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ERECTION INSTRUCTIONS



FOR THE
20' x 48'
MILITARY
VERTICAL WALL BUILDING

MANUFACTURED BY

GREAT LAKES STEEL CORPORATION

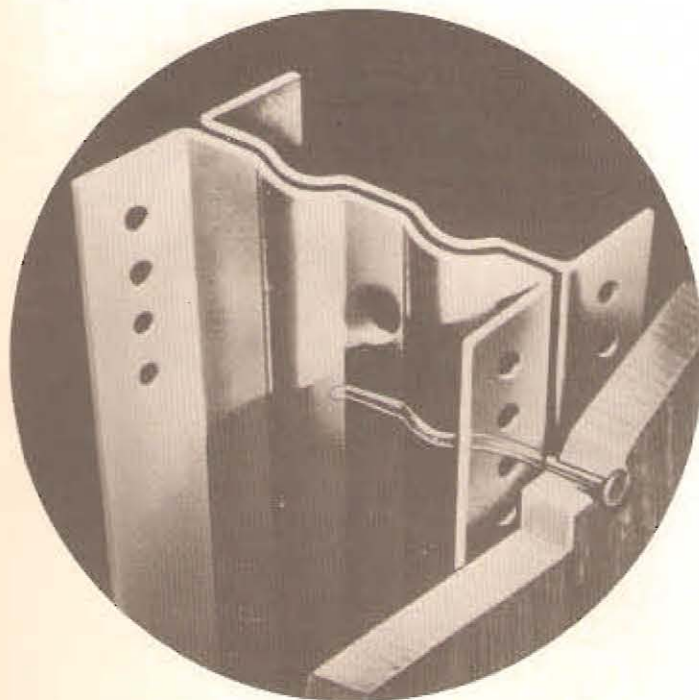
Stran-Steel Division • Ecorse, Detroit 29, Michigan

NATIONAL STEEL CORPORATION



CONTENTS

	Page
Suggestions to Erector	2
Erection Sequence	3
Floor Framing	4
Floor Panels	6
Studs, Rafters, and Purlins...	8
Inside Covering	10
Windows	12
Insulation	14
Outside Covering	16
Ventilator and Smoke Stacks .	18
Endwalls	20
Alternate Erection Sequence .	24



THE STRAN-STEEL NAILING GROOVE

The distinctive feature of Stran-Steel is the nailing groove. This groove is in all Stran-Steel joists, arch ribs and studs, which are made by welding two pieces of steel together. The small space remaining between these pieces is just large enough to admit an ordinary nail. When a nail is driven into the groove, it is deformed and clinched in a grip of steel with a holding power much greater than that of wood. In this manner collateral materials are secured to the steel framework with the ordinary hammer-and-nails method. Construction in which Stran-Steel framing is used proceeds in the same way as with ordinary framing. Dimensions of Stran-Steel members conform exactly to the requirements of the collateral materials used with it.

SUGGESTIONS TO ERECTOR

Crews. The erection of the Stran-Steel Military Vertical Wall building is simple and fast. One operation quickly follows another—if the first one is done properly. What is most important is getting off to the right start in having the floor-joist assembly level and square and having the frame assembly plumb. This insures that subsequent operations will proceed without difficulty. Therefore, the best mechanics should be assigned to setting the frame even though the actual assembly of this portion of the work is the easiest of all. Likewise the roofing operation requires the care of a mechanic or mechanically-minded person. A sensible division of personnel is into separate crews for (1) site leveling and floor framing, (2) erection of studs, rafters, purlins and endwall framing, (3) application of inside covering and installation of windows and application of insulation, and (4) application of outside covering.

Hints. If any of the steel members have become damaged in shipment, the easiest way to straighten them is by placing the bent part over a crate or saw horse and having a man bear down on each end. The hardest way to straighten is by using a hammer. There is a trick to opening the banded crates. When this is known and used, much time and effort can be saved. Take a large screwdriver, as used for assembling the frame, insert flat side under steel band about an inch or inch-and-half. Turn the screwdriver about the handle roughly an eighth turn. This brings the sharp edge of the screwdriver in contact with the band. Pull up quickly. This motion cuts the band rather than breaking it. When the knack of using a screwdriver is learned, opening the crates is an easy job.

The importance of using the right nails, screws and attachments cannot be too strongly stressed. Follow the instructions closely in this regard because if the wrong ones are used, it will mean borrowing from another Vertical Wall building all down the line with consequent loss of time.

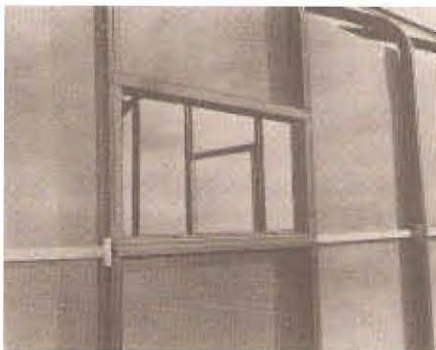
Take good care of the tools.



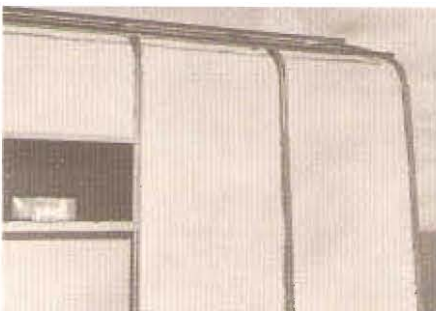
FLOOR FRAME



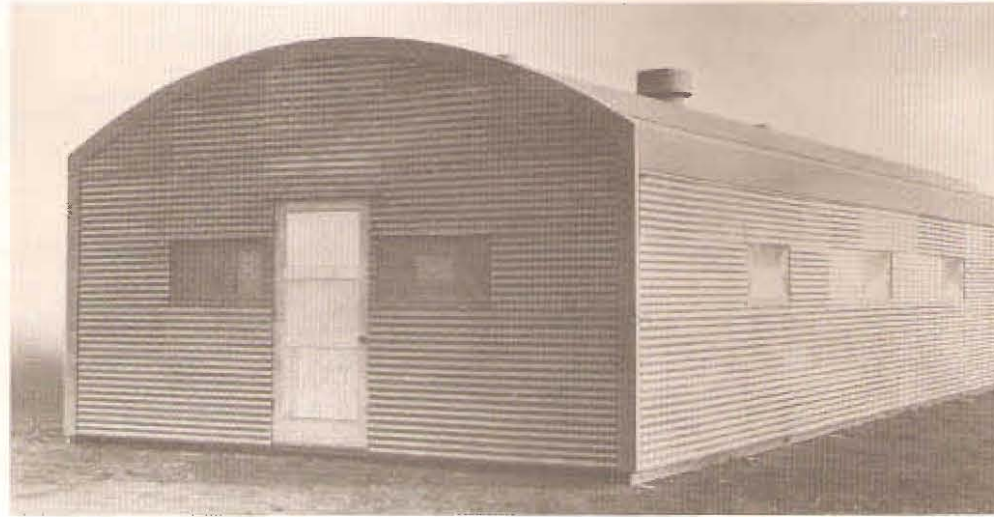
STUDS, RAFTERS AND PURLINS



INTERIOR COVERING



INSULATION



1. Floor Framing. Lay the sills first; then the joists, then the sidewall channels. Level and square the whole assembly. (See pages 4 and 5.)

2. Floor Panels and Reflective Insulation. Lay out reflective insulation and plywood floor simultaneously on the joists. Install metal splines at longitudinal joints, and nail the panels to the joists. (See pages 6 and 7.)

3. Studs, Rafters and Purlins. Fasten the studs and rafters together with curved splice plates, raise into position and screw to base channels. Erect purlins and plumb entire assembly. (See pages 8 and 9.)

4. Inside Covering and Windows. Nail fiber board sheets on sides to studs and on top to rafters. Install metal splines at horizontal joints and nail fiber board battens over frame joints. Assemble the knocked-down window frames. Install in position and nail to studs. (See pages 10, 11, 12 and 13.)

5. Insulation. Install insulation between studs and rafters. (See pages 14 and 15.)

6. Outside Covering. Lay the corrugated sheets in place and nail them to the studs and purlins. (See pages 16 and 17.)

7. Ventilator and Smokestacks. Assemble ventilator and smokestacks and install at center line of roof. (See pages 18 and 19.)

8. Endwall. Lay endwall channels and erect studs. Nail fiber board sheets to studs. Assemble knocked-down window and door frames. Install in position and nail to studs. Cut 40' insulation to required lengths and install between studs. Nail corrugated endwall sheets into place. (See pages 20 through 23.)

9. Clean up.

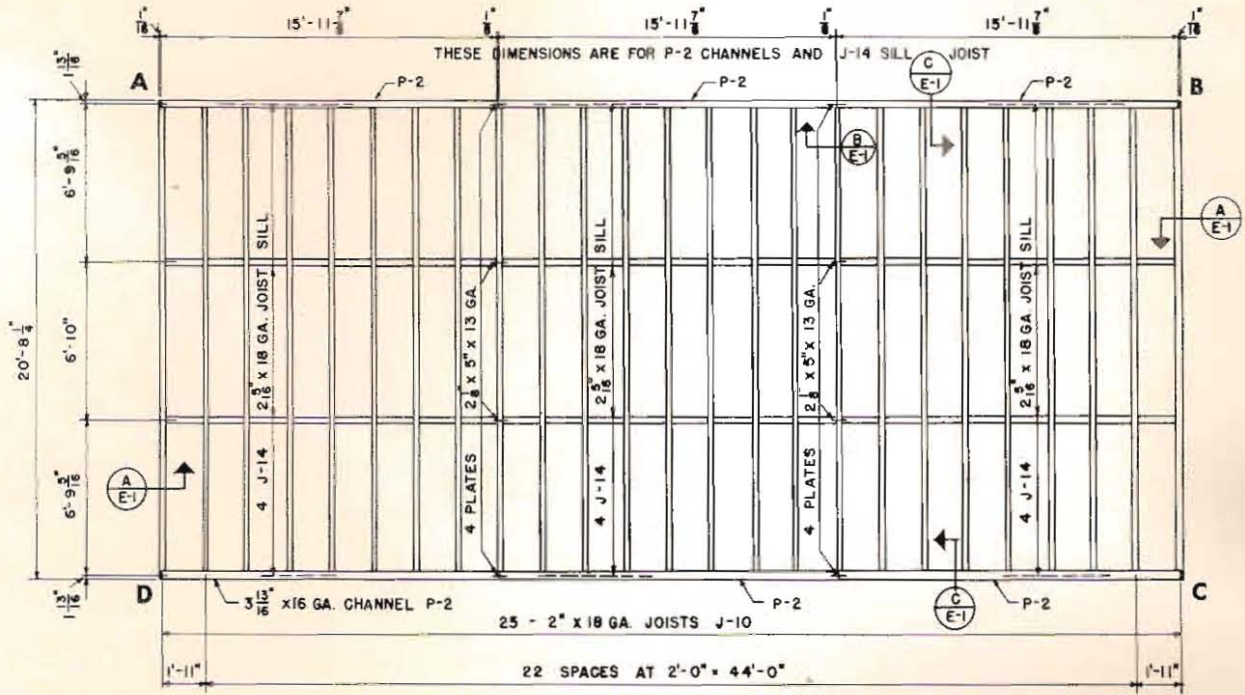


EXTERIOR COVERING

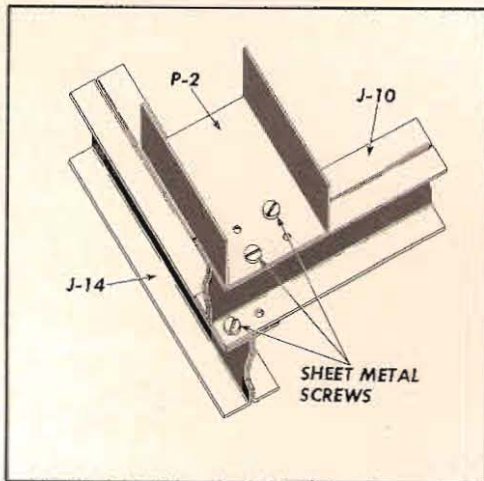


ENDWALL

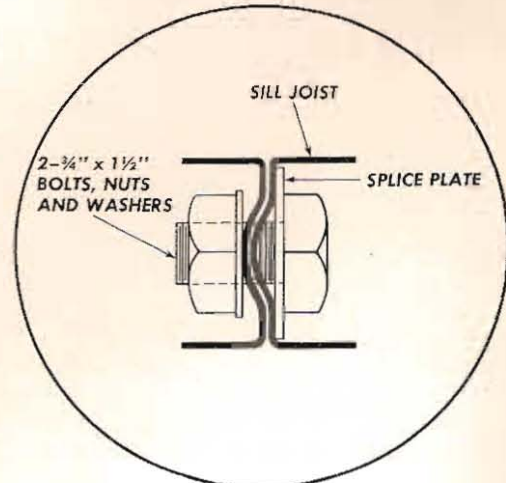
FLOOR FRAMING



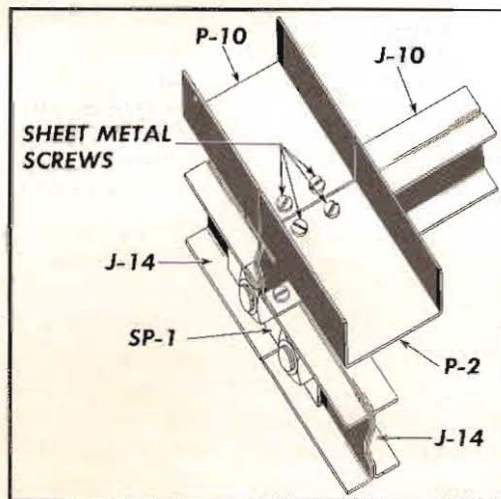
FLOOR FRAMING PLAN



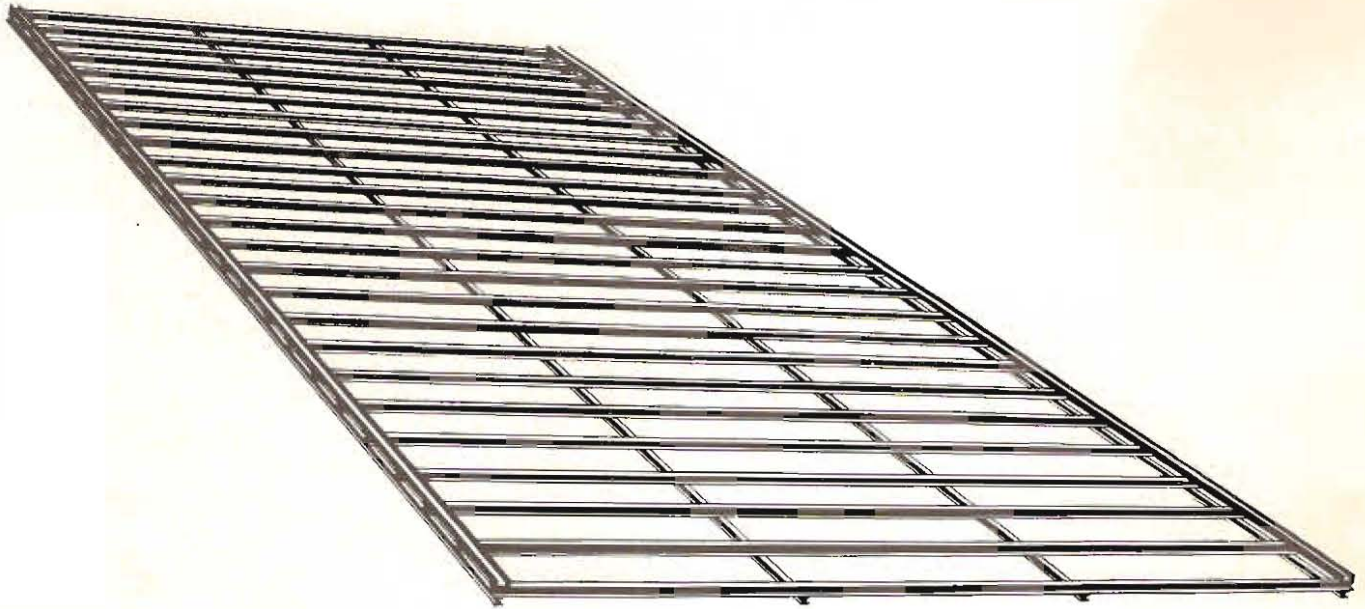
DETAIL AT CORNER



TYPICAL SILL SPLICE



DETAIL AT CHANNEL SPLICE



COMPLETE FLOOR FRAME

STEP 1 The floor joist assembly consists of steel sills, joists and channels. The sills run lengthwise of the building on the ground and support the joists, which are fastened to the sills at right angles to them. At the extreme ends of the joists channel plates are fastened for receiving the studs.

Procedure:

(a) Level and tamp an area of ground approximately 30' x 60' for the building site.

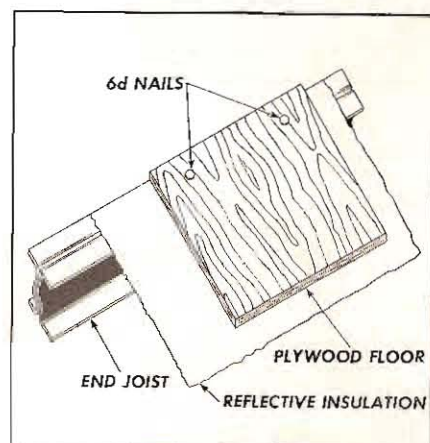
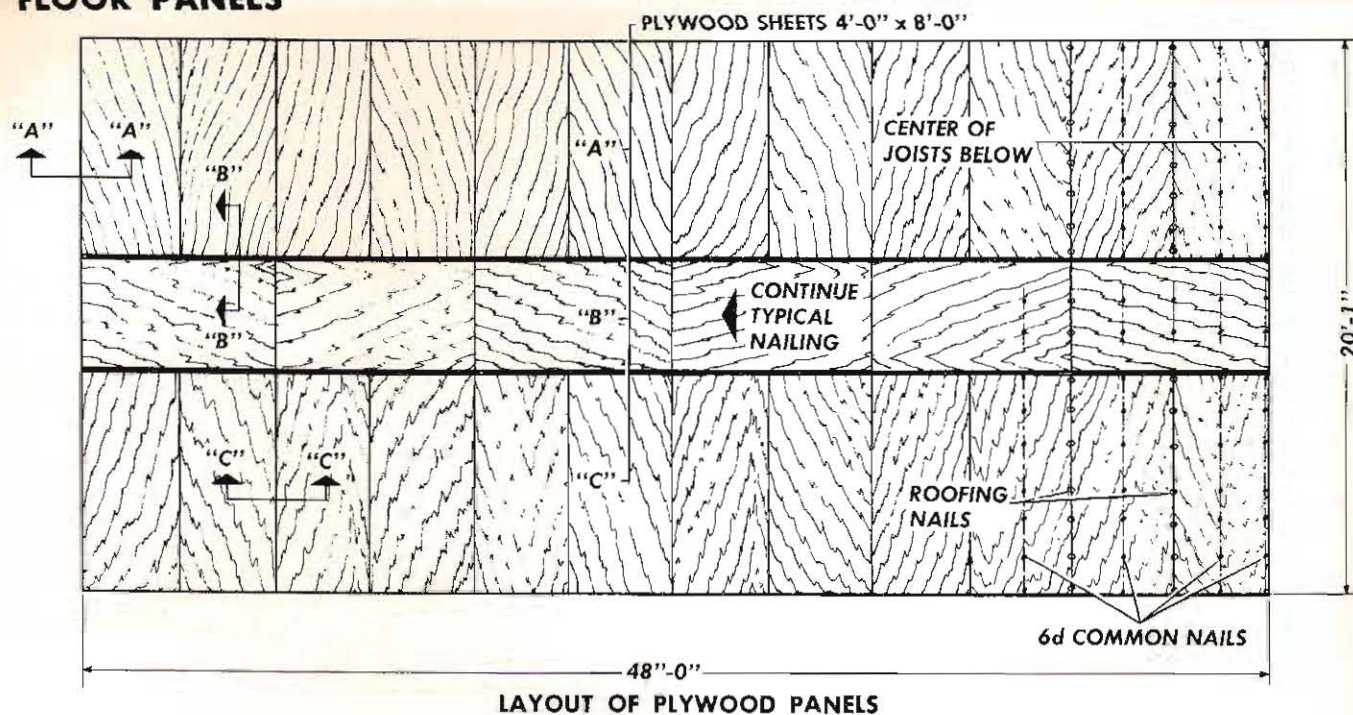
(b) Lay the sills on the tamped ground in four parallel lines about 6'-10" apart with the holes (for connecting the joists) facing upward. Line up the sills with the nailing groove curves matching (see drawing). Otherwise, when the splice plate is tightened, the sills will be forced out of line.

(c) Lay the joists (connecting holes down) at right angles to the sills. The end joist is 1'-11" from the second joist, and the interior joists are all 2' apart as shown. Insert 2 screws diagonally opposite to each other at each connection. At each splice in the sills use 4 screws.

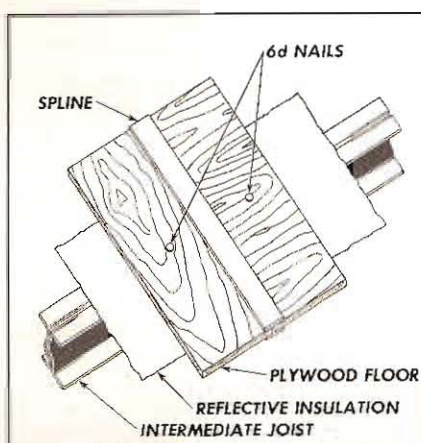
(d) Place channels (P-2) over ends of joists and parallel to outside sill joists. Screw these to the joists. Use 2 screws diagonally at each joist but use 4 screws where there is a joint in the channel.

(e) Square up the above floor assembly. Distance A-C should be the same as B-D. Use a length of wire for measuring these distances. Hold one end of the wire on the inside lip of the channel at point A. Stretch to the same point at C. Do the same from B to D. Shift the corners until distances A-C and B-D are equal. Check the ends and sides for straightness, using a line or wire and recheck for square. Then check the assembly for level starting at joist B-C. With this joist level, proceed to level the channel plate, working from C to D. Level the channel by placing the level on the lip of the channel in about four locations. When the channel is levelled, proceed to level the other end joist, working from D to A. Then proceed with leveling the channel from A to B. Bring the other joists to level, using level at four points as for opposite side. Use small wedges or blocking made from crating lumber to raise the sills, and scoop dirt from under the sills to lower. Be sure the floor assembly is level before proceeding.

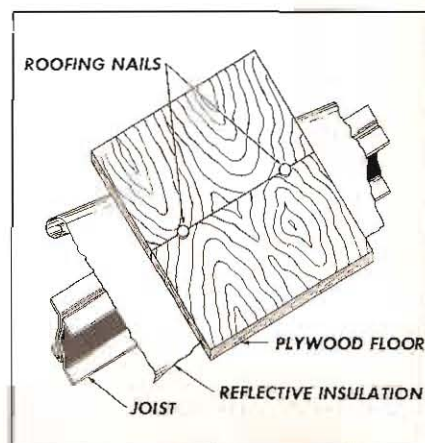
FLOOR PANELS



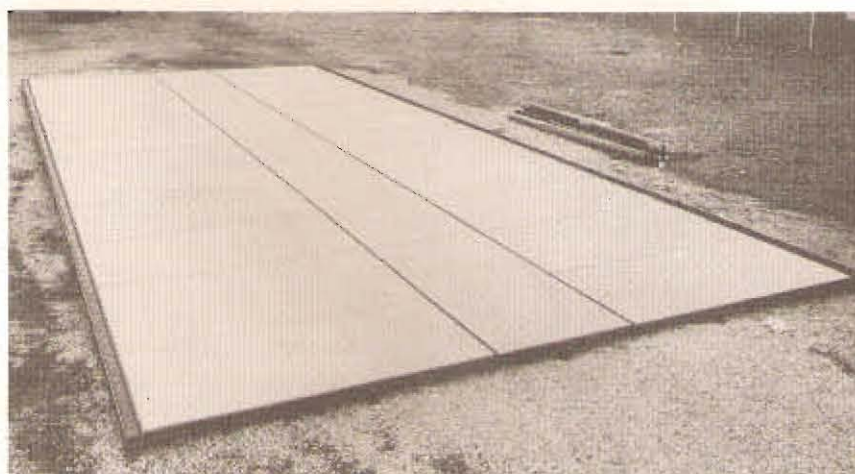
SECTION "A-A"



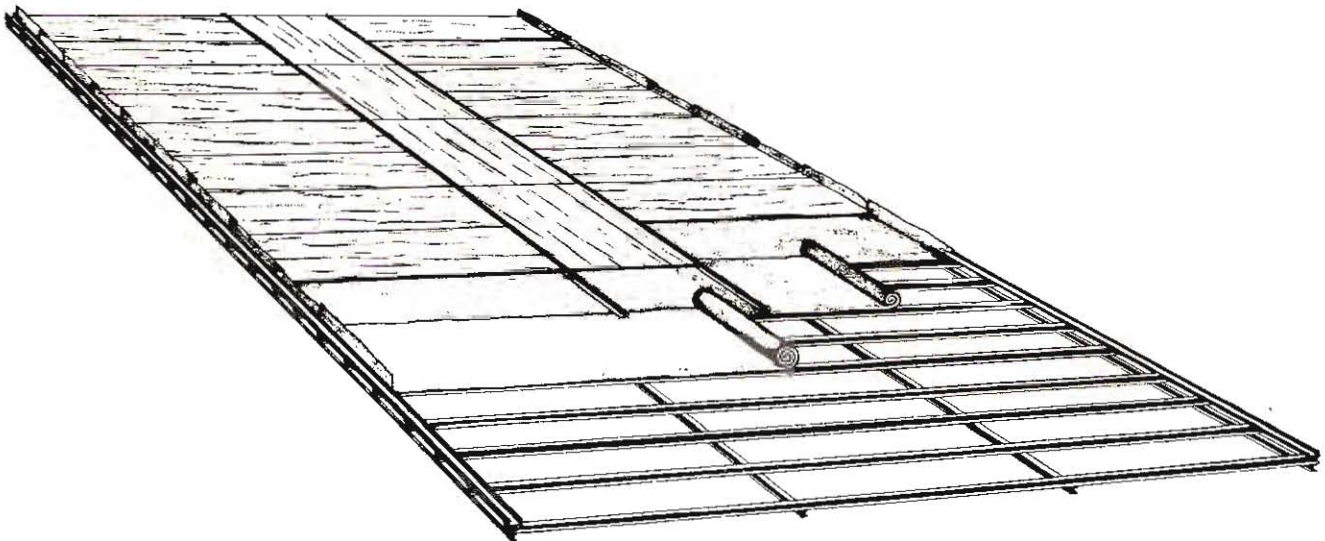
SECTION "B-B"



SECTION "C-C"



PLYWOOD FLOOR COMPLETED



INSTALL PANELS AND REFLECTIVE INSULATION



ROOFING NAILS
(AT PLYWOOD JOINTS)

STEP 2 The underside of the floor is covered with 54" wide reflective insulation. On top of this insulation, are 4'-0" x 8'-0" plywood floor panels nailed to the floor joists. Two metal splines run lengthwise of the building. See drawing opposite page.

Procedure:

- (a) Roll out reflective insulation (metallic side down) crosswise of building. Allow edge to extend 3" beyond nailing groove of joist to insure 6" lap.
- (b) When 12' of floor frame is covered with reflective insulation lay plywood panels (clear side up) starting with row "A" and proceeding to rows "B" and "C," fitting metal splines between the rows as each is laid. Lay only 8' of plywood panels. The edges of panels should butt over the center of joists. At the endwall

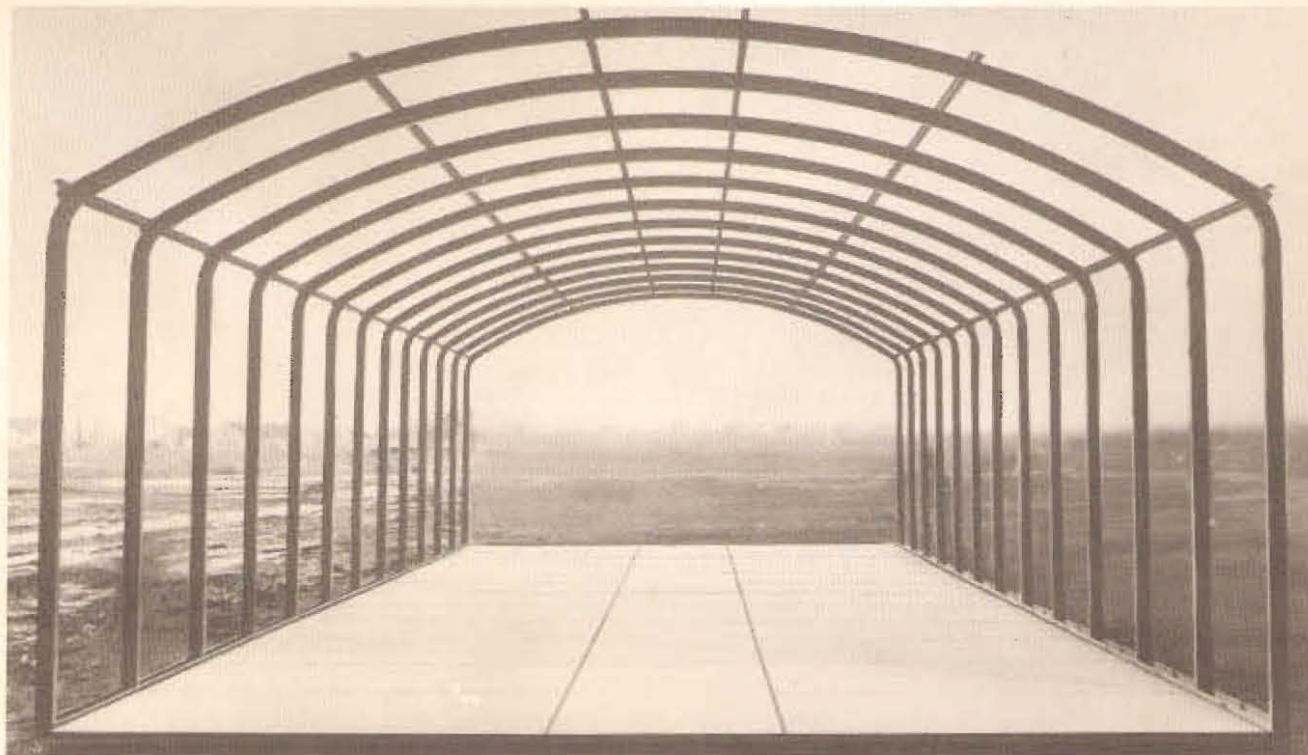
the edge of the panel should extend to the outside edge of the flange of the joist.

(c) Cover next 8' of floor with reflective insulation, then lay 8' more of plywood panels as described before. Always have insulation laid down at least 4' ahead of plywood floor panels.

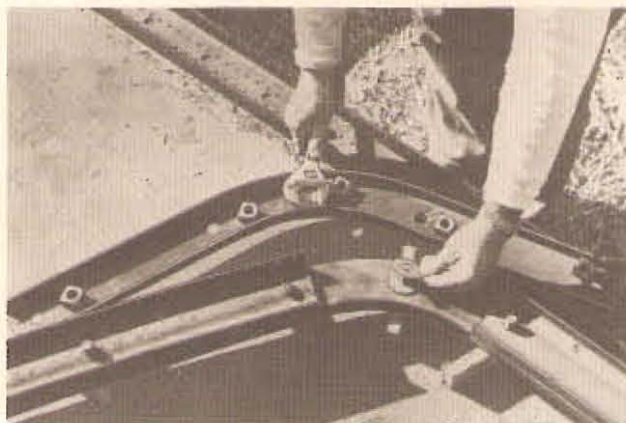
(d) Repeat above process until whole floor is in place.

(e) Nail the panels in place, starting with middle panels in row "A". First drive 6d common nails at intermediate joists, and then roofing nails at the edge of the panels approximately 16" on center. To establish a nailing line for the intermediate rows of nails, take a chalk line, hold each end over the center of the joist, pull the line taut and snap. This will leave a guide line on the panel. Do not use more nails than sketches show.

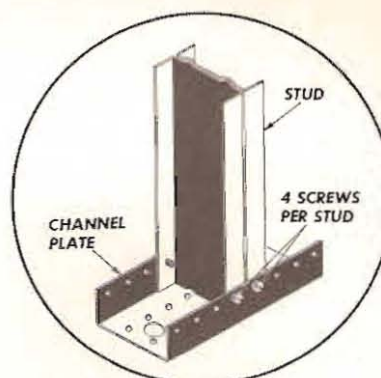
STUDS, RAFTERS AND PURLINS



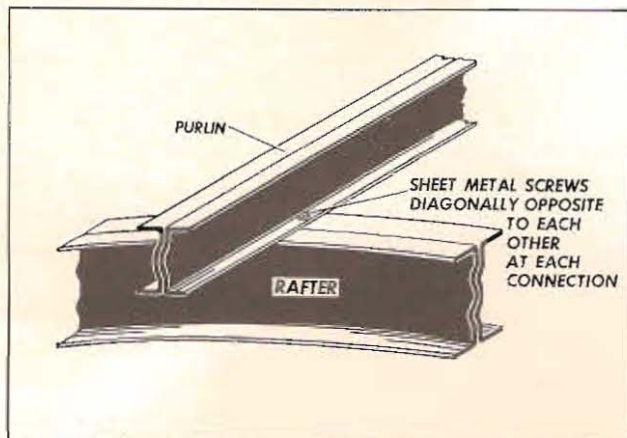
COMPLETE SIDEWALL AND ROOF FRAMING



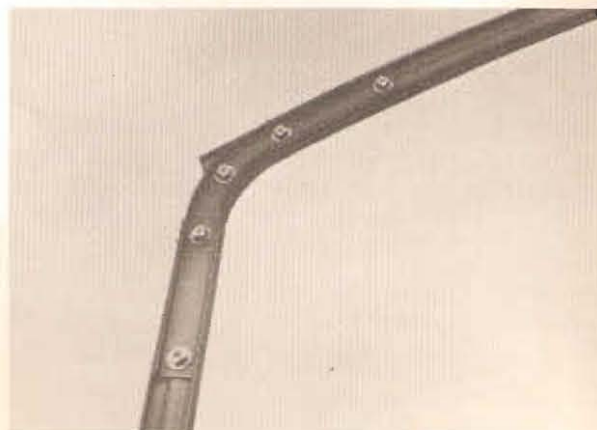
SPlicing RAFTER AND STUD



DETAIL AT CHANNEL



RAFTER AND PURLIN



COMPLETED SPLICE



RAISE FIRST FRAME



RAFTERS AND PURLINS GO UP



FRAMES COMPLETED



SCREW STUD TO CHANNEL



ATTACHING FIRST PURLIN



PANEL USED TO PLUMB STUDS

STEP 3 A roof and sidewall frame assembly unit consists of two studs, four channel splice plates (two splice plates at endwalls) and one rafter which are assembled by connecting each end of the rafter to a stud by means of channel splice plates. The free ends of the studs are then fastened to the base channels above every other joist beginning with the end joist. On top of the rafters are six rows of purlins for attachment of exterior covering sheets. Construct a scaffold out of crate lumber to use when attaching purlins to rafters.

Procedure:

(a) All frames are assembled on the ground before any are raised. One stud is connected to each end of each rafter with two curved splice plates (C-1) and five $\frac{3}{4}$ " x $2\frac{1}{2}$ " bolts (see photo), except at the end-wall frame use only one curved splice plate to connect rafter to stud. Deformation of nailing groove of all members should be placed toward the same end of building. Before bolts are tightened drive two 6d nails between the bolt holes in each stud and rafter to insure a spread of the nailing groove after bolts are tightened. In assembling the end framing take care to have the bolts point toward the interior of the

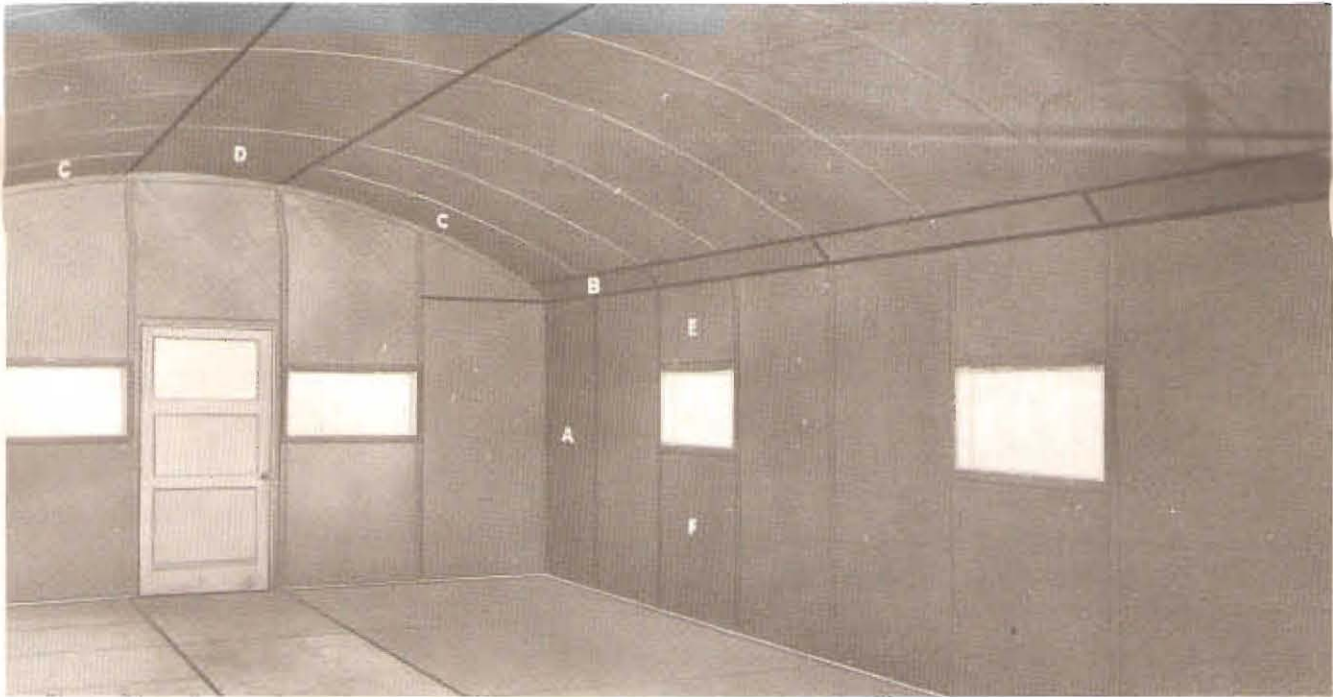
building and place splice plate on inner side so that later work will be clear. Raise end frame first and secure it into the channel, using 4 screws. Brace this frame temporarily.

(b) When second frame is raised, attach purlins spacing the frames 3'-11" on center. Raise next frame and repeat this operation for each successive frame, spacing them 4'-0" on center except last space, which is 3'-11".

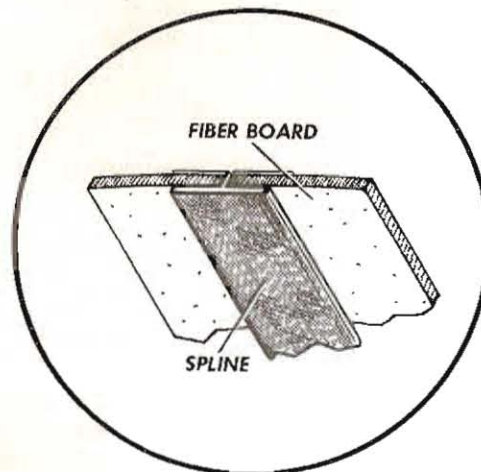
(c) Fasten each purlin in place to each rafter with 2 screws placing them diagonally. At purlin splice drive 4 screws into rafter.

(d) Make certain the frames are plumb. This is done by using a fiber board panel, 4' x 8', for squaring up center nailing groove of frames with floor level. Place end of panel level on floor and against channel. Line up outside edge of stud in first frame and the nailing groove of stud in second frame with vertical edges of panel and fasten temporarily to the frames with simplex nails. (See photo.)

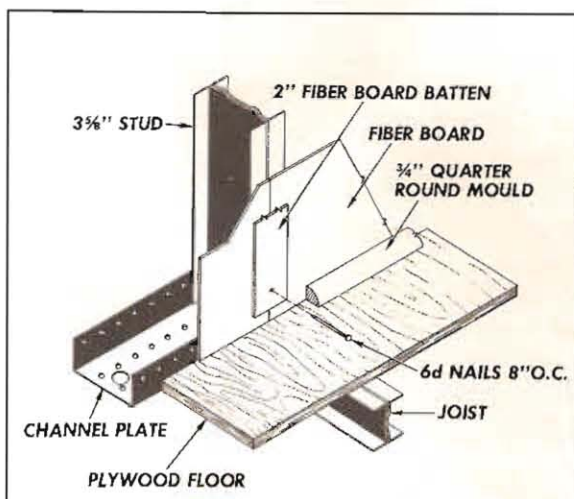
(e) After sawing wood girts to the required length, nail girts between the studs with 6d nails. Locate as shown in Drawing E-2.



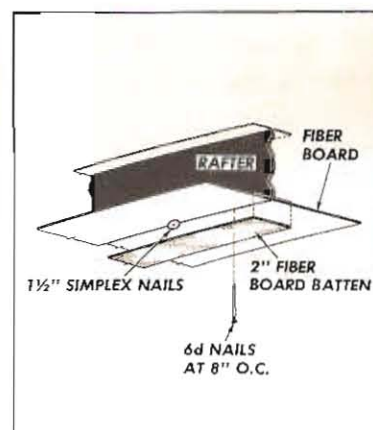
INTERIOR VIEW



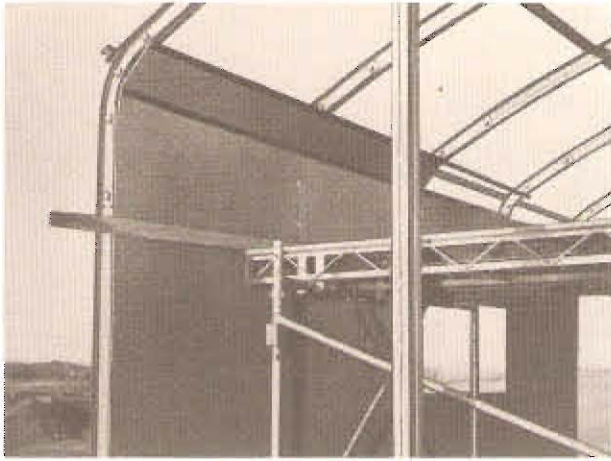
METAL SPLINE



DETAIL AT FLOOR



FIBER BOARD



"A" & "B" SHEET



"C" SHEET



"D" SHEET



FINAL "C" SHEET

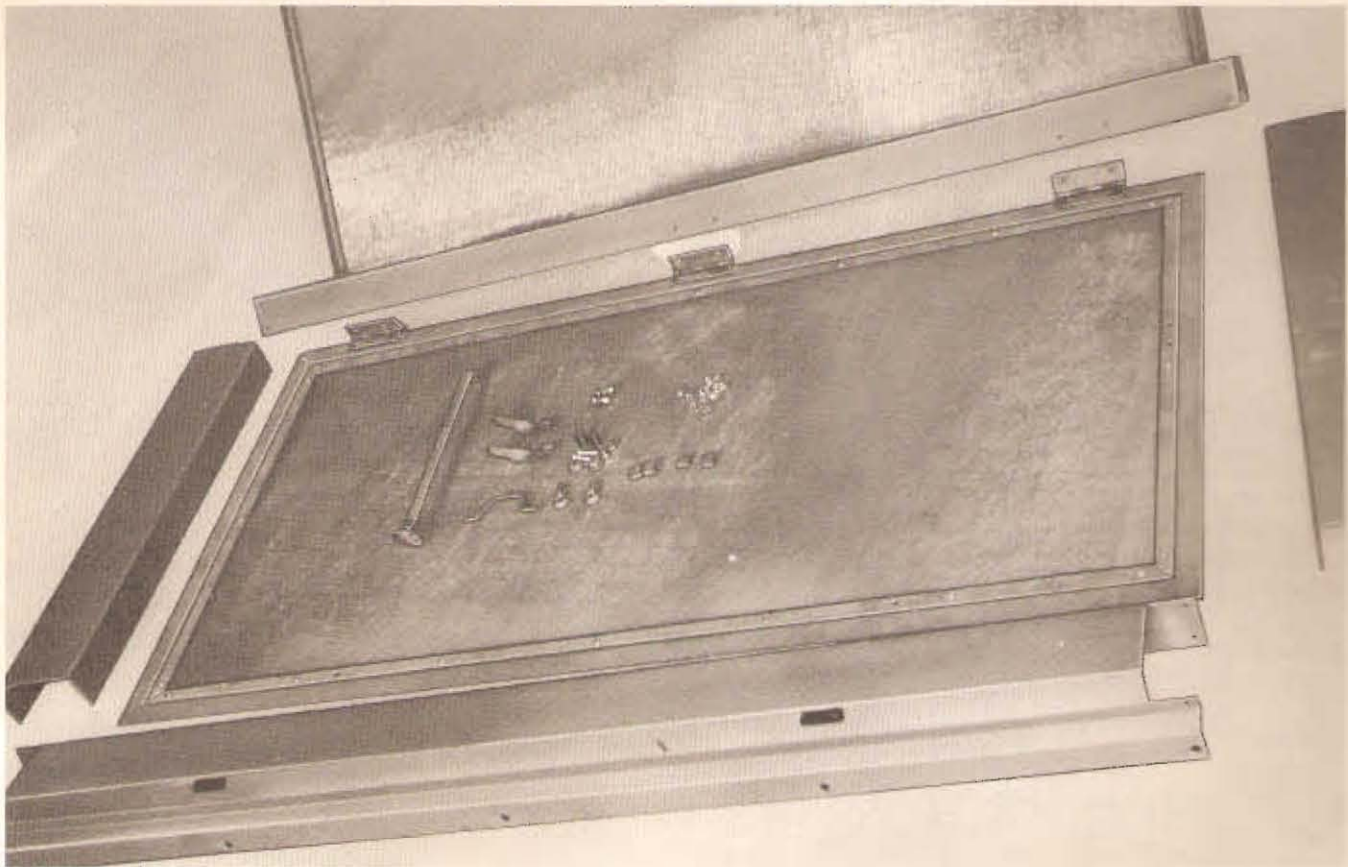
STEP 4

The inside of the building is lined with $\frac{1}{8}$ " thick fiber board sheets, nailed to studs and rafters, smooth side facing inside the building.

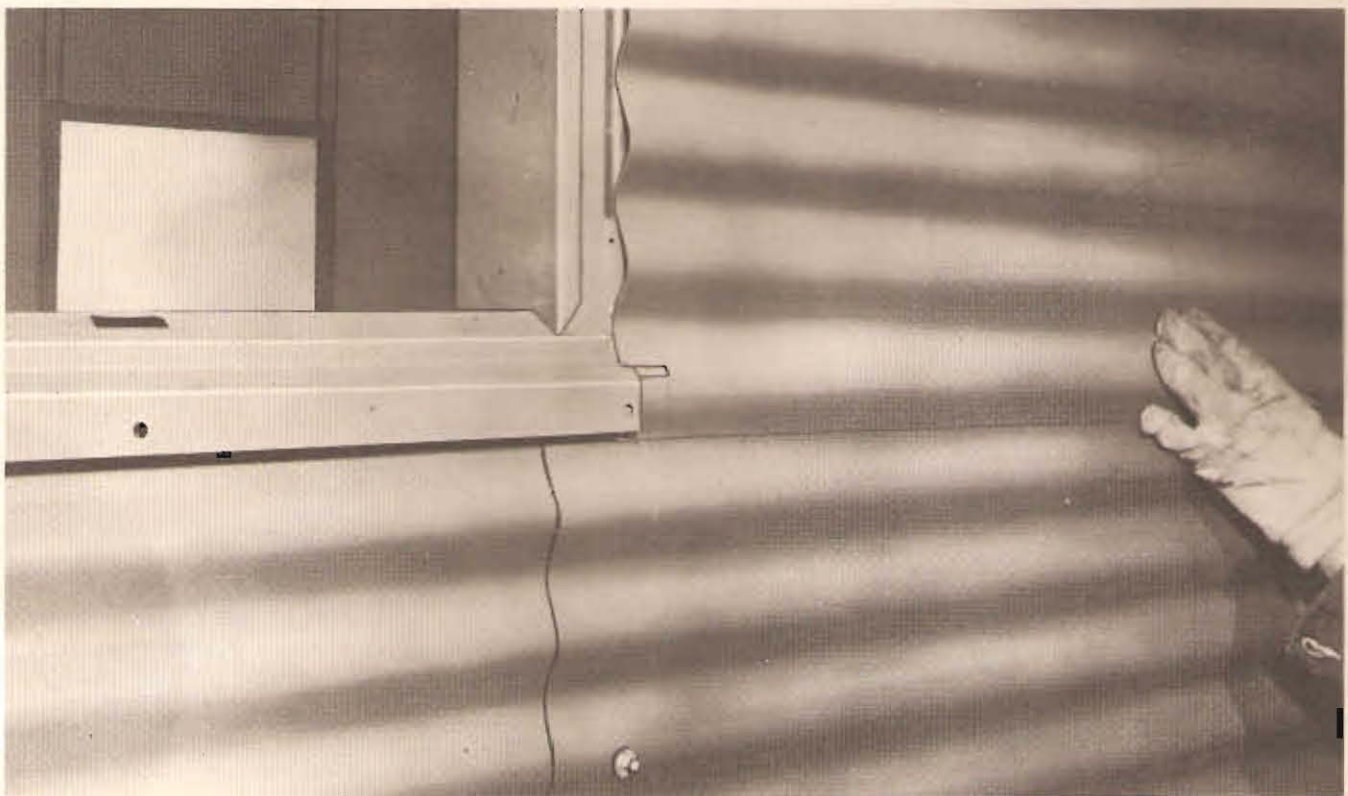
Procedure:

- (a) Start with "A" sheets ($3'-11\frac{7}{8}" \times 7'-0"$) on one side of the building. Block up $\frac{1}{4}"$ above floor with 2 thicknesses of batten strips. Fasten in place with Simplex nails, approximately 24" apart.
- (b) Insert spline (WS-1) above "A" sheets.
- (c) Insert "B" sheets ($7\frac{1}{4}" \times 8'-0"$) and another spline above "B" sheets.
- (d) Slide twelve (12) "C" sheets ($3'-11\frac{7}{8}" \times 8'-0"$) into splines and secure to rafter with Simplex nails 24" apart.
- (e) Insert spline over "C" sheets and slide in six (6) "D" sheets ($3'-11\frac{7}{8}" \times 8'-0"$).
- (f) Start "A" sheets on other side of building repeating operations in (a), (b), and (c) above.
- (g) To insert "C" sheets, bend sheets in middle, slide ends into splines and snap into position. (See photo.)
- (h) Using 6d common nails 8" o.c., nail sheets "D" at intermediate ribs only, and nail "A" sheets to wood girts, without using battens.
- (i) Apply "E" and "F" sheets over and under window openings at time of installing windows. (See pages 12 and 13.) Omit quarter round mold until endwalls are installed.
- (j) Fasten 2" fiber board battens over joints between sheets directly over nailing groove of studs and rafters. Nail to studs and rafters with 6d nails 8" o.c. starting at one end of the batten and continuing on to the other end.

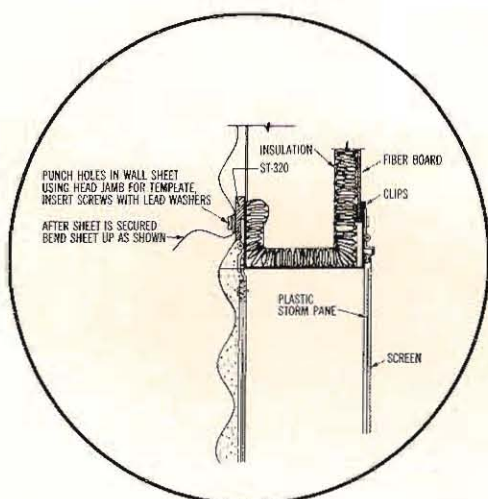
WINDOWS



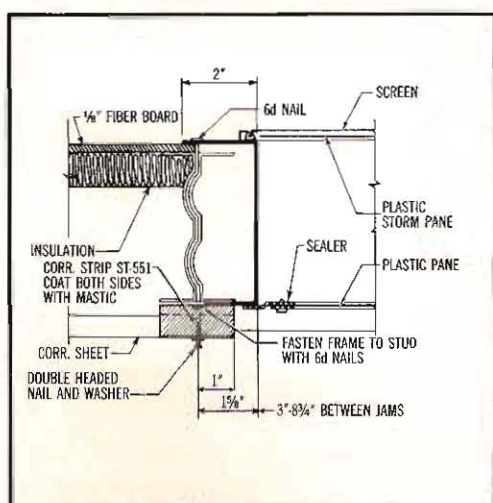
STEEL FRAME PARTS



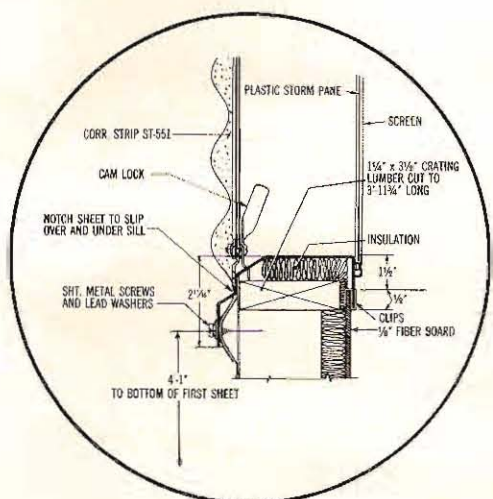
NOTCHED SHEET AND WINDOW SILL



HEAD



JAMB DETAIL



SILL

WINDOWS consist of a sill, right and left hand jamb, head piece, metal sash with plastic pane, framed screen, removable plastic storm pane, and accessories. Each building is furnished with steel parts for six side wall window frames and four endwall window frames. The side wall window frame consists of one $3\frac{5}{8}$ " wide head-piece, two jambs and one sill piece.

CAUTION--Sills for both side wall and endwall windows look very much alike. Pick out six sills for side wall windows and separate them from four sills which belong to endwall windows. Correct matching of sill, head and jamb pieces will result in a good fit.

Procedure for installing frames, sash, screen, storm pane, and accessories:

(a) When "E" fiber board sheets are in place, using 2 clips on top edge, install the window sill. Then install right and left hand jambs and head piece, and using 2 clips on bottom edge install "F" sheet. Square up and nail in position on studs with 6d nails.

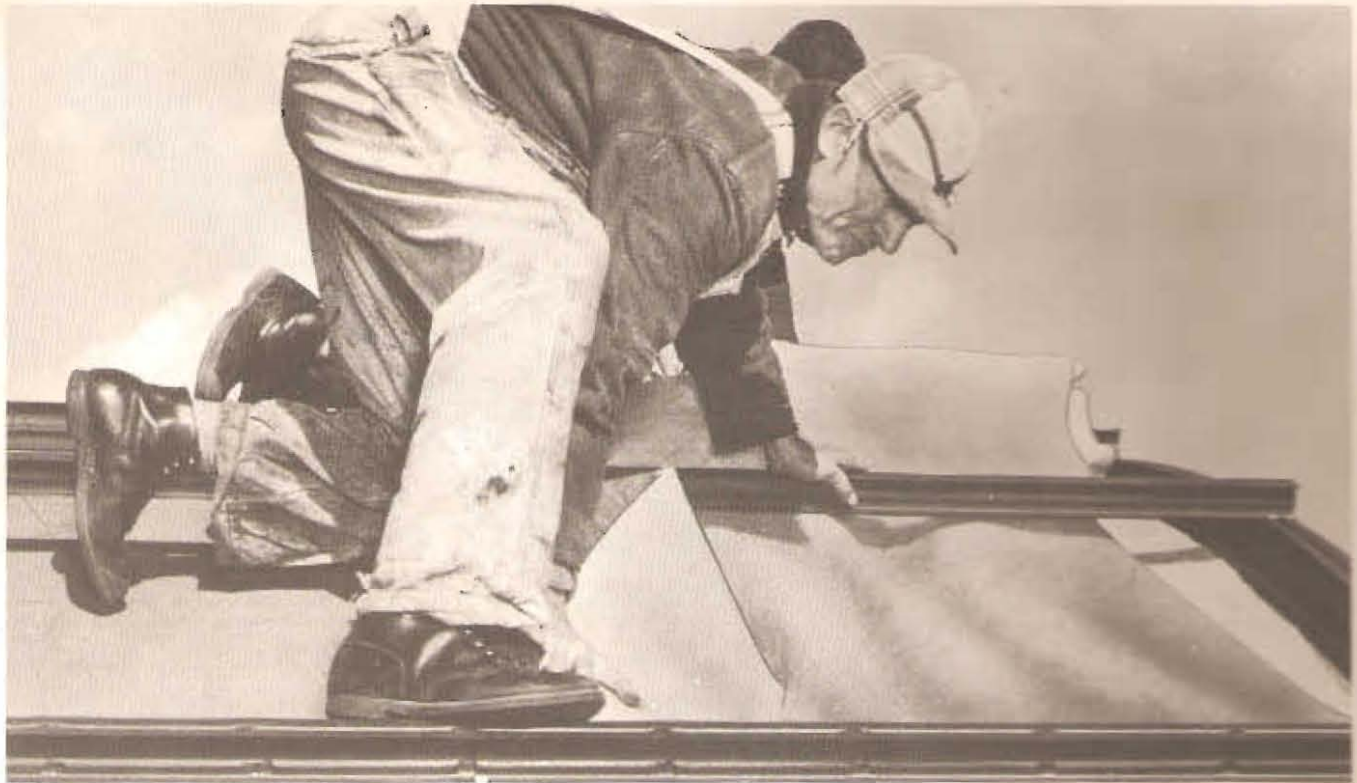
(b) Install sash in frame by attaching hinges to window head with No. 8 x $\frac{1}{4}$ " long sheet metal screws.

(c) Install screen in frame by attaching hinges to window head with No. 8 x $\frac{1}{4}$ " long sheet metal screws.

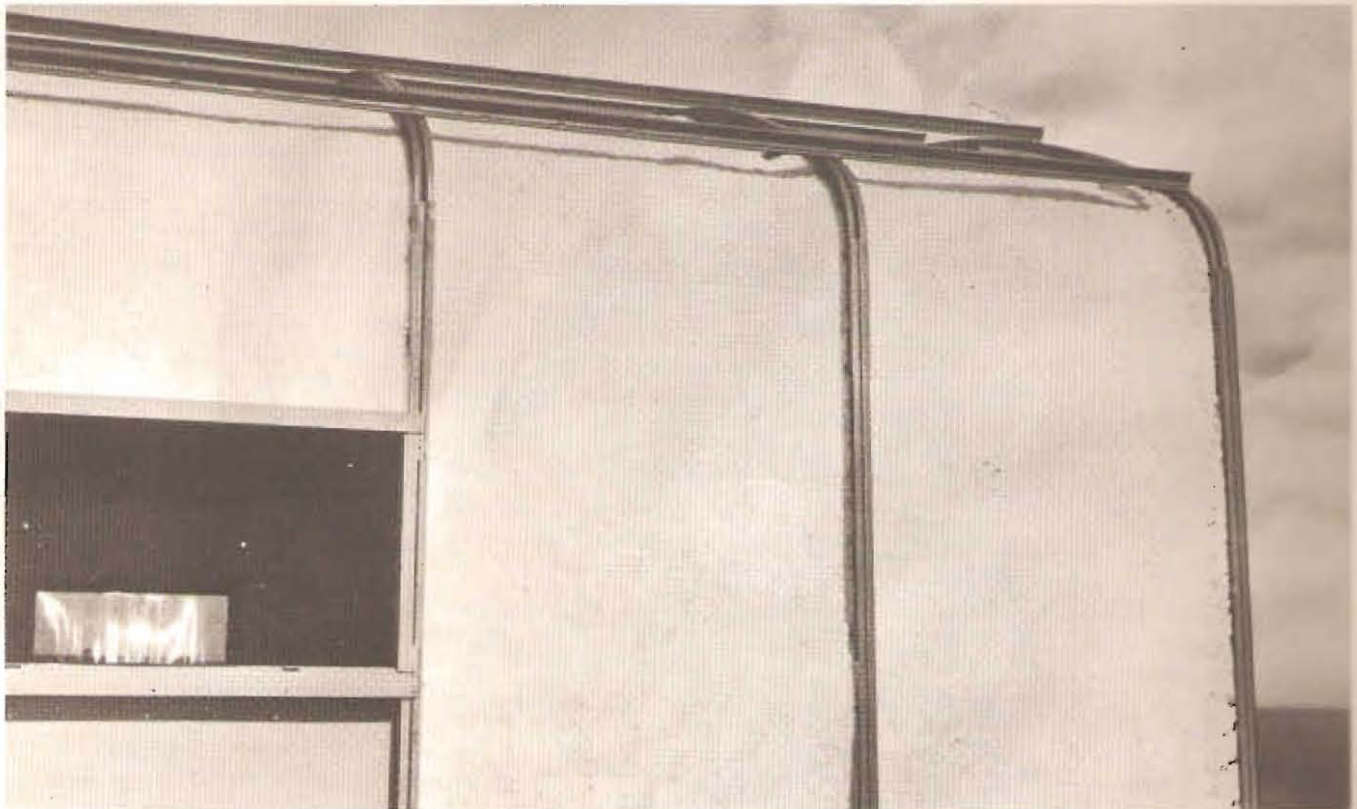
(d) To complete window, attach accessories for adjusting and locking windows.

(e) Storm pane, when desired, is installed by attaching to screen frame with clips. Storm pane is removed, when desired, by unsnapping these clips.

INSULATION



THREADING INSULATION BETWEEN
PURLINS AND FIBER BOARD



INSULATION IN PLACE ON SIDEWALLS



FASTENING INSULATION IN BASE CHANNELS

STEP 5 Insulation is furnished for each building in the form of packages with width to fit exactly between frames (4' apart) and in lengths 36'-6" to reach around the entire building.

CAUTION—Two packages of insulation come in 40' lengths. These are for the endwalls and should not be used for the roof and side wall.

The insulation is laid between frames on exterior side of fiber board lining and fits between flanges on the rafters and studs. (See photos.) The vapor barrier should face inward.

Procedure:

(a) Using 36'-6" rolls of insulation start at one side

and feed the end up one side and over the top threading it through the space between the purlins and fiber board.

(b) Continue feeding out insulation dropping ends down other side until roll is completely unrolled.

(c) Fit end of insulation into channel between studs at floor and hold in place by one of the crating lumber sticks.

(d) Where windows are located between frames, the insulation should be cut to fit and wedged into window sill with 1 1/4" x 3 1/2" x 3'-11 3/4" wood board from crate No. 6. Save pieces of insulation left over. They may be needed later.

OUTSIDE COVERING



EXTERIOR VIEW OF CORRUGATED SHEETS

**STEP
6**

The Vertical Wall building is covered with corrugated galvanized sheets nailed on side walls to studs and on top to the purlins. The sheets nailed to the studs are flat and have the corrugations running lengthwise of the building. Those nailed to the purlins are curved and have the corrugations running at right angles to the purlins.



CURVE ROOF SHEETS AND
FLASHING

IMPORTANT

(a) Seal all vertical and horizontal laps of sheets with a bead of mastic $\frac{1}{4}$ " to $5\frac{1}{16}$ " in diameter. Good insurance against leaks is to apply the bead of mastic **WITHOUT** breaks. Corrugated and flat rubber strips, used around windows and door frames, flashing, etc., are coated on **BOTH** sides with mastic.

(b) Laps of corrugated sheets between purlins and rafters are stitched with No. 14 sheet metal screws and lead washers (with $\frac{1}{8}$ " hole) spaced 12" apart.

(c) Secure sheets to purlins and studs with double headed nails and combination washers 8" apart.

(d) All end laps of corrugated sheets are 4" in length; side laps of straight sheets are 2" and side laps of curved crown sheets are $3\frac{1}{8}$ ".



CORRUGATED STRIP AT WINDOW JAMB



APPLYING MASTIC TO VERTICAL LAP



NOTCHED SHEET AT WINDOW JAMB



APPLYING ROOF SHEETS

Procedure:

(a) Start corrugated sheets 1½" below top of joist. Start applying sheets with bottom row, using 52" sheet (CS-3) at end rib. Continue row with 100" long sheets (CS-4). Finish row with 52" sheet (CS-3). Proceed with second row, starting with 100" sheet (CS-4).

(b) When two rows of sheets have been applied on side of building, set corrugated rubber strips (with mastic both sides) over window jambs. Continue sheeting the third row, notching the sheets (CS-3) to fit over and under the window sill. Apply top row of sheets starting with 100" sheet (CS-1773) and continuing with 52" sheets (CS-173), after applying flat rubber strips (with mastic both sides) on outside of window head. Bend out lower edge of sheet CS-173 over windows, after stitching to window head.

(c) At this point flashing (F-10) is placed on purlin

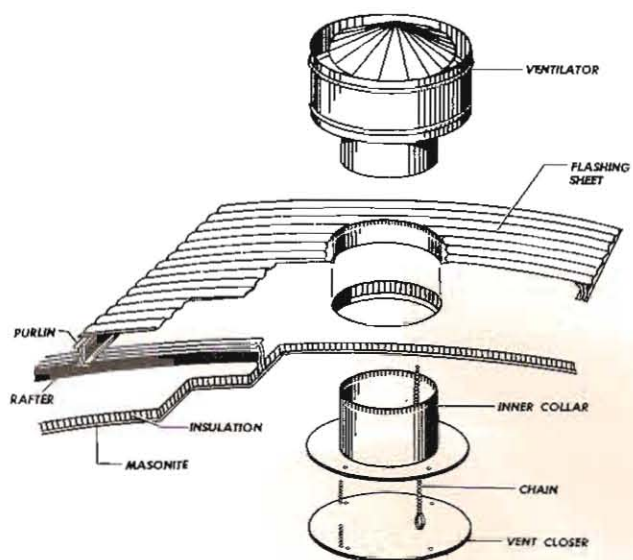
and stud, but do not fasten down until roof sheets CS-47 are applied (for better fit at corrugations).

(d) Nail curved roof sheets (CS-47 and CS-48) over the six purlins, shifting flashing F-10 on both sides of building as required to best mesh with corrugations of curved roof sheets. When five sheets are applied from the end of the building, apply curved sheet with smoke stack collar attached.

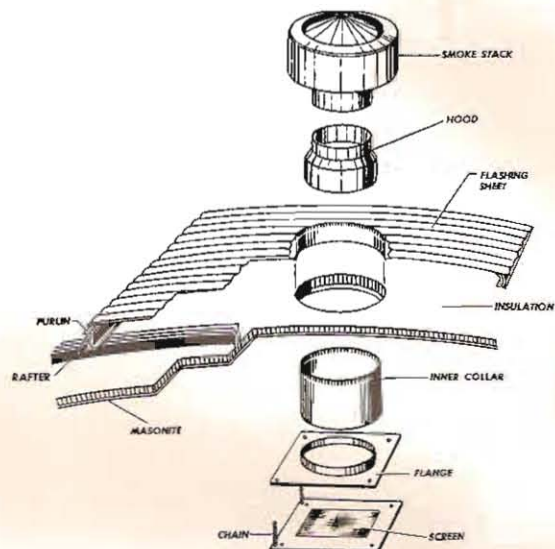
(e) Continue applying curved sheets (CS-47 and CS-48), and ventilator and smoke stack sheets where indicated on drawings.

(f) Stitch side laps of sheets with one No. 14 sheet metal screw with lead washer midway between studs in walls and 12" o.c. on roof and stitch sill of windows to sheets below in holes provided in sills. Also, stitch bottom edge of flashing to corrugated sheets with No. 14 sheet metal screws and lead washers 12" o.c.

VENTILATOR AND SMOKE STACKS



EXPLODED VIEW OF VENTILATOR



EXPLODED VIEW OF SMOKE STACK



CUT FIBER BOARD

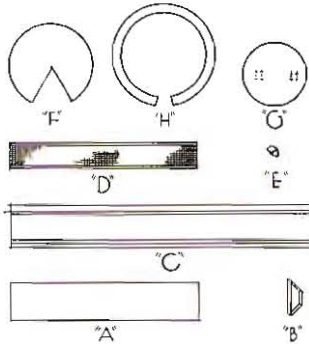
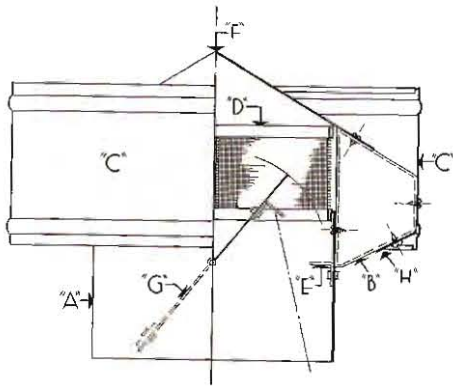


FIT INNER COLLAR

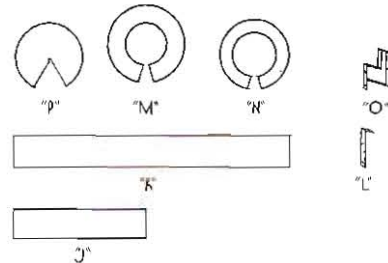
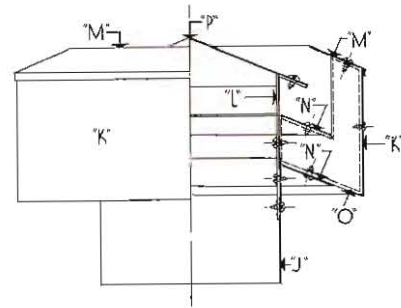


INSTALL SMOKE STACK

VENTILATOR AND SMOKE STACKS



KNOCKED DOWN VENTILATOR



KNOCKED DOWN SMOKE STACK



INSTALL VENTILATOR

STEP 7

Two smoke stacks and one ventilator are furnished for each building. These are shipped knocked down with special curved flashing sheets for installing them.

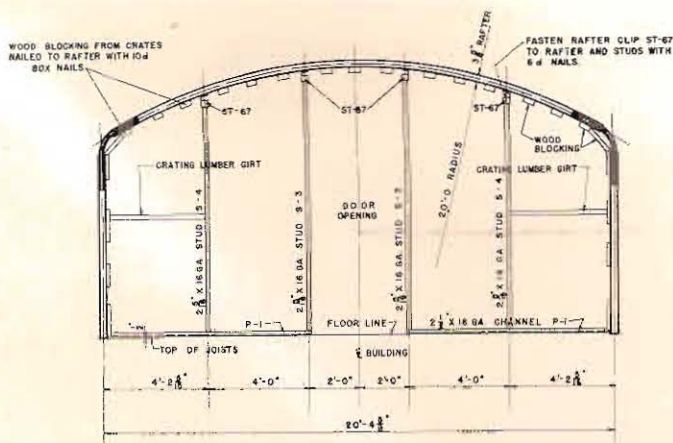
Procedure:

- (a) Assemble the smoke stacks and ventilator. (See drawings.)
- (b) Install special flashing sheets at center of building, lapping them at sides like regular curved roofing sheets.

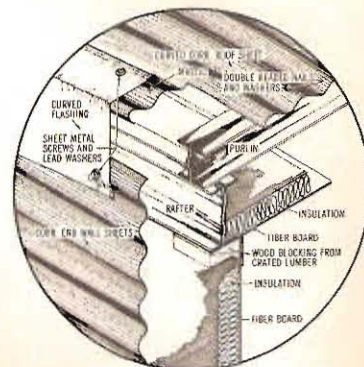
(c) Cut holes in fiber board and insulation to line up with those in special flashing sheets.

(d) Fit inner sleeve through this hole and screw the flange to the fiber board. Slip ventilator over the collar on flashing sheet and secure it by screws. On the smoke stack the adapter ring or hood must first be placed over the collar on the flashing sheet and screwed to it. Then slip the smoke stack over the hood and fasten it with screws.

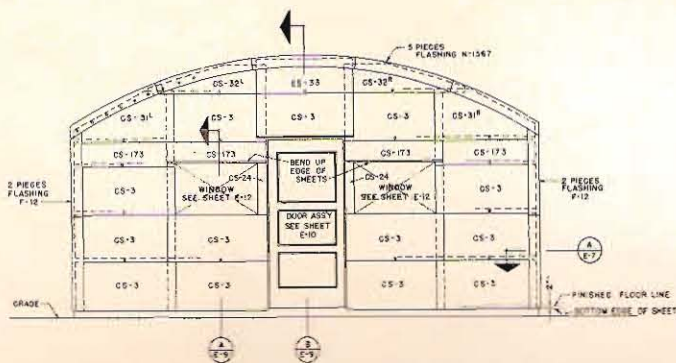
ENDWALLS



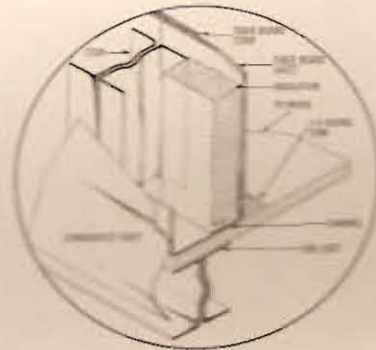
ENDWALL FRAMING



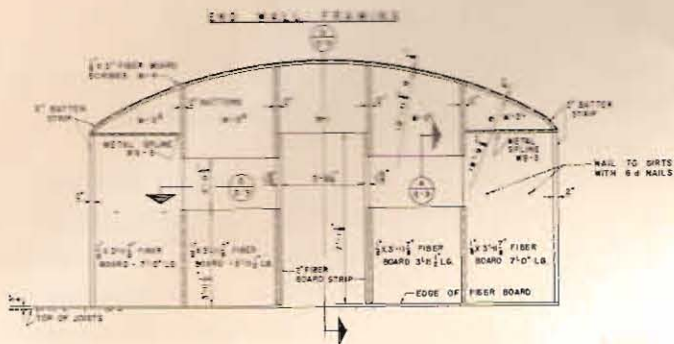
CUT-AWAY VIEW OF
ENDWALL AT ROOF SHEETS



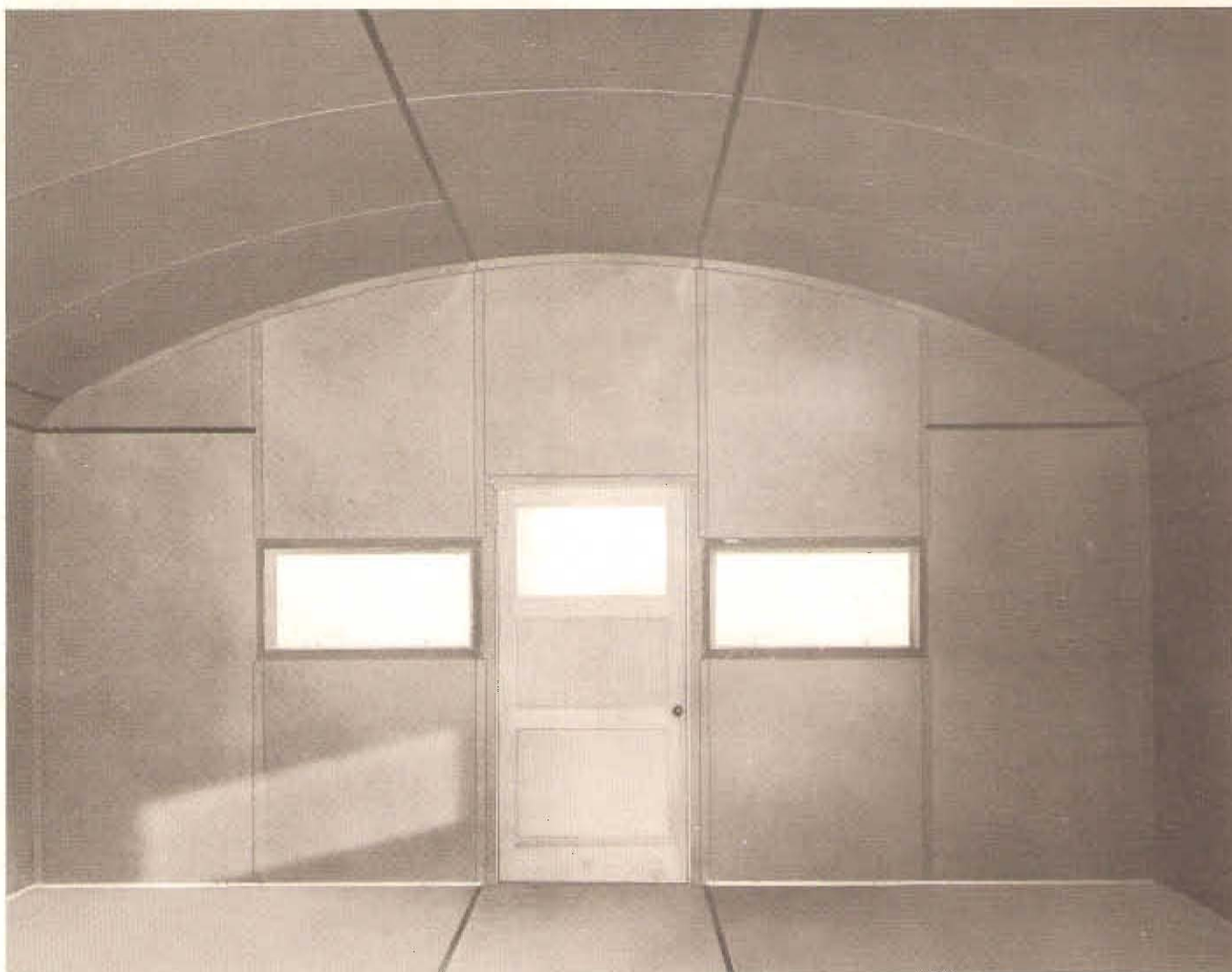
ENDWALL EXTERIOR



CUT-AWAY VIEW OF
ENDWALL AT FLOOR JOIST



ENDWALL INTERIOR



ASSEMBLED ENDWALL INTERIOR LINING

STEP 8 Endwall erection consists of putting up frame, installing windows with screens and door, and applying fiber board sheets on interior. Then insulation and exterior corrugated sheets and flashing are applied.

Procedure:

(a) Lay channels (P-1) on each side of 4' door opening in center of building. Center of channel should be directly over center of first joist. Fasten channel to edge of plywood flooring with screws (12" o.c. staggered).

(b) Erect four endwall studs. An S-3 stud is placed 2' on each side of center of building. S-4 studs are 4'

beyond. Studs fit into channel at floor and each is secured by two screws. Plumb the stud and fasten to rafter by means of a rafter clip (ST-67). See photos for detail on this operation. Be sure ears of clip are bent properly around flanges of rib.

(c) Cut 2 1/4" wide wood blocks from crating lumber and nail with 10d box nails to end rafter and stud, over edge of fiber board sheet as shown in erection drawing E-8.

(d) Attach metal door sill (S-1) over edge of plywood floor by sheet metal screws.

(e) Assemble door frames and install in endwalls.

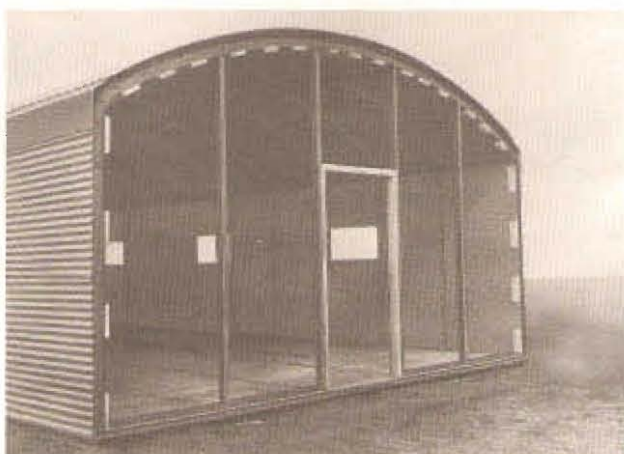
(Continued on Page 23)



INSTALLING DOOR FRAME



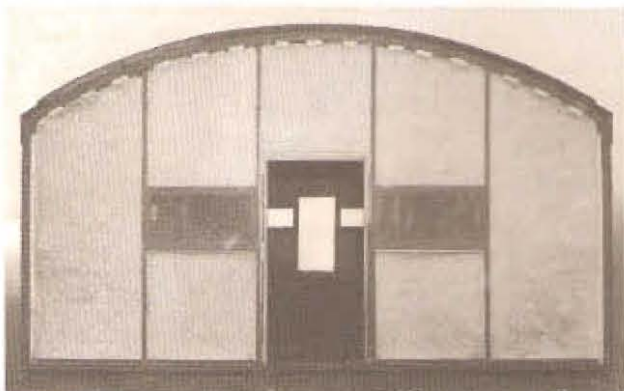
(Upper Left) Marking cutout on Masonite for rafter clip. (Upper Right) Ears bent for easy installation. (Lower Left) Clip inserted between rafter flange and panel. Ear on left is bent over rafter flange. (Lower Right) Rafter clip ear bent over rafter flange.



ENDWALL FRAMING



ENDWALL INTERIOR LINING



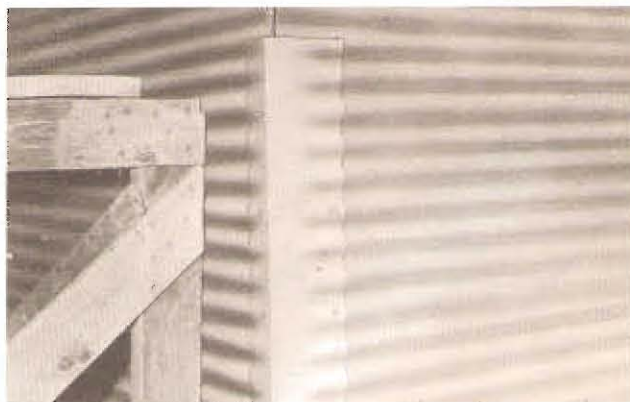
ENDWALL INSULATION



SHEET DETAIL BETWEEN DOOR AND WINDOW



NAILING SHEETS TO BLOCKING



CORNER FLASHING



ROOF FLASHING



ENDWALL COMPLETED

(Continued from Page 21)

Each door frame consists of two jamb bucks, head buck, two jamb sections, and head piece. Insert jamb bucks inside of studs (S-3) and place head buck on top. Secure bucks to studs by nailing through stud flanges with 6d nails (18" o.c.). Nail door frame pieces together and secure frame to door bucks with 8d finishing nails.

(f) Apply special precut fiber board panels to endwall studs with simplex nails as sketch shows. Assemble the two window frames, each consisting of two jamb pieces, head piece and sill piece. Fasten to stud with 6d nails. (See window instruction on page 13.)

(g) Cut 40' length insulation into pieces for installation between studs. Fasten with simplex nails to wood blocks on frame, wood door and to wood blocking (made of crating lumber) at sill.

(h) Start corrugated sheets 1½" below top of joists. Apply corrugated asphalt or rubber strips to door

jamb and install two rows of 26" wide corrugated sheets according to sketch on page 20. Nail sheets to studs with double headed nails and combination washers, 8" o.c.

(i) Apply corrugated and flat asphalt or rubber strips around window frame and continue installation of corrugated sheets as shown on sketch (page 20). Apply mastic to all sheet laps and stitch with screws as instructed for wall sheets on page 10.

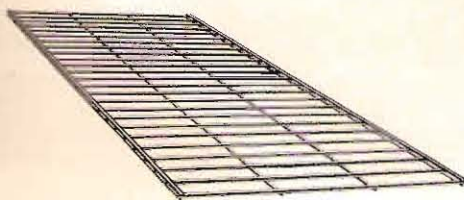
(j) Attach corner flashing F-12 and five pieces of flashing (N-1367) as per sketch on page 20. (See photos.)

(k) Hang door.

(l) Attach metal-frame screens to inside of metal window frame by means of hinges provided.

(m) Apply one-quarter round shoe mold around entire building by nailing to plywood floor with brads (12" o.c.).

ALTERNATE ERECTION SEQUENCE



FLOOR FRAME



STUDS, RAFTERS AND PURLINS



EXTERIOR COVERING



INSULATION



Extended periods of bad weather may make it desirable to put on the outside covering as soon as possible to avoid possible damage to interior lining and insulation by rain, snow and ice or by wind. In this alternate erection sequence, therefore, the outside covering and windows are nailed to studs and purlins as Step 4 instead of Step 6. All other operations are very much the same.

1. Floor Framing. Lay the sills first; then the joists, then the side-wall channels. Level and square the whole assembly. (See pages 4 and 5.)

2. Floor Panels and Reflective Insulation. Lay out reflective insulation and plywood floor simultaneously on the joists. Install metal splines at longitudinal joints, and nail the panels to the joists. (See pages 6 and 7.)

3. Studs, Rafters and Purlins. Fasten the studs and rafters together with curved splice plates, raise into position and screw to base channels. Erect purlins and plumb entire assembly. (See pages 8 and 9.)

4. Outside Covering and Windows. Nail corrugated sheets on sides to studs and on top to purlins. Assemble the knocked-down window frames. Install in position and nail to studs. (See pages 12, 13, 16 and 17.)

5. Insulation. Install insulation between studs and rafters.

6. Inside Covering. Lay the fiber board sheets in place and nail them to the studs and rafters. Install metal splines at horizontal joints and nail Masonite battens over fiber board joints. (See pages 10 and 11.)

7. Ventilator and Smoke stacks. Assemble ventilator and smoke stacks and install at center line of roof. (See pages 18 and 19.)

8. End Wall. Lay end wall channels and erect studs. Nail corrugated sheets to studs. Assemble knocked-down window and door frames. Install in position and nail to studs. Cut 40' insulation to required lengths and install between studs. Nail fiber board sheets into place. (See pages 20 through 23.)

9. Clean Up.



INTERIOR COVERING



ENDWALLS

FOR THE MILITARY FORCES

OCTOBER, 1952
FRIGID DESIGN

STRAN STEEL DIVISION

GREAT LAKES STEEL CORPORATION

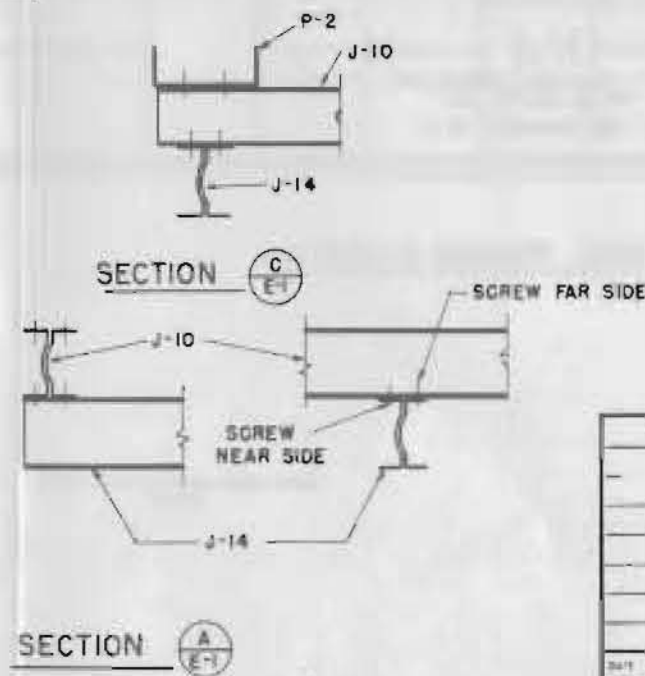
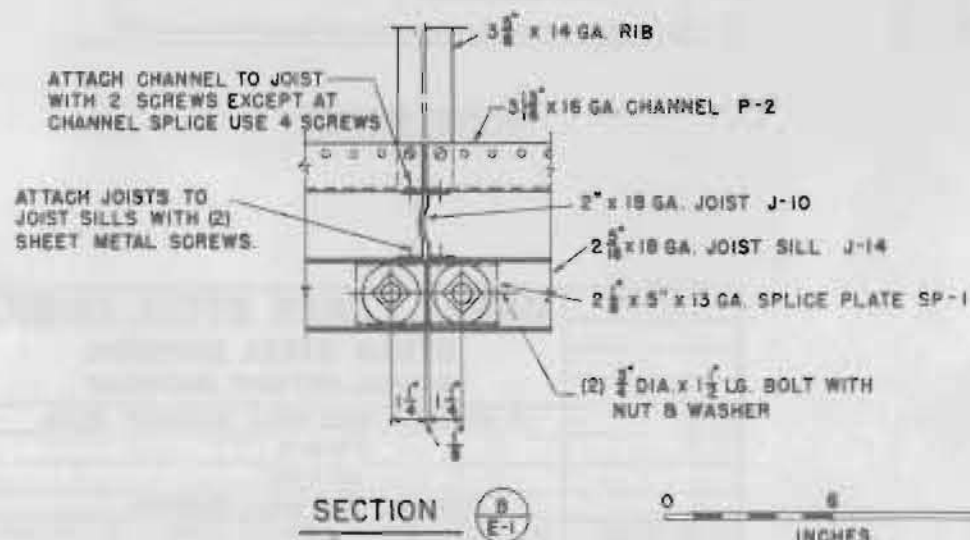
COPYRIGHT 1952

LITHO IN U.S.A.—ARTCRAFT—3677



SHIM WITH BLOCKING UNDER EXTERIOR SILLS
AT EACH RIB, 4'-0" O.C. AND UNDER INTERIOR
SILLS AT SPLICES AND UNDER EVERY OTHER
JOIST 4'-0" O.C.

FLOOR FRAMING PLAN

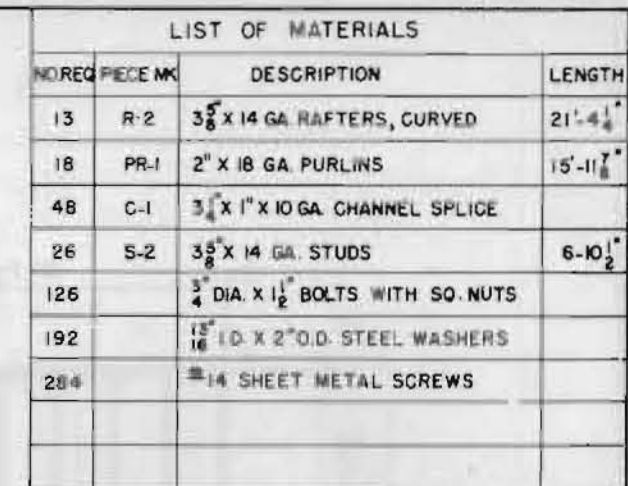


LIST OF MATERIAL			
NO. REQ'D	PIECE MK	DESCRIPTION	LENGTH
12	J-14	2" x 18 GA. JOIST SILL	15'-11"
25	J-10	2" x 18 GA. JOIST	20'-0"
6	P-2	3" x 16 GA. CHANNEL	15'-11"
8	SP-1	2" x 5" x 13 GA. SPLICE PLATE	
16		1/2" DIA. x 1 1/2" LG. BOLT & SQ. NUT	
16		1 1/2" I.D. x 2" O.D. STEEL WASHER	
308	ST-510	14 x 1/2" LG. SHEET METAL SCREW	

NOTE

QUANTITIES ABOVE DO NOT INCLUDE ANY EXTRA MATERIAL.

REVISIONS		GREAT LAKES STEEL CORP. STRAN-STEEL DIVISION ECORSE, DETROIT, MICHIGAN		
		2 STRAIGHT SIDE WALL QUONSET BUILDING FRIGID 20' X 48' FLOOR FRAMING PLAN		
DATE 9-15-52	DRAWN D.J.F.	CHECKED V.A.R.	JOB NO.	SHEET NUMBER
SCALE AS SHOWN	SUPPLEMENT CROSSL	ESTIMATE NUMBER	52-3470	E-1



— 24 SPLICE CH'LS C-1
A SINGLE SPLICE PLATE
AT END WALLS.

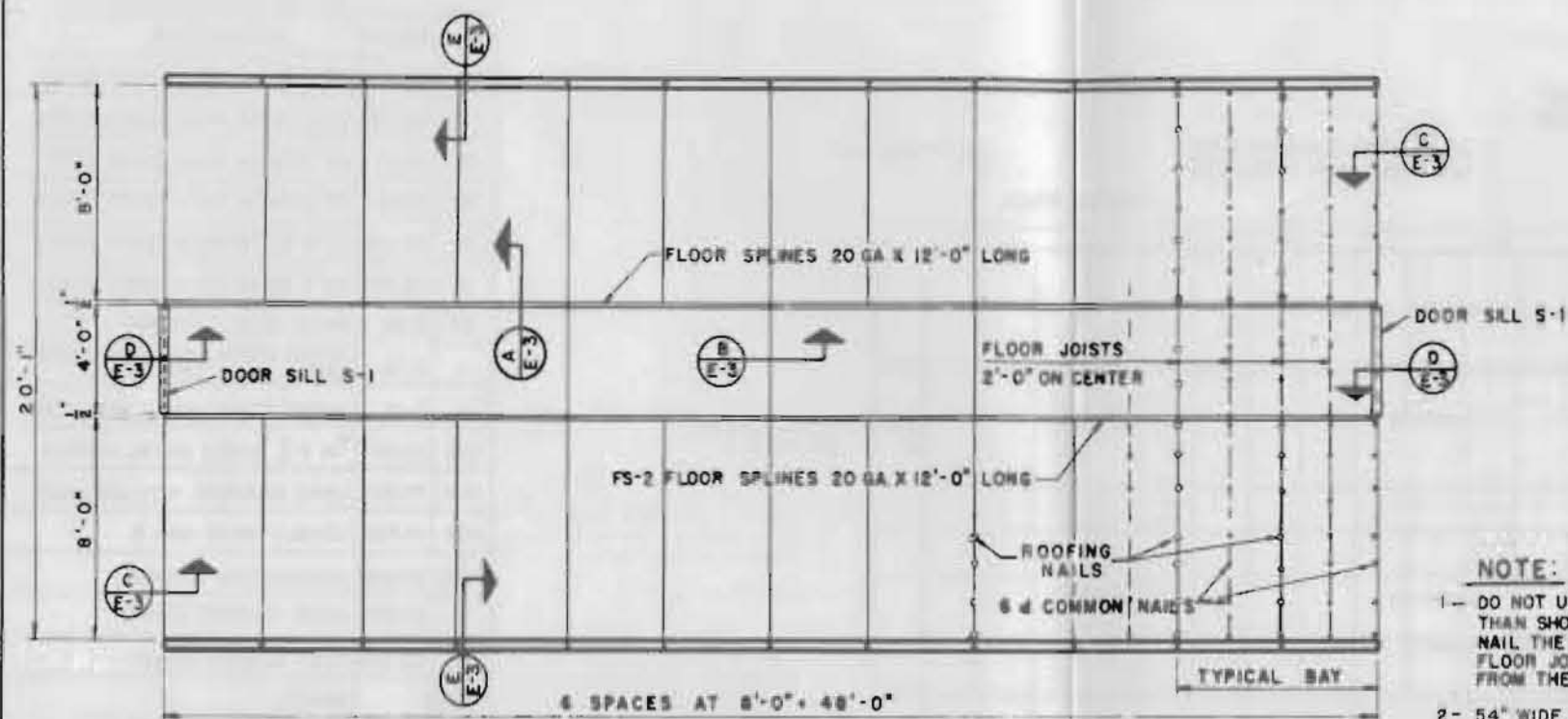
Diagram illustrating the components and dimensions of a semi-circular roof structure:

- PURLINS PR-1**: The top horizontal members.
- RAFTER R-2**: The main structural members supporting the roof.
- SPLICE CH'LS C-1**: The connection points between the rafters.
- STUDS S-2**: The vertical members supporting the rafters.
- 2" FLOOR JOISTS**: The horizontal members supporting the floor.
- SILL JOISTS**: The bottom horizontal members.
- 6'-10" STUDS**: The vertical height of the structure.
- 20'-0" RAD.**: The radius of the semi-circular roof.
- Dimensions**:
 - 4'-10 1/8"
 - 4'-2"
 - 1'-7"
 - 1'-7"
 - 4'-2"
 - 4'-10 1/8"

CROSS SECTION

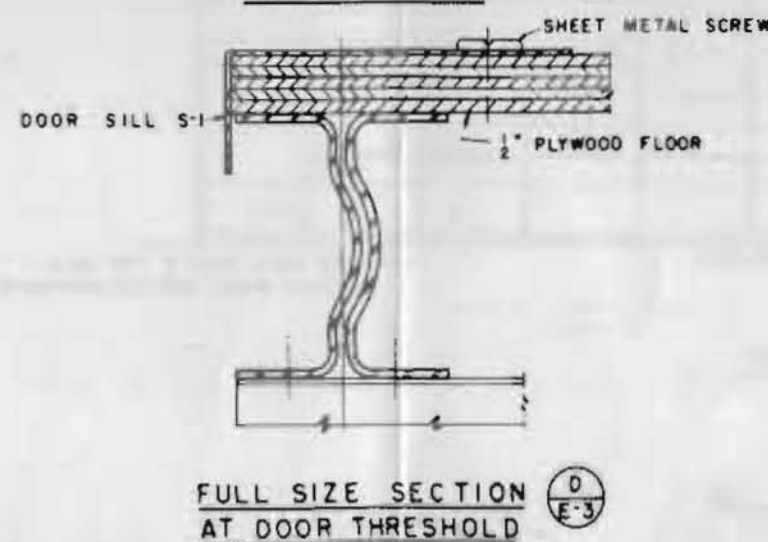
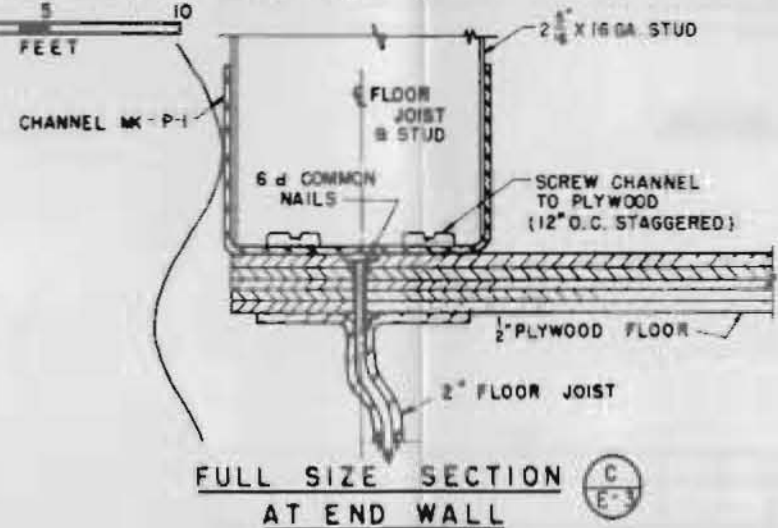
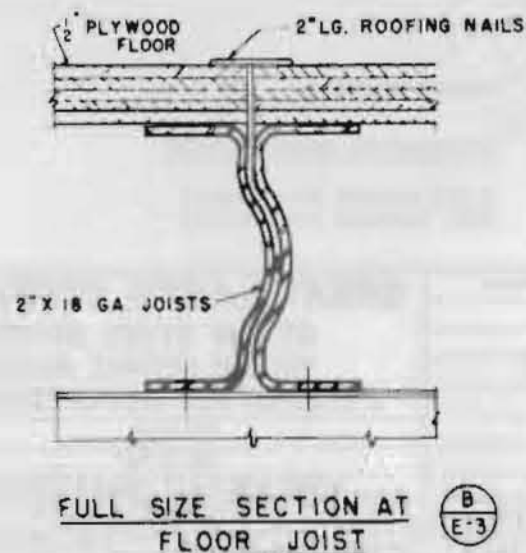
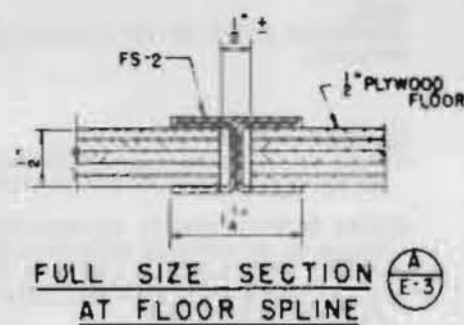


REVISIONS		GREAT LAKES STEEL CORP.							
		STRAN STEEL DIVISION							
		ECORSE, DETROIT, MICHIGAN							
		2 STRAIGHT SIDE WALL QUONSET BLDG.							
		FRIGID							
		20' X 48'							
		ROOF AND SIDE WALL FRAMING							
REV'D	9-15-52	BY	H.R.M.	CHECKED	J.R.S.	JOB NO.		SHEET NUMBER	
SCALE	AS SHOWN	1" = 10'-0"		1" = 10'-0"		52-3470		E-2	



PLYWOOD FLOORING LAYOUT

0 5 10
FEET

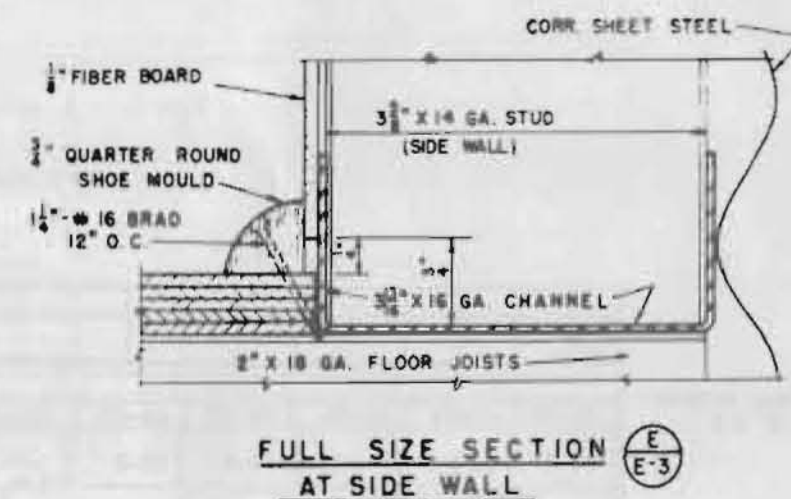


- NOTE:**
- DO NOT USE MORE NAILS THAN SHOWN HERE TO NAIL THE PLYWOOD TO FLOOR JOIST. NAIL FROM THE CENTER OUT.
 - 54" WIDE REFLECTIVE INSULATION UNDER PLYWOOD - LAP 6" BRIGHT SIDE OF INSULATION FACE DOWN.

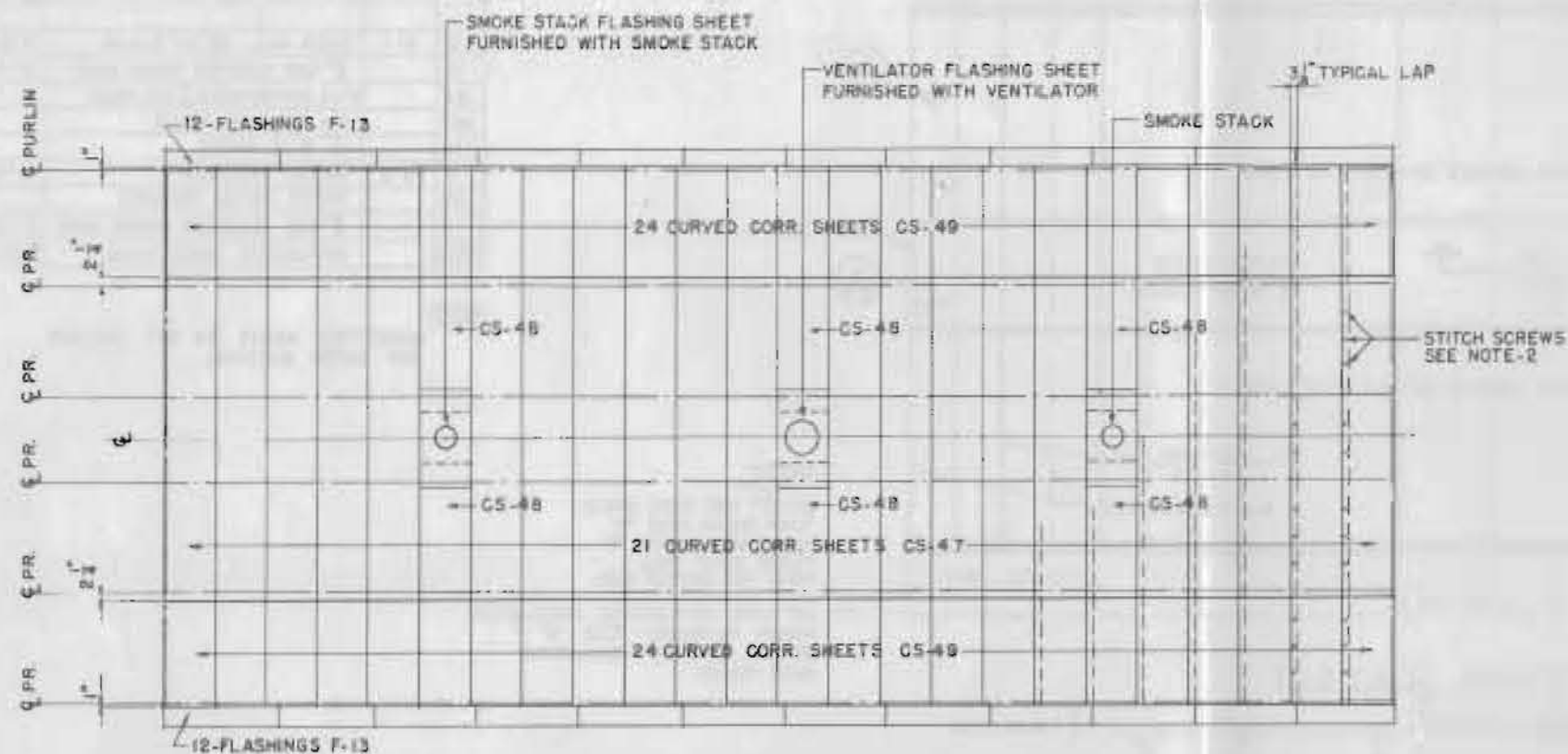
LIST OF MATERIALS

REQ'D	MARK	DESCRIPTION	LENGTH
30		4'-0" WIDE X 1/2" PLYWOOD	8'-0"
2	S-1	DOOR SILL 3 1/2" X 1 1/2" X 14 GA	3'-5 1/2"
12		1/2" ONE QUARTER ROUND SHOE	8'-0"
184		2" LG ROOFING NAILS 16 DIA HEAD	
242		6 d COMMON NAILS	
130		1 1/2" # 16 BRADS	
6	FS-2	METAL SPLINES	12'-0"
42		SHEET METAL SCREWS	
6		1/2" ONE QUARTER ROUND SHOE	6'-0"
1 ROLL		REFLECTIVE INSULATION	250'-0"

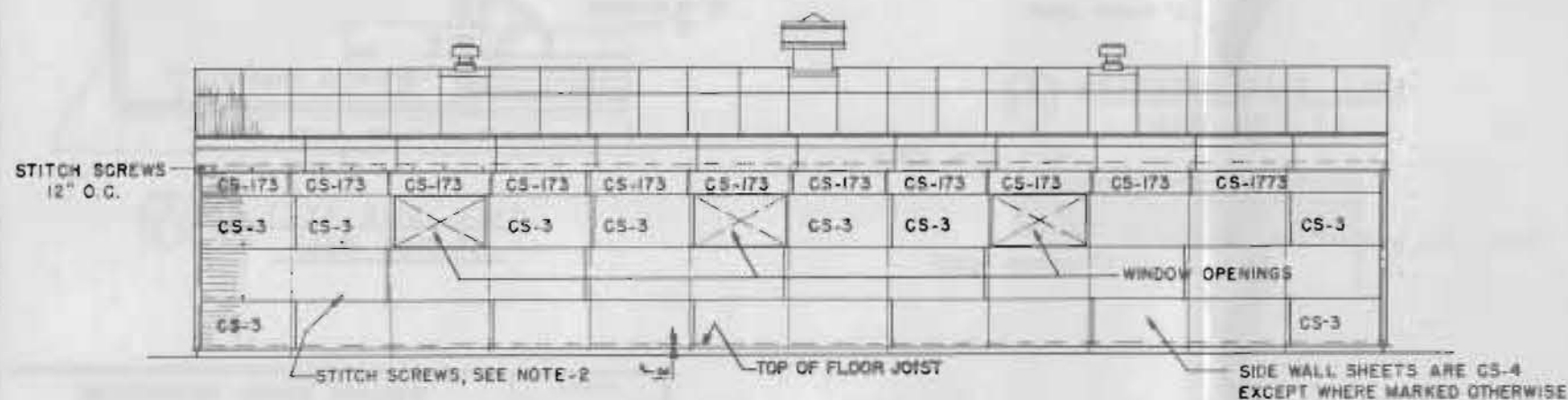
NOTE:
QUANTITIES ABOVE DO NOT INCLUDE ANY EXTRA MATERIAL



STRAN STEEL DIVISION				
GREAT LAKES STEEL CORPORATION DETROIT, MICHIGAN				
2 STRAIGHT SIDE WALL QUONSET BLDG.				
FRIGID				
20' X 48'				
PLYWOOD FLOOR PLAN				
DATE 9-15-52	DESIGN LHC	CHECKED V.A.R.	JOB NO. 52-3470	SHEET NO. E-3
BY AS NOTED	CUSTOMER'S ORDER	REVISIONS		
	1160-2495-10446			



DEVELOPED PLAN OF ROOF SHEETS



SIDE ELEVATION

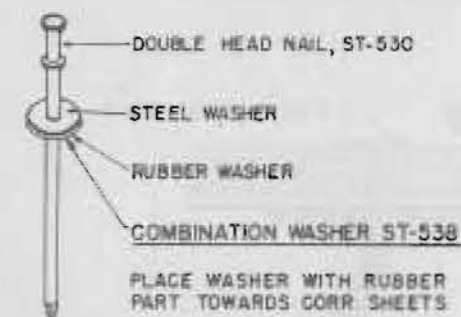


LIST OF MATERIALS			
NO.	QTY	DESCRIPTION	LENGTH
21	CS-47	27" X 26 GA. GALV. CORR. SHEET	144"
6	CS-48	27" X 26 GA. GALV. CORR. SHEET	56"
18	CS-3	26" X 26 GA. GALV. CORR. SHEET	52"
24	CS-4	26" X 26 GA. GALV. CORR. SHEET	100"
20	CS-173	13" X 26 GA. GALV. CORR. SHEET	52"
2	CS-1773	13" X 26 GA. GALV. CORR. SHEET	100"
24	F-13	26 GA. GALV. FLASHING	4'-6"
1	E-13	20" DIA. VENTILATOR WITH DAMPER KNOCK DOWN TYPE	
2	E-14	SMOKE STACK, KNOCK DOWN TYPE	
500	ST-510	1/4" X 5/8" SHEET METAL SCREWS	
500	ST-527	LEAD WASHERS WITH .25" HOLE	
700	ST-530	DOUBLE HEAD NAILS	
700	ST-538	COMBINATION WASHER	
12	ST-551	CORR. RUBBER STRIP	2'-4"
12	ST-320	FLAT RUBBER STRIP	2'-3"
4 GALS		MASTIC	
6		WINDOW ASSEMS. SEE DWG. E-11	
48	CS-49	27" X 26 GA. GALV. CORR. SHEET	62"

NOTE:
QUANTITIES ABOVE DO NOT INCLUDE ANY EXTRA MATERIAL

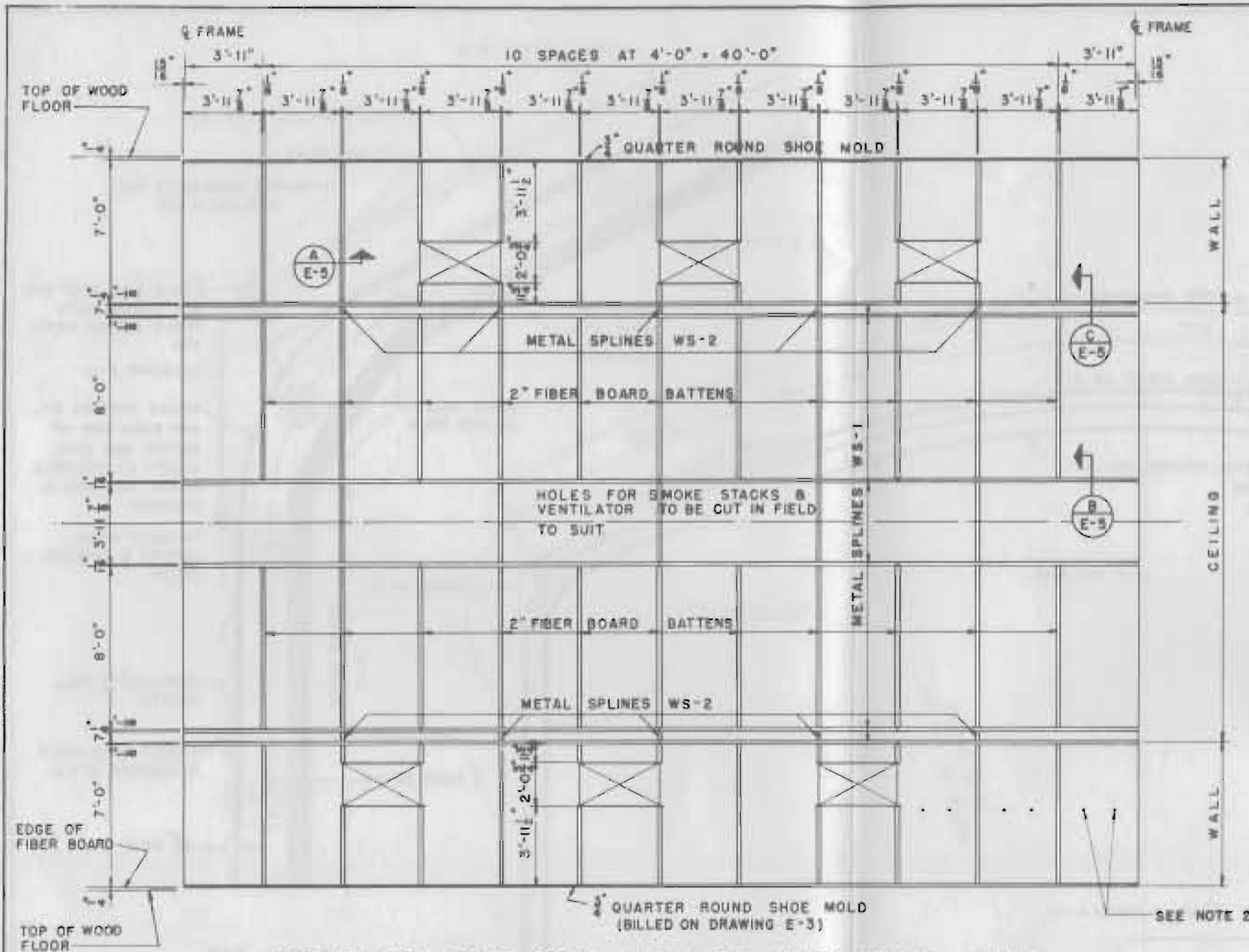
NOTES

1. SEAL ALL VERTICAL AND HORIZONTAL LAPS OF SHEETS WITH 1/4" TO 3/8" DIA. BEAD OF MASTIC ON ROOF ONLY.
2. LAPS OF CORR. SHEETS BETWEEN PURLINS AND STUDS TO BE STITCHED WITH NO. 14 SHEET METAL SCREWS AND LEAD WASHERS WITH .25" DIA. HOLE 12" ON CENTERS ON ROOF AND MIDWAY ONLY BETWEEN WALL STUDS.
3. SECURE SHEETS TO PURLINS AND STUDS WITH DOUBLE HEAD GALV. NAILS AND COMB. WASHERS 8" O.C.



GREAT LAKES STEEL CORP.
STRAN STEEL DIVISION
 ECORSE, DETROIT, MICHIGAN
 2 STRAIGHT SIDE WALL QUONSET BLDG.
 FRIGID
 20' X 48'
 ROOF AND WALL SHEET LAYOUT

DATE: 9-15-52	DESIGN: H.R.W.	CHECKED: J.R.S.	JOB NO.:	SHEET NUMBER:
SCALE: AS SHOWN	QUOTATION: 2000	ESTIMATE: 11-1111	52-3470	E-4
RBD-2498-10448				

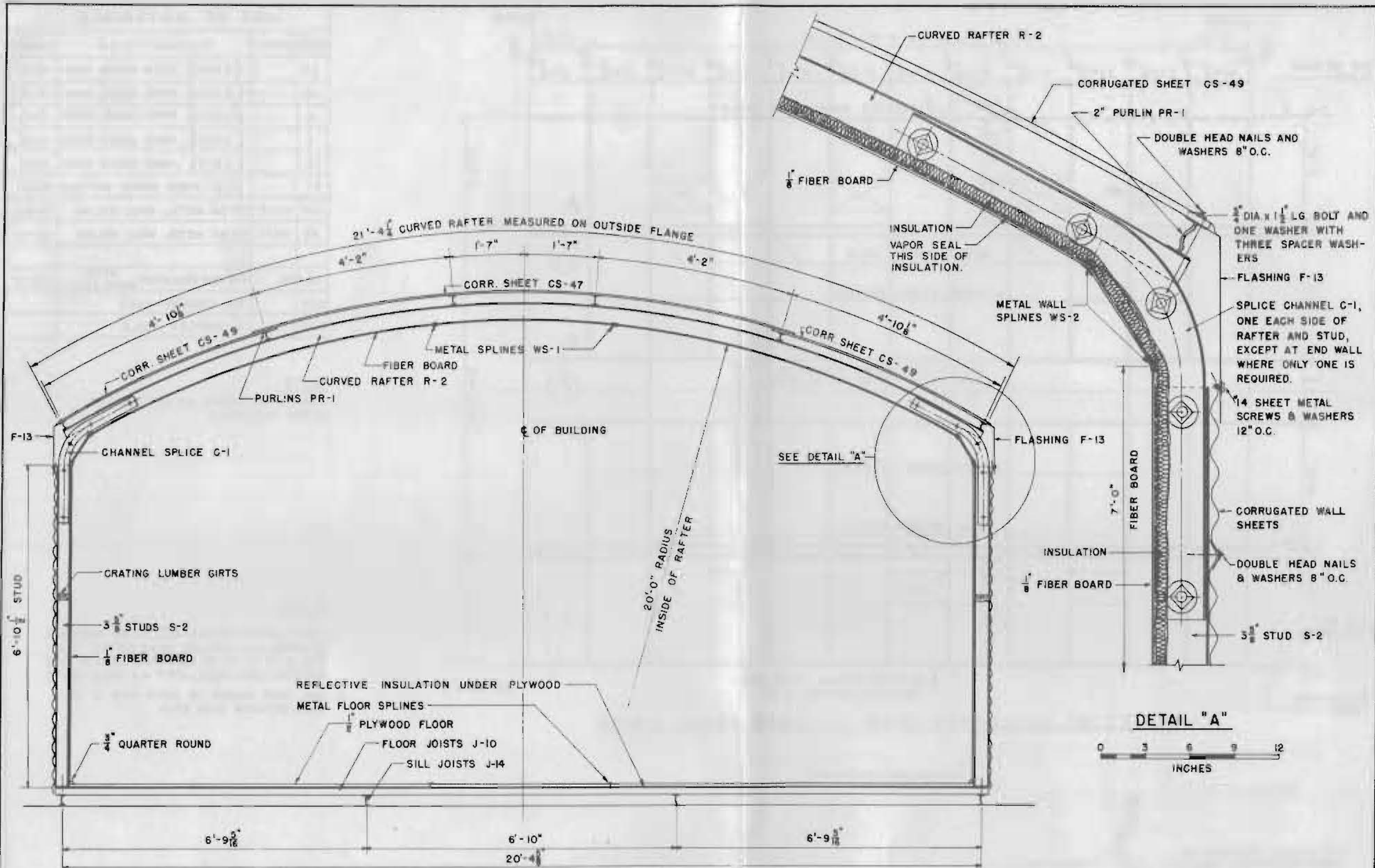


LIST OF MATERIALS			
REQD	MARK	DESCRIPTION	LENGTH
30		1/2" X 3'-11 1/2" FIBER BOARD SHEET	8'-0"
18		1/2" X 3'-11 1/2" FIBER BOARD SHEET	7'-0"
6		1/2" X 3'-11 1/2" FIBER BOARD SHEET	3'-11 1/2"
6		1/2" X 3'-11 1/2" FIBER BOARD SHEET	0'-11 1/2"
12		1/2" X 0'-7 1/2" FIBER BOARD SHEET	8'-0"
47		1/2" X 2" FIBER BOARD BATTENS	8'-0"
10	WS-2	24 GA. METAL WALL SPLINE	0'-6 1/2"
24	WS-1	24 GA. METAL WALL SPLINE	12'-0"
12 PCS.		4'-0" WIDE INSULATION WITH VAPOR SEAL	36'-6"
825		6d COMMON NAILS	
240		1 1/2" SIMPLEX NAILS	

NOTE:
QUANTITIES ABOVE DO NOT INCLUDE
EXTRA MATERIALS.

- NOTE:**
- FIBER BOARD PANELS ARE TO BE FASTENED TO FRAME WITH SIMPLEX NAILS 24" O.C. THEN THE JOINT IS TO BE COVERED WITH 2" WIDE BATTENS AND HELD WITH 6d NAILS - 8" O.C.
 - NAIL FIBER BOARDS TO GIRTS WITH 2 6d NAILS BETWEEN EACH STUD.

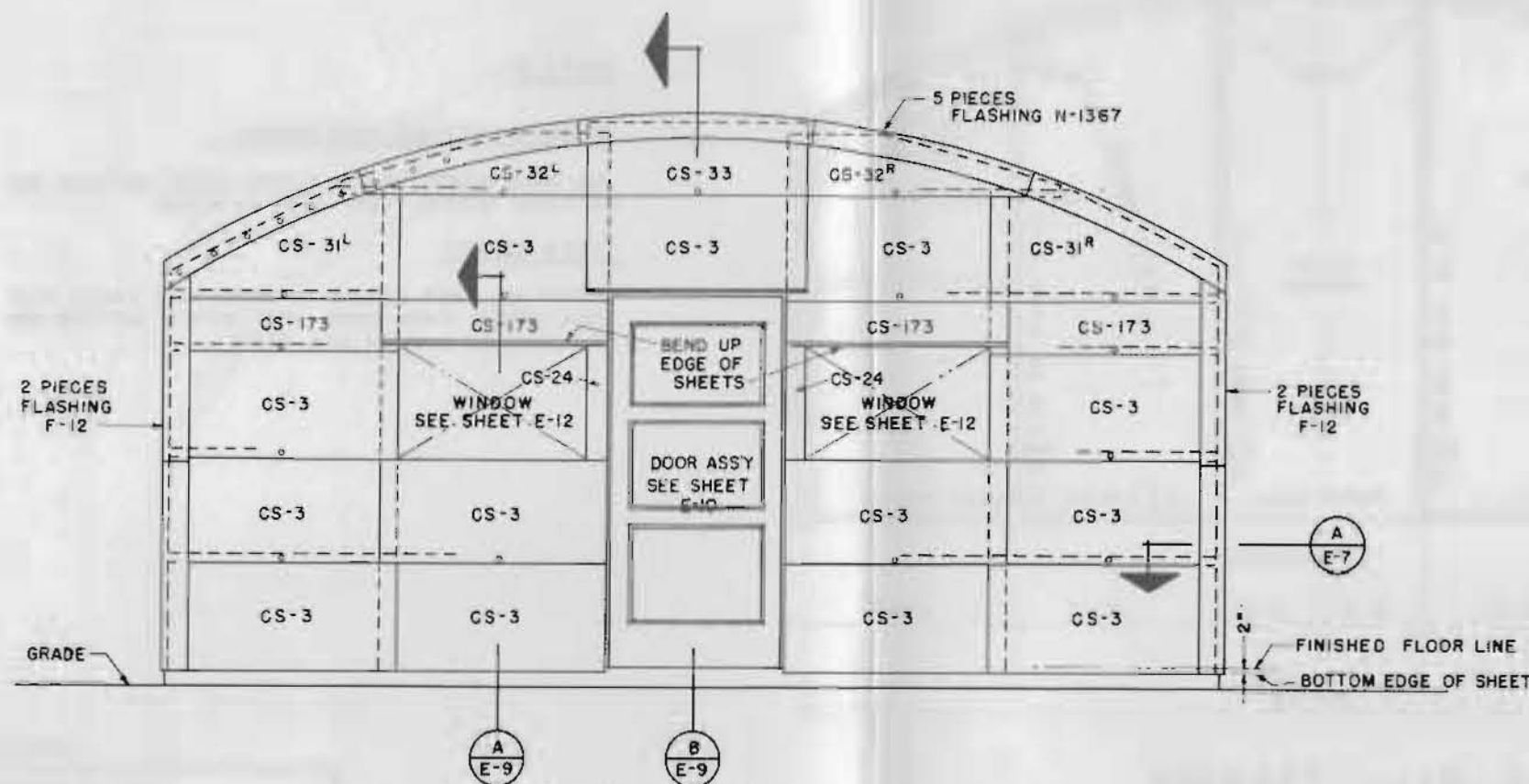
REVISIONS				
GREAT LAKES STEEL CORP. STRAN STEEL DIVISION ECORSE, DETROIT, MICHIGAN				
2 STRAIGHT SIDE WALL QUONSET BLDG. FRIGID				
20' X 48'				
FIBER BOARD LAYOUT & DETAILS				
DATE 9-15-52	BY LHC	CHECKED J.R.S.	JOB NO. 52-3470	SHEET NUMBER E-5
SCALE AS SHOWN	1160-2495-10448			



CROSS SECTION

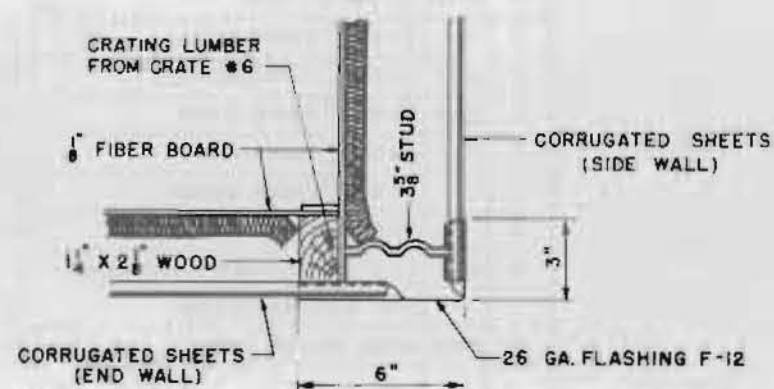


REVISIONS				
GREAT LAKES STEEL CORP. STRAN-STEEL DIVISION ECORSE, DETROIT, MICHIGAN				
2 STRAIGHT SIDE WALL QUONSET BUILDING				
FRIGID				
20' X 48'				
CROSS SECTION & DETAIL				
DATE 9-15-52	DESIGN D.J.F.	CHECKED V.A.R.	DWG. NO.	SHEET NUMBER
SCALE AS SHOWN	CUSTOMER'S ORDER NUMBER N180-2499-10446	EDUCATION NUMBER	52-3470	E-6



LIST OF MATERIALS			
NO. REQ'D	PIECE MK.	DESCRIPTION	GAGE
4	F-12	GALVANIZED FLASHING	26 GA.
5	N-1367	GALVANIZED FLASHING	26 GA.
13	CS-3	CORR. GALV. SHEET	26 GA.
1	CS-31 ^R	CORR. GALV. SHEET	26 GA.
1	CS-31 ^L	CORR. GALV. SHEET	26 GA.
1	CS-32 ^R	CORR. GALV. SHEET	26 GA.
1	CS-32 ^L	CORR. GALV. SHEET	26 GA.
1	CS-33	CORR. GALV. SHEET	26 GA.
2	CS-24	CORR. GALV. SHEET	26 GA.
4	CS-173	CORR. GALV. SHEET	26 GA.
1		3'-6" X 7'-0" X 1 1/8" DOOR SEE SHEET E-10	
84	ST-510	#14 SHEET METAL SCREWS	
68	ST-527	LEAD WASHERS WITH 25" HOLE	
90	ST-530	DOUBLE HEAD NAILS	
90	ST-538	COMBINATION WASHER	
10	ST-551	CORR. RUBBER STRIP	2'-4"
6	ST-320	FLAT RUBBER STRIP	2'-3"
30		8d FINISHING NAILS	
24		1 1/2" LG. SIMPLEX NAILS	
130		6d COMMON NAILS	
56		10d BOX NAILS	
16		1 1/4" #16 BRADS	

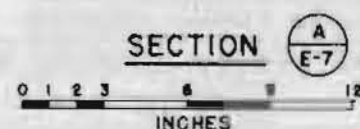
NOTE
QUANTITIES ABOVE DO NOT INCLUDE ANY EXTRA MATERIAL



NOTE:
CORRUGATED SHEETS

LAPS OF CORRUGATED SHEETS BETWEEN STUDS TO BE STITCHED WITH #14 SHEET METAL SCREWS AND COMB. WASHERS WITH 1/4" HOLES - MIDWAY BETWEEN STUDS.

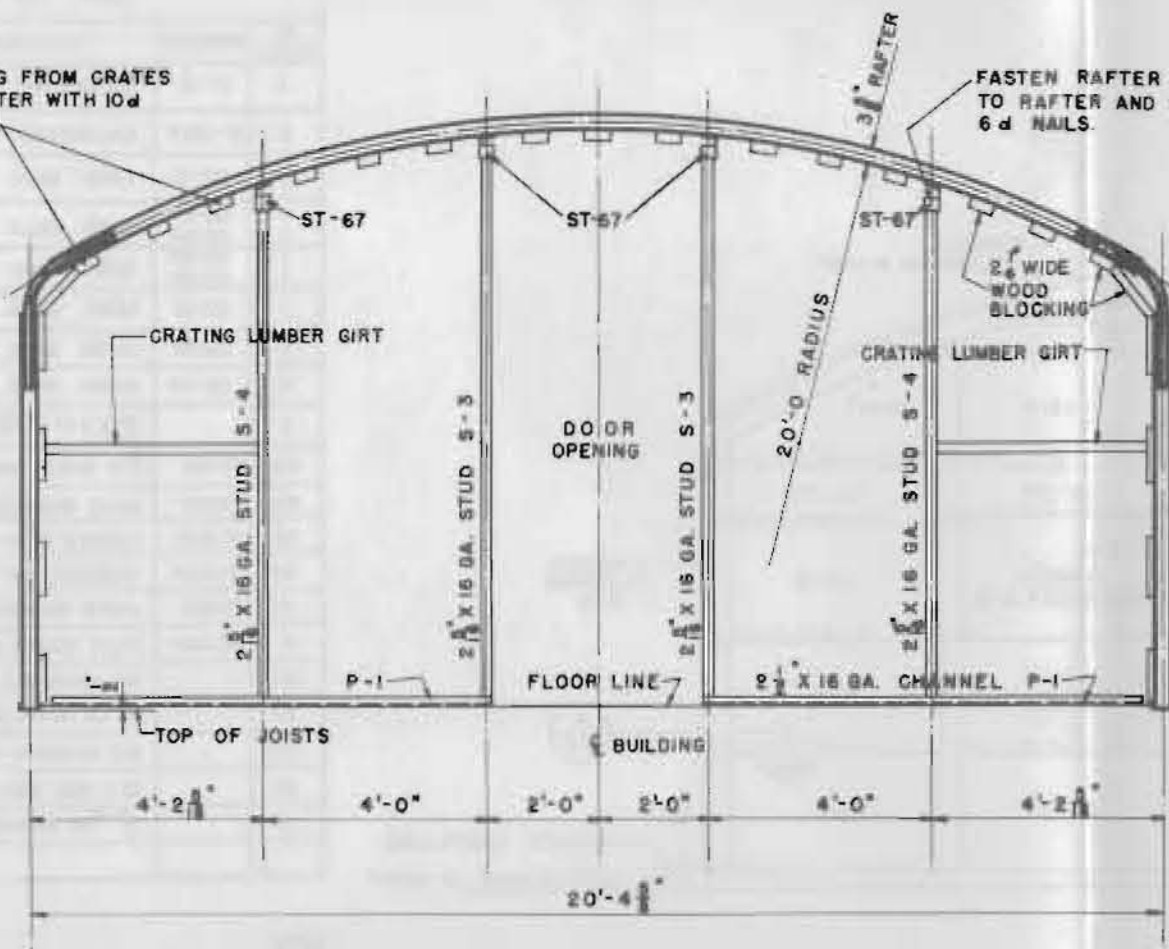
SECURE SHEETS TO STUDS WITH DOUBLE HEADED NAILS AND COMB. WASHERS 8" O.C.



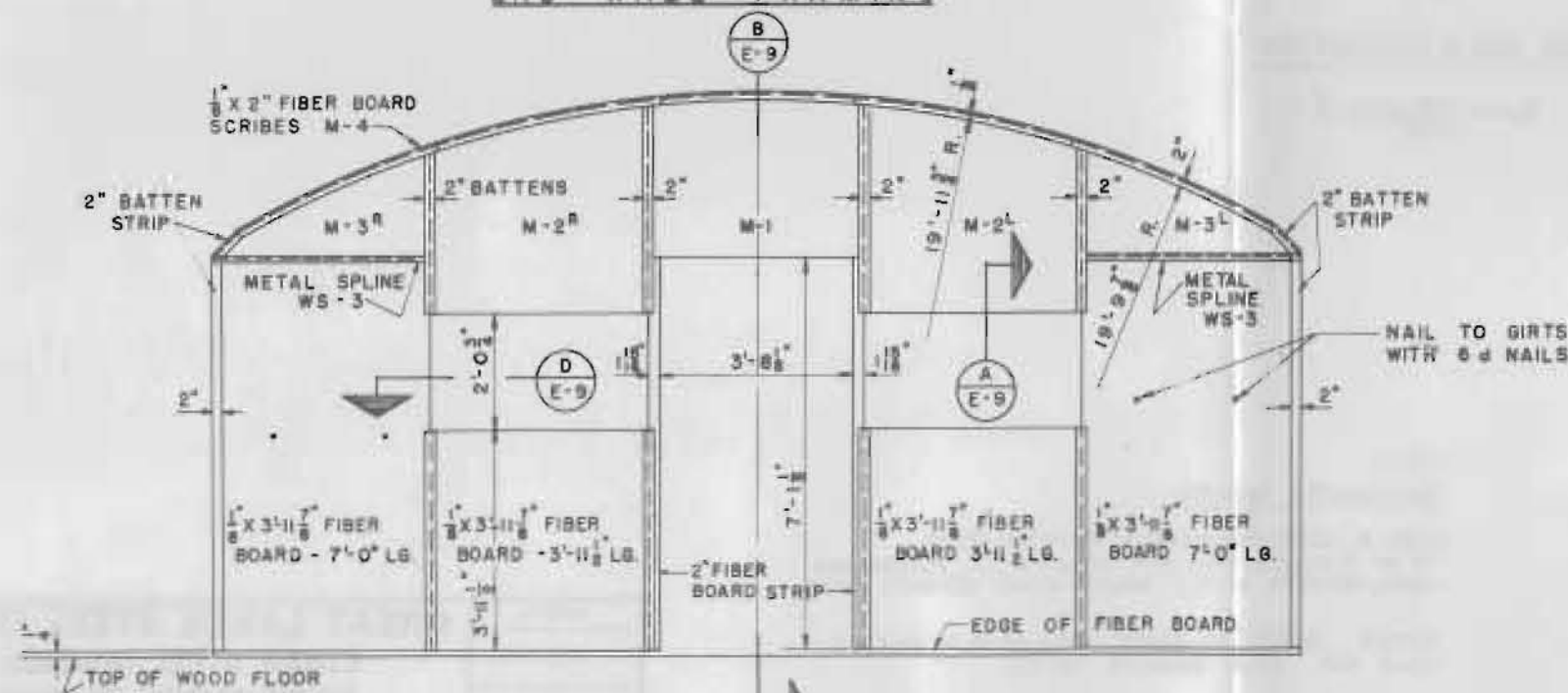
REVISIONS			
DATE	9-15-52	BY	C.A.O.
DATE	AS SHOWN	BY	AS SHOWN
GREAT LAKES STEEL CORP. STRAN STEEL DIVISION ECORSE, DETROIT, MICHIGAN			
2 STRAIGHT SIDE WALL QUONSET B'LD'G			
FRIGID			
20' X 48'			
END WALL ELEVATION AND DETAILS			
DATE	9-15-52	CHECKED	V.A.R.
DATE	AS SHOWN	CHECKED	AS SHOWN
ESTIMATE NUMBER	52-3470	ESTIMATE NUMBER	E-7

WOOD BLOCKING FROM CRATES
NAILED TO RAFTER WITH 10d
BOX NAILS

FASTEN RAFTER CLIP ST-67
TO RAFTER AND STUDS WITH
6d NAILS



END WALL FRAMING



END WALL FIBER BOARD

NOTES:

WOOD BLOCKING (FROM CRATES)

MAIL WOOD BLOCKS TO END RAFTER AFTER SIDE WALL AND
ROOF FIBER BOARDS HAVE BEEN ATTACHED.

FIBER BOARD

FASTEN ALL FIBER BOARDS TO STUDS WITH LARGE HEAD
NAILS 24"O.C. THEN COVER JOINT WITH 2" BATTENS AND
NAIL WITH 6d COMMON NAIL 8"O.C.

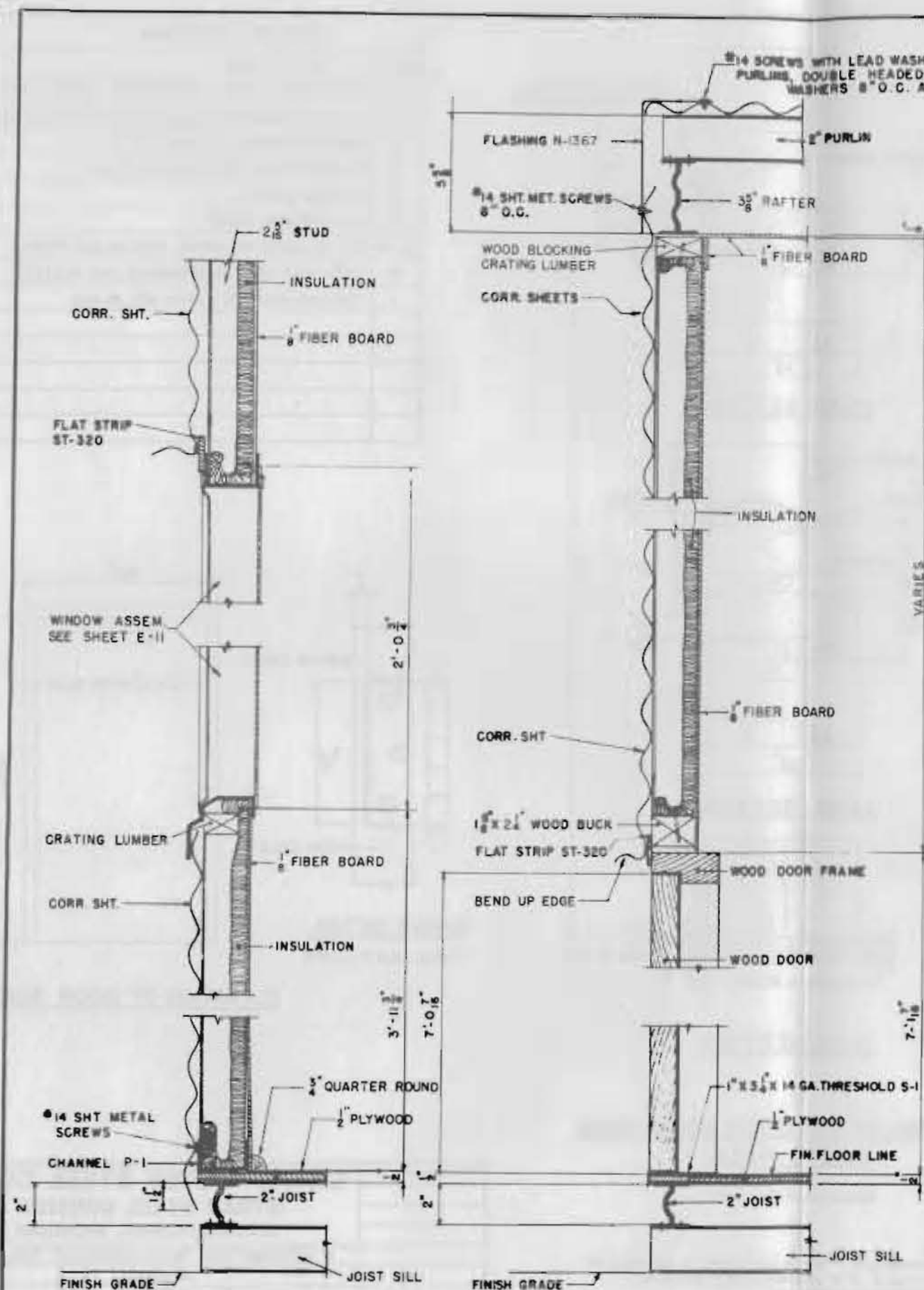
PATENT PENDING

LIST OF MATERIAL

NO. REQ'D	PIECE MARK	DESCRIPTION	LENGTH
2	P-1	2 1/2" X 16 GA. CHANNEL	7'-10 1/2"
2	S-3	2 1/2" X 16 GA. STUD	9'-10"
2	S-4	2 1/2" X 16 GA. STUD	9'-0"
4	ST-67	2 1/2" RAFTER CLIP	
1	M-1	1/2" X 3'-11 1/2" FIBER BOARD	2'-10"
2	M-2	1/2" X 3'-11 1/2" FIBER BOARD	3'-9 1/2"
2	M-3	1/2" X 3'-11 1/2" FIBER BOARD	1'-11 1/2"
2		1/2" X 3'-11 1/2" FIBER BOARD	7'-0"
2		1/2" X 3'-11 1/2" FIBER BOARD	3'-11 1/2"
8		1/2" X 2" FIBER BOARD STRIP	8'-0"
5	M-4	1/2" X 2" CURVED FIBER BOARD SCRIBE	4'-0"
1		4'-0" WIDE INSULATION	40'-0"
2	WS-3	METAL SPLINE - WALL	3'-11"

REVISIONS	GREAT LAKES STEEL CORP. STRAN STEEL DIVISION ECORSE, DETROIT, MICHIGAN		
	2 STRAIGHT SIDE WALL QUONSET BLDG.		
	FRIGID		
	20' X 48'		
	INT. END WALL ELEVATIONS		
DATE 9-15-52	DRAWN L.H.C.	CHECKED J.R.S.	JOB NO.
SCALE AS SHOWN	CUSTOMER ORDER NO. 1000-2498-10446	ESTIMATE NUMBER	52-3470
			SHEET NUMBER E-8

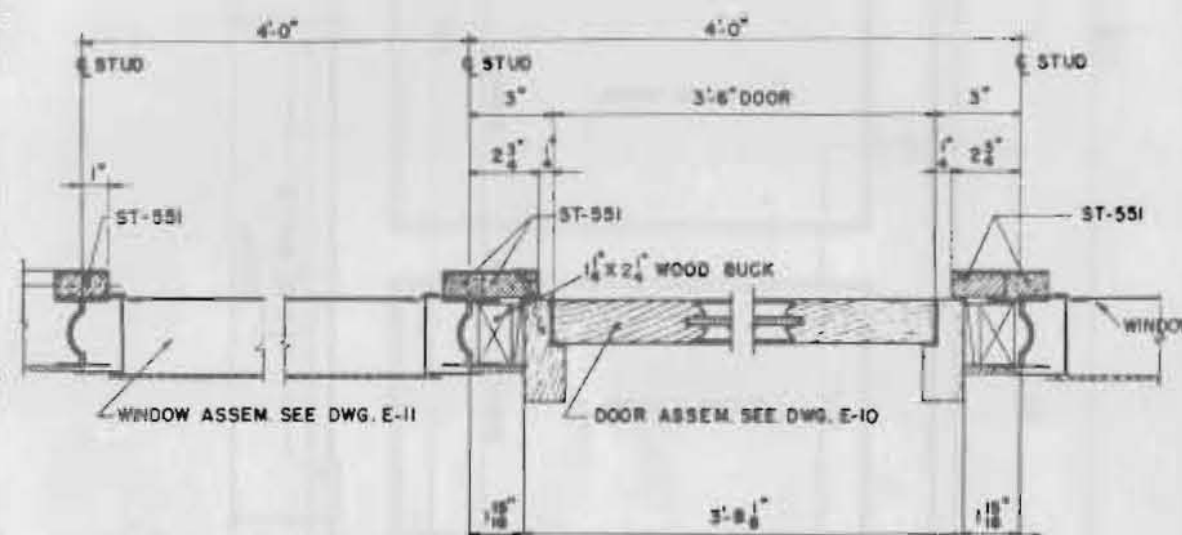
0 1 2 3
FEET



SECTION A
E-9

SECTION B
E-9

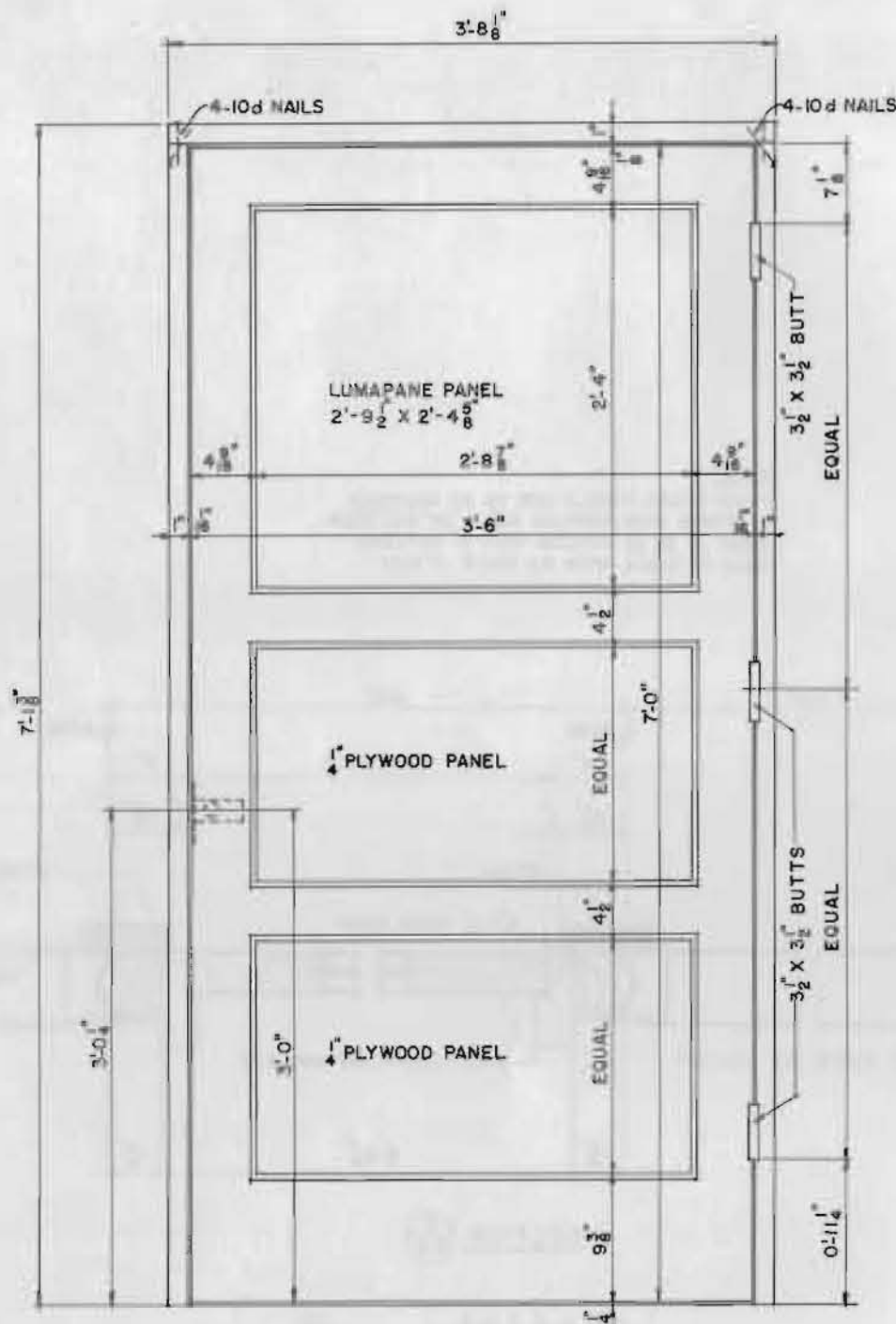
NOTE:
FIBER BOARD PANELS ARE TO BE FASTENED TO STUDS WITH SIMPLEX NAILS 24" O.C. THEN JOINT IS TO BE COVERED WITH 2" BATTERS HELD IN PLACE WITH 6d NAILS 8" O.C.



SECTION D
E-9

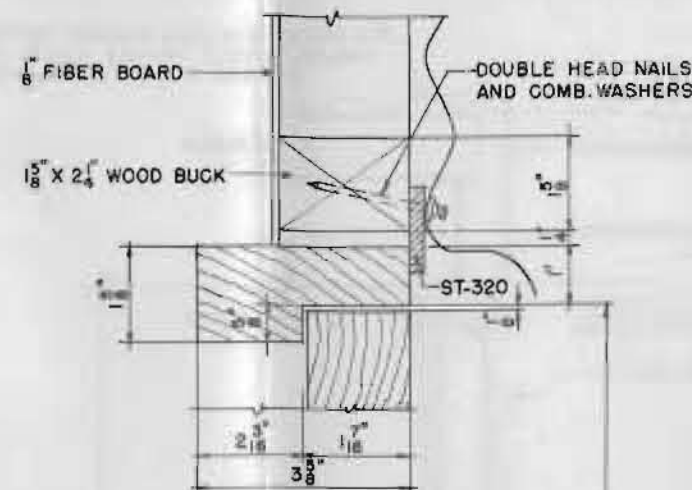
0 1 2 3 4 5 6 7 8 9 10 11 12
INCHES

STRAN STEEL DIVISION				
GREAT LAKES STEEL CORPORATION				
DETROIT, MICHIGAN				
TWO STRAIGHT SIDE WALL QUONSET BLDG.				
FRIGID				
20' X 48'				
END WALL SECTIONS & DETAILS				
9-15-52	BY H.M.	CHECKED J.R.S.	JOB NO.	SHEET NUMBER
AS NOTED	NOTED-2493-10445	BY DATE NUMBER	52-3470	E-9

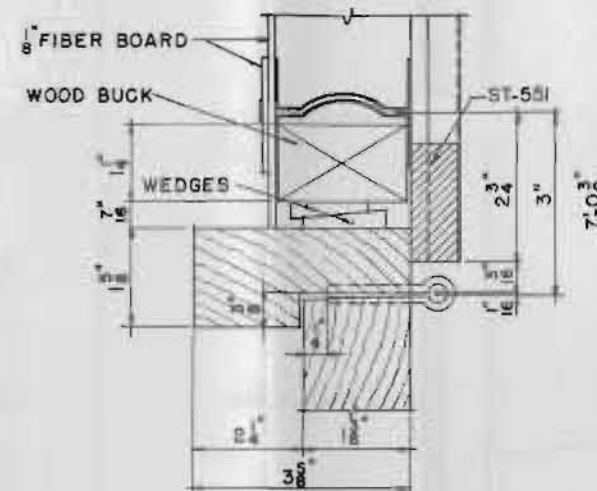


ELEVATION OF DOOR & FRAME

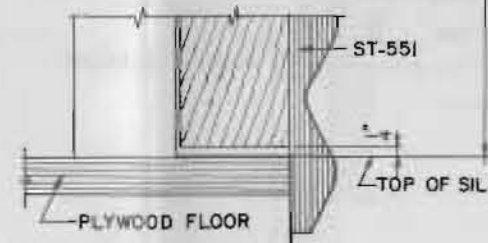
SCALE 1 1/2" = 1'-0"



HEAD SECTION



JAMB SECTION



SILL SECTION

DETAIL OF EXTERIOR DOOR FRAME
IN END WALL

SCALE-HALF FULL SIZE

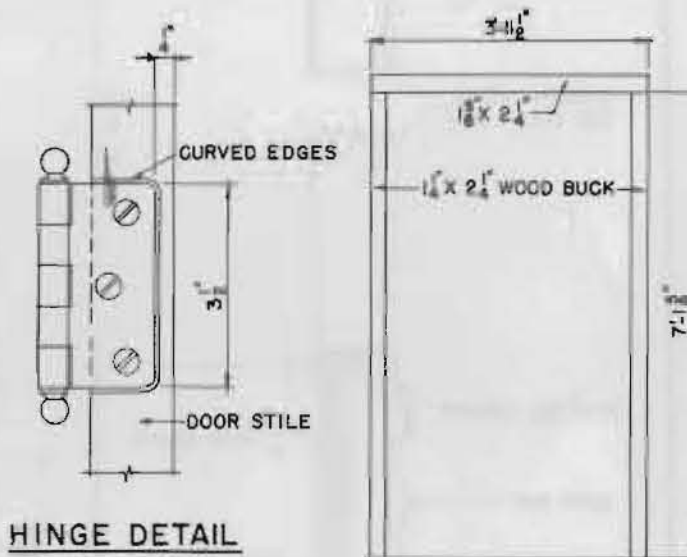
NOTE

ALL RECESSING ETC. FOR HARDWARE TO BE MADE IN ACCORDANCE WITH HARDWARE SET WHICH IS FURNISHED FOR TEMPLATE

DOOR AND FRAME TO RECEIVE ONE COAT OF WOODLIFE OR EQUAL

LIST OF MATERIALS

NO. REQ.	DESCRIPTION
1	WOOD DOOR FRAME, SIZE AS SHOWN (KNOCK DOWN)
1	WOOD & LUMAPANE PANELLED DOOR 3'-6" X 7'-0" X 1 1/2"
2	PCS. WOOD BUCK 1 1/4" X 2 1/4" X 7'-1 1/8" LG.
1	PC. WOOD BUCK 1 1/8" X 2 1/4" X 3'-11 1/2" LG.
8	10d BOX NAILS
30	8d FINISHING NAILS
1 1/2	PR 3/2" X 3 1/2" LOOSE PIN BUTTS, DEAD BLACK FINISH
8	1" X 3" FLAT HEAD WOOD SCREWS, CAD. PLATED
1	TUBULAR MORTISE LATCH SET, BLACK



HINGE DETAIL

SCALE-HALF FULL SIZE

ELEVATION OF DOOR BUCK

REVISIONS				
DATE	9-15-52	DRAWN	H.R.M.	CHECKED
SCALE	AS NOTED	ESTIMATE	NUMBER	52-3470
E-10				

GREAT LAKES STEEL CORP.
STRAN STEEL DIVISION
ECORSE, DETROIT, MICHIGAN

2 STRAIGHT SIDE WALL QUONSET BUILDING

FRIGID

20' X 48'

2 1/8" STUD, END WALL 3'-6" X 7'-0" DOOR

DATE 9-15-52

DRAWN H.R.M.

CHECKED V.A.R.

JOB NO.

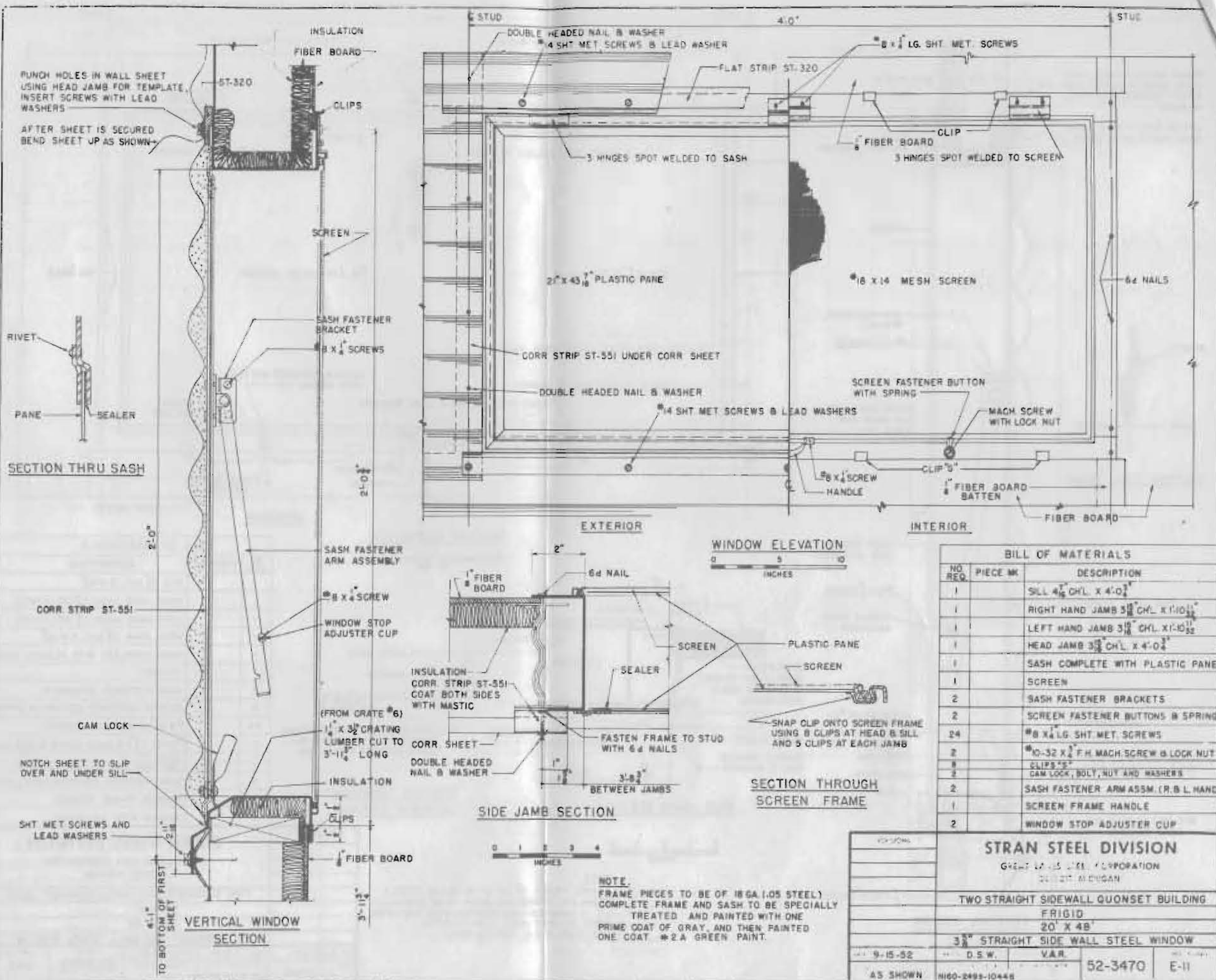
SHEET NUMBER

AS NOTED

ESTIMATE NUMBER

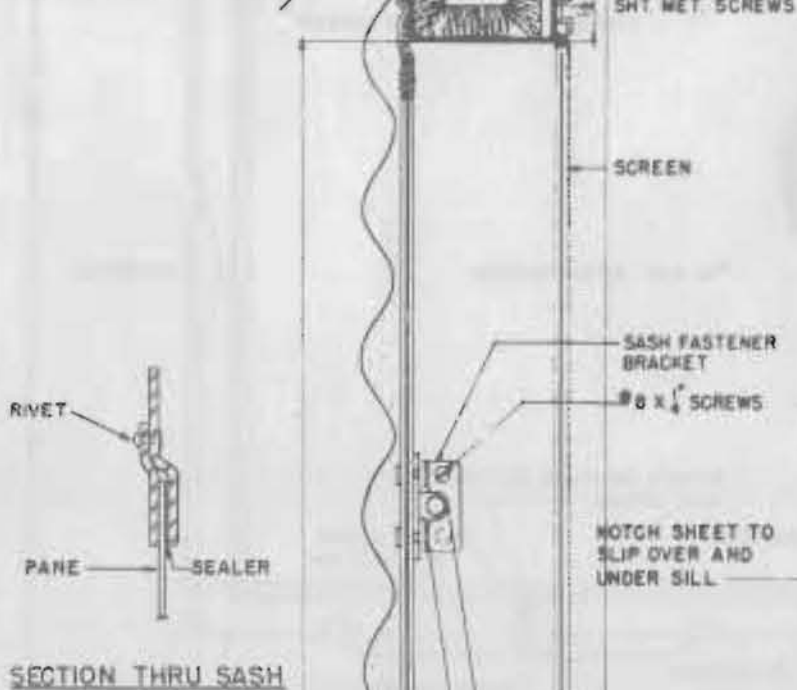
52-3470

E-10

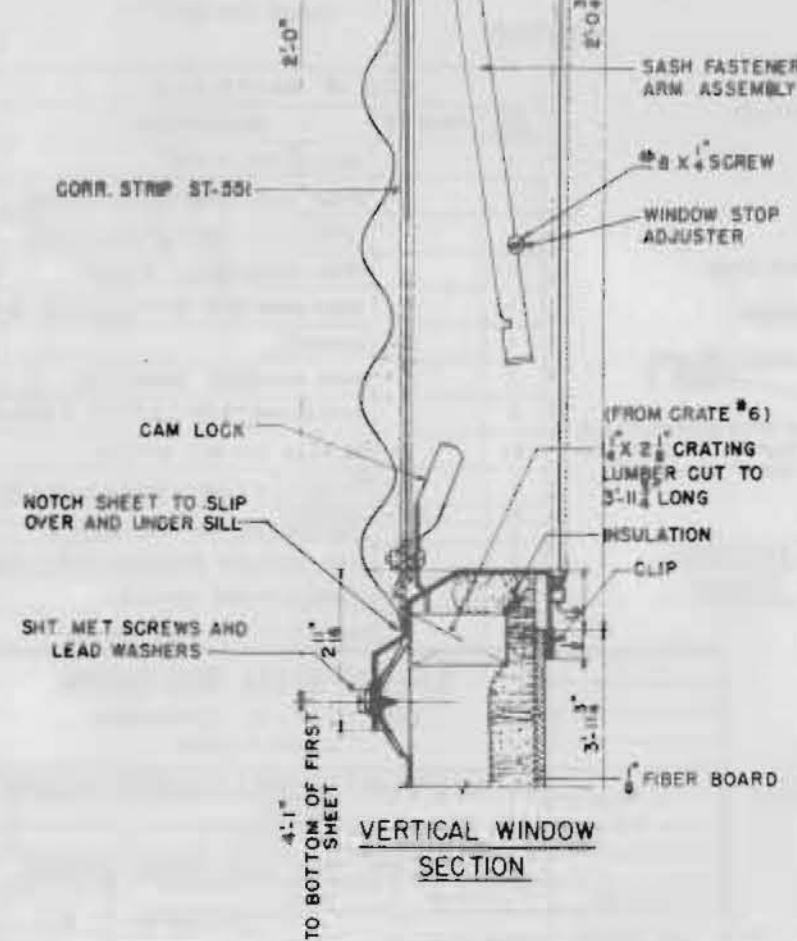


PUNCH HOLES IN WALL SHEET USING HEAD JAMB FOR TEMPLATE, INSERT SCREWS WITH LEAD WASHERS

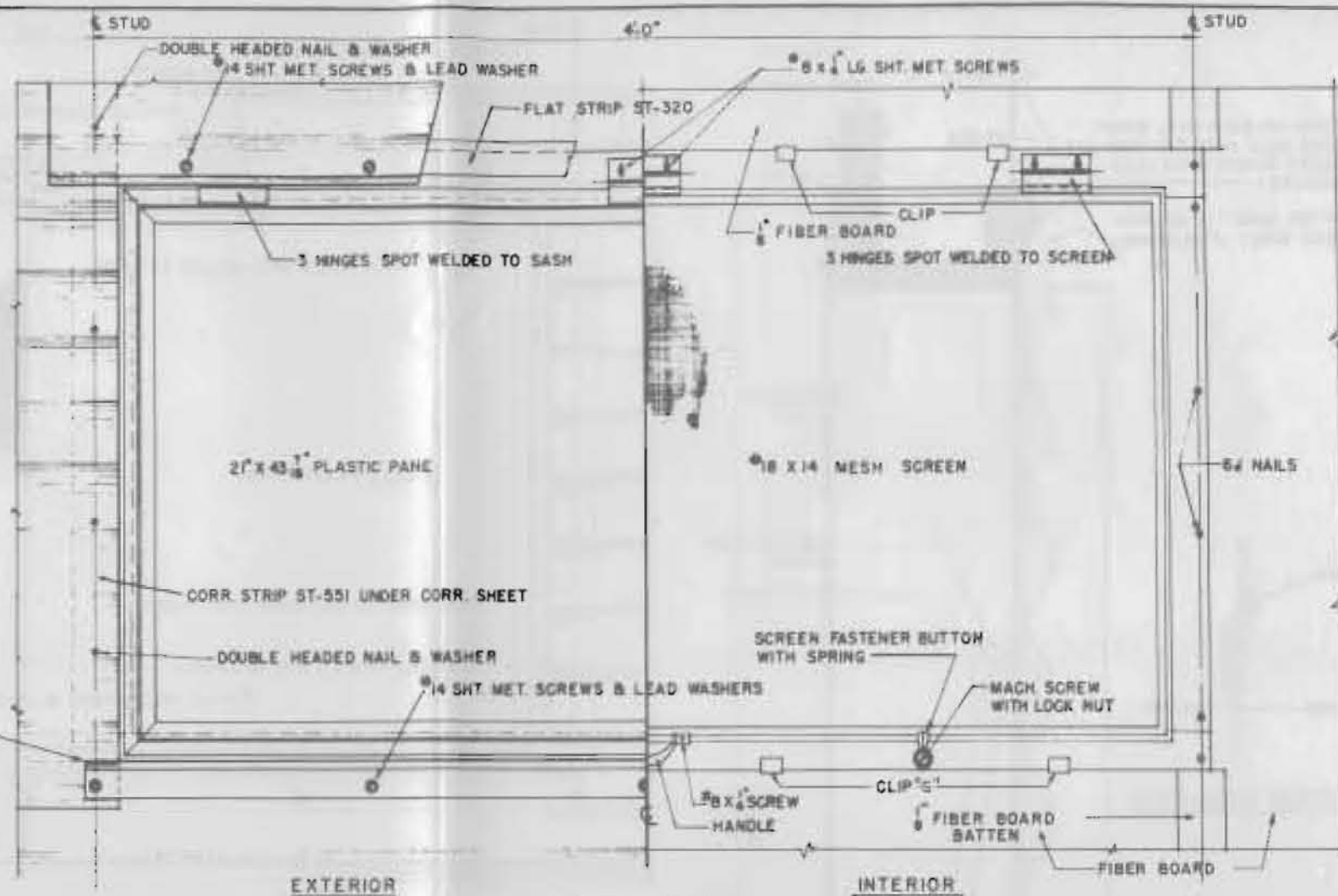
AFTER SHEET IS SECURED BEND SHEET UP AS SHOWN



SECTION THRU SASH



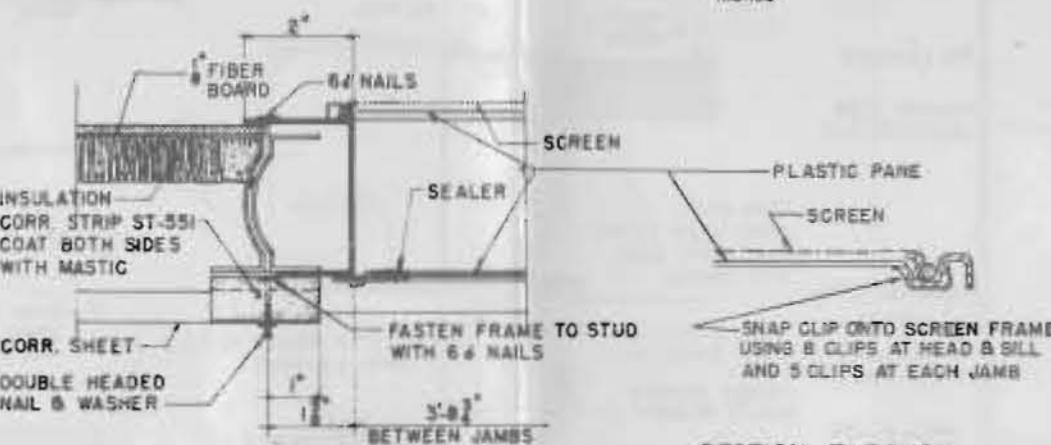
VERTICAL WINDOW SECTION



EXTERIOR

WINDOW ELEVATION

INTERIOR



SIDE JAMB SECTION

SECTION THROUGH SCREEN FRAME

BILL OF MATERIALS		
NO. REQ.	PIECE MK.	DESCRIPTION
1		SILL 3" CH'L. X 4'-0"
1		RIGHT HAND JAMB 2" CH'L. X 1'-10"
1		LEFT HAND JAMB 2" CH'L. X 1'-10"
1		HEAD JAMB 2" CH'L. X 4'-0"
1		SASH COMPLETE WITH PLASTIC PANE
1		SCREEN
2		SASH FASTENER BRACKETS
2		SCREEN FASTENER BUTTONS & SPRING
24		#8 X 1/2 LG. SHT. MET. SCREWS
2		#10-32 X 3/4 F.H. MACH. SCREW & LOCK NUT
8		CLIPS 1/2"
2		CAM LOCK, BOLT, NUT AND WASHERS
2		SASH FASTENER ARM ASSM. (R. & L. HAND)
1		SCREEN FRAME HANDLE
2		WINDOW STOP ADJUSTER

NOTE:
FRAME PIECES TO BE OF 18 GA. (0.05 STEEL)
COMPLETE FRAME AND SASH TO BE SPECIALLY
TREATED AND PAINTED WITH ONE PRIME
COAT OF GRAY, AND THEN PAINTED
ONE COAT #2A GREEN PAINT

STRAN STEEL DIVISION

GREAT LAKES STEEL CORPORATION
DETROIT, MICHIGAN

TWO STRAIGHT SIDE WALL QUONSET BLDG.

FRIGID

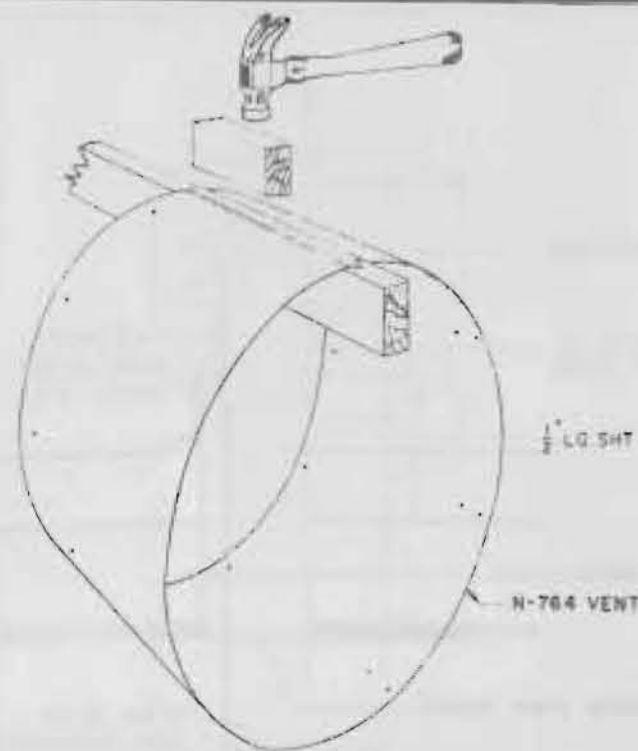
20' X 48'

2" STRAIGHT END WALL STEEL WINDOW

REV.	DATE	BY	CHKD.	APP'D.	QTY.	REMARKS
1	9-15-52	D.S.W.	R.L.C.			
2	AS SHOWN					

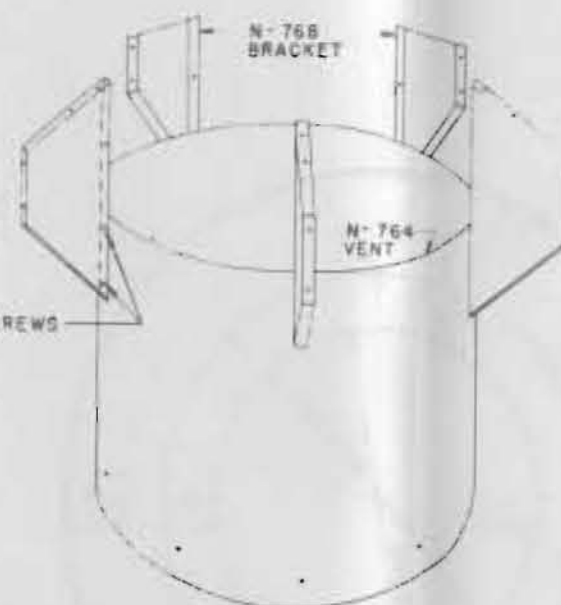
52-3470

E-12



STEP NO. 1

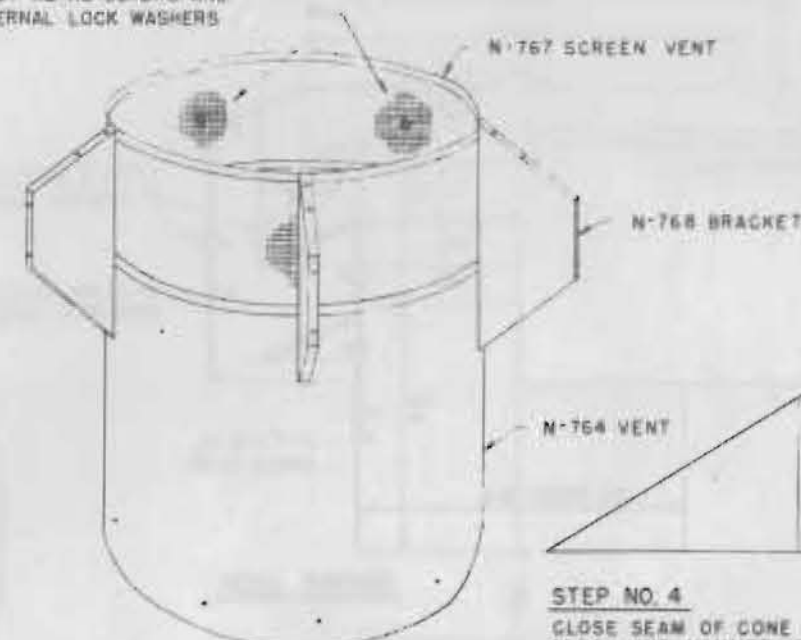
FIT ENDS OF VENT N-764 TOGETHER AND CLOSE SEAM WITH WOOD BLOCK AND HAMMER



STEP NO. 2

ATTACH FIVE BRACKETS N-768 TO CLOSED VENT RING N-764 WITH 2 SHEET METAL SCREWS IN EACH BRACKET AS SHOWN

SHEET METAL SCREWS AND INTERNAL LOCK WASHERS

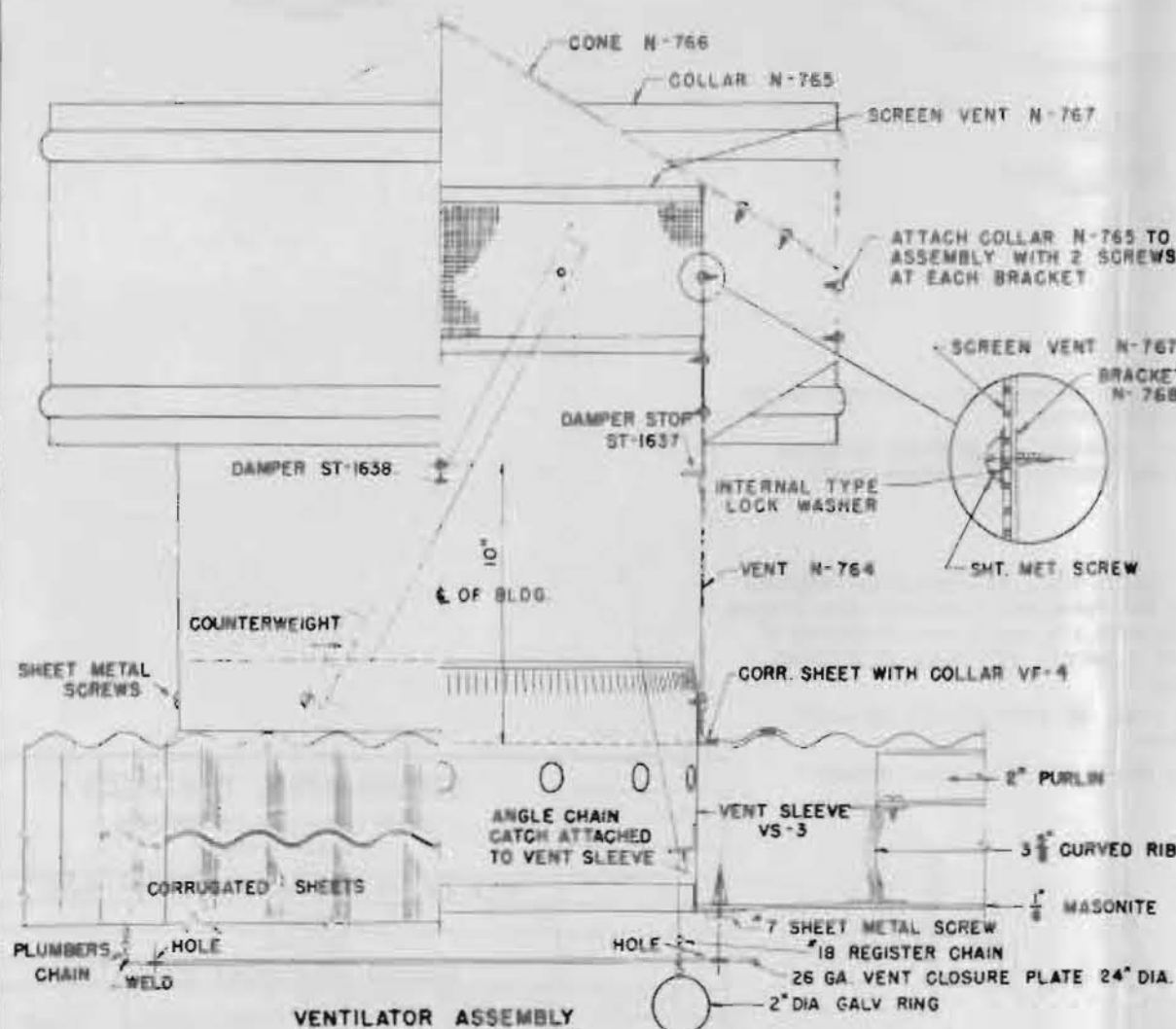


STEP NO. 3

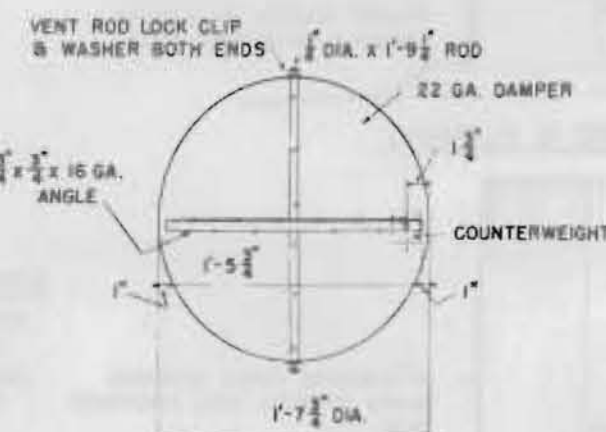
ATTACH SCREEN VENT N-767 TO ASSEMBLY AS SHOWN IN ENLARGED SECTION BELOW BY PUSHING SHT. METAL SCREW WITH LOCK WASHER THRU SCREEN

STEP NO. 4

CLOSE SEAM OF CONE N-766 WITH WOOD BLOCK AND HAMMER, SIMILAR TO STEP NO. 1 AND ATTACH TO ASSEMBLY



VENTILATOR ASSEMBLY



BOTTOM VIEW OF DAMPER ASSEMBLY ST-1638

NOTE:

ALL PARTS THAT ARE TO BE GALVANIZED SHALL BE DULL OR BRIGHT GALVANIZED TREATED BEFORE BEING PAINTED WITH ONE COAT #2 A GREEN PAINT

ATTACH VENT CLOSURE PLATE TO SLEEVE WITH 2 PIECES PLUMBERS CHAIN 4" LONG.

PUNCH HOLES IN VENT CLOSURE PLATE TO MATCH SCREW HOLE IN INNER SLEEVE.

BILL OF MATERIAL

QTY	PIECE NO.	DESCRIPTION
1	ST-1638	DAMPER ASSEMBLY
1	ST-1637	1/2" x 3/4" x 16 GA. ANGLE DAMPER STOP
1	C-1	1" x 1" x 16 GA. ANGLE CHAIN CATCH
1	VS-3	8 1/2" x 26 GA. VENT SLEEVE, BR. GALV. WITH 24" DIA. x 26 GA. VENT CLOSURE PLATE
1	N-764	VENT PIPE - 26 GA. BR. GALV.
1	N-765	COLLAR - 26 GA. BR. GALV.
1	N-766	CONE - 26 GA. BR. GALV.
1	N-767	SCREEN VENT
5	N-768	BRACKET - 24 GA. BR. GALV.
1	VF-4	27 1/2" x 44" x 26 GA. GALV. CORR. FLASHING SHT.
1		2" DIA. GALV. RING FOR CHAIN
1		#18 REGISTER CHAIN, GALV. 5' 0" LG.
2		PLUMBERS CHAIN, #3-0 x 0'-4" LG.
50		#7 x 1/2" LG. SHEET METAL SCREWS TYPE "A"
5		INTERNAL TYPE LOCK WASHER SHAKE-PROOF #12-08 OR EQUAL
SUBSTITUTE FOR ABOVE LAST TWO ITEMS IF NEEDED		
50		#10 x 1/2" LG. SHEET METAL SCREWS
5		INTERNAL TYPE LOCK WASHER SHAKE-PROOF #12-10 OR EQUAL

GREAT LAKES STEEL CORP.
STRAN STEEL DIVISION
ECORSE, DETROIT, MICHIGAN

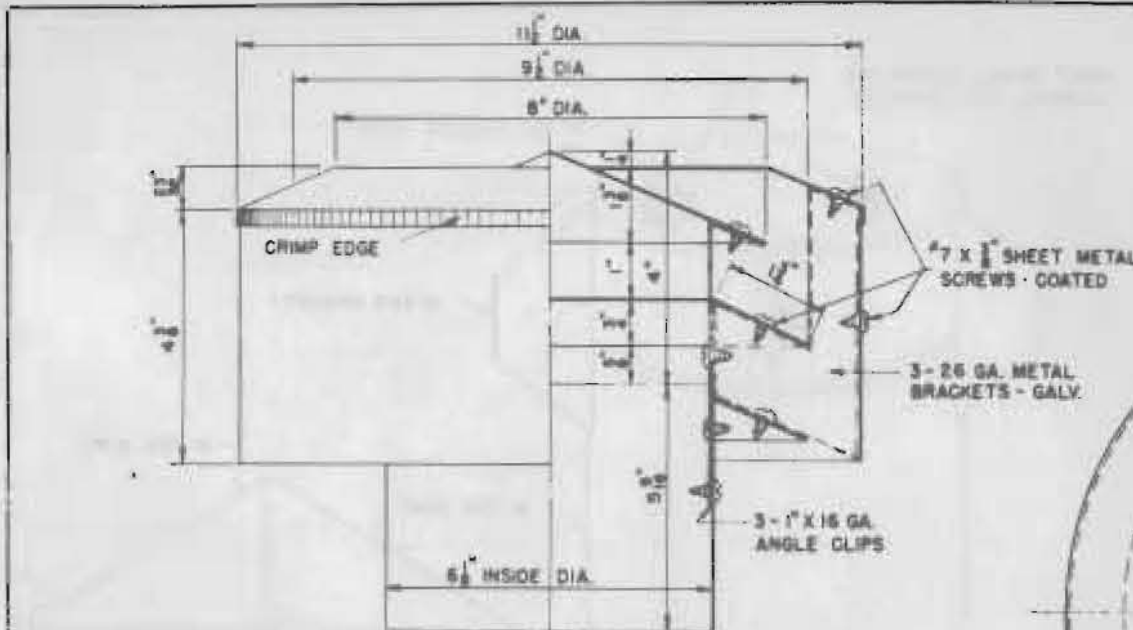
2 STRAIGHT SIDE WALL CUONSET BLDG.

FRIGID

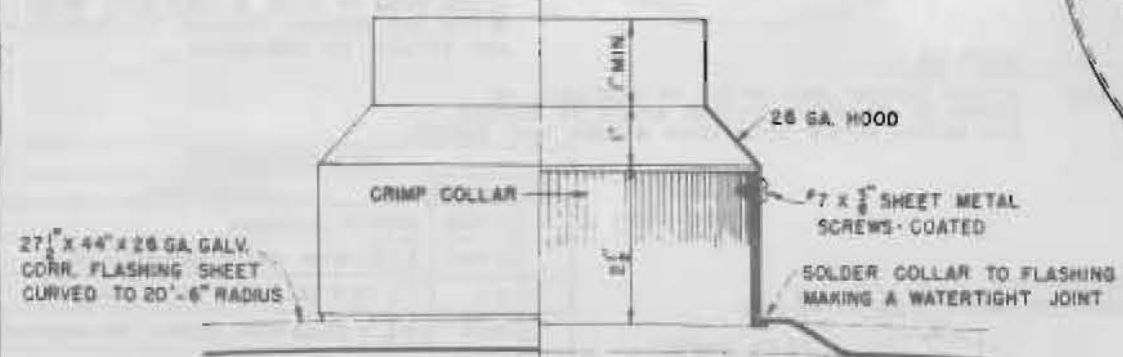
20' x 48'

KNOCKED DOWN 20" DIA. VENTILATOR.

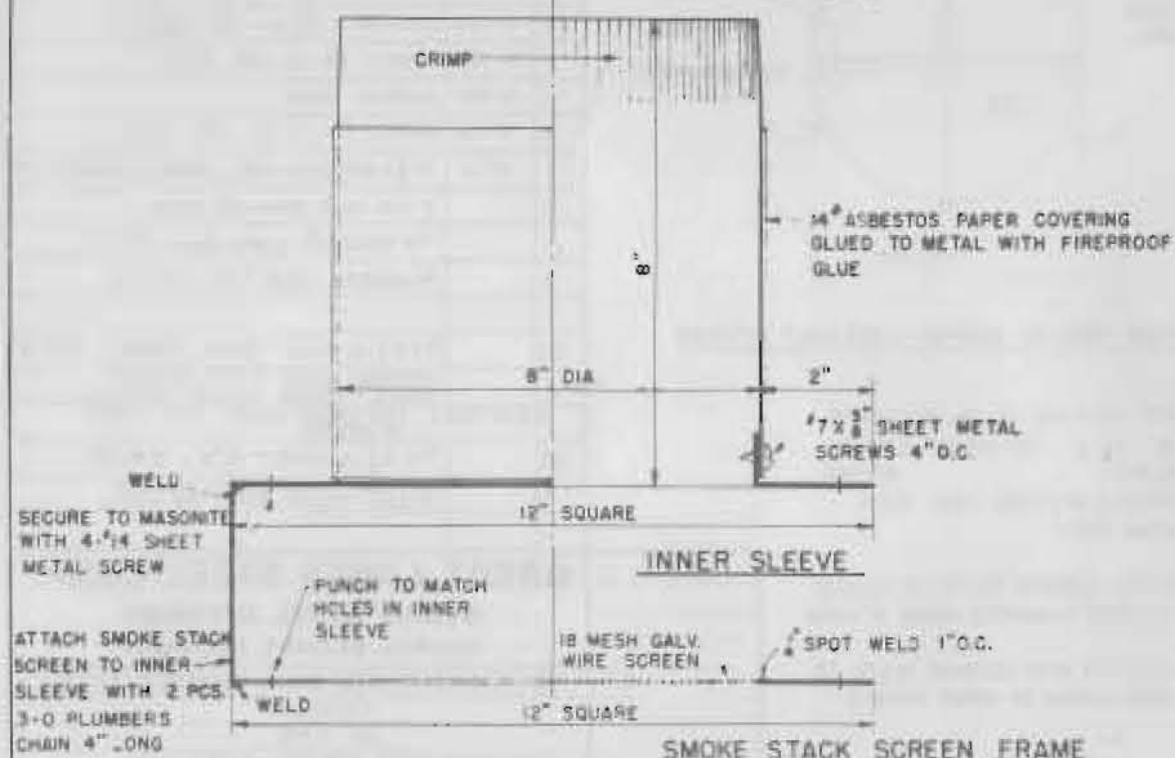
9-15-52	D J F.	V A R.	52-3470	E-13
NONE	N160-2493-10440			



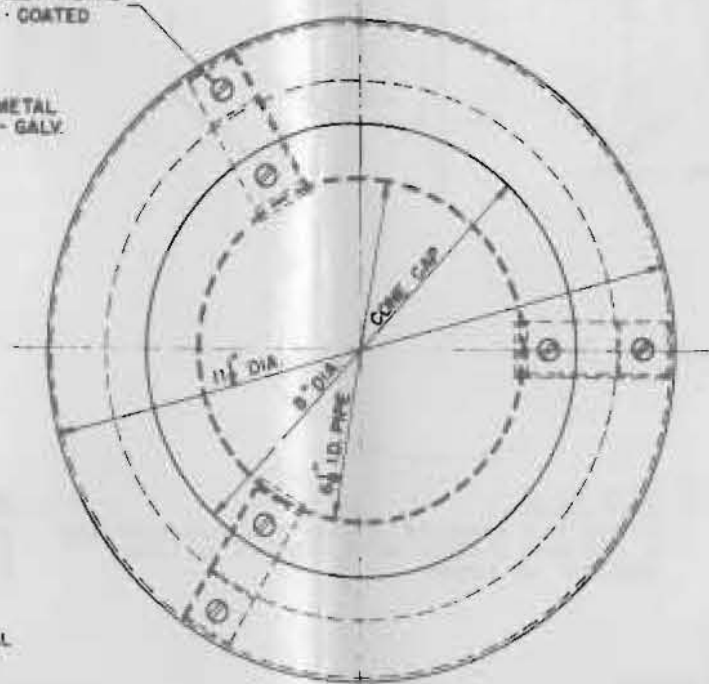
SMOKE JACK



HOOD & FLASHING



ELEVATION SECTION



PLAN

NOTE

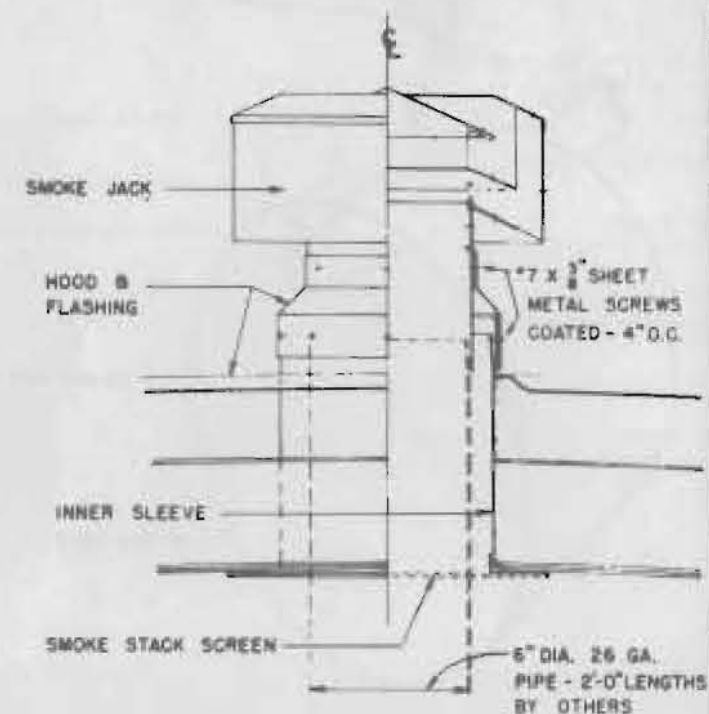
ALL METAL TO BE 26 GA. GALV. TREATED UNLESS OTHERWISE NOTED

PAINT ALL EXTERIOR AND INTERIOR SURFACES WITH ONE COAT OF #2A GREEN PAINT.

SMOKE STACKS SHALL BE COMPLETELY KNOCKED DOWN BUT FURNISHED COMPLETE WITH SCREWS, BOLTS, NUTS, ETC. HOLES FOR ALIGNMENT IN BRACKETS, SHEETS, ETC. SHALL BE PUNCHED IN SHOP

CHAINS SHALL BE SPOT WELDED TO SHEETS IN SHOP

LOCKING SEAMS FOR ALL ROUND MEMBERS



SMOKE STACK ASSEMBLY

0 1 2 3 4 5
INCHES

STRAN STEEL DIVISION

GREAT LAKES STEEL CORPORATION
DETROIT, MICHIGAN

2 STRAIGHT SIDE WALL QUONSET BLDG.

FRIGID

20' X 48'

KNOCKED DOWN SMOKE STACK

9-15-52

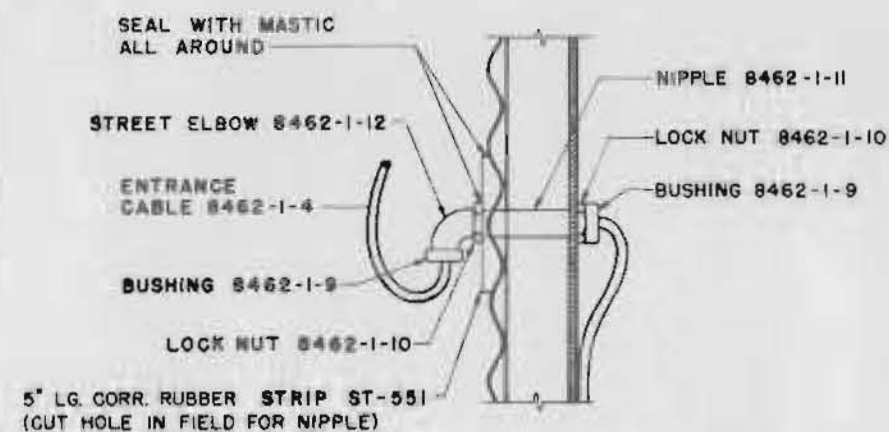
DR. D. S. W. VAR

AS NOTED

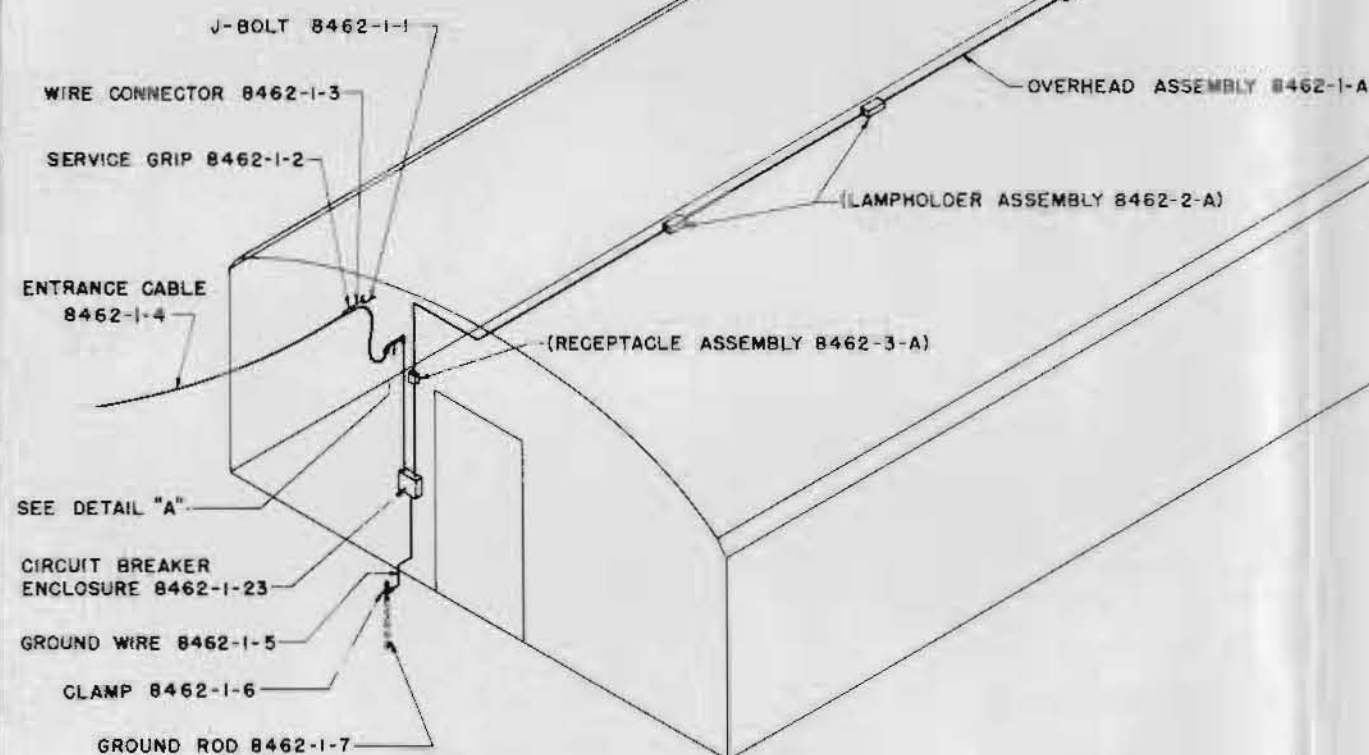
REG-2403-10-440

52-3470

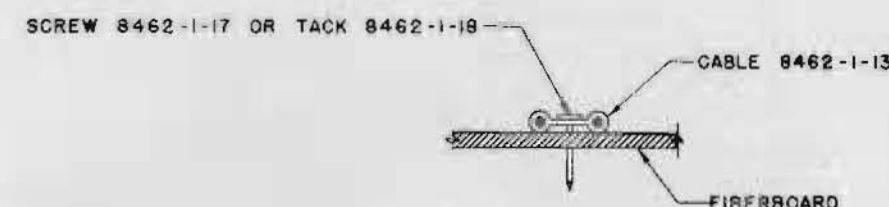
E-14



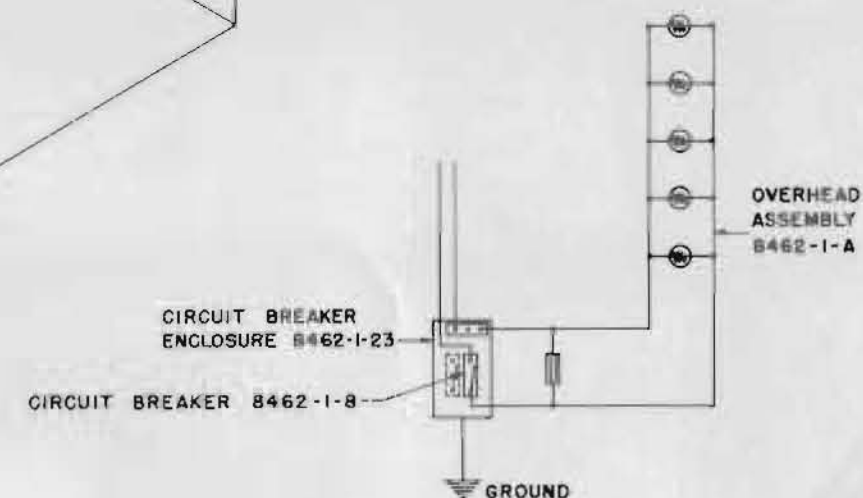
DETAIL 'A'



PHANTOM ISOMETRIC OF BUILDING
SHOWING ELECTRICAL LAYOUT



INTERIOR CABLE MOUNTING



WIRING DIAGRAM

REVISIONS		GREAT LAKES STEEL CORP.			
		STRAN STEEL DIVISION			
		ECORSE, DETROIT, MICHIGAN			
		2 STRAIGHT SIDE WALL QUONSET BLDG.			
		FRIGID			
		20' X 48'			
		ELECTRICAL LAYOUT			
DATE	9-15-52	DRAWN	R.H.L.	CHECKED	M.C.S.
SCALE	NONE	CUSTOMER'S ORDER	N160-2495-10-446	52-3470	E-15