### DESIGN DATA

- **Loading:**
  - (c) 30 lbs per sq ft on projected area of
    - (1) 1/2 house and (3) 1/2 cupola.
  - (d) 30 lbs per sq ft on 1/2 times projected area of lower frame.
  - (g) 30 lbs per sq ft on full projected area of stairs (load conditions).
  - (h) Assumed dead load of house and cupola

- **Stresses:** Stress diagrams shown are for maximum member stresses with full wind load applied on left and right faces, respectively. Guy stresses shown are components in plane of tower faces for full wind load applied on left and right faces, respectively.

- **Timber Design:** In accordance with No. 15 Grading Rules of W.C.L.A. for Select Structural Coast Douglas Fir and National Design Specification for Stress-Grade Lumber and its Fastenings of the N.C.I.M.A.

### BILL OF MATERIAL (Treaty) (Sheet 6 of 7)

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

REGION SIX JAMES FRANKLIN, REGIONAL ENGINEER

82-FOOT TYPE T-1 TREATED TIMBER LOOKOUT TOWER

MODIFIED FOR HOUSE...

BILL OF LUMBER (Sheet 6 of 7)

LTL21406 194906 Sheet 6 of 7 L-21406
### BILL OF HARDWARE

**ITEM** | **DESCRIPTION** | **NO.** | **SIZE** | **LENGTH** | **LOCATION**
--- | --- | --- | --- | --- | ---
1 | Tie rods w/ 3 sq nuts | 14 | 7/8" | 2-1/2" | Stair stringer thru RPI, 2 & 10
2 | Split ring connectors | 222 | 5/8" | 6" | Web members & stair str. connection
3 | Shear plate | 1380 | 6" | 6" | Gusset plate connection
4 | Carriage bolts w/ sq nut | 20 | 1/2" | 3" | Stair rails to RPI, 2 & 10
5 |  | 12 | 5/8" | 5" | " | " RP5, 6
6 |  | 36 | 3/4" | 3" | Platform rails to RP3, 4, 6, 8, 9
7 |  | 36 | 5/8" | 2/10" | " | " RP3, 8
8 |  | 14 | 5/8" | 7½" | " | " RP4, 9
9 |  | 2 | 3/4" | 6" | Stair rails to house sills
10 |  | 2 | 1/2" | 5½" | Platform rails to RP5
11 |  | 2 | 1/2" | 10" | " | " & stair rails to RP5
12 | Machine bolts w/ sq nut | 17 | 1/2" | 6" | Closet railposts to house sills
13 |  | 34 | 5/8" | 6½" | Stair & platform str. to RP3, 4, 7, 8
14 |  | 24 | 1/2" | 7" | Stair str. 5½" to house sills
15 |  | 2 | 3/4" | 9½" | RP3 to house, MGB
16 |  | 3 | 5/8" | 9½" | Stair str. 5½" to house sills
17 |  | 5 | 1/2" | 10" | Platform stringers to RP3
18 |  | 25 | 5/8" | 4½" | Guy, DSL, DAE all to gusset plates
19 |  | 27 | 3/4" | 7" | Diagonal intersections
20 |  | 5 | 1/2" | 7" | " | at D10
21 |  | 3 | 5/8" | 7½" | House anchor plates to sills
22 |  | 3 | 5/8" | 8" | Snow posts
23 |  | 3 | 3/4" | 6½" | C1 to platform stringers
24 |  | 5 | 3/4" | 9" | GP2 ¾" to posts
25 |  | 20 | 7/8" | 9½" | Stair stringers & stringers to RP4
26 |  | 80 | 5/8" | 10" | OPS to Posts and Post splices
27 |  | 32 | 5/8" | 9" | Diagonals to posts
28 |  | 17 | 3/4" | 12" | DIO to posts
29 |  | 2 | 5/8" | 13½" | RP3 to PS2, 4, 5
30 |  | 9 | 5/8" | 14½" | House sills to posts
31 |  | 55 | 5/8" | 15½" | D1, 25½ & horizontals
32 |  | 76 | 5/8" | 17½" | Horizontals to posts
33 |  | 9 | 5/8" | 18½" | OPS to posts
34 |  | 9 | 3/4" | 20½" | Guy, 11½" to TOWER LEDS
35 | Wrought iron washers | 480 | 1" | 1½" | Carriage bolts
36 | Machineable | 160 | 5/8" | 1½" | 4½" machine bolts
37 |  | 900 | 1/2" | 2½" | " | "
38 | Dowels, (plain) | 17 | 5/8" | 12½" | Post dowels
39 |  | 5 | 5/8" | 12½" | Tower footing dowels
40 | Common Nails | 6 lb-40 lb | 3½" | 6½" | Steel money braces
41 |  | 280 | 3½" | 20" | Platform plank & Trends

**BILL OF HARDWARE AS DETAILED ON SHEET L-21401

**ITEM** | **DESCRIPTION** | **NO.** | **SIZE** | **LENGTH** | **LOCATION**
--- | --- | --- | --- | --- | ---
1 | Reinforcing steel (straight) | 44 | 9/8" | 2½" | Guy anchor horizontal
2 |  | 48 | 9/8" | 2½" | " | " stirrups
3 | Guy anchor assembly | 4 | 5/8" | 7½" | Guy anchors
4 | Wire rope clips | 21 | 1" | " | Guy ropes
5 | Snow post anchor strap | 4 | 7½" | 1½" | Snow post fastening
6 | Snow post cap | 4 | 7½" | 1½" | Snow post
7 |  | 4 | 7½" | 1½" | " | " cap
8 | Plate washer | 4 | 7½" | 7½" | Fill for FDB
9 | Hook bolt w/ sq nut | 2 | 7/8" | 1½" | For stair head CB
10 |  | 6 | 7/8" | 2½" | Platform stringers 5½" horiz
11 |  | 10 | 7/8" | 2½" | " | " 4½" horiz
12 | Guy plate GP 1/2" | 2 | from 24½" to JR | Tower guy connection
13 |  | 2 | from 24½" to JR | " | "
14 |  | 4 | 7/8" | 1½" | Horiz. MS to posts
15 |  | 6 | 7/8" | 1½" | Drop CB to posts
16 | Splice plates SP1 | 24 | 3½" | 5½" | Post splices

All items except items 1 and 2 to be galvanized 2 oz. Approx. total weight 3505 lbs.