

SECTION II

TIMBER TOWERS

The drawings in this Section are of timber towers for use with a 7' x 7' cab and of timber towers for use with a 14' x 14' cab.

The heights of timber towers, drawings of which are included in this Section, together with those heights listed as available in the Table of Contents of this handbook, have been made to correspond with the heights of steel towers included in Section I. This is for the purpose of advertising for competitive steel and timber bids.

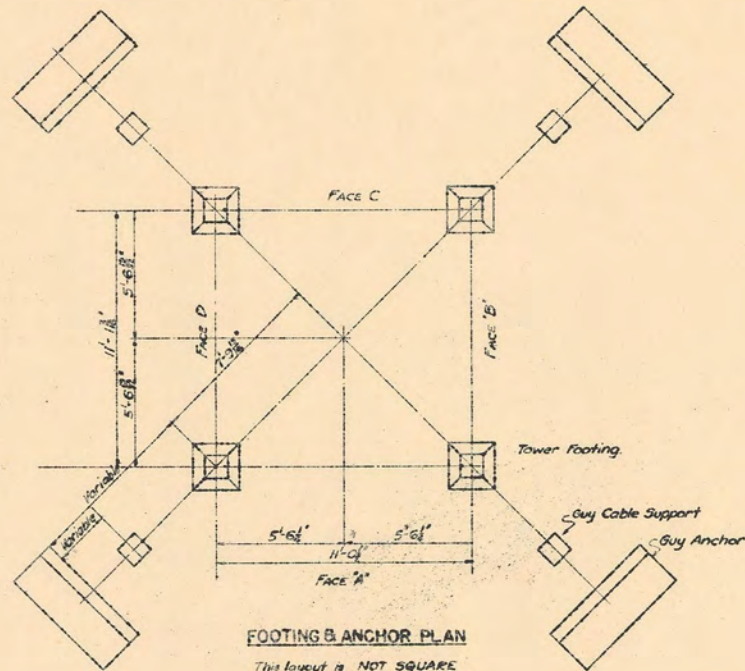
Towers may be purchased with or without cabs. If cabs are desired for 7' x 7' towers, for competitive bids between wood and steel, use the 7' x 7' timber tower cab, shown in Section III, without catwalk, and use the steel tower cab shown in Section I. Drawing L-10001, page 9, should be included with the timber tower drawings.

The type CT-3 tower in this Section, Page 11, is not recommended for general use, but only where a long pack haul is necessary, a case in which the advantage of the smaller and shorter members would outweigh the disadvantages of its less desirable design.

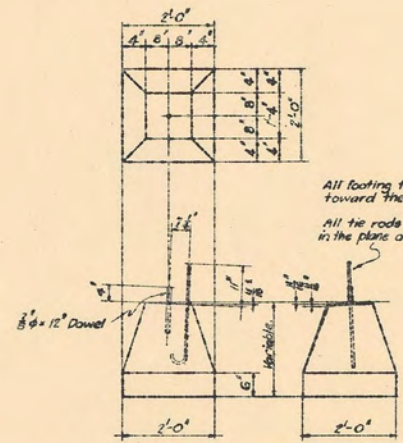
EMERGENCY LOOKOUTS

The use of the observation mast, drawing L5-01 in this Section, Page 15, is discouraged for general purposes. It is here presented as a suggestion for use at secondary observation points but should never be used when it is to be occupied for long periods.

The Round Timber tower, drawing L-11800, in this Section, Page 14, to be used with the 14' x 14' wood cab is also discouraged for general purposes. It should never be used in heights over 40 feet and then only in locations where it is impossible to bring in, either by truck haul or horse pack, any of the steel or treated timber types.

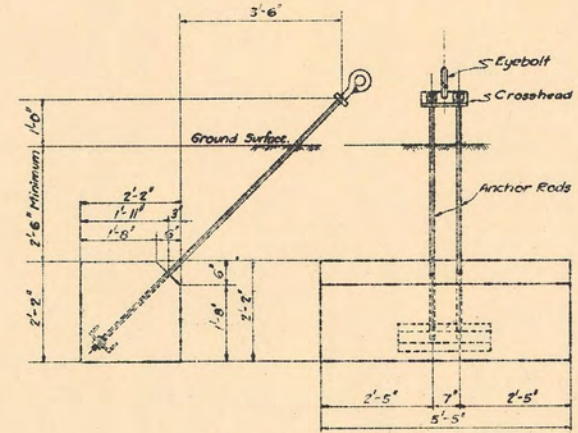


FOOTING & ANCHOR PLAN
 This layout is NOT SQUARE
 Cables shall slope at 45° and
 variable dimensions for guy anchors
 shall be determined in the field to
 fit the ground.

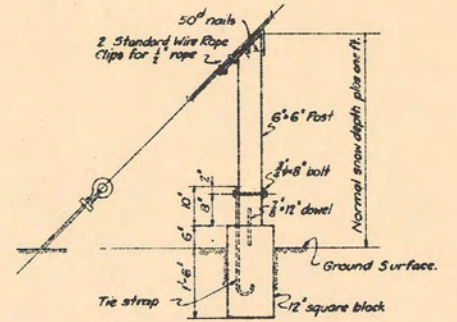


TOWER FOOTING
 Footing tops to be about six
 inches above ground surface.

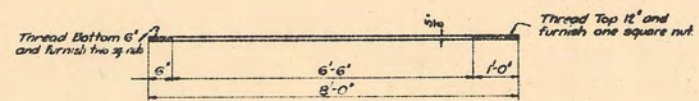
All footing tops must slope
 toward the tower center.
 All tie rods shall be in Face A, or Face C
 in the plane of the face, to the inside.



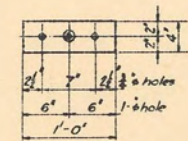
ANCHOR DETAIL



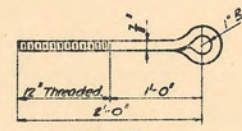
GUY CABLE SUPPORT
 Use of this support is optional and
 shall be determined in the field.



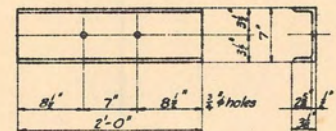
ANCHOR ROD
 Make 8 - 3/4" x 8'-0" galvanized rods.
 Threading and nuts as shown.



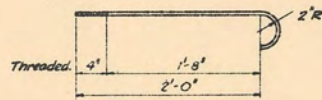
CROSSHEAD
 Make 4 - 4" x 4" x 1/4" plate
 Mild steel, galvanized.



EYEBOLT
 Make 4 - 3/4" x 2'-0" galvanized
 eyebolt. Eye forged and
 welded. Furnish two hex nuts each.



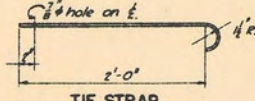
ANCHOR PLATE
 7" x 7" x 3/8" Channel C42 (BSC9)
 Make 4 as shown, galvanized.



FOOTING TIE ROD
 1/2" x 2'-7" galvanized rod
 Furnish one square nut.
 Make 4.



FOOTING ANGLE
 3/4" x 6" x 3" x 1'-0" galvanized angle.
 Make 4.
 This angle is held down by the
 footing tie rod, and passes over HG.



TIE STRAP
 3" x 3" x 2'-6" galvanized strap.
 Make 4.

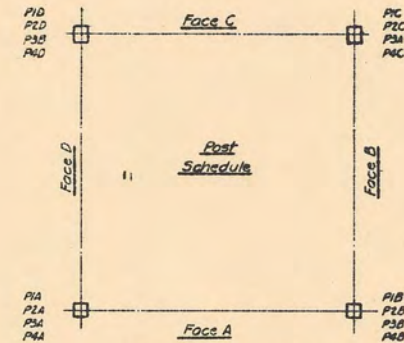


SNOW POST CAP
 4" x 4" x 1'-10" galvanized plate.
 Make 4.

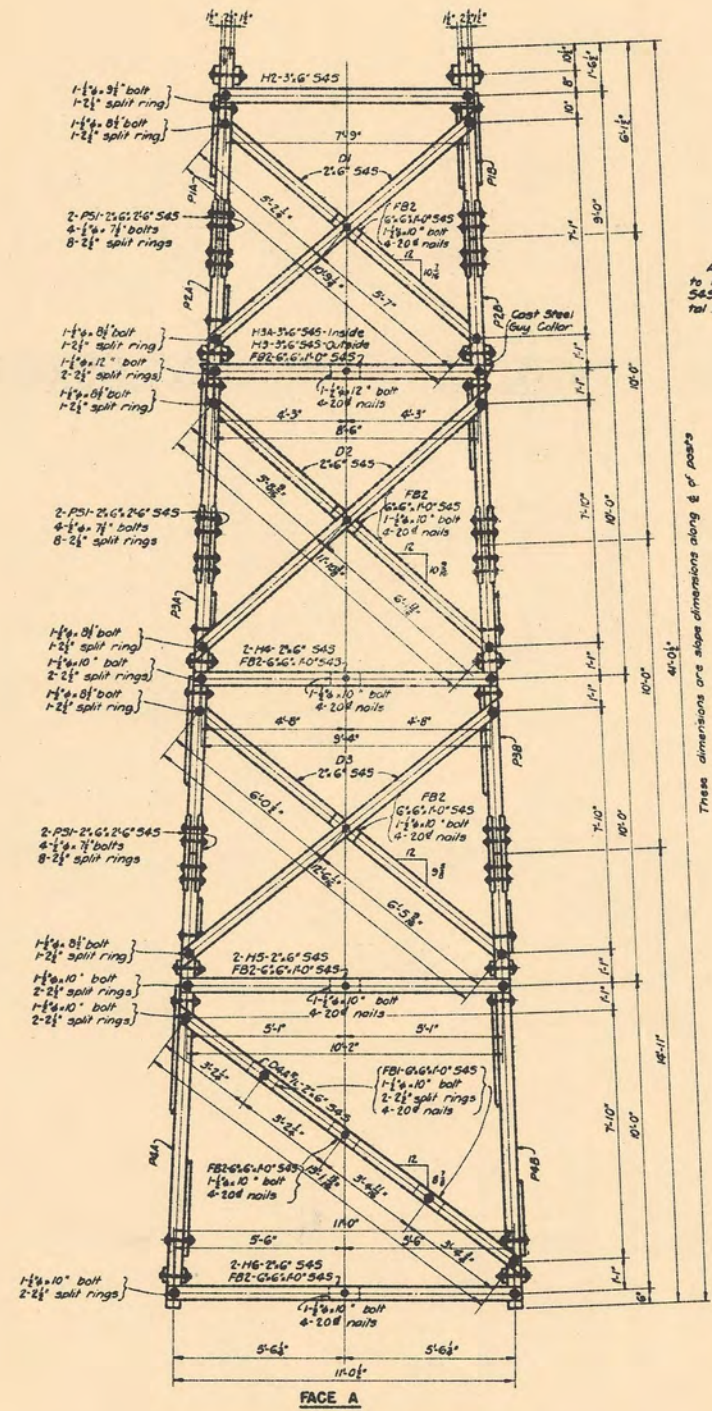
In addition to detailed material, furnish:
 8 - 3/4" x 12" dowels, plain galvanized.
 4 - 3/8" x 8" machine bolts
 4 - 3/8" malleable washers

CONCRETE
 1:3:5 Mix
 Volume - Approximately 5 yds.
 Cement - 5.5 barrels
 Sand - 2.5 cu yds.
 Gravel - 4.1 cu yds.

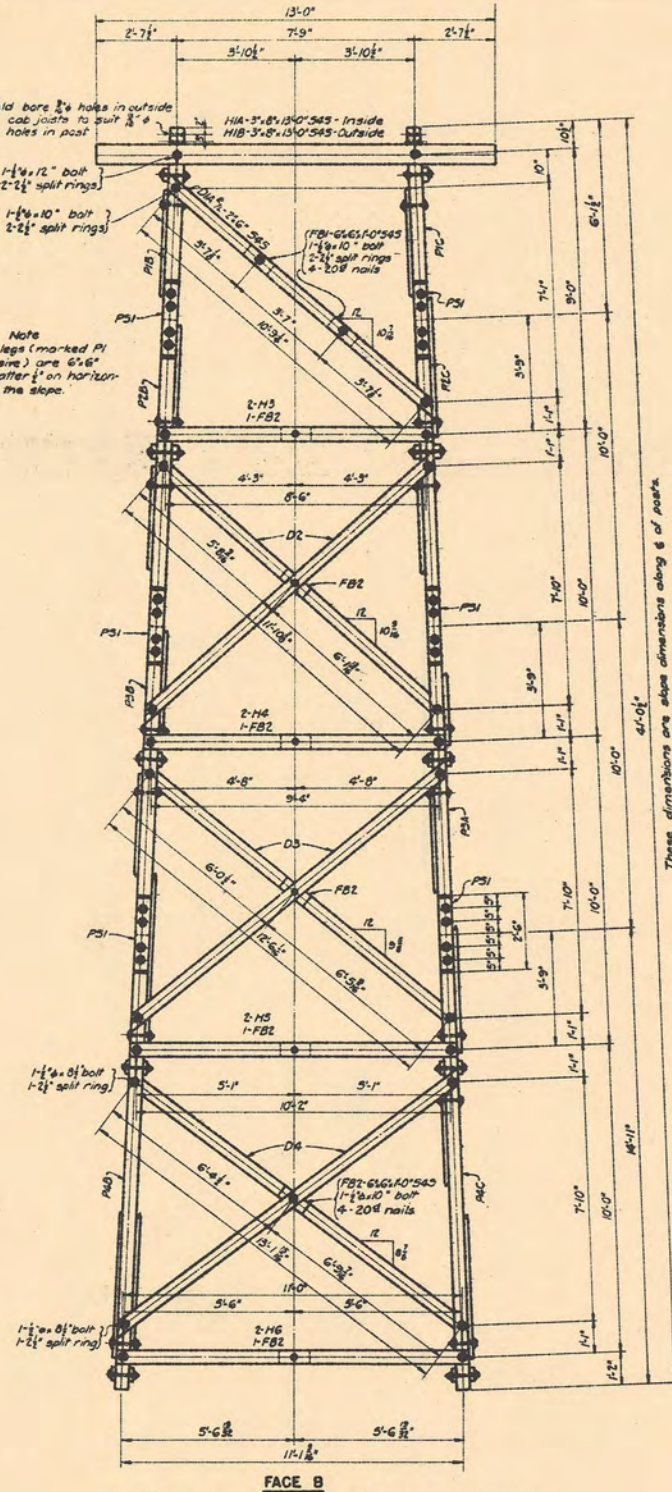
Revised Jan 22, 1941
 U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER
STANDARD LOOKOUT TOWER
 41-FOOT TYPE CT-5
 FOUNDATION PLAN
 DESIGNED: B.C.O. DRAWN: B.C.O. CHECKED: R.D.S.
 SCALE: NONE APPROVED: [Signature] DATE: MARCH, 1938.
 ASSISTANT REGIONAL FORESTER



Erection schedule of posts by panels from top of tower



Face C same as Face A except bottom panel has two diagonals D4 instead of diagonals D4A & L.



Joint hardware details same as Face A, except as noted. See Face A for sizes of marked members where not otherwise shown.

Face D same as Face B except top panel has two diagonals D1 instead of diagonals D1A & L.

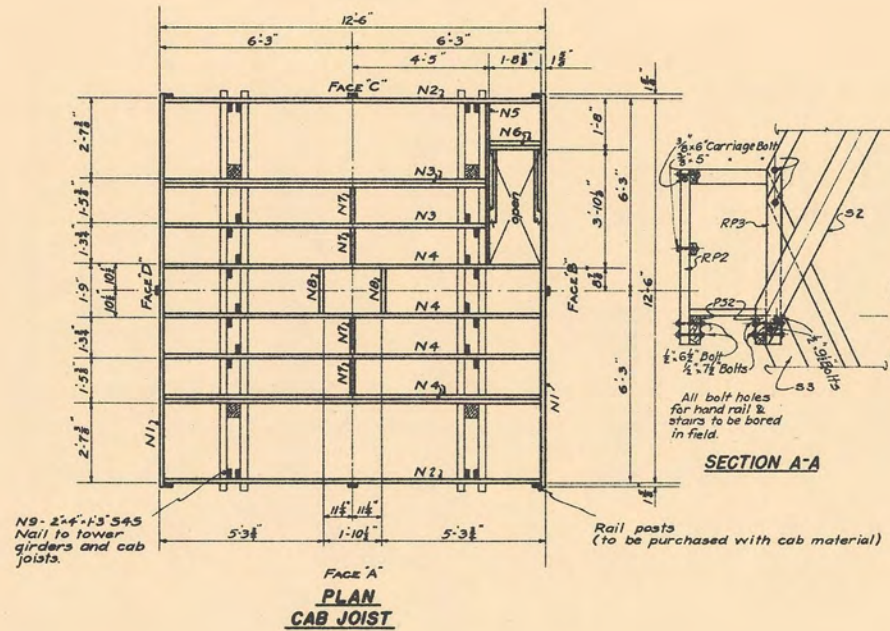
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
41-FOOT TYPE CT-5
GENERAL PLAN

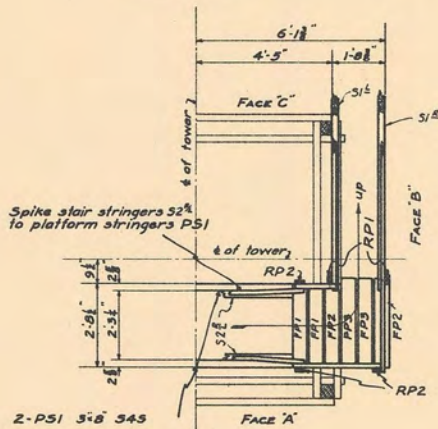
DESIGNED W.S. DRAWN W.S. TRACED H.R.S.
SCALE 1/4" = 1'-0" CHECKED J.K.D. DATE MARCH 1938
APPROVED JAMES FRANKLAND REGIONAL FORESTER

SHEET 2 OF 8 SHEETS L-12002



N9-2'-4"-1'-3" S4S
Nail to tower
girders and cab
joists.

FACE A
**PLAN
CAB JOIST**



Spike stair stringers 3/4" x 3" S4S
to platform stringers PS1

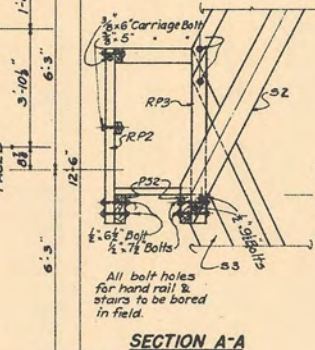
2-P51 3'-8" S4S

PLATFORM ONE

MATERIAL SIZES

Cab Joists	2'-8" S4S treated
Stair Stringers	3'-8" " "
Stair Treads	2'-8" " "
Platform Stringers	3'-8" " "
Platform Floor Plank	2'-6" " "
Rail Posts	3" x 4" x 2" x 4" " "
Stair Stringer Sways	2'-4" " "
Hand Rails	2'-4" " untreated

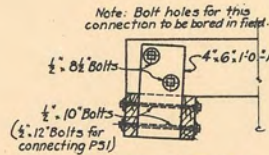
Stair stringers to bear directly on platform stringers and not on platform plank.



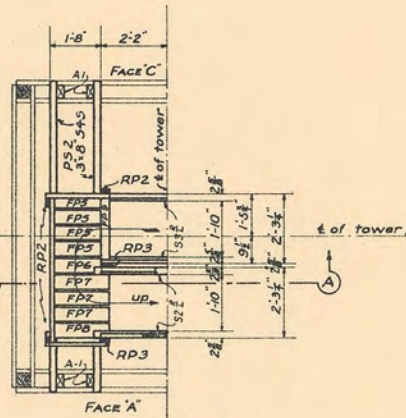
SECTION A-A

Rail posts
(to be purchased with cab material)

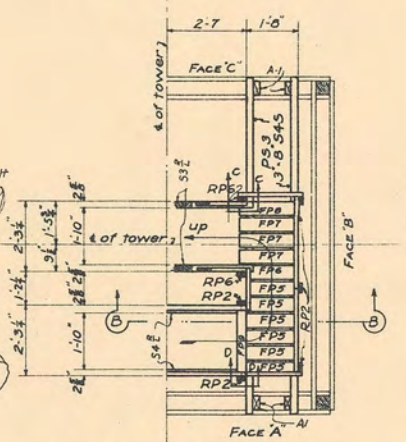
SECTION B-B



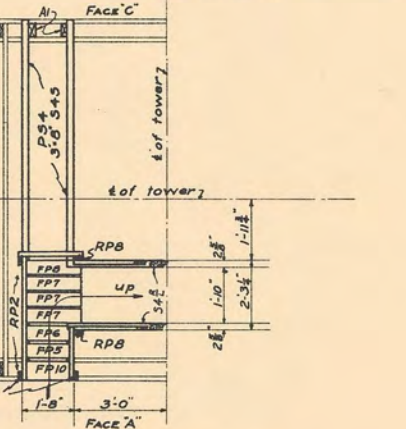
**PLATFORM STRINGER
CONNECTION**



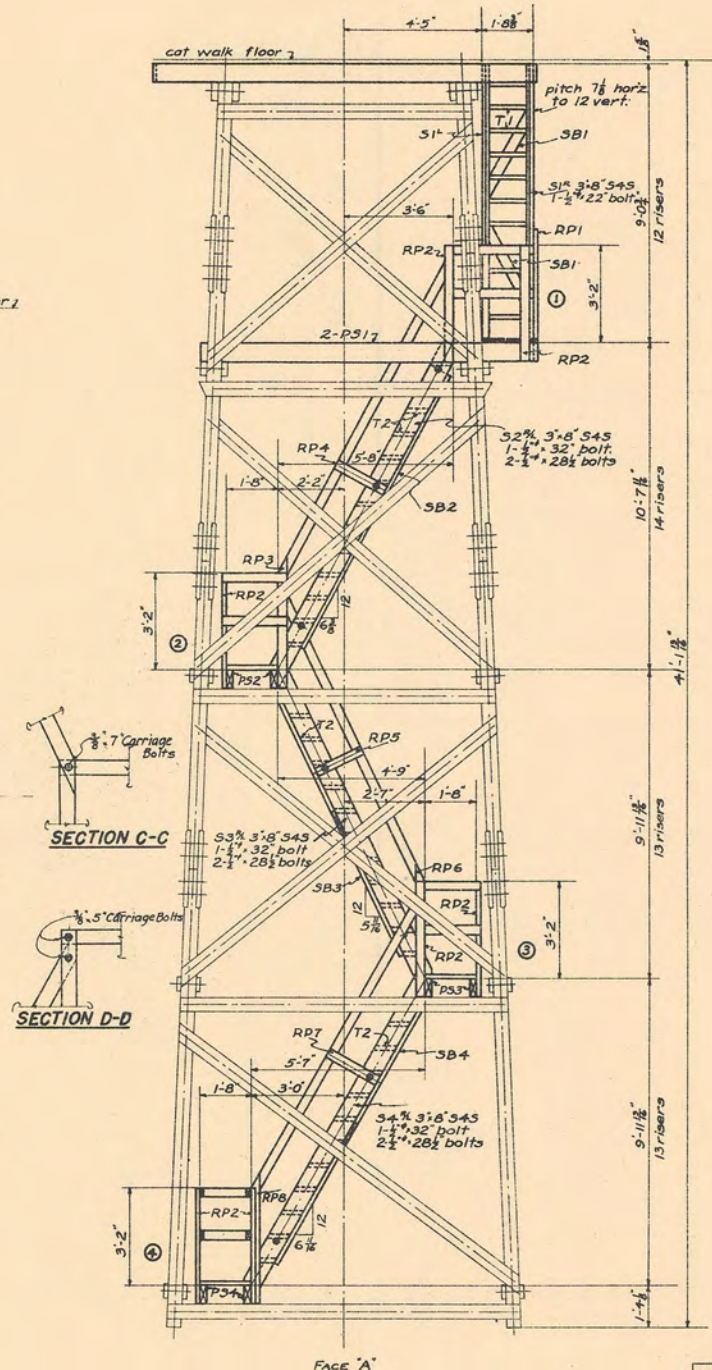
PLATFORM TWO



PLATFORM THREE



PLATFORM FOUR



ELEVATION

Revised July 25-1940 by W.D.S.

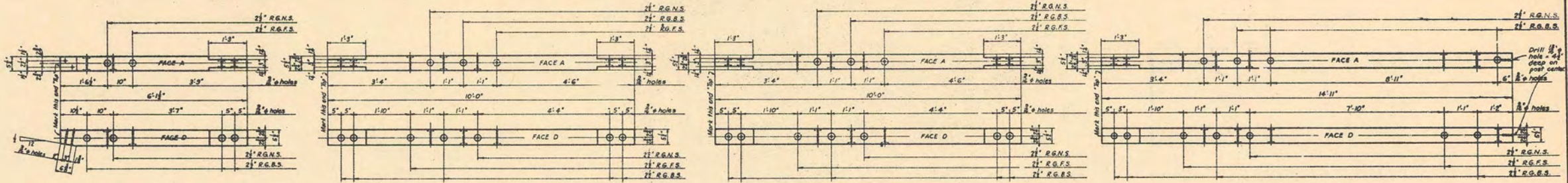
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
41-FOOT TYPE CT-5
STAIR LAYOUT**

DESIGNED W.G. DRAWN W.G. TRACED L.L.L.
SCALE 1/2" = 1'-0" CHECKED V.C.D. J.
APPROVED [Signature] DATE MARCH 1938
ASSISTANT REGIONAL FORESTER

SHEET 3 OF 8 SHEETS L-12003

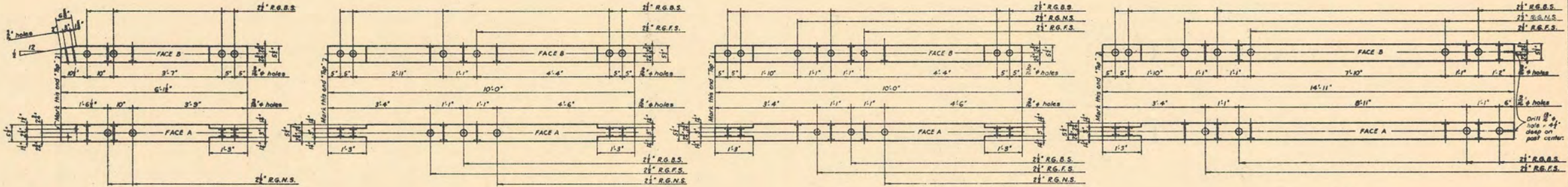


P1A
Make 1 - 6'6" x 6'1 1/2" S4S

P2A
Make 1 - 6'6" x 10'0" S4S

P3A
Make 2 - 6'6" x 10'0" S4S

P4A
Make 1 - 6'6" x 14'11" S4S

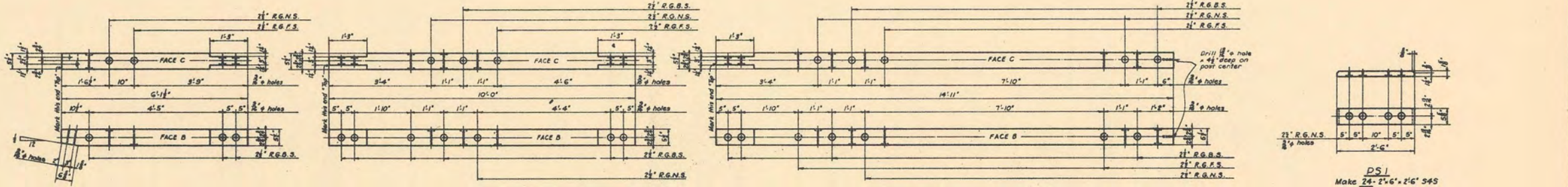


P1B
Make 1 - 6'6" x 6'1 1/2" S4S

P2B
Make 1 - 6'6" x 10'0" S4S

P3B
Make 2 - 6'6" x 10'0" S4S

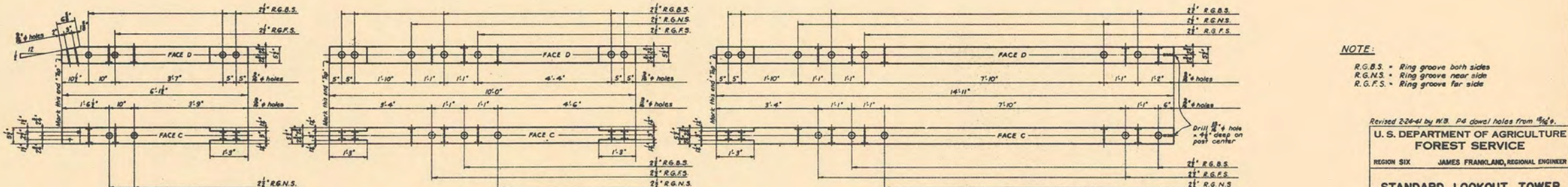
P4B
Make 1 - 6'6" x 14'11" S4S



P1C
Make 1 - 6'6" x 6'1 1/2" S4S

P2C
Make 1 - 6'6" x 10'0" S4S

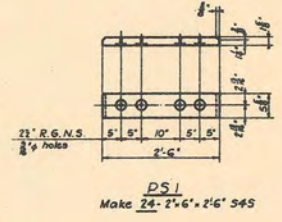
P4C
Make 1 - 6'6" x 14'11" S4S



P1D
Make 1 - 6'6" x 6'1 1/2" S4S

P2D
Make 1 - 6'6" x 10'0" S4S

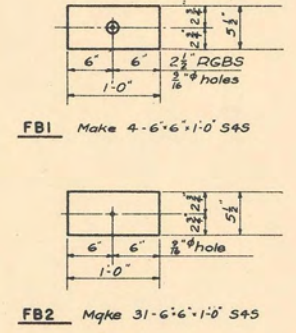
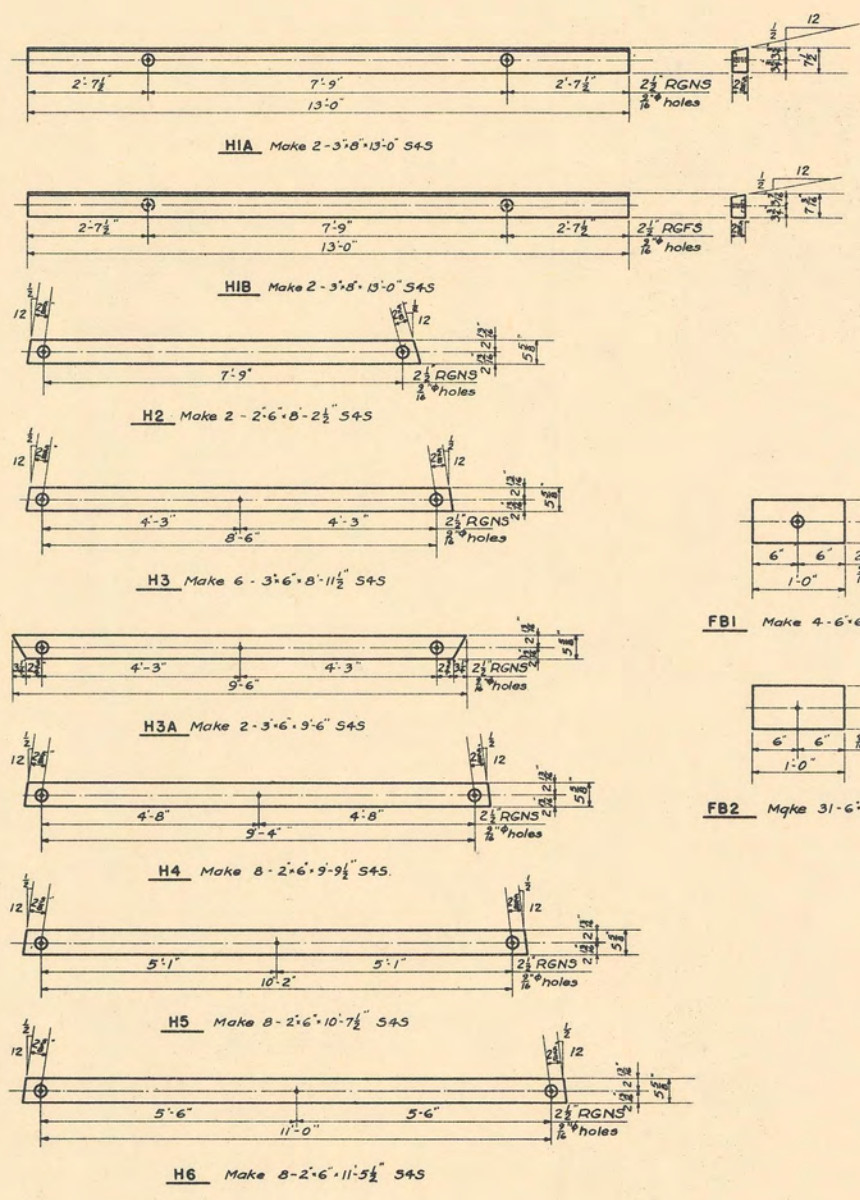
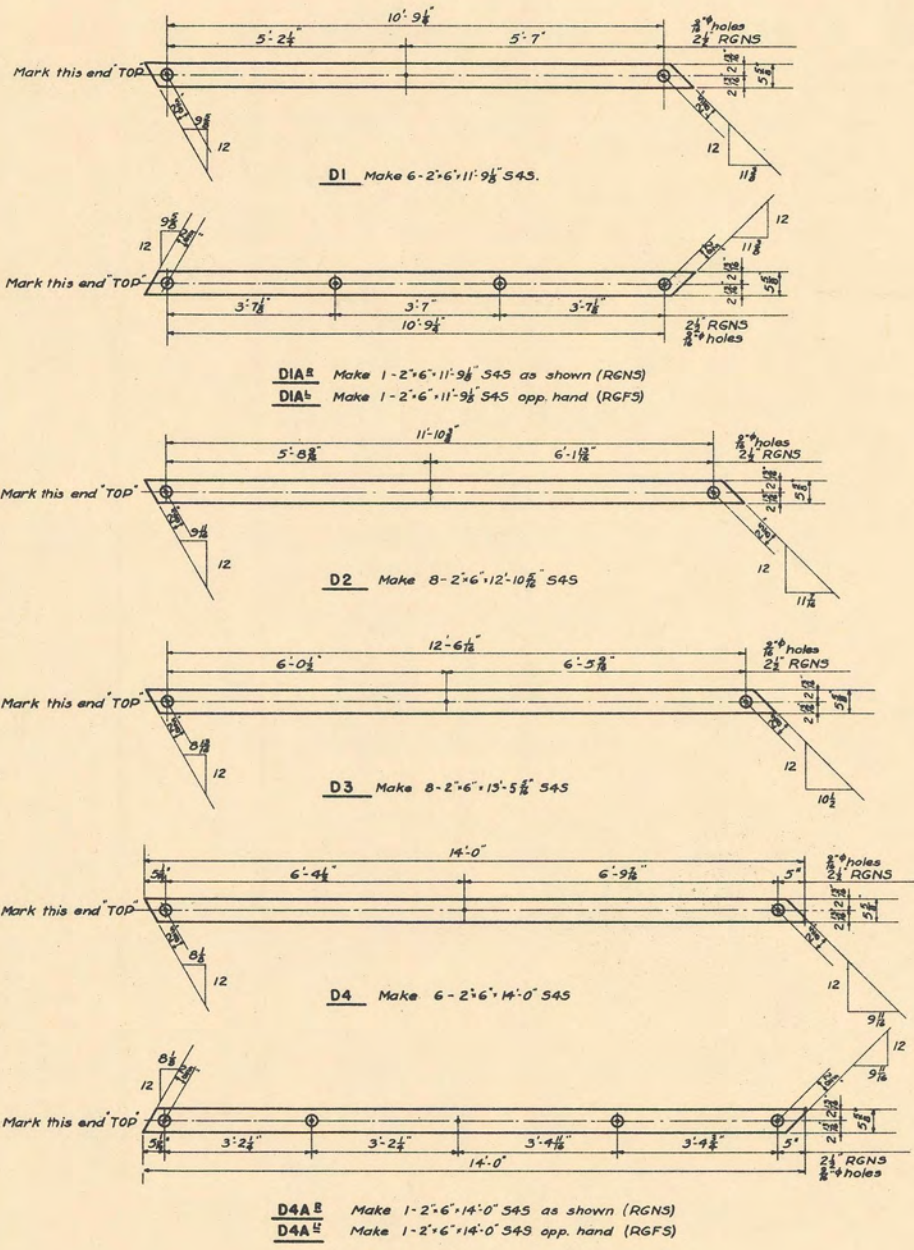
P4D
Make 1 - 6'6" x 14'11" S4S



P51
Make 24 - 2'6" x 2'6" S4S

NOTE:
 R.G.B.S. = Ring groove both sides
 R.G.N.S. = Ring groove near side
 R.G.F.S. = Ring groove far side

Revised 2-26-41 by W.B. P4 dowel holes from 1 1/2" to 1"
 U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER
 STANDARD LOOKOUT TOWER
 41 FOOT TYPE CT-5
 SHOP DETAILS
 DESIGNED W.G. DRAWN H.B.S. TRACED W.B.
 SCALE: NONE CHECKED H.B.S.
 APPROVED DATE APR. 8, 1939
 ASSISTANT REGIONAL FORESTER



Revised 3-8-39 by R.O. DIA '41

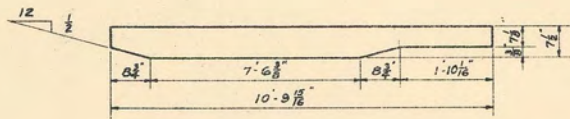
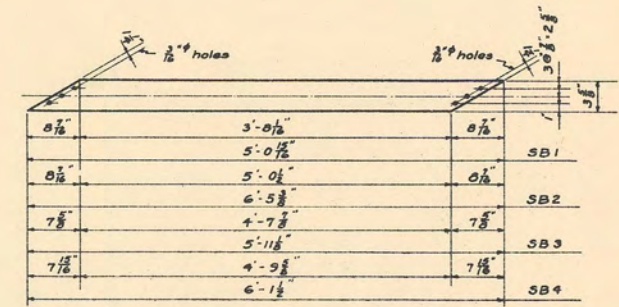
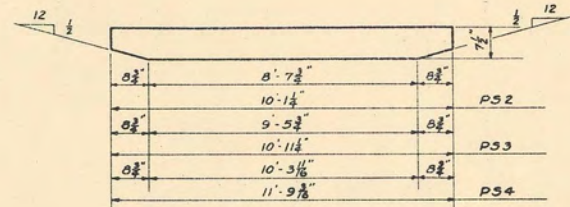
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
41-FOOT TYPE CT-5
SHOP DETAILS

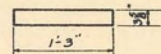
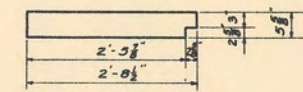
DESIGNED W.G. DRAWN H.R.S. TRACED L.L.L.
APPROVED W.B.S. CHECKED W.B.S. DATE APRIL 1938
ADJUTANT REGIONAL FORESTER

SHEET 5 OF 8 SHEETS L-180048

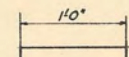


2'-8"	FP1 Make 2
2'-11"	FP3 Make 2
1'-8"	FP5 Make 11
1'-11"	FP7 Make 9

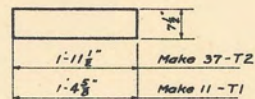
FP1-FP3-FP5-FP7
 2'-6" S4S



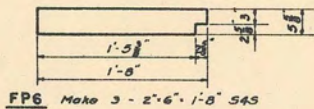
N9 Make 24 - 2'-4" x 1'-3" S4S



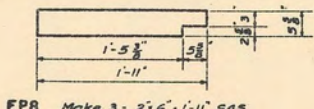
A-1 Make 16 - 4'-6" x 1'-0" S4S



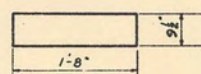
STAIR TREADS 2'-8" S4S



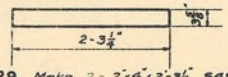
FP6 Make 3 - 2'-6" x 1'-8" S4S



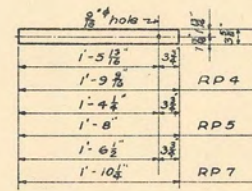
FP8 Make 3 - 2'-6" x 1'-11" S4S



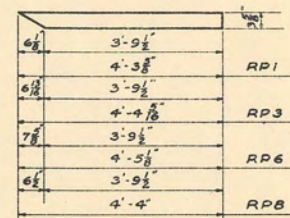
FP10 Make 1 - 2'-10" x 1'-8" S4S



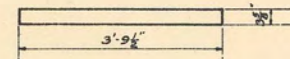
FP9 Make 2 - 2'-4" x 2'-3" S4S



RP4-RP5-RP7
 Make 2 each 2'-4" S4S



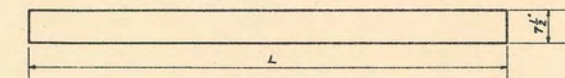
RP1-RP3-RP6-RP8
 Make 2 each 3'-4" S4S



RP2 Make 13 - 3'-4" x 3'-9" S4S



N2 Make 2 - 2'-8" x 12'-2" S4S



Mark	No. req'd	Length - L
N3	3	10'-4"
N4	5	12'-2"
N5	1	5'-2"
N6	2	1'-8"
N7	4	1'-2"
N8	2	1'-5"

Revised July 25, 1940 by W.D.S.

U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
 41-FOOT TYPE CT-5
 SHOP DETAILS

DESIGNED W.D.S. DRAWN L.L.L. TRACED L.L.L.
 SCALE NONE CHECKED R.C.C. DATE APRIL 1938
 APPROVED J. FRANKLAND REGIONAL FORESTER

SHEET 6 OF 8 SHEETS L-18004C

TREATED TOWER MATERIAL						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	1	DIA	6x6	8'-1 1/2"	Top Posts	27
2	1	P1B	"	8'-1 1/2"	"	27
3	1	P1C	"	8'-1 1/2"	"	27
4	1	P1D	"	8'-1 1/2"	"	27
5	1	P2A	"	12'-0"	Intermediate Posts	36
6	1	P2B	"	12'-0"	"	36
7	1	P2C	"	12'-0"	"	36
8	1	P2D	"	12'-0"	"	36
9	2	P3A	"	12'-0"	"	72
10	2	P3B	"	12'-0"	"	72
11	1	P4A	"	16'-11"	Bottom Posts	54
12	1	P4B	"	16'-11"	"	54
13	1	P4C	"	16'-11"	"	54
14	1	P4D	6x6	16'-11"	"	54
15	24	PS1	2x6	2'-6"	Post Splices	60
16	6	D1	"	11'-9 3/8"	Top Diagonals	72
17	1	D1A	"	11'-9 3/8"	"	12
18	1	D1B	"	11'-9 3/8"	"	12
19	8	D2	"	12'-10 1/8"	Interm. Diagonals	104
20	8	D3	"	13'-5 3/8"	"	112
21	6	D4	"	14'-0"	Bottom Diagonals	84
22	1	D4A	"	14'-0"	"	14
23	1	D4B	"	14'-0"	"	14
24	2	H2	2x6	8'-2 1/2"	Top Horizontals	18
25	6	H3	3x6	8'-11 1/2"	Interm.	81
26	2	H3A	3x6	9'-6"	"	30
27	8	H4	2x6	9'-9 1/2"	"	80
28	8	H5	"	10'-7 1/2"	"	88
29	8	H6	2x6	11'-5 1/2"	Bottom "	96
30	4	FB1	6x6	1'-0"	Filler Blocks	12
31	31	FB2	6x6	1'-0"	"	93
32					TOTAL F.B.M.	1594

As required by specifications, material for posts is listed 2'-0" greater than shop detail lengths to eliminate seasoning end checks.

UNTREATED LUMBER						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	—	2x4	14'-0"	Handrails	19
2	11	—	"	12'-0"	"	89
3	1	—	"	9'-0"	"	6
4	1	—	"	7'-0"	"	5
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					TOTAL F.B.M.	119

TREATED STAIR MATERIAL FOR TOWER USING CAB WITH CATWALK						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	H1A	3x8	13'-0"	Top Horizontals	52
2	2	H1B	"	13'-0"	"	52
3	1	S1B	"	11'-0 1/2"	Stair Stringers	24
4	1	S1L	"	11'-0 1/2"	"	24
5	1	S2B	"	12'-7 1/2"	"	26
6	1	S2L	"	12'-7 1/2"	"	26
7	1	S3B	"	11'-8 3/8"	"	24
8	1	S3L	"	11'-8 3/8"	"	24
9	1	S4B	"	12'-0"	"	24
10	1	S4L	"	12'-0"	"	24
11	2	PS1	3x8	10'-9 1/8"	Platform Stringers	44
12	2	PS2	3x8	10'-1 1/2"	"	44
13	2	PS3	"	10'-1 1/2"	"	44
14	2	PS4	3x8	11'-9 1/8"	"	48
15	2	SB1	2x4	5'-0 1/2"	Stair Braces	8
16	2	SB2	"	6'-5 3/8"	"	10
17	2	SB3	"	5'-11 3/8"	"	8
18	2	SB4	2x4	6'-1 1/2"	"	10
19	2	N1	2x8	12'-9 3/4"	Cab Joists	35
20	2	N2	"	12'-2 3/4"	"	35
21	3	N3	"	10'-4 3/4"	"	45
22	5	N4	"	12'-2 3/4"	"	88
23	1	N5	"	5'-2 1/2"	"	8
24	2	N6	"	1'-8 3/8"	"	6
25	4	N7	"	1'-2 3/8"	"	7
26	2	N8	2x8	1'-5 3/4"	"	4
27	2	RP1	3x4	4'-3 3/8"	Handrail Posts	10
28	14	RP2	"	3'-9 1/2"	"	56
29	2	RP3	"	4'-4 9/16"	"	10
30	2	RP4	2x4	1'-9 1/16"	"	3
31	2	RP5	"	1'-8"	"	3
32	2	RP6	3x4	4'-5 5/8"	"	10
33	2	RP7	2x4	1'-10 3/4"	"	3
34	2	RP8	3x4	4'-4"	"	10
35	2	FP1	2x6	2'-8 1/2"	Floor Planks	6
36	2	FP2	"	2'-8 1/2"	"	6
37	2	FP3	"	2'-11 1/2"	"	6
38	11	FP5	"	1'-8"	"	20
39	3	FP6	"	1'-8"	"	5
40	9	FP7	"	1'-11"	"	18
41	3	FP8	2x6	1'-11"	"	6
42	2	FP9	2x4	2'-3 3/4"	"	4
43	1	FP10	2x10	1'-8"	"	4
44	24	N9	2x4	1'-3"	Cab Joist Ties	20
45	11	T1	2x8	1'-4 3/8"	Stair Treads	22
46	37	T2	2x8	1'-11 1/2"	"	99
47	14	A1	4x6	1'-0"	Stringer Ties	28
48						
49					TOTAL F.B.M.	1093

NOTE:

All the material listed shall be furnished S45.
 Treated Material and Untreated Lumber, listed in the left column, shall be purchased with all orders.
 Treated Stair Material, listed in the center column, shall be purchased only for towers where a catwalk is to be constructed with the cab.
 Alternate Treated Stair Material, listed in the right column, shall be purchased only for towers where the catwalk is to be omitted. See sheet L-10002 for details of stairs with catwalk omitted.

ALTERNATE TREATED STAIR MATERIAL FOR TOWER WHERE CATWALK IS OMITTED						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	HA	3x8	8'-4"	Top Horizontals	36
2	2	HB	"	8'-4"	"	36
3	1	S1A	"	11'-6 3/8"	Stair Stringers	24
4	1	S1B	"	11'-6 3/8"	"	24
5	1	S2A	"	11'-8 3/8"	"	24
6	1	S2B	"	11'-8 3/8"	"	24
7	1	S3A	"	11'-8 3/8"	"	24
8	1	S3B	"	11'-8 3/8"	"	24
9	1	S4A	"	12'-0"	"	24
10	1	S4B	3x8	12'-0"	"	24
11	1	PS1A	3x10	9'-5 1/8"	Platform Stringers	25
12	2	PS2	3x8	10'-1 1/2"	"	44
13	2	PS3	"	10'-11 1/2"	"	44
14	2	PS4	3x8	11'-9 1/8"	"	48
15	2	SB1A	2x4	5'-0 3/8"	Stair Braces	8
16	2	SB2A	"	5'-1 1/8"	"	8
17	2	SB3	"	5'-11 3/8"	"	8
18	2	SB4	2x4	6'-1 1/2"	"	10
19	2	N1A	2x8	7'-3 3/4"	Cab Joists	21
20	9	N2A	"	8'-8"	"	108
21	1	N3A	"	1'-4 3/8"	"	3
22	1	N4A	"	3'-2 3/4"	"	6
23	2	N5A	"	1'-9 1/4"	"	6
24	2	N6A	"	1'-5 3/4"	"	4
25	2	N7A	2x8	1'-2 3/8"	"	4
26	2	RP1A	3x4	4'-6 3/8"	Handrail Posts	10
27	1	RP2A	"	3'-7 3/8"	"	4
28	1	RP2B	"	3'-7 3/8"	"	4
29	2	RP3A	"	4'-7 3/8"	"	10
30	2	RP4A	2x4	1'-7 1/4"	"	3
31	2	RP5	"	1'-8"	"	3
32	2	RP6	3x4	4'-5 5/8"	"	10
33	2	RP7	2x4	1'-10 1/4"	"	3
34	2	RP8	3x4	4'-4"	"	10
35	19	FP5	2x6	1'-8"	Floor Planks	32
36	4	FP6	"	1'-8"	"	7
37	11	FP7	"	1'-11"	"	22
38	4	FP8	2x6	1'-11"	"	8
39	3	FP9	2x4	2'-3 3/4"	"	6
40	1	FP10	2x10	1'-8"	"	4
41	20	N9	2x4	1'-3"	Cab Joist Ties	18
42	12	T1A	2x8	1'-5 1/2"	Stair Treads	24
43	36	T2	"	1'-11 1/2"	"	96
44	12	RP2	3x4	3'-9 1/2"	Handrail Posts	48
45	14	A-1	4x6	1'-0"	Stringer Ties	28

TOTAL F.B.M. 961

Revised July 25-1940 by W.D.S.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	J. FRANKLAND	REGIONAL ENGINEER
STANDARD LOOKOUT TOWER 41-FOOT TYPE CT-5 BILL OF LUMBER		
DESIGNED	W.G.	DRAWN
SCALE		TRACED
APPROVED	J. Frankland	CHECKED
	ASSISTANT REGIONAL FORESTER	DATE APRIL 1938

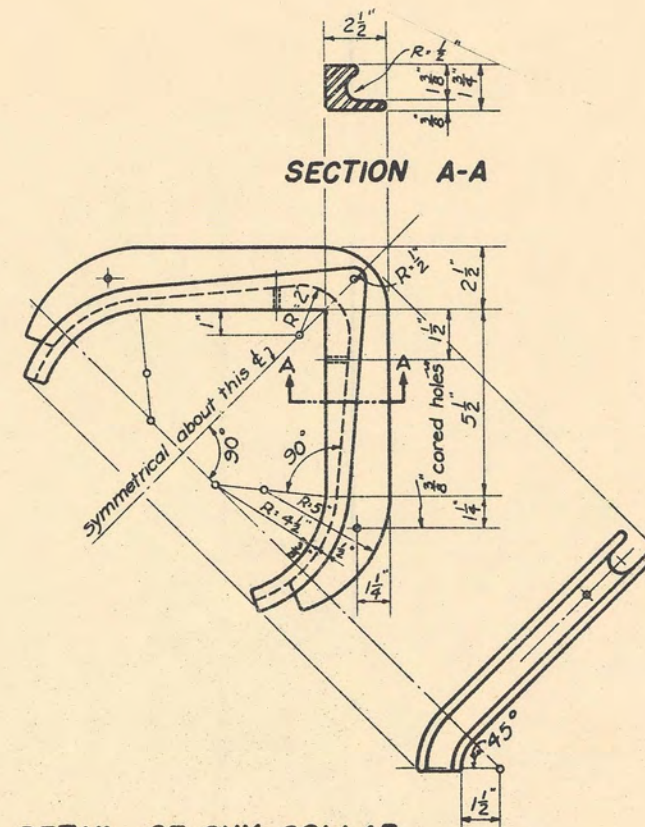
BILL OF IRON					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT
77	$\frac{1}{2}''$	$7\frac{1}{2}''$	Machine Bolts	Post Splices	40
93	"	$8\frac{1}{2}''$	" "	Diagonals to Posts	54
8	"	$9\frac{1}{2}''$	" "	Top Horizontals to Posts	5
87	"	10"	" "	Lower " " "	57
27	"	12"	" "	Middle " " "	21
* 1	"	22"	" "	Stair Stringers	2
6	"	$28\frac{1}{2}''$	" "	" "	11
3	"	32"	" "	" "	7
273	$2\frac{1}{2}''$		"TECO" or equal split rings		75
765	$\frac{1}{2}''$		Malleable C.I. Washers		95
4			Cast Steel Guy Collars	See Detail.	60
32	$\frac{1}{2}''$		Drop Forged Cable Clips		21
	$\frac{1}{2}''$		$\frac{6}{19}$ Plough Steel Wire Rope	Length to suit field.	
4	$\frac{1}{2}''$		Thimbles for $\frac{1}{2}'' \cdot \frac{6}{19}$	wire rope.	3
	20d		Common Nails.	FB, FP, SB, Cab Joists	22
	40d		" "	S1, S2, ST1, ST2	15
	30d		" "	N9	5
	10d		" "	RP	3
46	$\frac{1}{2}''$	$6\frac{1}{2}''$	Machine Bolts	Stair Stringers	21
40	$\frac{3}{8}''$	5"	Carriage Bolts	Hand Rail	8
12	"	6"	" "	" "	3
4	"	7"	" "	" "	1

*

60- $\frac{3}{8}''$ Cut Washers.
 All above items except C.S. Guy Collar to be galvanized.

* The asterisked item shall be revised as follows for towers where the alternate stair material is used:
 Replace $1-\frac{1}{2}'' \phi \times 22''$ bolt with $2-\frac{1}{2}'' \phi \times 22\frac{1}{2}''$ bolt.

This note is applicable only to towers having no catwalk (see sheet L-10002)



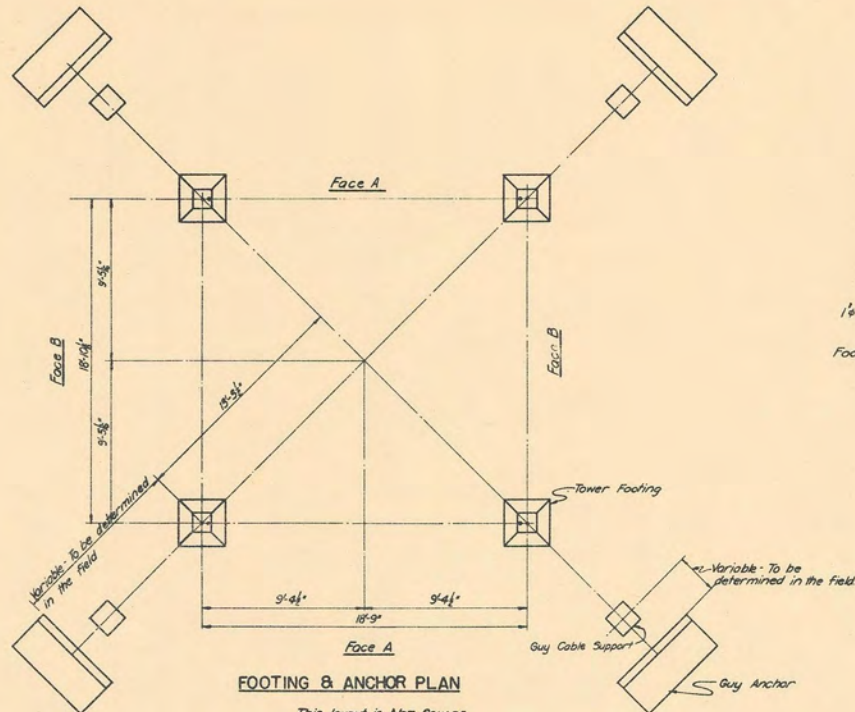
DETAIL OF GUY COLLAR
 Scale 3" = 1'-0"
 Material - Cast Steel

Revised. July 25-1940 by W.D.S.

U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX J. FRANKLAND REGIONAL ENGINEER

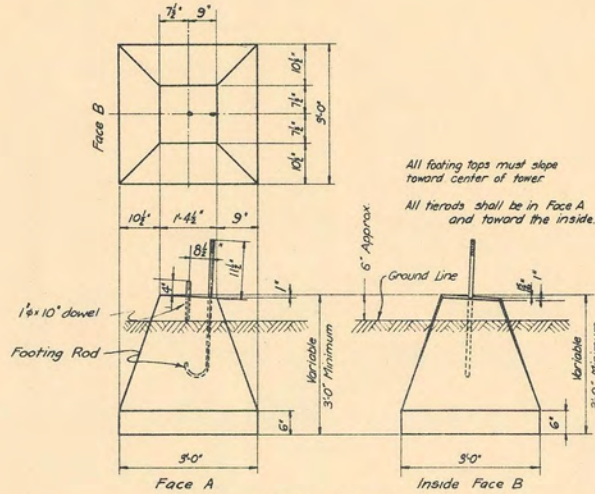
STANDARD LOOKOUT TOWER
 41-FOOT TYPE CT-5
 BILL OF HARDWARE

DESIGNED W.G. DRAWN L.L.L. TRACED L.L.L.
 SCALE 3" = 1'-0" CHECKED B.C.O.
 APPROVED [Signature] DATE APRIL 1938
 ASSISTANT REGIONAL FORESTER



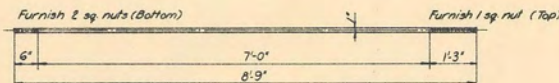
FOOTING & ANCHOR PLAN

This layout is Not Square.
Cables shall slope at 45° and location of anchors shall be computed accordingly.



TOWER FOOTING

3'-0" x 3'-0" Concrete block of variable height. Top bevelled two ways of 3/4" to 1/2".
4 Required



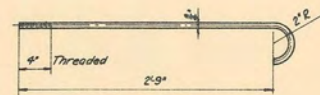
ANCHOR ROD

1'-6" x 8'-9" Rod. Thread ends as indicated. Furnish 3 sq nuts for each rod. Make 8-galvanized.



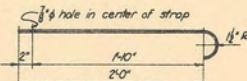
ANCHOR PLATE

7'-3 1/2" x 1'-1/2" Channel C42 (BSC9)
Make 4-galvanized



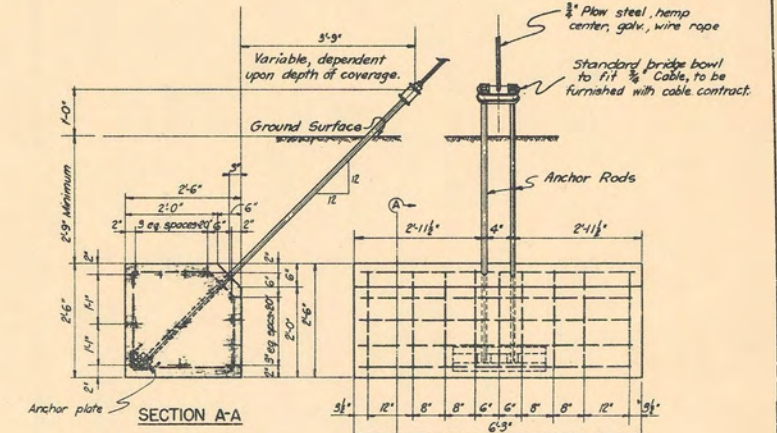
FOOTING ROD

3/4" x 3'-4" Rod, galvanized
Furnish 1 sq nut each. Make 4



CABLE SUPPORT FOOTING TIE

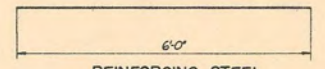
3/4" x 3 1/2" x 2'-6" strap, galvanized. Make 4



SECTION A-A

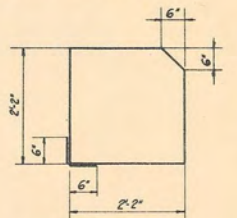
GUY ANCHOR DETAIL

4 Required



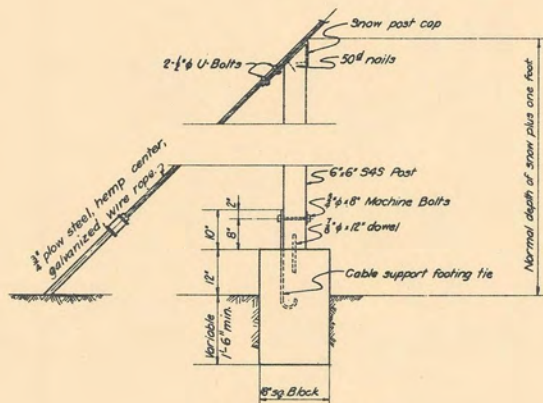
REINFORCING STEEL

44 pieces of 1/4" x 16'-0" deformed bars



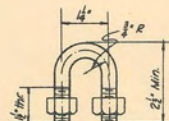
REINFORCING TIES

36 pieces of 3/4" x 9'-5" deformed bars.



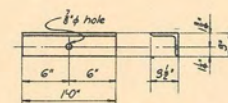
GUY CABLE SUPPORT

4 Required where tower is located in regions of heavy snow.



U-BOLT

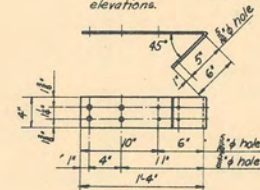
1/4" galvanized U-bolt. Make 8
Furnish 2 hex nuts each bolt



FOOTING ANGLE

3/4" x 3'-3" x 1'-0" angle, galvanized
4 Required

For assembly of this angle to top end of footing rod see Drawing L-10402, general tower elevations.



SNOW POST CAP

4'-6" x 1'-10" galvanized strap.
Make 4

Furnish all detailed material and in addition furnish:
4-3/4" x 1'-2" dowels, plain
4-1/4" x 1'-0" dowels, plain
4-1/4" x 8" machine bolts
4-3/4" malleable washers
All galvanized.

CONCRETE

Mix: 1:3:5
Approximate volume: 894 cu yds.
Cement - 102 bbls
Sand - 47 cu yds
Gravel - 78 cu yds

Quantities are based on minimum dimensions as shown.

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

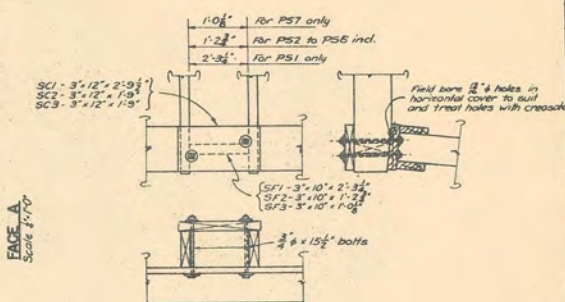
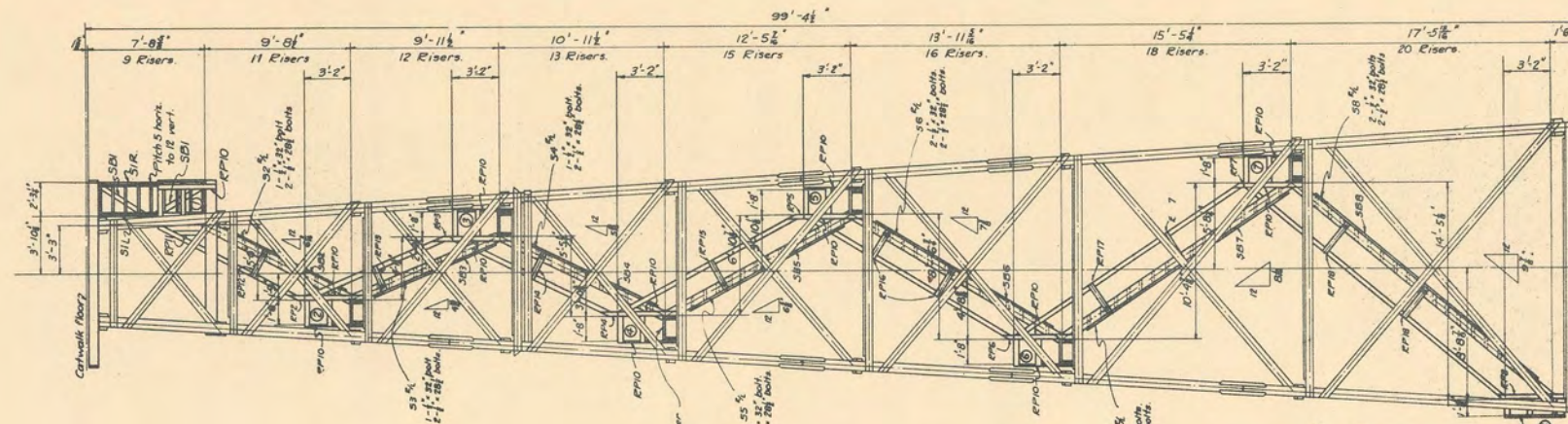
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
99-FOOT TYPE CT-1
FOUNDATION DETAILS

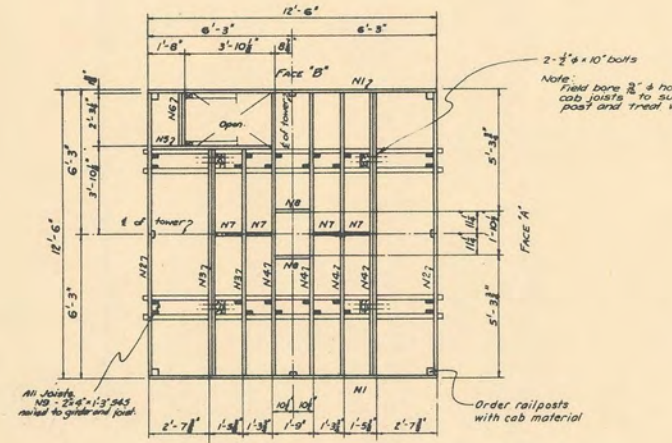
Revised 4-18-40 W.D.S.
Revised 3-8-39 by W.O.
Dimensions added to Sect. M, Guy Anchor
Revised Mar. 31, 38, B.C.O.

DESIGNED B.C.O. DRAWN B.C.O. TRACED B.C.O.
SCALE 7/8" = 1'-0"
APPROVED L.F. B.C.O. CHECKED M.D.S.
DATE JAN. 1938
67 ASSISTANT REGIONAL FORESTER

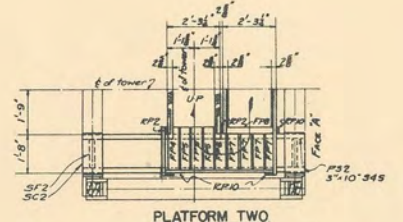
SHEET 1 OF 8 SHEETS L-10401



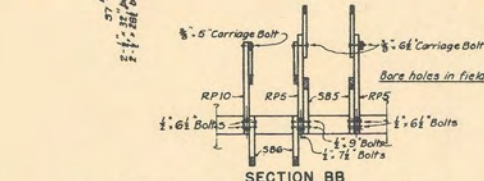
PLATFORM STRINGER FASTENINGS Scale 3/4"=1'-0"



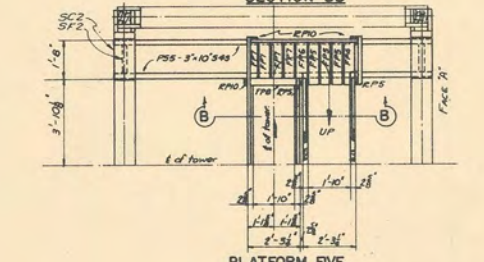
GAB JOIST LAYOUT



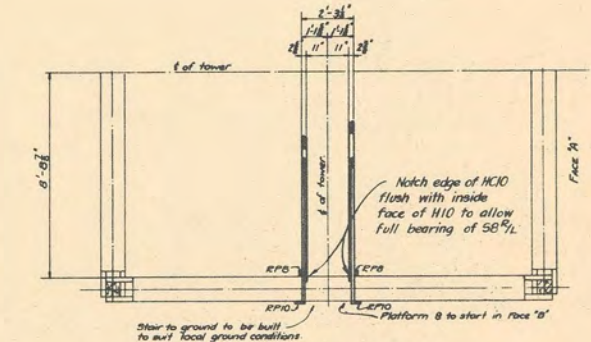
PLATFORM TWO



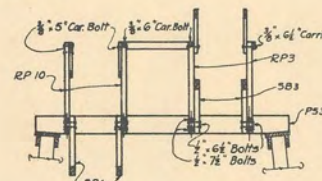
SECTION BB



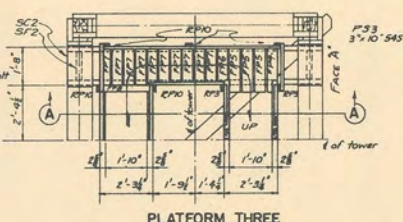
PLATFORM FIVE



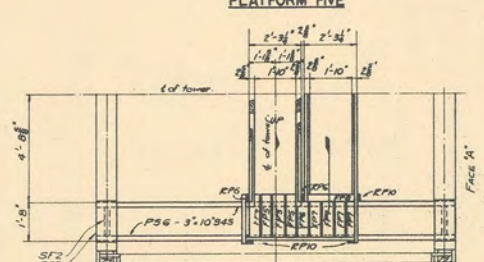
PLATFORM EIGHT



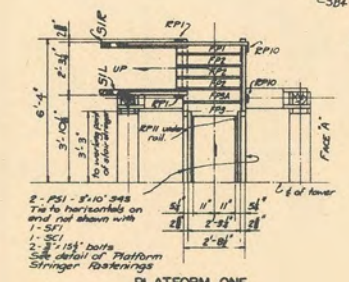
SECTION AA Bare holes in field



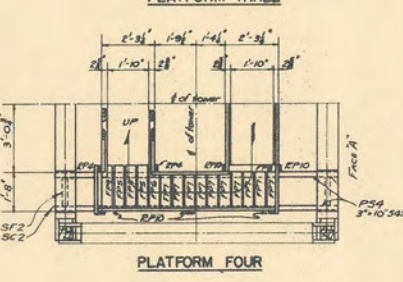
PLATFORM THREE



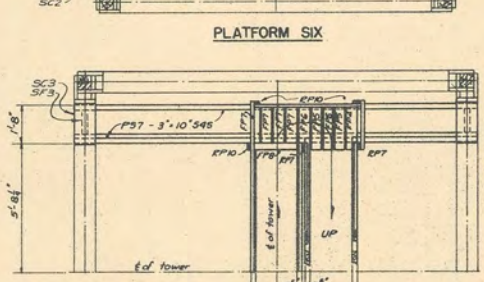
PLATFORM SIX



PLATFORM ONE



PLATFORM FOUR



PLATFORM SEVEN

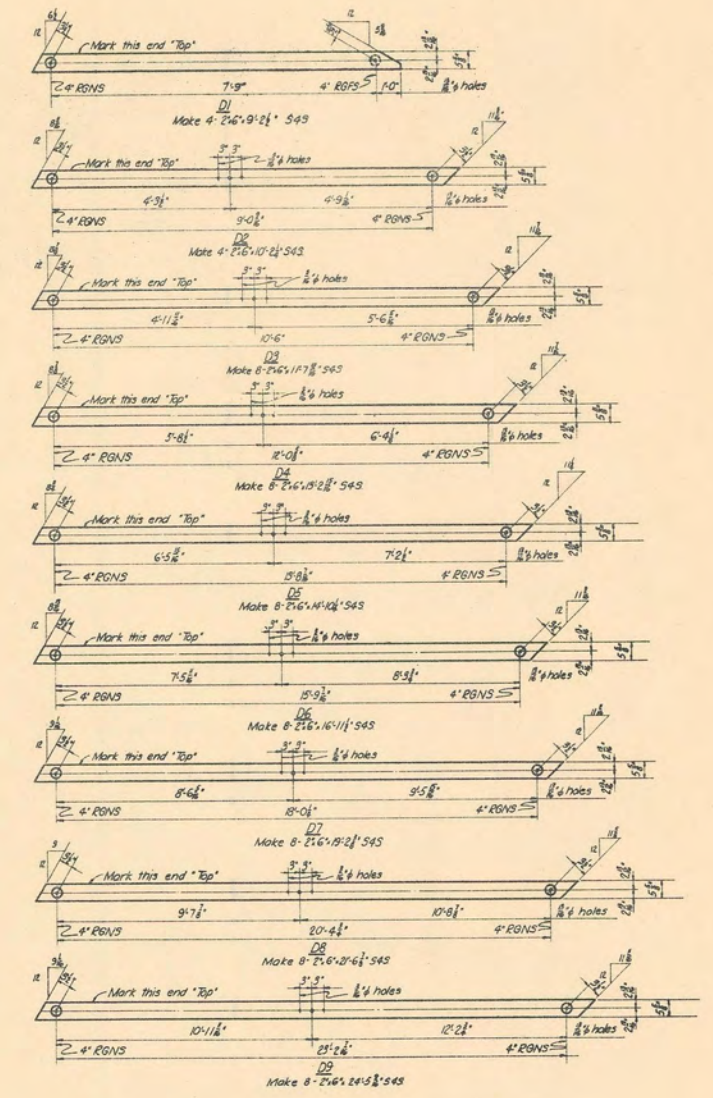
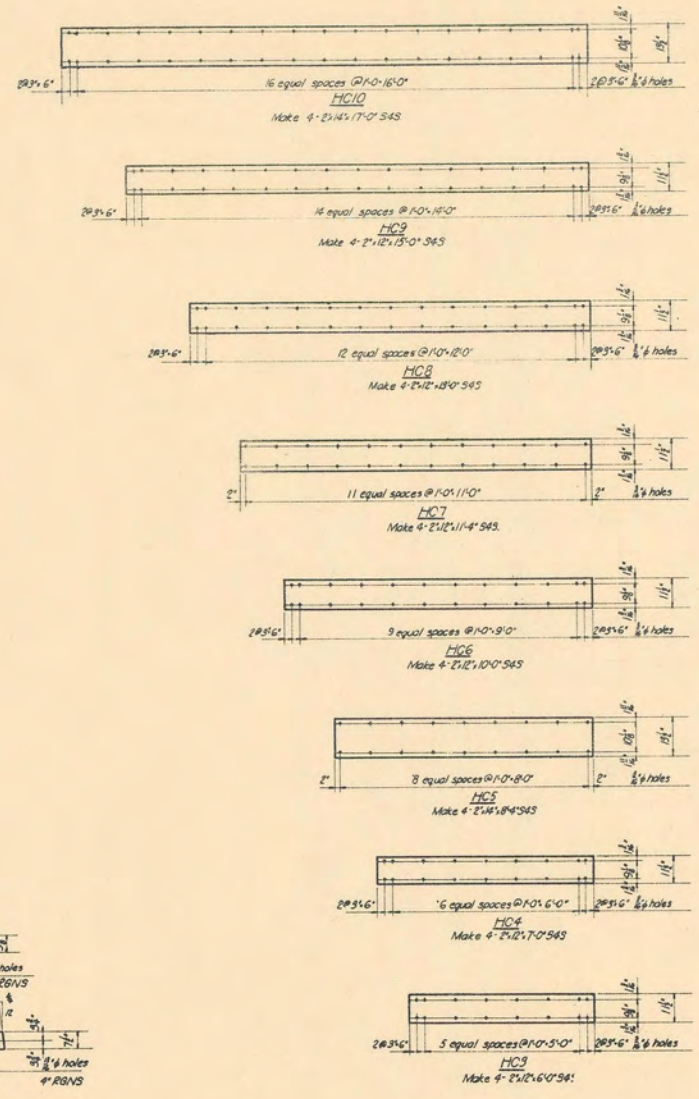
- MATERIAL SIZES**
- Cab Joists 2" x 8" 5/8" Treated
 - Star Stringers 3" x 8"
 - Star Treads 2" x 8"
 - Platform Stringers 3" x 10"
 - Platform floor plank 2" x 6"
 - End posts 2" x 4" x 3" x 4"
 - Star Stringer Swags 2" x 4"
 - Handrails 2" x 4" Untreated.
- Stair stringers to bear directly on platform stringers, and not on platform plank.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

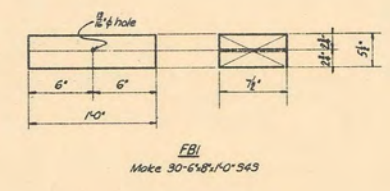
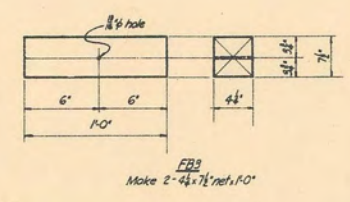
STANDARD LOOKOUT TOWER
99-FOOT TYPE CT-1
STAIR LAYOUT

Revised 4-19-40 W.D.S.
Revised 10-5-39 A.S./J.F.
Revised 1-4-38 H.E.S.

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____
SCALE 3/8"=1'-0" EXCEPT AS NOTED DATE JANUARY 1938
APPROVED _____ ACT ASSISTANT REGIONAL FORESTER



RGBS - Ring Groove Both Sides
RONS - Ring Groove Near Side
RGS - Ring Groove Far Side



Designed 3-8-39 by W.S.
HID, HC10, HC5.

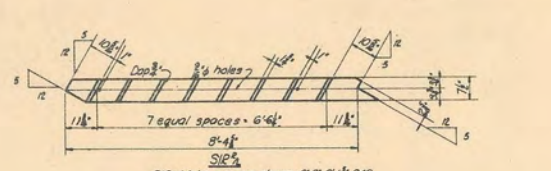
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

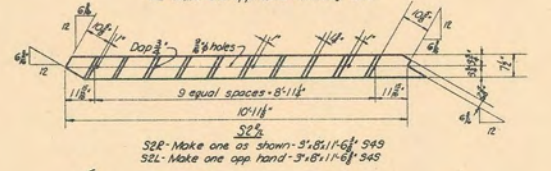
STANDARD LOOKOUT TOWER
99-FOOT TYPE CT-1
SHOP DETAILS

DESIGNED W.G. DRAWN H.P.S. CHECKED H.P.S.
SCALE NONE
APPROVED DATE JAN. 1938
ACT ASSISTANT REGIONAL FORESTER

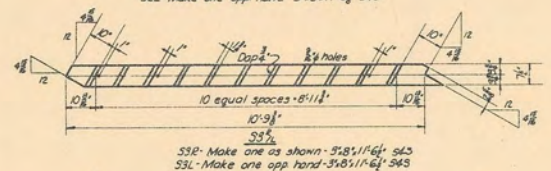
SHEET 5 OF 8 SHEETS L-10404B



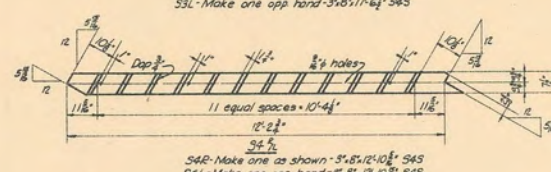
S1R - Make one as shown - 3'8' 9 1/2" S4S
S1L - Make one opp hand - 3'8' 9 1/2" S4S



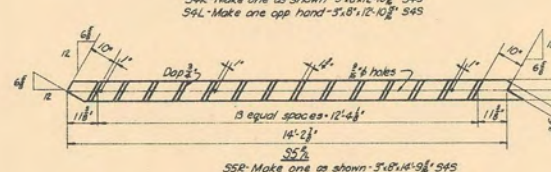
S2R - Make one as shown - 3'8' 11 1/2" S4S
S2L - Make one opp hand - 3'8' 11 1/2" S4S



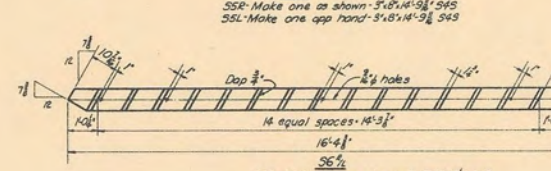
S3R - Make one as shown - 3'8' 11 1/2" S4S
S3L - Make one opp hand - 3'8' 11 1/2" S4S



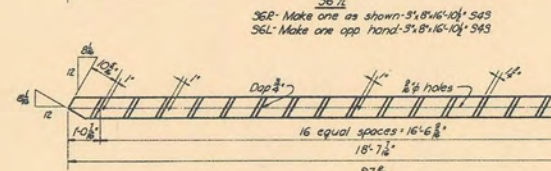
S4R - Make one as shown - 3'8' 12 1/2" S4S
S4L - Make one opp hand - 3'8' 12 1/2" S4S



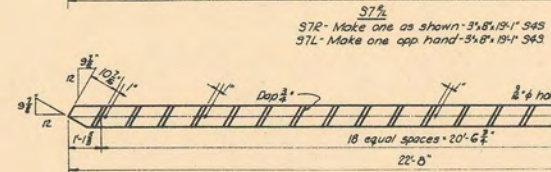
S5R - Make one as shown - 3'8' 14 1/2" S4S
S5L - Make one opp hand - 3'8' 14 1/2" S4S



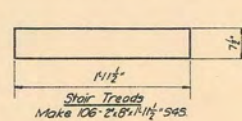
S6R - Make one as shown - 3'8' 16 1/2" S4S
S6L - Make one opp hand - 3'8' 16 1/2" S4S



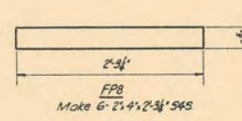
S7R - Make one as shown - 3'8' 18 1/2" S4S
S7L - Make one opp hand - 3'8' 18 1/2" S4S



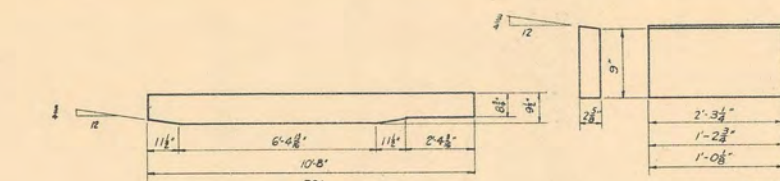
S8R - Make one as shown - 3'8' 23 1/2" S4S
S8L - Make one opp hand - 3'8' 23 1/2" S4S



Stair Treads
Make 106 - 2'8' 1 1/2" S4S



FP8
Make 6 - 2'4" 2 3/4" S4S



PS1
Make 2 - 5'10' 10" S4S

PS2	Make 2	11 1/2"	7'-8 3/8"	11 1/2"
PS3	"	11 1/2"	8'-9 3/8"	11 1/2"
PS4	"	11 1/2"	11'-0 3/8"	11 1/2"
PS5	"	11 1/2"	10'-4 1/2"	11 1/2"
PS6	"	11 1/2"	12'-3 3/8"	11 1/2"
PS7	Make 3	11 1/2"	15'-7 3/8"	11 1/2"
			17'-6 3/8"	

PS2-PS7 Incl
Make from 3" x 10" S4S

2'-9 1/2"	SC1	Make 1
1'-9"	SC2	Make 10
1'-9"	SC3	Make 2

3 3/8"	2'-2 1/2"	3 3/8"	For SC1
3 3/8"	1'-1 1/2"	3 3/8"	For SC2
3 3/8"	11 1/8"	6 1/2"	For SC3

SC1-SC3 Incl
Make from 3" x 12" S4S

4 1/2"	32"	4 1/2"	S81
6 1/2"	3'10"	6 1/2"	S82
6 1/2"	4'-0"	6 1/2"	S83
6 1/2"	5'-1 1/2"	6 1/2"	S84
7 1/2"	5'-0"	7 1/2"	S85
8 1/2"	4'-6"	8 1/2"	S86
9 1/2"	5'-9"	9 1/2"	S87
10 1/2"	7'-4"	10 1/2"	S88
11 1/2"	6'-5 1/2"	11 1/2"	
	8'-1"		
	7'-4"		
	9'-7"		

S81-S88 Incl
Make 2 of each of 2'4" S4S

1'-9 1/2"	RP2
1'-6"	RP3
1'-8 1/2"	RP4
1'-10 1/2"	RP5

RP2-RP5 Incl
Make 2 of each of 2'4" S4S

1'-11 1/2"	RP6
2'-1"	RP7
2'-1 1/2"	RP8

RP6-RP8 Incl
Make 4 of each of 2'4" S4S

3'-11 1/2"	RP10
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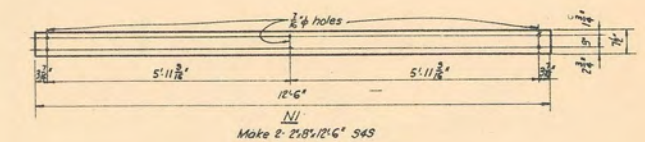
RP10
Make 26 - 3'4" 3' 1/2" S4S

7 1/2"	1'-9 1/2"
7 1/2"	1'-9 1/2"
2'-5 1/2"	RP11

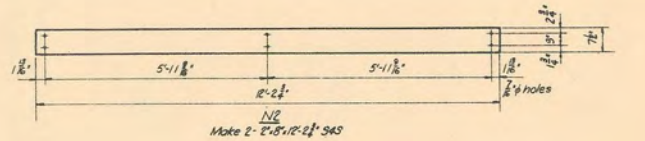
RP11
Make 2 - 2'4" 2 3/4" S4S

5'-11 1/2"	8 3/8"	RP1
4'-8 1/2"	7"	RP2
5'-11 1/2"	8 3/8"	RP3
4'-6 1/2"	7 1/2"	RP4
5'-11 1/2"	6 3/8"	RP5
4'-6 1/2"	5 1/2"	RP6
5'-11 1/2"	5 1/2"	RP7
4'-8 1/2"	4 1/2"	RP8
5'-11 1/2"	4 1/2"	RP8

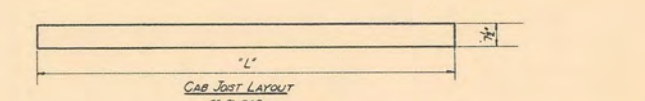
RP1-RP8 Incl
Make 2 of each of 3'4" S4S



N1
Make 2 - 2'8' 1/2" 2'6" S4S

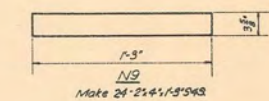


N2
Make 2 - 2'8' 1/2" 2'1" S4S



Cab Foot Layout
2'-8" S4S

Mark	No. Reqd	Length 'L'
N3	3	9'-9 1/2"
N4	5	12'-2 1/2"
N5	1	5'-2 1/2"
N6	2	2'-9 1/2"
N7	4	1'-2 1/2"
N8	2	1'-5 1/2"



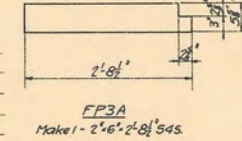
N3
Make 24 - 2'4" 1'9" S4S

3'-0"	FP2	Make 3
2'-0 1/2"	FP3	Make 2
2'-0"	FP5	Make 18
1'-8"	FP7	Make 36

FP2-3-5-7
2'6" S4S

2'-5 1/2"	6"	FP4	Make 2
5'-0"	6"	FP4	Make 6
1'-5 1/2"	6"	FP4	Make 6
2'-0"	2"	FP6	Make 6
1'-8"			

FP4-6
2'6" S4S



FP3A
Make 1 - 2'6" 2'8 1/2" S4S

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
99-FOOT TYPE CT-1
SHOP DETAILS

REV. 4-22-40 WJD
REV. 10-6-39 AS
REV. 4-12-38 B.C.O.
REV. 1-5-38 HES

DESIGNED: W.G. DRAWN: H.R.S. CHECKED: B.G.O.
SCALE: NONE
APPROVED: [Signature] ACT ASSISTANT REGIONAL FORESTER
DATE: JANUARY 1938

TREATED TOWER MATERIAL						
ITEM	No	MARK	SIZE	LENGTH	DESCRIPTION	FBM
1	2	PIA	8'-8"	26'-0"	Top Posts	278
2	2	PIB	"	26'-0"	"	278
3	2	P2A	"	26'-0"	Intermediate Posts	278
4	2	P2B	"	26'-0"	"	278
5	2	P3A	"	16'-0"	"	170
6	2	P3B	"	16'-0"	"	170
7	2	P4A	"	17'-6"	"	192
8	2	P4B	"	17'-6"	"	192
9	2	P5A	"	24'-6"	Bottom Posts	278
10	2	P5B	8'-8"	24'-6"	"	278
11	32	PS1	3'-8"	3'-0"	Post Splices	192
12	1	DS	6'-8"	15'-9 1/2"	Diagonal Strut	64
13	4	H2	2'-6"	7'-1 1/2"	Horizontals	32
14	8	H3	"	8'-1 1/2"	"	72
15	8	H4	2'-6"	9'-2 1/2"	"	80
16	2	H5A	3'-6"	11'-4 1/2"	"	36
17	6	H5	3'-6"	10'-5 1/2"	"	108
18	8	H6	2'-6"	11'-10 1/2"	"	96
19	8	H7	"	13'-5 1/2"	"	112
20	8	H8	"	15'-2 1/2"	"	128
21	8	H9	2'-6"	17'-1 1/2"	"	144
22	8	H10	3'-8"	19'-3 1/2"	"	320
23	4	HC3	2'-12"	6'-0"	Horizontal Covers	48
24	4	HC4	2'-12"	7'-0"	"	56
25	4	HC5	2'-14"	8'-4"	"	84
26	4	HC6	2'-12"	10'-0"	"	80
27	4	HC7	"	11'-4"	"	96
28	4	HC8	"	13'-0"	"	112
29	4	HC9	2'-14"	15'-0"	"	128
30	4	HC10	2'-14"	17'-0"	"	168
31	4	D1	2'-6"	3'-2 1/2"	Diagonals	40
32	4	D2	"	10'-2 1/2"	"	48
33	8	D3	"	11'-7 1/2"	"	96
34	8	D4	"	13'-2 1/2"	"	112
35	8	D5	"	14'-10 1/2"	"	128
36	8	D6	"	16'-11 1/2"	"	144
37	8	D7	"	19'-2 1/2"	"	160
38	8	D8	"	21'-6 1/2"	"	176
39	8	D9	2'-6"	24'-5 1/2"	"	208
40	30	FB1	6'-8"	1'-0"	Fill Blocks	120
41	2	FB3	8'-1/2"	1'-0"	"	8
42					Total FBM.	5788

UNTREATED LUMBER						
ITEM	No	MARK	SIZE	LENGTH	DESCRIPTION	FBM
1	2		2'-4"	6'-0"	Hand Rails	8
2	6		"	8'-0"	"	32
3	4		"	10'-0"	"	27
4	11		"	12'-0"	"	88
5	5		"	14'-0"	"	47
6	2		"	18'-0"	"	24
7	2		"	20'-0"	"	27
8	2		2'-4"	24'-0"	"	32
9					Total FBM.	285
10						

TREATED STAIR MATERIAL						
FOR TOWER USING CAB WITH CATWALK.						
ITEM	No	MARK	SIZE	LENGTH	DESCRIPTION	FBM
1	2	H1A	3'-8"	13'-0"	Horizontals	56
2	2	H1B	"	13'-0"	"	56
3	2	S1E	"	9'-1 1/2"	Stair Stringers	40
4	2	S2E	"	11'-6 1/2"	"	48
5	2	S3E	"	11'-6 1/2"	"	48
6	2	S4E	"	12'-10 1/2"	"	56
7	2	S5E	"	14'-9 1/2"	"	64
8	2	S6E	"	16'-10 1/2"	"	72
9	2	S7E	"	19'-1 1/2"	"	80
10	2	S8E	3'-8"	23'-1 1/2"	"	96
11	106	None	2'-8"	1'-11 1/2"	Stair Treads	288
12	2	SBT	2'-4"	3'-10 1/2"	Stair Braces	5
13	2	SB2	"	5'-1 1/2"	"	8
14	2	SB3	"	5'-0 1/2"	"	8
15	2	SB4	"	5'-9 1/2"	"	8
16	2	SB5	"	6'-3 1/2"	"	8
17	2	SB6	"	7'-4 1/2"	"	12
18	2	SB7	"	8'-1 1/2"	"	12
19	2	SB8	2'-4"	9'-7 1/2"	"	13
20	2	PS1	3'-10"	10'-8"	Platform Stringers	60
21	2	PS2	"	9'-7 1/2"	"	50
22	2	PS3	"	11'-0 1/2"	"	60
23	2	PS4	"	12'-3 1/2"	"	70
24	2	PS5	"	13'-9 1/2"	"	70
25	2	PS6	"	15'-6 1/2"	"	80
26	3	PS7	3'-10"	17'-6 1/2"	"	135
27	2	FP1	2'-6"	3'-0"	Platform Floor Plank	6
28	3	FP2	"	3'-0"	"	9
29	2	FP3	"	2'-8 1/2"	"	12
30	1	FP3A	"	2'-8 1/2"	"	3
31	6	FP4	"	2'-0"	"	12
32	18	FP5	"	2'-0"	"	36
33	6	FP6	"	1'-8"	"	10
34	36	FP7	2'-6"	1'-8"	"	60
35	6	FP8	2'-4"	2'-3 1/2"	"	10
36	2	RP1	3'-4"	4'-8 1/2"	Hand Rail Posts	10
37	2	RP2	"	4'-6 1/2"	"	10
38	2	RP3	"	4'-8 1/2"	"	10
39	2	RP4	"	4'-6 1/2"	"	10
40	2	RP5	"	4'-6 1/2"	"	10
41	2	RP6	"	4'-5 1/2"	"	10
42	2	RP7	"	4'-4 1/2"	"	10
43	2	RP8	"	4'-3 1/2"	"	10
44	26	RP10	"	3'-11 1/2"	"	104
45	2	RP11	2'-14"	2'-5 1/2"	"	4
46	2	RP12	"	1'-9 1/2"	"	3
47	2	RP3	"	1'-6 1/2"	"	3
48	2	RP14	"	1'-8 1/2"	"	3
49	2	RP15	"	1'-10 1/2"	"	3
50	4	RP16	"	1'-11 1/2"	"	5
51	4	RP17	"	2'-1 1/2"	"	7
52	4	RP8	"	2'-1 1/2"	"	7
53	2	RP12	2'-4"	1'-6 1/2"	"	3
54	2	N1	2'-8"	12'-6"	Cab Stringers	37
55	2	N2	"	12'-2 1/2"	"	37
56	3	N3	"	9'-9 1/2"	"	40
57	5	N4	"	12'-2 1/2"	"	93
58	1	N5	"	5'-2 1/2"	"	8
59	2	N6	"	2'-3 1/2"	"	7
60	4	N7	"	1'-2 1/2"	"	8
61	2	N8	2'-8"	1'-5 1/2"	"	4
62	24	N9	2'-4"	1'-3"	Ties	27
63	1	SF1	3'-10"	2'-3 1/2"	Platform Stringer Fill Block	8
64	10	SF2	"	1'-2 1/2"	"	35
65	2	SF3	"	1'-0 1/2"	"	8
66	1	SC1	3'-12"	2'-3 1/2"	Platform Stringer Cap	9
67	10	SC2	"	1'-9"	"	54
68	2	SC3	"	1'-9"	"	12
69					Total FBM	2256

ALTERNATE TREATED STAIR MATERIAL						
FOR TOWER WHERE CATWALK IS OMITTED						
ITEM	No	MARK	SIZE	LENGTH	DESCRIPTION	FBM
1	2	HA	3'-8"	8'-0"	Horizontals	32
2	2	HB	3'-8"	8'-0"	"	32
3	2	S1AE	"	10'-0 1/2"	Stair Stringers	40
4	2	S2AE	"	10'-4 1/2"	"	48
5	2	S3AE	"	11'-6 1/2"	"	48
6	2	S4AE	"	12'-10 1/2"	"	56
7	2	S5AE	"	14'-9 1/2"	"	64
8	2	S6AE	"	16'-10 1/2"	"	72
9	2	S7AE	"	19'-1 1/2"	"	80
10	2	S8AE	3'-8"	23'-1 1/2"	"	96
11	97	None	2'-8"	1'-11 1/2"	Stair Treads	259
12	8	None	2'-8"	1'-5 1/2"	"	16
13	2	SB1A	2'-4"	4'-1 1/2"	Braces	6
14	2	SB2A	"	4'-5 1/2"	"	6
15	2	SB3A	"	5'-0 1/2"	"	8
16	2	SB4A	"	5'-9 1/2"	"	8
17	2	SB5A	"	6'-3 1/2"	"	10
18	2	SB6A	"	7'-4 1/2"	"	11
19	2	SB7A	"	8'-1 1/2"	"	12
20	2	SB8A	2'-4"	9'-7 1/2"	"	13
21	2	PS1A	3'-10"	8'-6 1/2"	Platform Stringers	45
22	2	PS2A	"	9'-7 1/2"	"	50
23	2	PS3A	"	11'-0 1/2"	"	60
24	2	PS4A	"	12'-3 1/2"	"	70
25	2	PS5A	"	13'-9 1/2"	"	70
26	2	PS6A	"	15'-6 1/2"	"	80
27	3	PS7A	3'-10"	17'-6 1/2"	"	135
28	5	FP4A	2'-6"	2'-0"	Platform Floor Plank	10
29	15	FP5A	"	2'-0"	"	30
30	5	FP6A	"	1'-8"	"	9
31	32	FP7A	2'-6"	1'-8"	"	55
32	7	FP8A	2'-4"	2'-3 1/2"	"	12
33	9	FP9A	2'-6"	1'-6"	"	14
34	2	FP10A	"	1'-6"	"	3
35	5	FP11A	"	1'-9"	"	8
36	2	FP12A	2'-6"	1'-9"	"	4
37	2	RP1A	3'-4"	4'-7 1/2"	Hand Rail Posts	10
38	2	RP2A	"	4'-9 1/2"	"	10
39	2	RP3A	"	4'-7 1/2"	"	10
40	2	RP4A	"	4'-6 1/2"	"	10
41	2	RP5A	"	4'-6 1/2"	"	10
42	2	RP6A	"	4'-5 1/2"	"	10
43	2	RP7A	"	4'-4 1/2"	"	10
44	2	RP8A	"	4'-3 1/2"	"	10
45	26	RP10A	"	3'-11 1/2"	"	104
46	2	RP14A	2'-14"	1'-8 1/2"	"	3
47	2	RP5A	"	1'-10 1/2"	"	3
48	4	RP16A	"	1'-11 1/2"	"	5
49	4	RP17A	"	2'-1 1/2"	"	7
50	4	RP18A	"	2'-1 1/2"	"	7
51	2	RP20A	"	1'-7 1/2"	"	3
52	2	RP21A	"	1'-4 1/2"	"	2
53	2	RP12A	2'-4"	1'-6 1/2"	"	3
54	2	N1A	2'-8"	7'-3 1/2"	Cab Stringers	21
55	9	N2A	"	7'-0"	"	84
56	1	N3A	"	0'-10 1/2"	"	1
57	1	N4A	"	2'-10 1/2"	"	4
58	2	N5A	"	1'-9 1/2"	"	5
59	2	N6A	"	1'-6"	"	4
60	2	N7A	2'-8"	1'-2 1/2"	"	4
61	16	N9	2'-4"	1'-3"	Ties	20
62	8	SF2	3'-10"	1'-2 1/2"	Platform Stringer Fill Block	25
63	2	SF3	"	1'-0 1/2"	"	8
64	4	SF4	"	1'-0 1/2"	"	13
65	8	SC2	3'-12"	1'-9"	Platform Stringer Cap	42
66	2	SC3	"	1'-9"	"	12
67	4	SC4	"	1'-7"	"	21
68					Total FBM	2054

NOTES

- All the listed material shall be finished S4S.
- All material listed in the left column, consisting of Treated Tower Material and Untreated Lumber, shall be purchased with all orders.
- Treated Stair Material, listed in the center column, shall be purchased only for towers where a catwalk is to be constructed with the cab.
- Alternate Treated Stair Material, listed in the right column, shall be purchased only for towers where the catwalk is to be omitted. See sheet L-10001 for details of stairs with catwalk omitted.
- As required by specifications, material for Posts is listed 2'-0" greater than shop detail length to eliminate seasoning end checks.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
99-FOOT TYPE CT-1
BILL OF LUMBER

Revised 4-19-40 W.D.S.
Revised 10-6-39 A.S.
Revised 4-25-38, B.C.O.

DESIGNED W.G. DRAWN B.C.O. CHECKED B.C.O.
SCALE NONE
APPROVED [Signature] DATE APRIL 1940
AGRICULTURAL REGIONAL FORESTER

BILL OF IRON					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT
135	$\frac{3}{4}$ "	11"	Machine bolts	Diagonals to Posts	225
70	"	11 $\frac{1}{2}$ "	" "	Post Splices	120
90	"	12 $\frac{1}{2}$ "	" "	Horizontals to Posts	167
24	"	14 $\frac{1}{2}$ "	" "	" " "	48
5	"	15 $\frac{1}{2}$ "	" "	Strut "D5" to Posts	10
691	$\frac{3}{4}$ "		Malleable C.I. Washers		228
* 18	$\frac{1}{2}$ "	28 $\frac{1}{2}$ "	Machine bolts	Stair Stringers	28
* 11	"	32"	" "	" "	19
380	$\frac{1}{2}$ "		Malleable C.I. Washers		60
132	2 $\frac{1}{2}$ "		"Teco" or similar Split Rings		36
308	4"		" " " " "		205
4			Cast Steel Guy Collars	See Detail.	80
16	$\frac{3}{4}$ "		Drop forged cable clips		16
4			Bridge Bowls for $\frac{3}{4}$ " - $\frac{9}{16}$ " Wire Rope.		40
	$\frac{3}{4}$ "		6x19 plow steel wire rope guys. Length to suit topography		
	60 ^d		Common Nails		60
	40 ^d		" "		72
	10 ^d		" "		13
* 23	$\frac{1}{2}$ "	10"	Machine Bolts	Cab Joists to Posts	15
* 29	$\frac{3}{4}$ "	15 $\frac{1}{2}$ "	" "	Platform Stringer Fasten.	67
12	$\frac{1}{2}$ "	9"	" "	Stair Str. to Hand Rail Posts	7
46	"	7 $\frac{1}{2}$ "	" "	Plat. Str. " " " "	24
80	"	6 $\frac{1}{2}$ "	" "	Stair Str. " " " "	37

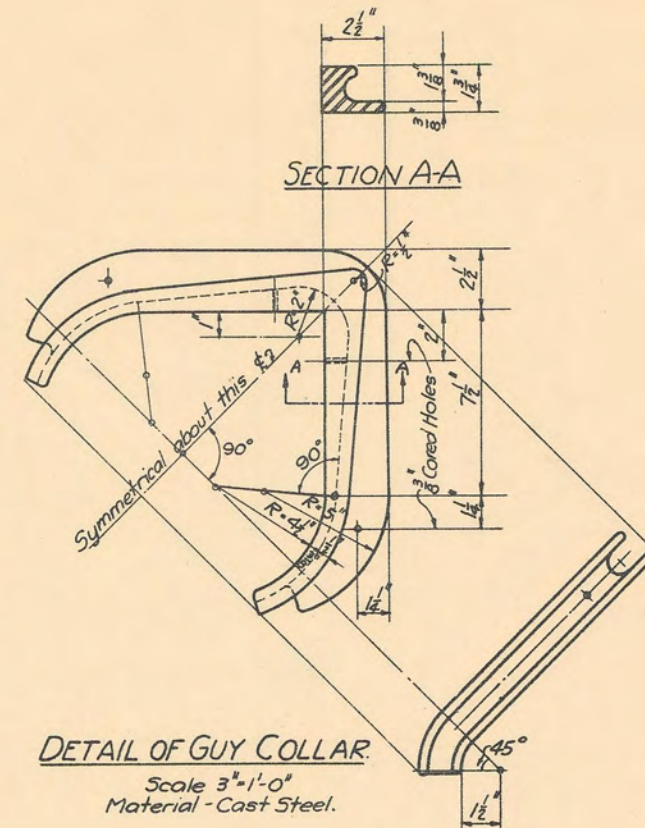
All above except C.S. Guy Collars to be galvanized.

* The asterisked items shall be revised as follows for towers where the alternate stair material is used:
 Purchase only 16 - $\frac{1}{2}$ " ϕ x 28 $\frac{1}{2}$ " bolts. 19 - $\frac{1}{2}$ " ϕ x 10" bolts
 10 - $\frac{1}{2}$ " ϕ x 32" "

These additions shall be made to the list:
 2 - $\frac{1}{2}$ " x 22 $\frac{1}{2}$ " bolts. 5 - $\frac{1}{2}$ " ϕ x 11 $\frac{1}{2}$ " bolts
 1 - $\frac{1}{2}$ " x 26" " 2 - $\frac{3}{4}$ " ϕ x 15 $\frac{1}{2}$ " bolts

This note is applicable only to towers having no catwalk (as sheet L-10001).

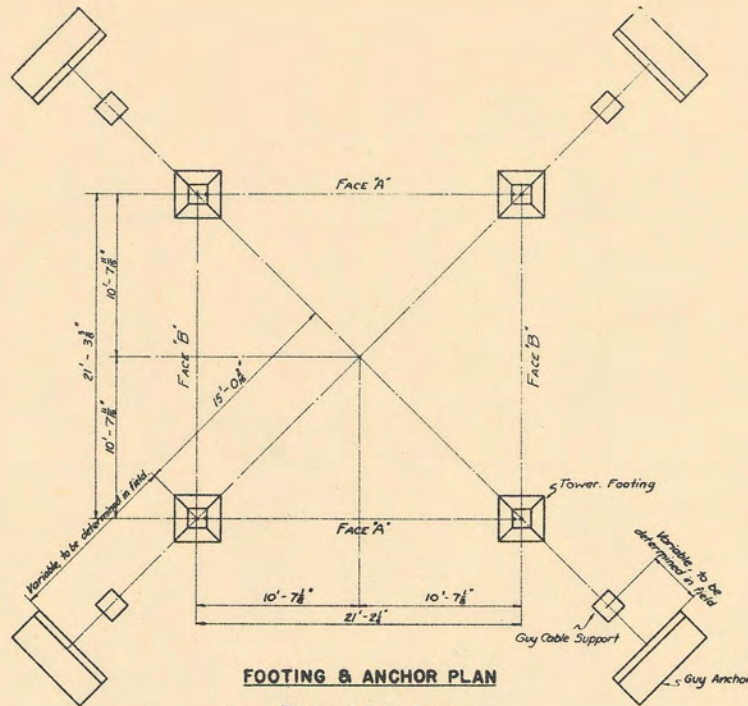
o HAND RAIL BOLTS. ADD TO ABOVE BILL.
 38 - $\frac{3}{8}$ " x 5" Carriage Bolts
 18 - $\frac{3}{8}$ " x 6" " "
 14 - $\frac{3}{8}$ " x 6 $\frac{1}{2}$ " " "



NOTE:
 This list includes an approximate 10% overage of bolts, washers, split rings and nails.

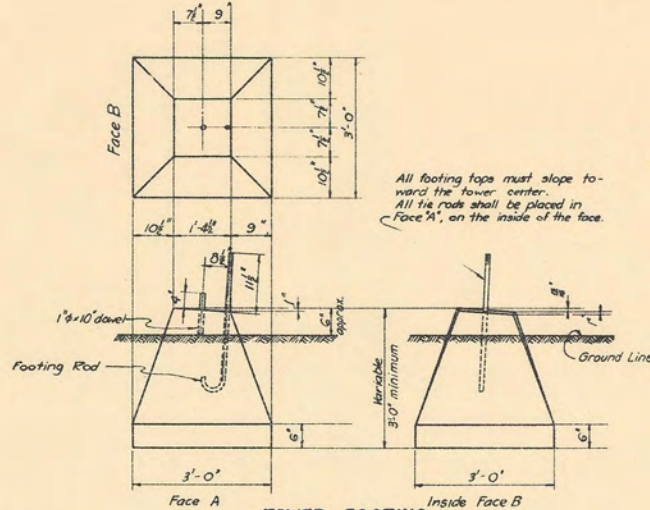
Revised 10-6-39 by AS.
 Revised 4-22-40 W.D.S.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	JAMES FRANKLAND, REGIONAL ENGINEER	
STANDARD LOOKOUT TOWER		
99-FOOT TYPE CT-1		
BILL OF HARDWARE		
DESIGNED W.G.	DRAWN B.C.O.	TRACED B.C.O.
SCALE	CHECKED	DATE APRIL 1939
APPROVED <i>J. Frankland</i>	ASSISTANT REGIONAL FORESTER	



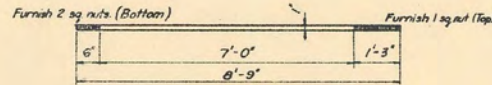
FOOTING & ANCHOR PLAN

This layout is Not Square
Cables shall slope at 45° and location of guy anchors shall be computed accordingly.



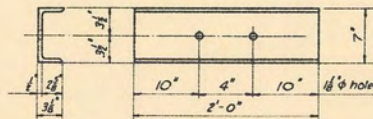
TOWER FOOTING

3'-0" x 3'-0" concrete block of variable height. Top bevelled two ways at 3/4 : 12 slope
4 Required



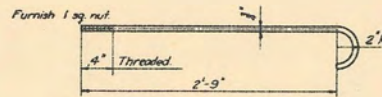
ANCHOR ROD

1" x 8'-9" Rod, galvanized. Thread ends as indicated. Furnish 3 sq nuts each rod. Make B.



ANCHOR PLATE

7" x 3/8" x 2'-0" Channel, C42 (BSC9) Galvanized. Make 4



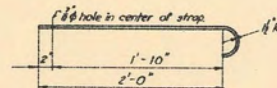
FOOTING ROD

3/4" x 3'-9" galvanized rod. Furnish 1 sq nut each rod. Make 4



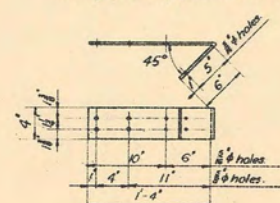
FOOTING ANGLE

3/4" x 3" x 1'-0" galvanized angle. Make 4.
For the assembly of this angle to top end of footing rod see drawing L-10502, general elevation.



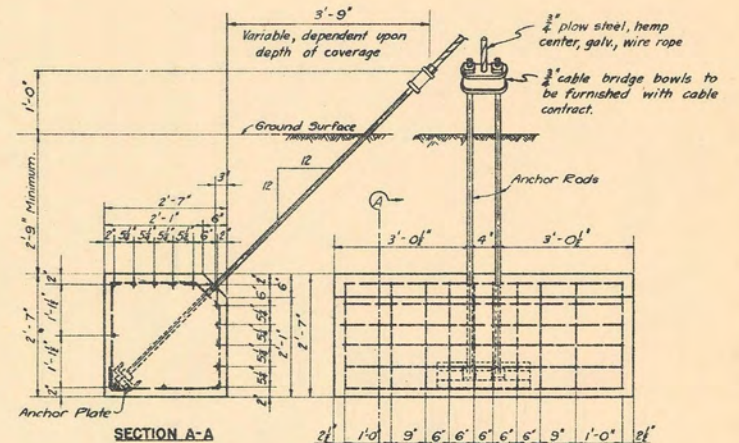
CABLE SUPPORT TIE

1/2" x 3" x 2'-6" galvanized strap. Make 4.



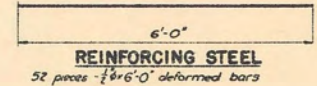
SNOW POST CAP

4" x 1/2" x 1'-10" galvanized strap. Make 4.



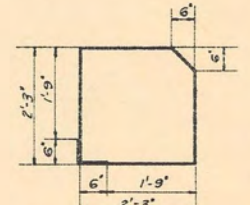
GUY ANCHOR DETAIL

4 Required



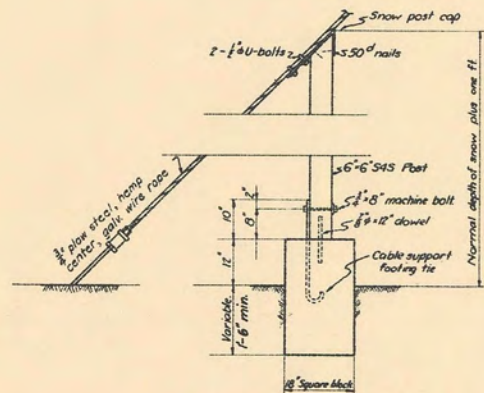
REINFORCING STEEL

52 pieces - 3/4" x 6'-0" deformed bars



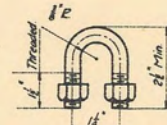
REINFORCING TIES

Make 40 - 1/2" x 9'-9" deformed bars.



GUY CABLE SUPPORT

4 Required where tower is located in region of heavy snow.



U-BOLT

3/8" x 3" galvanized bolt. Furnish 2 hex nuts each. Make B.

Furnish all detailed material, and in addition furnish,
4 - 3/4" x 12" dowels, plain.
4 - 1/2" x 10" dowels, plain.
4 - 3/8" x 8" machine bolts.
4 - 3/8" malleable washers. } All galvanized

CONCRETE

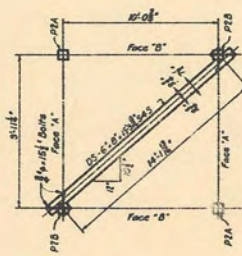
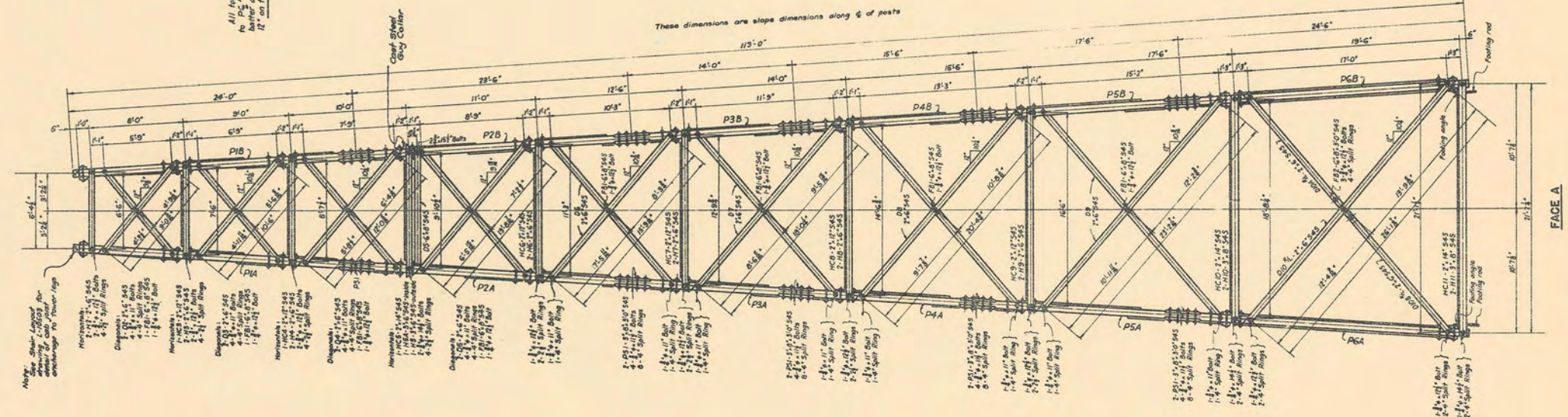
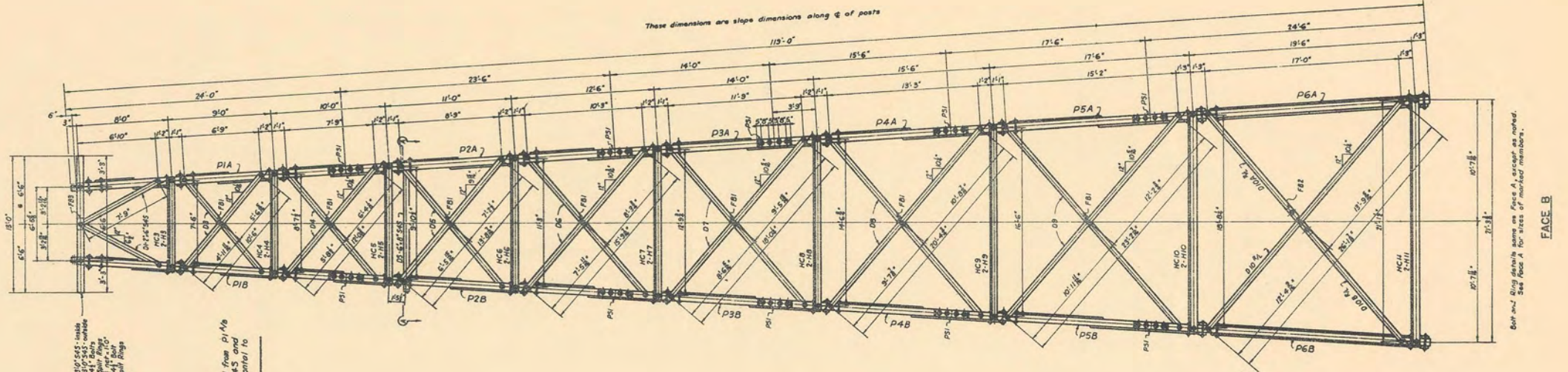
Mix 1:3:5
Approximate volume 3.5 cu yds.
Cement - 10.9 bbls.
Sand - 5.0 yds.
Gravel - 8.3 yds.

Quantities show are based upon minimum dimensions as shown

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANK, JR., REGIONAL ENGINEER
STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
FOUNDATION PLAN

DESIGNED B.C.O. DRAWN B.C.O. WAGED B.C.O.
SCALE NONE CHECKED B.C.O.
APPROVED U.S.D.A. DATE DEC 1941
ACT. ASSISTANT REGIONAL FORESTER

Concrete Footings revised 3-11-40 W.D.S.



SECTION AA
NOTE: Dimensions are at level of top of girder.

POST SCHEDULE

P1A	P1B	P2A	P2B	P3A	P3B	P4A	P4B	P5A	P5B	P6A	P6B
8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S	8" S&S
NC1	NC2	NC3	NC4	NC5	NC6	NC7	NC8	NC9	NC10	NC11	NC12
2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S	2" S&S

Erection schedule of posts by panels from top of girder.

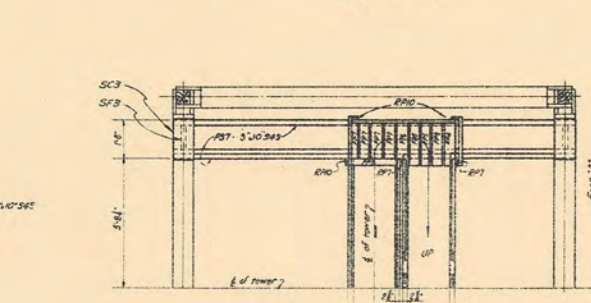
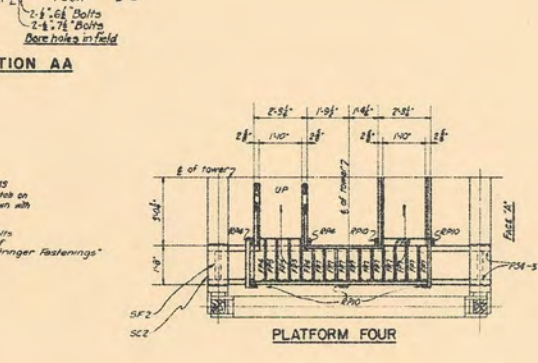
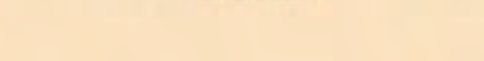
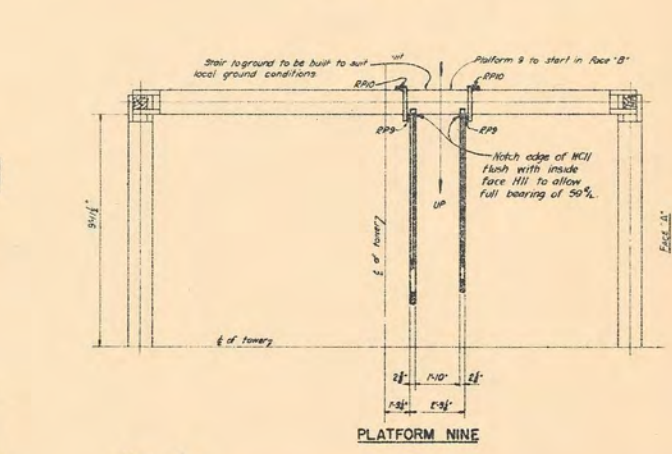
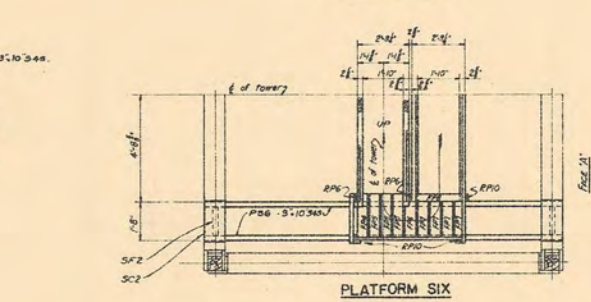
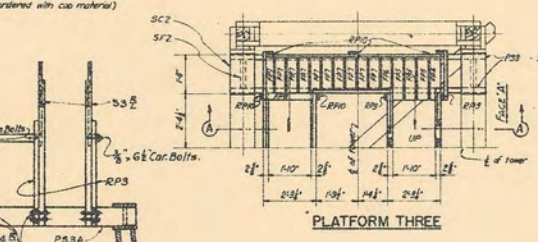
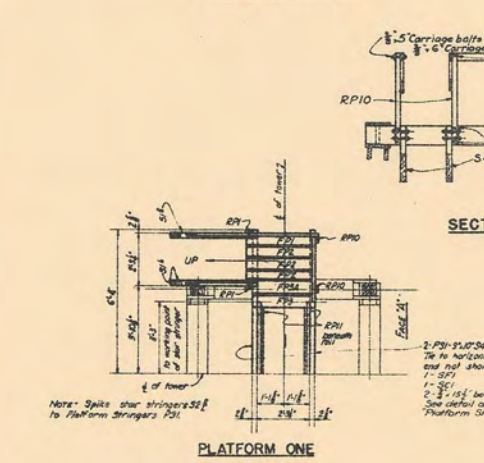
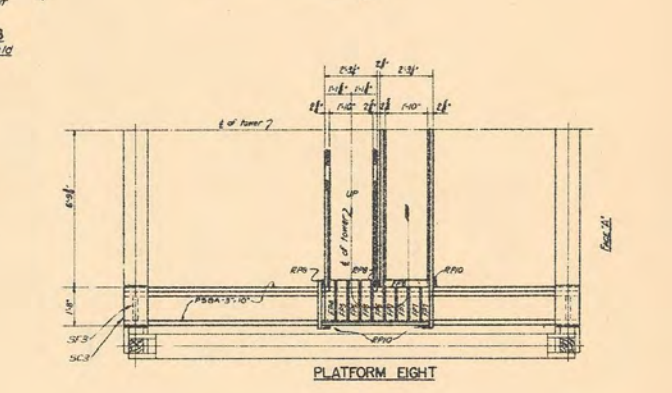
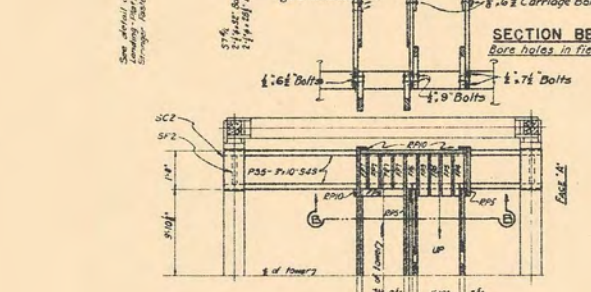
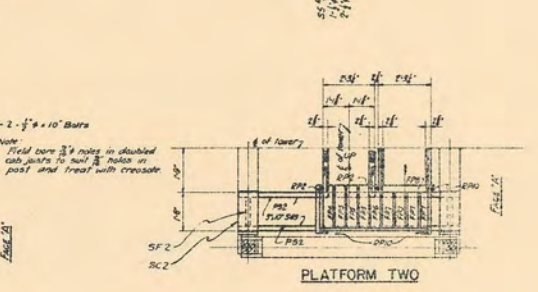
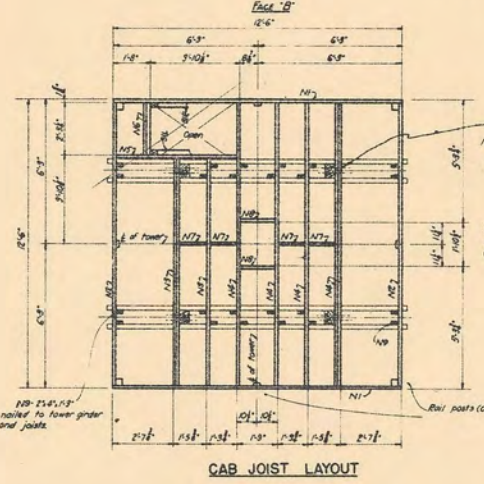
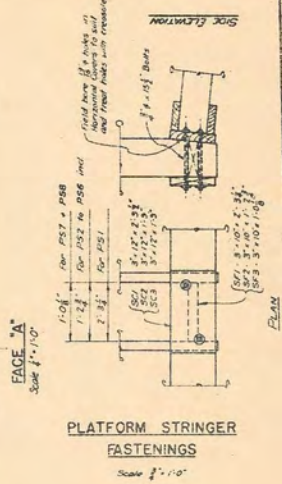
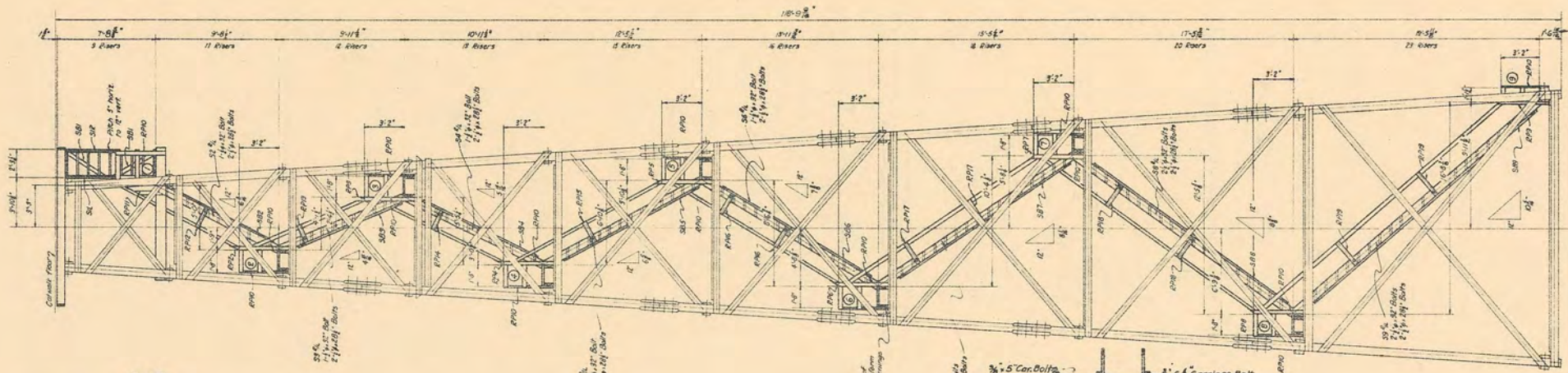
Revised 10-4-39 by A.S./J

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
119 FOOT TYPE CT-1
GENERAL PLAN

DESIGNED W.G. DRAWN W.G. TRACED W.G.
SCALE 1/4" = 1'-0" CHECKED W.P.S.
APPROVED DATE 10-11-39
ACT. ASSISTANT REGIONAL ENGINEER



Material Sizes

Cab Joist	2x10	S&S	Treated
Stair Stringers	2x12	"	"
Stair Treads	2x10	"	"
Platform Stringers	2x12	"	"
Platform Floor Deck	2x10	"	"
Rail Posts	2x4	"	"
Stair Stringer Brags	2x4	"	"
Hand Rails	2x4	"	Untreated

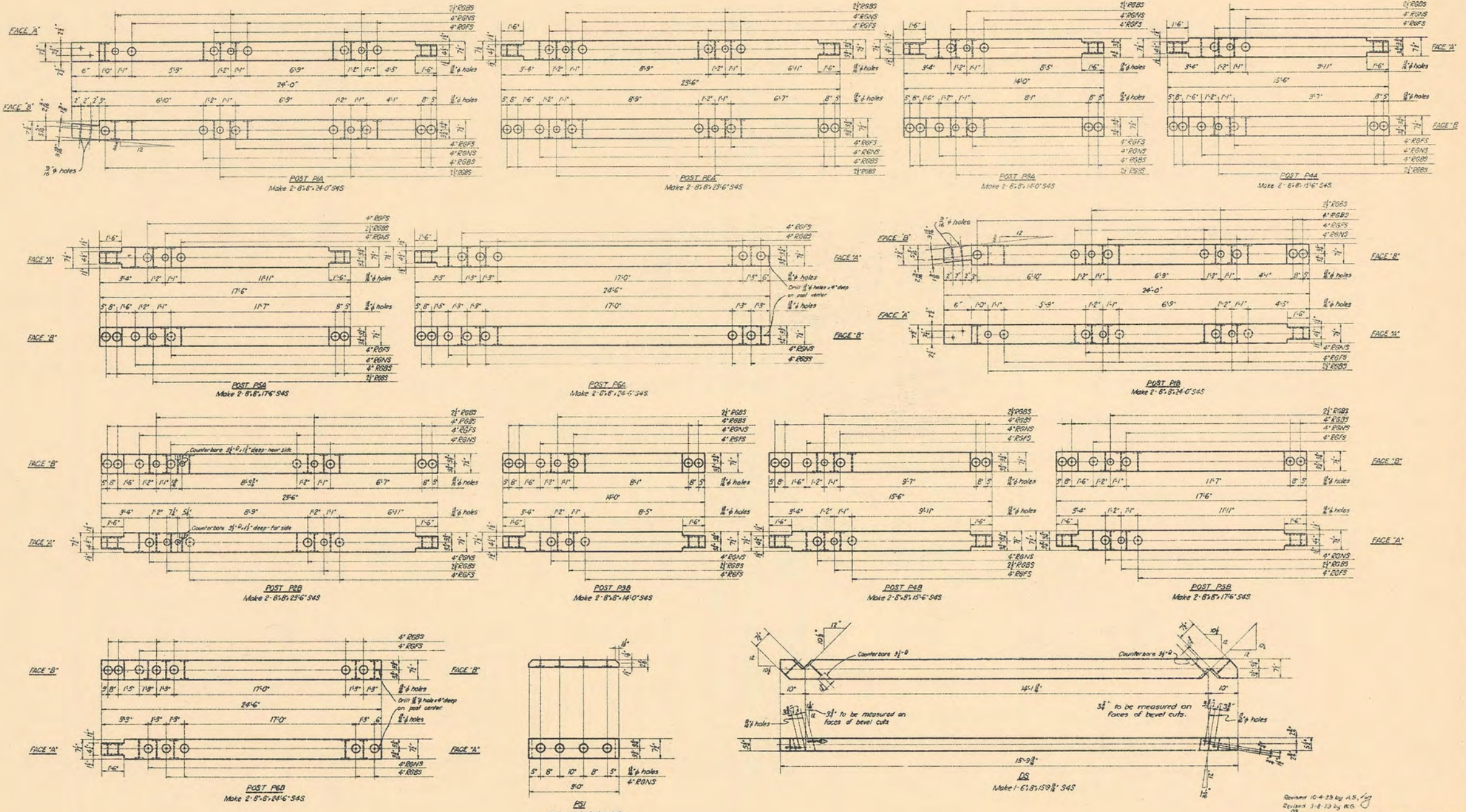
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANKLIN REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
STAIR LAYOUT

Stair stringers to bear directly on platform stringers and not on platform plank.
Hand Rail posts to be bolted to platform stringers with 2x1/2 bolts and to stair stringers with 1/2 inch bolts (check work).
Revised 3-25-40 W.E.S.
Revised 2-5-38 M.E.S.
Revised 10-2-39 A.S./C

DESIGNED W.G. DRAWN W.S. TRACED H.T.S.
SCALE 3/8" = 1'-0" CHECKED W.D.S.
APPROVED E.S. DATE RECORDED 1937
ACT. ASSISTANT REGIONAL FORESTER

SHEET 3 OF 8 SHEETS L-10503



RGSB - Ring Groove Both Sides
 RGSN - Ring Groove Near Side
 RGSF - Ring Groove Far Side

Revised 10-4-29 by A.S. Jg
 Revised 3-8-33 by R.G. DS

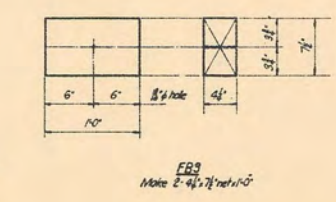
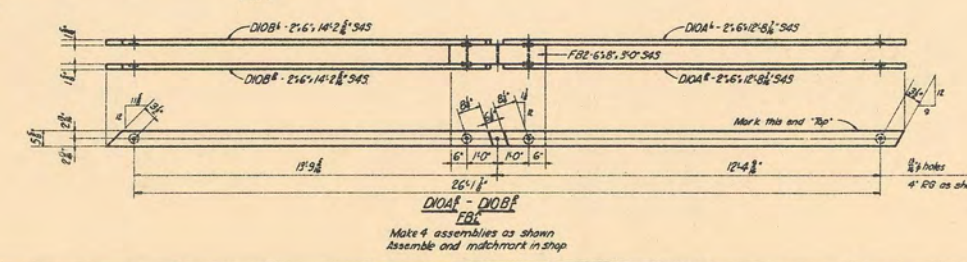
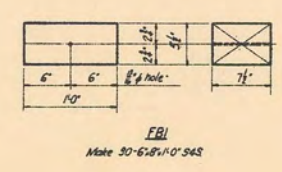
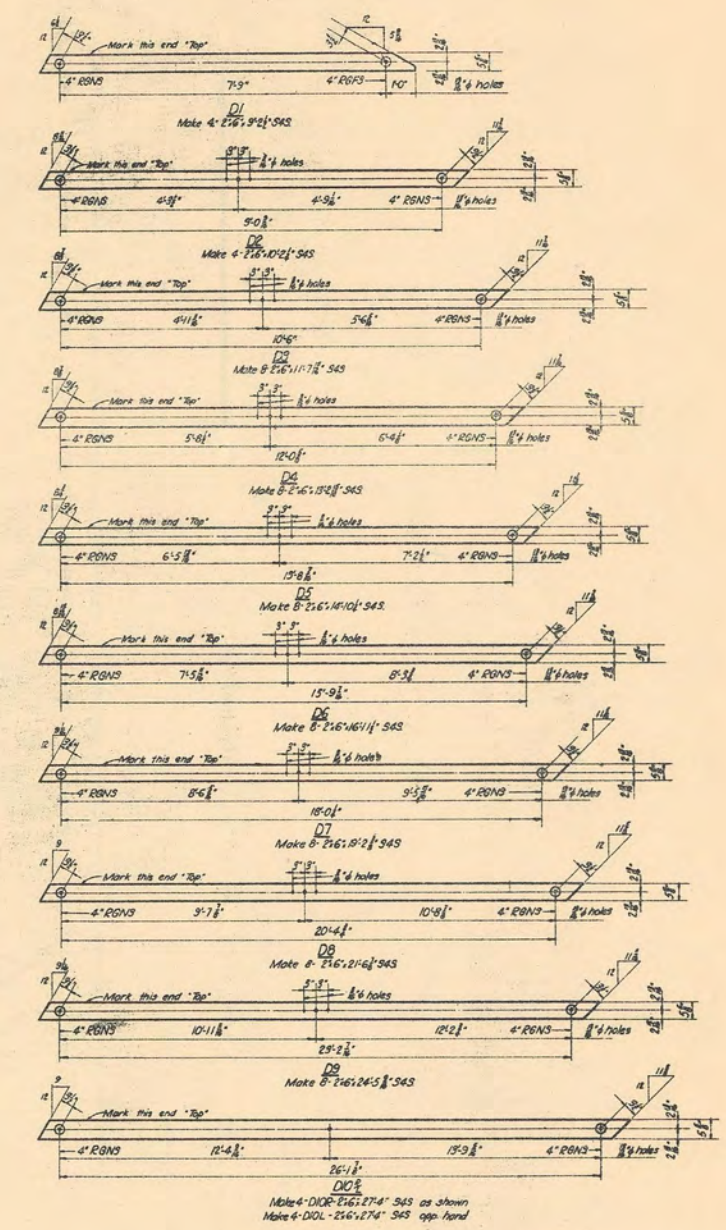
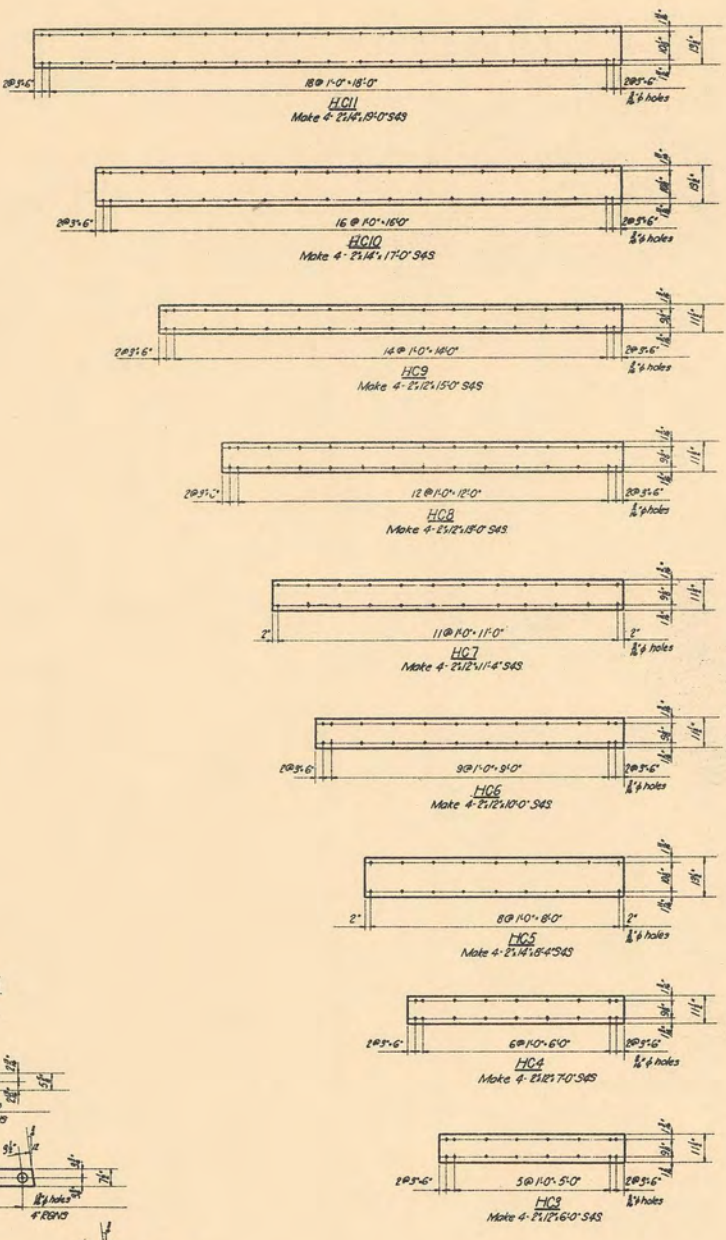
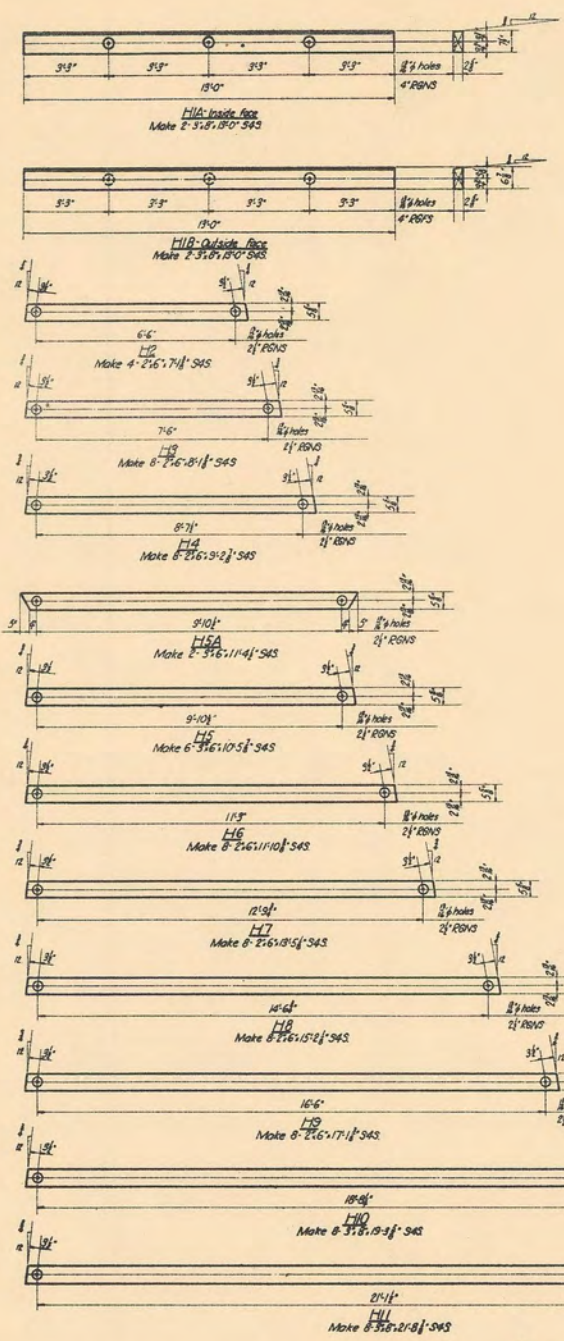
U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
 119-FOOT TYPE CT-1
 SHOP DETAILS

DRAWN M.R.B. CHECKED J.S.J.
 APPROVED T. H. HARRIS
 ACT. ASSISTANT REGIONAL FORESTER

SHEET 4 OF 8 SHEETS L-10504A



RGBS - Ring Groove Both Sides
 RGNs - Ring Groove Near Side
 RGFs - Ring Groove Far Side

Revised 5-8-39 by H.G.
 H1B, H1I, H12, H13

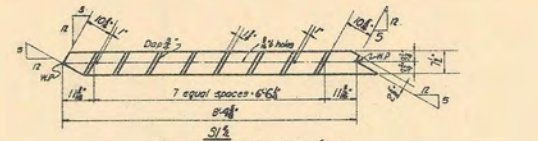
**U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE**

REGION SIX J. FRANKLAND REGIONAL ENGINEER

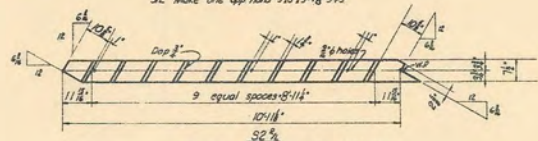
**STANDARD LOOKOUT TOWER
 119-FOOT TYPE CT-1
 SHOP DETAILS**

DESIGNED: W.G. DRAWN: H.R.S. CHECKED: H.R.S.
 SCALE: NONE DATE: 10-20-39
 APPROVED: [Signature] DATE: 10-20-39
 ACT. ASSISTANT REGIONAL FORESTER

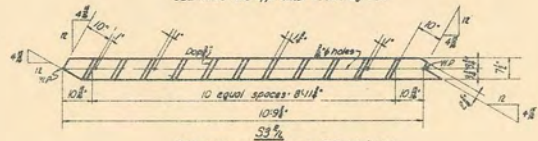
SHEET 5 OF 8 SHEETS. L-105048



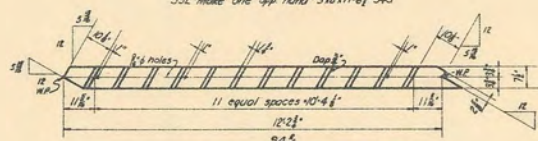
S1R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S1L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



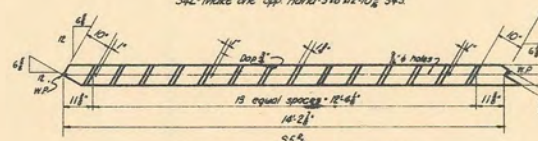
S2R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S2L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



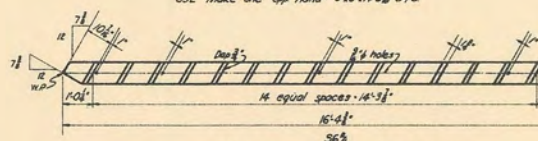
S3R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S3L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



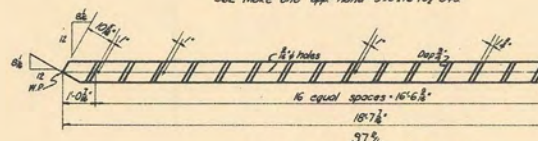
S4R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S4L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



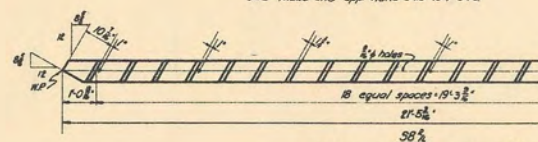
S5R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S5L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



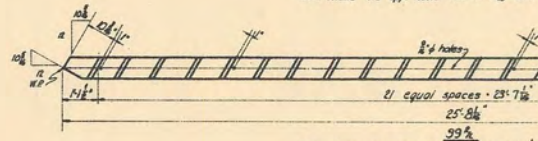
S6R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S6L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



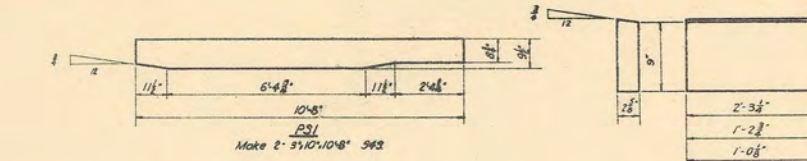
S7R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S7L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



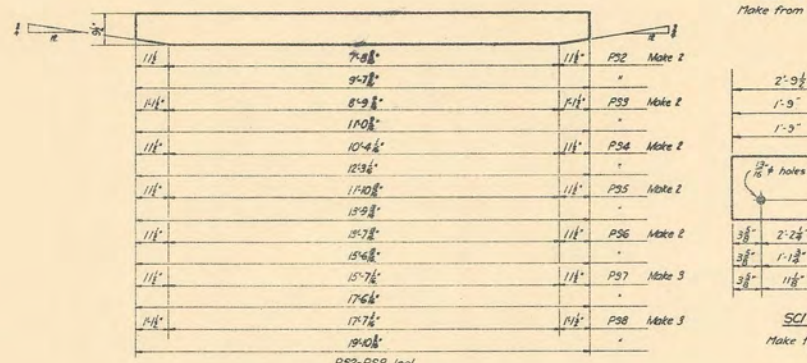
S8R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S8L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



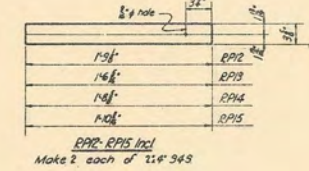
S9R - Make one as shown - 3'8" x 3'11" x 5'4 1/2"
S9L - Make one opp hand - 3'8" x 3'11" x 5'4 1/2"



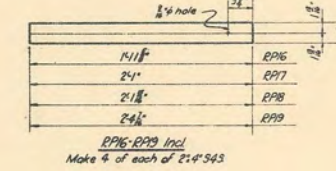
Make 2 - 3'10" x 10'8" x 5'4 1/2"



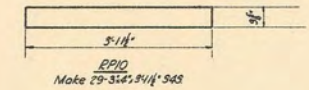
P92-P98 incl
Make from 3'10" x 5'4 1/2"



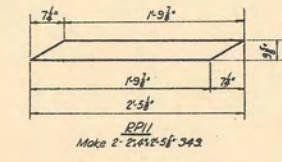
R92-R95 incl
Make 2 each of 2'6" x 5'4 1/2"



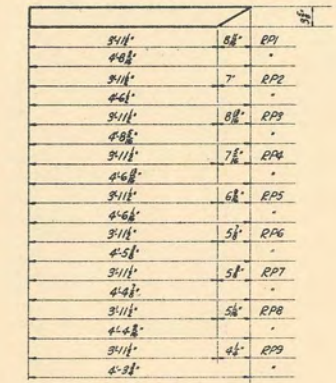
R96-R99 incl
Make 4 of each of 2'4" x 5'4 1/2"



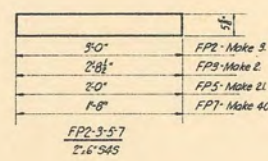
Make 29 - 3'11" x 3'11" x 5'4 1/2"



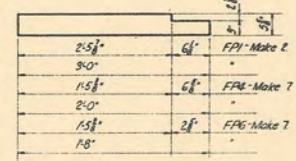
Make 2 - 2'6" x 5'4 1/2"



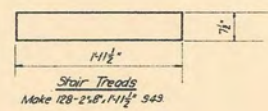
R93-R99 incl
Make 2 each of 3'11" x 5'4 1/2"



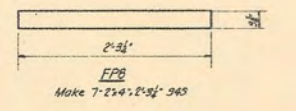
FP2-3-5-7
2'6" x 5'4 1/2"



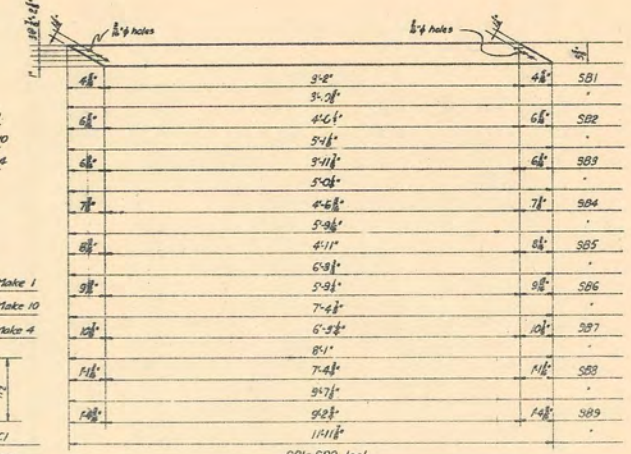
FP4-6
2'6" x 5'4 1/2"



Stair Treads
Make 128 - 2'6" x 1'11" x 5'4 1/2"



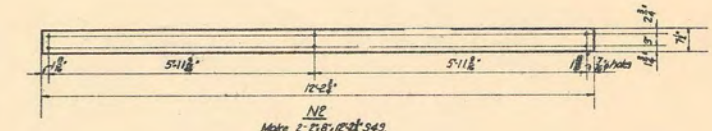
Make 7 - 2'6" x 2'9" x 5'4 1/2"



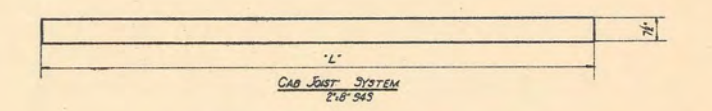
S91-S99 incl
Make 2 of each of 2'4" x 5'4 1/2"



Make 2 - 5'8" x 12'6" x 5'4 1/2"

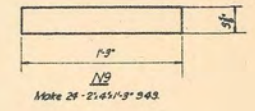


Make 2 - 5'8" x 12'6" x 5'4 1/2"



CAD JOIST SYSTEM
2'6" x 5'4 1/2"

Mark	No. Req'd	Length 'L'
N3	3	9'9 1/2"
N4	5	12'2 1/2"
N5	1	5'2 1/2"
N6	2	2'3 1/2"
N7	4	1'2 1/2"
N8	2	1'5 1/2"



Make 24 - 2'4 1/2" x 3" x 5'4 1/2"

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
SHOP DETAILS

DESIGNED W.G. DRAWN M.R.S. CHECKED H.R.S.
SCALE NONE DATE JAN 1941
APPROVED ACT. ASSISTANT REGIONAL FORESTER

Revised 4-22-40 W.G.S.
Revised 10-4-39 A.S.
Revised 4-12-38 O.C.O.
Revised 2-5-38 H.E.S.

SHEET 6 OF 8 SHEETS L-10504C

TREATED TOWER MATERIAL						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	F1A	8'-8"	26'-0"	Top Posts	278
2	2	F1B	"	26'-0"	"	278
3	2	F2A	"	26'-0"	Intermediate Posts	278
4	2	F2B	"	26'-0"	"	278
5	2	F3A	"	16'-0"	"	170
6	2	F3B	"	16'-0"	"	170
7	2	F4A	"	17'-6"	"	192
8	2	F4B	"	17'-6"	"	192
9	2	F5A	"	19'-6"	"	213
10	2	F5B	"	19'-6"	"	213
11	2	F6A	"	26'-6"	Bottom Posts	299
12	2	F6B	"	26'-6"	"	299
13	40	F51	3'-8"	3'-0"	Post Splices	240
14	1	D5	6'-8"	15'-9 1/2"	Diagonal Strut	64
15	4	H2	2'-6"	7'-1 1/2"	Horizontal	32
16	8	H3	"	8'-1 1/2"	"	72
17	8	H4	2'-6"	9'-2 1/2"	"	80
18	2	H5A	3'-6"	11'-4 1/2"	"	36
19	6	H5	3'-6"	10'-5 1/2"	"	108
20	8	H6	2'-6"	11'-10 1/2"	"	96
21	8	H7	"	13'-5 1/2"	"	112
22	8	H8	"	15'-2 1/2"	"	128
23	8	H9	2'-6"	17'-1 1/2"	"	144
24	8	H10	3'-8"	19'-3 1/2"	"	320
25	8	H11	3'-8"	21'-8 1/2"	"	352
26	4	HC3	2'-12"	6'-0"	Horizontal Covers	48
27	4	HC4	2'-12"	7'-0"	"	56
28	4	HC5	2'-14"	8'-4"	"	84
29	4	HC6	2'-12"	10'-0"	"	80
30	4	HC7	"	11'-4"	"	96
31	4	HC8	"	13'-0"	"	112
32	4	HC9	2'-12"	15'-0"	"	128
33	4	HC10	2'-14"	17'-0"	"	168
34	4	HC11	2'-14"	19'-0"	"	187
35	4	D1	2'-6"	9'-2 1/2"	Diagonals	40
36	4	D2	"	10'-2 1/2"	"	48
37	8	D3	"	11'-7 1/2"	"	96
38	8	D4	"	13'-2 1/2"	"	112
39	8	D5	"	14'-10 1/2"	"	128
40	8	D6	"	16'-11 1/2"	"	144
41	8	D7	"	19'-2 1/2"	"	160
42	8	D8	"	21'-6 1/2"	"	176
43	8	D9	"	24'-5 1/2"	"	208
44	8	D10	"	27'-4"	Bottom Diagonals	224
45	8	D10A	"	12'-8 1/2"	"	112
46	8	D10B	2'-6"	14'-2 1/2"	"	128
47	30	FB1	6'-8"	1'-0"	Fill Blocks	120
48	4	FB2	6'-8"	3'-0"	"	48
49	2	FB3	1/4"-7/8"	1'-0"	"	8
50					Total F.B.M.	7355

UNTREATED LUMBER						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	1		2'-4"	6'-0"	Hand Rails	4
2	6		"	8'-0"	"	32
3	5		"	10'-0"	"	33
4	12		"	12'-0"	"	96
5	5		"	14'-0"	"	47
6	2		"	18'-0"	"	24
7	2		"	20'-0"	"	27
8	2		"	24'-0"	"	32
9	2		2'-4"	26'-0"	"	35
10					Total F.B.M.	330

TREATED STAIR MATERIAL						
FOR TOWER USING CAB WITH GATWALK.						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	H1A	3'-8"	13'-0"	Horizontals	56
2	2	H1B	3'-8"	13'-0"	"	56
3	2	S1	"	9'-1 1/2"	Stair Stringers	40
4	2	S2	"	11'-6 1/2"	"	48
5	2	S3	"	11'-6 1/2"	"	48
6	2	S4	"	12'-10 1/2"	"	56
7	2	S5	"	14'-9 1/2"	"	64
8	2	S6	"	16'-10 1/2"	"	72
9	2	S7	"	19'-1"	"	80
10	2	S8	"	21'-10 1/2"	"	88
11	2	S9	3'-8"	26'-1 1/2"	"	112
12	128	NONE	2'-8"	1'-11 1/2"	Stair Treads	341
13	2	S81	2'-4"	3'-10 1/2"	Braces	7
14	2	S82	"	5'-1 1/2"	"	8
15	2	S83	"	5'-0 1/2"	"	8
16	2	S84	"	5'-9 1/2"	"	8
17	2	S85	"	6'-3 1/2"	"	11
18	2	S86	"	7'-4 1/2"	"	11
19	2	S87	"	8'-1"	"	12
20	2	S88	"	9'-7 1/2"	"	13
21	2	S89	2'-4"	11'-11 1/2"	Platform Stringers	16
22	2	PS1	3'-10"	10'-8"	"	60
23	2	PS2	"	9'-7 1/2"	"	50
24	2	PS3	"	11'-0 1/2"	"	60
25	2	PS4	"	12'-3 1/2"	"	70
26	2	PS5	"	13'-9 1/2"	"	70
27	2	PS6	"	15'-6 1/2"	"	80
28	3	PS7	"	17'-6 1/2"	"	135
29	3	PS8	3'-10"	19'-10 1/2"	"	150
30	1	FPI	2'-6"	3'-0"	Platform Floor Plank	3
31	3	FP2	"	3'-0"	"	9
32	1	FP3	"	2'-8 1/2"	"	3
33	7	FP4	"	2'-0"	"	14
34	21	FP5	"	2'-0"	"	42
35	7	FP6	"	1'-8"	"	14
36	40	FP7	2'-6"	1'-8"	"	80
37	7	FP8	2'-4"	2'-3 1/2"	"	15
38	2	RP1	3'-4"	4'-8 1/2"	Hand Rail Posts	10
39	2	RP2	"	4'-6 1/2"	"	10
40	2	RP3	"	4'-8 1/2"	"	10
41	2	RP4	"	4'-6 1/2"	"	10
42	2	RP5	"	4'-6 1/2"	"	10
43	2	RP6	"	4'-5 1/2"	"	10
44	2	RP7	"	4'-4 1/2"	"	10
45	2	RP8	"	4'-4 1/2"	"	10
46	2	RP9	"	4'-3 1/2"	"	10
47	29	RP10	3'-4"	3'-11 1/2"	"	116
48	2	RP11	2'-4"	2'-5 1/2"	"	4
49	2	RP12	"	1'-3 1/2"	"	3
50	2	RP13	"	1'-6 1/2"	"	3
51	2	RP14	"	1'-8 1/2"	"	3
52	2	RP15	"	1'-10 1/2"	"	3
53	4	RP16	"	1'-11 1/2"	"	5
54	4	RP17	"	2'-1 1/2"	"	9
55	4	RP18	"	2'-1 1/2"	"	9
56	4	RP19	2'-4"	2'-4 1/2"	"	9
58	2	N1	2'-8"	12'-6"	Cab Stringers	35
59	2	N2	"	12'-2 1/2"	"	35
60	3	N3	"	9'-9 1/2"	"	40
61	5	N4	"	12'-2 1/2"	"	93
62	1	N5	"	5'-2 1/2"	"	8
63	2	N6	"	2'-3 1/2"	"	8
64	4	N7	"	1'-2 1/2"	"	11
65	2	N8	2'-8"	1'-5 1/2"	"	5
66	24	N9	2'-4"	1'-3"	"	20
67	1	FP3A	2'-6"	2'-8 1/2"	Platform Floor Plank	3
68	1	SF1	3'-10"	2'-3 1/2"	Plat. Stringer Fill Block	8
69	10	SF2	"	1'-2 1/2"	"	35
70	4	SF3	"	1'-0 1/2"	"	13
71	1	SC1	3'-12"	2'-9 1/2"	Platform Stringer Cap	9
72	10	SC2	"	1'-9"	"	54
73	4	SC3	"	1'-9"	"	21
74					Total F.B.M.	2662

ALTERNATE TREATED STAIR MATERIAL						
FOR TOWER WHERE GATWALK IS OMITTED						
ITEM	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
1	2	HA	3'-8"	8'-0"	Horizontals	32
2	2	HB	3'-8"	8'-0"	"	32
3	2	SA	"	10'-0 1/2"	Stair Stringers	40
4	2	SAE	"	10'-4 1/2"	"	48
5	2	SAF	"	11'-6 1/2"	"	48
6	2	S4E	"	12'-10 1/2"	"	56
7	2	S5E	"	14'-9 1/2"	"	64
8	2	S6E	"	16'-10 1/2"	"	72
9	2	S7E	"	19'-1"	"	80
10	2	S8E	"	21'-10 1/2"	"	88
11	2	S9E	3'-8"	26'-1 1/2"	"	112
12	119	NONE	2'-8"	1'-11 1/2"	Stair Treads	317
13	2	SB1A	2'-4"	4'-1 1/2"	Braces	7
14	2	SB2A	"	4'-5 1/2"	"	7
15	2	SB3A	"	5'-0 1/2"	"	8
16	2	SB4A	"	5'-9 1/2"	"	8
17	2	SB5A	"	6'-3 1/2"	"	11
18	2	SB6A	"	7'-4 1/2"	"	11
19	2	SB7A	"	8'-1"	"	12
20	2	SB8A	"	9'-7 1/2"	"	13
21	2	SB9A	2'-4"	11'-11 1/2"	Platform Stringers	16
22	2	PS1A	3'-10"	10'-8"	"	60
23	2	PS2A	"	9'-7 1/2"	"	50
24	2	PS3A	"	11'-0 1/2"	"	60
25	2	PS4A	"	12'-3 1/2"	"	70
26	2	PS5A	"	13'-9 1/2"	"	70
27	2	PS6A	"	15'-6 1/2"	"	80
28	3	PS7A	"	17'-6 1/2"	"	135
29	3	PS8A	3'-10"	19'-10 1/2"	"	150
30	6	FP4A	2'-6"	2'-0"	Platform Floor Plank	12
31	18	FP5A	"	2'-0"	"	36
32	6	FP6A	"	1'-8"	"	12
33	36	FP7A	2'-6"	1'-8"	"	72
34	8	FP8A	2'-4"	2'-3 1/2"	"	13
35	9	FP9A	2'-6"	1'-6"	"	14
36	2	FP10A	"	1'-6"	"	3
37	5	FP11A	"	1'-9"	"	4
38	2	RP12A	2'-6"	1'-9"	"	4
39	2	RP12A	3'-4"	4'-7 1/2"	Hand Rail Posts	10
40	2	RP2A	"	4'-9 1/2"	"	10
41	2	RP3A	"	4'-7 1/2"	"	10
42	2	RP4A	"	4'-6 1/2"	"	10
43	2	RP5A	"	4'-6 1/2"	"	10
44	2	RP6A	"	4'-5 1/2"	"	10
45	2	RP7A	"	4'-4 1/2"	"	10
46	2	RP8A	"	4'-4 1/2"	"	10
47	2	RP9A	"	4'-3 1/2"	"	10
48	29	RP10A	3'-4"	3'-11 1/2"	"	116
49	2	RP11A	2'-4"	1'-8 1/2"	"	3
50	2	RP12A	"	1'-10 1/2"	"	3
51	4	RP16A	"	1'-11 1/2"	"	5
52	4	RP17A	"	2'-1"	"	9
53	4	RP18A	"	2'-1 1/2"	"	9
54	4	RP19A	"	2'-4 1/2"	"	9
55	2	RP20A	"	1'-7 1/2"	"	3
56	2	RP21A	"	1'-4 1/2"	"	3
57	2	RP22A	2'-4"	1'-6 1/2"	"	3
58	2	N1A	2'-8"	7'-3 1/2"	Cab Stringer	21
59	9	N2A	"	7'-0"	"	84
60	1	N3A	"	0'-10 1/2"	"	2
61	1	N4A	"	2'-10 1/2"	"	4
62	2	N5A	"	1'-9 1/2"	"	5
63	2	N6A	"	1'-6"	"	4
64	2	N7A	2'-8"	1'-2 1/2"	"	4
65	16	N9	2'-4"	1'-3"	"	13
66	8	NONE	2'-8"	1'-5 1/2"	Stair Treads	16
67	4	SF4	3'-10"	1'-0 1/2"	Plat. Stringer Fill Block	13
68	8	SF2	"	1'-2 1/2"	"	25
69	4	SF3	"	1'-0 1/2"	"	13
70	4	SC4	3'-12"	1'-7"	Platform Stringer Cap	21
71	8	SC2	"	1'-9"	"	47
72	4	SC3	"	1'-9"	"	21
73					Total F.B.M.	2459

NOTES

All the listed material shall be finished S4S.

All material listed in the left column, consisting of Treated Tower Material and Untreated Lumber, shall be purchased with all orders.

Treated Stair Material, listed in the center column, shall be purchased only for towers where a catwalk is to be constructed with the cab.

Alternate Treated Stair Material, listed in the right column, shall be purchased only for towers where the catwalk is to be omitted. See sheet L-10001 for details of stairs with catwalk omitted.

As required by specifications, material for Posts is listed 2'-0" greater than shop detail length to eliminate seasoning end checks.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER

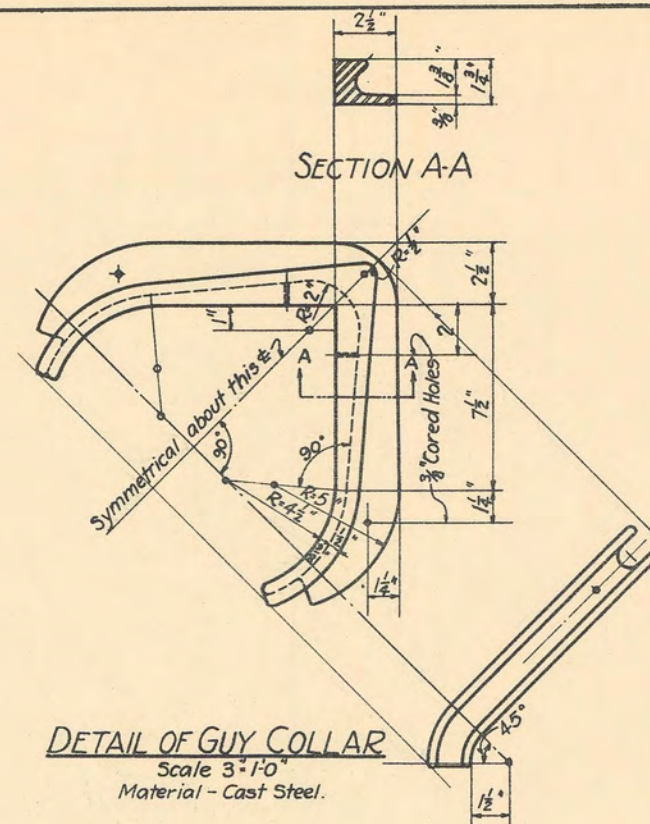
STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
BILL OF LUMBER

Revised 9-25-40 H.D.S.
Revised 10-4-39 A.S.M.
Revised 4-25-38 B.C.O.
Revised 4-13-38 B.C.O.-W.S.

BILL OF IRON					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT.
135	3/4"	11"	Machine Bolts	Diagonals to Posts	225
85	"	11 1/2"	" "	Post Splices	146
120	"	12 1/2"	" "	Horizontals to Posts	222
33	"	14 1/2"	" "	" " "	69
5	"	15 1/2"	" "	Strut "DS" to Posts	10
821	3/4"		Malleable C.I. Washers		271
* 20	1/2"	28 1/2"	Machine Bolts	Stair Stringers	35
* 12	"	32"	" "	" "	23
400	1/2"		Malleable C.I. Washers.		100
132	2 1/2"		"Teco" or equal Split Rings		36
380	4"		" " " "		250
4			Cast Steel Guy Collars	See Detail.	80
16	3/4"		Drop forged cable clips		16
4			Bridge Bowls for 3/4"-9/16 Wire Rope		40
	3/4"		9/16 Plough steel Wire Rope Guys	Length to suit field	
	60d.		Common Nails		65
	40d.		" "		80
	10d.		" "		15
* 23	1/2"	10"	Machine Bolts	Cab joists to Tower Posts. Rail Posts to Platf. Stringers	14
* 33	3/4"	15 1/2"	" "	Platform Stringer Fast.	76
90	1/2"	6 1/2"	" "	Hand Rail Posts to Platf. Strgs.	41
46	1/2"	7 1/2"	" "	" " " " " "	24
11	1/2"	9"	" "	" " " " " "	7
47	3/8"	5"	Carriage Bolts	Hand Rails to Posts	10
30	"	6"	" "	" " " " " "	7
10	"	6 1/2"	" "	" " " " " "	2

* The asterisked items shall be revised as follows for towers where the alternate stair material is used:
 Purchase only: 18 - 1/2" φ x 28 1/2" bolts. 19 - 1/2" φ x 10" bolts
 11 - 1/2" φ x 32" bolts.
 These additions shall be made to the list:
 2 - 1/2" φ x 22 1/2" bolts. 2 - 3/8" φ x 15 1/2" bolts
 1 - 1/2" φ x 26" bolts. 5 - 1/2" φ x 11 1/2" bolts
 This note is applicable only to towers having no catwalks (see sheet L-10001).

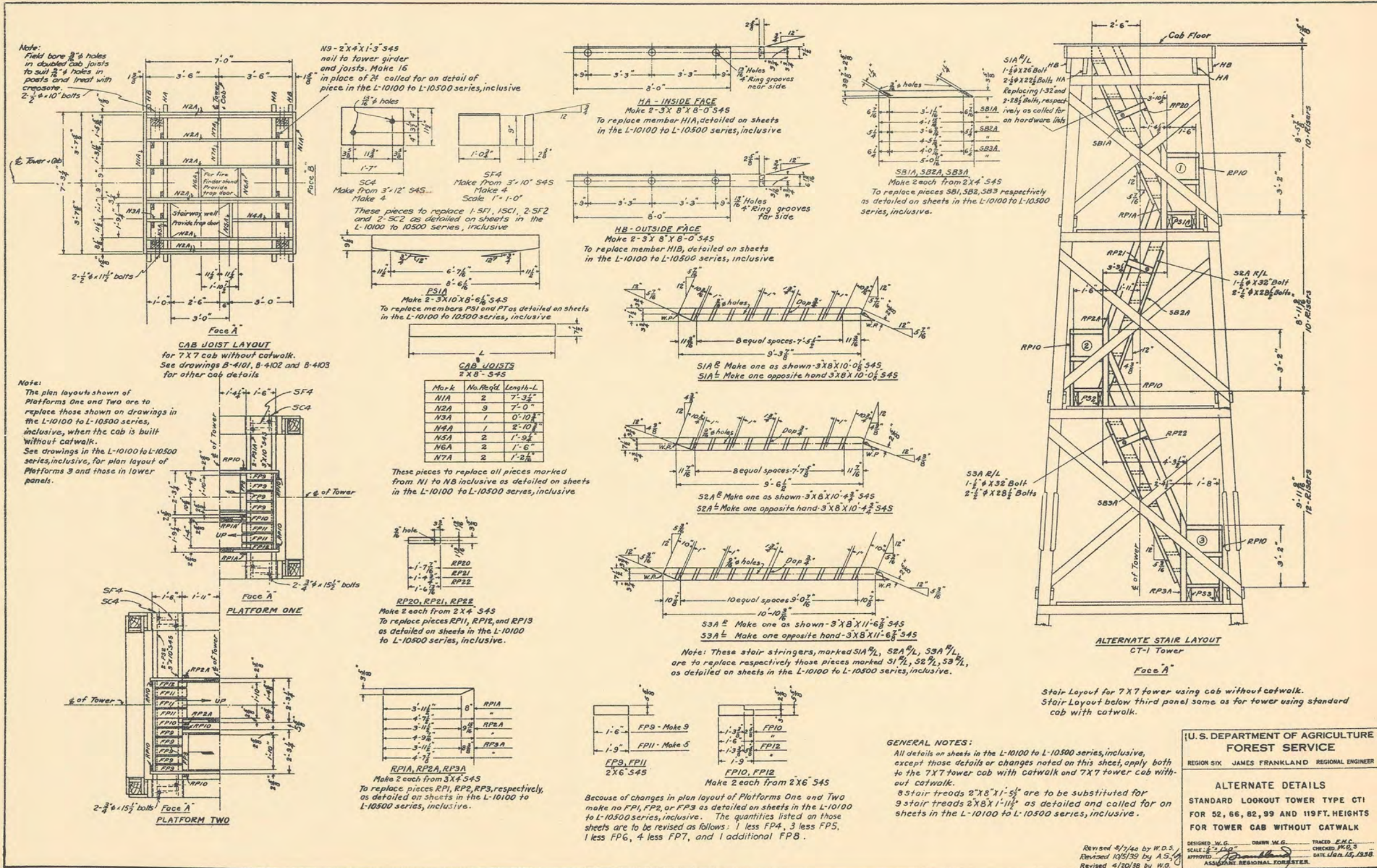
Note: All material listed above except C.S. guy collar shall be galvanized.



NOTE:
 This list includes an approximate 10% overage of bolts, washers, split rings and nails.

Revised - 3-30-40 W.D.S.
 Revised 10-4-39 by A.S.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE			
REGION SIX	J. FRANKLAND REGIONAL ENGINEER		
STANDARD LOOKOUT TOWER 119-FOOT TYPE CT-1 BILL OF HARDWARE			
DESIGNED W.G.	DRAWN W.D.S.	TRACED W.U.S.	
SCALE 3"=1'-0"	CHECKED	DATE JAN. 1938	
APPROVED	ASSISTANT REGIONAL FORESTER		



Note:
Field bore 3/8" holes
in doubled cab joists
to suit 3/8" holes in
posts and treat with
creosote.
2-1/2" x 10" bolts

N9 - 2x4x11-3/4 S4S
nail to lower girder
and joists. Make 15
in place of 24 called for on detail of
piece in the L-10100 to L-10500 series, inclusive

HA - INSIDE FACE
Make 2-3x8x8-0 S4S
To replace member H1A, detailed on sheets
in the L-10100 to L-10500 series, inclusive

SB1A, SB2A, SB3A
Make 2 each from 2x4 S4S
To replace pieces SB1, SB2, SB3 respectively
as detailed on sheets in the L-10100 to L-10500
series, inclusive.

SF4
Make from 3x10 S4S
Make 4
Scale 1" = 1'-0"

HB - OUTSIDE FACE
Make 2-3x8x8-0 S4S
To replace member H1B, detailed on sheets
in the L-10100 to L-10500 series, inclusive

PSIA
Make 2-3x10x8-6 S4S
To replace members PS1 and PS2 as detailed on sheets
in the L-10100 to L-10500 series, inclusive

S1A R/L
Make one as shown-3x8x10-0 S4S
S1A L Make one opposite hand 3x8x10-0 S4S

S2A R
Make one as shown-3x8x10-4 S4S
S2A L Make one opposite hand-3x8x10-4 S4S

S3A R
Make one as shown-3x8x11-6 S4S
S3A L Make one opposite hand-3x8x11-6 S4S

Note: These stair stringers, marked S1A R/L, S2A R/L, S3A R/L,
are to replace respectively those pieces marked S1 L, S2 L, S3 L,
as detailed on sheets in the L-10100 to L-10500 series, inclusive.

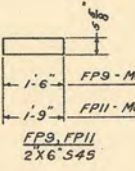
Mark	No. Reqd.	Length-L
N1A	2	7'-3 1/2"
N2A	9	7'-0"
N3A	1	0'-10 1/2"
N4A	1	2'-10 1/2"
N5A	2	1'-9 1/2"
N6A	2	1'-6"
N7A	2	1'-2 1/2"

These pieces to replace all pieces marked
from N1 to N8 inclusive as detailed on sheets
in the L-10100 to L-10500 series, inclusive

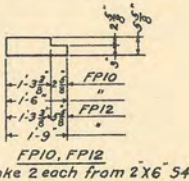
RP20, RP21, RP22
Make 2 each from 2x4 S4S
To replace pieces RP11, RP12, and RP13
as detailed on sheets in the L-10100
to L-10500 series, inclusive.



RPIA, RP2A, RP3A
Make 2 each from 3x4 S4S
To replace pieces RP1, RP2, RP3, respectively,
as detailed on sheets in the L-10100 to
L-10500 series, inclusive.



Because of changes in plan layout of Platforms One and Two
make no FPI, FP2, or FPS as detailed on sheets in the L-10100
to L-10500 series, inclusive. The quantities listed on those
sheets are to be revised as follows: 1 less FP4, 3 less FPS,
1 less FP6, 4 less FP7, and 1 additional FP8.



FPI0, FPI2
Make 2 each from 2x6 S4S

GENERAL NOTES:
All details on sheets in the L-10100 to L-10500 series, inclusive,
except those details or changes noted on this sheet, apply both
to the 7x7 tower cab with catwalk and 7x7 tower cab with-
out catwalk.
8 stair treads 2x8x11-5 1/2 are to be substituted for
9 stair treads 2x8x11-1 1/2 as detailed and called for on
sheets in the L-10100 to L-10500 series, inclusive.

Stair Layout for 7x7 tower using cab without catwalk.
Stair Layout below third panel same as for tower using standard
cab with catwalk.

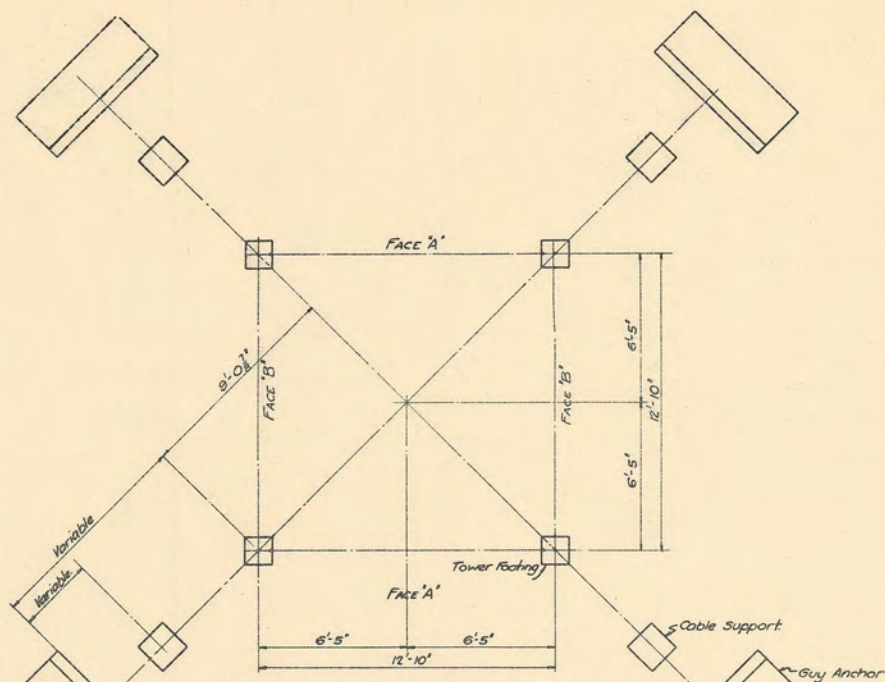
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

ALTERNATE DETAILS
STANDARD LOOKOUT TOWER TYPE CT1
FOR 52, 66, 82, 99 AND 119 FT. HEIGHTS
FOR TOWER CAB WITHOUT CATWALK

DESIGNED W.G. DRAWN W.G. TRACED E.N.C.
SCALE: 1/4" = 1'-0" CHECKED P.O.S.
APPROVED [Signature] DATE Jan 13, 1958
ASSISTANT REGIONAL FORESTER

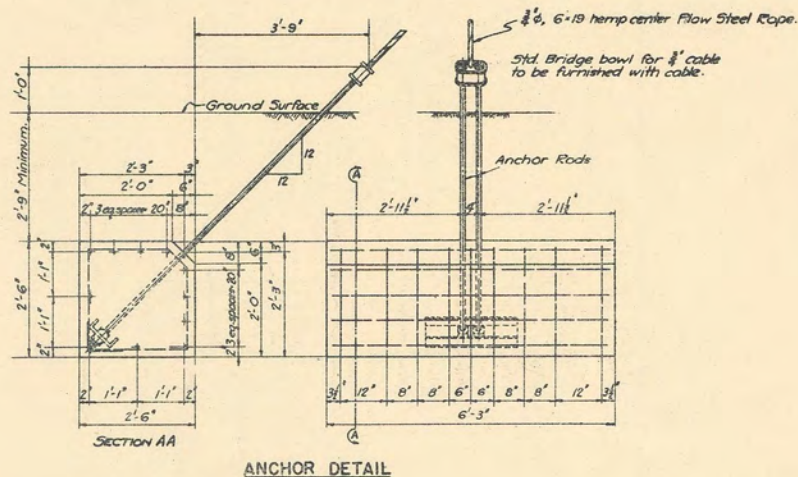
Revised 5/7/40 by W.D.S.
Revised 10/5/39 by A.S.
Revised 4/20/38 by W.O.

SHEET 1 OF 1 SHEETS 1-10001

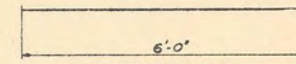


FOOTING & ANCHOR PLAN

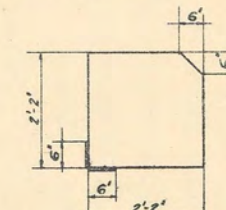
This layout is square.
Cable shall slope at 45°
Variable dimensions shall
be determined in the field to
suit local conditions.



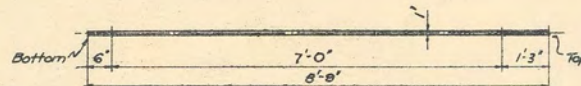
ANCHOR DETAIL



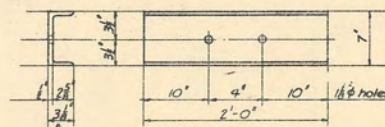
REINFORCING
44 pieces of 1/2" x 6'-0" deformed bars.



REINFORCING
36 pieces of 3/8" x 9'-5" deformed bars.



ANCHOR ROD
1 1/2" x 9'-0" rod, Thread ends as indicated.
Furnish 3 sq. nuts ea. rod. Make 8 galvanized.

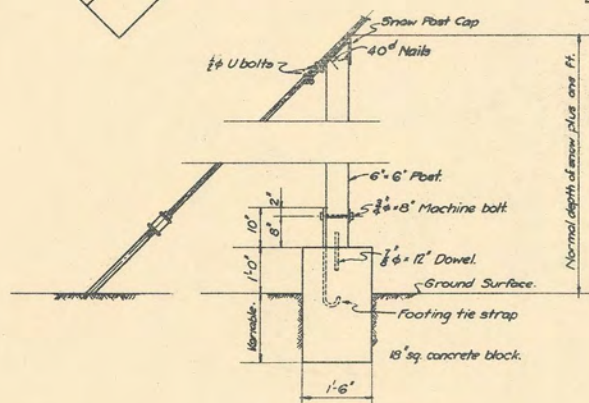


ANCHOR PLATE
7'-3 1/2" x 1/2" Channel C92 (BSC9)
Make 4, galvanized

Furnish all detailed material plus
8 - 3/8" x 12" plain dowels, galvanized.
4 - 1/2" x 8" machine bolts "
4 - 1/2" malleable washers "

CONCRETE

Mix 1:3:5
Approximate Volume 9 cu. yds.
Cement 10 bbls.
Sand 4.7 cu. yds.
Gravel 7.8 cu. yds.



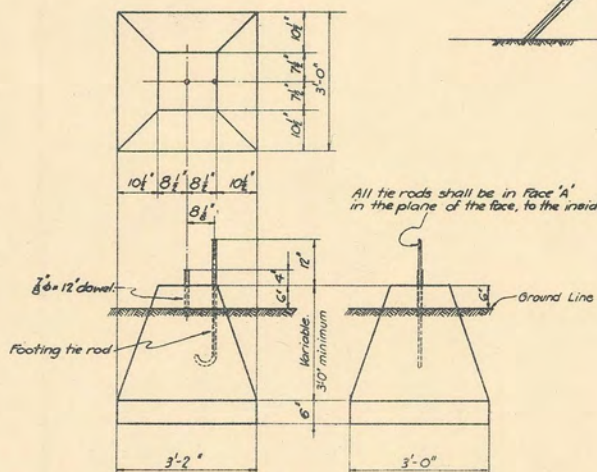
GUY CABLE SUPPORT



FOOTING TIE ROD
1/2" x 3'-4" rod, galvanized.
Furnish one sq. nut ea. Make 4.

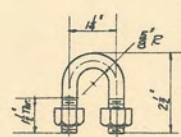


FOOTING ANGLE
3 1/2" x 3 1/2" Angle, galvanized
Make 4.
To tie down lower horizontals,
attached to footing tie rod.

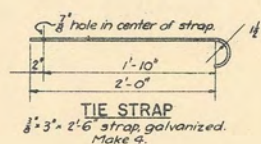


TOWER FOOTING

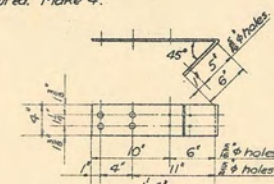
Footing tops shall project about
six inches above ground.



U-BOLT
1/2" galvanized U-bolt
Make 8
Furnish 2 hex nuts each.



TIE STRAP
3/8" x 3'-2" strap galvanized.
Make 4.

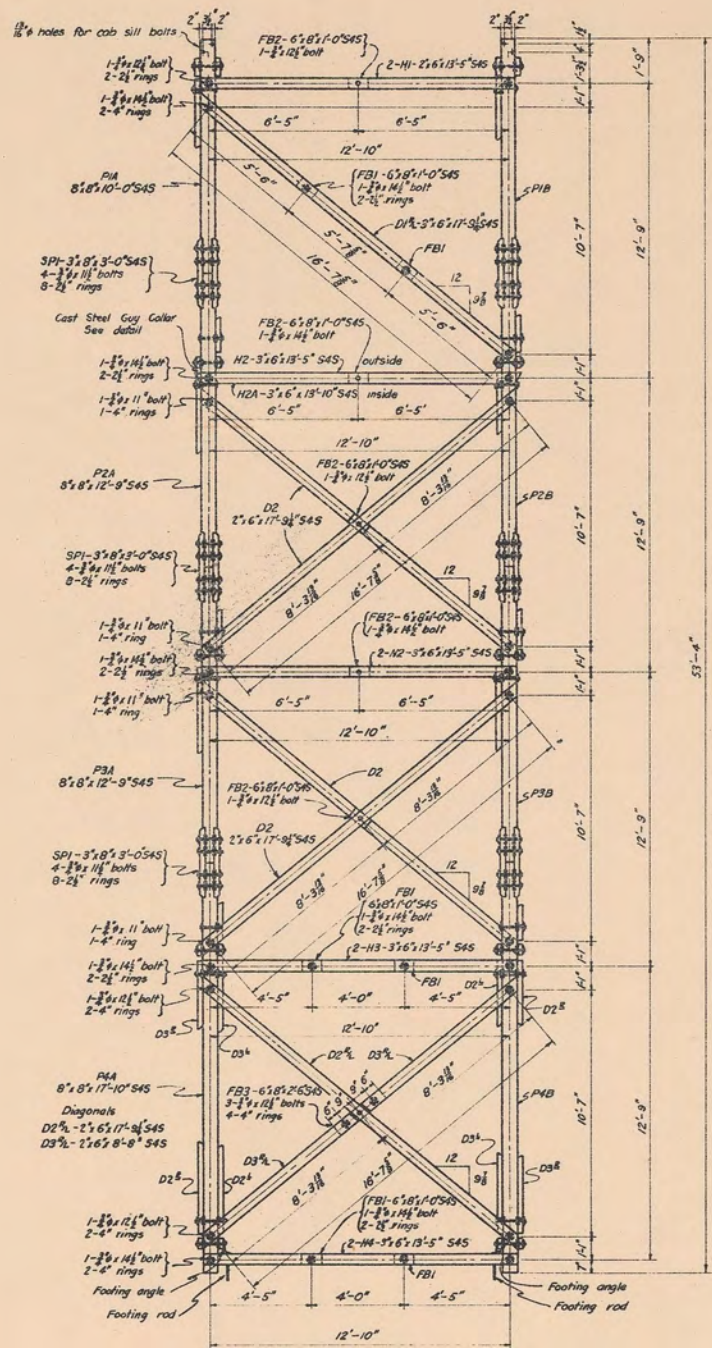


SNOW POST CAP
4'-3" x 1'-10" galvanized strap.
Make 4.

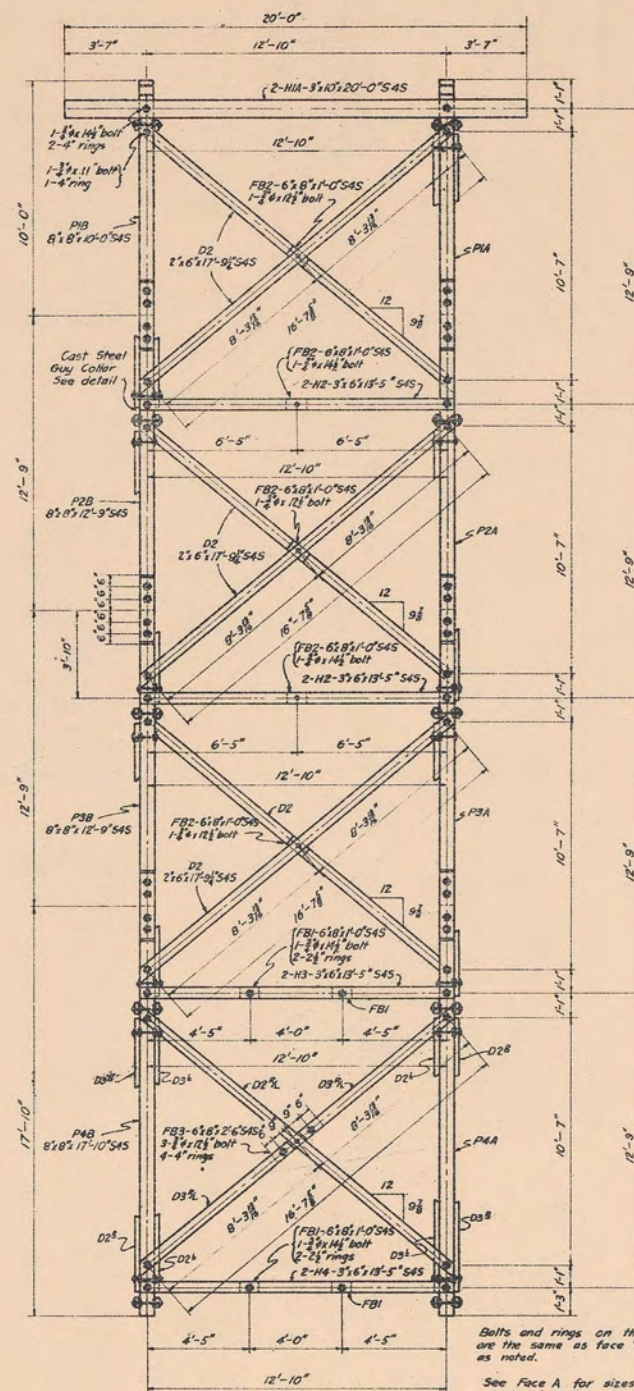
Footings Revised Feb. 1941 by W.D.S.
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
53-FOOT TYPE CT-2
FOUNDATION PLAN

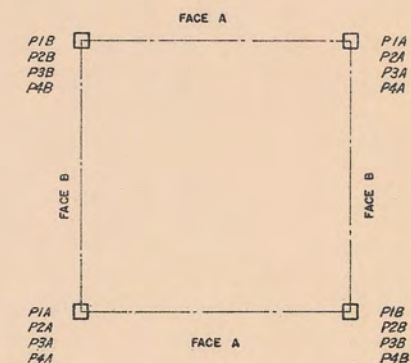
DESIGNED - S.C.O. DRAWN - S.C.O. TRACED - S.C.O.
SCALE - NONE CHECKED - [Signature]
APPROVED - [Signature] DATE MARCH 1938
ASSISTANT REGIONAL FORESTER



FACE A



FACE B



POST SCHEDULE

Bolts and rings on this face are the same as face 'A' except as noted.
See Face A for sizes of marked members where not otherwise shown.

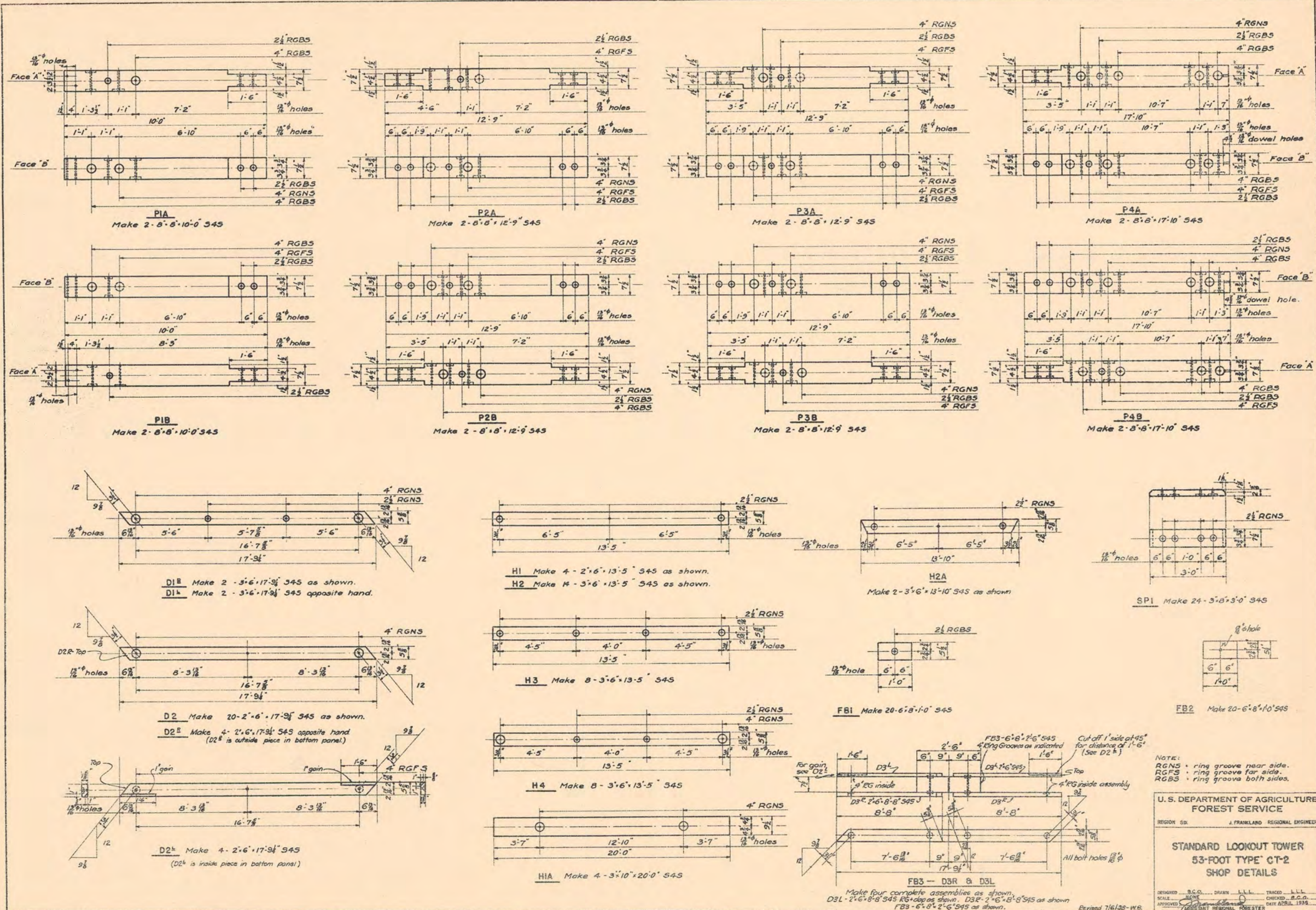
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND, REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
53 FOOT-TYPE CT2
GENERAL PLAN

DESIGNED B.C.O. DRAWN B.C.O. TRACED R.H.S.
SCALE 3/8" = 1'-0" CHECKED L.C.H.
APPROVED DATE APRIL 1938
AGRICULTURAL REGIONAL FORESTER

Revised 7/6/38-MS
SHEET 2 OF 7 SHEETS L-11502



P1A
Make 2-8'-8"-10'-0" S4S

P2A
Make 2-8'-8"-12'-9" S4S

P3A
Make 2-8'-8"-12'-9" S4S

P4A
Make 2-8'-8"-17'-10" S4S

P1B
Make 2-8'-8"-10'-0" S4S

P2B
Make 2-8'-8"-12'-9" S4S

P3B
Make 2-8'-8"-12'-9" S4S

P4B
Make 2-8'-8"-17'-10" S4S

D1^B Make 2-3'-6"-17'-9" S4S as shown.
D1^L Make 2-3'-6"-17'-9" S4S opposite hand.

H1 Make 4-2'-6"-13'-5" S4S as shown.
H2 Make 4-3'-6"-13'-5" S4S as shown.

H2A
Make 2-3'-6"-13'-10" S4S as shown

SPI Make 24-3'-8"-3'-0" S4S

D2 Make 20-2'-6"-17'-9" S4S as shown.
D2^B Make 4-2'-6"-17'-9" S4S opposite hand
(D2^B is outside piece in bottom panel)

H3 Make 8-3'-6"-13'-5" S4S

FBI Make 20-6'-8"-1'-0" S4S

FB2 Make 20-6'-8"-1'-0" S4S

D2^L Make 4-2'-6"-17'-9" S4S
(D2^L is inside piece in bottom panel)

H4 Make 8-3'-6"-13'-5" S4S

H1A Make 4-3'-10"-20'-0" S4S

FB3 - D3R & D3L

Make four complete assemblies as shown.
D3L-2'-6"-8'-8" S4S Ring Grooves as shown. D3R-2'-6"-8'-8" S4S as shown.
FB3-6'-8"-2'-6" S4S as shown.

NOTE:
RGNS = ring groove near side.
RGFS = ring groove far side.
RGSB = ring groove both sides.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

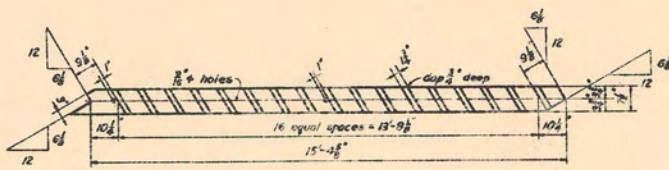
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
53-FOOT TYPE CT-2
SHOP DETAILS

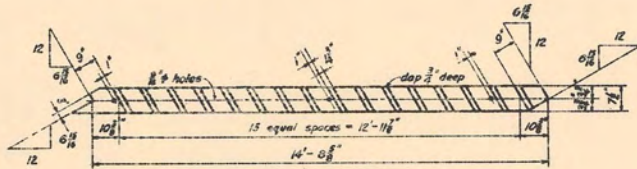
DESIGNED BY B.C.D. DRAWN BY J.L.L. TRACED BY J.L.L.
SCALE NONE CHECKED BY G.C.O.
APPROVED BY J. FRANKLAND REGIONAL ENGINEER DATE APRIL 1939
REVISIONS

Revised 7/6/38-W.B.

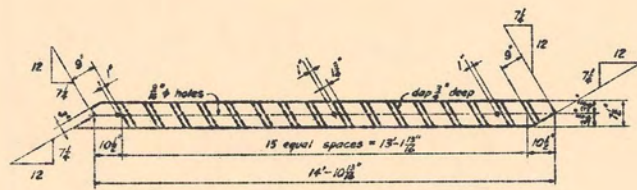
SHEET 4 OF 7 SHEETS L:1504A



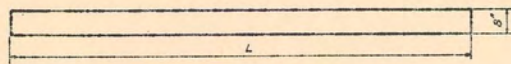
Stair Stringer S1
3" x 8" x 16'-0" S4S
Make 1 as shown
Make 1 opposite hand



Stair Stringer S2
3" x 6" x 15'-3 1/2" S4S
Make 1 as shown
Make 1 opposite hand

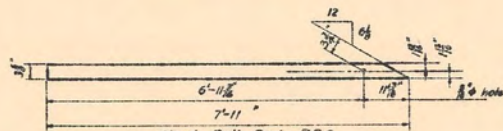


Stair Stringer S3
3" x 6" x 15'-5" S4S
Make 2 as shown
Make 2 opposite hand

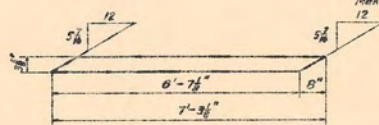


Landing Stringers
3" x 6" Rough

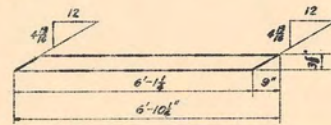
NO. REQ'D	MARK	LENGTH L
3	LS1	13'-11"
2	LS2	17'-0"



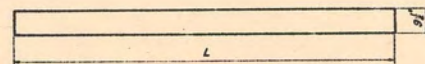
Hand Rail Post RP6
2 1/2" x 4" x 7'-11" S4S
Make 2.



Stair Brace SB1
2 1/2" x 4" x 7'-3 1/2" S4S
Make 2

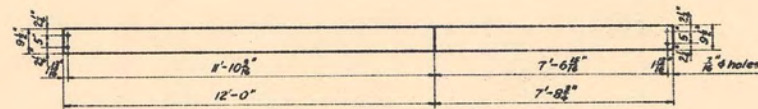


Stair Brace SB2
2 1/2" x 4" x 6'-10 1/2" S4S
Make 6



Cab Girder System
2" x 10" S4S

MARK	NO. REQ'D	LENGTH L
N1	6	12'-0"
N2	9	7'-8 1/2"
N3	6	6'-0"
N4	2	3'-2 1/2"
N5	4	4'-0"
N8	2	5'-8 1/2"
N9	3	2'-8 1/2"



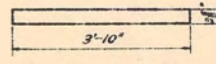
N6
Make 2 - 2" x 10" x 12'-0" S4S

N7
Make 2 - 2" x 10" x 7'-8 1/2" S4S



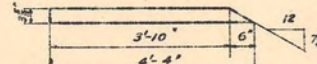
N8
Make 2 - 2" x 10" x 14'-0" S4S

N9
Make 2 - 2" x 10" x 6'-0" S4S

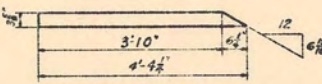


Hand Rail Post RPI
3 1/2" x 4" x 3'-10" S4S
Make 10
Scale: 3/8" = 1'-0"

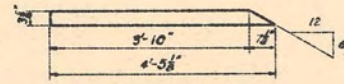
Also make 2 same pattern
2 1/2" x 4" x 3'-10" S4S
Mark RPIA.



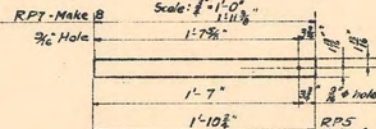
Hand Rail Post RP2
3 1/2" x 4" x 4" S4S
Make 4
Scale: 3/8" = 1'-0"



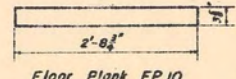
Hand Rail Post RP3
3 1/2" x 4" x 4 1/2" S4S
Make 2
Scale: 3/8" = 1'-0"



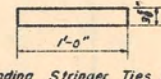
Hand Rail Post RP4
3 1/2" x 4" x 5 1/2" S4S
Make 2
Scale: 3/8" = 1'-0"



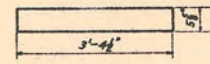
Hand Rail Posts RP5 & RP7
2 1/2" x 4" x 5" S4S



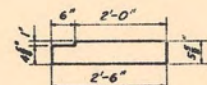
Floor Plank FPI0
2 1/2" x 4" x 2'-8 1/2" S4S
Make 1
No Scale



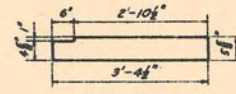
Landing Stringer Ties PT
4 1/8" x 1'-0" S4S
Make 10
No Scale



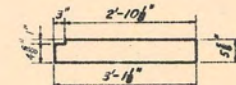
Floor Plank FP1
2 1/2" x 6" x 3'-4 1/2" S4S
Make 6
Scale: 3/8" = 1'-0"



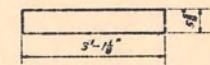
Floor Plank FP3
2 1/2" x 6" x 2'-6" S4S
Make 4
Scale: 3/8" = 1'-0"



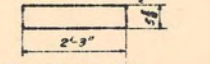
Floor Plank FP2
2 1/2" x 6" x 3'-4 1/2" S4S
Make 4
Scale: 3/8" = 1'-0"



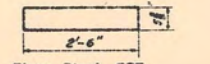
Floor Plank FP4
2 1/2" x 6" x 3'-1 1/2" S4S
Make 2
Scale: 3/8" = 1'-0"



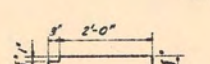
Floor Plank FP5
2 1/2" x 6" x 3'-1 1/2" S4S
Make 9
Scale: 3/8" = 1'-0"



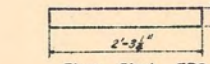
Floor Plank FP6
2 1/2" x 6" x 2'-3" S4S
Make 5
Scale: 3/8" = 1'-0"



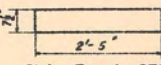
Floor Plank FP7
2 1/2" x 6" x 2'-6" S4S
Make 3
Scale: 3/8" = 1'-0"



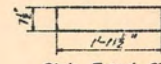
Floor Plank FP8
2 1/2" x 6" x 2'-3" S4S
Make 1
Scale: 3/8" = 1'-0"



Floor Plank FP9
2 1/2" x 4" x 2'-3 1/2" S4S
Make 3
No Scale



Stair Tread ST2
2 1/2" x 8" x 2'-5" S4S
Make 17
No Scale



Stair Tread ST1
2 1/2" x 8" x 1'-11 1/2" S4S
Make 48
No Scale

Revised 2-12-41 by W.D.S.
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
 REGION SIX J. FRANKLAND REGIONAL ENGINEER
STANDARD LOOKOUT TOWER
53-FOOT TYPE CT-2
SHOP DETAILS
 DESIGNED BY G.C. OWEN R.W.S. TRACED BY R.W.S.
 SCALE AS SHOWN CHECKED BY J.W.P.
 APPROVED BY [Signature] DATE APRIL 1941
 ASSISTANT REGIONAL FORESTER
 SHEET 5 OF 7 SHEETS L-150-48

TREATED MATERIAL						
Item	No.	Mark	Size	Length	DESCRIPTION	FBM
1	2	P1A	8"x8"	12'-0"	Top Posts	128
2	2	P1B	"	"	"	128
3	2	P2A	"	14'-9"	Intermediate Posts	171
4	2	P2B	"	"	"	171
5	2	P3A	"	"	"	171
6	2	P3B	"	"	"	171
7	2	P4A	"	19'-10"	Bottom Posts	213
8	2	P4B	8"x8"	"	"	213
9	24	SP1	3"x8"	3'-0"	Splice Plates	144
10	4	H1	2"x6"	13'-5"	Horizontals	56
11	4	H1A	3"x10"	20'-0"	"	200
12	14	H2	3"x6"	13'-5"	"	294
13	2	H2A	"	14'-2"	"	48
14	8	H3	"	13'-5"	"	168
15	8	H4	"	13'-5"	"	168
16	4	D1 ^{1/2}	3"x6"	17'-9 ^{1/2} "	Diagonal	108
17	28	D2 ^{1/2}	2"x6"	17'-9 ^{1/2} "	"	504
18	16	D3 ^{1/2}	2"x6"	8'-8"	"	144
19	20	FB1	6"x8"	1'-0"	Fill Block	80
20	20	FB2	"	1'-0"	"	80
21	4	FB3	6"x8"	2'-6"	"	40
22	2	S1 ^{1/2}	3"x8"	16'-0"	Stair Stringer	64
23	2	S2 ^{1/2}	"	15'-3 ^{1/2} "	"	64
24	4	S3 ^{1/2}	"	15'-5"	"	128
25	3	LS1	"	13'-11"	Landing Stringer (Rgh.)	84
26	2	LS2	3"x8"	17'-0"	" (Rgh.)	72
27	6	N1	2"x10"	12'-0"	Cab Girders	120
28	9	N2	"	7'-8 ^{1/2} "	"	120
29	6	N3	"	6'-0"	"	60
30	2	N4	"	3'-2 ^{1/2} "	"	12
31	4	N5	"	4'-0"	"	27
32	2	N6	"	12'-0"	"	40
33	2	N7	"	7'-8 ^{1/2} "	"	27
34	2	N8	"	5'-8 ^{1/2} "	"	20
35	3	N9	"	2'-8 ^{1/2} "	"	15
36	2	N10	"	6'-0"	"	20
37	2	N11	2"x10"	14'-0"	"	47
38	48	ST1	2"x8"	1'-11 ^{1/2} "	Stair Treads	128
39	17	ST2	2"x8"	2'-5"	"	57
40	10	PT	4"x8"	1'-0"	Platform Ties	27
41	6	FPI	2"x6"	3'-4 ^{1/2} "	Floor Plank	21
42	4	FP2	"	3'-4 ^{1/2} "	"	14
43	4	FP3	"	2'-6"	"	10
44	2	FP4	"	3'-1 ^{1/2} "	"	7
45	9	FP5	"	3'-1 ^{1/2} "	"	30
46	5	FP6	"	2'-3"	"	12
47	3	FP7	"	2'-6"	"	8
48	1	FP8	2"x6"	2'-3"	"	3
49	3	FP9	2"x4"	2'-3 ^{1/2} "	"	5
50	1	FP10	"	2'-8 ^{1/2} "	"	2
51	10	RP1	3 ^{1/2} "x4"	3'-10"	Hand Rail Posts	40
52	4	RP2	"	4'-4"	"	20
53	2	RP3	"	4'-4 ^{1/2} "	"	10
54	2	RP4	3 ^{1/2} "x4"	4'-5 ^{1/2} "	"	10
55	4	RP5	2 ^{1/2} "x4"	1'-10 ^{1/2} "	"	5
56	2	RP6	"	7'-11"	"	11
57	2	SB1	"	7'-3 ^{1/2} "	Stair Braces	11
58	2	SB2	2"x4"	6'-10 ^{1/2} "	"	28
59	2	RP1A	2 ^{1/2} "x4"	3'-10"	Hand Rail Posts	5
60	8	RP7	2"x4"	1'-11 ^{3/8} "	"	11

TOTAL FBM. 4795

UNTREATED MATERIAL						
Item	No.	Mark	Size	Length	DESCRIPTION	FBM
1	1		2"x4"	8'-0"	Hand Rails	6
2	2		"	9'-0"	"	12
3	4		"	11'-0"	"	30
4	2		"	12'-0"	"	16
5	1		"	14'-0"	"	10
6	6		"	16'-0"	"	64
Total F.B.M.						138

All material shall be furnished S4S with the exception of items 25 and 26 (LS1 and LS2) which shall be furnished Rough

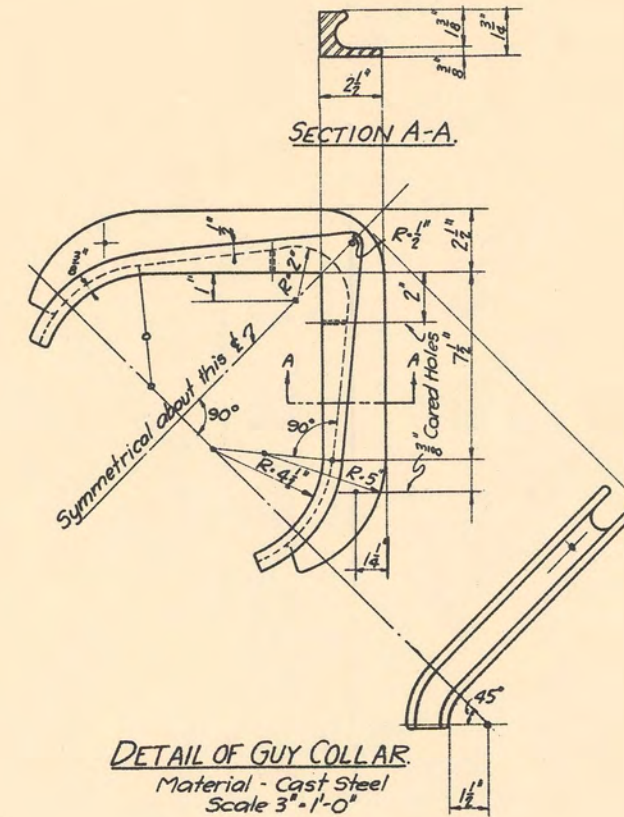
As required by specifications, material for Posts is listed 2'-0" greater than shop detail length to eliminate seasoning end checks

Revised February 1941 DYM:DA

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	JAMES FRANKLAND,	REGIONAL ENGINEER
STANDARD LOOKOUT TOWER 53-FOOT TYPE CT-2 BILL OF LUMBER		
DESIGNED B.C.O.	DRAWN B.C.O.	TRACED B.C.O.
SCALE	APPROVED	CHECKED
	<i>J. Frankland</i>	DATE APRIL 28, 1938
	ASSISTANT REGIONAL FORESTER	

BILL OF IRON					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT
44	$\frac{3}{4}$ "	11"	Machine Bolts	Diagonal ends D2	78
53	"	11 $\frac{1}{2}$ "	" "	Post Splices	97
48	"	12 $\frac{1}{2}$ "	" "	Diagonals D2 & D3. H1	93
90	"	14 $\frac{1}{2}$ "	" "	D1; H-1A, 2, 2A, 3 & 4; N to P	197
458	$\frac{3}{4}$ "		Malleable C.I. Washers		151
211	2 $\frac{1}{2}$ "		"Teco" or similar Split Rings		58
132	4"		" " " " "		88
3	$\frac{1}{2}$ "	2'-4 $\frac{1}{2}$ "	Machine Bolts.	Stairs - bottom & interm. panels	5
6	"	2'-8"	" "	" " " "	11
1	"	2'-10"	" "	Stairs - top panel	2
1	"	3'-1 $\frac{1}{2}$ "	" "	" " "	2
150	$\frac{1}{2}$ "		Cut Washers.		6
	$\frac{3}{4}$ "	6x19	Flow Steel Wire Rope.	Length to suit topography	✓
16	$\frac{3}{4}$ "		Standard Wire Rope Clips.		15
4	$\frac{3}{4}$ "		Bridge Bowls.		40
4			Cast Steel Guy Collars.	See detail.	80
	10 ^d		Common Nails		7
	20 ^d		" "		25
	40 ^d		" "		20
30	$\frac{1}{2}$ "	7"	Machine Bolts	Hand Rail to Stringers	15
26	"	8"	" "	" " " "	14
22	"	8 $\frac{1}{2}$ "	" "	Platform Stringer Ties	12
5	"	10"	" "	Hand Rail Posts to Strgrs.	3
11	"	15"	" "	Platform Stringer Ties	10
33	$\frac{3}{8}$ "	5"	Carriage Bolts	Hand Rail	7
22	"	6"	" "	" "	5
6	"	8"	" "	" "	2
65	"		Cut Washers for $\frac{3}{8}$ " Bolts		1

All above items except C.I. Guy Collars to be galvanized.



DETAIL OF GUY COLLAR
Material - Cast Steel
Scale 3" = 1'-0"

NOTE
This list includes an approximate 10% overage of bolts, washers, split rings and nails.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	JAMES FRANKLAND,	REGIONAL ENGINEER
STANDARD LOOKOUT TOWER 53-FOOT TYPE CT-2 BILL OF HARDWARE		
DESIGNED B.C.O.	DRAWN B.C.O.	TRACED B.C.O.
SCALE	CHECKED <i>WJ</i>	DATE APRIL 26, 1938
APPROVED <i>James Frankland</i>	ASSISTANT REGIONAL FORESTER	

Quantity of 14 $\frac{1}{2}$ " bolts
changed 12-6-39 by A.S.

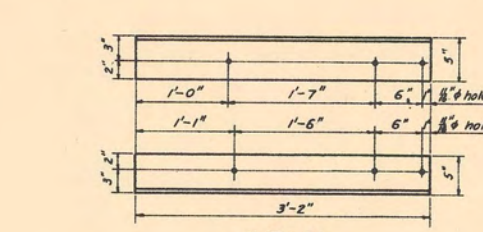
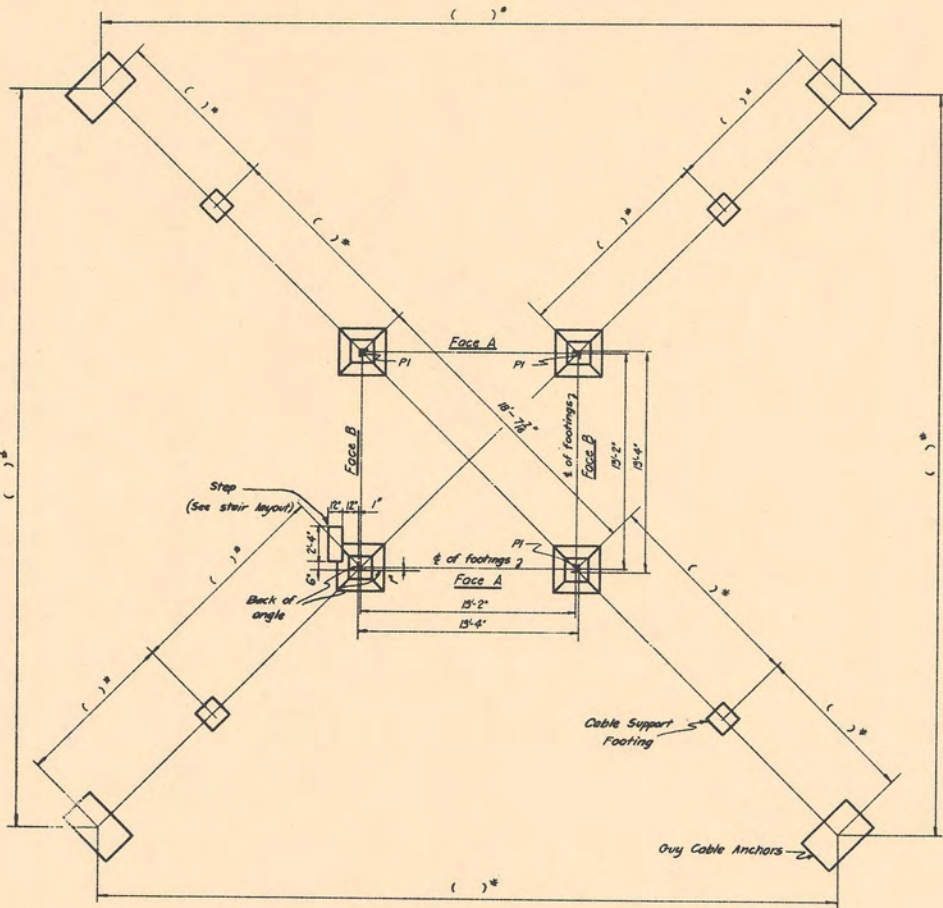


PLATE P-1
5.5" x 3" x 2" Angle
Scale 1/4" = 1'-0"
Make 4.

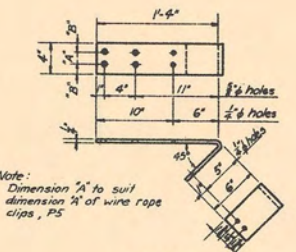


PLATE P-3
4" x 4" x 1/4" Plate
Scale 1/4" = 1'-0"
Make 4

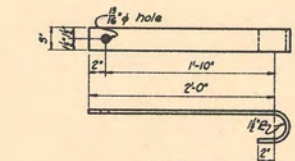


PLATE P-2
3/4" x 3" x 2-1/2" Plate
Scale 1/4" = 1'-0"
Make 4

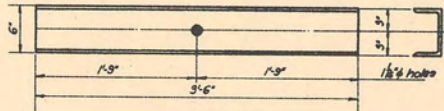
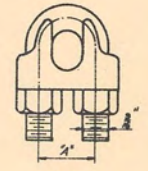
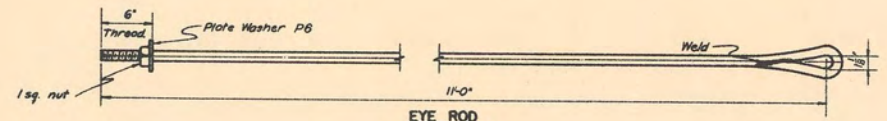


PLATE P-4
6'-18" x 3'-6" Ship Channel
Scale 1/4" = 1'-0"
Make 4



P-5
Standard 3/8" Wire
Rope Clip
Must conform with
the above dimensions
Full Size
Provide 32



EYE ROD
1" diameter / 11'-0"
Scale 1/4" = 1'-0"
Make 4
Furnish 1 sq. nut with each rod.

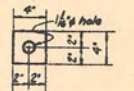
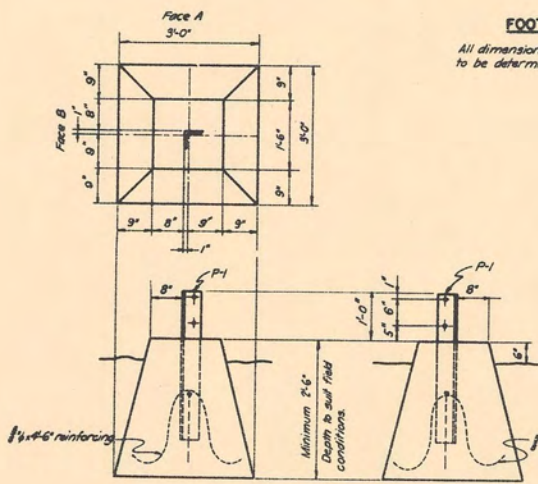
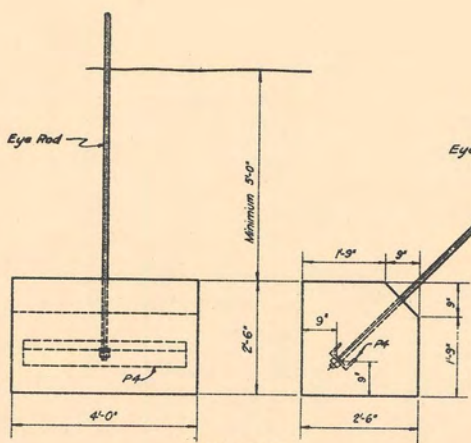


PLATE WASHER P6
1/2" x 4" Plate
Scale 1/2" = 1'-0"
Make 4.

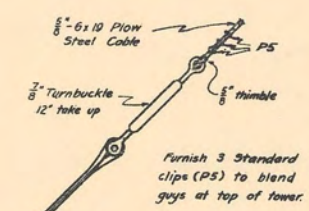


FOOTING LAYOUT
All dimensions marked thus () are
to be determined in the field

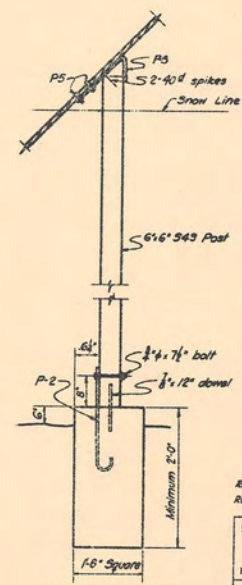
POST FOOTING
Scale 1/4" = 1'-0"



ANCHOR DETAIL
Scale 1/4" = 1'-0"



Furnish 3 Standard
clips (P5) to blend
guys at top of tower.

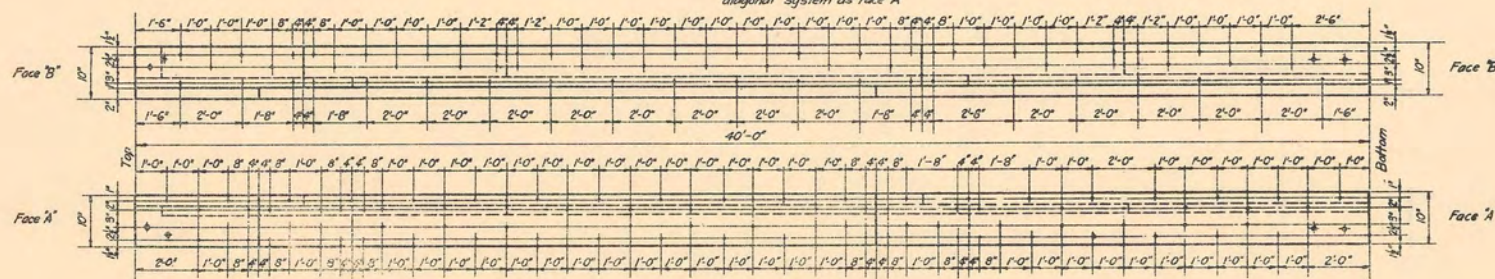
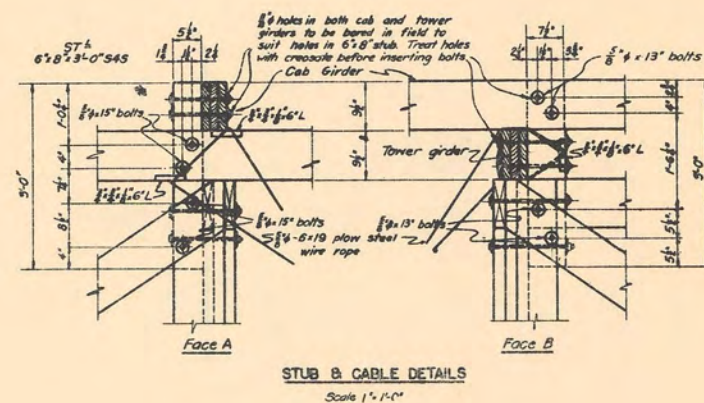
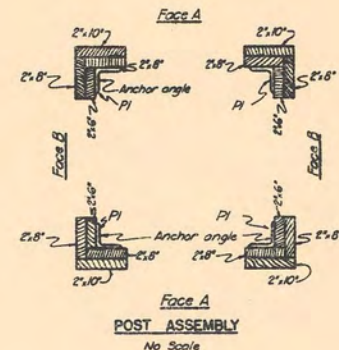
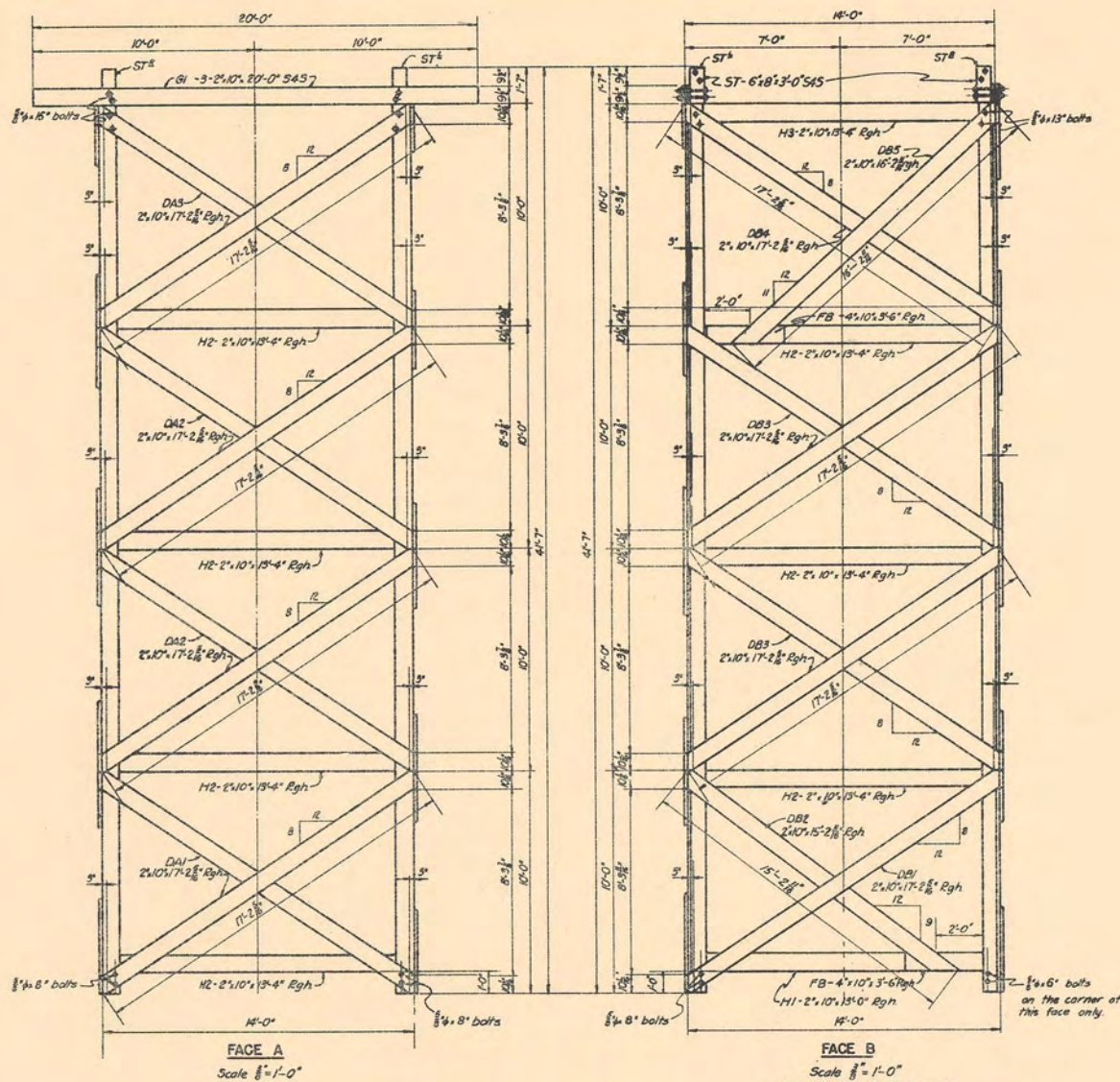


CABLE SUPPORT
Scale 1/4" = 1'-0"

Furnish all detailed material
and in addition furnish:
4 - 1/2" x 12" dowels
4 - 1/2" x 7 1/2" machine bolts
4 - 1/2" malleable washers
4 - 3/8" turnbuckles, Eye-Clevis,
4 - 5/8" thimbles

GENERAL NOTE
All hardware to be
galvanized.

Revised 10-2-39 by A.S./R.B.
Revised 3-8-39 by W.B.
P-5, P-6, P-5, P-6 are of guy cable from 1'.
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER
**STANDARD LOOKOUT TOWER
40-FOOT TYPE CT-3
FOUNDATION DETAILS**
DESIGNED R.W.S. DRAWN R.W.S. TRACED H.R.S.
SCALE 1/4" = 1'-0" CHECKED J.A.
APPROVED J. FRANKLAND REGIONAL FORESTER DATE JAN 1946



NAILING DIAGRAM
 This diagram is for fabrication in field only.
 Use 408 galvanized wire nails
 No Scale

Revised 10-2-39 by A.S., W.G.
 Revised 3-8-39 by W.G.
 Size of cables from 1"

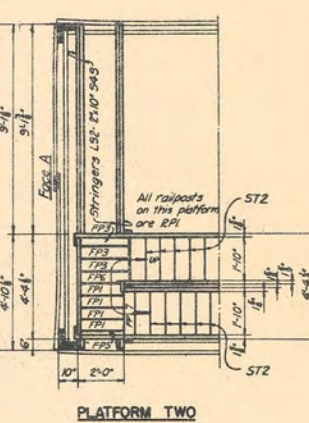
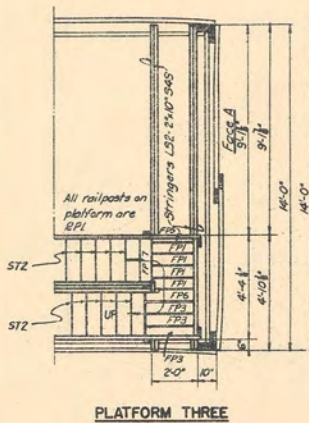
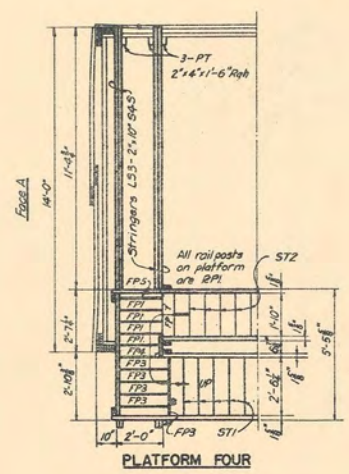
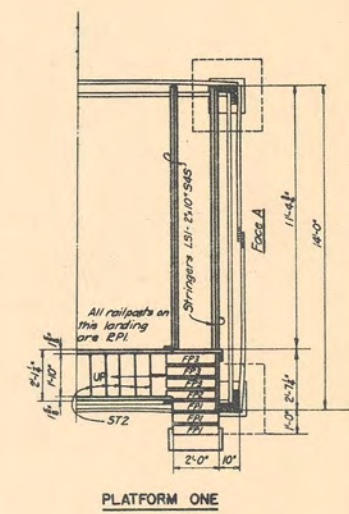
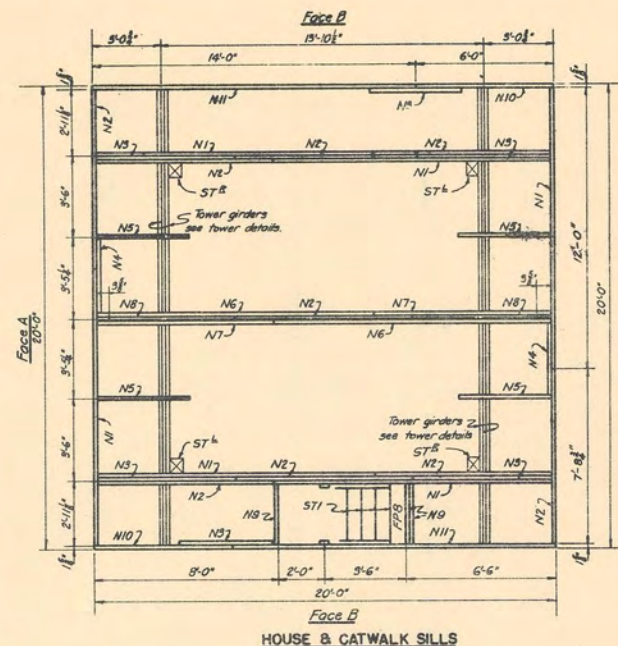
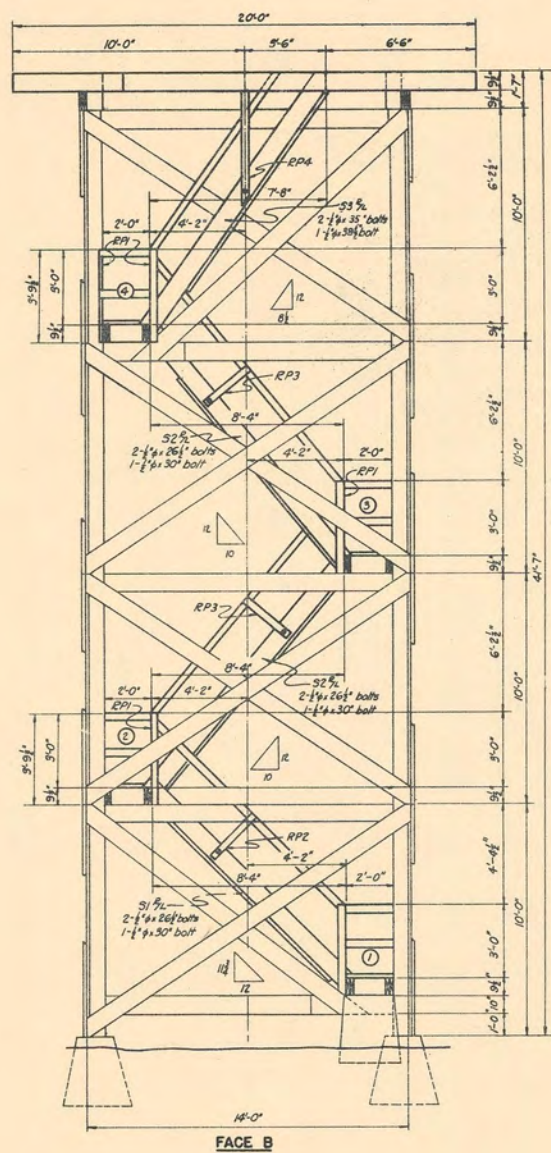
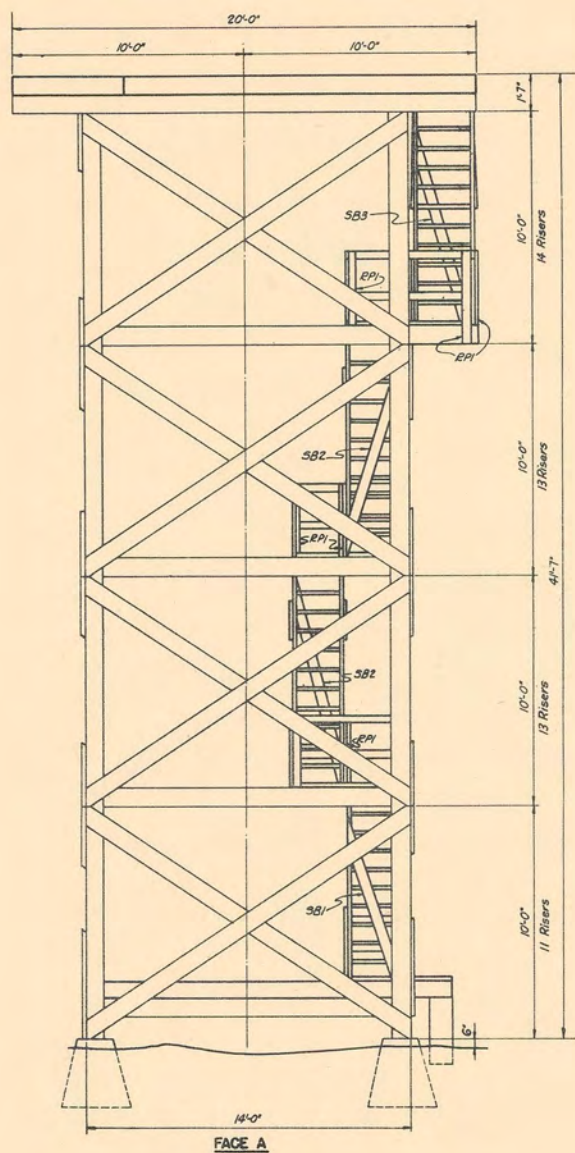
**U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE**

REGION SIX J. FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
 40-FOOT TYPE CT-3
 GENERAL PLAN**

DESIGNED: P.H.S. DRAWN: R.H.S. TRACED: H.R.S.
 SCALE: UNLESS OTHERWISE SPECIFIED CHECKED: J.C.P.
 APPROVED: J. Frankland ASSISTANT REGIONAL FORESTER DATE: 7/19/41

SHEET 2 OF 7 SHEETS L-11202



Revised 10-3-39 by A.S./W.G.

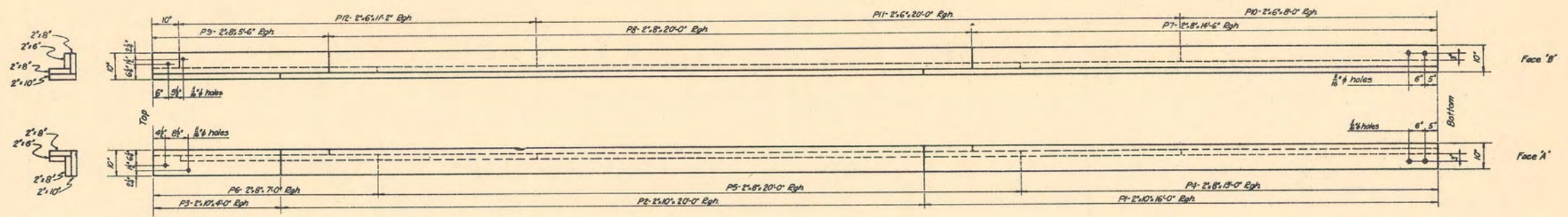
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLIN REGIONAL ENGINEER

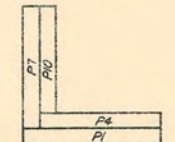
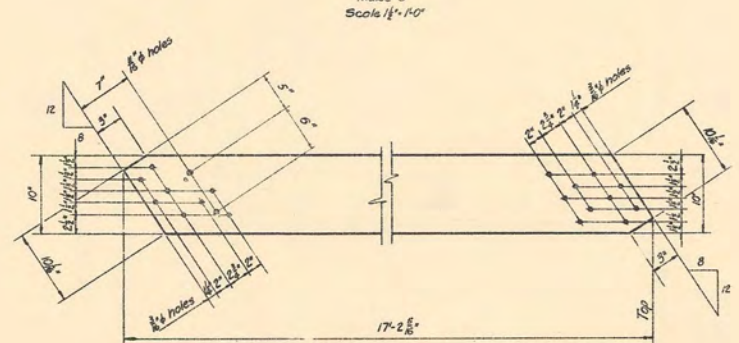
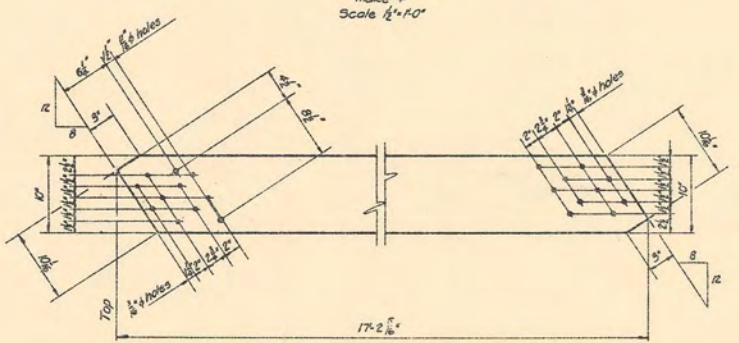
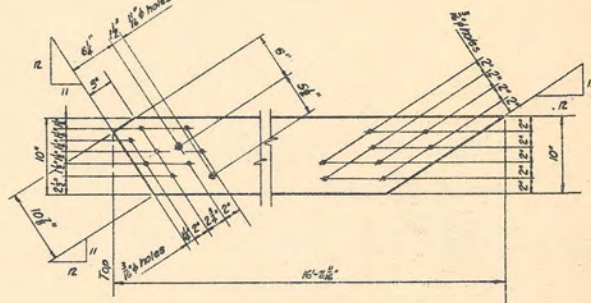
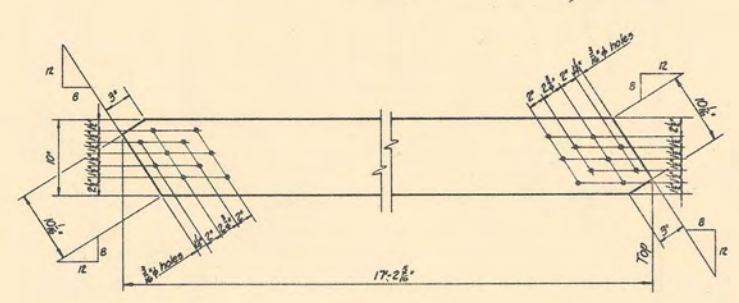
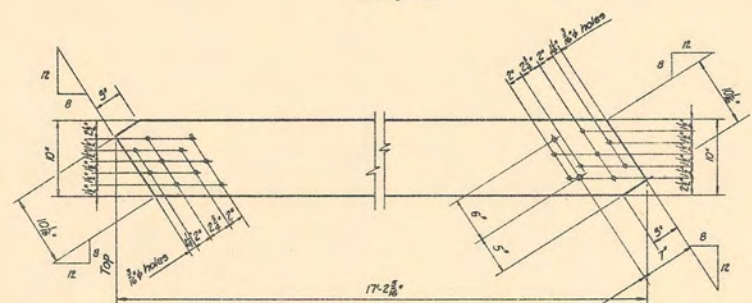
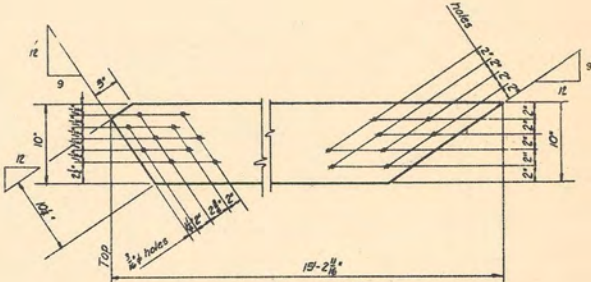
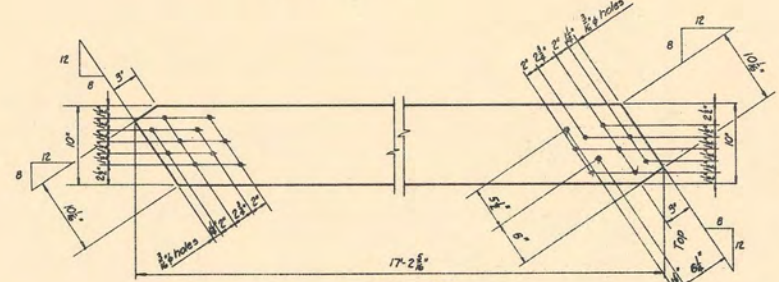
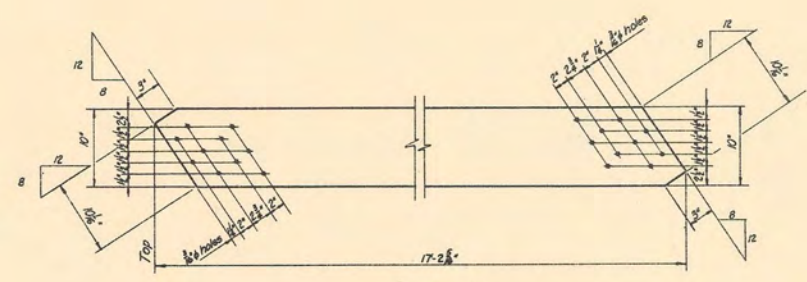
STANDARD LOCKOUT TOWER
40-FOOT TYPE CT-3
STAIR LAYOUT

DESIGNED: R.W.S. DRAWN: R.W.S. CHECKED: H.R.S.
SCALE: 3/8" = 1'-0" DATE: FEBRUARY 1938
APPROVED: [Signature] REGIONAL FORESTER

SHEET 3 OF 7 SHEETS L-11203



Posts
 Make 2 as shown
 Make 2 opp hand
 Scale 1/4"=1'-0"

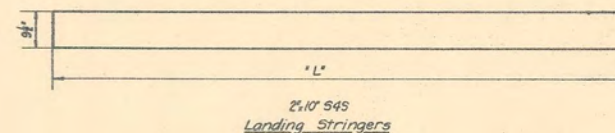
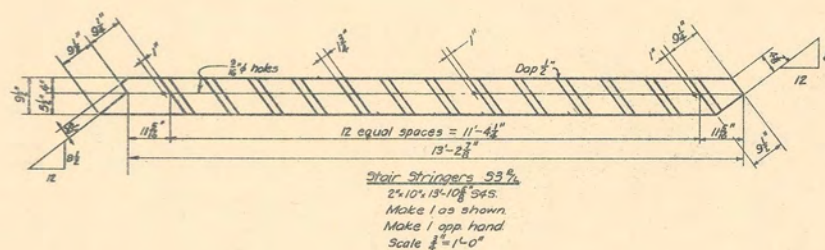
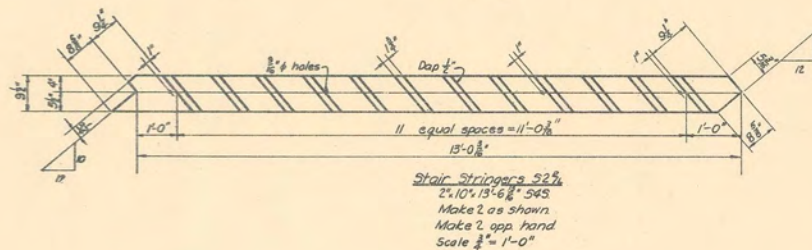
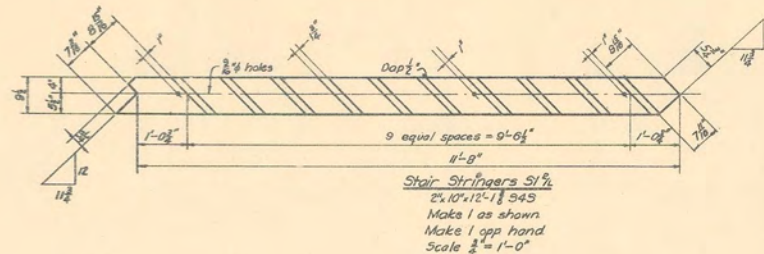
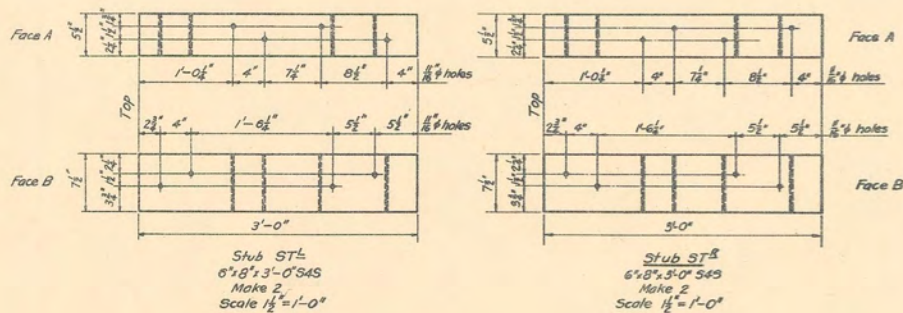
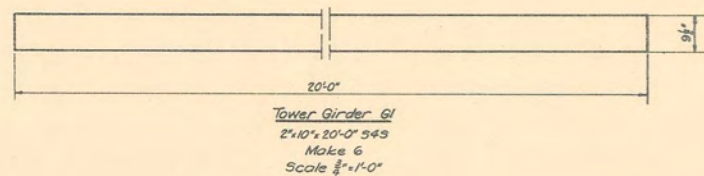
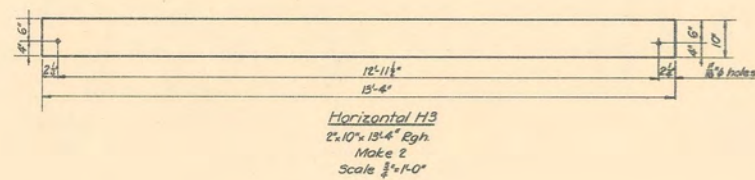
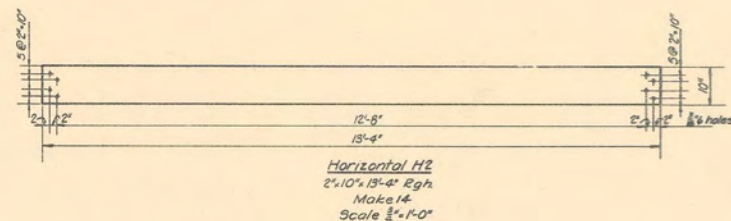
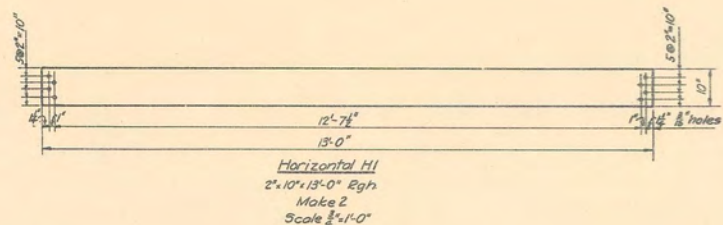


Note to shop: 1/4" holes to be bored with starter pieces (P1, P4, P7, P10) assembled as shown above & two opposite hand. After boring, starter pieces to be matchmarked (A, B, C, D for each of the four assembled posts respectively) for erection.

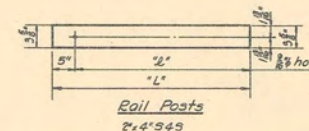
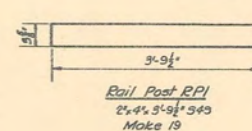
U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX J. FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
 40-FOOT TYPE CT-3
 SHOP DETAILS**

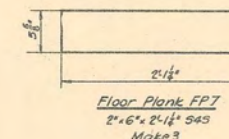
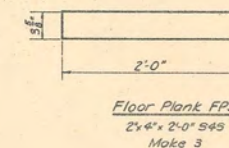
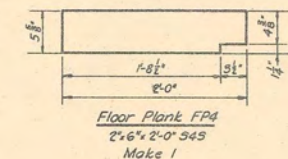
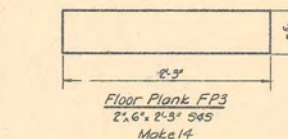
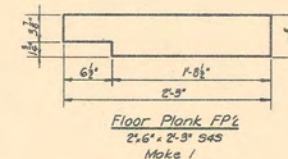
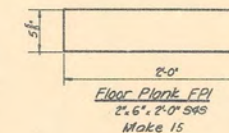
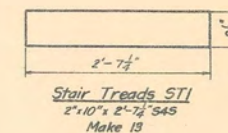
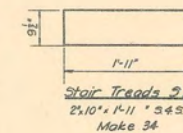
DESIGNED	R.W.S.	DRAWN	R.W.S.	TRACED	M.R.S.
SCALE	AS SHOWN	CHECKED	J.W.S.	DATE	1948
APPROVED	[Signature]		ASSISTANT REGIONAL FORESTER		



Mark	Make	"L"
LS1	4	15'-0"
LS2	8	14'-0"
LS3	4	17'-0"



Mark	Make	"L"	"L"
RP2	2	2'-1 1/8"	2'-6 3/8"
RP3	4	1'-11 1/8"	2'-4 1/8"



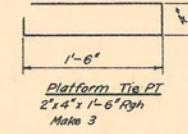
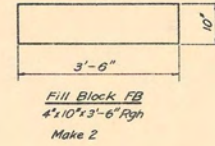
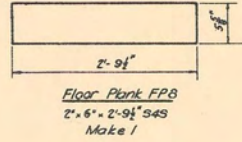
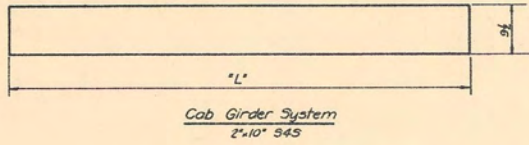
Revised 10-3-39 by A.S./M.B.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

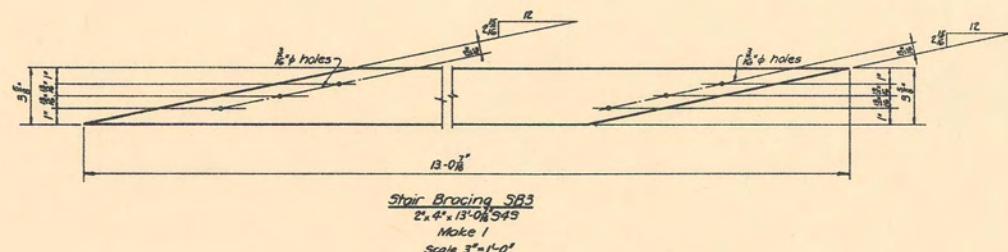
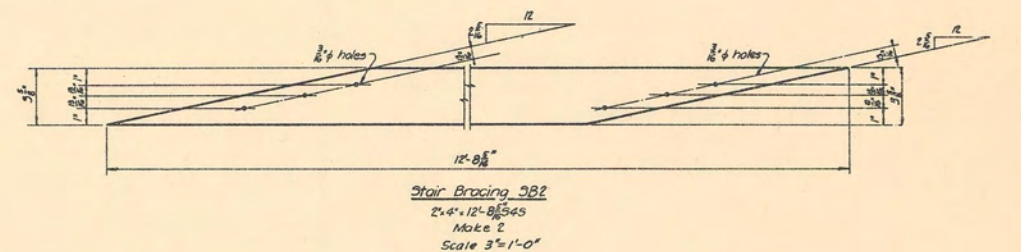
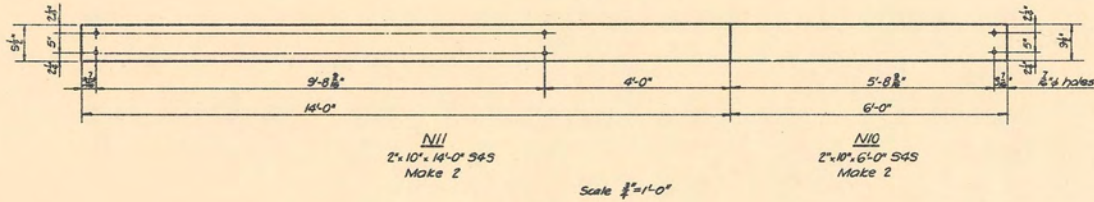
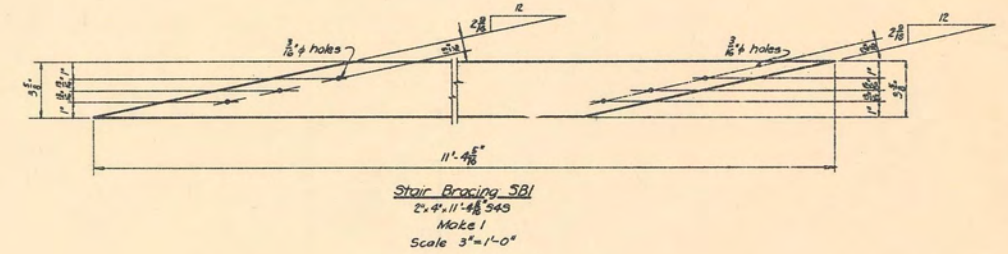
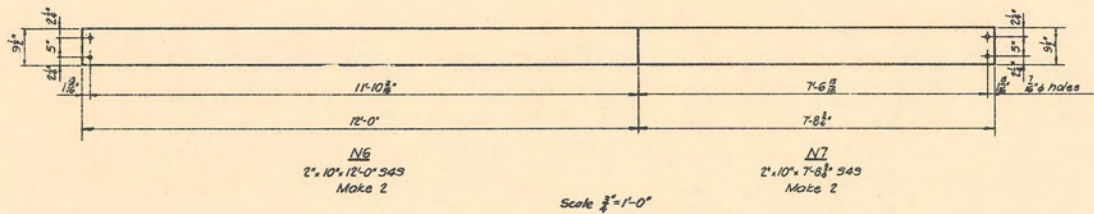
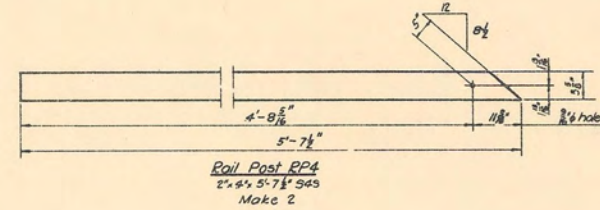
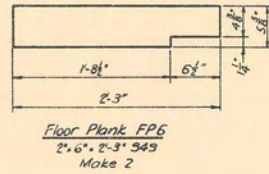
STANDARD LOOKOUT TOWER
40-FOOT TYPE CT-3
SHOP DETAILS

DESIGNED: SWS DRAWN: SWS CHECKED: HRS
SCALE: 1/2"=1'-0" EXCEPT AS NOTED CHECKED: JMS
APPROVED: [Signature] DATE: FEB 1941
REGIONAL FOREST ENGINEER

SHEET 5 OF 7 SHEETS L-11204B



Mark	No. Req'd	Length 'L'
N1	6	12'-0"
N2	9	7'-8 1/2"
N3	6	6'-0"
N4	2	3'-2"
N5	4	4'-0"
N8	2	5'-8 1/2"
N9	3	2'-9 1/2"



Revised 10-3-39 by A.S., W.G.

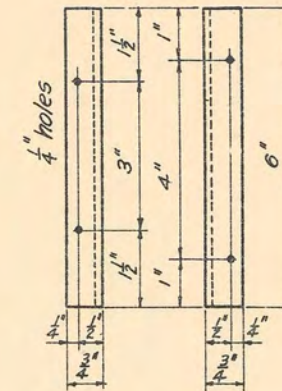
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
40-FOOT TYPE CT-3
SHOP DETAILS

DESIGNED R.W.S. DRAWN R.W.S. CHECKED H.R.S.
SCALE 1/2" = 1'-0" OR AS NOTED DATE FEB 1941
APPROVED [Signature] ASSISTANT REGIONAL FORESTER

TREATED TIMBERS					
NO	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
4	P1	2"x10"	16'-0"	Rgh. Post Members	107
4	P2	2"x10"	20'-0"	" " "	133
4	P3	2"x8"	4'-0"	" " "	27
4	P4	2"x8"	13'-0"	" " "	75
4	P5	2"x8"	20'-0"	" " "	107
4	P6	2"x8"	7'-0"	" " "	37
4	P7	2"x8"	14'-6"	" " "	85
4	P8	2"x8"	20'-0"	" " "	107
4	P9	2"x8"	5'-6"	" " "	32
4	P10	2"x6"	8'-0"	" " "	32
4	P11	2"x6"	20'-0"	" " "	80
4	P12	2"x6"	11'-2"	" " "	48
4	DA1	2"x10"	17'-2 ⁵ / ₁₆ "	Diagonals	120
8	DA2	2"x10"	17'-2 ⁵ / ₁₆ "	" "	240
4	DA3	2"x10"	17'-2 ⁵ / ₁₆ "	" "	120
3	DB1	2"x10"	17'-2 ⁵ / ₁₆ "	" "	90
1	DB2	2"x10"	15'-2 ¹¹ / ₁₆ "	" "	27
8	DB3	2"x10"	17'-2 ⁵ / ₁₆ "	" "	240
3	DB4	2"x10"	17'-2 ⁵ / ₁₆ "	" "	90
1	DB5	2"x10"	16'-2 ¹¹ / ₁₆ "	" "	30
2	H1	2"x10"	13'-0"	Horizontals	47
14	H2	2"x10"	13'-4"	" "	327
2	H3	2"x10"	13'-4"	" "	47
6	G1	2"x10"	20'-0"	S4S Tower Girder	200
2	FB	4"x10"	3'-6"	Rgh Fill Blocks	23
4	ST ¹ / ₂	6"x8"	3'-0"	S4S Tower Stubs	48
2	SI ¹ / ₂	2"x10"	12'-1 ³ / ₈ "	Stair Stringers	47
4	S2 ¹ / ₂	2"x10"	13'-6 ¹³ / ₁₆ "	" " "	93
2	S3 ¹ / ₂	2"x10"	13'-10 ³ / ₈ "	" " "	47
4	LS1	2"x10"	15'-0"	Landing Stringers	107
8	LS2	2"x10"	14'-0"	" " "	187
4	LS3	2"x10"	17'-0"	" " "	120
19	RP1	2"x4"	3'-9 ¹ / ₂ "	Rail Posts	51
2	RP2	2"x4"	2'-6 ¹¹ / ₁₆ "	" " "	4
4	RP3	2"x4"	2'-4 ¹¹ / ₁₆ "	" " "	8
2	RP4	2"x4"	5'-7 ¹ / ₂ "	" " "	8
34	ST2	2"x10"	1'-11"	Stair Treads	114
13	ST1	2"x10"	2'-7 ¹ / ₄ "	" " "	65
15	FP1	2"x6"	2'-0"	Floor Plank	30
1	FP2	2"x6"	2'-3"	" " "	3
14	FP3	2"x6"	2'-3"	" " "	32
1	FP4	2"x6"	2'-0"	" " "	2
3	FP5	2"x4"	2'-0"	" " "	4
2	FP6	2"x6"	2'-3"	" " "	5
3	FP7	2"x6"	2'-1 ¹ / ₄ "	" " "	7
1	FP8	2"x6"	2'-9 ¹ / ₂ "	" " "	3
6	N1	2"x10"	12'-0"	Cab Girder System	120
9	N2	2"x10"	7'-8 ³ / ₄ "	" " "	120

TREATED TIMBERS					
NO	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
6	N3	2"x10"	6'-0"	S4S Cab Girder System	60
2	N4	2"x10"	3'-2"	" " "	12
4	N5	2"x10"	4'-0"	" " "	27
2	N6	2"x10"	12'-0"	" " "	40
2	N7	2"x10"	7'-8 ³ / ₄ "	" " "	27
2	N8	2"x10"	5'-8 ³ / ₈ "	" " "	20
3	N9	2"x10"	2'-9 ¹ / ₂ "	" " "	15
2	N10	2"x10"	6'-0"	" " "	20
2	N11	2"x10"	14'-0"	" " "	47
1	SB1	2"x4"	11'-4 ⁵ / ₁₆ "	Stair Bracing	8
2	SB2	2"x4"	12'-8 ⁵ / ₁₆ "	" " "	19
1	SB3	2"x4"	13'-0 ⁷ / ₁₆ "	" " "	9
3	PT	2"x4"	1'-6"	Rgh. Platform Ties	3
Total					4,003



Angle Detail
3" x 3" x 1/8" x 6"
Make 24

NOTES
Hardware list consists of approx. 10% increase over required amt.
All hardware to be galvanized.

HARDWARE			
NO.	SIZE	LENGTH	DESCRIPTION
2	5/16" φ	6"	Bolts
15	5/16" φ	8"	"
18	5/16" φ	13"	"
18	5/16" φ	15"	"
3	1/2" φ	30"	"
6	1/2" φ	26 ¹ / ₂ "	"
2	1/2" φ	35"	"
1	1/2" φ	38 ¹ / ₂ "	"
88	5/16" φ		Malleable Washers
26	1/2" φ		" "
24	3/4" x 3/4" x 1/8"	6"	Angles (see detail)
100	40		Common Nails
35	12		" "
25	10		" "
	5/8" - 6 x 19		Galv. Plow Stl. hemp center wire rope (length to suit field topography)

UNTREATED TIMBER				
NO.	SIZE	LENGTH	DESCRIPTION	F.B.M.
8	2"x4"	14'-0"	Hand Rails	75
7	2"x4"	12'-0"	" "	56
1	2"x4"	6'-0"	" "	4
Total				135

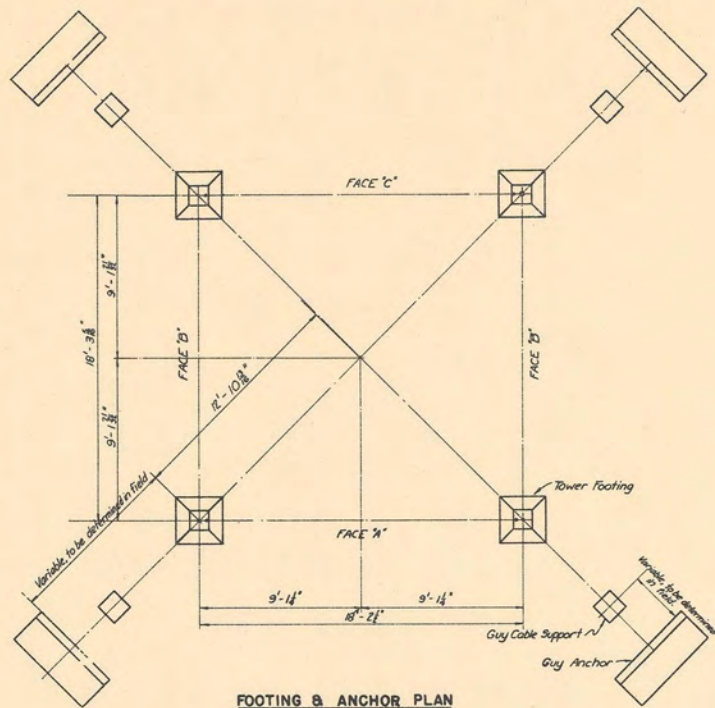
Revised 10-3-39 by A.S., W.G.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER

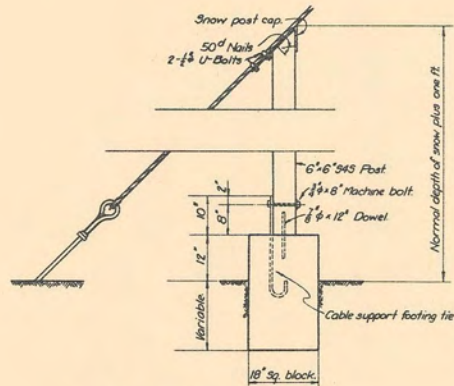
**STANDARD LOOKOUT TOWER
40-FOOT, TYPE CT-3
BILL OF MATERIAL
FOR SUPERSTRUCTURE**

DESIGNED R.W.S. DRAWN R.W.S. TRACED H.R.S.
SCALE NONE CHECKED W.G.
APPROVED [Signature] DATE []
ASSISTANT REGIONAL FORESTER

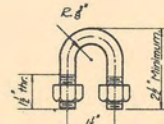


FOOTING & ANCHOR PLAN

This layout is NOT SQUARE
Cables shall slope at 45° and
location of guy anchors shall be
computed accordingly.

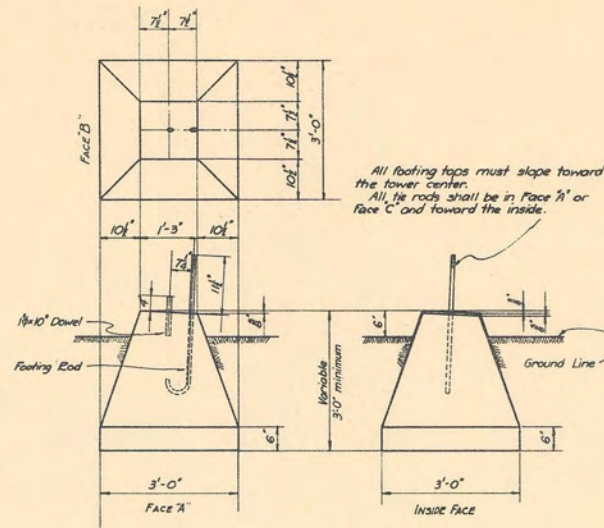


GUY CABLE SUPPORT



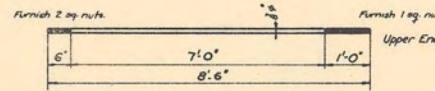
U-BOLT

3/4 galvanized bolt Make 8.
Furnish 2 hex. nuts each bolt



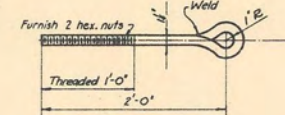
TOWER FOOTING

All footing tops must slope toward
the tower center.
All tie rods shall be in Face 'A'
or Face 'C' and toward the inside.



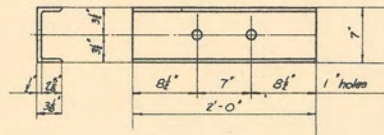
ANCHOR ROD

Make 8 - 3/8\"/>



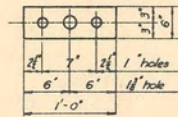
EYEBOLT

Make 4 - 1 1/4\"/>



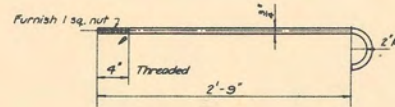
ANCHOR PLATE

7\"/>



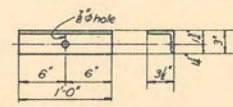
CROSSHEAD

Make 4 - 6\"/>



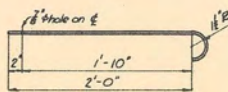
FOOTING ROD

1/2\"/>



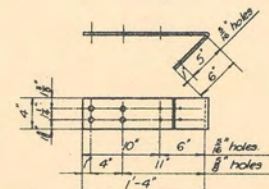
FOOTING ANGLE

3/4\"/>



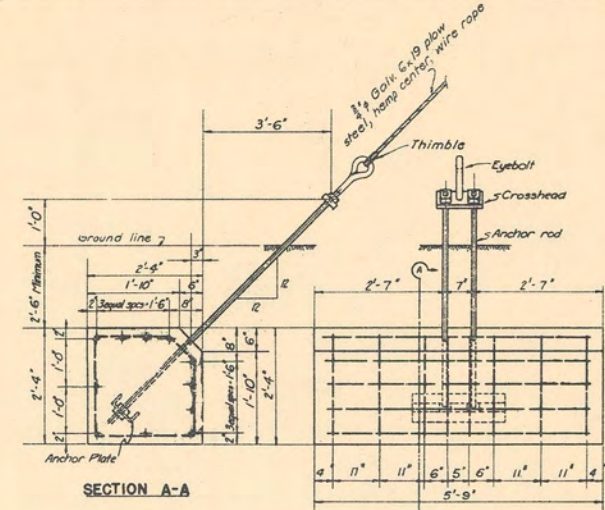
CABLE SUPPORT FOOTING TIE

1/2\"/>



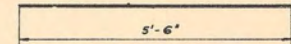
SNOW POST CAP

1/2\"/>



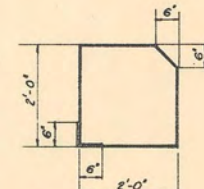
SECTION A-A

ANCHOR DETAIL



REINFORCING BARS

Make 44 - 1/2\"/>



REINFORCING TIES

Make 32 - 3/8\"/>

In addition to detailed material, furnish the following items:

- 4 - 3/8\"/>
 - 4 - 1/4\"/>
 - 4 - 3/8\"/>
 - 4 - 3/8\"/>
- All galvanized

CONCRETE

- Mix - 1:3:5
- Volume - 8.95 cu yds. approximate
- Cement - 10.0 Bbts
- Sand - 4.5 yds.
- Gravel - 7.6 yds.

Revised 12-5-39 by A.S.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

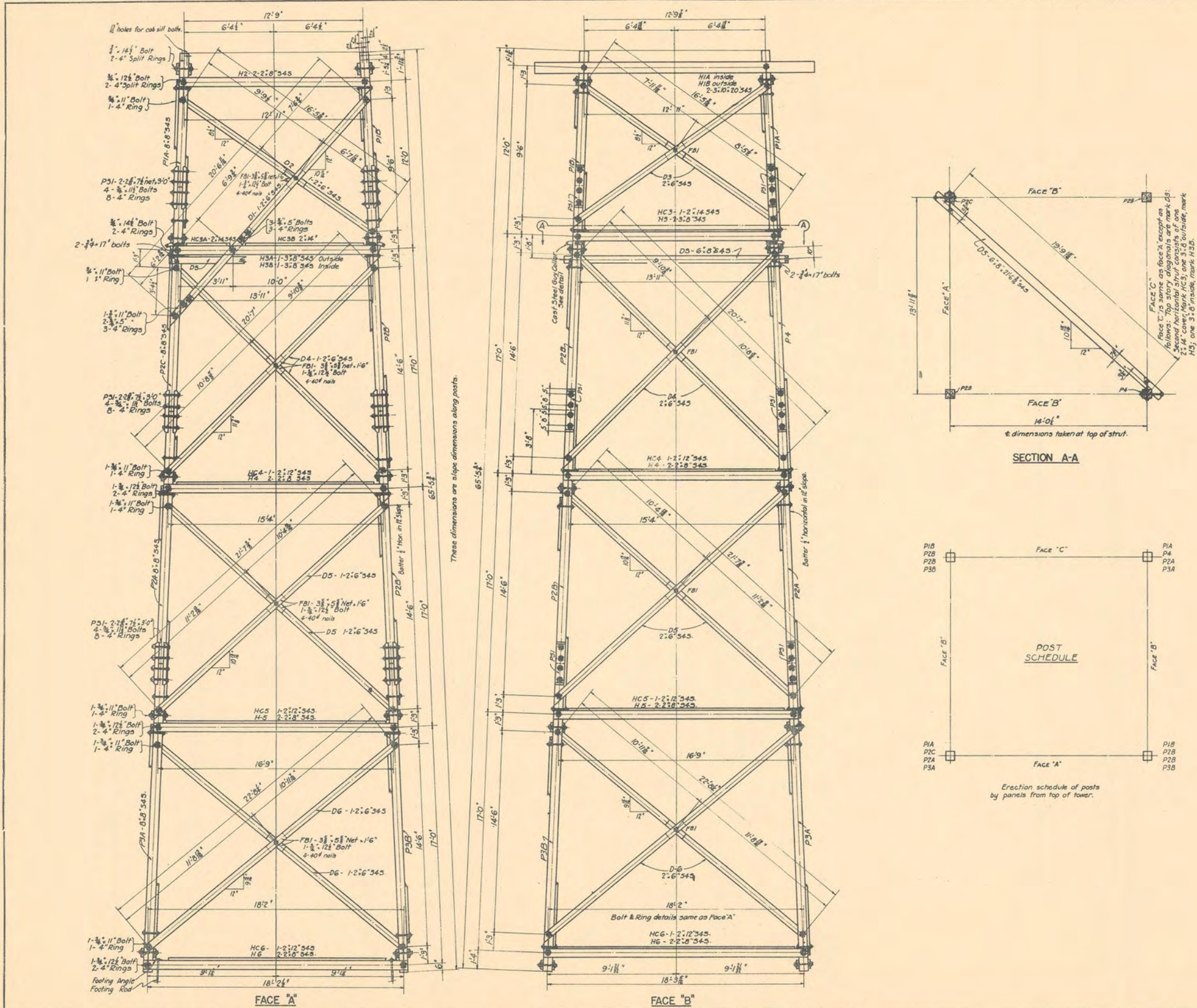
STANDARD LOOKOUT TOWER
65-FOOT TYPE CT-4
FOUNDATION DETAILS

DESIGNED: B.C.O. DRAWN: B.C.O. CHECKED: B.C.O.
SCALE: NONE DATE: NOV. 1937

APPROVED: [Signature] ACT. ASSISTANT REGIONAL FORESTER

Revised 5-2-35 B.C.O.

SHEET 1 OF 7 SHEETS L-10601



SECTION A-A

POST SCHEDULE

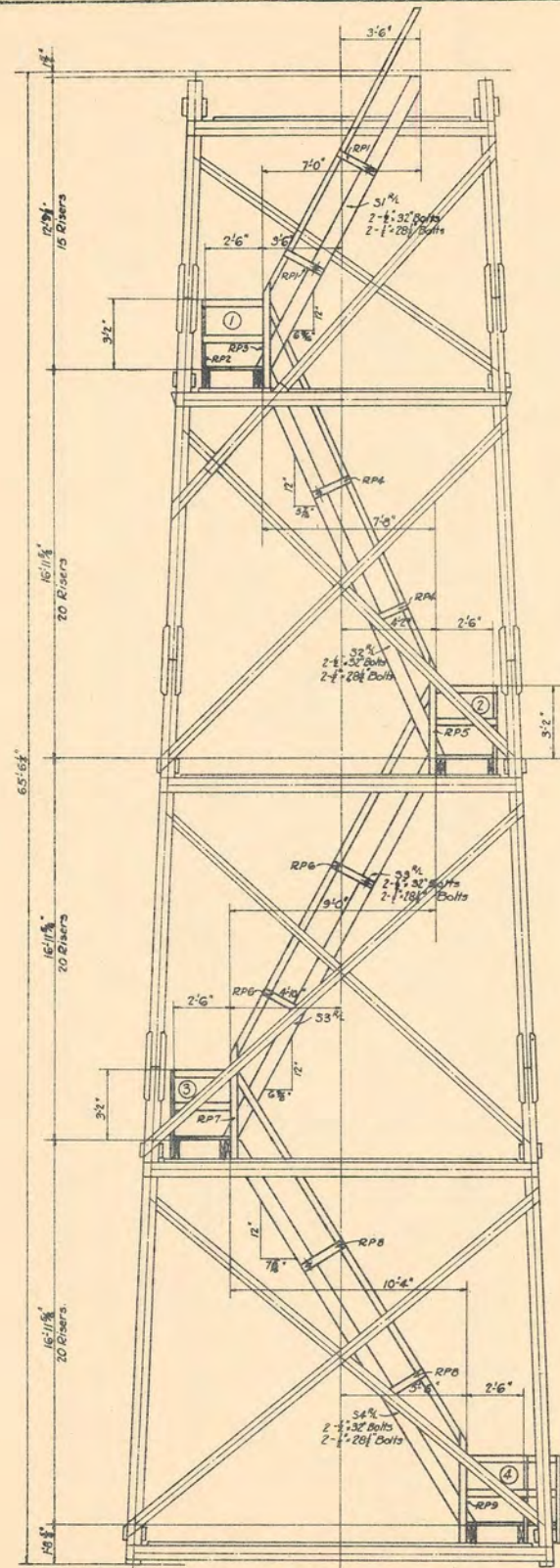
Erection schedule of posts by panels from top of tower.

Revised 12-5-39 by A.S.

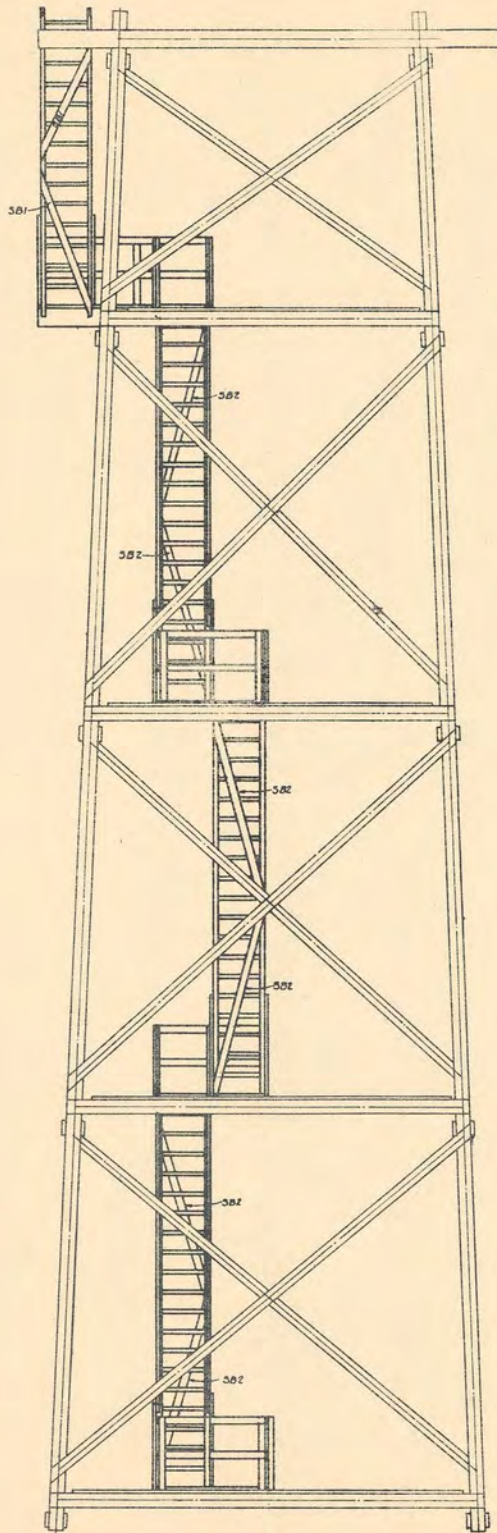
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
65-FOOT TYPE CT-4
GENERAL PLAN

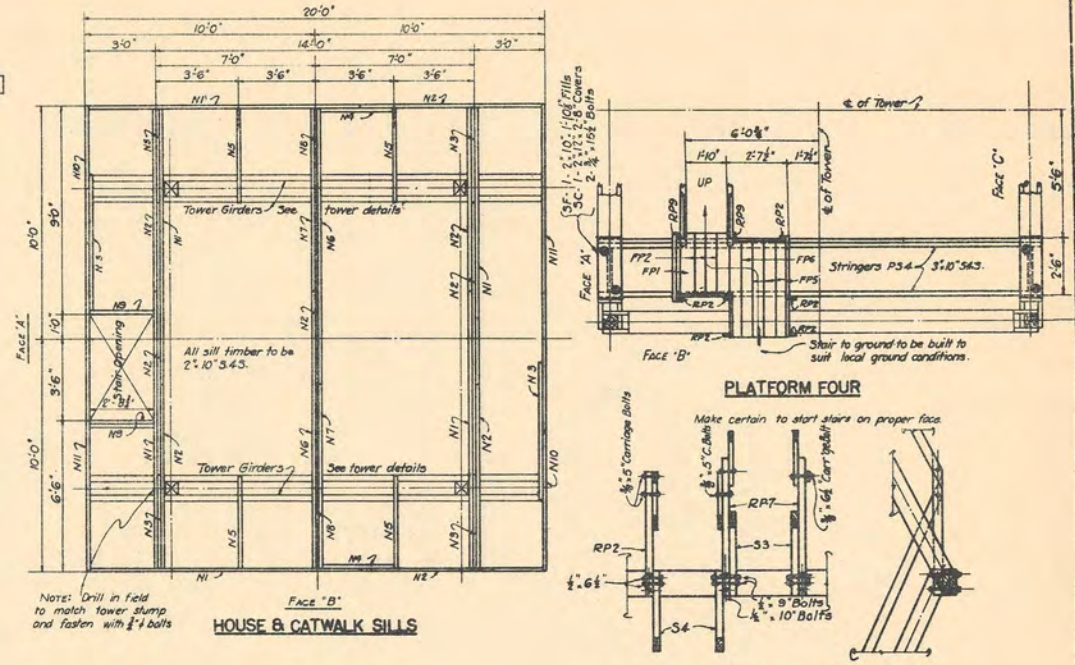
DESIGNED W.D.S. DRAWN W.D.S. TRACED W.D.S.
SCALE 3/8" = 1'-0" CHECKED [initials]
APPROVED [initials] DATE NOVEMBER 1939
ACT. ASSISTANT REGIONAL FORESTER



ELEVATION FACE "A"

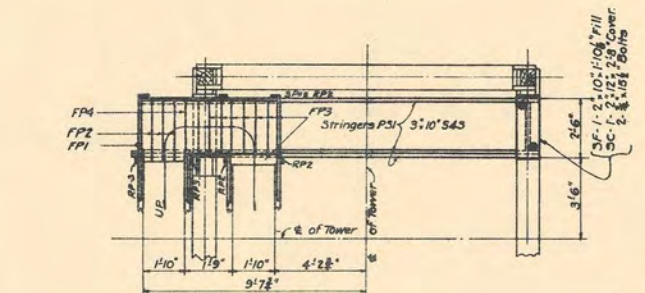


ELEVATION FACE "B"

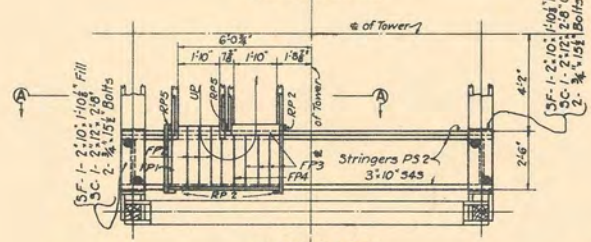


HOUSE & CATWALK SILLS

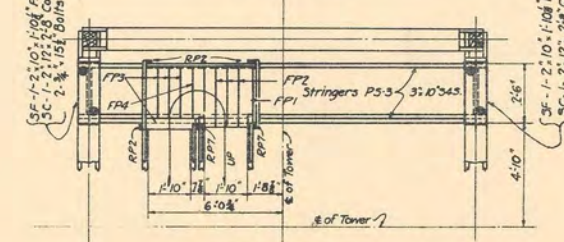
PLATFORM FOUR



PLATFORM ONE



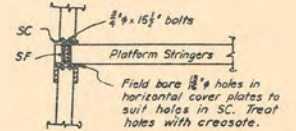
PLATFORM TWO



PLATFORM THREE

SECTION AA

- Bore holes in field
- MATERIAL SIZES
 House & Catwalk Sills... 2" x 10" x 4S Treated
 Stair Stringers... 3" x 8" " "
 Stair Treads... 3" x 8" " "
 Platform Stringers... 3" x 10" " "
 Platform Floor Plank... 2" x 6" " "
 Rail Posts... 3" x 4" x 2" x 4" " "
 Stair Stringer Sways... 2" x 4" " "
 Hand Rail... 2" x 4" " Untreated.



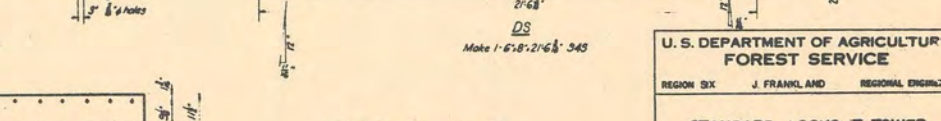
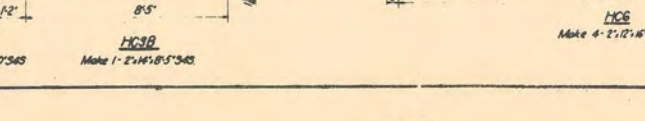
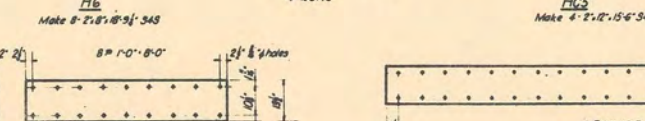
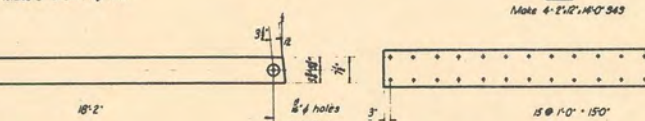
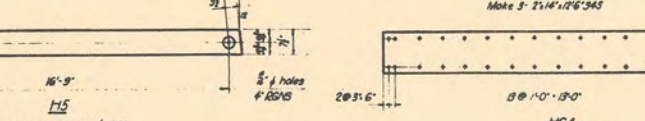
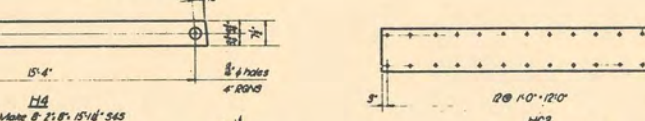
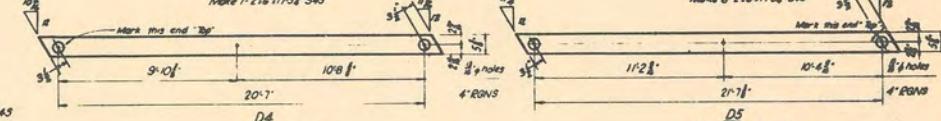
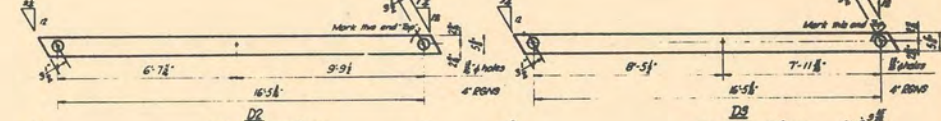
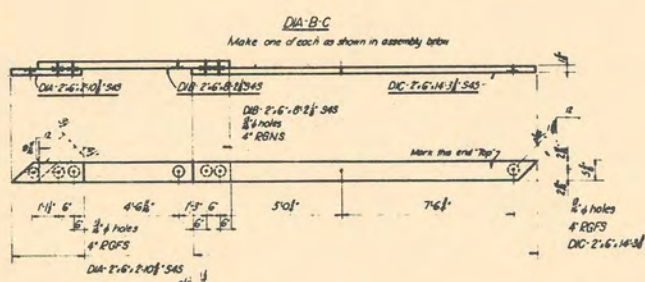
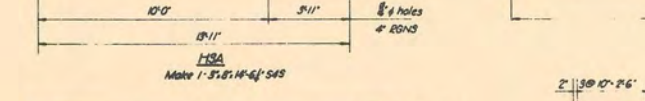
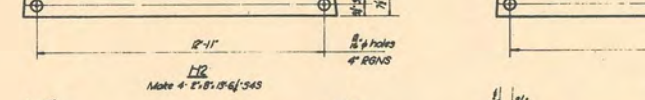
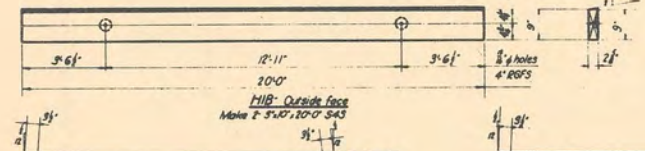
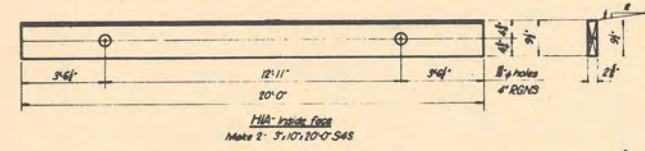
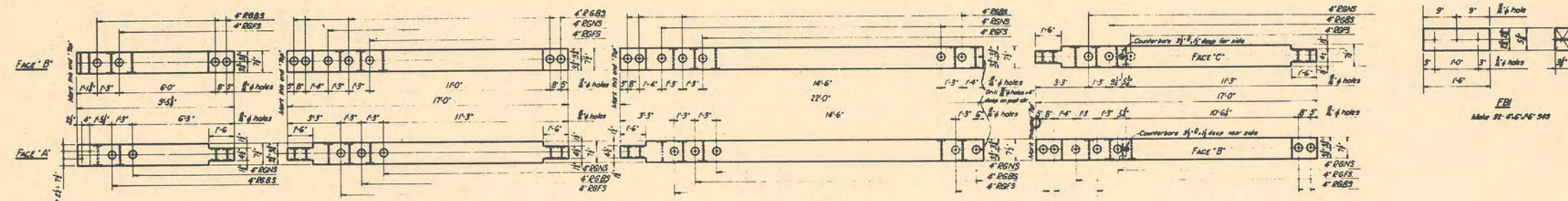
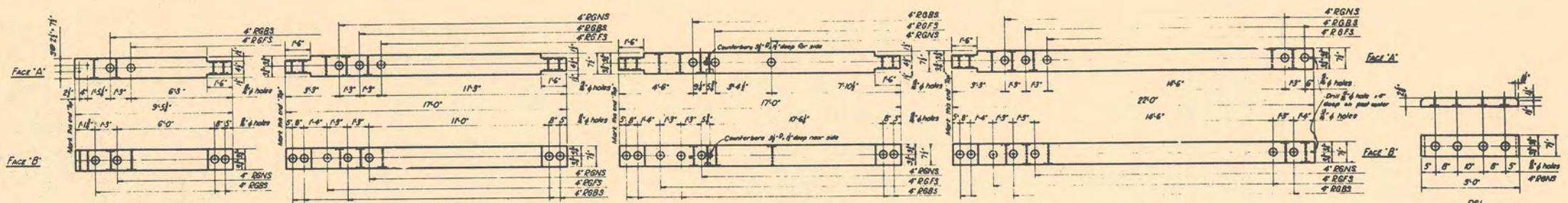
SECTION THROUGH PLATFORM STRINGER FASTENINGS

Revised 5-9-40 by W.D.S.
 Revised 12-6-39 by A.S.

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
 65-FOOT TYPE CT-4
 STAIR LAYOUT

DESIGNED W.D.S. DRAWN W.D.S. TRACED W.D.S.
 SCALE 3/8" = 1'-0" CHECKED R.S.D.
 APPROVED [Signature] DATE NOVEMBER 1937.
 ACT. ASSISTANT REGIONAL FORESTER



RGNS - Ring Groove Near Side
RGFS - Ring Groove Far Side
RGSB - Ring Groove Both Sides

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

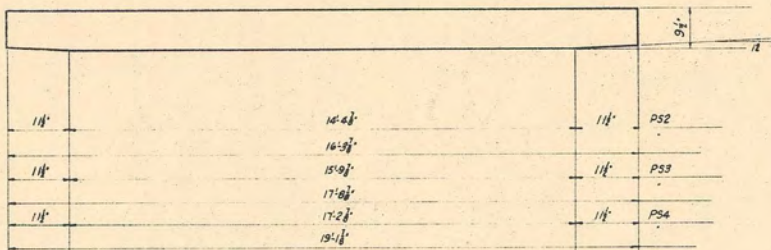
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
65-FOOT TYPE CT-4
SHOP DETAILS

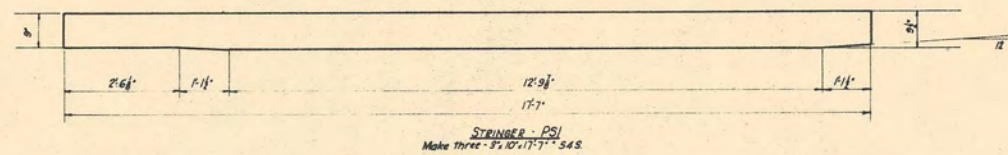
DESIGNED W.D.S. DRAWN M.R.S. CHECKED M.R.S.
SCALE APPROVED DATE REV. 7/41
AMERICAN REGIONAL REGISTER

Revised 3-8-59 by W.G. DS.

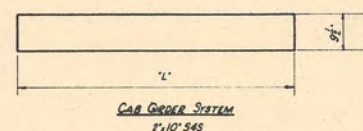
SHEET 4 OF 7 SHEETS L-10804A



STRINGERS PS2 to 4 inclusive
Make three each - 3'10\"/>

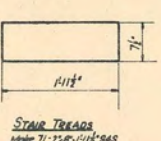


STRINGER - PS1
Make three - 3'10\"/>

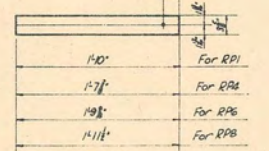
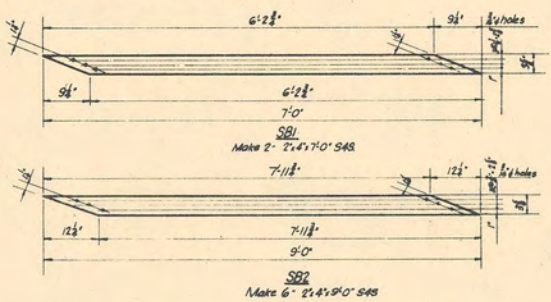


CAP GIRDER SYSTEM
2'10\"/>

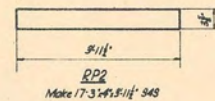
Mark	No. Req'd	Length L'
N1	6	12'-0"
N2	9	7'-8"
N3	6	6'-0"
N4	2	3'-2"
N5	4	4'-0"
N8	2	5'-8"
N9	3	2'-8"



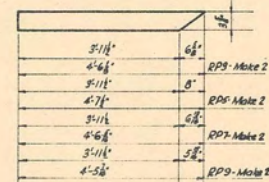
STAIR TREADS
Make 71 - 2'5\"/>



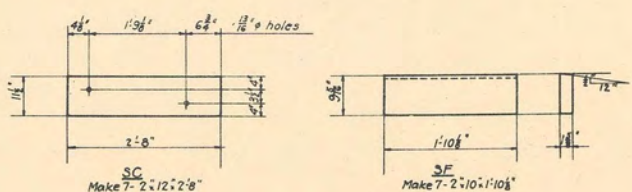
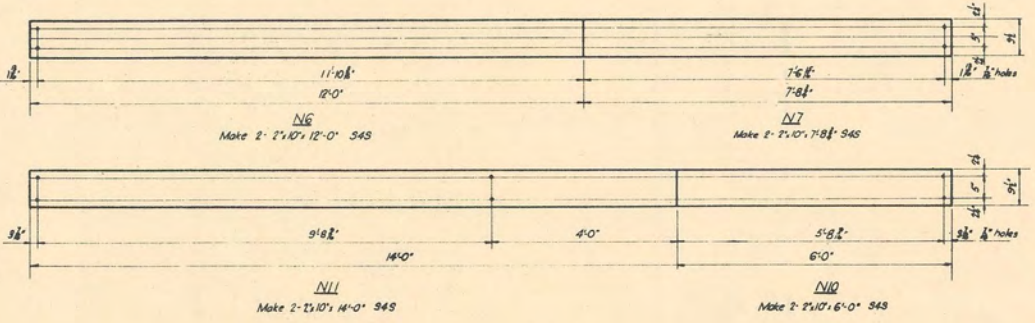
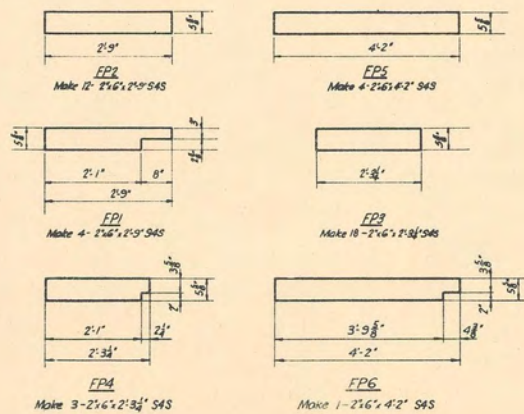
RPI-4-6-B
Make four each - 2'1\"/>



RP2
Make 17-3'4\"/>



RPS-5-7-9
Make 7 each - 3'4\"/>



Revised 5-13-40 W.P.S.
Revised 12-6-39 by A.S.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
65-FOOT TYPE CT-4
SHOP DETAILS

DESIGNED W.D.S. DRAWN W.D.S. TRACED H.R.S.
SCALE NONE CHECKED DATE NOVEMBER 1937
APPROVED ASSISTANT REGIONAL ENGINEER

BILL OF TREATED TIMBER											BILL OF UNTREATED TIMBER						
No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.S.M.
2	PIA	8" x 8"	11' 5 3/4"	Top Post	128	2	N6	2" x 10"	12' 0"	Cab Stringers	40	5	"	2" x 4"	10' 0"	Hand Rail	39
2	PIB	"	11' 5 3/4"	"	128	2	N7	"	7' 8 1/2"	"	27	4	"	"	12' 0"	"	32
2	P2A	"	19' 0"	Intermediate Post	213	2	N8	"	5' 8 3/4"	"	20	2	"	"	16' 0"	"	21
4	P2B	"	19' 0"	"	426	3	N9	"	2' 8 3/4"	"	15	6	"	2" x 4"	22' 0"	"	88
1	P2C	"	19' 0"	"	107	2	N10	"	6' 0"	"	20						
2	P3A	"	24' 0"	Bottom Post	256	2	N11	2" x 10"	14' 0"	"	47					Total Untreated Timber	174
2	P3B	"	24' 0"	"	256	2	SBI	2" x 4"	7' 0"	Stair Sway Braces	9						
1	P4	8" x 8"	19' 0"	Intermediate Post	107	6	SB2	2" x 4"	9' 0"	"	36						
24	PS1	3" x 8"	3' 0"	Post Splices	144	7	5C	2" x 12"	2' 8"	Stringer Caps	36						
2	H1A	3" x 10"	20' 0"	Tower Girders	100	7	5F	2" x 10"	1' 10 1/8"	"	23						
2	H1B	3" x 10"	20' 0"	"	100												
4	H2	2" x 8"	13' 6 1/2"	Horizontal Struts	75					Total Treated Timber	6196						
5	H3	3" x 8"	14' 6 1/4"	"	160												
1	H3A	"	14' 6 1/4"	"	32												
2	H3B	3" x 8"	15' 5"	"	64												
8	H4	2" x 8"	15' 11 1/2"	"	171												
8	H5	"	17' 4 1/2"	"	192												
8	H6	2" x 8"	18' 9 1/4"	"	213												
1	HC3A	2" x 14"	2' 10"	Horizontal Strut Covers	7												
1	HC3B	"	8' 5"	"	21												
3	HC3	2" x 14"	12' 6"	"	98												
4	HC4	2" x 12"	14' 0"	"	112												
4	HC5	"	15' 6"	"	128												
4	HC6	2" x 12"	16' 6"	"	144												
1	D1A	2" x 6"	2' 10 3/8"	Diagonals	3												
1	D1B	"	8' 2 1/8"	"	9												
1	D1C	"	14' 3 3/8"	"	16												
1	D2	"	17' 5 3/8"	"	18												
6	D3	"	17' 5 3/8"	"	108												
8	D4	"	21' 10 3/8"	"	176												
8	D5	"	22' 9 3/8"	"	192												
8	D6	2" x 6"	23' 10"	"	192												
32	FBI	4" x 6"	1' 6"	Diagonal Fills	96												
1	D5	6" x 8"	21' 6 1/8"	"	88												
2	S1 1/2	3" x 8"	15' 1 1/2"	Stair Stringers	64												
2	S2 1/2	"	19' 3 1/2"	"	80												
2	S3 1/2	"	19' 9 1/2"	"	80												
2	S4 1/2	3" x 8"	20' 4 5/8"	"	88												
71	NONE	2" x 8"	1' 11 1/2"	Stair Treads	189												
4	FP1	2" x 6"	2' 9"	Platform Floor Plank	12												
12	FP2	"	2' 9"	"	36												
18	FP3	"	2' 3 1/4"	"	42												
3	FP4	"	2' 3 1/4"	"	7												
4	FP5	"	4' 2"	"	18												
1	FP6	2" x 6"	4' 2"	"	4												
4	RP1	2" x 4"	1' 10"	Hand Rail Posts	5												
17	RP2	3" x 4"	3' 11 1/2"	"	68												
2	RP3	3" x 4"	4' 6 1/2"	"	10												
4	RP4	2" x 4"	1' 7 3/8"	"	5												
2	RP5	3" x 4"	4' 7 1/2"	"	10												
4	RP6	2" x 4"	1' 9 9/16"	"	5												
2	RP7	3" x 4"	4' 6 1/2"	"	10												
4	RP8	2" x 4"	1' 11 1/2"	"	5												
2	RP9	3" x 4"	4' 5 1/8"	"	10												
3	PS1	3" x 10"	17' 7"	Platform Stringers	135												
3	PS2	"	16' 3 3/8"	"	135												
3	PS3	"	17' 8 3/8"	"	135												
3	PS4	3" x 10"	19' 1 1/8"	"	150												
6	N1	2" x 10"	12' 0"	Cab Stringers	120												
9	N2	"	7' 8 3/4"	"	120												
6	N3	"	6' 0"	"	60												
2	N4	"	3' 2 3/4"	"	13												
4	N5	2" x 10"	4' 0"	"	27												

NOTE-All material to be S4S.

As required by specifications, material for Posts is listed 2'-0" greater than shop detail length to eliminate seasoning end checks.

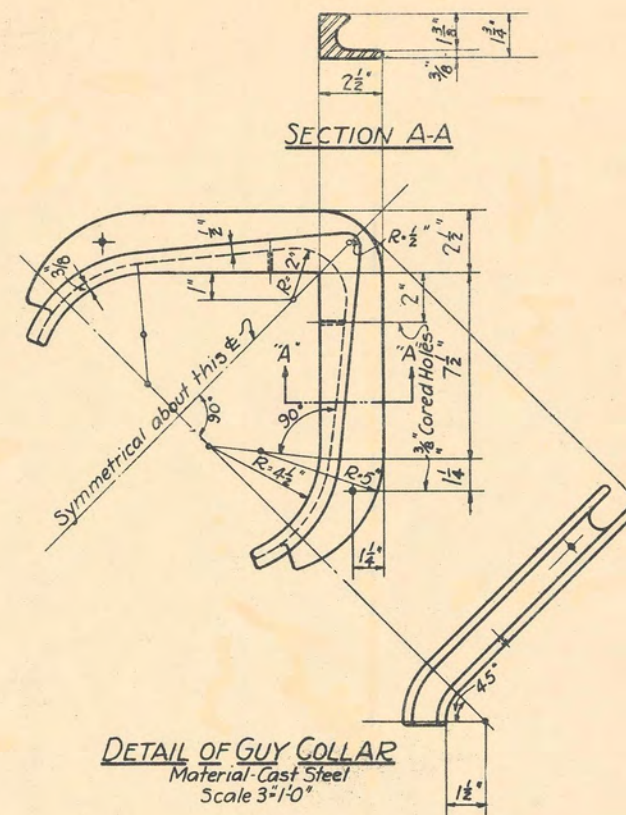
Revised- 5-14-40 by W.D.S.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	J. FRANKLAND	REGIONAL ENGINEER
STANDARD LOOKOUT TOWER 65-FOOT TYPE CT-4 BILL OF LUMBER		
DESIGNED W.D.S.	DRAWN W.D.S.	TRACED W.D.S.
SCALE	CHECKED	DATE JAN. 1938
APPROVED	ASS'T. REGIONAL FORESTER	

Revised 12-6-39 A.S.
Revised 4-25-38 B.C.O.

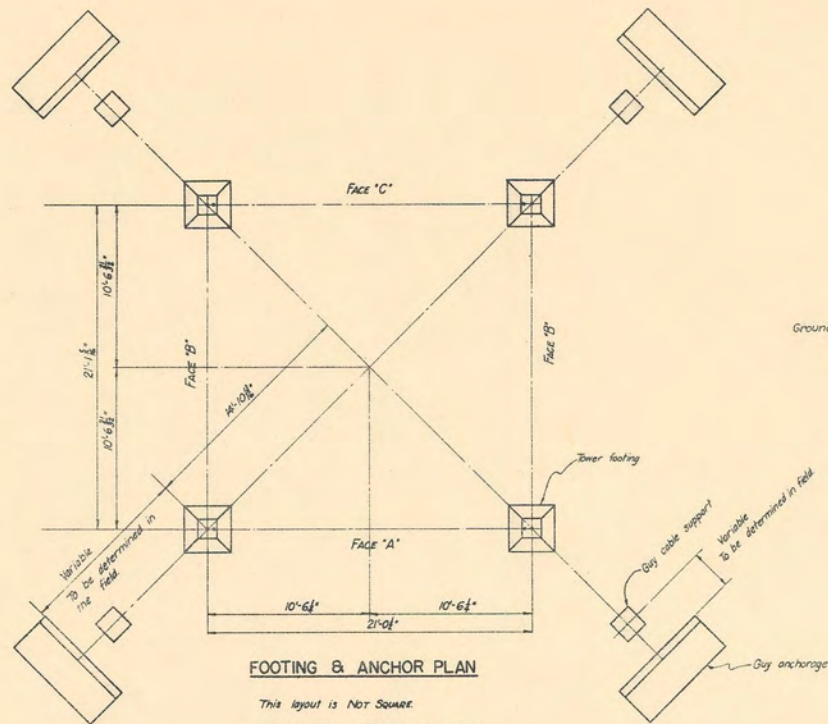
BILL OF IRON.					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT
5	3/4"	5"	Machine Bolts	Diagonal DI	5
70	"	11"	" "	Posts to Diagonals	115
52	"	11 1/2"	" "	Post Splices	94
48	"	12 1/2"	" "	Diagonal Intersections	93
14	"	14 1/2"	" "	Post to H-1 & H-3	32
9	"	15"	" "	Post to Cab Stringers	20
5	3/4"	17"	" "	Post to D.S.	12
430	3/4"		Malleable C.I. Washers.		165
9	1/2"	32"	Machine Bolts	Stair Stringers	17
9	1/2"	28 1/2"	" "	"	15
215	1/2"		Malleable C.I. Washers		30
	10d.		Common Nails		15
	40d.		" "		60
	50d.		" "		50
255	4"		"Teco" or equal Split Rings		169
	3/4"		5/16 Gal. Plough Steel Wire Rope - Length to suit topography		
24	3/4"		Wire Rope Clips		36
4	3/4"		Thimbles		3
4			Cast steel Guy Collars	See detail.	80
15	3/4"	15 1/2"	Machine Bolts		35
46	1/2"	6 1/2"	" "		21
3	"	9"	" "		2
40	"	10"	" "		26
26	3/8"	5"	Carriage Bolt		5
16	"	6"	" "		4
4	"	6 1/2"	" "		1

All above except C.S. guy collar to be galvanized



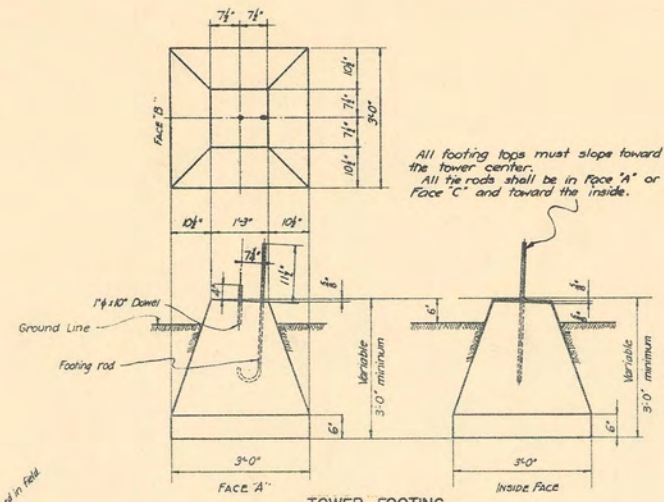
NOTE
This list includes an approximate 10% overage of bolts, washers, split rings and nails.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	J. FRANKLAND REGIONAL ENGINEER	
STANDARD LOOKOUT TOWER 65-FOOT TYPE CT-4 BILL OF HARDWARE		
DESIGNED W.D.S.	DRAWN W.D.S.	TRACED W.D.S.
Rev. 5-15-40 W.D.S.	Rev. 12-6-39 A.S.	SCALE
Rev. 4-28-38 B.C.O.	APPROVED <i>J. Frankland</i>	CHECKED <i>[Signature]</i>
	DATE JAN. 1938	DATE JAN. 1938
J. FRANKLAND REGIONAL FORESTER		



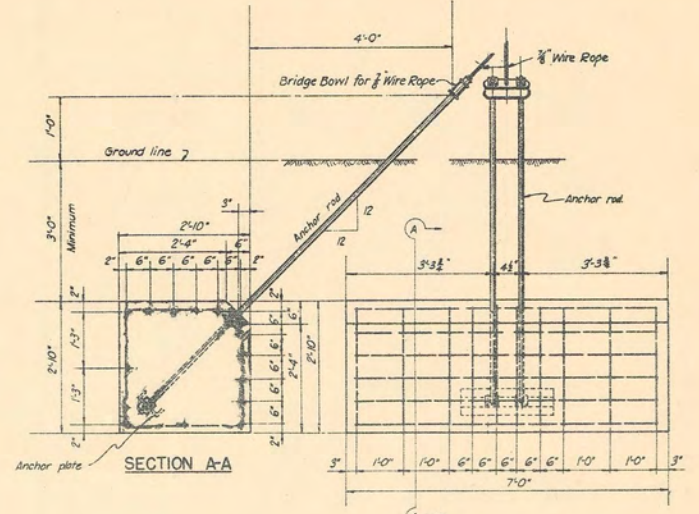
FOOTING & ANCHOR PLAN

This layout is Not Square.
Cables shall slope of 12:12 and location of anchors shall be computed accordingly.

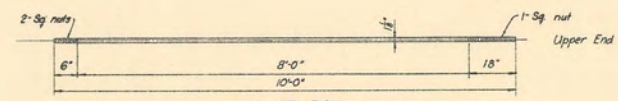


TOWER FOOTING

3'-0" x 3'-0" Concrete block of variable height. Top bevelled two ways of 1/2 to 1/2 slope.

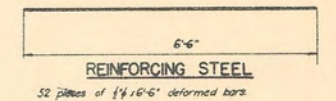


GUY ANCHOR DETAIL



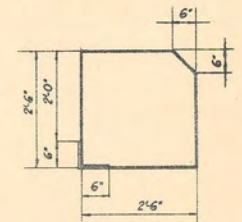
ANCHOR ROD

1 1/2" x 10'-0" Rod. Thread ends as indicated. Furnish 3 square nuts for each rod. Galvanized - Make B.



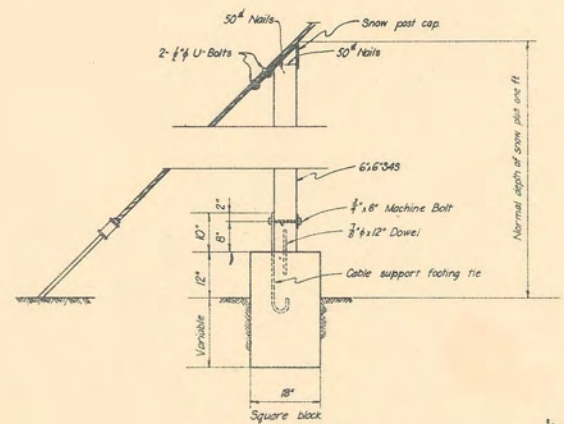
REINFORCING STEEL

52 pieces of 1/4" x 6'-6" deformed bars.

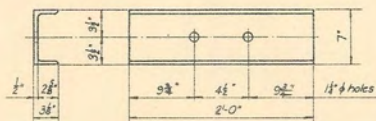


REINFORCING TIES

40 pieces of 1/4" x 10'-9" deformed bars.



GUY CABLE SUPPORT



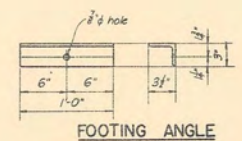
ANCHOR PLATE

7' x 3 1/2" x 1/2" Channel C42 (BSC9). Galvanized. Make 4.



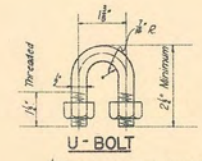
FOOTING ROD

3/4" x 3'-4" Rod. Furnish 1 square nut each. Galvanized - Make 4.



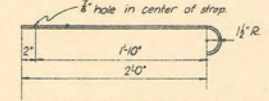
FOOTING ANGLE

3 1/2" x 3 1/2" x 1'-0" Galvanized angle. Make 4. See tower detail sheet 2. This clip attached to footing rod.



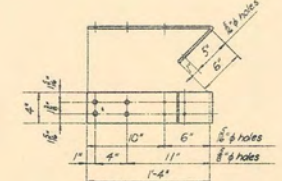
U-BOLT

1 1/2" Galvanized bolt, furnish 2 hex. nut each bolt. Make 8.



CABLE SUPPORT FOOTING TIE

1/2" x 3' x 2'-6" Strap. Galvanized - Make four.



SNOW POST CAP

1/2" x 4" x 1'-0" Galvanized Plate. Make 4.

Furnish all material detailed and in addition furnish:

- 4 - 1/2" x 12" Dowels - Plain
 - 4 - 1/4" x 10" Dowels - Plain
 - 4 - 3/8" x 8" Machine bolts
 - 4 - 3/8" Malleable washers.
- All galvanized

CONCRETE

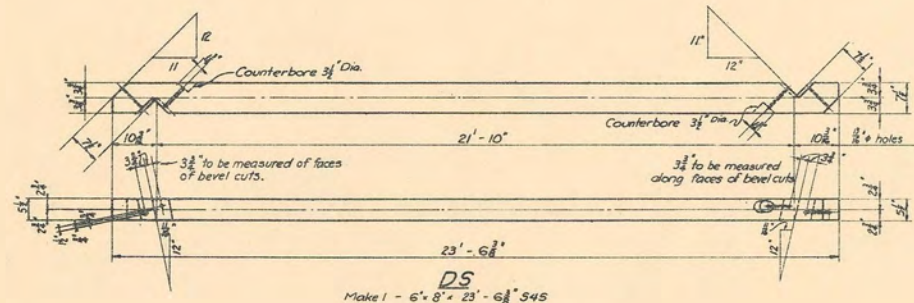
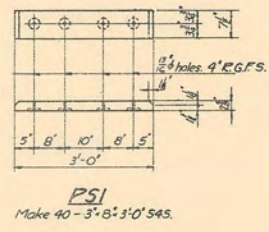
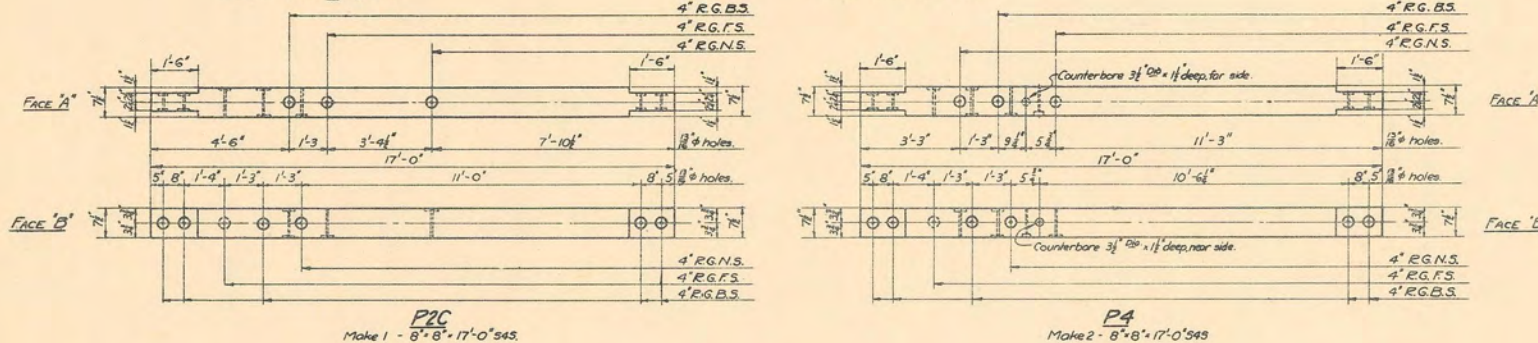
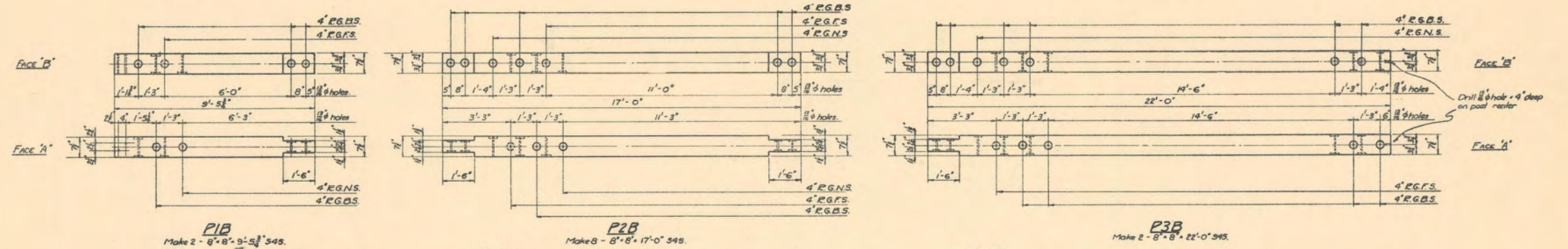
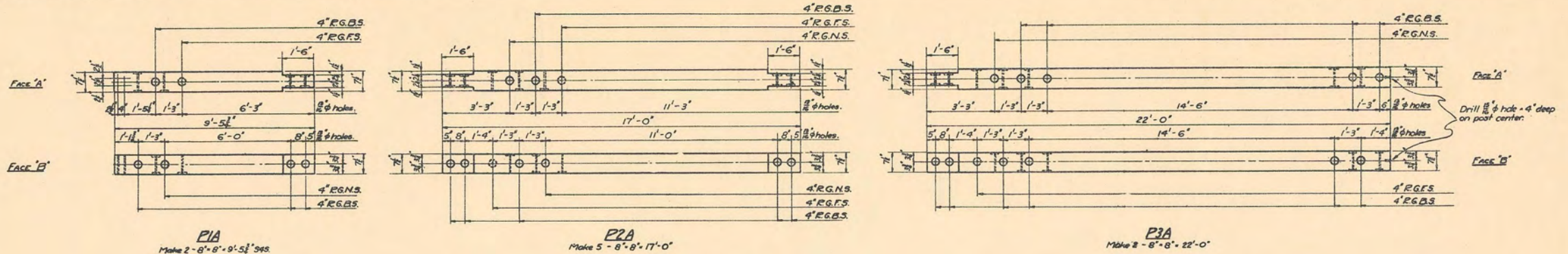
Mix - 13-5
Volume - Approximately 12 c. yds.
Cement - 13.5 Bbls.
Sand - 6.2 C. Yds.
Gravel - 10.3 C. Yds.

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
100-FOOT TYPE CT-4
FOUNDATION DETAILS**

DESIGNED: E.C.O. DRAWN: B.C.O. TRACED: B.C.O.
SCALE: 1/8" = 1'-0" CHECKED: [Signature]
APPROVED: [Signature] DATE NOV 1939
DIST. ASSISTANT REGIONAL FORESTER.

Revised 12-4-39 by A.S.



R.G.N.S. = Ring Groove Near Side
R.G.F.S. = Ring Groove Far Side
R.G.B.S. = Ring Grooves Both Sides

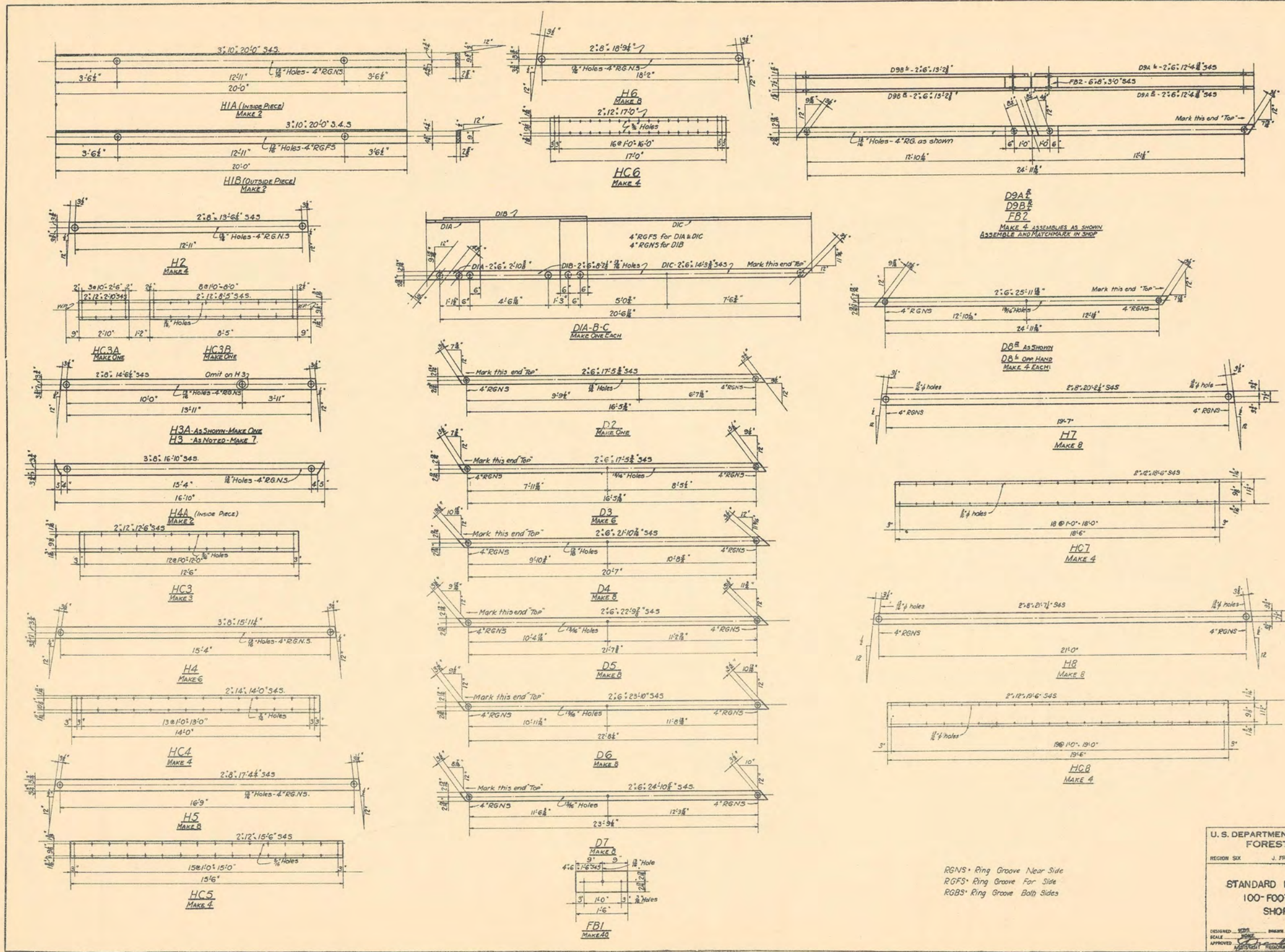
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND, REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
100-FOOT TYPE CT-4
SHOP DETAILS

DESIGNED: W.D.S. DRAWN: B.C.O. TRACED: J.C.O.
SCALE: 1/4" = 1'-0" CHECKED: [Signature] DATE: DEC. 4, 1937
APPROVED: [Signature] ASSISTANT REGIONAL FORESTER

Revised 3-8-39 by W.G. D.S.



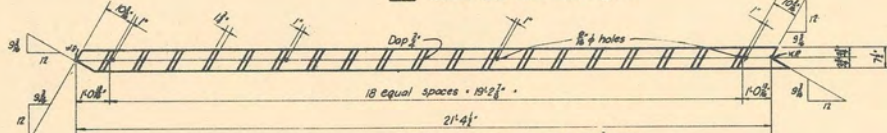
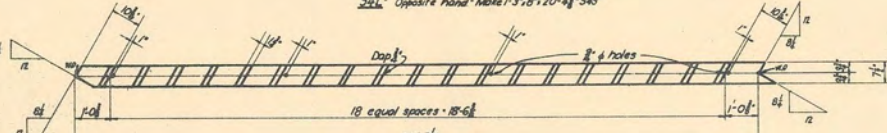
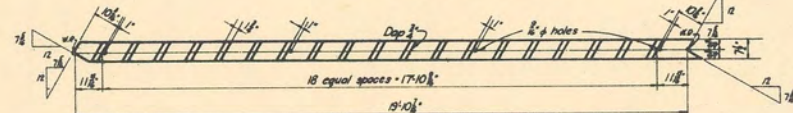
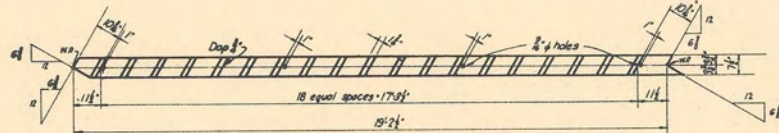
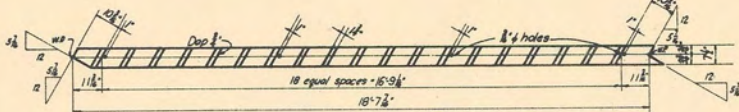
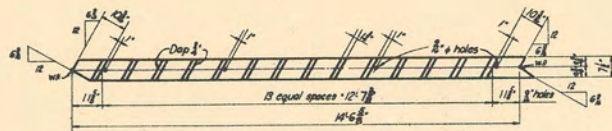
RGNS - Ring Groove Near Side
 RGFS - Ring Groove For Side
 RGBS - Ring Groove Both Sides

U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX J. FRANKLAN REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
 100-FOOT TYPE CT-4
 SHOP DETAILS

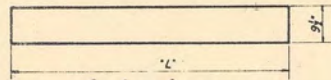
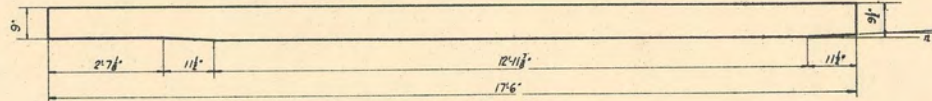
DESIGNED BY: _____ DRAWN BY: _____ CHECKED BY: _____
 SCALE: _____ DATE: NOV. 1941
 APPROVED BY: _____ ASSISTANT REGIONAL FORESTER

SHEET 5 OF 8 SHEETS L-10804B

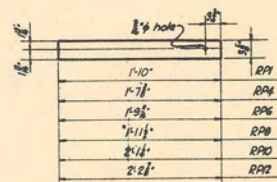
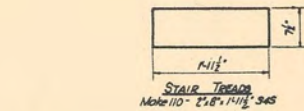
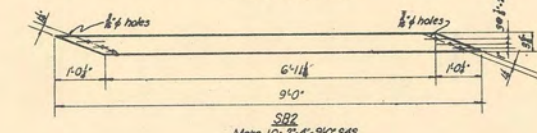
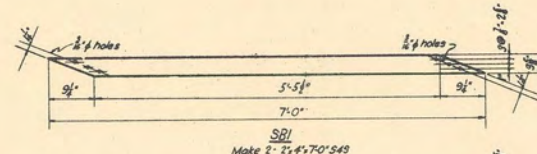


1'11"	14'2 1/2"	1'11"	PS2
11 1/4"	15'9 1/2"	-	-
11 1/4"	17'2 1/2"	11 1/4"	PS3
11 1/4"	18'7 1/2"	11 1/4"	PS4
11 1/4"	19'11 1/2"	-	-
11 1/4"	20'6 1/2"	11 1/4"	PS5
11 1/4"	21'11 1/2"	11 1/4"	PS6

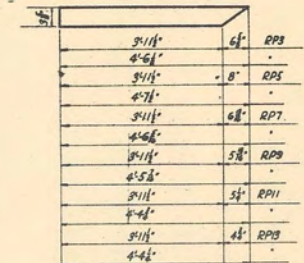
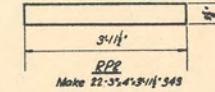
Stringers PS2-5-4-5-6
Make 3 each of 3" x 10" S4S



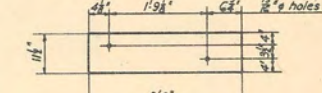
MARK	No. REQD.	LENGTH'L
N1	6	12'0"
N2	9	7'8 1/2"
N3	6	6'0"
N4	2	3'2 1/2"
N5	4	4'0"
N8	2	5'8 1/2"
N9	3	2'8"



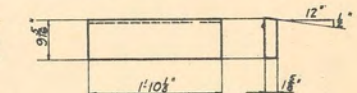
RP1-4-6-8-10-12
Make 4 each 2' x 4" S4S



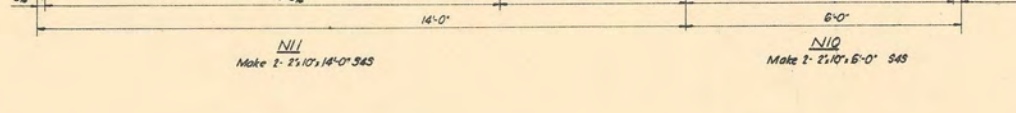
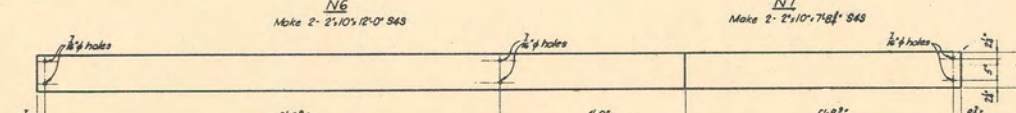
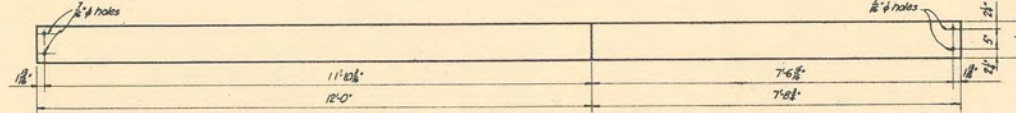
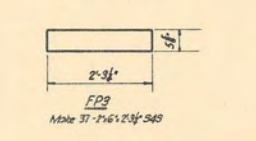
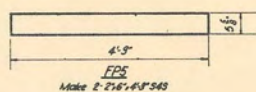
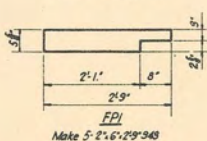
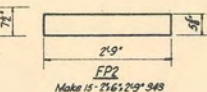
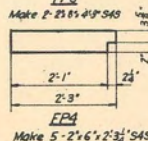
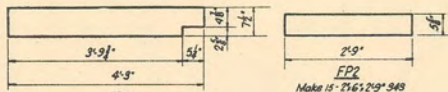
RP3-5-7-9-11-13
Make 2 each 3'14" S4S



Make 11-2' x 12' x 2'8"



Make 11-2' x 10' x 1'10 1/2"



N10
Make 1-2' x 10' x 6'0" S4S

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
100-FOOT TYPE CT-4
SHOP DETAILS

DESIGNED: W.D.S. DRAWN: W.D.S. TRACED: H.P.S.
SCALE: AS SHOWN CHECKED: J.C.S.
APPROVED: J. Frankland DATE: NOV. 1937
CONSULTANT REGIONAL FORESTER

BILL OF TREATED LUMBER											BILL OF UNTREATED LUMBER						
No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.	No.	MARK	SIZE	LENGTH	DESCRIPTION	F.B.M.
2	PIA	8"x8"	11'-5 3/4"	Top Posts	128	4	RPI	2 1/4"	1'-10"	Hand Rail Posts	5	9	2"x4"	10'-0"	Hand Rail	60	
2	P1B	"	11'-5 3/4"	"	128	22	RP2	3"x4"	3'-11 1/2"	"	88	6	"	12'-0"	"	48	
5	P2A	"	19'-0"	Intermediate Posts	533	2	RP3	3"x4"	4'-6 3/8"	"	10	2	"	16'-0"	"	21	
8	P2B	"	19'-0"	"	854	4	RP4	2"x4"	1'-7 3/8"	"	5	10	2"x4"	22'-0"	"	147	
1	P2C	"	19'-0"	"	107	2	RP5	3"x4"	4'-7 1/2"	"	10						
2	P3A	"	24'-0"	Bottom Posts	256	4	RP6	2"x4"	1'-9 3/8"	"	5						
2	P3B	"	24'-0"	"	256	2	RP7	3"x4"	4'-6 3/8"	"	10						
2	P4	8"x8"	19'-0"	Intermediate Post	213	4	RP8	2"x4"	1'-11 1/2"	"	5						
40	PS1	3"x8"	3'-0"	Post Splices	240	2	RP9	3"x4"	4'-5 3/8"	"	10						
1	DS	6"x8"	23'-6 3/8"	Diagonal Strut	96	4	RP10	2"x4"	2'-1 1/4"	"	8						
2	H1A	3"x10"	20'-0"	Tower Girder	100	2	RP11	3"x4"	4'-4 3/8"	"	9						
2	H1B	3"x10"	20'-0"	"	100	4	RP12	2"x4"	2'-2 3/8"	"	8						
4	H2	2"x8"	13'-6 1/4"	Top Horizontal	75	2	RP13	3"x4"	4'-4 1/4"	"	9						
7	H3	"	14'-6 1/4"	Intermediate Horizontal	149	6	N1	2"x10"	12'-0"	Cab Stringers	120						
1	H3A	2"x8"	14'-6 1/4"	"	21	9	N2	"	7'-8 3/4"	"	120						
6	H4	3"x8"	15'-11 1/4"	"	192	6	N3	"	6'-0"	"	60						
2	H4A	3"x8"	16'-10"	"	72	2	N4	"	3'-2 3/4"	"	13						
8	H5	2"x8"	17'-4 1/4"	"	192	4	N5	"	4'-0"	"	27						
8	H6	"	18'-9 1/4"	"	213	2	N6	"	12'-0"	"	40						
8	H7	"	20'-2 1/4"	"	235	2	N7	"	7'-8 3/8"	"	27						
8	H8	2"x8"	21'-7 1/4"	Bottom Horizontal	235	2	N8	"	5'-8 3/8"	"	20						
3	HC3	2"x12"	12'-6"	Horizontal Strut Covers	84	3	N9	"	2'-8 3/8"	"	15						
1	HC3A	"	2'-10"	"	6	2	N10	"	6'-0"	"	20						
1	HC3B	2"x12"	8'-5"	"	18	2	N11	2"x10"	14'-0"	"	47						
4	HC4	2"x14"	14'-0"	"	131	11	5C	2"x12"	2'-8"	Stair Stringer Caps	60						
4	HC5	2"x12"	15'-6"	"	128	11	5R	2"x10"	1'-10 1/8"	"	37						
4	HC6	"	17'-0"	"	144												
4	HC7	"	18'-6"	"	160												
4	HC8	2"x12"	19'-6"	"	160												
Total treated Lumber											9452	Total Untreated Lumber					276
1	D1A	2"x6"	2'-10 3/8"	Diagonals	3												
1	D1B	"	8'-2 1/8"	"	9												
1	D1C	"	14'-3 3/8"	"	16												
1	D2	"	17'-5 3/8"	"	18												
6	D3	"	17'-5 3/8"	"	108												
8	D4	"	21'-10 7/8"	"	176												
8	D5	"	22'-9 7/8"	"	192												
8	D6	"	23'-10"	"	192												
8	D7	"	24'-10 5/8"	"	208												
8	D8	"	25'-11 1/8"	"	208												
8	D9A	"	12'-4 1/8"	"	112												
8	D9B	2"x6"	13'-2 3/8"	"	112												
40	F81	4"x6"	1'-6"	Fills	120												
4	F82	6"x8"	3'-0"	Fills	48												
2	S1	3"x8"	15'-1 1/2"	Stair Stringers	64												
2	S2	"	19'-3 1/8"	"	80												
2	S3	"	19'-9 3/8"	"	80												
2	S4	"	20'-4 3/8"	"	88												
2	S5	"	21'-0 3/8"	"	88												
2	S6	3"x8"	21'-9 3/8"	"	88												
3	PS1	3"x10"	17'-6"	Platform Stringers	135												
3	PS2	"	16'-5 3/8"	"	135												
3	PS3	"	17'-8 3/8"	"	135												
3	PS4	"	19'-1 1/8"	"	150												
3	PS5	"	20'-6 3/8"	"	165												
3	PS6	3"x10"	21'-11 3/8"	"	165												
2	SB1	2"x4"	7'-0"	Sway braces for Stairs	9												
10	SB2	2"x4"	9'-0"	"	60												
5	FP1	2"x6"	2'-9"	Platform Floor Plank	15												
15	FP2	"	2'-9"	"	45												
37	FP3	"	2'-3 1/4"	"	87												
5	FP4	"	2'-3 1/4"	"	12												
2	FP5	2"x6"	4'-3"	"	10												
2	FP6	2"x8"	4'-3"	"	12												
110		2"x8"	1'-11 1/2"	Stair Treads	293												

NOTE- All material to be S4S

As required by specifications, material for Posts is listed 2'-0" greater than shop detail length to eliminate seasoning end checks.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX J. FRANKLAND REGIONAL ENGINEER

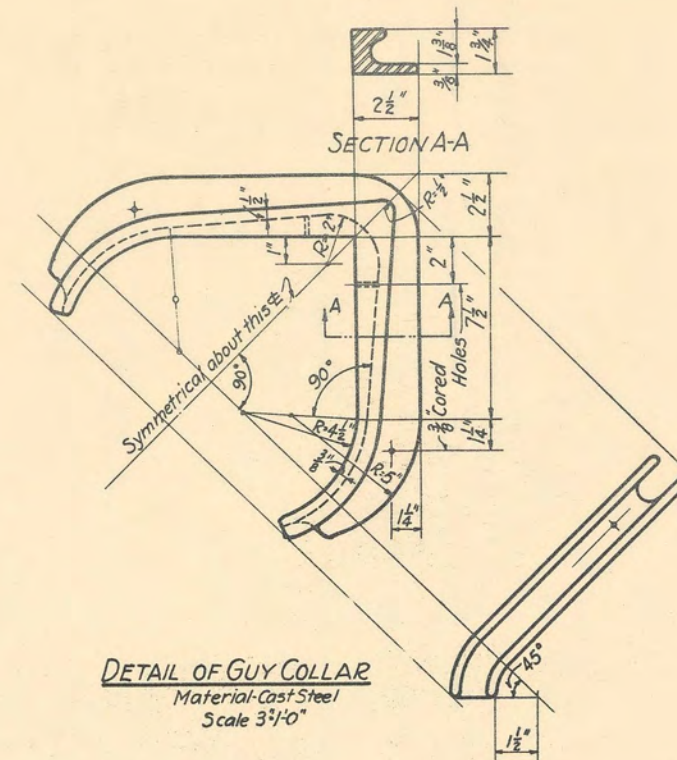
STANDARD LOOKOUT TOWER
100-FOOT TYPE CT-4
BILL OF LUMBER

DESIGNED W.D.S. DRAWN W.D.S. TRACED W.D.S.
SCALE _____ CHECKED W.D.S. DATE JAN-1958
APPROVED J. Frankland
ASS'T. REGIONAL FORESTER

Revised-5-14-40 by W.D.S.
Revised 12-5-39 A.S.
Revised 4-25-38 B.C.O.

BILL OF IRON					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT
5	3/4"	0'-5"	Machine Bolts	Diagonal DI	5
88	"	0'-11"	" "	Diagonals to Posts	153
88	"	0'-11 1/2"	" "	Post Splices	159
100	"	1'-0 1/2"	" "	Hor. Struts to Posts & Diagonals	185
14	"	1'-2 1/2"	" "	" " " "	30
10	"	1'-3"	" "	Posts to Cab Sills	23
5	3/4"	1'-5"	" "	Posts to DSI	12
650	3/4"		Malleable C.I. Washers		228
14	1/2"	2'-4 1/2"	Machine Bolts	Stair Stringers	24
14	1/2"	2'-8"	" "	" "	27
280	1/2"		Malleable C.I. Washers.		34
	10d.		Common Nails		20
	40d.		" "		85
	50d.		" "		75
380	4"		"Teco" or equal Split Rings		252
	7/8"		5/16 Plough Steel Wire Rope	Length to be determined in field.	
16	7/8"		Rope Clips		37
4			Bridge Bowls for 7/8" Wire Rope		80
4			Cast Steel Guy Collars	See detail.	80
24	3/4"	15 1/2"	Machine Bolts	Stairs	55
57	1/2"	6 1/2"	" "	"	26
5	"	7 1/2"	" "	"	3
7	"	9"	" "	"	5
43	"	10"	" "	"	28
41	3/8"	5"	Carriage Bolts	"	8
18	"	6"	" "	"	4
5	"	6 1/2"	" "	"	1

All above to be galvanized except C.S. guy collar.



DETAIL OF GUY COLLAR
Material-Cast Steel
Scale 3 1/2"=1"

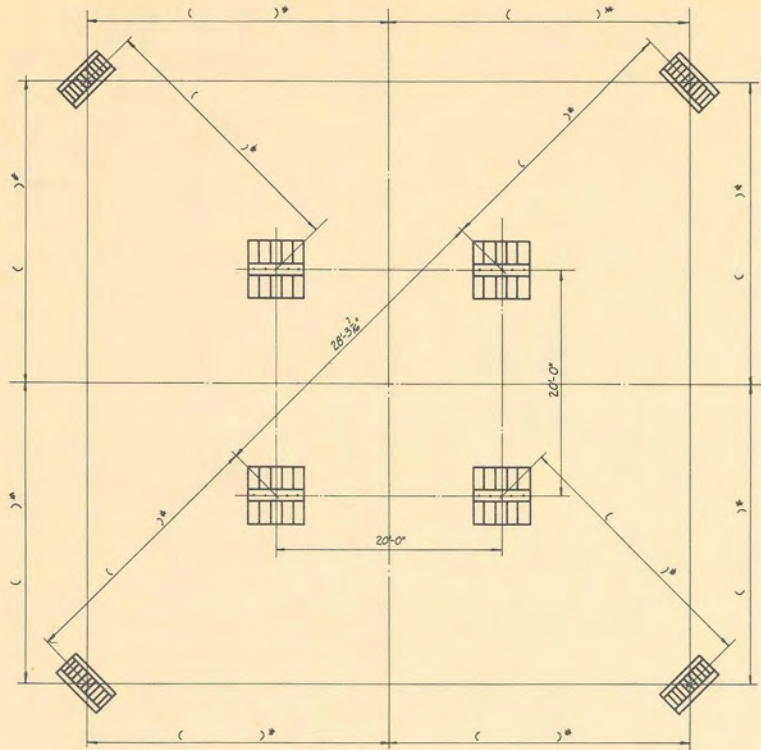
Note
This list includes an approximate 10% overage of bolts, washers, split rings and nails.

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND REGIONAL ENGINEER

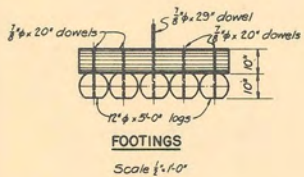
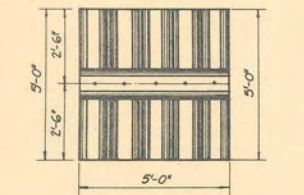
STANDARD LOOKOUT TOWER
100-FOOT TYPE CT-4
BILL OF HARDWARE

Revised 5-15-40 W.D.S.
Rev. 12-5-39 A.S.
Rev. 4-28-38 B.C.O.

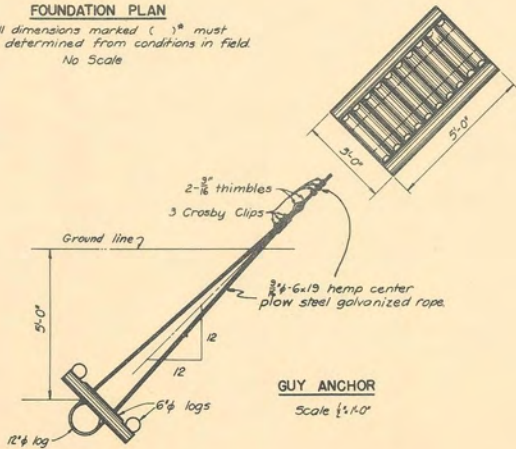
DESIGNED W.D.S. DRAWN W.D.S. TRACED W.D.S.
SCALE CHECKED C.B.P.
APPROVED J. Frankland DATE JAN-1938
ASST. REGIONAL FORESTER



FOUNDATION PLAN
All dimensions marked () * must be determined from conditions in field.
No Scale

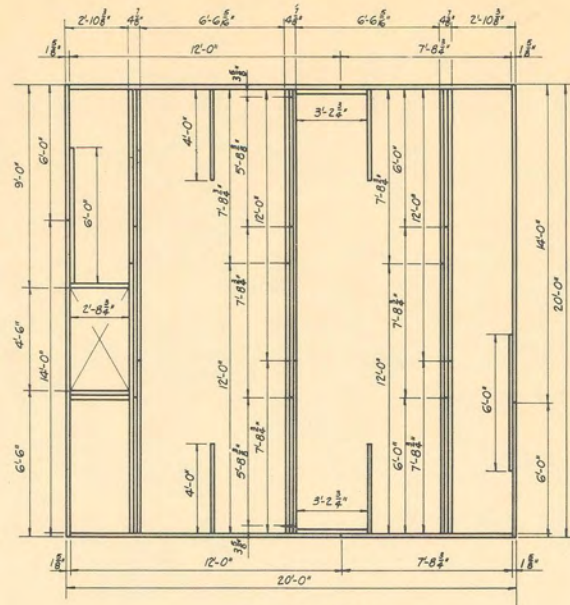


FOOTINGS
Scale 1/4" = 1'-0"

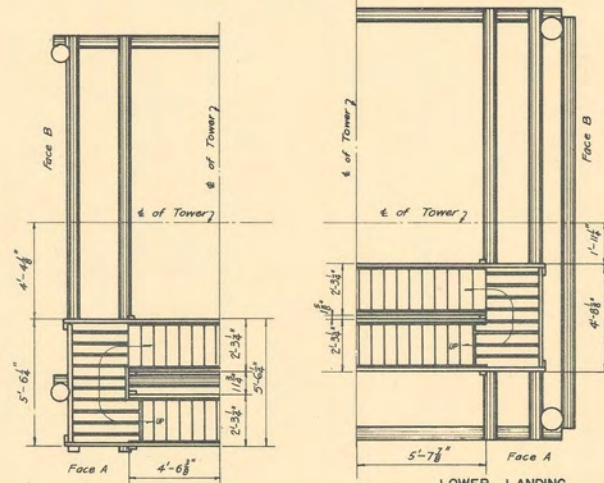


GUY ANCHOR
Scale 1/4" = 1'-0"

Notes
All hardware is to be galvanized
Hardware list consists of an approximate 10% increase over exact quantity to be required.
Guy Cable to be 3/4" x 6 x 19 hemp center galvanized plow steel rope.



CAB SILL LAYOUT
All material is 2x10 S4S
Scale 3/8" = 1'-0"



UPPER LANDING
Scale 1/4" = 1'-0"

HARDWARE

No.	Size	Length	Description	No.	Size	Length	Description
23	3/8"	12'	Machine Bolts	6	1/2"	32"	Tie Rods
37	3/8"	13'	" "	10	1/2"	28 1/2"	" "
28	3/8"	14'	" "	245	3/8"		Nail Washer
18	3/8"	16'	" "	32	1/2"		Cut Washer
17	3/8"	18'	" "	100	2 1/2"		Teco Split Rings
5	3/8"	23 1/2"	" "	40*	10d		Common Nails
18	3/8"	20'	Dowels	15*	16d		" "
5	1/2"	28"	" "	20*	20d		" "
36	1/2"		Crosby Clips				
8	1/2"		Thimbles				

POLES

No.	Min Dia	Length	Description
4	5 1/2"	14'-2"	Top Horizontal, Face A
2	5 1/2"	15'-9"	3rd " " "
2	5 1/2"	18'-0"	2nd " " "
2	5 1/2"	20'-7"	Bottom " " "
1	5 1/2"	19'-7"	3rd Panel Diagonal, Face A
3	5 1/2"	17'-3"	3rd " " "
4	5 1/2"	20'-11"	2nd " " "
4	5 1/2"	23'-11"	Bottom " " "
4	8"	4 1/2 x 3 3/16"	Posts
25	12"	5'-0"	Footings
1	5 1/2"	22'-0"	Diagonal Strut
1	5 1/2"	8'-0"	3rd Panel Landing Brace
2	6"	18'-4"	" " " Stringers
2	6"	17'-11"	2nd " " "
1	5 1/2"	17'-0"	2nd Panel Stair Brace
1	5 1/2"	20'-0"	1st Panel Stair Brace
4	10"	20'-0"	Top Horizontal, Face B
2	5 1/2"	15'-8"	3rd " " "
2	5 1/2"	17'-11"	2nd " " "
2	5 1/2"	20'-6"	Bottom " " "
4	5 1/2"	17'-2"	3rd Panel Diagonals, Face B
4	5 1/2"	20'-10"	2nd " " "
4	5 1/2"	23'-10"	Bottom " " "

LUMBER

No.	Size	Length	Description
2	3"x10"	14'-0"	Top Panel Stair Stringers
2	3"x10"	18'-0"	Intermediate Stair Stringers
2	3"x10"	22'-0"	Bottom Stair Stringers
2	2"x4"	18'-0"	Intermediate Hand Rails
2	2"x4"	22'-0"	Bottom Hand Rails
12	2"x4"	12'-0"	Hand Rails, H.R. Posts etc.
2	2"x4"	22'-0"	Stair Braces
8	2"x6"	12'-0"	Floor Plank
9	2"x10"	12'-0"	Stair Treads
7	1"x4"	12'-0"	Stair Tread Cleats
8	2"x10"	12'-0"	Cab Sills
11	2"x10"	8'-0"	Cab Sills
10	2"x10"	6'-0"	Cab Sills
6	2"x10"	4'-0"	Cab Sills
3	2"x10"	3'-0"	Cab Sills
2	2"x10"	14'-0"	Cab Sills
2	6"x6"	9'-0"	* Fill Blocks (Rough)

All lumber is S4S unless marked with an *

Revised 3-8-39 by W.G.
Guy Cable from 1/2"

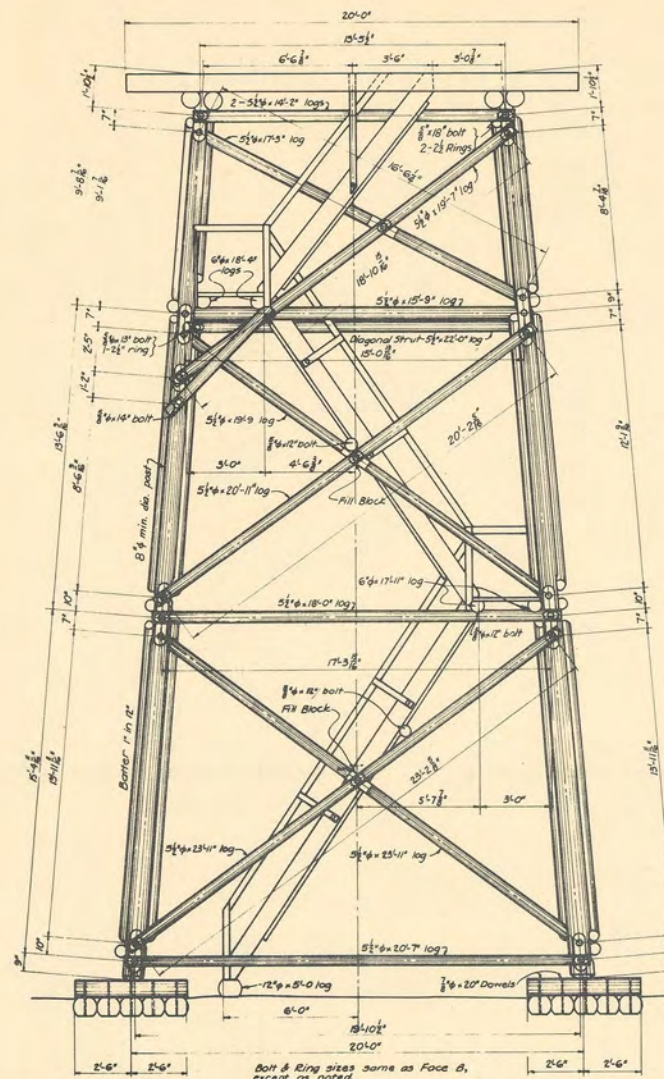
**U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE**

REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

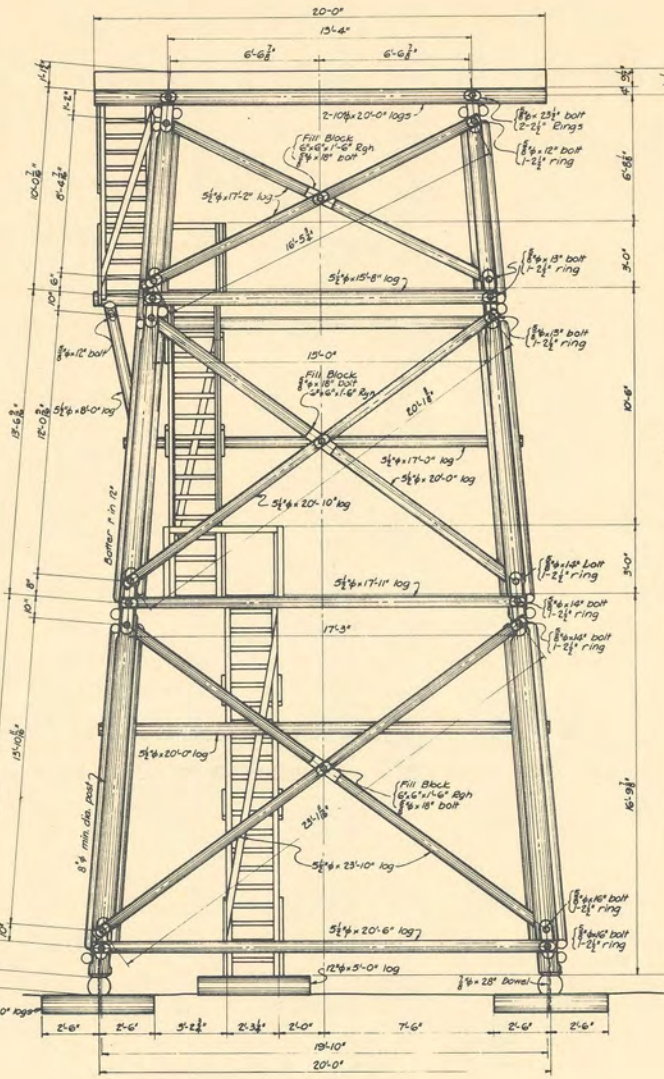
**STANDARD LOOKOUT TOWER
40-FOOT TYPE RT-1
FOUNDATION PLAN**

DESIGNED: RWS DRAWN: RWS TRACED: HRS
SCALE: AS SHOWN CHECKED: AMB
APPROVED: [Signature] REGIONAL FORESTER DATE: MARCH 1938

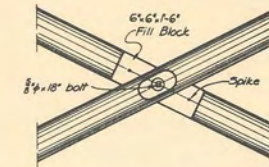
SHEET 1 OF 2 SHEETS L-11801



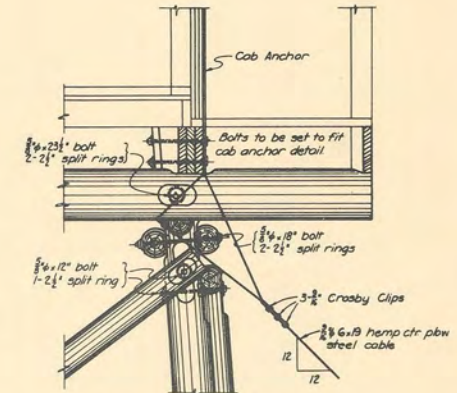
FACE A



FACE B



TYPICAL DIAGONAL INTERSECTION
Scale 1"=1'-0"



CAB ANCHOR & POST DETAIL
Scale 1"=1'-0"
Face B

General Notes

All post connections with horizontals and diagonals to be coupled with 3/4" bolts and 2 1/2" Teco split rings.
All contact surfaces on post connections to be dapped in each member to obtain flat parallel surfaces 3/4" in width.
All contact surfaces with malleable washers to be perpendicular to axis of bolts and wide enough to give complete bearing surface.
All diagonals and horizontals to extend at least 4' from the bolt hole to the end of the member.

Sawn Lumber Sizes

Hand Rail	2 1/4"	54-5
Hand Rail Posts	2 1/4"	"
Stair Stringers	3 1/2"	"
Stair Bracing	2 1/4"	"
Floor Plank	2 1/2"	"
Stair Tread	2 1/2"	"
Fill Block	6 x 6	Egh
Stair Tread Cleats	1 1/2"	54-5
Landing Deck	2 1/2"	"

Revised 3-8-39 by W.G.
Buy Cable from #1

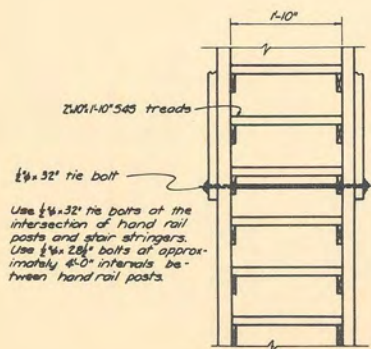
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

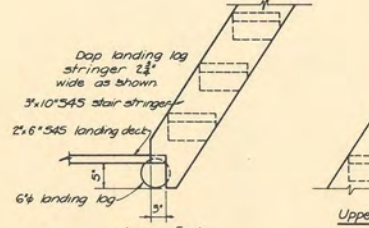
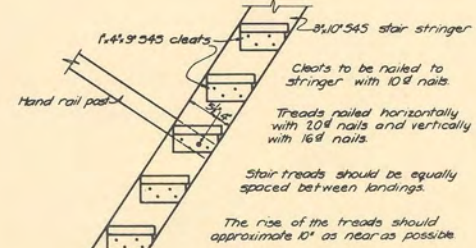
STANDARD LOOKOUT TOWER
40-FOOT TYPE RT-1
GENERAL PLAN

DESIGNED R.M.B. DRAWN R.M.B. TRACED R.M.S. & H.R.S.
SCALE 3/8"=1'-0" EXCEPT DETAILS CHECKED R.M.S.
APPROVED DATE MARCH 1938

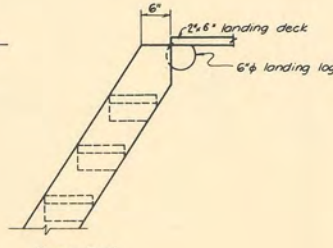
SHEET 2 OF 2 SHEETS L-11802

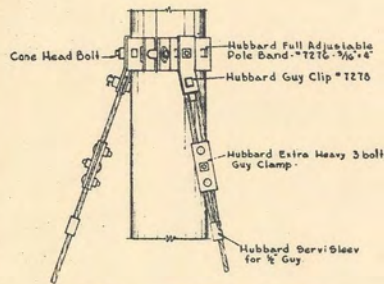


STAIR TREAD DETAILS

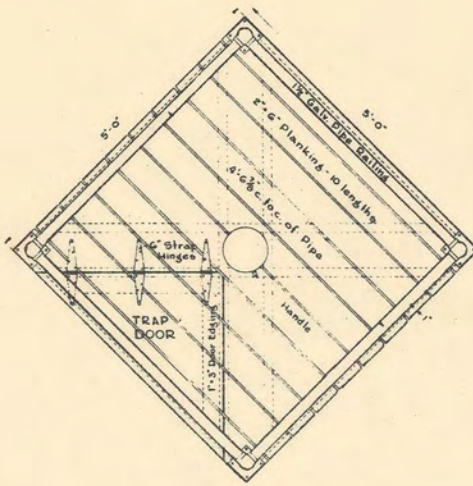


STAIR STRINGER DETAILS

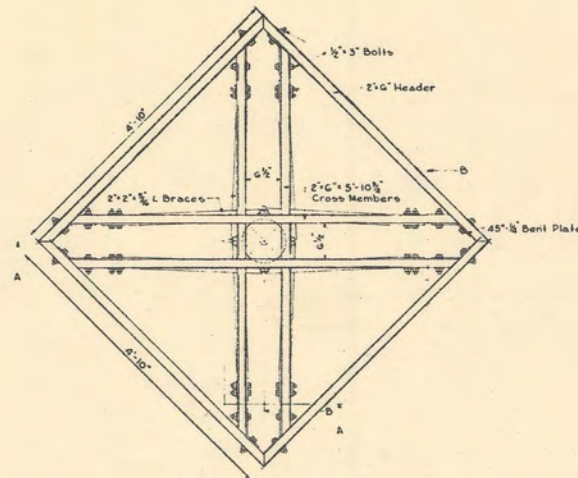




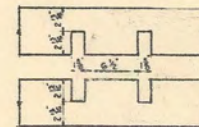
DETAIL OF GUY CONNECTION TO POLE
Scale 1/2" = 1'-0"



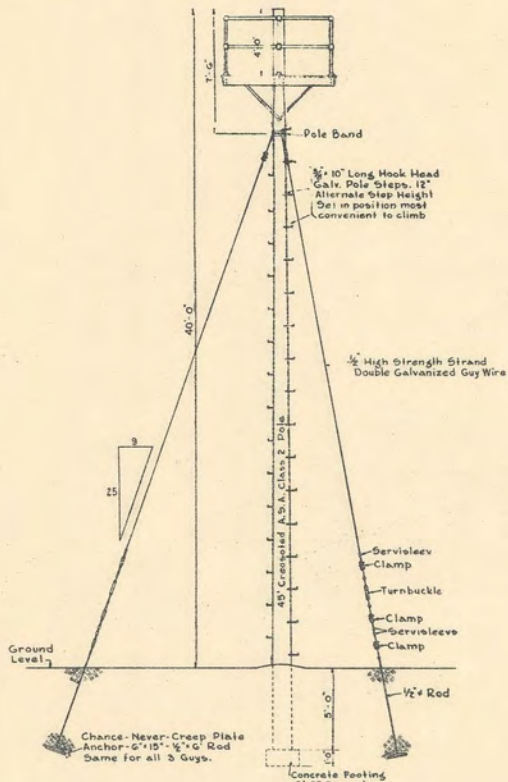
TOP
Scale 1'-1'-0"



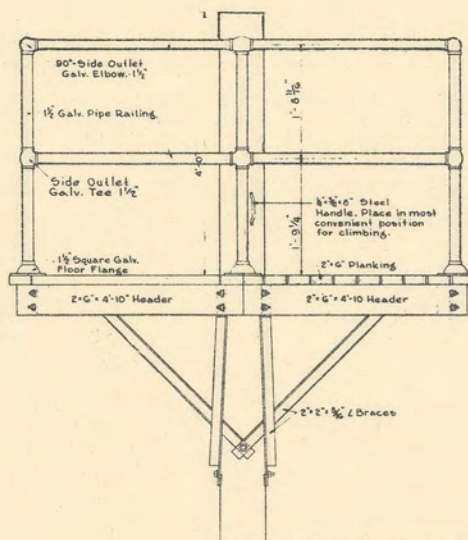
PLAN OF FRAMING
Scale 1'-1'-0"



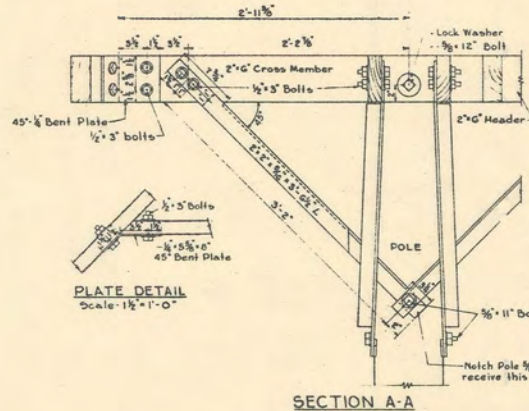
METHOD OF CROSSING
2" x 6" AT POLE
Scale 1/2" = 1'-0"



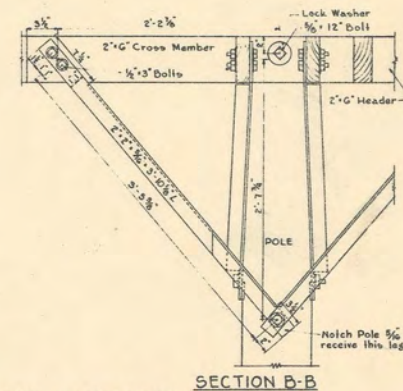
ASSEMBLY
Scale 1/2" = 1'-0"



FRONT
Scale 1'-1'-0"



SECTION A-A



SECTION B-B

DETAIL OF BRACING
Scale 1 1/2" = 1'-0"

PLATE DETAIL
Scale 1 1/2" = 1'-0"

BILL OF MATERIAL									
ITEM	NO.	SIZE	DESCRIPTION	REMARKS	ITEM	NO.	SIZE	DESCRIPTION	REMARKS
Pole	1	45" S.A. Class 2	Crossed Southern Pine	To be framed before treating	Bolts	48	1/2" x 5"	Galv. Machine	For Braces & Framing
Platform	2	2' x 12'-0"	7 Dimen. South. Pine or Dog. Fir	Cross Members	Washers	4	3/8"	M.I. Galv. Nut Lock	
	7	2' x 10'-0"	"	Headers and Floor		80	3/8" Hole	Hubbard #1803 Galv. Round	
	1	1' x 5'-0"	"	Trap Door Edging		6	1/2" Hole	Hubbard #1803	
Nails	3"	10d	"	For Floor and Trap Door	Pole Band	1	Hubbard #T276	Full Adjustable 3/8" x 6"	
Hinges	3	6"	Strap-Galvanized	Complete with screws	Handles	1	3/8" x 6"	Flat Rolled Steel Bar	Bend & Drill as shown
Bracing	4	2' x 2" x 5'-6"	Steel Angles	Cut Leg & Drill as shown	Guy Clips	3	Hubbard #T276	Complete with #1250 Cone Head Bolts	
	4	2' x 2" x 5'-0"	"	Trap Door Edging	Lag Screws	2	1/2" x 2"	Galvanized	For Handle
Plates	8	45" x 1/2"	Steel	Bend & Drill as shown	Railing	4	1 1/2"	M.I. Galv. Side Outlet Tee	Tap into with one side outlet L.H.
Railing	8	1 1/2" x 4'-4 1/2"	Galv. W. I. Pipe	Thread ends R.H. & L.H.	Guy Wire	1	120" x 1/2"	High Strength Strand Donk Galv.	Strength 18,600*
	8	1 1/2" x 1'-6 3/8"	"	Thread 4 pcs. R.H. & 4 pcs. L.H.	Guy Clamps	12	Hubbard #T460	Extra Heavy - 3 bolt	
	4	1 1/2"	M.I. Galv. 90° Side Outlet Elbow	Tap into with one L.H. outlet	Turnbuckles	3	3/8" x 9"	Galv. Eye & Eye	
	4	1 1/2"	M.I. Galv. Square Floor Flanges	R.H.	Servisleeves	12	Hubbard #T436	Galv.	
	16	1/2" x 1 1/2"	Galv. Lag Screws	For Floor Flanges	Guy Anchors	3	Chance #G5-26	Never-Creep Plate	G' x 15" Plate, 1/2" x 6" Rod
Bolts	2	3/8" x 11"	Galv. Machine	For Bolting Cross Members to Pole	Pole Steps	36	Hubbard #T116	3/8" x 10" Long Hook Head	
	2	3/8" x 11"	"	Braces to Pole	Cement	1 bag	1:2 1/4:4 Mix	For Concrete Footing	

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION NINE H. COLEMAN REGIONAL ENGINEER

OBSERVATION MAST
FOR
EMERGENCY LOOKOUT

DESIGNED BY W. H. B. E. S. A. DRAWN E. B. R. TRACED E. B. R.
SCALE AS SHOWN CHECKED J. A. G. S.
APPROVED C. S. S. RES. ENGINEER DATE 3-21-37
APPROVED G. O. S. DIV. OPERATOR 2-20-37

Revised - T-6-37