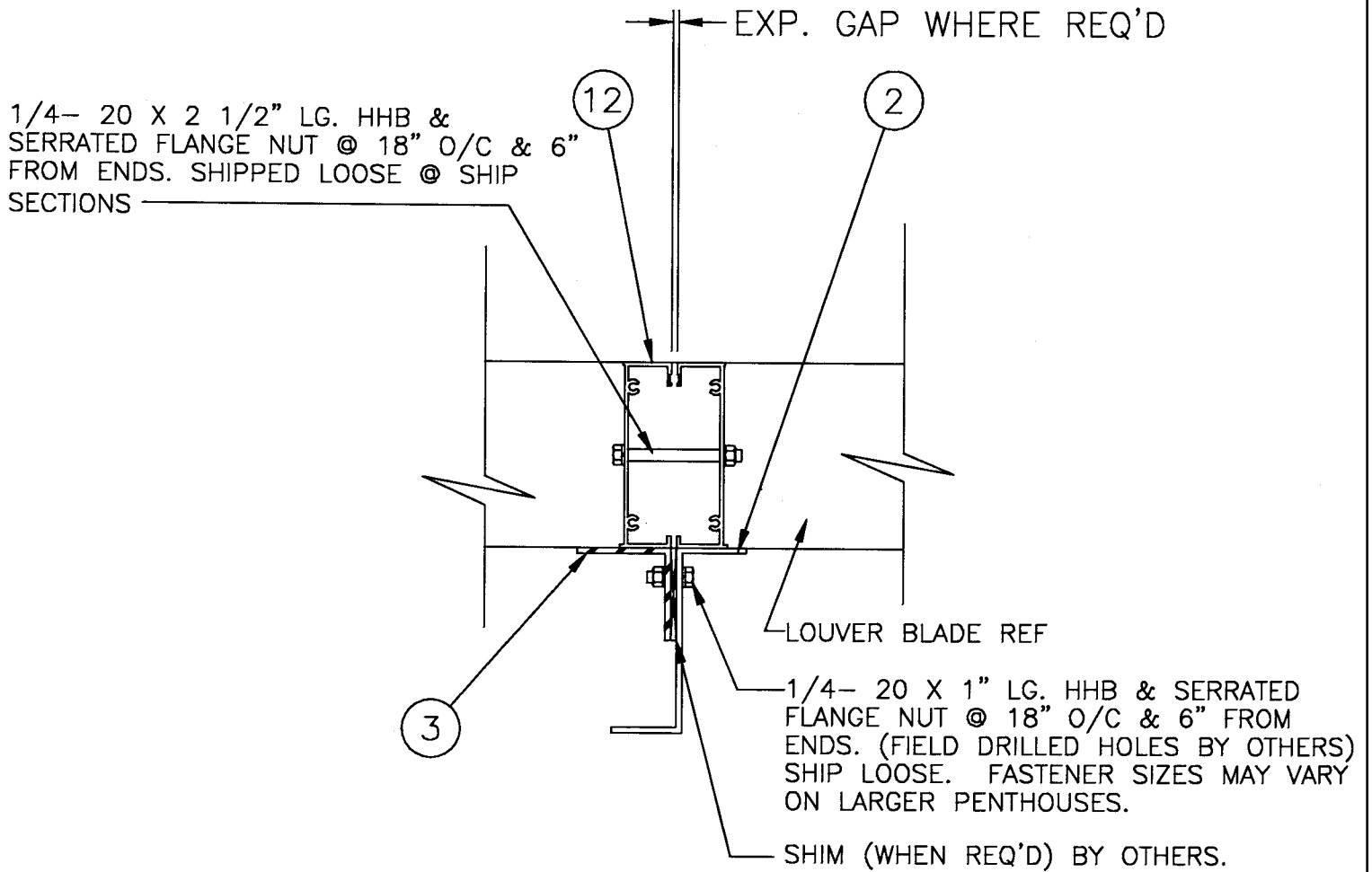
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TITLE
BOXED CORNER &
SHIP SECTION DETAIL

DATE
8-14-96

DWG NO.
60-021324-00A



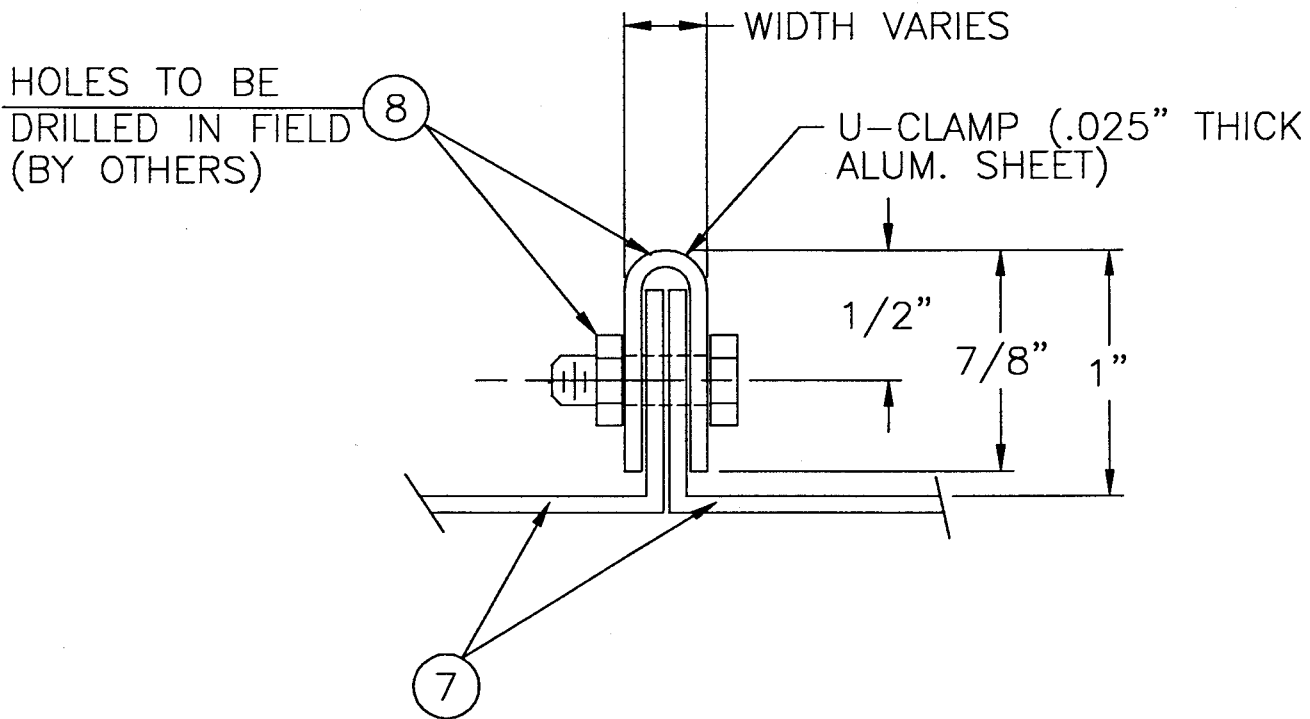
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TITLE
VISIBLE MULLION
CONNECTION DETAIL

DATE
9-3-97

DWG NO.
60-021495-00A



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TITLE

ROOF SEAM DETAIL

DATE

6-10-97

DWG NO.

60-021460-00A