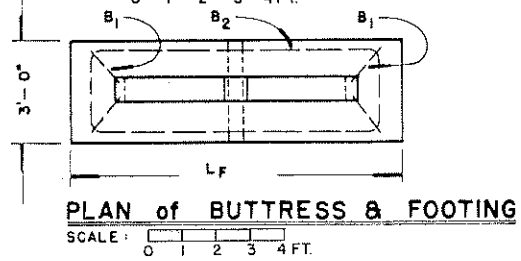
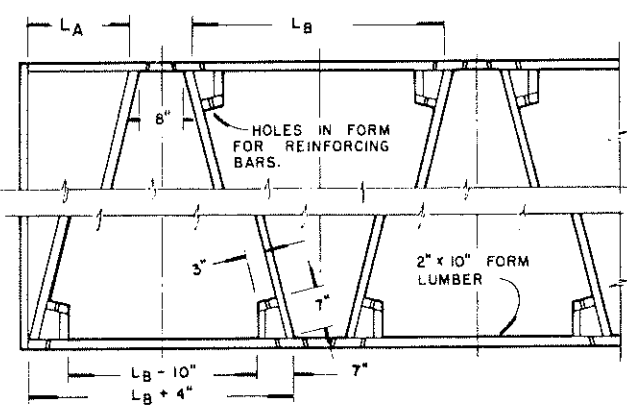


SIDE VIEW of BUTTRESS
SCALE: 0 1 2 3 4 FT.

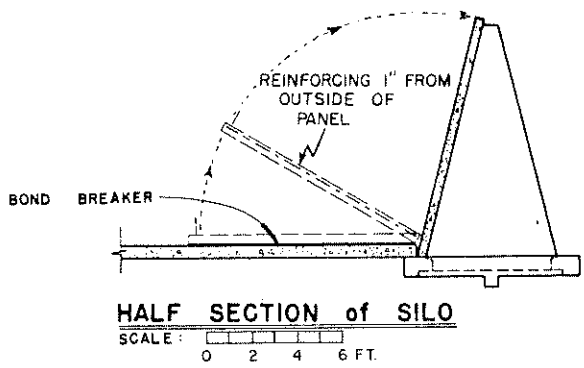
END VIEW of BUTTRESS
SCALE: 0 1 2 3 4 FT.



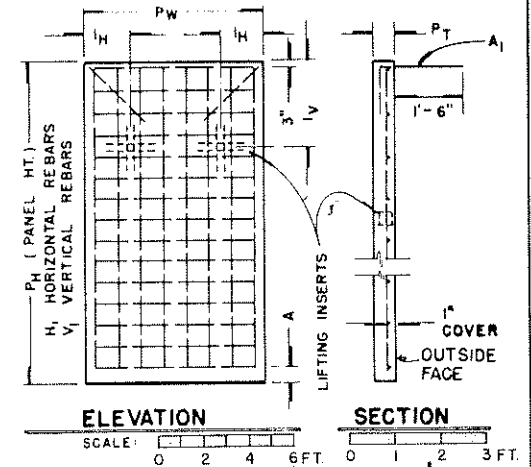
PLAN of BUTTRESS & FOOTING
SCALE: 0 1 2 3 4 FT.



PLAN of BUTTRESS FORMS
SCALE: 0 1 2 FT.

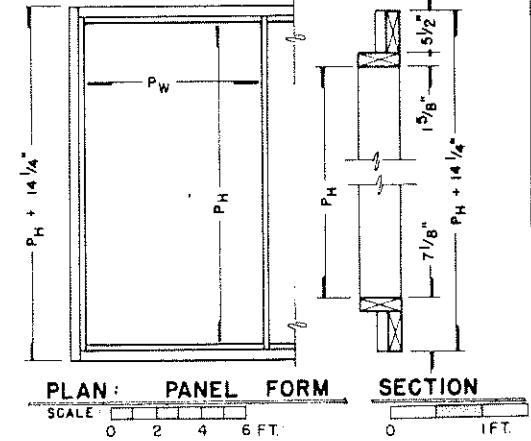


HALF SECTION of SILO
SCALE: 0 2 4 6 FT.



ELEVATION
SCALE: 0 2 4 6 FT.

SECTION
SCALE: 0 1 2 3 FT.



PLAN: PANEL FORM
SCALE: 0 2 4 6 FT.

SECTION
SCALE: 0 1 FT.

NOTES

PICK-UP INSERTS SHALL BE SUPERIOR 1/2" TYPE "S", RICHMOND 3/4" TYPE LCBI FOR 10' PANEL, FOR 12' & 14' PANELS USE 1" TYPE LCBI, OR EQUIVALENT.
USE 2x6 FORM BOARDS FOR 12 & 14 FOOT PANELS.
USE 2x4 FORM BOARDS FOR 10 FOOT PANELS.
SEE SHEET NO. 2 FOR LIFTING INSERT DETAILS.
2 NO. 3 BARS REQUIRED ON BOTH SIDES OF SILO FLOOR, RUN BARS FULL LENGTH OF SILO.
MINIMUM LAP FOR ALL RE-BARS SHALL BE 10".

PANEL DIMENSION SCHEDULE						
PANEL HT.	PW	PT	A	H	V	WT.
10'-0"	7'-11"	3 5/8"	3"	1'-6"	3'-0"	3400
12'-0"	7'-11"	5 1/2"	3"	1'-6"	3'-6"	6100
14'-0"	7'-11"	5 1/2"	3"	1'-6"	4'-0"	7200

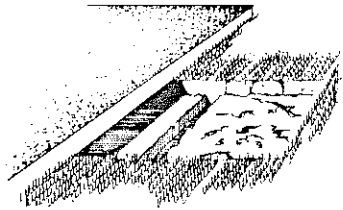
PANEL REINFORCEMENT SCHEDULE									
10 FOOT				12 FOOT		14 FOOT			
SHAPE	NO.	SIZE	LGTH.	SHAPE	NO.	SIZE	LGTH.		
H1	11	4	7'-6"	13	4	7'-6"	15	4	7'-6"
V1	8	4	9'-6"	8	4	11'-6"	8	4	13'-6"
A1	2	4	2'-6"	2	4	2'-6"	2	4	2'-6"

BUTTRESS & FOOTING SCHEDULE						
DIMENSIONS				REINFORCING		
HB	LF	LB	LA	SB	WT.	B1
9'-8"	7'-8"	5'-8"	2'-6"	3 5/8"	3,700	2"4 @ 24"-0"
11'-8"	8'-8"	6'-8"	3'-0"	5 1/2"	5,200	2"4 @ 28"-0"
13'-8"	9'-8"	7'-8"	3'-6"	5 1/2"	6,900	2"4 @ 32"-0"

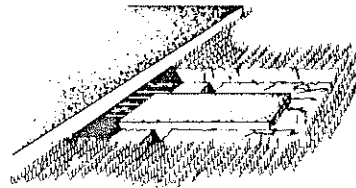
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DEPARTMENT OF AGRICULTURAL ENGINEERING
UNIVERSITY OF MARYLAND
AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

**HORIZONTAL SILO
TILT-UP CONSTRUCTION**

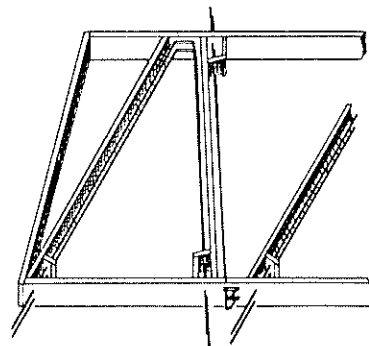
NEBR. '68 EX. 6055 SHEET 1 OF 2



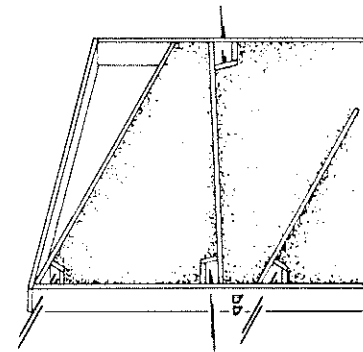
1 EXCAVATION FOR BUTTRESS BASE WITH KEY. DEPTH OF EXCAVATION IS 1'-4" BELOW TOP OF SLAB



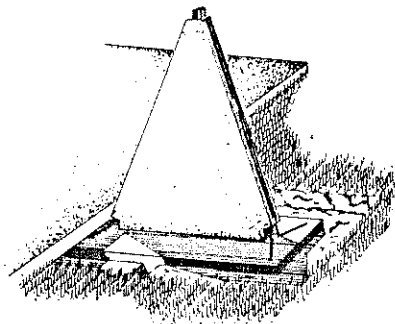
2 CONCRETE PAD 2" THICK, 1'-4" WIDE WITH KEY. DO NOT PLACE CONCRETE IN KEY TRENCH ADJACENT TO PAD.



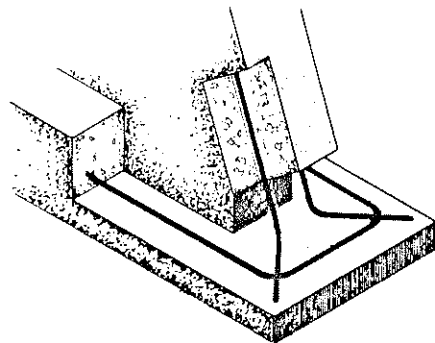
3 VIEW SHOWING BUTTRESS FORMS WITH REINFORCING BARS B IN PLACE.



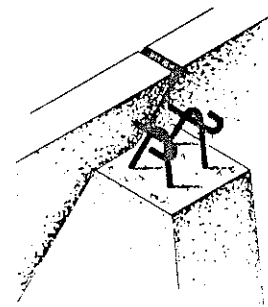
4 CONCRETE FOR BUTTRESS AFTER BEING PLACED IN FORMS.



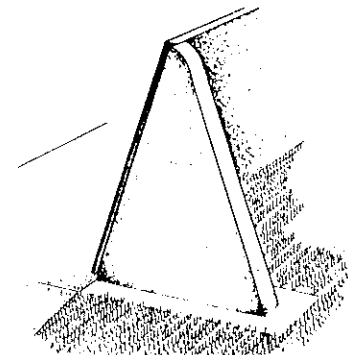
5 PLACE BUTTRESS ON 2" CONCRETE PAD PLUMB AND ALIGN USING WOOD TEMPLATES TO POSITION BUTTRESS.



6 CUT-AWAY VIEW OF FOOTING AND BUTTRESS SHOWING POSITION OF REINFORCING BARS.



7 TOP OF BUTTRESS SHOWING PANEL TIE BACK RODS BENT AROUND BUTTRESS LOOPS.



8 END VIEW OF SILO SHOWING THE CAPPED BUTTRESS AND COMPLETED ASSEMBLY.

SPECIFICATIONS FOR T/U SILO

I. CONCRETE MIX

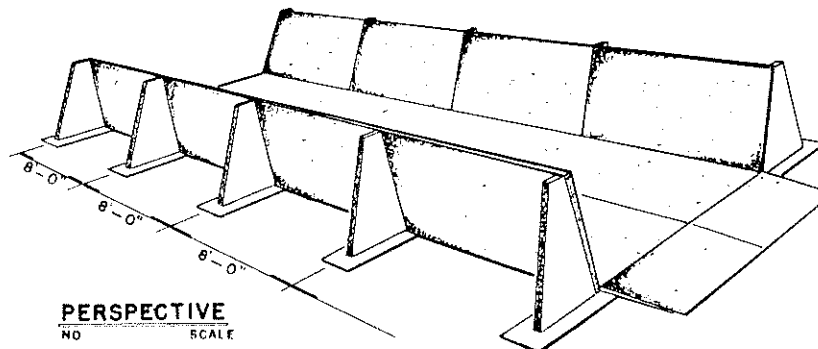
- MINIMUM CEMENT FACTOR : 7 SACKS PER CUBIC YARD OF CONCRETE
- MAXIMUM TOTAL MIXING WATER PER SACK OF CEMENT = 6 GALLONS
- USE ENTRAINED AIR

II. CURING OF CONCRETE

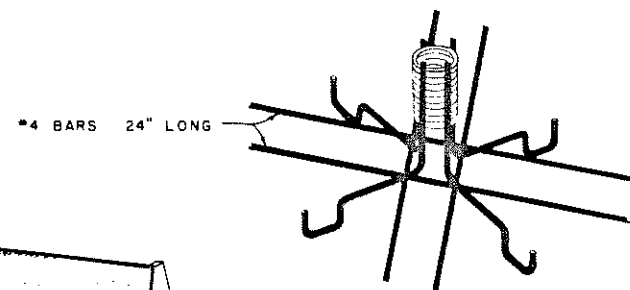
- CURE PANELS AND BUTTRESSES 5 TO 7 DAYS AT 50° TO 100° F. BEFORE TILTING. USE ONE OF THE FOLLOWING CURING METHODS:
 - PONDING, USE WET SAND OR WET BURLAP
 - WET SURFACE OF CONCRETE THEN COVER PANEL WITH WATERPROOF PAPER OR POLYETHYLENE SHEET.
 - SPRAY WITH CURING COMPOUND IMMEDIATELY AFTER SCREEDING. IN COLD WEATHER COVER WITH 24" OF STRAW TO PREVENT FREEZING. DO NOT TILT PANEL FOR 10 DAYS IF TEMPERATURES ARE 40° TO 50° TO INSURE INCREASED STRENGTH AND DURABILITY OF THE CONCRETE

III. SILO FLOOR

- A DESIRABLE UNIFORM SLOPE OF 1" PER 8' OF LENGTH
- CAST FLOOR IN LENGTHWISE STRIPS 10' TO 12' WIDE. (NOTE REBARS ALONG EDGE OF SLAB)
- UNIFORM THICKNESS OF 5"
- THICKEN EDGE AT OUTLET TO 8"



PERSPECTIVE
NO SCALE



PANEL LIFTING INSERT
NO SCALE

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