

## **Request for Extension of Construction Permit**

Sun Broadcasting Inc. (“Sun”) requests a 180 day extension<sup>1</sup> of its construction permit to construct post-auction facilities for Station WXCW, Naples, Florida.<sup>2</sup> Station WXCW presently operates on Channel 45 and must move to Channel 32 to accommodate post-auction repacking of the television band. WXCW’s new Channel 32 facilities are to be constructed on the WINK-TV tower in Charlotte County, Florida. Sun submits that reconstruction of WXCW has been impeded by the unavailability of tower companies to perform the extensive and dangerous tower reinforcement needed to reconstruct the WINK-TV tower to current building code requirements.

Specifically, reinforcing the existing WINK-TV tower to meet current code requirements requires substantial reinforcement of the entire tower structure,<sup>3</sup> including welding additional steel to members near the top of the 1,500 foot tower. Few welders are capable of this type of tower reinforcement, as it requires that they be both extremely proficient in welding and qualified to climb towers. Further, the foundation and guy anchors of the existing WINK-TV tower cannot support the stresses of a reinforced WINK-TV tower, unless they, too, are significantly modified. In the opinion of Paul Ford & Company, the types of tower modifications required to bring the WINK-TV tower up to current standards are difficult, dangerous, of limited utility and cost prohibitive. Paul J. Ford & Company in its Structural

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<sup>1</sup> The requested extension is the maximum initial extension provided by Rule 73.3700. Sun has a construction permit to construct the WXCW post-auction transmission facilities on the WINK-TV tower in Charlotte County, Florida. The tower company hired to complete the required WINK-TV tower work estimates that the WINK-TV tower will be completed in December 2020, approximately three months later than this requested initial extension of construction permit.

<sup>2</sup> See Television Broadcast Station Construction Permit, FCC File No. 0000034571.

<sup>3</sup> See Report of Paul J. Ford & Company dated October 28, 2019, appended hereto as Exhibit 1 at Section 4.1.

Opinion Letter concluded that reinforcement of the existing tower was not a viable solution to bringing the WINK-TV tower up to existing standards.<sup>4</sup> This opinion is borne out by the refusal of tower companies to bid to modify the existing WINK-TV tower.<sup>5</sup>

The licensee of WINK-TV followed the advice of tower experts and decided to replace the existing WINK-TV tower with a new tower meeting current standards. To this end it ordered a replacement tower from Electronics Research, Inc. (“ERI”). Initially it was estimated that a replacement tower could be completed on a pre-auction tower construction schedule, i.e. within nine months of the order. However, on December 3, 2019, ERI informed WINK-TV that ERI’s current workload dictated a longer construction schedule. Currently ERI estimates tower completion will be in December 2020.

Sun has taken significant steps to insure that WXCW will be operating on its post-auction transition channel on or before the March 13, 2020, Phase 8 transition deadline. It has obtained Special Temporary Authority to operate WXCW on channel 32 with interim facilities collocated with the interim facilities of co-channel WINK-TV, Channel 31, Fort Myers, Florida. The WXCW interim transmitter has been ordered and is scheduled to be delivered in February of 2020. The interim antenna is ready to ship and is also scheduled to be installed in January 2020.

Insofar as the permanent WXCWV facilities are concerned, all broadcast equipment for the permanent Channel 32 facilities has been ordered. The transmitter has been delivered. The

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<sup>4</sup> See letter dated November 8, 2019, from Rebekah Dorris, PE to Mike Mayne appended hereto as Exhibit 2 (the “Structural Opinion Letter”). See also letter dated October 30, 2019, from James Ruedlinger, PE to Mike Mayne appended hereto as Exhibit 3.

<sup>5</sup> Electronics Research Inc. refused to bid. See Exhibit 3. Similarly Reese Tower Services would not consider performing the modifications. See letter dated October 31, 2019, from Brian Reese to Nathan Smith appended hereto as Exhibit 4.

main antenna will be delivered by the end of 2019. All equipment will be installed by the completion of the replacement tower, which ERI currently estimates will occur in December 2020.

In view of the foregoing, Sun submits that an extension of WXCW construction permit is required to allow the WXCW repack project to proceed to completion.

**Request for Extension of Construction Permit**  
**Exhibit 1**

**Report Date:** October 28, 2019

**Client:** Fort Myers Broadcasting Company  
2824 Palm Beach Blvd  
Fort Myers, FL 33916  
Attn: Mike Mayne

**Structure:** Existing 1432-ft Guyed Tower with Top Mast  
**FCC ASR #:** 1019724  
**Site Name:** WINK-TV  
**Site Address:** 12931 State Road 31  
**City, County, State:** Punta Gorda, Charlotte County, FL  
**Latitude, Longitude:** 26.800611, -81.763139

**PJF Project:** A00018-0546.005.8161

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**" to determine the tower stress level.

**Analysis Criteria:**

**Reference Standard:** 2017 Florida Building Code, 6th Edition. with the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1.

**Ultimate Wind Speed:** 149 mph 3-second gust wind speed without ice  
**Nominal Wind Speed:** 115 mph 3-second gust wind speed without ice  
**Service Wind Speed:** 60 mph (Serviceability) without ice  
**IBC Site Criteria:** Risk Category II, Topographic Category 1, Exposure Category C

**Proposed Appurtenance Loads:**

The structure was analyzed with the addition of the proposed appurtenance loads shown in Table 1 combined with the existing loads shown in Table 2 of this report.

**Summary of Analysis Results:**

**Existing Structure:** Fail  
**Existing Foundation:** Fail

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Fort Myers Broadcasting Company. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully Submitted by:  
Paul J. Ford and Company



Rebekah M. Dorris, PE  
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MTL

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**JUSTIN T. KLINE, P.E. - FL LICENSE #0000079560**  
**PAUL J. FORD & CO. - #EB-0002848**

This item has been electronically signed and sealed by Justin T. Kline, P.E. using a digital signature and date.

Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



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## 1) INTRODUCTION

This tower is a 1432 ft Guyed tower designed by Kline with a top antenna installed. The tower has been mapped by Reese Tower Services in July of 2019.

## 2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-G  
Risk Category: II  
Wind Speed (Nominal): 115.4 mph  
Exposure Category: C  
Topographic Factor: 1  
Service Wind Speed: 60 mph

**Table 1 - Proposed Equipment Configuration**

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model        | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|----------------------|----------------------|---------------------|
| 1358.3              | 1387.5                     | 1                  | tower mounts         | Sidearm              | 1                    | 6-1/8               |
|                     | 1358.3                     | 1                  | dielectric           | TFU-31JSC/VP-R 4C130 |                      |                     |
|                     | 1329.1                     | 1                  | tower mounts         | Sidearm              |                      |                     |
| 239.0               | 239.0                      | 1                  | radiowaves           | HP6-13               | 1                    | 3/8                 |

**Table 2 - Other Considered Equipment**

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model               | Number of Feed Lines | Feed Line Size (in) | Note |
|---------------------|----------------------------|--------------------|----------------------|-----------------------------|----------------------|---------------------|------|
| 1432.0              | 1432.0                     | 1                  | generic              | top mast                    | 2<br>1               | 6<br>1/4            | 1    |
| 1416.0              | 1416.0                     | 1                  | generic              | USCAN-2DR6-2/7C             | 1<br>1               | 3/4<br>7/8          | 1    |
| 1396.0              | 1396.0                     | 1                  | generic              | USCAN-2DR6-2/7C             | 1<br>1               | 3/4<br>7/8          | 1    |
| 1137.0              | 1137.0                     | 1                  | eri                  | 10 Bay FM                   | 1                    | 3                   | 1    |
| 1045.0              | 1045.0                     | 1                  | andrew               | PND4D-21                    | -                    | -                   | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 1038.0              | 1038.0                     | 1                  | antennae             | 3' Yagi                     | -                    | -                   | 1    |
|                     |                            | 1                  | tower mounts         | 6' x 1.5" Std. Pipe         |                      |                     |      |
| 1019.0              | 1019.0                     | 1                  | microwave dishes     | 4 ft standard               | -                    | -                   | 1    |
|                     |                            | 1                  | microwave dishes     | 6' std w/radome             |                      |                     |      |
|                     |                            | 2                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 1008.0              | 1008.0                     | 1                  | microwave dishes     | 6' std w/radome             | -                    | -                   | 1    |
|                     |                            | 1                  | tower mounts         | 5' x 4" Sched 40 Pipe Mount |                      |                     |      |
| 976.0               | 985.0                      | 1                  | generic              | 18' 8 Bay Di-Pole           | -                    | -                   | 1    |
|                     | 976.0                      | 1                  | tower mounts         | Generic 1' x 2' sidearm     |                      |                     |      |
| 830.0               | 839.0                      | 1                  | generic              | 18 ft x 5" Bogner           | 1                    | 1-1/4               | 1    |
|                     | 830.0                      | 1                  | tower mounts         | Generic 1' x 2' sidearm     |                      |                     |      |

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model               | Number of Feed Lines | Feed Line Size (in) | Note |
|---------------------|----------------------------|--------------------|----------------------|-----------------------------|----------------------|---------------------|------|
| 607.0               | 617.0                      | 1                  | antennae             | 20' 4-Bay Dipole            | 1                    | 1-1/4               | 1    |
|                     | 607.0                      | 1                  | tower mounts         | Generic 1' x 2' sidearm     |                      |                     |      |
| 307.0               | 307.0                      | 1                  | microwave dishes     | 4 ft Grid                   | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 2.375" Mount Pipe      |                      |                     |      |
| 299.0               | 299.0                      | 1                  | microwave dishes     | 6 ft Grid                   | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 277.0               | 277.0                      | 1                  | microwave dishes     | 6' std w/radome             | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 262.0               | 262.0                      | 1                  | microwave dishes     | 10' std w/radome            | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 217.0               | 217.0                      | 1                  | andrew               | PAR10-65-P7A                | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 148.0               | 148.0                      | 1                  | microwave dishes     | 10' std w/radome            | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 104.0               | 104.0                      | 1                  | microwave dishes     | 8' std w/radome             | 1                    | EW63                | 1    |
|                     |                            | 1                  | tower mounts         | 4' x 4.5" Pipe Mount        |                      |                     |      |
| 101.0               | 103.0                      | 1                  | generic              | 1" Dia 4' Omni w/Pipe Mount | 1                    | 1/2                 | 1    |
|                     | 101.0                      | 1                  | tower mounts         | Generic 1' x 2' sidearm     |                      |                     |      |

Notes:

1) Existing Equipment

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

| Document                    | Remarks   | Reference           |
|-----------------------------|---|---------------------|
| Tower Manufacturer Drawings | Kline, 4/3/1987   | Fort Myers, Florida |
| Tower Mapping               | Reese Tower Services, 7/16/2019                           | 19-0521C            |
| Foundation Mapping          | EGSci, 11/12/2018   | 18.1019724          |
| Geotechnical Report         | EGSci, 11/13/2018   | 2018.1019724        |
| Proposed Loading            | Email Correspondence by Nathan Smith<br>Dated: 10/25/2019 | WINK                |

#### 3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.



### 3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

### 4) ANALYSIS RESULTS

**Table 4 - Section Capacity (Summary)**

| Section No. | Elevation (ft)    | Component Type | Size         | Critical Element | P (K)   | SF*P_allow (K) | % Capacity        | Pass / Fail |
|-------------|-------------------|----------------|--------------|------------------|---------|----------------|-------------------|-------------|
| T1          | 1432 - 1424.5     | Leg            | 3 3/4" solid | 2                | -52.68  | 419.95         | 12.5              | Pass        |
| T2          | 1424.5 - 1409.5   | Leg            | 3 3/4" solid | 15               | -293.03 | 253.35         | 115.7             | Fail        |
| T3          | 1409.5 - 1402     | Leg            | 3 3/4" solid | 36               | -325.44 | 253.35         | 128.5             | Fail        |
| T4          | 1402 - 1394.5     | Leg            | 4" solid     | 48               | -325.45 | 454.37         | 71.6              | Pass        |
| T5          | 1394.5 - 1387     | Leg            | 4" solid     | 60               | -382.37 | 312.76         | 122.3             | Fail        |
| T6          | 1387 - 1372       | Leg            | 4" solid     | 72               | -423.31 | 460.88         | 91.8<br>96.9 (b)  | Pass        |
| T7          | 1372 - 1342       | Leg            | 4" solid     | 99               | -459.45 | 462.31         | 99.4<br>148.3 (b) | Fail        |
| T8          | 1342 - 1312       | Leg            | 4" solid     | 150              | -459.19 | 462.15         | 99.4<br>153.4 (b) | Fail        |
| T9          | 1312 - 1289.5     | Leg            | 3 3/4" solid | 201              | -430.88 | 398.41         | 108.1             | Fail        |
| T10         | 1289.5 - 1282     | Leg            | 3 3/4" solid | 239              | -379.05 | 395.37         | 95.9<br>115.1 (b) | Fail        |
| T11         | 1282 - 1274.5     | Leg            | 4" solid     | 254              | -366.47 | 312.76         | 117.2             | Fail        |
| T12         | 1274.5 - 1267     | Leg            | 4" solid     | 266              | -352.45 | 312.76         | 112.7             | Fail        |
| T13         | 1267 - 1259.5     | Leg            | 4" solid     | 278              | -337.02 | 312.76         | 107.8             | Fail        |
| T14         | 1259.5 - 1252     | Leg            | 4" solid     | 290              | -281.47 | 450.32         | 62.5              | Pass        |
| T15         | 1252 - 1235.63    | Leg            | 4 1/2" solid | 308              | -271.07 | 407.99         | 66.4              | Pass        |
| T16         | 1235.63 - 1228.81 | Leg            | 4 1/2" solid | 329              | -264.90 | 486.46         | 54.5              | Pass        |
| T17         | 1228.81 - 1222    | Leg            | 4 1/2" solid | 340              | -285.52 | 486.46         | 58.7              | Pass        |
| T18         | 1222 - 1214.5     | Leg            | 4 3/4" solid | 350              | -324.52 | 523.95         | 61.9              | Pass        |
| T19         | 1214.5 - 1207     | Leg            | 4 3/4" solid | 364              | -451.56 | 523.95         | 86.2              | Pass        |
| T20         | 1207 - 1199.5     | Leg            | 4 3/4" solid | 375              | -469.25 | 523.95         | 89.6              | Pass        |
| T21         | 1199.5 - 1192     | Leg            | 4 3/4" solid | 387              | -485.43 | 523.95         | 92.6              | Pass        |
| T22         | 1192 - 1162       | Leg            | 4 1/2" solid | 399              | -535.57 | 614.23         | 87.2              | Pass        |
| T23         | 1162 - 1154.5     | Leg            | 4 1/2" solid | 450              | -543.22 | 614.45         | 88.4              | Pass        |
| T24         | 1154.5 - 1139.5   | Leg            | 4 1/2" solid | 464              | -552.40 | 614.67         | 89.9              | Pass        |
| T25         | 1139.5 - 1132     | Leg            | 4 1/2" solid | 491              | -555.37 | 614.69         | 90.3              | Pass        |
| T26         | 1132 - 1109.5     | Leg            | 4 1/2" solid | 506              | -557.23 | 614.66         | 90.7              | Pass        |
| T27         | 1109.5 - 1102     | Leg            | 4 1/2" solid | 545              | -547.01 | 614.01         | 89.1              | Pass        |
| T28         | 1102 - 1072       | Leg            | 4 1/2" solid | 560              | -538.63 | 613.57         | 87.8              | Pass        |

| Section No. | Elevation (ft)  | Component Type | Size         | Critical Element | P (K)    | SF*P_allow (K) | % Capacity | Pass / Fail |
|-------------|-----------------|----------------|--------------|------------------|----------|----------------|------------|-------------|
| T29         | 1072 - 1064.5   | Leg            | 4 1/2" solid | 611              | -485.20  | 610.79         | 79.4       | Pass        |
| T30         | 1064.5 - 1057   | Leg            | 4 1/2" solid | 626              | -501.06  | 611.47         | 81.9       | Pass        |
| T31         | 1057 - 1049.5   | Leg            | 4 1/2" solid | 641              | -530.66  | 612.71         | 86.6       | Pass        |
| T32         | 1049.5 - 1042   | Leg            | 4 1/2" solid | 656              | -559.74  | 613.83         | 91.2       | Pass        |
| T33         | 1042 - 1034.5   | Leg            | 5 1/2" solid | 671              | -560.48  | 937.02         | 59.8       | Pass        |
| T34         | 1034.5 - 1019.5 | Leg            | 5 1/2" solid | 683              | -662.96  | 781.60         | 84.8       | Pass        |
| T35         | 1019.5 - 1012   | Leg            | 5 1/2" solid | 704              | -662.18  | 781.60         | 84.7       | Pass        |
| T36         | 1012 - 1004.5   | Leg            | 5 1/2" solid | 716              | -707.18  | 947.41         | 74.6       | Pass        |
| T37         | 1004.5 - 997    | Leg            | 5 1/2" solid | 731              | -720.22  | 935.07         | 77.0       | Pass        |
| T38         | 997 - 989.5     | Leg            | 5 1/2" solid | 746              | -732.61  | 781.60         | 93.7       | Pass        |
| T39         | 989.5 - 982     | Leg            | 5 1/2" solid | 758              | -704.36  | 781.60         | 90.1       | Pass        |
| T40         | 982 - 952       | Leg            | 5 1/2" solid | 770              | -676.65  | 781.60         | 86.6       | Pass        |
| T41         | 952 - 937       | Leg            | 5 1/4" solid | 809              | -621.71  | 838.03         | 74.2       | Pass        |
| T42         | 937 - 929.5     | Leg            | 5 1/4" solid | 836              | -625.83  | 838.19         | 74.7       | Pass        |
| T43         | 929.5 - 922     | Leg            | 5 1/4" solid | 851              | -628.86  | 838.29         | 75.0       | Pass        |
| T44         | 922 - 907       | Leg            | 5 1/4" solid | 866              | -631.09  | 838.32         | 75.3       | Pass        |
| T45         | 907 - 892       | Leg            | 5 1/4" solid | 893              | -628.10  | 837.80         | 75.0       | Pass        |
| T46         | 892 - 862       | Leg            | 5 1/4" solid | 920              | -634.86  | 837.56         | 75.8       | Pass        |
| T47         | 862 - 847       | Leg            | 5 1/2" solid | 972              | -697.74  | 927.58         | 75.2       | Pass        |
| T48         | 847 - 832       | Leg            | 5 1/2" solid | 999              | -770.43  | 932.70         | 82.6       | Pass        |
| T49         | 832 - 809.5     | Leg            | 5 3/4" solid | 1026             | -895.82  | 877.34         | 102.1      | Fail        |
| T50         | 809.5 - 802     | Leg            | 5 3/4" solid | 1056             | -942.13  | 1033.38        | 91.2       | Pass        |
| T51         | 802 - 794.5     | Leg            | 6" solid     | 1071             | -983.70  | 1131.37        | 86.9       | Pass        |
| T52         | 794.5 - 787     | Leg            | 6" solid     | 1086             | -993.38  | 1123.69        | 88.4       | Pass        |
| T53         | 787 - 772       | Leg            | 6" solid     | 1101             | -979.08  | 977.89         | 100.1      | Fail        |
| T54         | 772 - 742       | Leg            | 5 3/4" solid | 1122             | -943.48  | 877.34         | 107.5      | Fail        |
| T55         | 742 - 719.5     | Leg            | 5 1/2" solid | 1161             | -893.91  | 781.60         | 114.4      | Fail        |
| T56         | 719.5 - 712     | Leg            | 5 1/2" solid | 1191             | -874.11  | 781.60         | 111.8      | Fail        |
| T57         | 712 - 682       | Leg            | 5 1/2" solid | 1203             | -885.27  | 781.60         | 113.3      | Fail        |
| T58         | 682 - 652       | Leg            | 5 1/2" solid | 1242             | -933.66  | 781.60         | 119.5      | Fail        |
| T59         | 652 - 637       | Leg            | 5 3/4" solid | 1281             | -967.24  | 877.34         | 110.2      | Fail        |
| T60         | 637 - 629.5     | Leg            | 5 3/4" solid | 1302             | -986.10  | 877.34         | 112.4      | Fail        |
| T61         | 629.5 - 622     | Leg            | 5 3/4" solid | 1314             | -1005.67 | 877.34         | 114.6      | Fail        |
| T62         | 622 - 607       | Leg            | 6 1/4" solid | 1326             | -1048.84 | 1083.20        | 96.8       | Pass        |
| T63         | 607 - 592       | Leg            | 6 1/4" solid | 1347             | -1098.35 | 1083.20        | 101.4      | Fail        |
| T64         | 592 - 584.5     | Leg            | 6 1/4" solid | 1368             | -1118.59 | 1083.20        | 103.3      | Fail        |
| T65         | 584.5 - 577     | Leg            | 6 1/4" solid | 1380             | -1126.10 | 1083.20        | 104.0      | Fail        |
| T66         | 577 - 562       | Leg            | 6 1/4" solid | 1392             | -1100.00 | 1083.20        | 101.6      | Fail        |
| T67         | 562 - 532       | Leg            | 6" solid     | 1413             | -1039.91 | 977.89         | 106.3      | Fail        |
| T68         | 532 - 517       | Leg            | 5 3/4" solid | 1452             | -936.77  | 877.34         | 106.8      | Fail        |
| T69         | 517 - 502       | Leg            | 5 3/4" solid | 1473             | -891.00  | 877.34         | 101.6      | Fail        |
| T70         | 502 - 472       | Leg            | 5 3/4" solid | 1495             | -853.52  | 1014.03        | 84.2       | Pass        |
| T71         | 472 - 442       | Leg            | 5 3/4" solid | 1546             | -837.34  | 1011.62        | 82.8       | Pass        |

| Section No. | Elevation (ft)  | Component Type | Size                     | Critical Element | P (K)    | SF*P_allow (K) | % Capacity       | Pass / Fail   |
|-------------|-----------------|----------------|--------------------------|------------------|----------|----------------|------------------|---------------|
| T72         | 442 - 427       | Leg            | 5 3/4" solid             | 1597             | -865.69  | 877.34         | 98.7             | Pass          |
| T73         | 427 - 412       | Leg            | 5 3/4" solid             | 1618             | -902.36  | 877.34         | 102.9            | Fail <b>X</b> |
| T74         | 412 - 404.5     | Leg            | 6 1/4" solid             | 1639             | -923.93  | 1083.20        | 85.3             | Pass          |
| T75         | 404.5 - 397     | Leg            | 6 1/4" solid             | 1651             | -945.25  | 1083.20        | 87.3             | Pass          |
| T76         | 397 - 389.5     | Leg            | 6 1/4" solid             | 1663             | -969.29  | 1083.20        | 89.5             | Pass          |
| T77         | 389.5 - 382     | Leg            | 6 1/4" solid             | 1675             | -986.77  | 1083.20        | 91.1             | Pass          |
| T78         | 382 - 374.5     | Leg            | 6 1/4" solid             | 1687             | -990.69  | 1083.20        | 91.5             | Pass          |
| T79         | 374.5 - 352     | Leg            | 6 1/4" solid             | 1699             | -955.49  | 1083.20        | 88.2             | Pass          |
| T80         | 352 - 329.5     | Leg            | 6 1/4" solid             | 1729             | -895.34  | 1083.20        | 82.7             | Pass          |
| T81         | 329.5 - 322     | Leg            | 6 1/4" solid             | 1759             | -912.17  | 1083.20        | 84.2             | Pass          |
| T82         | 322 - 307       | Leg            | 6 1/4" solid             | 1771             | -942.35  | 1083.20        | 87.0             | Pass          |
| T83         | 307 - 292       | Leg            | 6 1/4" solid             | 1792             | -968.13  | 1083.20        | 89.4             | Pass          |
| T84         | 292 - 277       | Leg            | 6 1/4" solid             | 1813             | -987.77  | 1083.20        | 91.2             | Pass          |
| T85         | 277 - 262       | Leg            | 6 1/4" solid             | 1834             | -999.96  | 1083.20        | 92.3             | Pass          |
| T86         | 262 - 247       | Leg            | 6 1/4" solid             | 1855             | -999.45  | 1083.20        | 92.3             | Pass          |
| T87         | 247 - 232       | Leg            | 6 1/4" solid             | 1876             | -986.79  | 1083.20        | 91.1             | Pass          |
| T88         | 232 - 217       | Leg            | 6 1/4" solid             | 1897             | -965.01  | 1083.20        | 89.1             | Pass          |
| T89         | 217 - 209.5     | Leg            | 6 1/4" solid             | 1916             | -933.76  | 1083.20        | 86.2             | Pass          |
| T90         | 209.5 - 202     | Leg            | 6 1/4" solid             | 1928             | -920.71  | 1083.20        | 85.0             | Pass          |
| T91         | 202 - 194.5     | Leg            | 6 1/2" solid             | 1940             | -905.06  | 1193.23        | 75.8             | Pass          |
| T92         | 194.5 - 187     | Leg            | 6 1/2" solid             | 1952             | -910.97  | 1193.23        | 76.3             | Pass          |
| T93         | 187 - 179.5     | Leg            | 6 1/2" solid             | 1964             | -925.37  | 1193.23        | 77.6             | Pass          |
| T94         | 179.5 - 172     | Leg            | 6 1/2" solid             | 1976             | -947.84  | 1193.23        | 79.4             | Pass          |
| T95         | 172 - 149.5     | Leg            | 6 1/2" solid             | 1988             | -991.88  | 1193.23        | 83.1             | Pass          |
| T96         | 149.5 - 142     | Leg            | 6 1/2" solid             | 2018             | -999.21  | 1193.23        | 83.7             | Pass          |
| T97         | 142 - 112       | Leg            | 7" solid                 | 2030             | -1060.70 | 1427.29        | 74.3             | Pass          |
| T98         | 112 - 97        | Leg            | 7" solid                 | 2069             | -1072.24 | 1427.29        | 75.1             | Pass          |
| T99         | 97 - 89.5       | Leg            | 7" solid                 | 2090             | -1074.22 | 1427.29        | 75.3             | Pass          |
| T100        | 89.5 - 82       | Leg            | 7" solid                 | 2102             | -1070.03 | 1427.29        | 75.0             | Pass          |
| T101        | 82 - 74.5       | Leg            | 7" solid                 | 2114             | -1064.24 | 1427.29        | 74.6             | Pass          |
| T102        | 74.5 - 59.5     | Leg            | 7" solid                 | 2126             | -1055.70 | 1427.29        | 74.0             | Pass          |
| T103        | 59.5 - 52       | Leg            | 7" solid                 | 2147             | -1027.63 | 1427.29        | 72.0             | Pass          |
| T104        | 52 - 41         | Leg            | 6 1/2" solid             | 2159             | -1015.12 | 1280.01        | 79.3             | Pass          |
| T105        | 41 - 30         | Leg            | 6 1/2" solid             | 2171             | -998.13  | 1279.14        | 78.0             | Pass          |
| T106        | 30 - 23.6       | Leg            | 6 1/2" solid             | 2183             | -980.19  | 1261.06        | 77.7             | Pass          |
| T107        | 23.6 - 18.1     | Leg            | 6 1/4" solid             | 2198             | -996.17  | 1174.15        | 84.8             | Pass          |
| T108        | 18.1 - 0        | Leg            | 6 1/4" solid             | 2210             | -1004.05 | 1162.80        | 86.3             | Pass          |
| T1          | 1432 - 1424.5   | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8) | 6                | -7.45    | 37.28          | 20.0<br>21.6 (b) | Pass          |
| T2          | 1424.5 - 1409.5 | Diagonal       | 1" solid                 | 31               | 41.54    | 25.45          | 163.2            | Fail <b>X</b> |
| T3          | 1409.5 - 1402   | Diagonal       | 7/8" solid               | 43               | 36.95    | 19.48          | 189.7            | Fail <b>X</b> |
| T4          | 1402 - 1394.5   | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8) | 55               | -29.35   | 37.44          | 78.4             | Pass          |
| T5          | 1394.5 - 1387   | Diagonal       | 1" solid                 | 67               | 29.85    | 25.45          | 117.3            | Fail <b>X</b> |
| T6          | 1387 - 1372     | Diagonal       | 7/8" solid               | 91               | 28.56    | 19.48          | 146.6            | Fail <b>X</b> |


| Section No. | Elevation (ft)    | Component Type | Size                       | Critical Element | P (K)  | SF*P_allow (K) | % Capacity         | Pass / Fail   |
|-------------|-------------------|----------------|----------------------------|------------------|--------|----------------|--------------------|---------------|
| T7          | 1372 - 1342       | Diagonal       | 7/8" solid                 | 142              | 23.43  | 19.48          | 120.3              | Fail <b>X</b> |
| T8          | 1342 - 1312       | Diagonal       | 7/8" solid                 | 157              | 13.97  | 19.48          | 71.7               | Pass          |
| T9          | 1312 - 1289.5     | Diagonal       | 7/8" solid                 | 209              | 22.80  | 19.48          | 117.0              | Fail <b>X</b> |
| T10         | 1289.5 - 1282     | Diagonal       | 7/8" solid                 | 248              | 25.66  | 19.48          | 131.7              | Fail <b>X</b> |
| T11         | 1282 - 1274.5     | Diagonal       | 1" solid                   | 263              | 28.18  | 25.45          | 110.8              | Fail <b>X</b> |
| T12         | 1274.5 - 1267     | Diagonal       | 1 1/4" solid               | 275              | 30.54  | 39.76          | 76.8<br>85.3 (b)   | Pass          |
| T13         | 1267 - 1259.5     | Diagonal       | 1 1/2" solid               | 287              | 32.22  | 57.26          | 56.3               | Pass          |
| T14         | 1259.5 - 1252     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 302              | -39.27 | 86.86          | 45.2               | Pass          |
| T15         | 1252 - 1235.63    | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 325              | -36.34 | 79.10          | 45.9               | Pass          |
| T16         | 1235.63 - 1228.81 | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 334              | -26.86 | 80.88          | 33.2               | Pass          |
| T17         | 1228.81 - 1222    | Diagonal       | 1 1/2" solid               | 347              | 39.50  | 57.26          | 69.0<br>81.1 (b)   | Pass          |
| T18         | 1222 - 1214.5     | Diagonal       | 1 1/4" solid               | 359              | 40.85  | 39.76          | 102.7              | Fail <b>X</b> |
| T19         | 1214.5 - 1207     | Diagonal       | 1 1/4" solid               | 371              | 31.77  | 39.76          | 79.9               | Pass          |
| T20         | 1207 - 1199.5     | Diagonal       | 1 1/2" solid               | 383              | 32.07  | 57.26          | 56.0<br>65.8 (b)   | Pass          |
| T21         | 1199.5 - 1192     | Diagonal       | 1 1/4" solid               | 396              | 28.86  | 39.76          | 72.6               | Pass          |
| T22         | 1192 - 1162       | Diagonal       | 1 1/4" solid               | 444              | 27.12  | 39.76          | 68.2               | Pass          |
| T23         | 1162 - 1154.5     | Diagonal       | 1 1/4" solid               | 459              | 15.53  | 39.76          | 39.1               | Pass          |
| T24         | 1154.5 - 1139.5   | Diagonal       | 1" solid                   | 486              | 11.45  | 25.45          | 45.0               | Pass          |
| T25         | 1139.5 - 1132     | Diagonal       | 7/8" solid                 | 498              | 6.35   | 19.48          | 32.6               | Pass          |
| T26         | 1132 - 1109.5     | Diagonal       | 7/8" solid                 | 512              | 14.69  | 19.48          | 75.4               | Pass          |
| T27         | 1109.5 - 1102     | Diagonal       | 7/8" solid                 | 551              | 18.42  | 19.48          | 94.6               | Pass          |
| T28         | 1102 - 1072       | Diagonal       | 7/8" solid                 | 571              | 29.64  | 19.48          | 152.1              | Fail <b>X</b> |
| T29         | 1072 - 1064.5     | Diagonal       | 7/8" solid                 | 622              | 32.25  | 19.48          | 165.5              | Fail <b>X</b> |
| T30         | 1064.5 - 1057     | Diagonal       | 1" solid                   | 637              | 33.99  | 25.45          | 133.6<br>136.8 (b) | Fail <b>X</b> |
| T31         | 1057 - 1049.5     | Diagonal       | 1 1/4" solid               | 652              | 36.06  | 39.76          | 90.7               | Pass          |
| T32         | 1049.5 - 1042     | Diagonal       | 1 1/4" solid               | 666              | 36.05  | 39.76          | 90.7               | Pass          |
| T33         | 1042 - 1034.5     | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8)   | 679              | -29.51 | 33.73          | 87.5               | Pass          |
| T34         | 1034.5 - 1019.5   | Diagonal       | 1 1/2" solid               | 691              | 47.43  | 57.26          | 82.8               | Pass          |
| T35         | 1019.5 - 1012     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 712              | -44.47 | 79.25          | 56.1               | Pass          |
| T36         | 1012 - 1004.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 724              | -38.90 | 75.64          | 51.4               | Pass          |
| T37         | 1004.5 - 997      | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 740              | -39.89 | 75.64          | 52.7               | Pass          |
| T38         | 997 - 989.5       | Diagonal       | 1 1/2" solid               | 754              | 32.12  | 57.26          | 56.1               | Pass          |
| T39         | 989.5 - 982       | Diagonal       | 1 1/4" solid               | 766              | 31.72  | 39.76          | 79.8               | Pass          |
| T40         | 982 - 952         | Diagonal       | 1 1/4" solid               | 805              | 29.86  | 39.76          | 75.1               | Pass          |
| T41         | 952 - 937         | Diagonal       | 1" solid                   | 829              | 20.65  | 25.45          | 81.1               | Pass          |
| T42         | 937 - 929.5       | Diagonal       | 1" solid                   | 845              | 15.42  | 25.45          | 60.6               | Pass          |
| T43         | 929.5 - 922       | Diagonal       | 1" solid                   | 860              | 12.65  | 25.45          | 49.7<br>50.9 (b)   | Pass          |
| T44         | 922 - 907         | Diagonal       | 1" solid                   | 887              | 9.81   | 25.45          | 38.6<br>39.5 (b)   | Pass          |
| T45         | 907 - 892         | Diagonal       | 1" solid                   | 904              | 13.93  | 25.45          | 54.8               | Pass          |

| Section No. | Elevation (ft) | Component Type | Size         | Critical Element | P (K) | SF*P_allow (K) | % Capacity         | Pass / Fail |
|-------------|----------------|----------------|--------------|------------------|-------|----------------|--------------------|-------------|
|             |                |                |              |                  |       |                | 56.1 (b)           |             |
| T46         | 892 - 862      | Diagonal       | 1" solid     | 929              | 25.16 | 25.45          | 98.9<br>101.2 (b)  | Fail        |
| T47         | 862 - 847      | Diagonal       | 7/8" solid   | 980              | 30.24 | 19.48          | 155.2              | Fail        |
| T48         | 847 - 832      | Diagonal       | 1 1/4" solid | 1007             | 33.46 | 39.76          | 84.2               | Pass        |
| T49         | 832 - 809.5    | Diagonal       | 1 1/4" solid | 1033             | 40.87 | 39.76          | 102.8              | Fail        |
| T50         | 809.5 - 802    | Diagonal       | 1 1/4" solid | 1063             | 44.37 | 39.76          | 111.6              | Fail        |
| T51         | 802 - 794.5    | Diagonal       | 1 1/4" solid | 1078             | 40.09 | 39.76          | 100.8              | Fail        |
| T52         | 794.5 - 787    | Diagonal       | 1 1/4" solid | 1094             | 25.77 | 39.76          | 64.8               | Pass        |
| T53         | 787 - 772      | Diagonal       | 1 1/4" solid | 1118             | 29.77 | 39.76          | 74.9               | Pass        |
| T54         | 772 - 742      | Diagonal       | 1 1/4" solid | 1157             | 23.89 | 39.76          | 60.1               | Pass        |
| T55         | 742 - 719.5    | Diagonal       | 7/8" solid   | 1187             | 14.34 | 19.48          | 73.6               | Pass        |
| T56         | 719.5 - 712    | Diagonal       | 7/8" solid   | 1198             | 8.39  | 19.48          | 43.1               | Pass        |
| T57         | 712 - 682      | Diagonal       | 7/8" solid   | 1211             | 9.06  | 19.48          | 46.5               | Pass        |
| T58         | 682 - 652      | Diagonal       | 7/8" solid   | 1249             | 19.45 | 19.48          | 99.8               | Pass        |
| T59         | 652 - 637      | Diagonal       | 7/8" solid   | 1288             | 23.51 | 19.48          | 120.7              | Fail        |
| T60         | 637 - 629.5    | Diagonal       | 1" solid     | 1309             | 26.02 | 25.45          | 102.3<br>104.7 (b) | Fail        |
| T61         | 629.5 - 622    | Diagonal       | 1" solid     | 1321             | 27.51 | 25.45          | 108.1<br>110.7 (b) | Fail        |
| T62         | 622 - 607      | Diagonal       | 1" solid     | 1333             | 30.53 | 25.45          | 120.0              | Fail        |
| T63         | 607 - 592      | Diagonal       | 1 1/4" solid | 1354             | 34.40 | 39.76          | 86.5<br>96.1 (b)   | Pass        |
| T64         | 592 - 584.5    | Diagonal       | 1 1/4" solid | 1375             | 30.05 | 39.76          | 75.6               | Pass        |
| T65         | 584.5 - 577    | Diagonal       | 1 1/2" solid | 1387             | 27.20 | 57.26          | 47.5               | Pass        |
| T66         | 577 - 562      | Diagonal       | 1 1/4" solid | 1409             | 31.47 | 39.76          | 79.2               | Pass        |
| T67         | 562 - 532      | Diagonal       | 1 1/4" solid | 1448             | 27.49 | 39.76          | 69.1               | Pass        |
| T68         | 532 - 517      | Diagonal       | 7/8" solid   | 1459             | 21.86 | 19.48          | 112.2              | Fail        |
| T69         | 517 - 502      | Diagonal       | 7/8" solid   | 1489             | 19.49 | 19.48          | 100.0              | Fail        |
| T70         | 502 - 472      | Diagonal       | 7/8" solid   | 1540             | 15.32 | 19.48          | 78.6               | Pass        |
| T71         | 472 - 442      | Diagonal       | 7/8" solid   | 1552             | 18.81 | 19.48          | 96.6               | Pass        |
| T72         | 442 - 427      | Diagonal       | 7/8" solid   | 1604             | 23.96 | 19.48          | 123.0              | Fail        |
| T73         | 427 - 412      | Diagonal       | 7/8" solid   | 1625             | 29.15 | 19.48          | 149.6              | Fail        |
| T74         | 412 - 404.5    | Diagonal       | 7/8" solid   | 1646             | 31.69 | 19.48          | 162.7              | Fail        |
| T75         | 404.5 - 397    | Diagonal       | 7/8" solid   | 1658             | 30.51 | 19.48          | 156.6              | Fail        |
| T76         | 397 - 389.5    | Diagonal       | 1 1/4" solid | 1670             | 33.27 | 39.76          | 83.7               | Pass        |
| T77         | 389.5 - 382    | Diagonal       | 1 1/2" solid | 1682             | 26.72 | 57.26          | 46.7               | Pass        |
| T78         | 382 - 374.5    | Diagonal       | 1 1/2" solid | 1692             | 35.97 | 57.26          | 62.8               | Pass        |
| T79         | 374.5 - 352    | Diagonal       | 1 1/2" solid | 1722             | 40.06 | 57.26          | 70.0               | Pass        |
| T80         | 352 - 329.5    | Diagonal       | 1 1/4" solid | 1752             | 35.44 | 39.76          | 89.1               | Pass        |
| T81         | 329.5 - 322    | Diagonal       | 1 1/4" solid | 1764             | 30.68 | 39.76          | 77.2               | Pass        |
| T82         | 322 - 307      | Diagonal       | 1 1/4" solid | 1785             | 28.48 | 39.76          | 71.6               | Pass        |
| T83         | 307 - 292      | Diagonal       | 1" solid     | 1806             | 24.89 | 25.45          | 97.8               | Pass        |
| T84         | 292 - 277      | Diagonal       | 7/8" solid   | 1827             | 22.33 | 19.48          | 114.6              | Fail        |
| T85         | 277 - 262      | Diagonal       | 7/8" solid   | 1848             | 15.85 | 19.48          | 81.3               | Pass        |
| T86         | 262 - 247      | Diagonal       | 7/8" solid   | 1861             | 13.23 | 19.48          | 67.9               | Pass        |

| Section No. | Elevation (ft)  | Component Type | Size                         | Critical Element | P (K)  | SF*P_allow (K) | % Capacity         | Pass / Fail |
|-------------|-----------------|----------------|------------------------------|------------------|--------|----------------|--------------------|-------------|
| T87         | 247 - 232       | Diagonal       | 1" solid                     | 1884             | 20.51  | 25.45          | 80.6<br>82.5 (b)   | Pass        |
| T88         | 232 - 217       | Diagonal       | 1" solid                     | 1905             | 27.17  | 25.45          | 106.8<br>109.3 (b) | Fail        |
| T89         | 217 - 209.5     | Diagonal       | 1" solid                     | 1927             | 31.59  | 25.45          | 124.1              | Fail        |
| T90         | 209.5 - 202     | Diagonal       | 1 1/4" solid                 | 1939             | 34.50  | 39.76          | 86.8               | Pass        |
| T91         | 202 - 194.5     | Diagonal       | 1 1/2" solid                 | 1951             | 31.56  | 57.26          | 55.1               | Pass        |
| T92         | 194.5 - 187     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1958             | -36.88 | 79.77          | 46.2               | Pass        |
| T93         | 187 - 179.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1975             | -38.41 | 79.77          | 48.2               | Pass        |
| T94         | 179.5 - 172     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1987             | -33.23 | 79.77          | 41.7               | Pass        |
| T95         | 172 - 149.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2017             | -32.55 | 79.77          | 40.8               | Pass        |
| T96         | 149.5 - 142     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2026             | -30.78 | 79.77          | 38.6               | Pass        |
| T97         | 142 - 112       | Diagonal       | 1 1/2" solid                 | 2066             | 15.25  | 57.26          | 26.6               | Pass        |
| T98         | 112 - 97        | Diagonal       | 1 1/4" solid                 | 2080             | 9.33   | 39.76          | 23.5               | Pass        |
| T99         | 97 - 89.5       | Diagonal       | 1" solid                     | 2101             | 12.45  | 25.45          | 48.9               | Pass        |
| T100        | 89.5 - 82       | Diagonal       | 1" solid                     | 2113             | 15.95  | 25.45          | 62.7               | Pass        |
| T101        | 82 - 74.5       | Diagonal       | 1" solid                     | 2125             | 20.27  | 25.45          | 79.7               | Pass        |
| T102        | 74.5 - 59.5     | Diagonal       | 7/8" solid                   | 2137             | 26.13  | 19.48          | 134.1<br>164.3 (b) | Fail        |
| T103        | 59.5 - 52       | Diagonal       | 7/8" solid                   | 2158             | 23.17  | 19.48          | 118.9<br>145.7 (b) | Fail        |
| T104        | 52 - 41         | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2169             | -23.61 | 36.08          | 65.4               | Pass        |
| T105        | 41 - 30         | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2181             | -21.62 | 36.08          | 59.9               | Pass        |
| T106        | 30 - 23.6       | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2196             | -17.45 | 62.10          | 28.1               | Pass        |
| T107        | 23.6 - 18.1     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2208             | -2.16  | 78.12          | 2.8<br>3.0 (b)     | Pass        |
| T108        | 18.1 - 0        | Diagonal       | 2L 3 x 3 x 3/8 (5/8)         | 2219             | -75.57 | 117.75         | 64.2<br>105.6 (b)  | Fail        |
| T1          | 1432 - 1424.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 5                | -0.91  | 106.31         | 0.9<br>1.3 (b)     | Pass        |
| T2          | 1424.5 - 1409.5 | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 27               | -29.11 | 94.89          | 30.7<br>46.5 (b)   | Pass        |
| T4          | 1402 - 1394.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 53               | -26.77 | 106.31         | 25.2<br>37.4 (b)   | Pass        |
| T6          | 1387 - 1372     | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 84               | -19.03 | 91.25          | 20.9<br>30.4 (b)   | Pass        |
| T7          | 1372 - 1342     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 135              | -14.80 | 39.92          | 37.1               | Pass        |
| T8          | 1342 - 1312     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 162              | -8.35  | 39.92          | 20.9<br>21.4 (b)   | Pass        |
| T9          | 1312 - 1289.5   | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 213              | -14.57 | 39.77          | 36.6               | Pass        |
| T15         | 1252 - 1235.63  | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 322              | 24.14  | 116.27         | 20.8<br>33.7 (b)   | Pass        |
| T22         | 1192 - 1162     | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 436              | -19.84 | 42.41          | 46.8               | Pass        |
| T24         | 1154.5 - 1139.5 | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 476              | -9.57  | 42.41          | 22.6<br>22.9 (b)   | Pass        |
| T26         | 1132 - 1109.5   | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 518              | -9.81  | 27.77          | 35.3               | Pass        |
| T28         | 1102 - 1072     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 574              | -21.04 | 23.83          | 88.3               | Pass        |
| T33         | 1042 - 1034.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 677              | -30.03 | 92.63          | 32.4<br>60.4 (b)   | Pass        |
| T34         | 1034.5 - 1019.5 | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 696              | -36.67 | 75.25          | 48.7<br>73.8 (b)   | Pass        |
| T40         | 982 - 952       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 801              | -22.98 | 46.64          | 49.3               | Pass        |

| Section No. | Elevation (ft) | Component Type | Size                         | Critical Element | P (K)  | SF*P_allow (K) | % Capacity       | Pass / Fail |
|-------------|----------------|----------------|------------------------------|------------------|--------|----------------|------------------|-------------|
| T41         | 952 - 937      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 822              | -13.69 | 28.09          | 48.7             | Pass        |
| T44         | 922 - 907      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 878              | -10.93 | 28.09          | 38.9             | Pass        |
| T45         | 907 - 892      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 905              | -10.88 | 24.15          | 45.1             | Pass        |
| T46         | 892 - 862      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 933              | -16.80 | 24.15          | 69.6             | Pass        |
| T47         | 862 - 847      | Horizontal     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 984              | -20.69 | 39.34          | 52.6             | Pass        |
| T48         | 847 - 832      | Horizontal     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 1011             | -23.37 | 39.34          | 59.4             | Pass        |
| T49         | 832 - 809.5    | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1038             | -32.33 | 46.64          | 69.3             | Pass        |
| T53         | 787 - 772      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1113             | -22.59 | 46.80          | 48.3             | Pass        |
| T54         | 772 - 742      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1152             | -18.08 | 46.64          | 38.8<br>39.1 (b) | Pass        |
| T55         | 742 - 719.5    | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1172             | -15.48 | 46.48          | 33.3<br>37.1 (b) | Pass        |
| T57         | 712 - 682      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1223             | -15.33 | 30.19          | 50.8             | Pass        |
| T58         | 682 - 652      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1263             | -16.17 | 30.19          | 53.6             | Pass        |
| T59         | 652 - 637      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1293             | -18.15 | 30.27          | 59.9             | Pass        |
| T62         | 622 - 607      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1338             | -24.16 | 30.82          | 78.4             | Pass        |
| T63         | 607 - 592      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1359             | -27.17 | 46.96          | 57.9             | Pass        |
| T66         | 577 - 562      | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1404             | -24.55 | 76.83          | 31.9<br>33.6 (b) | Pass        |
| T67         | 562 - 532      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1443             | -21.18 | 46.80          | 45.3             | Pass        |
| T68         | 532 - 517      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1464             | -17.37 | 46.64          | 37.2<br>38.9 (b) | Pass        |
| T69         | 517 - 502      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1484             | -15.43 | 46.64          | 33.1<br>37.0 (b) | Pass        |
| T70         | 502 - 472      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1506             | -14.78 | 24.36          | 60.7             | Pass        |
| T71         | 472 - 442      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1557             | -14.50 | 24.36          | 59.5             | Pass        |
| T72         | 442 - 427      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1608             | -18.25 | 30.27          | 60.3             | Pass        |
| T73         | 427 - 412      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1629             | -22.35 | 30.60          | 73.1             | Pass        |
| T79         | 374.5 - 352    | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1718             | -31.39 | 76.22          | 41.2<br>50.1 (b) | Pass        |
| T80         | 352 - 329.5    | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1748             | -28.20 | 47.19          | 59.8             | Pass        |
| T82         | 322 - 307      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1781             | -22.74 | 46.96          | 48.4             | Pass        |
| T83         | 307 - 292      | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1802             | -19.94 | 46.96          | 42.5             | Pass        |
| T84         | 292 - 277      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1823             | -17.46 | 30.82          | 56.6             | Pass        |
| T85         | 277 - 262      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1845             | -17.32 | 30.44          | 56.9             | Pass        |
| T86         | 262 - 247      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1866             | -17.31 | 30.44          | 56.9             | Pass        |
| T87         | 247 - 232      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1887             | -17.09 | 30.44          | 56.1             | Pass        |
| T88         | 232 - 217      | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1909             | -20.92 | 30.44          | 68.7             | Pass        |
| T95         | 172 - 149.5    | Horizontal     | 2L 4 x 3 x 3/8 LLV (3/8)     | 2011             | 36.38  | 137.68         | 26.4<br>38.3 (b) | Pass        |
| T97         | 142 - 112      | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2051             | -18.37 | 76.57          | 24.0<br>27.4 (b) | Pass        |
| T98         | 112 - 97       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 2081             | -18.57 | 47.43          | 39.2<br>44.5 (b) | Pass        |
| T102        | 74.5 - 59.5    | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2140             | -20.04 | 30.70          | 65.3             | Pass        |
| T104        | 52 - 41        | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2168             | -18.64 | 43.12          | 43.2             | Pass        |
| T105        | 41 - 30        | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2174             | -17.58 | 42.95          | 40.9             | Pass        |
| T106        | 30 - 23.6      | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2189             | -17.29 | 38.01          | 45.5             | Pass        |
| T108        | 18.1 - 0       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 2227             | 59.62  | 91.80          | 64.9             | Pass        |



| Section No. | Elevation (ft)  | Component Type       | Size                     | Critical Element | P (K)  | SF*P_allow (K) | % Capacity       | Pass / Fail  |
|-------------|-----------------|----------------------|--------------------------|------------------|--------|----------------|------------------|--|
|             |                 |                      |                          |                  |        |                | 83.3 (b)         |  |
| T6          | 1387 - 1372     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 86               | -7.33  | 39.92          | 18.4             | Pass   |
| T7          | 1372 - 1342     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 113              | -7.96  | 39.92          | 19.9             | Pass   |
| T8          | 1342 - 1312     | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 176              | -7.95  | 19.96          | 39.8             | Pass   |
| T9          | 1312 - 1289.5   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 215              | -7.46  | 39.77          | 18.8             | Pass   |
| T10         | 1289.5 - 1282   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 251              | -6.57  | 19.88          | 33.0             | Pass   |
| T14         | 1259.5 - 1252   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 305              | -4.88  | 25.75          | 18.9<br>23.4 (b) | Pass   |
| T22         | 1192 - 1162     | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 413              | -9.28  | 11.92          | 77.8             | Pass   |
| T23         | 1162 - 1154.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 461              | -9.41  | 11.92          | 79.0             | Pass   |
| T24         | 1154.5 - 1139.5 | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 488              | -9.57  | 11.92          | 80.3             | Pass   |
| T25         | 1139.5 - 1132   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 503              | -9.62  | 11.92          | 80.7             | Pass   |
| T26         | 1132 - 1109.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 521              | -9.65  | 11.92          | 81.0             | Pass   |
| T27         | 1109.5 - 1102   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 557              | -9.47  | 11.92          | 79.5             | Pass   |
| T28         | 1102 - 1072     | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 589              | -9.33  | 11.92          | 78.3             | Pass   |
| T29         | 1072 - 1064.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 623              | -8.40  | 11.92          | 70.5             | Pass   |
| T30         | 1064.5 - 1057   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 638              | -8.68  | 11.92          | 72.8             | Pass   |
| T31         | 1057 - 1049.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 655              | -9.19  | 11.92          | 77.1             | Pass   |
| T32         | 1049.5 - 1042   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 668              | -9.69  | 23.83          | 40.7             | Pass   |
| T36         | 1012 - 1004.5   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 728              | -12.25 | 57.60          | 21.3<br>29.4 (b) | Pass   |
| T37         | 1004.5 - 997    | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 743              | -12.47 | 57.60          | 21.7<br>30.0 (b) | Pass   |
| T41         | 952 - 937       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 824              | -10.77 | 12.07          | 89.2             | Pass   |
| T42         | 937 - 929.5     | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 848              | -10.84 | 12.07          | 89.8             | Pass   |
| T43         | 929.5 - 922     | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 863              | -10.89 | 12.07          | 90.2             | Pass   |
| T44         | 922 - 907       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 881              | -10.93 | 12.07          | 90.5             | Pass   |
| T45         | 907 - 892       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 910              | -10.88 | 12.07          | 90.1             | Pass   |
| T46         | 892 - 862       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 947              | -11.00 | 12.07          | 91.1             | Pass   |
| T47         | 862 - 847       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 996              | -12.09 | 12.13          | 99.7             | Pass   |
| T48         | 847 - 832       | Secondary Horizontal | L 2.5 x 2.5 x 1/4        | 1022             | -13.34 | 12.13          | 110.0            | Fail  |
| T50         | 809.5 - 802     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 1067             | -16.32 | 24.36          | 67.0             | Pass   |
| T51         | 802 - 794.5     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8) | 1082             | -17.04 | 24.47          | 69.6             | Pass   |



| Section No. | Elevation (ft)    | Component Type       | Size                         | Critical Element | P (K)  | SF*P_allow (K) | % Capacity        | Pass / Fail                             |
|-------------|-------------------|----------------------|------------------------------|------------------|--------|----------------|-------------------|---|
| T52         | 794.5 - 787       | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1098             | -17.21 | 24.47          | 70.3              | Pass                                    |
| T70         | 502 - 472         | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1509             | -14.78 | 24.36          | 60.7              | Pass                                    |
| T71         | 472 - 442         | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1560             | -14.50 | 24.36          | 59.5              | Pass                                    |
| T2          | 1424.5 - 1409.5   | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 17               | 54.03  | 116.27         | 46.5<br>107.5 (b) | Fail <span style="color: red;">✗</span> |
| T3          | 1409.5 - 1402     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 39               | -27.99 | 94.89          | 29.5<br>44.7 (b)  | Pass                                    |
| T5          | 1394.5 - 1387     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 63               | -10.85 | 95.06          | 11.4<br>17.3 (b)  | Pass                                    |
| T6          | 1387 - 1372       | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 75               | -20.44 | 91.25          | 22.4<br>32.6 (b)  | Pass                                    |
| T7          | 1372 - 1342       | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 102              | -16.96 | 39.92          | 42.5              | Pass                                    |
| T8          | 1342 - 1312       | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 152              | -5.87  | 39.92          | 14.7              | Pass                                    |
| T9          | 1312 - 1289.5     | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 204              | -10.31 | 39.92          | 25.8              | Pass                                    |
| T10         | 1289.5 - 1282     | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 243              | -16.64 | 39.77          | 41.8              | Pass                                    |
| T11         | 1282 - 1274.5     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 258              | -18.78 | 43.68          | 43.0              | Pass                                    |
| T12         | 1274.5 - 1267     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 270              | -20.81 | 43.80          | 47.5              | Pass                                    |
| T13         | 1267 - 1259.5     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 282              | -22.12 | 43.80          | 50.5              | Pass                                    |
| T14         | 1259.5 - 1252     | Top Girt             | 2L 3 x 2 x 3/8 LLV (3/8)     | 293              | 21.46  | 91.80          | 23.4<br>30.0 (b)  | Pass                                    |
| T15         | 1252 - 1235.63    | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 298              | 23.71  | 116.27         | 20.4<br>33.1 (b)  | Pass                                    |
| T16         | 1235.63 - 1228.81 | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 313              | 26.90  | 116.27         | 23.1<br>37.6 (b)  | Pass                                    |
| T17         | 1228.81 - 1222    | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 342              | -10.02 | 73.91          | 13.6<br>14.0 (b)  | Pass                                    |
| T18         | 1222 - 1214.5     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 354              | -32.40 | 74.81          | 43.3<br>51.7 (b)  | Pass                                    |
| T19         | 1214.5 - 1207     | Top Girt             | 2C10x20                      | 365              | 80.79  | 362.03         | 22.3<br>46.0 (b)  | Pass                                    |
| T20         | 1207 - 1199.5     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 378              | -25.39 | 74.99          | 33.9<br>35.5 (b)  | Pass                                    |
| T21         | 1199.5 - 1192     | Top Girt             | 2L 3 x 2 x 3/8 LLV (3/8)     | 391              | -24.68 | 46.16          | 53.5              | Pass                                    |
| T22         | 1192 - 1162       | Top Girt             | 2L 3 x 2 x 3/8 LLV (3/8)     | 403              | -22.15 | 42.57          | 52.0              | Pass                                    |
| T23         | 1162 - 1154.5     | Top Girt             | 2L 3 x 2 x 3/8 LLV (3/8)     | 454              | -13.63 | 42.41          | 32.1              | Pass                                    |
| T24         | 1154.5 - 1139.5   | Top Girt             | 2L 3 x 2 x 3/8 LLV (3/8)     | 469              | -10.75 | 42.41          | 25.3              | Pass                                    |
| T25         | 1139.5 - 1132     | Top Girt             | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 495              | -5.70  | 38.81          | 14.7              | Pass                                    |
| T26         | 1132 - 1109.5     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 509              | -5.79  | 27.77          | 20.9              | Pass                                    |
| T27         | 1109.5 - 1102     | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 548              | -12.65 | 23.83          | 53.1              | Pass                                    |
| T28         | 1102 - 1072       | Top Girt             | 2L 2.5 x 2.5 x 1/4 (3/8)     | 563              | -15.08 | 23.83          | 63.3              | Pass                                    |
| T29         | 1072 - 1064.5     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 616              | -23.03 | 27.77          | 82.9              | Pass                                    |
| T30         | 1064.5 - 1057     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 631              | -24.48 | 27.77          | 88.2              | Pass                                    |
| T31         | 1057 - 1049.5     | Top Girt             | 2L 3 x 2 x 1/4 LLV (3/8)     | 646              | -25.87 | 27.77          | 93.1              | Pass                                    |
| T32         | 1049.5 - 1042     | Top Girt             | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 661              | -26.93 | 38.81          | 69.4              | Pass                                    |
| T34         | 1034.5 - 1019.5   | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 687              | -17.83 | 75.51          | 23.6<br>24.9 (b)  | Pass                                    |
| T35         | 1019.5 - 1012     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 708              | 12.37  | 116.27         | 10.6<br>17.3 (b)  | Pass                                    |
| T36         | 1012 - 1004.5     | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 721              | 26.12  | 116.27         | 22.5              | Pass                                    |

| Section No. | Elevation (ft) | Component Type | Size                         | Critical Element | P (K)  | SF*P_allow (K) | % Capacity       | Pass / Fail |
|-------------|----------------|----------------|------------------------------|------------------|--------|----------------|------------------|-------------|
|             |                |                |                              |                  |        |                | 36.5 (b)         |             |
| T37         | 1004.5 - 997   | Top Girt       | 2C10x20                      | 734              | 103.12 | 362.03         | 28.5<br>48.0 (b) | Pass        |
| T38         | 997 - 989.5    | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 749              | 16.34  | 116.27         | 14.1<br>22.8 (b) | Pass        |
| T39         | 989.5 - 982    | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 762              | -25.53 | 75.51          | 33.8<br>35.7 (b) | Pass        |
| T40         | 982 - 952      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 774              | -24.68 | 46.64          | 52.9             | Pass        |
| T41         | 952 - 937      | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 813              | -16.71 | 28.19          | 59.3             | Pass        |
| T42         | 937 - 929.5    | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 840              | -11.77 | 28.09          | 41.9             | Pass        |
| T43         | 929.5 - 922    | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 855              | -9.59  | 28.09          | 34.2             | Pass        |
| T44         | 922 - 907      | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 870              | -7.59  | 28.09          | 27.0             | Pass        |
| T45         | 907 - 892      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 896              | -7.80  | 24.15          | 32.3             | Pass        |
| T46         | 892 - 862      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 925              | -10.74 | 24.15          | 44.5             | Pass        |
| T47         | 862 - 847      | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 975              | -19.32 | 39.21          | 49.3             | Pass        |
| T48         | 847 - 832      | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 1002             | -22.39 | 39.34          | 56.9             | Pass        |
| T49         | 832 - 809.5    | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1029             | -27.27 | 46.48          | 58.7             | Pass        |
| T50         | 809.5 - 802    | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1059             | -32.64 | 43.21          | 75.5             | Pass        |
| T51         | 802 - 794.5    | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1074             | -29.72 | 43.21          | 68.8             | Pass        |
| T52         | 794.5 - 787    | Top Girt       | 2C10x20                      | 1088             | 59.61  | 362.03         | 16.5<br>34.0 (b) | Pass        |
| T53         | 787 - 772      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1104             | -21.32 | 46.80          | 45.6             | Pass        |
| T54         | 772 - 742      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1125             | -19.93 | 46.80          | 42.6             | Pass        |
| T55         | 742 - 719.5    | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1164             | -12.55 | 46.64          | 26.9             | Pass        |
| T56         | 719.5 - 712    | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1194             | -7.98  | 30.49          | 26.2             | Pass        |
| T57         | 712 - 682      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1206             | -6.45  | 30.19          | 21.4             | Pass        |
| T58         | 682 - 652      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1245             | -8.73  | 30.19          | 28.9             | Pass        |
| T59         | 652 - 637      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1284             | -16.51 | 30.19          | 54.7             | Pass        |
| T60         | 637 - 629.5    | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1305             | -19.76 | 30.27          | 65.3             | Pass        |
| T61         | 629.5 - 622    | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1317             | -21.36 | 30.60          | 69.8             | Pass        |
| T62         | 622 - 607      | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1329             | -23.06 | 30.60          | 75.4             | Pass        |
| T63         | 607 - 592      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1350             | -25.78 | 46.96          | 54.9             | Pass        |
| T64         | 592 - 584.5    | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1371             | -25.57 | 76.83          | 33.3<br>35.0 (b) | Pass        |
| T65         | 584.5 - 577    | Top Girt       | 2C10x20                      | 1382             | 48.75  | 362.03         | 13.5<br>27.8 (b) | Pass        |
| T66         | 577 - 562      | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1395             | -23.33 | 76.83          | 30.4<br>31.9 (b) | Pass        |
| T67         | 562 - 532      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1416             | -22.70 | 46.96          | 48.3             | Pass        |
| T68         | 532 - 517      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1455             | -18.46 | 46.80          | 39.4             | Pass        |
| T69         | 517 - 502      | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1476             | -16.67 | 46.64          | 35.7             | Pass        |
| T70         | 502 - 472      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1498             | -12.49 | 24.36          | 51.3             | Pass        |
| T71         | 472 - 442      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1547             | -7.53  | 24.36          | 30.9             | Pass        |
| T72         | 442 - 427      | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1599             | -14.78 | 30.27          | 48.8             | Pass        |
| T73         | 427 - 412      | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1620             | -20.15 | 30.60          | 65.8             | Pass        |
| T74         | 412 - 404.5    | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1641             | -24.18 | 30.60          | 79.0             | Pass        |
| T75         | 404.5 - 397    | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1653             | -24.96 | 46.96          | 53.1             | Pass        |

| Section No. | Elevation (ft)  | Component Type | Size                         | Critical Element | P (K)  | SF*P_allow (K) | % Capacity       | Pass / Fail |
|-------------|-----------------|----------------|------------------------------|------------------|--------|----------------|------------------|-------------|
| T76         | 397 - 389.5     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1665             | -25.83 | 46.96          | 55.0             | Pass        |
| T77         | 389.5 - 382     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1677             | -23.87 | 76.22          | 31.3<br>38.1 (b) | Pass        |
| T78         | 382 - 374.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1689             | 45.38  | 116.27         | 39.0<br>90.3 (b) | Pass        |
| T79         | 374.5 - 352     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1700             | -29.77 | 76.22          | 39.1<br>47.5 (b) | Pass        |
| T80         | 352 - 329.5     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1730             | -29.31 | 47.19          | 62.1             | Pass        |
| T81         | 329.5 - 322     | Top Girt       | 2L 3 x 2.5 x 3/8 LLV (3/8)   | 1760             | -25.61 | 60.68          | 42.2<br>51.5 (b) | Pass        |
| T82         | 322 - 307       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1772             | -23.87 | 46.96          | 50.8             | Pass        |
| T83         | 307 - 292       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1793             | -21.36 | 46.96          | 45.5             | Pass        |
| T84         | 292 - 277       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1814             | -19.17 | 30.82          | 62.2             | Pass        |
| T85         | 277 - 262       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1835             | -15.48 | 30.44          | 50.9             | Pass        |
| T86         | 262 - 247       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1857             | -9.53  | 30.44          | 31.3             | Pass        |
| T87         | 247 - 232       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1879             | -12.26 | 30.44          | 40.3             | Pass        |
| T88         | 232 - 217       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1900             | -18.14 | 30.44          | 59.6             | Pass        |
| T89         | 217 - 209.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1921             | -23.48 | 30.93          | 75.9             | Pass        |
| T90         | 209.5 - 202     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1933             | -26.69 | 46.96          | 56.8             | Pass        |
| T91         | 202 - 194.5     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1945             | -26.03 | 106.50         | 24.4<br>26.7 (b) | Pass        |
| T92         | 194.5 - 187     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1957             | 66.39  | 137.68         | 48.2<br>69.9 (b) | Pass        |
| T93         | 187 - 179.5     | Top Girt       | 2C10x20                      | 1969             | 36.82  | 362.03         | 10.2<br>17.2 (b) | Pass        |
| T94         | 179.5 - 172     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1981             | 37.69  | 137.68         | 27.4<br>39.7 (b) | Pass        |
| T95         | 172 - 149.5     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1993             | 35.48  | 137.68         | 25.8<br>37.4 (b) | Pass        |
| T96         | 149.5 - 142     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2023             | 37.43  | 116.27         | 32.2<br>52.3 (b) | Pass        |
| T97         | 142 - 112       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2034             | 20.55  | 116.27         | 17.7<br>30.7 (b) | Pass        |
| T98         | 112 - 97        | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2073             | -6.60  | 47.43          | 13.9             | Pass        |
| T99         | 97 - 89.5       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2095             | -9.05  | 47.43          | 19.1             | Pass        |
| T100        | 89.5 - 82       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2107             | -12.27 | 47.67          | 25.7             | Pass        |
| T101        | 82 - 74.5       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2119             | -15.03 | 30.70          | 49.0             | Pass        |
| T102        | 74.5 - 59.5     | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2131             | -17.71 | 30.70          | 57.7             | Pass        |
| T103        | 59.5 - 52       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2152             | -19.16 | 30.70          | 62.4             | Pass        |
| T107        | 23.6 - 18.1     | Top Girt       | 2L 5 x 3 x 1/2 LLV (1/2)     | 2201             | 69.53  | 216.14         | 32.2<br>97.2 (b) | Pass        |
| T108        | 18.1 - 0        | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2213             | 25.03  | 91.80          | 27.3<br>35.0 (b) | Pass        |
| T106        | 30 - 23.6       | Bottom Girt    | C10x25                       | 2188             | 66.53  | 224.78         | 29.6<br>93.0 (b) | Pass        |
| T2          | 1424.5 - 1409.5 | Guy A@1424.5   | 2 1/4                        | 2236             | 266.24 | 372.00         | 71.6             | Pass        |
| T19         | 1214.5 - 1207   | Guy A@1214.5   | 2 3/8                        | 2239             | 320.05 | 412.80         | 77.5             | Pass        |
| T37         | 1004.5 - 997    | Guy A@1004.5   | 2 3/8                        | 2242             | 303.69 | 412.80         | 73.6             | Pass        |
| T52         | 794.5 - 787     | Guy A@794.5    | 1 15/16                      | 2245             | 186.96 | 276.00         | 67.7             | Pass        |
| T65         | 584.5 - 577     | Guy A@584.5    | 1 7/8                        | 2248             | 159.79 | 259.20         | 61.6             | Pass        |
| T78         | 382 - 374.5     | Guy A@382      | 1 5/8                        | 2251             | 114.79 | 194.40         | 59.0             | Pass        |

| Section No. | Elevation (ft)  | Component Type | Size    | Critical Element | P (K)  | SF*P_allow (K)             | % Capacity   | Pass / Fail          |
|-------------|-----------------|----------------|---------|------------------|--------|----------------------------|--------------|----------------------|
| T92         | 194.5 - 187     | Guy A@194.5    | 1 5/8   | 2254             | 105.77 | 194.40                     | 54.4         | Pass                 |
| T2          | 1424.5 - 1409.5 | Guy B@1424.5   | 2 1/4   | 2235             | 267.15 | 372.00                     | 71.8         | Pass                 |
| T19         | 1214.5 - 1207   | Guy B@1214.5   | 2 3/8   | 2238             | 320.16 | 412.80                     | 77.6         | Pass                 |
| T37         | 1004.5 - 997    | Guy B@1004.5   | 2 3/8   | 2241             | 304.10 | 412.80                     | 73.7         | Pass                 |
| T52         | 794.5 - 787     | Guy B@794.5    | 1 15/16 | 2244             | 186.69 | 276.00                     | 67.6         | Pass                 |
| T65         | 584.5 - 577     | Guy B@584.5    | 1 7/8   | 2247             | 160.10 | 259.20                     | 61.8         | Pass                 |
| T78         | 382 - 374.5     | Guy B@382      | 1 5/8   | 2250             | 115.20 | 194.40                     | 59.3         | Pass                 |
| T92         | 194.5 - 187     | Guy B@194.5    | 1 5/8   | 2253             | 104.63 | 194.40                     | 53.8         | Pass                 |
| T2          | 1424.5 - 1409.5 | Guy C@1424.5   | 2 1/4   | 2234             | 265.31 | 372.00                     | 71.3         | Pass                 |
| T19         | 1214.5 - 1207   | Guy C@1214.5   | 2 3/8   | 2237             | 316.18 | 412.80                     | 76.6         | Pass                 |
| T37         | 1004.5 - 997    | Guy C@1004.5   | 2 3/8   | 2240             | 299.67 | 412.80                     | 72.6         | Pass                 |
| T52         | 794.5 - 787     | Guy C@794.5    | 1 15/16 | 2243             | 183.80 | 276.00                     | 66.6         | Pass                 |
| T65         | 584.5 - 577     | Guy C@584.5    | 1 7/8   | 2246             | 157.57 | 259.20                     | 60.8         | Pass                 |
| T78         | 382 - 374.5     | Guy C@382      | 1 5/8   | 2249             | 115.67 | 194.40                     | 59.5         | Pass                 |
| T92         | 194.5 - 187     | Guy C@194.5    | 1 5/8   | 2252             | 110.31 | 194.40                     | 56.7         | Pass                 |
|             |                 |                |         |                  |        |                            | Summary      |                      |
|             |                 |                |         |                  |        | Pole (L1)                  | 20.9         | Pass                 |
|             |                 |                |         |                  |        | Leg (T8)                   | 153.4        | Fail <b>X</b>        |
|             |                 |                |         |                  |        | Diagonal (T3)              | 189.7        | Fail <b>X</b>        |
|             |                 |                |         |                  |        | Horizontal (T28)           | 88.3         | Pass                 |
|             |                 |                |         |                  |        | Secondary Horizontal (T48) | 110.0        | Fail <b>X</b>        |
|             |                 |                |         |                  |        | Top Girt (T2)              | 107.5        | Fail <b>X</b>        |
|             |                 |                |         |                  |        | Bottom Girt (T106)         | 93.0         | Pass                 |
|             |                 |                |         |                  |        | Guy A (T19)                | 77.5         | Pass                 |
|             |                 |                |         |                  |        | Guy B (T19)                | 77.6         | Pass                 |
|             |                 |                |         |                  |        | Guy C (T19)                | 76.6         | Pass                 |
|             |                 |                |         |                  |        | Bolt Checks                | 164.3        | Fail <b>X</b>        |
|             |                 |                |         |                  |        | <b>RATING =</b>            | <b>189.7</b> | <b>Fail <b>X</b></b> |

**Table 5 - Tower Component Stresses vs. Capacity**

| Notes | Component                                    | Elevation (ft) | % Capacity | Pass / Fail |
|-------|--|----------------|------------|-------------|
| 1     | Base Foundation Structural                   | -              | 92.4       | Pass        |
| 1     | Base Foundation Soil Interaction             | -              | 110.6      | Fail        |
| 1     | Inner Guy Anchor Foundation Structural       | -              | 60.6       | Pass        |
| 1     | Inner Guy Anchor Foundation Soil Interaction | -              | 98.8       | Pass        |
| 1     | Outer Guy Anchor Foundation Structural       | -              | 141.1      | Fail        |
| 1     | Outer Guy Anchor Foundation Soil Interaction | -              | 120.4      | Fail        |

|   |               |
|---|---------------|
| <b>Structure Rating (max from all components) =</b> | <b>189.7%</b> |
|---|---------------|

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

The results of the tilt and twist values for a 60 mph 3-second gust service wind speed per the TIA-222-G Standard are given below:

**Table 6 - Microwave Dish Tilt (Sway) Results for 60 mph Rev G Service**

| Dish Elevation ft | Dish             | Dish Diameter ft | Analysis Results Tilt at Service Wind deg | Analysis Results Twist at Service Wind deg |
|-------------------|------------------|------------------|---|--|
| 1045.0            | PND4D-21         | 4.00             | 0.0531                                    | 0.8828                                     |
| 1019.0            | 4 ft standard    | 4.00             | 0.0482                                    | 0.8532                                     |
| 1019.0            | 6' std w/radome  | 6.00             | 0.0482                                    | 0.8532                                     |
| 1008.0            | 6' std w/radome  | 6.00             | 0.0430                                    | 0.8523                                     |
| 307.0             | 4 ft Grid        | 4.00             | 0.0212                                    | 0.6639                                     |
| 299.0             | 6 ft Grid        | 6.00             | 0.0230                                    | 0.6724                                     |
| 277.0             | 6' std w/radome  | 6.00             | 0.0288                                    | 0.5543                                     |
| 262.0             | 10' std w/radome | 10.00            | 0.0328                                    | 0.7313                                     |
| 239.0             | HP6-13           | 5.71             | 0.0386                                    | 0.6959                                     |
| 217.0             | PAR10-65-P7A     | 10.875           | 0.0430                                    | 0.6117                                     |
| 148.0             | 10' std w/radome | 10.00            | 0.0510                                    | 0.5302                                     |
| 104.0             | 8' std w/radome  | 8.00             | 0.0644                                    | 0.4362                                     |

#### 4.1) Recommendations

The tower has insufficient capacity to carry the proposed load configuration. Modifications will be required to bring the tower into compliance with the TIA-222-G Standard for the proposed load configuration. The following components require modifications:

- Tower legs from 412'-427', 502'-607', 622'-787', 809.5'-832', 1282'-1259.5', 1289.5'-1312', 1387'-1394.5', and 1402'-1424.5'
- Flange bolts at 1282', 1312', 1342'
- Diagonal bolts from 0'-18'
- Diagonals from 52'-74.5', 209.5'-232', 277'-292', 397'-442', 502'-532', 607'-652', 794.5'-832', 847'-892', 1057'-1102', 1214.5'-1222', 1274.5'-1312', 1342'-1394.5', and 1402'-1424.5'
- Secondary Horizontals from 832'-847'
- Top Girt bolts at 1424.5'
- Base Foundation
- Outer Guy Anchor Foundation

Further engineering and detailing are required to design the necessary modifications.

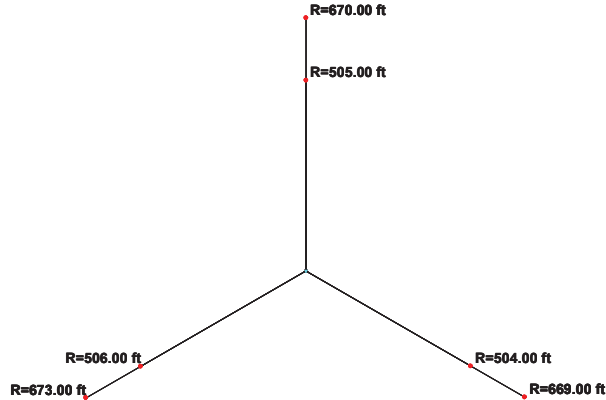
## **APPENDIX A**

### **TNXTOWER OUTPUT**

Figure 1 illustrates a vertical pile foundation with a total height of 1515.7 ft. The pile is divided into sections with varying diameters and lengths, as indicated by the labels on the right side of the diagram. The sections are defined by their diameters and lengths (LC):

- 2 1/4 BS LC=1572.96 ft
- 2 3/8 BS LC=1384.27 ft
- 2 3/8 BS LC=1204.25 ft
- 1 15/16 BS LC=1035.5 ft
- 1 7/8 BS LC=789.33 ft
- 1 5/8 BS LC=629.5 ft
- 1 5/8 BS LC=511.5 ft

The pile is shown with a 6 K axial load at the bottom. The pile is shown with a 2761 K (Axial) load at the bottom. The pile is shown with a 13 kip-ft (Torque) load at the bottom. The pile is shown with a 1515.7 ft total height. The pile is shown with a 6 K axial load at the bottom. The pile is shown with a 2761 K (Axial) load at the bottom. The pile is shown with a 13 kip-ft (Torque) load at the bottom. The pile is shown with a 1515.7 ft total height.



## PLAN

## SYMBOL LIST

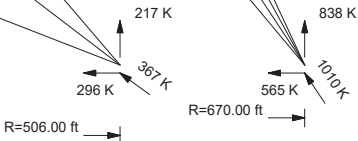
| MARK | SIZE  | MARK | SIZE                       |
|------|---|------|----------------------------|
| A    | WINK TOP MAST - (19.5294" x 0.17794" equivalent pipe) | S    | N.A.                       |
| B    | SR 3 3/4" solid                                       | T    | 2L 2.5 x 2.5 x 1/4 (3/8)   |
| C    | SR 4" solid   | U    | 2L 3 x 2 x 1/4 LLV (3/8)   |
| D    | SR 4 1/2" solid                                       | V    | 2L 3 x 2 x 3/8 LLV (3/8)   |
| E    | SR 4 3/4" solid                                       | W    | 2C10x20                    |
| F    | SR 5 1/2" solid                                       | X    | 2L 3 x 2.5 x 1/4 LLV (3/8) |
| G    | SR 5 3/4" solid                                       | Y    | 2L 3 x 2.5 x 3/8 LLV (3/8) |
| H    | SR 6" solid   | Z    | 2L 4 x 3 x 3/8 LLV (3/8)   |
| I    | SR 6 1/4" solid                                       | A1   | 2L 5 x 3 x 1/2 LLV (1/2)   |
| J    | SR 6 1/2" solid                                       | B1   | C10x25                     |
| K    | 2L 3 x 2 x 3/8 LLH (3/8)                              | C1   | L 2.5 x 2.5 x 1/4          |
| L    | SR 1" solid   | D1   | 2 @ 8.1875                 |
| M    | SR 7/8" solid   | E1   | 2 @ 6.8125                 |
| N    | SR 1 1/4" solid                                       | F1   | 2 @ 11                     |
| O    | SR 1 1/2" solid                                       | G1   | 1 @ 6.31667                |
| P    | 2L 3 x 2.5 x 3/8 LLH (3/8)                            | H1   | 1 @ 5.5                    |
| C    | 2L 3 x 2.5 x 3/8 (5'5")                               | I1   | 3 @ 6.03333                |

## MATERIAL STRENGTH


| GRADE   | Fy     | Fu     | GRADE   | Fy     | Fu     |
|---------|--------|--------|---------|--------|--------|
| A572-50 | 50 ksi | 65 ksi | A588-50 | 50 ksi | 70 ksi |
| A36     | 36 ksi | 58 ksi |         |        |        |

## TOWER DESIGN NOTES

1. Tower is located in Charlotte County, Florida.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-G Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 189.7%



ALL REACTIONS ARE FACTORED

|   |   |  |  |  |
|---|---|--|--|--|
|  <b>Paul J. Ford and Company</b><br>250 E. Broad St., Ste 600<br>Columbus, OH 43215<br>Phone: 614-221-6679<br>FAX: | <b>Job: 1432' Guyed / Punta Gorda, FL</b>   |  |  |  |
|   | <b>Project: WINK-TV / PJF 00018-0546</b>  |  | <b>Client: Fort Myers Broadcasting Company</b> |  |
|   | <b>Code: TIA-222-G</b>  |  | <b>Drawn by: Rebekah Dorris</b>                |  |
|   | <b>Path:</b><br><small>G:\TOWER\000_Misc\2018\00018-0546 WINK-TV\00018-0546-05-161-SA and EOL\TOWER\00018-0546-05-161.dwg</small> |  | <b>Date: 11/07/19</b>                          |  |
|   |   |  | <b>App'd:</b>                                  |  |
|   |   |  | <b>Scale: NTS</b>                              |  |
|   |   |  | <b>Dwg No. E-1</b>                             |  |



## Tower Input Data

The main tower is a 3x guyed tower with an overall height of 1517.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 7.50 ft at the top and tapered at the base.

An index plate is provided at the 3x guyed -tower connection.

There is a pole section.

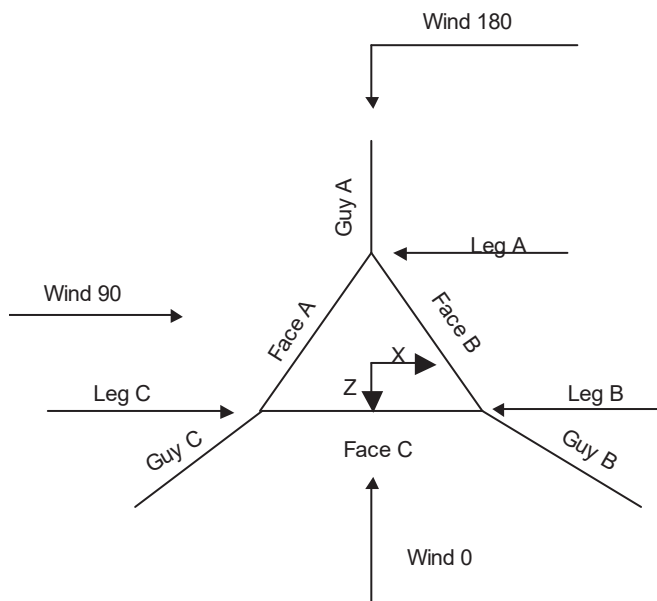
This tower is designed using the TIA-222-G standard.

The following design criteria apply:

- 1) Tower is located in Charlotte County, Florida.
- 2) ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
- 3) Basic wind speed of 115 mph.
- 4) Structure Class II.
- 5) Exposure Category C.
- 6) Topographic Category 1.
- 7) Crest Height 0.00 ft.
- 8) Deflections calculated using a wind speed of 60 mph.
- 9) Pressures are calculated at each section.
- 10) Stress ratio used in pole design is 1.
- 11) Safety factor used in guy design is 1.
- 12) Stress ratio used in tower member design is 1.

## Options

|                                     |                                      |                                      |
|-------------------------------------|--------------------------------------|--------------------------------------|
| Consider Moments - Legs             | Distribute Leg Loads As Uniform      | Use ASCE 10 X-Brace Ly Rules         |
| Consider Moments - Horizontals      | Assume Legs Pinned                   | √ Calculate Redundant Bracing Forces |
| Consider Moments - Diagonals        | √ Assume Rigid Index Plate           | Ignore Redundant Members in FEA      |
| Use Moment Magnification            | Use Clear Spans For Wind Area        | SR Leg Bolts Resist Compression      |
| √ Use Code Stress Ratios            | √ Use Clear Spans For KL/r           | All Leg Panels Have Same Allowable   |
| √ Use Code Safety Factors - Guys    | √ Retension Guys To Initial Tension  | Offset Girt At Foundation            |
| Escalate Ice                        | Bypass Mast Stability Checks         | √ Consider Feed Line Torque          |
| Always Use Max Kz                   | √ Use Azimuth Dish Coefficients      | √ Include Angle Block Shear Check    |
| Use Special Wind Profile            | √ Project Wind Area of Appurt.       | Use TIA-222-G Bracing Resist.        |
| √ Include Bolts In Member Capacity  | √ Autocalc Torque Arm Areas          | Exemption                            |
| Leg Bolts Are At Top Of Section     | Add IBC .6D+W Combination            | √ Use TIA-222-G Tension Splice       |
| √ Secondary Horizontal Braces Leg   | √ Sort Capacity Reports By Component | Exemption                            |
| Use Diamond Inner Bracing (4 Sided) | Triangulate Diamond Inner Bracing    | Poles                                |
| √ SR Members Have Cut Ends          | Treat Feed Line Bundles As Cylinder  | Include Shear-Torsion Interaction    |
| SR Members Are Concentric           | Ignore KL/ry For 60 Deg. Angle Legs  | Always Use Sub-Critical Flow         |
|                                     |                                      | Use Top Mounted Sockets              |
|                                     |                                      | Pole Without Linear Attachments      |
|                                     |                                      | Pole With Shroud Or No               |
|                                     |                                      | Appurtenances                        |
|                                     |                                      | Outside and Inside Corner Radii Are  |
|                                     |                                      | Known                                |



**Corner & Starmount Guyed Tower**

**Pole Section Geometry**

| Section | Elevation<br>ft | Section<br>Length<br>ft | Pole<br>Size  | Pole<br>Grade        | Socket Length<br>ft |
|---------|-----------------|-------------------------|---|----------------------|---------------------|
| L1      | 1517.00-1432.00 | 85.00                   | WINK TOP<br>MAST -<br>(19.5294" x<br>0.17794"<br>equivalent pipe) | A53-B-42<br>(42 ksi) |                     |

| Tower<br>Elevation<br>ft | Gusset<br>Area<br>(per face)<br>ft <sup>2</sup> | Gusset<br>Thickness<br>in | Gusset Grade | Adjust. Factor<br>A <sub>r</sub> | Adjust.<br>Factor<br>A <sub>r</sub> | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontal<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|--------------------------|---|---------------------------|--------------|----------------------------------|-------------------------------------|--------------|---|--|--|
| L1 1517.00-<br>1432.00   |   |                           |              | 1                                | 1                                   | 1            |   |  |  |

**Tower Section Geometry**

| Tower<br>Section | Tower<br>Elevation<br>ft | Assembly<br>Database | Description | Section<br>Width<br>ft | Number<br>of<br>Sections | Section<br>Length<br>ft |
|------------------|--------------------------|----------------------|-------------|------------------------|--------------------------|-------------------------|
| T1               | 1432.00-<br>1424.50      |                      |             | 7.50                   | 1                        | 7.50                    |
| T2               | 1424.50-<br>1409.50      |                      |             | 7.50                   | 1                        | 15.00                   |
| T3               | 1409.50-<br>1402.00      |                      |             | 7.50                   | 1                        | 7.50                    |
| T4               | 1402.00-<br>1394.50      |                      |             | 7.50                   | 1                        | 7.50                    |
| T5               | 1394.50-<br>1387.00      |                      |             | 7.50                   | 1                        | 7.50                    |

| Tower<br>Section | Tower<br>Elevation  | Assembly<br>Database | Description | Section<br>Width | Number<br>of<br>Sections | Section<br>Length |
|------------------|---------------------|----------------------|-------------|------------------|--------------------------|-------------------|
|                  | ft                  |                      |             | ft               |                          | ft                |
| T6               | 1387.00-<br>1372.00 |                      |             | 7.50             | 1                        | 15.00             |
| T7               | 1372.00-<br>1342.00 |                      |             | 7.50             | 1                        | 30.00             |
| T8               | 1342.00-<br>1312.00 |                      |             | 7.50             | 1                        | 30.00             |
| T9               | 1312.00-<br>1289.50 |                      |             | 7.50             | 1                        | 22.50             |
| T10              | 1289.50-<br>1282.00 |                      |             | 7.50             | 1                        | 7.50              |
| T11              | 1282.00-<br>1274.50 |                      |             | 7.50             | 1                        | 7.50              |
| T12              | 1274.50-<br>1267.00 |                      |             | 7.50             | 1                        | 7.50              |
| T13              | 1267.00-<br>1259.50 |                      |             | 7.50             | 1                        | 7.50              |
| T14              | 1259.50-<br>1252.00 |                      |             | 7.50             | 1                        | 7.50              |
| T15              | 1252.00-<br>1235.63 |                      |             | 7.50             | 1                        | 16.38             |
| T16              | 1235.63-<br>1228.81 |                      |             | 10.00            | 1                        | 6.81              |
| T17              | 1228.81-<br>1222.00 |                      |             | 10.00            | 1                        | 6.81              |
| T18              | 1222.00-<br>1214.50 |                      |             | 10.00            | 1                        | 7.50              |
| T19              | 1214.50-<br>1207.00 |                      |             | 10.00            | 1                        | 7.50              |
| T20              | 1207.00-<br>1199.50 |                      |             | 10.00            | 1                        | 7.50              |
| T21              | 1199.50-<br>1192.00 |                      |             | 10.00            | 1                        | 7.50              |
| T22              | 1192.00-<br>1162.00 |                      |             | 10.00            | 1                        | 30.00             |
| T23              | 1162.00-<br>1154.50 |                      |             | 10.00            | 1                        | 7.50              |
| T24              | 1154.50-<br>1139.50 |                      |             | 10.00            | 1                        | 15.00             |
| T25              | 1139.50-<br>1132.00 |                      |             | 10.00            | 1                        | 7.50              |
| T26              | 1132.00-<br>1109.50 |                      |             | 10.00            | 1                        | 22.50             |
| T27              | 1109.50-<br>1102.00 |                      |             | 10.00            | 1                        | 7.50              |
| T28              | 1102.00-<br>1072.00 |                      |             | 10.00            | 1                        | 30.00             |
| T29              | 1072.00-<br>1064.50 |                      |             | 10.00            | 1                        | 7.50              |
| T30              | 1064.50-<br>1057.00 |                      |             | 10.00            | 1                        | 7.50              |
| T31              | 1057.00-<br>1049.50 |                      |             | 10.00            | 1                        | 7.50              |
| T32              | 1049.50-<br>1042.00 |                      |             | 10.00            | 1                        | 7.50              |
| T33              | 1042.00-<br>1034.50 |                      |             | 10.00            | 1                        | 7.50              |
| T34              | 1034.50-<br>1019.50 |                      |             | 10.00            | 1                        | 15.00             |
| T35              | 1019.50-<br>1012.00 |                      |             | 10.00            | 1                        | 7.50              |
| T36              | 1012.00-<br>1004.50 |                      |             | 10.00            | 1                        | 7.50              |
| T37              | 1004.50-997.00      |                      |             | 10.00            | 1                        | 7.50              |
| T38              | 997.00-989.50       |                      |             | 10.00            | 1                        | 7.50              |
| T39              | 989.50-982.00       |                      |             | 10.00            | 1                        | 7.50              |
| T40              | 982.00-952.00       |                      |             | 10.00            | 1                        | 30.00             |
| T41              | 952.00-937.00       |                      |             | 10.00            | 1                        | 15.00             |
| T42              | 937.00-929.50       |                      |             | 10.00            | 1                        | 7.50              |

| Tower<br>Section | Tower<br>Elevation | Assembly<br>Database | Description | Section<br>Width | Number<br>of<br>Sections | Section<br>Length |
|------------------|--------------------|----------------------|-------------|------------------|--------------------------|-------------------|
|                  | ft                 |                      |             | ft               |                          | ft                |
| T43              | 929.50-922.00      |                      |             | 10.00            | 1                        | 7.50              |
| T44              | 922.00-907.00      |                      |             | 10.00            | 1                        | 15.00             |
| T45              | 907.00-892.00      |                      |             | 10.00            | 1                        | 15.00             |
| T46              | 892.00-862.00      |                      |             | 10.00            | 1                        | 30.00             |
| T47              | 862.00-847.00      |                      |             | 10.00            | 1                        | 15.00             |
| T48              | 847.00-832.00      |                      |             | 10.00            | 1                        | 15.00             |
| T49              | 832.00-809.50      |                      |             | 10.00            | 1                        | 22.50             |
| T50              | 809.50-802.00      |                      |             | 10.00            | 1                        | 7.50              |
| T51              | 802.00-794.50      |                      |             | 10.00            | 1                        | 7.50              |
| T52              | 794.50-787.00      |                      |             | 10.00            | 1                        | 7.50              |
| T53              | 787.00-772.00      |                      |             | 10.00            | 1                        | 15.00             |
| T54              | 772.00-742.00      |                      |             | 10.00            | 1                        | 30.00             |
| T55              | 742.00-719.50      |                      |             | 10.00            | 1                        | 22.50             |
| T56              | 719.50-712.00      |                      |             | 10.00            | 1                        | 7.50              |
| T57              | 712.00-682.00      |                      |             | 10.00            | 1                        | 30.00             |
| T58              | 682.00-652.00      |                      |             | 10.00            | 1                        | 30.00             |
| T59              | 652.00-637.00      |                      |             | 10.00            | 1                        | 15.00             |
| T60              | 637.00-629.50      |                      |             | 10.00            | 1                        | 7.50              |
| T61              | 629.50-622.00      |                      |             | 10.00            | 1                        | 7.50              |
| T62              | 622.00-607.00      |                      |             | 10.00            | 1                        | 15.00             |
| T63              | 607.00-592.00      |                      |             | 10.00            | 1                        | 15.00             |
| T64              | 592.00-584.50      |                      |             | 10.00            | 1                        | 7.50              |
| T65              | 584.50-577.00      |                      |             | 10.00            | 1                        | 7.50              |
| T66              | 577.00-562.00      |                      |             | 10.00            | 1                        | 15.00             |
| T67              | 562.00-532.00      |                      |             | 10.00            | 1                        | 30.00             |
| T68              | 532.00-517.00      |                      |             | 10.00            | 1                        | 15.00             |
| T69              | 517.00-502.00      |                      |             | 10.00            | 1                        | 15.00             |
| T70              | 502.00-472.00      |                      |             | 10.00            | 1                        | 30.00             |
| T71              | 472.00-442.00      |                      |             | 10.00            | 1                        | 30.00             |
| T72              | 442.00-427.00      |                      |             | 10.00            | 1                        | 15.00             |
| T73              | 427.00-412.00      |                      |             | 10.00            | 1                        | 15.00             |
| T74              | 412.00-404.50      |                      |             | 10.00            | 1                        | 7.50              |
| T75              | 404.50-397.00      |                      |             | 10.00            | 1                        | 7.50              |
| T76              | 397.00-389.50      |                      |             | 10.00            | 1                        | 7.50              |
| T77              | 389.50-382.00      |                      |             | 10.00            | 1                        | 7.50              |
| T78              | 382.00-374.50      |                      |             | 10.00            | 1                        | 7.50              |
| T79              | 374.50-352.00      |                      |             | 10.00            | 1                        | 22.50             |
| T80              | 352.00-329.50      |                      |             | 10.00            | 1                        | 22.50             |
| T81              | 329.50-322.00      |                      |             | 10.00            | 1                        | 7.50              |
| T82              | 322.00-307.00      |                      |             | 10.00            | 1                        | 15.00             |
| T83              | 307.00-292.00      |                      |             | 10.00            | 1                        | 15.00             |
| T84              | 292.00-277.00      |                      |             | 10.00            | 1                        | 15.00             |
| T85              | 277.00-262.00      |                      |             | 10.00            | 1                        | 15.00             |
| T86              | 262.00-247.00      |                      |             | 10.00            | 1                        | 15.00             |
| T87              | 247.00-232.00      |                      |             | 10.00            | 1                        | 15.00             |
| T88              | 232.00-217.00      |                      |             | 10.00            | 1                        | 15.00             |
| T89              | 217.00-209.50      |                      |             | 10.00            | 1                        | 7.50              |
| T90              | 209.50-202.00      |                      |             | 10.00            | 1                        | 7.50              |
| T91              | 202.00-194.50      |                      |             | 10.00            | 1                        | 7.50              |
| T92              | 194.50-187.00      |                      |             | 10.00            | 1                        | 7.50              |
| T93              | 187.00-179.50      |                      |             | 10.00            | 1                        | 7.50              |
| T94              | 179.50-172.00      |                      |             | 10.00            | 1                        | 7.50              |
| T95              | 172.00-149.50      |                      |             | 10.00            | 1                        | 22.50             |
| T96              | 149.50-142.00      |                      |             | 10.00            | 1                        | 7.50              |
| T97              | 142.00-112.00      |                      |             | 10.00            | 1                        | 30.00             |
| T98              | 112.00-97.00       |                      |             | 10.00            | 1                        | 15.00             |
| T99              | 97.00-89.50        |                      |             | 10.00            | 1                        | 7.50              |
| T100             | 89.50-82.00        |                      |             | 10.00            | 1                        | 7.50              |
| T101             | 82.00-74.50        |                      |             | 10.00            | 1                        | 7.50              |
| T102             | 74.50-59.50        |                      |             | 10.00            | 1                        | 15.00             |
| T103             | 59.50-52.00        |                      |             | 10.00            | 1                        | 7.50              |
| T104             | 52.00-41.00        |                      |             | 10.00            | 1                        | 11.00             |
| T105             | 41.00-30.00        |                      |             | 10.00            | 1                        | 11.00             |
| T106             | 30.00-23.60        |                      |             | 10.00            | 1                        | 6.40              |
| T107             | 23.60-18.10        |                      |             | 10.00            | 1                        | 5.50              |
| T108             | 18.10-0.00         |                      |             | 7.67             | 1                        | 18.10             |

### Tower Section Geometry (cont'd)

| Tower Section | Tower Elevation<br>ft | Diagonal Spacing<br>ft | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset<br>in | Bottom Girt Offset<br>in |
|---------------|-----------------------|------------------------|--------------|------------------------|-----------------|-----------------------|--------------------------|
| T1            | 1432.00-1424.50       | 7.50                   | K Brace Down | No                     | Yes             | 0.0000                | 0.0000                   |
| T2            | 1424.50-1409.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T3            | 1409.50-1402.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T4            | 1402.00-1394.50       | 7.50                   | K Brace Down | No                     | Yes             | 0.0000                | 0.0000                   |
| T5            | 1394.50-1387.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T6            | 1387.00-1372.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T7            | 1372.00-1342.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T8            | 1342.00-1312.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T9            | 1312.00-1289.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T10           | 1289.50-1282.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T11           | 1282.00-1274.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T12           | 1274.50-1267.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T13           | 1267.00-1259.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T14           | 1259.50-1252.00       | 7.50                   | X Brace      | No                     | Yes             | 0.0000                | 0.0000                   |
| T15           | 1252.00-1235.63       | 8.19                   | X Brace      | No                     | Yes             | 0.0000                | 0.0000                   |
| T16           | 1235.63-1228.81       | 6.81                   | X Brace      | No                     | Yes             | 0.0000                | 0.0000                   |
| T17           | 1228.81-1222.00       | 6.81                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T18           | 1222.00-1214.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T19           | 1214.50-1207.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T20           | 1207.00-1199.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T21           | 1199.50-1192.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T22           | 1192.00-1162.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T23           | 1162.00-1154.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T24           | 1154.50-1139.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T25           | 1139.50-1132.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T26           | 1132.00-1109.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T27           | 1109.50-1102.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T28           | 1102.00-1072.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T29           | 1072.00-1064.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T30           | 1064.50-1057.00       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |
| T31           | 1057.00-1049.50       | 7.50                   | TX Brace     | No                     | Yes             | 0.0000                | 0.0000                   |

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
|               | ft              | ft               |              |                        |                 | in              | in                 |
| T32           | 1049.50-1042.00 | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T33           | 1042.00-1034.50 | 7.50             | K Brace Down | No                     | Yes             | 0.0000          | 0.0000             |
| T34           | 1034.50-1019.50 | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T35           | 1019.50-1012.00 | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T36           | 1012.00-1004.50 | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T37           | 1004.50-997.00  | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T38           | 997.00-989.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T39           | 989.50-982.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T40           | 982.00-952.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T41           | 952.00-937.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T42           | 937.00-929.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T43           | 929.50-922.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T44           | 922.00-907.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T45           | 907.00-892.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T46           | 892.00-862.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T47           | 862.00-847.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T48           | 847.00-832.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T49           | 832.00-809.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T50           | 809.50-802.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T51           | 802.00-794.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T52           | 794.50-787.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T53           | 787.00-772.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T54           | 772.00-742.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T55           | 742.00-719.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T56           | 719.50-712.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T57           | 712.00-682.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T58           | 682.00-652.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T59           | 652.00-637.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T60           | 637.00-629.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T61           | 629.50-622.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T62           | 622.00-607.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T63           | 607.00-592.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T64           | 592.00-584.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T65           | 584.50-577.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T66           | 577.00-562.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T67           | 562.00-532.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T68           | 532.00-517.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T69           | 517.00-502.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T70           | 502.00-472.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T71           | 472.00-442.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T72           | 442.00-427.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T73           | 427.00-412.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T74           | 412.00-404.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T75           | 404.50-397.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T76           | 397.00-389.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T77           | 389.50-382.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T78           | 382.00-374.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T79           | 374.50-352.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T80           | 352.00-329.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T81           | 329.50-322.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T82           | 322.00-307.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T83           | 307.00-292.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T84           | 292.00-277.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T85           | 277.00-262.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T86           | 262.00-247.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T87           | 247.00-232.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T88           | 232.00-217.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T89           | 217.00-209.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T90           | 209.50-202.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T91           | 202.00-194.50   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T92           | 194.50-187.00   | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T93           | 187.00-179.50   | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T94           | 179.50-172.00   | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
|               | ft              | ft               |              |                        |                 | in              | in                 |
| T95           | 172.00-149.50   | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T96           | 149.50-142.00   | 7.50             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |
| T97           | 142.00-112.00   | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T98           | 112.00-97.00    | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T99           | 97.00-89.50     | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T100          | 89.50-82.00     | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T101          | 82.00-74.50     | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T102          | 74.50-59.50     | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T103          | 59.50-52.00     | 7.50             | TX Brace     | No                     | Yes             | 0.0000          | 0.0000             |
| T104          | 52.00-41.00     | 11.00            | K Brace Down | No                     | Yes             | 0.0000          | 0.0000             |
| T105          | 41.00-30.00     | 11.00            | K Brace Down | No                     | Yes             | 0.0000          | 0.0000             |
| T106          | 30.00-23.60     | 6.32             | K Brace Down | No                     | Yes             | 0.0000          | 1.0000             |
| T107          | 23.60-18.10     | 5.50             | K Brace Down | No                     | Yes             | 0.0000          | 0.0000             |
| T108          | 18.10-0.00      | 6.03             | X Brace      | No                     | Yes             | 0.0000          | 0.0000             |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | Leg Type    | Leg Size     | Leg Grade        | Diagonal Type | Diagonal Size              | Diagonal Grade |
|-----------------------|-------------|--------------|------------------|---------------|----------------------------|----------------|
| T1 1432.00-1424.50    | Solid Round | 3 3/4" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2 x 3/8 LLH (3/8)   | A36 (36 ksi)   |
| T2 1424.50-1409.50    | Solid Round | 3 3/4" solid | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T3 1409.50-1402.00    | Solid Round | 3 3/4" solid | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T4 1402.00-1394.50    | Solid Round | 4" solid     | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2 x 3/8 LLH (3/8)   | A36 (36 ksi)   |
| T5 1394.50-1387.00    | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T6 1387.00-1372.00    | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T7 1372.00-1342.00    | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T8 1342.00-1312.00    | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T9 1312.00-1289.50    | Solid Round | 3 3/4" solid | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T10 1289.50-1282.00   | Solid Round | 3 3/4" solid | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T11 1282.00-1274.50   | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T12 1274.50-1267.00   | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T13 1267.00-1259.50   | Solid Round | 4" solid     | A588-50 (50 ksi) | Solid Round   | 1 1/2" solid               | A36 (36 ksi)   |
| T14 1259.50-1252.00   | Solid Round | 4" solid     | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T15 1252.00-1235.63   | Solid Round | 4 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T16 1235.63-1228.81   | Solid Round | 4 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T17 1228.81-1222.00   | Solid Round | 4 1/2" solid | A588-50 (50 ksi) | Solid Round   | 1 1/2" solid               | A36 (36 ksi)   |
| T18 1222.00-1214.50   | Solid Round | 4 3/4" solid | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T19 1214.50-1207.00   | Solid Round | 4 3/4" solid | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T20 1207.00-1199.50   | Solid Round | 4 3/4" solid | A588-50 (50 ksi) | Solid Round   | 1 1/2" solid               | A36 (36 ksi)   |
| T21 1199.50-1192.00   | Solid Round | 4 3/4" solid | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T22 1192.00-1162.00   | Solid Round | 4 1/2" solid | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T23 1162.00-1154.50   | Solid Round | 4 1/2" solid | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |

| Tower<br>Elevation<br>ft | Leg<br>Type | Leg<br>Size  | Leg<br>Grade        | Diagonal<br>Type | Diagonal<br>Size           | Diagonal<br>Grade |
|--------------------------|-------------|--------------|---------------------|------------------|----------------------------|-------------------|
| T24 1154.50-<br>1139.50  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T25 1139.50-<br>1132.00  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T26 1132.00-<br>1109.50  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T27 1109.50-<br>1102.00  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T28 1102.00-<br>1072.00  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T29 1072.00-<br>1064.50  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T30 1064.50-<br>1057.00  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T31 1057.00-<br>1049.50  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T32 1049.50-<br>1042.00  | Solid Round | 4 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T33 1042.00-<br>1034.50  | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Double Angle     | 2L 3 x 2 x 3/8 LLH (3/8)   | A36<br>(36 ksi)   |
| T34 1034.50-<br>1019.50  | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid               | A36<br>(36 ksi)   |
| T35 1019.50-<br>1012.00  | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Double Angle     | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36<br>(36 ksi)   |
| T36 1012.00-<br>1004.50  | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Double Angle     | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36<br>(36 ksi)   |
| T37 1004.50-<br>997.00   | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Double Angle     | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36<br>(36 ksi)   |
| T38 997.00-<br>989.50    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid               | A36<br>(36 ksi)   |
| T39 989.50-<br>982.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T40 982.00-<br>952.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T41 952.00-<br>937.00    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T42 937.00-<br>929.50    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T43 929.50-<br>922.00    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T44 922.00-<br>907.00    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T45 907.00-<br>892.00    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T46 892.00-<br>862.00    | Solid Round | 5 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid                   | A36<br>(36 ksi)   |
| T47 862.00-<br>847.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T48 847.00-<br>832.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T49 832.00-<br>809.50    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T50 809.50-<br>802.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T51 802.00-<br>794.50    | Solid Round | 6" solid     | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T52 794.50-<br>787.00    | Solid Round | 6" solid     | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T53 787.00-<br>772.00    | Solid Round | 6" solid     | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T54 772.00-<br>742.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid               | A36<br>(36 ksi)   |
| T55 742.00-<br>719.50    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T56 719.50-<br>712.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |
| T57 712.00-<br>682.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid                 | A36<br>(36 ksi)   |



| Tower<br>Elevation<br>ft | Leg<br>Type | Leg<br>Size  | Leg<br>Grade        | Diagonal<br>Type | Diagonal<br>Size | Diagonal<br>Grade |
|--------------------------|-------------|--------------|---------------------|------------------|------------------|-------------------|
| T58 682.00-<br>652.00    | Solid Round | 5 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T59 652.00-<br>637.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T60 637.00-<br>629.50    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T61 629.50-<br>622.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T62 622.00-<br>607.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T63 607.00-<br>592.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T64 592.00-<br>584.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T65 584.50-<br>577.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid     | A36<br>(36 ksi)   |
| T66 577.00-<br>562.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T67 562.00-<br>532.00    | Solid Round | 6" solid     | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T68 532.00-<br>517.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T69 517.00-<br>502.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T70 502.00-<br>472.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T71 472.00-<br>442.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T72 442.00-<br>427.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T73 427.00-<br>412.00    | Solid Round | 5 3/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T74 412.00-<br>404.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T75 404.50-<br>397.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T76 397.00-<br>389.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T77 389.50-<br>382.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid     | A36<br>(36 ksi)   |
| T78 382.00-<br>374.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid     | A36<br>(36 ksi)   |
| T79 374.50-<br>352.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid     | A36<br>(36 ksi)   |
| T80 352.00-<br>329.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T81 329.50-<br>322.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T82 322.00-<br>307.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T83 307.00-<br>292.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T84 292.00-<br>277.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T85 277.00-<br>262.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T86 262.00-<br>247.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 7/8" solid       | A36<br>(36 ksi)   |
| T87 247.00-<br>232.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T88 232.00-<br>217.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T89 217.00-<br>209.50    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1" solid         | A36<br>(36 ksi)   |
| T90 209.50-<br>202.00    | Solid Round | 6 1/4" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/4" solid     | A36<br>(36 ksi)   |
| T91 202.00-<br>194.50    | Solid Round | 6 1/2" solid | A588-50<br>(50 ksi) | Solid Round      | 1 1/2" solid     | A36<br>(36 ksi)   |

| Tower Elevation<br>ft | Leg Type    | Leg Size     | Leg Grade        | Diagonal Type | Diagonal Size              | Diagonal Grade |
|-----------------------|-------------|--------------|------------------|---------------|----------------------------|----------------|
| T92 194.50-187.00     | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T93 187.00-179.50     | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T94 179.50-172.00     | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T95 172.00-149.50     | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T96 149.50-142.00     | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T97 142.00-112.00     | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 1 1/2" solid               | A36 (36 ksi)   |
| T98 112.00-97.00      | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 1 1/4" solid               | A36 (36 ksi)   |
| T99 97.00-89.50       | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T100 89.50-82.00      | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T101 82.00-74.50      | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 1" solid                   | A36 (36 ksi)   |
| T102 74.50-59.50      | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T103 59.50-52.00      | Solid Round | 7" solid     | A588-50 (50 ksi) | Solid Round   | 7/8" solid                 | A36 (36 ksi)   |
| T104 52.00-41.00      | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T105 41.00-30.00      | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T106 30.00-23.60      | Solid Round | 6 1/2" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T107 23.60-18.10      | Solid Round | 6 1/4" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 2.5 x 3/8 LLH (3/8) | A36 (36 ksi)   |
| T108 18.10-0.00       | Solid Round | 6 1/4" solid | A588-50 (50 ksi) | Double Angle  | 2L 3 x 3 x 3/8 (5/8)       | A36 (36 ksi)   |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | Top Girt Type | Top Girt Size                | Top Girt Grade | Bottom Girt Type | Bottom Girt Size             | Bottom Girt Grade |
|-----------------------|---------------|------------------------------|----------------|------------------|------------------------------|-------------------|
| T2 1424.50-1409.50    | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T3 1409.50-1402.00    | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T5 1394.50-1387.00    | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T6 1387.00-1372.00    | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T7 1372.00-1342.00    | Double Angle  | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T8 1342.00-1312.00    | Double Angle  | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T9 1312.00-1289.50    | Double Angle  | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T10 1289.50-1282.00   | Double Angle  | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T11 1282.00-1274.50   | Double Angle  | 2L 3 x 2 x 1/4 LLV (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T12 1274.50-1267.00   | Double Angle  | 2L 3 x 2 x 1/4 LLV (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T13 1267.00-1259.50   | Double Angle  | 2L 3 x 2 x 1/4 LLV (3/8)     | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |
| T14 1259.50-1252.00   | Double Angle  | 2L 3 x 2 x 3/8 LLV (3/8)     | A36 (36 ksi)   | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)      |
| T15 1252.00-1235.63   | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)      |
| T16 1235.63-1228.81   | Double Angle  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36 (36 ksi)   | Solid Round      |                              | A36 (36 ksi)      |

| Tower<br>Elevation<br>ft | Top Girt<br>Type | Top Girt<br>Size             | Top Girt<br>Grade | Bottom Girt<br>Type | Bottom Girt<br>Size | Bottom Girt<br>Grade |
|--------------------------|------------------|------------------------------|-------------------|---------------------|---------------------|----------------------|
| T17 1228.81-<br>1222.00  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T18 1222.00-<br>1214.50  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T19 1214.50-<br>1207.00  | Double Channel   | 2C10x20                      | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T20 1207.00-<br>1199.50  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T21 1199.50-<br>1192.00  | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T22 1192.00-<br>1162.00  | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T23 1162.00-<br>1154.50  | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T24 1154.50-<br>1139.50  | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T25 1139.50-<br>1132.00  | Double Angle     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T26 1132.00-<br>1109.50  | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T27 1109.50-<br>1102.00  | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T28 1102.00-<br>1072.00  | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T29 1072.00-<br>1064.50  | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T30 1064.50-<br>1057.00  | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T31 1057.00-<br>1049.50  | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T32 1049.50-<br>1042.00  | Double Angle     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T34 1034.50-<br>1019.50  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T35 1019.50-<br>1012.00  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T36 1012.00-<br>1004.50  | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T37 1004.50-<br>997.00   | Double Channel   | 2C10x20                      | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T38 997.00-<br>989.50    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T39 989.50-<br>982.00    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T40 982.00-<br>952.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T41 952.00-<br>937.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T42 937.00-<br>929.50    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T43 929.50-<br>922.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T44 922.00-<br>907.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T45 907.00-<br>892.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T46 892.00-<br>862.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T47 862.00-<br>847.00    | Double Angle     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T48 847.00-<br>832.00    | Double Angle     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T49 832.00-<br>809.50    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T50 809.50-<br>802.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T51 802.00-<br>794.50    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |

| Tower<br>Elevation<br>ft | Top Girt<br>Type | Top Girt<br>Size             | Top Girt<br>Grade | Bottom Girt<br>Type | Bottom Girt<br>Size | Bottom Girt<br>Grade |
|--------------------------|------------------|------------------------------|-------------------|---------------------|---------------------|----------------------|
| T52 794.50-<br>787.00    | Double Channel   | 2C10x20                      | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T53 787.00-<br>772.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T54 772.00-<br>742.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T55 742.00-<br>719.50    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T56 719.50-<br>712.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T57 712.00-<br>682.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T58 682.00-<br>652.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T59 652.00-<br>637.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T60 637.00-<br>629.50    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T61 629.50-<br>622.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T62 622.00-<br>607.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T63 607.00-<br>592.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T64 592.00-<br>584.50    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T65 584.50-<br>577.00    | Double Channel   | 2C10x20                      | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T66 577.00-<br>562.00    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T67 562.00-<br>532.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T68 532.00-<br>517.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T69 517.00-<br>502.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T70 502.00-<br>472.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T71 472.00-<br>442.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T72 442.00-<br>427.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T73 427.00-<br>412.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T74 412.00-<br>404.50    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T75 404.50-<br>397.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T76 397.00-<br>389.50    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T77 389.50-<br>382.00    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T78 382.00-<br>374.50    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T79 374.50-<br>352.00    | Double Angle     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T80 352.00-<br>329.50    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T81 329.50-<br>322.00    | Double Angle     | 2L 3 x 2.5 x 3/8 LLV (3/8)   | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T82 322.00-<br>307.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T83 307.00-<br>292.00    | Double Angle     | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T84 292.00-<br>277.00    | Double Angle     | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |
| T85 277.00-<br>262.00    | Double Angle     | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)   | Solid Round         |                     | A36<br>(36 ksi)      |

| Tower Elevation<br>ft | Top Girt Type  | Top Girt Size                | Top Girt Grade  | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|-----------------------|----------------|------------------------------|-----------------|------------------|------------------|-------------------|
| T86 262.00-247.00     | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T87 247.00-232.00     | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T88 232.00-217.00     | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T89 217.00-209.50     | Double Angle   | 2L 3 x 2 x 1/4 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T90 209.50-202.00     | Double Angle   | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T91 202.00-194.50     | Double Angle   | 2L 4 x 3 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T92 194.50-187.00     | Double Angle   | 2L 4 x 3 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T93 187.00-179.50     | Double Channel | 2C10x20                      | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T94 179.50-172.00     | Double Angle   | 2L 4 x 3 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T95 172.00-149.50     | Double Angle   | 2L 4 x 3 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T96 149.50-142.00     | Double Angle   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T97 142.00-112.00     | Double Angle   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T98 112.00-97.00      | Double Angle   | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T99 97.00-89.50       | Double Angle   | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T100 89.50-82.00      | Double Angle   | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T101 82.00-74.50      | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T102 74.50-59.50      | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T103 59.50-52.00      | Double Angle   | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T106 30.00-23.60      | Double Angle   |                              | A36<br>(36 ksi) | Channel          | C10x25           | A36<br>(36 ksi)   |
| T107 23.60-18.10      | Double Angle   | 2L 5 x 3 x 1/2 LLV (1/2)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |
| T108 18.10-0.00       | Double Angle   | 2L 3 x 2 x 3/8 LLV (3/8)     | A36<br>(36 ksi) | Solid Round      |                  | A36<br>(36 ksi)   |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | No. of Mid Girts | Mid Girt Type | Mid Girt Size | Mid Girt Grade  | Horizontal Type | Horizontal Size              | Horizontal Grade |
|-----------------------|------------------|---------------|---------------|-----------------|-----------------|------------------------------|------------------|
| T1 1432.00-1424.50    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T2 1424.50-1409.50    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T3 1409.50-1402.00    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T4 1402.00-1394.50    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T5 1394.50-1387.00    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T6 1387.00-1372.00    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | A36<br>(36 ksi)  |
| T7 1372.00-1342.00    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)  |
| T8 1342.00-1312.00    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)  |
| T9 1312.00-1289.50    | None             | Flat Bar      |               | A36<br>(36 ksi) | Double Angle    | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)  |



| Tower<br>Elevation<br>ft | No.<br>of<br>Mid<br>Girts | Mid Girt<br>Type | Mid Girt<br>Size | Mid Girt<br>Grade | Horizontal<br>Type | Horizontal<br>Size              | Horizontal<br>Grade |
|--------------------------|---------------------------|------------------|------------------|-------------------|--------------------|---------------------------------|---------------------|
| T10 1289.50-<br>1282.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T11 1282.00-<br>1274.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T12 1274.50-<br>1267.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T13 1267.00-<br>1259.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T14 1259.50-<br>1252.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T15 1252.00-<br>1235.63  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T16 1235.63-<br>1228.81  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T17 1228.81-<br>1222.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T18 1222.00-<br>1214.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T19 1214.50-<br>1207.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Channel     | 2C10x20                         | A36<br>(36 ksi)     |
| T20 1207.00-<br>1199.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T21 1199.50-<br>1192.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T22 1192.00-<br>1162.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T23 1162.00-<br>1154.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T24 1154.50-<br>1139.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T25 1139.50-<br>1132.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 1/4 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T26 1132.00-<br>1109.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T27 1109.50-<br>1102.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T28 1102.00-<br>1072.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T29 1072.00-<br>1064.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T30 1064.50-<br>1057.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T31 1057.00-<br>1049.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T32 1049.50-<br>1042.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 1/4 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T33 1042.00-<br>1034.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T34 1034.50-<br>1019.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T35 1019.50-<br>1012.00  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T36 1012.00-<br>1004.50  | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T37 1004.50-<br>997.00   | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Channel     | 2C10x20                         | A36<br>(36 ksi)     |
| T38 997.00-<br>989.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T39 989.50-<br>982.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T40 982.00-<br>952.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T41 952.00-<br>937.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T42 937.00-<br>929.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T43 929.50-<br>922.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |

| Tower<br>Elevation<br>ft | No.<br>of<br>Mid<br>Girts | Mid Girt<br>Type | Mid Girt<br>Size | Mid Girt<br>Grade | Horizontal<br>Type | Horizontal<br>Size              | Horizontal<br>Grade |
|--------------------------|---------------------------|------------------|------------------|-------------------|--------------------|---------------------------------|---------------------|
| T44 922.00-907.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T45 907.00-892.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T46 892.00-862.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T47 862.00-847.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 1/4 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T48 847.00-832.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 1/4 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T49 832.00-809.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T50 809.50-802.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T51 802.00-794.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T52 794.50-787.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Channel     | 2C10x20                         | A36<br>(36 ksi)     |
| T53 787.00-772.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T54 772.00-742.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T55 742.00-719.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T56 719.50-712.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T57 712.00-682.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T58 682.00-652.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T59 652.00-637.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T60 637.00-629.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T61 629.50-622.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T62 622.00-607.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T63 607.00-592.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T64 592.00-584.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T65 584.50-577.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Channel     | 2C10x20                         | A36<br>(36 ksi)     |
| T66 577.00-562.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T67 562.00-532.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T68 532.00-517.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T69 517.00-502.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T70 502.00-472.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T71 472.00-442.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T72 442.00-427.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T73 427.00-412.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T74 412.00-404.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T75 404.50-397.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T76 397.00-389.50        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 3/8 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T77 389.50-382.00        | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |

| Tower<br>Elevation<br>ft | No.<br>of<br>Mid<br>Girts | Mid Girt<br>Type | Mid Girt<br>Size | Mid Girt<br>Grade | Horizontal<br>Type | Horizontal<br>Size              | Horizontal<br>Grade |
|--------------------------|---------------------------|------------------|------------------|-------------------|--------------------|---------------------------------|---------------------|
| T78 382.00-<br>374.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T79 374.50-<br>352.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T80 352.00-<br>329.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T81 329.50-<br>322.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2.5 x 3/8 LLV<br>(3/8)   | A36<br>(36 ksi)     |
| T82 322.00-<br>307.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T83 307.00-<br>292.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T84 292.00-<br>277.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T85 277.00-<br>262.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T86 262.00-<br>247.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T87 247.00-<br>232.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T88 232.00-<br>217.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T89 217.00-<br>209.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T90 209.50-<br>202.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T91 202.00-<br>194.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T92 194.50-<br>187.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T93 187.00-<br>179.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Channel     | 2C10x20                         | A36<br>(36 ksi)     |
| T94 179.50-<br>172.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 4 x 3 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T95 172.00-<br>149.50    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 4 x 3 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T96 149.50-<br>142.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T97 142.00-<br>112.00    | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | A36<br>(36 ksi)     |
| T98 112.00-<br>97.00     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T99 97.00-<br>89.50      | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T100 89.50-<br>82.00     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T101 82.00-<br>74.50     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T102 74.50-<br>59.50     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T103 59.50-<br>52.00     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 2.5 x 2.5 x 1/4<br>(3/8)     | A36<br>(36 ksi)     |
| T104 52.00-<br>41.00     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T105 41.00-<br>30.00     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T106 30.00-<br>23.60     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 1/4 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T107 23.60-<br>18.10     | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |
| T108 18.10-<br>0.00      | None                      | Flat Bar         |                  | A36<br>(36 ksi)   | Double Angle       | 2L 3 x 2 x 3/8 LLV<br>(3/8)     | A36<br>(36 ksi)     |

### Tower Section Geometry (cont'd)



| Tower<br>Elevation<br><br>ft | Secondary<br>Horizontal Type | Secondary Horizontal<br>Size | Secondary<br>Horizontal<br>Grade | Inner Bracing<br>Type | Inner Bracing Size | Inner Bracing<br>Grade |
|------------------------------|------------------------------|------------------------------|----------------------------------|-----------------------|--------------------|------------------------|
| T6 1387.00-<br>1372.00       | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T7 1372.00-<br>1342.00       | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T8 1342.00-<br>1312.00       | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T9 1312.00-<br>1289.50       | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T10 1289.50-<br>1282.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T14 1259.50-<br>1252.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T22 1192.00-<br>1162.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T23 1162.00-<br>1154.50      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T24 1154.50-<br>1139.50      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T25 1139.50-<br>1132.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T26 1132.00-<br>1109.50      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T27 1109.50-<br>1102.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T28 1102.00-<br>1072.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T29 1072.00-<br>1064.50      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T30 1064.50-<br>1057.00      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T31 1057.00-<br>1049.50      | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T32 1049.50-<br>1042.00      | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T36 1012.00-<br>1004.50      | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T37 1004.50-<br>997.00       | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T41 952.00-<br>937.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T42 937.00-<br>929.50        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T43 929.50-<br>922.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T44 922.00-<br>907.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T45 907.00-<br>892.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T46 892.00-<br>862.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T47 862.00-<br>847.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T48 847.00-<br>832.00        | Equal Angle                  | L 2.5 x 2.5 x 1/4            | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T50 809.50-<br>802.00        | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T51 802.00-<br>794.50        | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T52 794.50-<br>787.00        | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T70 502.00-<br>472.00        | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |
| T71 472.00-<br>442.00        | Double Equal<br>Angle        | 2L 2.5 x 2.5 x 1/4 (3/8)     | A36<br>(36 ksi)                  | Solid Round           |                    | A36<br>(36 ksi)        |

### Tower Section Geometry (cont'd)

| Tower<br>Elevation      | Gusset<br>Area<br>(per face) | Gusset<br>Thickness | Gusset Grade    | Adjust. Factor<br>$A_r$ | Adjust.<br>Factor<br>$A_r$ | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|-------------------------|------------------------------|---------------------|-----------------|-------------------------|----------------------------|--------------|---|---|--|
| ft                      | ft <sup>2</sup>              | in                  |                 |                         |                            |              |   |   |  |
| T1 1432.00-<br>1424.50  | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 22.0000   | 22.0000   | 22.0000  |
| T2 1424.50-<br>1409.50  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T3 1409.50-<br>1402.00  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T4 1402.00-<br>1394.50  | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 22.0000   | 22.0000   | 22.0000  |
| T5 1394.50-<br>1387.00  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T6 1387.00-<br>1372.00  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T7 1372.00-<br>1342.00  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 25.5000   | Mid-Pt   |
| T8 1342.00-<br>1312.00  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 25.5000   | Mid-Pt   |
| T9 1312.00-<br>1289.50  | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 25.5000   | Mid-Pt   |
| T10 1289.50-<br>1282.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 25.5000   | Mid-Pt   |
| T11 1282.00-<br>1274.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T12 1274.50-<br>1267.00 | 0.00                         | 0.5000              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T13 1267.00-<br>1259.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T14 1259.50-<br>1252.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 25.0000   | Mid-Pt   |
| T15 1252.00-<br>1235.63 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 19.0000   | 24.0000   | Mid-Pt   |
| T16 1235.63-<br>1228.81 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 27.0000   | 24.0000   | Mid-Pt   |
| T17 1228.81-<br>1222.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 24.0000   | Mid-Pt   |
| T18 1222.00-<br>1214.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T19 1214.50-<br>1207.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T20 1207.00-<br>1199.50 | 0.00                         | 0.5000              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T21 1199.50-<br>1192.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T22 1192.00-<br>1162.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T23 1162.00-<br>1154.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T24 1154.50-<br>1139.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T25 1139.50-<br>1132.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T26 1132.00-<br>1109.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T27 1109.50-<br>1102.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T28 1102.00-<br>1072.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T29 1072.00-<br>1064.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T30 1064.50-<br>1057.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T31 1057.00-<br>1049.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |

| Tower<br>Elevation      | Gusset<br>Area<br>(per face) | Gusset<br>Thickness | Gusset Grade    | Adjust. Factor<br>$A_r$ | Adjust.<br>Factor<br>$A_r$ | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|-------------------------|------------------------------|---------------------|-----------------|-------------------------|----------------------------|--------------|---|---|--|
| ft                      | ft <sup>2</sup>              | in                  |                 |                         |                            |              |   |   |  |
| T32 1049.50-<br>1042.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T33 1042.00-<br>1034.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 22.0000   | 22.0000   | 22.0000  |
| T34 1034.50-<br>1019.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T35 1019.50-<br>1012.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T36 1012.00-<br>1004.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 22.0000   | 22.0000   | Mid-Pt   |
| T37 1004.50-<br>997.00  | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 22.0000   | 22.0000   | Mid-Pt   |
| T38 997.00-<br>989.50   | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T39 989.50-<br>982.00   | 0.00                         | 0.5000              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T40 982.00-<br>952.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T41 952.00-<br>937.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T42 937.00-<br>929.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T43 929.50-<br>922.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T44 922.00-<br>907.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T45 907.00-<br>892.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T46 892.00-<br>862.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T47 862.00-<br>847.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T48 847.00-<br>832.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T49 832.00-<br>809.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T50 809.50-<br>802.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T51 802.00-<br>794.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T52 794.50-<br>787.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T53 787.00-<br>772.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T54 772.00-<br>742.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T55 742.00-<br>719.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T56 719.50-<br>712.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T57 712.00-<br>682.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T58 682.00-<br>652.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T59 652.00-<br>637.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T60 637.00-<br>629.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T61 629.50-<br>622.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T62 622.00-<br>607.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T63 607.00-<br>592.00   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T64 592.00-<br>584.50   | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |

| Tower<br>Elevation    | Gusset<br>Area<br>(per face) | Gusset<br>Thickness | Gusset Grade    | Adjust. Factor<br>$A_r$ | Adjust.<br>Factor<br>$A_r$ | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|-----------------------|------------------------------|---------------------|-----------------|-------------------------|----------------------------|--------------|---|---|--|
| ft                    | ft <sup>2</sup>              | in                  |                 |                         |                            |              |   |   |  |
| T65 584.50-<br>577.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T66 577.00-<br>562.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T67 562.00-<br>532.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T68 532.00-<br>517.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T69 517.00-<br>502.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T70 502.00-<br>472.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T71 472.00-<br>442.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T72 442.00-<br>427.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T73 427.00-<br>412.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T74 412.00-<br>404.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T75 404.50-<br>397.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T76 397.00-<br>389.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T77 389.50-<br>382.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T78 382.00-<br>374.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T79 374.50-<br>352.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T80 352.00-<br>329.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T81 329.50-<br>322.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T82 322.00-<br>307.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T83 307.00-<br>292.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T84 292.00-<br>277.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T85 277.00-<br>262.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T86 262.00-<br>247.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T87 247.00-<br>232.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T88 232.00-<br>217.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T89 217.00-<br>209.50 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T90 209.50-<br>202.00 | 0.00                         | 0.3750              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T91 202.00-<br>194.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |
| T92 194.50-<br>187.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 28.0000   | 22.0000   | Mid-Pt   |
| T93 187.00-<br>179.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 28.0000   | 22.0000   | Mid-Pt   |
| T94 179.50-<br>172.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 28.0000   | 22.0000   | Mid-Pt   |
| T95 172.00-<br>149.50 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 28.0000   | 22.0000   | Mid-Pt   |
| T96 149.50-<br>142.00 | 0.00                         | 0.6250              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | 28.0000   | 22.0000   | Mid-Pt   |
| T97 142.00-<br>112.00 | 0.00                         | 0.5000              | A36<br>(36 ksi) | 1                       | 1                          | 1.05         | Mid-Pt  | 22.0000   | Mid-Pt   |

| Tower Elevation  | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor $A_r$ | Adjust. Factor $A_r$ | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals | Double Angle Stitch Bolt Spacing Horizontals | Double Angle Stitch Bolt Spacing Redundants |
|------------------|------------------------|------------------|--------------|----------------------|----------------------|--------------|--|--|---|
| ft               | ft <sup>2</sup>        | in               |              |                      |                      |              | in   | in   | in  |
| T98 112.00-97.00 | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T99 97.00-89.50  | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T100 89.50-82.00 | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T101 82.00-74.50 | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T102 74.50-59.50 | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T103 59.50-52.00 | 0.00                   | 0.3750           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | 22.0000                                      | Mid-Pt                                      |
| T104 52.00-41.00 | 0.00                   | 0.6250           | A36 (36 ksi) | 1                    | 1                    | 1.05         | 22.0000                                    | 22.0000                                      | 22.0000                                     |
| T105 41.00-30.00 | 0.00                   | 0.6250           | A36 (36 ksi) | 1                    | 1                    | 1.05         | 22.0000                                    | 22.0000                                      | 22.0000                                     |
| T106 30.00-23.60 | 0.00                   | 0.6250           | A36 (36 ksi) | 1                    | 1                    | 1.05         | 22.0000                                    | 30.3750                                      | Mid-Pt                                      |
| T107 23.60-18.10 | 0.00                   | 0.6250           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | Third-Pt                                     | Mid-Pt                                      |
| T108 18.10-0.00  | 0.00                   | 0.6250           | A36 (36 ksi) | 1                    | 1                    | 1.05         | Mid-Pt                                     | Third-Pt                                     | Mid-Pt                                      |

### Tower Section Geometry (cont'd)

| Tower Elevation     | Calc K Single Angles | Calc K Solid Rounds | Legs | K Factors <sup>1</sup> |               |              |        |        |             |             |
|---------------------|----------------------|---------------------|------|------------------------|---------------|--------------|--------|--------|-------------|-------------|
|                     |                      |                     |      | X Brace Diags          | K Brace Diags | Single Diags | Girts  | Horiz. | Sec. Horiz. | Inner Brace |
|                     |                      |                     |      | X<br>Y                 | X<br>Y        | X<br>Y       | X<br>Y | X<br>Y | X<br>Y      | X<br>Y      |
| T1 1432.00-1424.50  | Yes                  | Yes                 | 0.5  | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T2 1424.50-1409.50  | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T3 1409.50-1402.00  | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T4 1402.00-1394.50  | Yes                  | Yes                 | 0.5  | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T5 1394.50-1387.00  | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T6 1387.00-1372.00  | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T7 1372.00-1342.00  | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 0.5         | 1           |
| T8 1342.00-1312.00  | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 0.5         | 1           |
| T9 1312.00-1289.50  | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 0.5         | 1           |
| T10 1289.50-1282.00 | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 0.5         | 1           |
| T11 1282.00-1274.50 | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T12 1274.50-1267.00 | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T13 1267.00-1259.50 | Yes                  | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 1           | 1           |
| T14 1259.50-1252.00 | No                   | Yes                 | 1    | 1                      | 1             | 1            | 1      | 1      | 0.5         | 1           |

| Tower<br>Elevation         | Calc<br>K<br>Single<br>Angles | Calc<br>K<br>Solid<br>Rounds | Legs | K Factors <sup>1</sup> |                     |                 |        |        |                |                |
|----------------------------|-------------------------------|------------------------------|------|------------------------|---------------------|-----------------|--------|--------|----------------|----------------|
|                            |                               |                              |      | X<br>Brace<br>Diags    | K<br>Brace<br>Diags | Single<br>Diags | Girts  | Horiz. | Sec.<br>Horiz. | Inner<br>Brace |
|                            |                               |                              |      | X<br>Y                 | X<br>Y              | X<br>Y          | X<br>Y | X<br>Y | X<br>Y         | X<br>Y         |
| T15<br>1252.00-<br>1235.63 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T16<br>1235.63-<br>1228.81 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T17<br>1228.81-<br>1222.00 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T18<br>1222.00-<br>1214.50 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T19<br>1214.50-<br>1207.00 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T20<br>1207.00-<br>1199.50 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T21<br>1199.50-<br>1192.00 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T22<br>1192.00-<br>1162.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T23<br>1162.00-<br>1154.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T24<br>1154.50-<br>1139.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T25<br>1139.50-<br>1132.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T26<br>1132.00-<br>1109.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T27<br>1109.50-<br>1102.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T28<br>1102.00-<br>1072.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T29<br>1072.00-<br>1064.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T30<br>1064.50-<br>1057.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T31<br>1057.00-<br>1049.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T32<br>1049.50-<br>1042.00 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |
| T33<br>1042.00-<br>1034.50 | Yes                           | Yes                          | 0.5  | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T34<br>1034.50-<br>1019.50 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T35<br>1019.50-<br>1012.00 | Yes                           | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>1         | 1<br>1         |
| T36<br>1012.00-<br>1004.50 | No                            | Yes                          | 1    | 1<br>1                 | 1<br>1              | 1<br>1          | 1<br>1 | 1<br>1 | 1<br>0.5       | 1<br>1         |

| Tower<br>Elevation    | Calc<br>K<br>Single<br>Angles | Calc<br>K<br>Solid<br>Rounds | Legs | K Factors <sup>1</sup> |                     |                 |        |        |                |                |
|-----------------------|-------------------------------|------------------------------|------|------------------------|---------------------|-----------------|--------|--------|----------------|----------------|
|                       |                               |                              |      | X<br>Brace<br>Diags    | K<br>Brace<br>Diags | Single<br>Diags | Girts  | Horiz. | Sec.<br>Horiz. | Inner<br>Brace |
|                       |                               |                              |      | X<br>Y                 | X<br>Y              | X<br>Y          | X<br>Y | X<br>Y | X<br>Y         | X<br>Y         |
| ft                    |                               |                              |      |                        |                     |                 |        |        |                |                |
| T37                   | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| 1004.50-<br>997.00    |                               |                              |      | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T38 997.00-<br>989.50 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T39 989.50-<br>982.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T40 982.00-<br>952.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T41 952.00-<br>937.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T42 937.00-<br>929.50 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T43 929.50-<br>922.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T44 922.00-<br>907.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T45 907.00-<br>892.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T46 892.00-<br>862.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T47 862.00-<br>847.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T48 847.00-<br>832.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T49 832.00-<br>809.50 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T50 809.50-<br>802.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T51 802.00-<br>794.50 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T52 794.50-<br>787.00 | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T53 787.00-<br>772.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T54 772.00-<br>742.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T55 742.00-<br>719.50 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T56 719.50-<br>712.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T57 712.00-<br>682.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T58 682.00-<br>652.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T59 652.00-<br>637.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T60 637.00-<br>629.50 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T61 629.50-<br>622.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T62 622.00-<br>607.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T63 607.00-<br>592.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T64 592.00-<br>584.50 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T65 584.50-<br>577.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T66 577.00-<br>562.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T67 562.00-<br>532.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T68 532.00-<br>517.00 | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |

| Tower<br>Elevation<br><br>ft | Calc<br>K<br>Single<br>Angles | Calc<br>K<br>Solid<br>Rounds | Legs | K Factors <sup>1</sup> |                     |                 |        |        |                |                |
|------------------------------|-------------------------------|------------------------------|------|------------------------|---------------------|-----------------|--------|--------|----------------|----------------|
|                              |                               |                              |      | X<br>Brace<br>Diags    | K<br>Brace<br>Diags | Single<br>Diags | Girts  | Horiz. | Sec.<br>Horiz. | Inner<br>Brace |
|                              |                               |                              |      | X<br>Y                 | X<br>Y              | X<br>Y          | X<br>Y | X<br>Y | X<br>Y         | X<br>Y         |
| T69 517.00-502.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T70 502.00-472.00            | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T71 472.00-442.00            | No                            | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T72 442.00-427.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T73 427.00-412.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T74 412.00-404.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T75 404.50-397.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T76 397.00-389.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T77 389.50-382.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T78 382.00-374.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T79 374.50-352.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T80 352.00-329.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T81 329.50-322.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T82 322.00-307.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T83 307.00-292.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T84 292.00-277.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T85 277.00-262.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T86 262.00-247.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T87 247.00-232.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T88 232.00-217.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T89 217.00-209.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T90 209.50-202.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T91 202.00-194.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T92 194.50-187.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T93 187.00-179.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T94 179.50-172.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T95 172.00-149.50            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T96 149.50-142.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T97 142.00-112.00            | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T98 112.00-97.00             | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T99 97.00-89.50              | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T100 89.50-82.00             | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T101 82.00-74.50             | Yes                           | Yes                          | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |



| Tower<br>Elevation<br><br>ft | Calc<br>K<br>Single<br>Angles | Calc<br>K<br>Solid<br>Rounds | K Factors <sup>1</sup> |                     |                     |                 |        |        |                |                |
|------------------------------|-------------------------------|------------------------------|------------------------|---------------------|---------------------|-----------------|--------|--------|----------------|----------------|
|                              |                               |                              | Legs                   | X<br>Brace<br>Diags | K<br>Brace<br>Diags | Single<br>Diags | Girts  | Horiz. | Sec.<br>Horiz. | Inner<br>Brace |
|                              |                               |                              |                        | X<br>Y              | X<br>Y              | X<br>Y          | X<br>Y | X<br>Y | X<br>Y         | X<br>Y         |
| T102 74.50-59.50             | Yes                           | Yes                          | 1                      | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T103 59.50-52.00             | Yes                           | Yes                          | 1                      | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T104 52.00-41.00             | Yes                           | Yes                          | 0.5                    | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T105 41.00-30.00             | Yes                           | Yes                          | 0.5                    | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T106 30.00-23.60             | Yes                           | Yes                          | 1                      | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T107 23.60-18.10             | Yes                           | Yes                          | 1                      | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |
| T108 18.10-0.00              | Yes                           | Yes                          | 1                      | 1                   | 1                   | 1               | 1      | 1      | 1              | 1              |

<sup>1</sup>Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

### Tower Section Geometry (cont'd)

| Tower<br>Elevation<br>ft | Leg                       |   | Diagonal                  |      | Top Girt                  |      | Bottom Girt               |      | Mid Girt                  |      | Long Horizontal           |      | Short Horizontal          |      |
|--------------------------|---------------------------|---|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
|                          | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    |
| T1 1432.00-1424.50       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T2 1424.50-1409.50       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T3 1409.50-1402.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T4 1402.00-1394.50       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T5 1394.50-1387.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T6 1387.00-1372.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T7 1372.00-1342.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T8 1342.00-1312.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T9 1312.00-1289.50       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T10 1289.50-1282.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T11 1282.00-1274.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T12 1274.50-1267.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T13 1267.00-1259.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T14 1259.50-1252.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T15 1252.00-1235.63      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T16 1235.63-1228.81      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T17 1228.81-1222.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T18 1222.00-1214.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T19 1214.50-1207.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |

| Tower<br>Elevation<br>ft | Leg                       |   | Diagonal                  |      | Top Girt                  |      | Bottom Girt               |      | Mid Girt                  |      | Long Horizontal           |      | Short Horizontal          |      |
|--------------------------|---------------------------|---|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
|                          | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    |
| T20 1207.00-1199.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T21 1199.50-1192.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T22 1192.00-1162.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T23 1162.00-1154.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T24 1154.50-1139.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T25 1139.50-1132.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T26 1132.00-1109.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T27 1109.50-1102.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T28 1102.00-1072.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T29 1072.00-1064.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T30 1064.50-1057.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T31 1057.00-1049.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T32 1049.50-1042.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T33 1042.00-1034.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T34 1034.50-1019.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T35 1019.50-1012.00      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T36 1012.00-1004.50      | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T37 1004.50-997.00       | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T38 997.00-989.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T39 989.50-982.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T40 982.00-952.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T41 952.00-937.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T42 937.00-929.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T43 929.50-922.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T44 922.00-907.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T45 907.00-892.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T46 892.00-862.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T47 862.00-847.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T48 847.00-832.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T49 832.00-809.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T50 809.50-802.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T51 802.00-794.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |

| Tower<br>Elevation<br>ft | Leg                       |   | Diagonal                  |      | Top Girt                  |      | Bottom Girt               |      | Mid Girt                  |      | Long Horizontal           |      | Short Horizontal          |      |
|--------------------------|---------------------------|---|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
|                          | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    |
| T52 794.50-<br>787.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T53 787.00-<br>772.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T54 772.00-<br>742.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T55 742.00-<br>719.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T56 719.50-<br>712.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T57 712.00-<br>682.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T58 682.00-<br>652.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T59 652.00-<br>637.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T60 637.00-<br>629.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T61 629.50-<br>622.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T62 622.00-<br>607.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T63 607.00-<br>592.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T64 592.00-<br>584.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T65 584.50-<br>577.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T66 577.00-<br>562.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T67 562.00-<br>532.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T68 532.00-<br>517.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T69 517.00-<br>502.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T70 502.00-<br>472.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T71 472.00-<br>442.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T72 442.00-<br>427.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T73 427.00-<br>412.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T74 412.00-<br>404.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T75 404.50-<br>397.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T76 397.00-<br>389.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T77 389.50-<br>382.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T78 382.00-<br>374.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T79 374.50-<br>352.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T80 352.00-<br>329.50    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T81 329.50-<br>322.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T82 322.00-<br>307.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T83 307.00-<br>292.00    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |

| Tower<br>Elevation<br>ft | Leg                       |   | Diagonal                  |      | Top Girt                  |      | Bottom Girt               |      | Mid Girt                  |      | Long Horizontal           |      | Short Horizontal          |      |
|--------------------------|---------------------------|---|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
|                          | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    |
| T84 292.00-277.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T85 277.00-262.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T86 262.00-247.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T87 247.00-232.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T88 232.00-217.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T89 217.00-209.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T90 209.50-202.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T91 202.00-194.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T92 194.50-187.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T93 187.00-179.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T94 179.50-172.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T95 172.00-149.50        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T96 149.50-142.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T97 142.00-112.00        | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T98 112.00-97.00         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T99 97.00-89.50          | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T100 89.50-82.00         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T101 82.00-74.50         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T102 74.50-59.50         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T103 59.50-52.00         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T104 52.00-41.00         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T105 41.00-30.00         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T106 30.00-23.60         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T107 23.60-18.10         | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T108 18.10-0.00          | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |

### Tower Section Geometry (cont'd)

| Tower<br>Elevation<br>ft | Leg<br>Connection<br>Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short Horizontal |     |
|--------------------------|---------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
|                          |                           | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in  | No. |
| T1 1432.00-1424.50       | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T2 1424.50-1409.50       | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N  | 0   |

| Tower<br>Elevation<br>ft | Leg<br>Connection<br>Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short<br>Horizontal |     |
|--------------------------|---------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|---------------------|-----|
|                          |                           | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in     | No. |
| T3 1409.50-<br>1402.00   | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T4 1402.00-<br>1394.50   | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T5 1394.50-<br>1387.00   | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T6 1387.00-<br>1372.00   | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T7 1372.00-<br>1342.00   | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T8 1342.00-<br>1312.00   | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T9 1312.00-<br>1289.50   | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T10 1289.50-<br>1282.00  | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T11 1282.00-<br>1274.50  | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T12 1274.50-<br>1267.00  | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T13 1267.00-<br>1259.50  | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T14 1259.50-<br>1252.00  | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T15 1252.00-<br>1235.63  | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T16 1235.63-<br>1228.81  | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T17 1228.81-<br>1222.00  | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T18 1222.00-<br>1214.50  | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T19 1214.50-<br>1207.00  | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 6   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 6   | 0.6250<br>A325N     | 0   |
| T20 1207.00-<br>1199.50  | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T21 1199.50-<br>1192.00  | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T22 1192.00-<br>1162.00  | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T23 1162.00-<br>1154.50  | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T24 1154.50-<br>1139.50  | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T25 1139.50-<br>1132.00  | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T26 1132.00-<br>1109.50  | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T27 1109.50-<br>1102.00  | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T28 1102.00-<br>1072.00  | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T29 1072.00-<br>1064.50  | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T30 1064.50-<br>1057.00  | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T31 1057.00-<br>1049.50  | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T32 1049.50-<br>1042.00  | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T33 1042.00-<br>1034.50  | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T34 1034.50-<br>1019.50  | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T35 1019.50-<br>1012.00  | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |

| Tower<br>Elevation<br>ft | Leg<br>Connection<br>Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short<br>Horizontal |     |
|--------------------------|---------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|---------------------|-----|
|                          |                           | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in     | No. |
| T36 1012.00-<br>1004.50  | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T37 1004.50-<br>997.00   | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 6   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 6   | 0.6250<br>A325N     | 2   |
| T38 997.00-<br>989.50    | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T39 989.50-<br>982.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T40 982.00-<br>952.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T41 952.00-<br>937.00    | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T42 937.00-<br>929.50    | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T43 929.50-<br>922.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T44 922.00-<br>907.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T45 907.00-<br>892.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T46 892.00-<br>862.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T47 862.00-<br>847.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T48 847.00-<br>832.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T49 832.00-<br>809.50    | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T50 809.50-<br>802.00    | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T51 802.00-<br>794.50    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T52 794.50-<br>787.00    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 6   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 6   | 0.6250<br>A325N     | 2   |
| T53 787.00-<br>772.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T54 772.00-<br>742.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T55 742.00-<br>719.50    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T56 719.50-<br>712.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T57 712.00-<br>682.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T58 682.00-<br>652.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T59 652.00-<br>637.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T60 637.00-<br>629.50    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T61 629.50-<br>622.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T62 622.00-<br>607.00    | Flange                    | 0.8750<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T63 607.00-<br>592.00    | Flange                    | 0.8750<br>A325N | 6   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T64 592.00-<br>584.50    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T65 584.50-<br>577.00    | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 6   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 6   | 0.6250<br>A325N     | 0   |
| T66 577.00-<br>562.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T67 562.00-<br>532.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T68 532.00-<br>517.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |

| Tower<br>Elevation<br>ft | Leg<br>Connection<br>Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short<br>Horizontal |     |
|--------------------------|---------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|---------------------|-----|
|                          |                           | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in     | No. |
| T69 517.00-<br>502.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T70 502.00-<br>472.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T71 472.00-<br>442.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 2   |
| T72 442.00-<br>427.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T73 427.00-<br>412.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T74 412.00-<br>404.50    | Flange                    | 0.8750<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T75 404.50-<br>397.00    | Flange                    | 0.8750<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T76 397.00-<br>389.50    | Flange                    | 0.8750<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T77 389.50-<br>382.00    | Flange                    | 0.8750<br>A325N | 6   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T78 382.00-<br>374.50    | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T79 374.50-<br>352.00    | Flange                    | 0.7500<br>A325N | 6   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T80 352.00-<br>329.50    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T81 329.50-<br>322.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T82 322.00-<br>307.00    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T83 307.00-<br>292.00    | Flange                    | 0.7500<br>A325N | 6   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T84 292.00-<br>277.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T85 277.00-<br>262.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T86 262.00-<br>247.00    | Flange                    | 0.7500<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T87 247.00-<br>232.00    | Flange                    | 0.7500<br>A325N | 6   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T88 232.00-<br>217.00    | Flange                    | 0.8750<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T89 217.00-<br>209.50    | Flange                    | 0.8750<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T90 209.50-<br>202.00    | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T91 202.00-<br>194.50    | Flange                    | 0.7500<br>A325N | 0   | 1.0000<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T92 194.50-<br>187.00    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T93 187.00-<br>179.50    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 6   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 6   | 0.6250<br>A325N     | 0   |
| T94 179.50-<br>172.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T95 172.00-<br>149.50    | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.8750<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T96 149.50-<br>142.00    | Flange                    | 0.7500<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T97 142.00-<br>112.00    | Flange                    | 0.7500<br>A325N | 6   | 1.0000<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T98 112.00-<br>97.00     | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T99 97.00-<br>89.50      | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T100 89.50-<br>82.00     | Flange                    | 0.7500<br>A325N | 6   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N     | 0   |
| T101 82.00-<br>74.50     | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N     | 0   |



| Tower<br>Elevation<br>ft | Leg<br>Connection<br>Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short Horizontal |     |
|--------------------------|---------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
|                          |                           | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in  | No. |
| T102 74.50-<br>59.50     | Flange                    | 0.7500<br>A325N | 0   | 0.5000<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T103 59.50-<br>52.00     | Flange                    | 0.7500<br>A325N | 6   | 0.5000<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T104 52.00-<br>41.00     | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T105 41.00-<br>30.00     | Flange                    | 0.7500<br>A325N | 0   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.0000<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T106 30.00-<br>23.60     | Flange                    | 0.8750<br>A325N | 6   | 0.8750<br>A325N | 2   | 0.6250<br>A325N | 2   | 0.7500<br>A325N | 4   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T107 23.60-<br>18.10     | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N  | 0   |
| T108 18.10-<br>0.00      | Flange                    | 0.7500<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.7500<br>A325N | 2   | 0.6250<br>A325N | 0   | 0.6250<br>A325N | 0   | 0.7500<br>A325N | 2   | 0.6250<br>A325N  | 0   |

### Guy Data

| Guy<br>Elevation<br>ft | Guy<br>Grade | Guy<br>Size | Initial<br>Tension<br>K | %   | Guy<br>Modulus<br>ksi | Guy<br>Weight<br>plf | L <sub>u</sub><br>ft | Anchor<br>Radius<br>ft | Anchor<br>Azimuth<br>Adj.<br>° | Anchor<br>Elevation<br>ft | End<br>Fitting<br>Efficiency<br>% |
|------------------------|--------------|-------------|-------------------------|-----|-----------------------|----------------------|----------------------|------------------------|--------------------------------|---------------------------|-----------------------------------|
| 1424.5                 | BS           | A 2 1/4     | 62.00                   | 10% | 24000                 | 10.640               | 1571.55              | 670.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 2 1/4     | 62.00                   | 10% | 24000                 | 10.640               | 1571.12              | 669.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 2 1/4     | 62.00                   | 10% | 24000                 | 10.640               | 1572.83              | 673.00                 | 0.0000                         | 0.00                      | 100%                              |
| 1214.5                 | BS           | A 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1383.60              | 670.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1383.11              | 669.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1385.04              | 673.00                 | 0.0000                         | 0.00                      | 100%                              |
| 1004.5                 | BS           | A 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1203.70              | 670.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1203.15              | 669.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 2 3/8     | 68.80                   | 10% | 24000                 | 11.850               | 1205.36              | 673.00                 | 0.0000                         | 0.00                      | 100%                              |
| 794.5                  | BS           | A 1 15/16   | 46.00                   | 10% | 24000                 | 7.890                | 1035.13              | 670.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 1 15/16   | 46.00                   | 10% | 24000                 | 7.890                | 1034.49              | 669.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 1 15/16   | 46.00                   | 10% | 24000                 | 7.890                | 1037.06              | 673.00                 | 0.0000                         | 0.00                      | 100%                              |
| 584.5                  | BS           | A 1 7/8     | 43.20                   | 10% | 24000                 | 7.390                | 768.20               | 505.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 1 7/8     | 43.20                   | 10% | 24000                 | 7.390                | 767.55               | 504.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 1 7/8     | 43.20                   | 10% | 24000                 | 7.390                | 768.85               | 506.00                 | 0.0000                         | 0.00                      | 100%                              |
| 382                    | BS           | A 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 628.24               | 505.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 627.45               | 504.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 629.03               | 506.00                 | 0.0000                         | 0.00                      | 100%                              |
| 194.5                  | BS           | A 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 535.47               | 505.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | B 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 534.54               | 504.00                 | 0.0000                         | 0.00                      | 100%                              |
|                        |              | C 1 5/8     | 32.40                   | 10% | 24000                 | 5.550                | 536.40               | 506.00                 | 0.0000                         | 0.00                      | 100%                              |

### Guy Data(cont'd)

| Guy<br>Elevation<br>ft | Mount<br>Type | Torque-Arm<br>Spread<br>ft | Torque-Arm<br>Leg Angle<br>° | Torque-Arm<br>Style | Torque-Arm<br>Grade | Torque-Arm<br>Type | Torque-Arm Size |
|------------------------|---------------|----------------------------|------------------------------|---------------------|---------------------|--------------------|-----------------|
| 1424.5                 | Corner        |                            |                              |                     |                     |                    |                 |
| 1214.5                 | Corner        |                            |                              |                     |                     |                    |                 |
| 1004.5                 | Corner        |                            |                              |                     |                     |                    |                 |
| 794.5                  | Corner        |                            |                              |                     |                     |                    |                 |
| 584.5                  | Corner        |                            |                              |                     |                     |                    |                 |
| 382                    | Corner        |                            |                              |                     |                     |                    |                 |
| 194.5                  | Corner        |                            |                              |                     |                     |                    |                 |

### Guy Data (cont'd)

| Guy Elevation<br>ft | Diagonal Grade      | Diagonal Type | Upper Diagonal Size | Lower Diagonal Size | Is Strap. | Pull-Off Grade      | Pull-Off Type | Pull-Off Size |
|---------------------|---------------------|---------------|---------------------|---------------------|-----------|---------------------|---------------|---------------|
| 1424.50             | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 1214.50             | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 1004.50             | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 794.50              | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 584.50              | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 382.00              | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |
| 194.50              | A572-50<br>(50 ksi) | Solid Round   |                     |                     |           | A572-50<br>(50 ksi) | Solid Round   |               |

### Guy Data (cont'd)

| Guy Elevation<br>ft | Cable Weight<br>A<br>K | Cable Weight<br>B<br>K | Cable Weight<br>C<br>K | Cable Weight<br>D<br>K | Tower Intercept<br>A<br>ft  | Tower Intercept<br>B<br>ft  | Tower Intercept<br>C<br>ft | Tower Intercept<br>D<br>ft |
|---------------------|------------------------|------------------------|------------------------|------------------------|-----------------------------|-----------------------------|----------------------------|----------------------------|
| 1424.5              | 16.72                  | 16.72                  | 16.73                  |                        | 189.22<br>23.8<br>sec/pulse | 189.12<br>23.7<br>sec/pulse | 189.53<br>23.8 sec/pulse   |                            |
| 1214.5              | 16.40                  | 16.39                  | 16.41                  |                        | 149.55<br>21.1<br>sec/pulse | 149.45<br>21.1<br>sec/pulse | 149.87<br>21.1 sec/pulse   |                            |
| 1004.5              | 14.26                  | 14.26                  | 14.28                  |                        | 115.07<br>18.5<br>sec/pulse | 114.97<br>18.5<br>sec/pulse | 115.39<br>18.5 sec/pulse   |                            |
| 794.5               | 8.17                   | 8.16                   | 8.18                   |                        | 86.20<br>16.0<br>sec/pulse  | 86.09<br>16.0<br>sec/pulse  | 86.52<br>16.1 sec/pulse    |                            |
| 584.5               | 5.68                   | 5.67                   | 5.68                   |                        | 48.15<br>12.0<br>sec/pulse  | 48.06<br>12.0<br>sec/pulse  | 48.23<br>12.0 sec/pulse    |                            |
| 382                 | 3.49                   | 3.48                   | 3.49                   |                        | 32.78<br>9.9<br>sec/pulse   | 32.70<br>9.9<br>sec/pulse   | 32.87<br>9.9 sec/pulse     |                            |
| 194.5               | 2.97                   | 2.97                   | 2.98                   |                        | 24.19<br>8.5<br>sec/pulse   | 24.11<br>8.5<br>sec/pulse   | 24.28<br>8.5 sec/pulse     |                            |

### Guy Data (cont'd)

| Guy Elevation<br>ft | Calc<br>K<br>Single<br>Angles | Calc<br>K<br>Solid<br>Rounds | Torque Arm     |                | Pull Off       |                | Diagonal       |                |
|---------------------|-------------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                     |                               |                              | K <sub>x</sub> | K <sub>y</sub> | K <sub>x</sub> | K <sub>y</sub> | K <sub>x</sub> | K <sub>y</sub> |
| 1424.5              | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 1214.5              | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 1004.5              | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 794.5               | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 584.5               | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 382                 | No                            | No                           |                |                | 1              | 1              | 1              | 1              |
| 194.5               | No                            | No                           |                |                | 1              | 1              | 1              | 1              |

### Guy Data (cont'd)

| Guy<br>Elevation<br>ft | Torque-Arm      |        |                           |      | Pull Off        |        |                           |      | Diagonal        |        |                           |      |
|------------------------|-----------------|--------|---------------------------|------|-----------------|--------|---------------------------|------|-----------------|--------|---------------------------|------|
|                        | Bolt Size<br>in | Number | Net Width<br>Deduct<br>in | U    | Bolt Size<br>in | Number | Net Width<br>Deduct<br>in | U    | Bolt Size<br>in | Number | Net Width<br>Deduct<br>in | U    |
| 1424.5                 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 1214.5                 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 1004.5                 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 794.5                  | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 584.5                  | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 382                    | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |
| 194.5                  | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 | 0.6250<br>A325N | 0      | 0.0000                    | 0.75 |

### Guy Pressures

| Guy<br>Elevation<br>ft | Guy<br>Location | z<br>ft | q <sub>z</sub><br>psf | q <sub>z</sub><br>Ice<br>psf | Ice<br>Thickness<br>in |
|------------------------|-----------------|---------|-----------------------|------------------------------|------------------------|
| 1424.5                 | A               | 712.25  | 55                    |                              |                        |
|                        | B               | 712.25  | 55                    |                              |                        |
|                        | C               | 712.25  | 55                    |                              |                        |
| 1214.5                 | A               | 607.25  | 53                    |                              |                        |
|                        | B               | 607.25  | 53                    |                              |                        |
|                        | C               | 607.25  | 53                    |                              |                        |
| 1004.5                 | A               | 502.25  | 51                    |                              |                        |
|                        | B               | 502.25  | 51                    |                              |                        |
|                        | C               | 502.25  | 51                    |                              |                        |
| 794.5                  | A               | 397.25  | 49                    |                              |                        |
|                        | B               | 397.25  | 49                    |                              |                        |
|                        | C               | 397.25  | 49                    |                              |                        |
| 584.5                  | A               | 292.25  | 46                    |                              |                        |
|                        | B               | 292.25  | 46                    |                              |                        |
|                        | C               | 292.25  | 46                    |                              |                        |
| 382                    | A               | 191.00  | 42                    |                              |                        |
|                        | B               | 191.00  | 42                    |                              |                        |
|                        | C               | 191.00  | 42                    |                              |                        |
| 194.5                  | A               | 97.25   | 36                    |                              |                        |
|                        | B               | 97.25   | 36                    |                              |                        |
|                        | C               | 97.25   | 36                    |                              |                        |

### Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description                              | Face<br>or<br>Leg | Allow<br>Shield | Exclude<br>From<br>Torque<br>Calculation | Component<br>Type | Placement<br>ft    | Face<br>Offset<br>in | Lateral<br>Offset<br>(Frac FW) | # | #<br>Per<br>Row | Clear<br>Spacin<br>g<br>in | Width or<br>Diameter<br>in | Perimete<br>r<br>in | Weight<br>plf |
|--|-------------------|-----------------|--|-------------------|--------------------|----------------------|--------------------------------|---|-----------------|----------------------------|----------------------------|---------------------|---------------|
| **Face A**                               |                   |                 |  |                   |                    |                      |                                |   |                 |                            |                            |                     |               |
| L3 x 3 Climb<br>Ladder Rail              | A                 | No              | No                                       | Af (CaAa)         | 53.00 -<br>24.00   | -<br>5.0000          | 0.25                           | 1 | 1               | 19.000<br>0<br>0.5000      | 3.0000                     |                     | 4.90          |
| L3 x 3 Climb<br>Ladder Rail              | A                 | No              | No                                       | Af (CaAa)         | 53.00 -<br>24.00   | -<br>20.000<br>0     | 0.3                            | 1 | 1               | 19.000<br>0<br>0.5000      | 3.0000                     |                     | 4.90          |
| 3/4" ladder<br>siderails                 | A                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>53.00 | -<br>5.0000          | 0.25                           | 1 | 1               | 17.000<br>0<br>0.5000      | 0.7500                     |                     | 1.50          |
| 3/4" ladder<br>siderails                 | A                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>53.00 | -<br>20.000<br>0     | 0.3                            | 1 | 1               | 17.000<br>0<br>0.5000      | 0.7500                     |                     | 1.50          |
| 3/4" ladder<br>rung (24"<br>long 12" oc) | A                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>24.00 | -<br>14.000<br>0     | 0.28                           | 1 | 1               | 1.5000<br>0.5000           | 1.5000                     |                     | 3.00          |

| Description   | Face<br>or<br>Leg | Allow<br>Shield | Exclude<br>From<br>Torque<br>Calculation | Component<br>Type | Placement<br>ft      | Face<br>Offset<br>in | Lateral<br>Offset<br>(Frac FW) | # | #<br>Per<br>Row | Clear<br>Spacing<br>in | Width or<br>Diameter<br>in | Perimeter<br>in | Weight<br>plf |
|---|-------------------|-----------------|--|-------------------|----------------------|----------------------|--------------------------------|---|-----------------|------------------------|----------------------------|-----------------|---------------|
| SO 3/8" Cord  | A                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>24.00   | -<br>14.0000         | 0.28                           | 1 | 1               | 0.3750<br>0.5000       | 0.3750                     |                 | 0.09          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |
| 3 1/8" Rigid<br>Line<br>**Face B**                            | A                 | No              | No                                       | Ar (CaAa)         | 1122.00 -<br>24.00   | -<br>5.0000          | 0.3                            | 1 | 1               | 3.1250<br>0.5000       | 3.1250                     |                 | 3.00          |
| 6 1/8" Rigid<br>Line<br>LDF2-50<br>(3/8" foam)                | B                 | No              | No                                       | Ar (CaAa)         | 1358.00 -<br>24.00   | -<br>2.0000          | -0.4                           | 1 | 1               | 6.1250<br>0.5000       | 6.1250                     |                 | 4.52          |
|   | B                 | No              | No                                       | Ar (CaAa)         | 239.00 -<br>12.00    | -<br>5.0000          | -0.12                          | 1 | 1               | 0.4400<br>0.5000       | 0.4400                     |                 | 0.08          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |
| 6 1/8" Rigid<br>Line  | B                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>24.00   | -<br>2.0000          | -0.3                           | 1 | 1               | 6.1250<br>0.5000       | 6.1250                     |                 | 4.52          |
| ASU9328TY<br>P01( 3/4")                                       | B                 | No              | No                                       | Ar (CaAa)         | 1396.00 -<br>10.00   | -<br>5.0000          | -0.22                          | 2 | 1               | 0.7000<br>0.5000       | 0.7000                     |                 | 0.30          |
| ASU9328TY<br>P01( 3/4")                                       | B                 | No              | No                                       | Ar (CaAa)         | 1416.00 -<br>1396.00 | -<br>5.0000          | -0.22                          | 1 | 1               | 0.7000<br>0.5000       | 0.7000                     |                 | 0.30          |
| LDF5-<br>50A(7/8")  | B                 | No              | No                                       | Ar (CaAa)         | 1396.00 -<br>10.00   | -<br>5.0000          | -0.2                           | 2 | 1               | 1.0900<br>0.5000       | 1.0900                     |                 | 0.33          |
| LDF5-<br>50A(7/8")  | B                 | No              | No                                       | Ar (CaAa)         | 1416.00 -<br>1396.00 | -<br>5.0000          | -0.2                           | 1 | 1               | 1.0900<br>0.5000       | 1.0900                     |                 | 0.33          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |
| LDF6-50A(1-<br>1/4")  | B                 | No              | No                                       | Ar (CaAa)         | 830.00 -<br>15.00    | 0.0000               | 0.47                           | 1 | 1               | 1.5500<br>0.5000       | 1.5500                     |                 | 0.66          |
| LDF6-50A(1-<br>1/4")  | B                 | No              | No                                       | Ar (CaAa)         | 607.00 -<br>15.00    | 0.0000               | 0.48                           | 1 | 1               | 1.5500<br>0.5000       | 1.5500                     |                 | 0.66          |
| LDF4RN-<br>50A(1/2)<br>**Face C**                             | B                 | No              | No                                       | Ar (CaAa)         | 101.00 -<br>15.00    | 0.0000               | 0.49                           | 1 | 1               | 0.6300<br>0.5000       | 0.6300                     |                 | 0.15          |
| 2 1/2" Rigid<br>Conduit (2"<br>EMT)                           | C                 | No              | No                                       | Ar (CaAa)         | 1393.00 -<br>12.00   | 0.0000               | -0.4                           | 1 | 1               | 2.1970<br>0.5000       | 2.1970                     |                 | 1.48          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 217.00 -<br>12.00    | 0.0000               | -0.35                          | 2 | 2               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 277.00 -<br>217.00   | 0.0000               | -0.35                          | 1 | 1               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 104.00 -<br>12.00    | -<br>3.0000          | 0.35                           | 3 | 3               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 148.00 -<br>104.00   | -<br>3.0000          | 0.35                           | 2 | 2               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 262.00 -<br>148.00   | -<br>3.0000          | 0.35                           | 1 | 1               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 299.00 -<br>12.00    | -<br>3.0000          | 0.35                           | 2 | 2               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| EW63(ELLIP<br>TICAL)  | C                 | No              | No                                       | Ar (CaAa)         | 307.00 -<br>299.00   | -<br>3.0000          | 0.35                           | 1 | 1               | 2.0100<br>0.5000       | 2.0100                     |                 | 0.51          |
| HFT806-<br>16S25-<br>XXX(1-5/16")<br>LCF158-<br>50JL( 1 5/8") | C                 | No              | No                                       | Ar (CaAa)         | 1142.00 -<br>12.00   | -<br>3.0000          | 0.4                            | 1 | 1               | 1.3100<br>0.5000       | 1.3100                     |                 | 1.22          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |
| 6 1/8" Rigid<br>Line  | C                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>24.00   | -<br>2.0000          | -0.35                          | 1 | 1               | 6.1250<br>0.5000       | 6.1250                     |                 | 4.52          |
| SO 3/8" Cord  | C                 | No              | No                                       | Ar (CaAa)         | 1432.00 -<br>24.00   | -<br>2.0000          | -0.3                           | 1 | 1               | 0.3750<br>0.5000       | 0.3750                     |                 | 0.09          |
| *****   |                   |                 |  |                   |                      |                      |                                |   |                 |                        |                            |                 |               |

## Discrete Tower Loads

| Description                    | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft      |        | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K |
|--------------------------------|-------------------|----------------|---|--------------------------------|----------------------|--------|---|--|-------------|
| 12' Walkway Platform           | C                 | None           |   | 0.0000                         | 1393.00              | No Ice | 32.07   | 32.07  | 0.91        |
| 16' Walkway Platform           | C                 | None           |   | 0.0000                         | 1033.00              | No Ice | 54.42   | 54.42  | 1.42        |
| Flash Beacon Lighting          | A                 | None           |   | 0.0000                         | 1517.00              | No Ice | 2.70  | 2.70   | 0.05        |
| Obstruction light              | A                 | From Leg       | 0.50  | 0.0000                         | 1422.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| Obstruction light              | C                 | From Leg       | 0.50  | 0.0000                         | 1422.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| Obstruction light              | A                 | From Leg       | 0.50  | 0.0000                         | 1393.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| Obstruction light              | C                 | From Leg       | 0.50  | 0.0000                         | 1393.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| Obstruction light              | A                 | From Leg       | 0.50  | 0.0000                         | 1142.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| Obstruction light              | C                 | From Leg       | 0.50  | 0.0000                         | 1142.00              | No Ice | 0.50  | 0.50   | 0.01        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| USCAN2-DRB-2C                  | A                 | From Leg       | 0.50  | 0.0000                         | 1416.00              | No Ice | 4.00  | 4.00   | 0.06        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| USCAN2-DRB-2C                  | A                 | From Leg       | 4.00  | 0.0000                         | 1396.00              | No Ice | 4.00  | 4.00   | 0.06        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| ERI FMH-10AC                   | C                 | From Leg       | 1.00  | 0.0000                         | 1167.00 -<br>1107.00 | No Ice | 54.00   | 54.00  | 1.16        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 4' x 4.5" Pipe Mount           | B                 | From Leg       | 0.50  | 0.0000                         | 1045.00              | No Ice | 0.92  | 0.92   | 0.04        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 3' Yagi                        | C                 | From Leg       | 4.00  | 0.0000                         | 1038.00              | No Ice | 2.08  | 2.08   | 0.03        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| 6' x 1.5" Std. Pipe            | C                 | From Leg       | 4.00  | 0.0000                         | 1038.00              | No Ice | 1.14  | 1.14   | 0.02        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 4' x 4.5" Pipe Mount           | B                 | From Leg       | 0.50  | 0.0000                         | 1019.00              | No Ice | 0.92  | 0.92   | 0.04        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| 4' x 4.5" Pipe Mount           | A                 | From Leg       | 0.50  | 0.0000                         | 1019.00              | No Ice | 0.92  | 0.92   | 0.04        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 5' x 4" Sched 40 Pipe<br>Mount | A                 | From Leg       | 0.50  | 0.0000                         | 1008.00              | No Ice | 1.12  | 1.12   | 0.05        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 18' 8 Bay Di-Pole              | C                 | From Leg       | 2.00  | 0.0000                         | 976.00               | No Ice | 4.00  | 4.00   | 0.06        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 9.00  |                                |                      |        |   |  |             |
| Generic 1' x 2' sidearm        | C                 | From Leg       | 0.50  | 0.0000                         | 976.00               | No Ice | 1.00  | 2.00   | 0.13        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |
| *****                          |                   |                |   |                                |                      |        |   |  |             |
| 18 ft x 5" Bogner              | B                 | From Leg       | 2.00  | 0.0000                         | 830.00               | No Ice | 6.30  | 6.30   | 0.08        |
|                                |                   |                | 0.00  |                                |                      |        |   |  |             |

| Description                 | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft |        | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K |
|-----------------------------|-------------------|----------------|---|--------------------------------|-----------------|--------|---|--|-------------|
| Generic 1' x 2' sidearm     | B                 | From Leg       | 9.00<br>0.50<br>0.00<br>0.00                          | 0.0000                         | 830.00          | No Ice | 1.00  | 2.00   | 0.13        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| 20' 4-Bay Dipole            | C                 | From Leg       | 2.00<br>0.00<br>10.00                                 | 0.0000                         | 607.00          | No Ice | 4.00  | 4.00   | 0.06        |
| Generic 1' x 2' sidearm     | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 607.00          | No Ice | 1.00  | 2.00   | 0.13        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| 4' x 2.375" Mount Pipe      | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 307.00          | No Ice | 0.87  | 0.87   | 0.03        |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 299.00          | No Ice | 0.98  | 0.98   | 0.04        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 277.00          | No Ice | 0.98  | 0.98   | 0.04        |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 262.00          | No Ice | 0.99  | 0.99   | 0.04        |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 217.00          | No Ice | 1.00  | 1.00   | 0.04        |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 148.00          | No Ice | 1.02  | 1.02   | 0.04        |
| 4' x 4.5" Pipe Mount        | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 104.00          | No Ice | 1.04  | 1.04   | 0.04        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| 1" Dia 4' Omni w/Pipe Mount | C                 | From Leg       | 2.00<br>0.00<br>2.00                                  | 0.0000                         | 101.00          | No Ice | 0.94  | 0.94   | 0.02        |
| Generic 1' x 2' sidearm     | C                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 101.00          | No Ice | 1.00  | 2.00   | 0.13        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| TFU-31JSC/VP-R 4C130        | A                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 1358.30         | No Ice | 51.90   | 51.90  | 1.70        |
| Generic 1' x 2' sidearm     | A                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 1358.30         | No Ice | 1.00  | 2.00   | 0.13        |
| Generic 1' x 2' sidearm     | A                 | From Leg       | 29.20<br>0.50<br>0.00<br>-29.20                       | 0.0000                         | 1358.30         | No Ice | 1.00  | 2.00   | 0.13        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| *****                       |                   |                |   |                                |                 |        |   |  |             |
| 4' x 4.5" Pipe Mount        | A                 | From Leg       | 0.50<br>0.00<br>0.00                                  | 0.0000                         | 239.00          | No Ice | 0.99  | 0.99   | 0.04        |
| *****                       |                   |                |   |                                |                 |        |   |  |             |

## Dishes

| Description      | Face<br>or<br>Leg | Dish<br>Type                | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft | Azimuth<br>Adjustment<br>° | 3 dB<br>Beam<br>Width<br>° | Elevation<br>ft | Outside<br>Diameter<br>ft |        | Aperture<br>Area<br>ft <sup>2</sup> | Weight<br>K |
|------------------|-------------------|-----------------------------|----------------|---|----------------------------|----------------------------|-----------------|---------------------------|--------|-------------------------------------|-------------|
| 4 ft standard    | B                 | Paraboloid w/o<br>Radome    | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 80.0000                    |                            | 1045.00         | 4.00                      | No Ice | 12.57                               | 0.10        |
| 4 ft standard    | B                 | Paraboloid w/o<br>Radome    | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 60.0000                    |                            | 1019.00         | 4.00                      | No Ice | 12.57                               | 0.10        |
| 6' std w/radome  | A                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | -40.0000                   |                            | 1019.00         | 6.00                      | No Ice | 28.27                               | 0.16        |
| 6' std w/radome  | A                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | -30.0000                   |                            | 1008.00         | 6.00                      | No Ice | 28.27                               | 0.16        |
| 4 ft Grid        | C                 | Grid                        | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 307.00          | 4.00                      | No Ice | 12.57                               | 0.10        |
| 6 ft Grid        | C                 | Grid                        | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 299.00          | 6.00                      | No Ice | 28.27                               | 0.12        |
| 6' std w/radome  | C                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 40.0000                    |                            | 277.00          | 6.00                      | No Ice | 28.27                               | 0.16        |
| 10' std w/radome | C                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 30.0000                    |                            | 262.00          | 10.00                     | No Ice | 78.54                               | 0.40        |
| PAR10-65-P7A     | C                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 217.00          | 10.88                     | No Ice | 92.89                               | 0.32        |
| 10' std w/radome | C                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 148.00          | 10.00                     | No Ice | 78.54                               | 0.40        |
| 8' std w/radome  | C                 | Paraboloid<br>w/Radome      | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 104.00          | 8.00                      | No Ice | 50.27                               | 0.30        |
| *****            |                   |                             |                |   |                            |                            |                 |                           |        |                                     |             |
| HP6-13           | A                 | Paraboloid<br>w/Shroud (HP) | From<br>Leg    | 1.00<br>0.00<br>0.00                      | 0.0000                     |                            | 239.00          | 5.71                      | No Ice | 25.59                               | 0.25        |
| *****            |                   |                             |                |   |                            |                            |                 |                           |        |                                     |             |

## Load Combinations

| Comb.<br>No. | Description                                    |
|--------------|--|
| 1            | Dead Only                                      |
| 2            | 1.2D+1.6W (pattern 1) 0 deg - No Ice+1.0 Guy   |
| 3            | 1.2D+1.6W (pattern 2) 0 deg - No Ice+1.0 Guy   |
| 4            | 1.2D+1.6W (pattern 3) 0 deg - No Ice+1.0 Guy   |
| 5            | 1.2D+1.6W (pattern 1) 30 deg - No Ice+1.0 Guy  |
| 6            | 1.2D+1.6W (pattern 2) 30 deg - No Ice+1.0 Guy  |
| 7            | 1.2D+1.6W (pattern 3) 30 deg - No Ice+1.0 Guy  |
| 8            | 1.2D+1.6W (pattern 1) 60 deg - No Ice+1.0 Guy  |
| 9            | 1.2D+1.6W (pattern 2) 60 deg - No Ice+1.0 Guy  |
| 10           | 1.2D+1.6W (pattern 3) 60 deg - No Ice+1.0 Guy  |
| 11           | 1.2D+1.6W (pattern 1) 90 deg - No Ice+1.0 Guy  |
| 12           | 1.2D+1.6W (pattern 2) 90 deg - No Ice+1.0 Guy  |
| 13           | 1.2D+1.6W (pattern 3) 90 deg - No Ice+1.0 Guy  |
| 14           | 1.2D+1.6W (pattern 1) 120 deg - No Ice+1.0 Guy |
| 15           | 1.2D+1.6W (pattern 2) 120 deg - No Ice+1.0 Guy |
| 16           | 1.2D+1.6W (pattern 3) 120 deg - No Ice+1.0 Guy |
| 17           | 1.2D+1.6W (pattern 1) 150 deg - No Ice+1.0 Guy |



| Comb. No. | Description                                    |
|-----------|--|
| 18        | 1.2D+1.6W (pattern 2) 150 deg - No Ice+1.0 Guy |
| 19        | 1.2D+1.6W (pattern 3) 150 deg - No Ice+1.0 Guy |
| 20        | 1.2D+1.6W (pattern 1) 180 deg - No Ice+1.0 Guy |
| 21        | 1.2D+1.6W (pattern 2) 180 deg - No Ice+1.0 Guy |
| 22        | 1.2D+1.6W (pattern 3) 180 deg - No Ice+1.0 Guy |
| 23        | 1.2D+1.6W (pattern 1) 210 deg - No Ice+1.0 Guy |
| 24        | 1.2D+1.6W (pattern 2) 210 deg - No Ice+1.0 Guy |
| 25        | 1.2D+1.6W (pattern 3) 210 deg - No Ice+1.0 Guy |
| 26        | 1.2D+1.6W (pattern 1) 240 deg - No Ice+1.0 Guy |
| 27        | 1.2D+1.6W (pattern 2) 240 deg - No Ice+1.0 Guy |
| 28        | 1.2D+1.6W (pattern 3) 240 deg - No Ice+1.0 Guy |
| 29        | 1.2D+1.6W (pattern 1) 270 deg - No Ice+1.0 Guy |
| 30        | 1.2D+1.6W (pattern 2) 270 deg - No Ice+1.0 Guy |
| 31        | 1.2D+1.6W (pattern 3) 270 deg - No Ice+1.0 Guy |
| 32        | 1.2D+1.6W (pattern 1) 300 deg - No Ice+1.0 Guy |
| 33        | 1.2D+1.6W (pattern 2) 300 deg - No Ice+1.0 Guy |
| 34        | 1.2D+1.6W (pattern 3) 300 deg - No Ice+1.0 Guy |
| 35        | 1.2D+1.6W (pattern 1) 330 deg - No Ice+1.0 Guy |
| 36        | 1.2D+1.6W (pattern 2) 330 deg - No Ice+1.0 Guy |
| 37        | 1.2D+1.6W (pattern 3) 330 deg - No Ice+1.0 Guy |
| 38        | Dead+Wind 0 deg - Service+Guy                  |
| 39        | Dead+Wind 30 deg - Service+Guy                 |
| 40        | Dead+Wind 60 deg - Service+Guy                 |
| 41        | Dead+Wind 90 deg - Service+Guy                 |
| 42        | Dead+Wind 120 deg - Service+Guy                |
| 43        | Dead+Wind 150 deg - Service+Guy                |
| 44        | Dead+Wind 180 deg - Service+Guy                |
| 45        | Dead+Wind 210 deg - Service+Guy                |
| 46        | Dead+Wind 240 deg - Service+Guy                |
| 47        | Dead+Wind 270 deg - Service+Guy                |
| 48        | Dead+Wind 300 deg - Service+Guy                |
| 49        | Dead+Wind 330 deg - Service+Guy                |

### Maximum Tower Deflections - Service Wind

| Section No. | Elevation<br>ft   | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|-------------------|---------------------------|-----------------------|-----------|------------|
| L1          | 1517 - 1432       | 6.847                     | 42                    | 0.2444    | 0.7684     |
| T1          | 1432 - 1424.5     | 6.535                     | 48                    | 0.3386    | 0.7682     |
| T2          | 1424.5 - 1409.5   | 6.880                     | 48                    | 0.3404    | 0.7685     |
| T3          | 1409.5 - 1402     | 7.686                     | 48                    | 0.3310    | 0.8376     |
| T4          | 1402 - 1394.5     | 8.085                     | 48                    | 0.3235    | 0.8768     |
| T5          | 1394.5 - 1387     | 8.402                     | 48                    | 0.3160    | 0.8811     |
| T6          | 1387 - 1372       | 8.755                     | 48                    | 0.3064    | 0.9110     |
| T7          | 1372 - 1342       | 9.425                     | 48                    | 0.2841    | 0.9839     |
| T8          | 1342 - 1312       | 10.462                    | 48                    | 0.2301    | 1.0052     |
| T9          | 1312 - 1289.5     | 10.891                    | 48                    | 0.1748    | 0.8956     |
| T10         | 1289.5 - 1282     | 10.961                    | 48                    | 0.1341    | 0.8009     |
| T11         | 1282 - 1274.5     | 10.943                    | 48                    | 0.1227    | 0.7672     |
| T12         | 1274.5 - 1267     | 10.923                    | 48                    | 0.1138    | 0.7379     |
| T13         | 1267 - 1259.5     | 10.901                    | 48                    | 0.1063    | 0.7116     |
| T14         | 1259.5 - 1252     | 10.883                    | 48                    | 0.1001    | 0.6903     |
| T15         | 1252 - 1235.63    | 10.898                    | 48                    | 0.0955    | 0.6892     |
| T16         | 1235.63 - 1228.81 | 10.925                    | 48                    | 0.0917    | 0.6872     |
| T17         | 1228.81 - 1222    | 10.937                    | 48                    | 0.0921    | 0.6866     |
| T18         | 1222 - 1214.5     | 10.921                    | 48                    | 0.0934    | 0.6769     |
| T19         | 1214.5 - 1207     | 10.903                    | 48                    | 0.0956    | 0.6671     |
| T20         | 1207 - 1199.5     | 10.975                    | 48                    | 0.0944    | 0.6813     |
| T21         | 1199.5 - 1192     | 11.047                    | 48                    | 0.0925    | 0.6981     |
| T22         | 1192 - 1162       | 11.122                    | 48                    | 0.0899    | 0.7156     |
| T23         | 1162 - 1154.5     | 11.373                    | 44                    | 0.0715    | 0.7893     |
| T24         | 1154.5 - 1139.5   | 11.421                    | 44                    | 0.0655    | 0.8076     |
| T25         | 1139.5 - 1132     | 11.492                    | 44                    | 0.0527    | 0.8492     |
| T26         | 1132 - 1109.5     | 11.508                    | 44                    | 0.0459    | 0.8998     |
| T27         | 1109.5 - 1102     | 11.284                    | 44                    | 0.0329    | 0.9390     |
| T28         | 1102 - 1072       | 11.176                    | 44                    | 0.0372    | 0.9260     |
| T29         | 1072 - 1064.5     | 10.630                    | 44                    | 0.0501    | 0.9239     |

| Section<br>No. | Elevation<br>ft | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|----------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T30            | 1064.5 - 1057   | 10.470                    | 44                    | 0.0519    | 0.9256     |
| T31            | 1057 - 1049.5   | 10.314                    | 44                    | 0.0530    | 0.9110     |
| T32            | 1049.5 - 1042   | 10.167                    | 44                    | 0.0533    | 0.8941     |
| T33            | 1042 - 1034.5   | 10.024                    | 44                    | 0.0529    | 0.8777     |
| T34            | 1034.5 - 1019.5 | 9.934                     | 44                    | 0.0522    | 0.8767     |
| T35            | 1019.5 - 1012   | 9.681                     | 44                    | 0.0484    | 0.8536     |
| T36            | 1012 - 1004.5   | 9.602                     | 44                    | 0.0452    | 0.8525     |
| T37            | 1004.5 - 997    | 9.529                     | 44                    | 0.0413    | 0.8514     |
| T38            | 997 - 989.5     | 9.470                     | 44                    | 0.0393    | 0.8523     |
| T39            | 989.5 - 982     | 9.456                     | 44                    | 0.0381    | 0.8691     |
| T40            | 982 - 952       | 9.456                     | 44                    | 0.0373    | 0.8910     |
| T41            | 952 - 937       | 9.438                     | 44                    | 0.0386    | 0.9769     |
| T42            | 937 - 929.5     | 9.429                     | 44                    | 0.0417    | 1.0254     |
| T43            | 929.5 - 922     | 9.414                     | 44                    | 0.0436    | 1.0485     |
| T44            | 922 - 907       | 9.393                     | 44                    | 0.0457    | 1.0705     |
| T45            | 907 - 892       | 9.277                     | 44                    | 0.0501    | 1.1370     |
| T46            | 892 - 862       | 9.044                     | 44                    | 0.0545    | 1.1668     |
| T47            | 862 - 847       | 8.448                     | 44                    | 0.0611    | 1.0789     |
| T48            | 847 - 832       | 8.103                     | 44                    | 0.0623    | 1.0273     |
| T49            | 832 - 809.5     | 7.786                     | 44                    | 0.0618    | 0.9825     |
| T50            | 809.5 - 802     | 7.314                     | 44                    | 0.0574    | 0.9150     |
| T51            | 802 - 794.5     | 7.157                     | 44                    | 0.0548    | 0.8910     |
| T52            | 794.5 - 787     | 7.020                     | 44                    | 0.0518    | 0.8742     |
| T53            | 787 - 772       | 6.988                     | 44                    | 0.0499    | 0.8924     |
| T54            | 772 - 742       | 6.953                     | 44                    | 0.0472    | 0.9410     |
| T55            | 742 - 719.5     | 6.884                     | 44                    | 0.0456    | 1.0376     |
| T56            | 719.5 - 712     | 6.855                     | 48                    | 0.0470    | 1.1254     |
| T57            | 712 - 682       | 6.834                     | 48                    | 0.0478    | 1.1582     |
| T58            | 682 - 652       | 6.412                     | 48                    | 0.0509    | 1.2140     |
| T59            | 652 - 637       | 5.813                     | 48                    | 0.0515    | 1.0895     |
| T60            | 637 - 629.5     | 5.497                     | 48                    | 0.0501    | 1.0246     |
| T61            | 629.5 - 622     | 5.345                     | 48                    | 0.0488    | 0.9940     |
| T62            | 622 - 607       | 5.193                     | 48                    | 0.0471    | 0.9635     |
| T63            | 607 - 592       | 4.901                     | 48                    | 0.0433    | 0.9069     |
| T64            | 592 - 584.5     | 4.645                     | 48                    | 0.0377    | 0.8597     |
| T65            | 584.5 - 577     | 4.537                     | 48                    | 0.0343    | 0.8435     |
| T66            | 577 - 562       | 4.533                     | 48                    | 0.0318    | 0.8595     |
| T67            | 562 - 532       | 4.583                     | 38                    | 0.0279    | 0.9070     |
| T68            | 532 - 517       | 4.740                     | 38                    | 0.0240    | 1.0051     |
| T69            | 517 - 502       | 4.853                     | 38                    | 0.0239    | 1.0652     |
| T70            | 502 - 472       | 4.952                     | 42                    | 0.0247    | 1.1183     |
| T71            | 472 - 442       | 4.957                     | 38                    | 0.0281    | 0.8989     |
| T72            | 442 - 427       | 4.617                     | 42                    | 0.0305    | 0.7340     |
| T73            | 427 - 412       | 4.377                     | 42                    | 0.0302    | 0.6593     |
| T74            | 412 - 404.5     | 4.122                     | 42                    | 0.0285    | 0.5814     |
| T75            | 404.5 - 397     | 3.997                     | 42                    | 0.0272    | 0.5449     |
| T76            | 397 - 389.5     | 3.877                     | 42                    | 0.0256    | 0.5107     |
| T77            | 389.5 - 382     | 3.780                     | 42                    | 0.0236    | 0.4835     |
| T78            | 382 - 374.5     | 3.710                     | 42                    | 0.0212    | 0.4670     |
| T79            | 374.5 - 352     | 3.743                     | 42                    | 0.0194    | 0.4805     |
| T80            | 352 - 329.5     | 3.891                     | 42                    | 0.0167    | 0.5431     |
| T81            | 329.5 - 322     | 4.052                     | 42                    | 0.0175    | 0.6050     |
| T82            | 322 - 307       | 4.099                     | 42                    | 0.0185    | 0.6250     |
| T83            | 307 - 292       | 4.179                     | 42                    | 0.0212    | 0.6639     |
| T84            | 292 - 277       | 4.229                     | 42                    | 0.0247    | 0.6496     |
| T85            | 277 - 262       | 4.183                     | 42                    | 0.0288    | 0.5543     |
| T86            | 262 - 247       | 4.084                     | 42                    | 0.0328    | 0.7313     |
| T87            | 247 - 232       | 3.848                     | 42                    | 0.0364    | 0.7257     |
| T88            | 232 - 217       | 3.578                     | 42                    | 0.0403    | 0.6698     |
| T89            | 217 - 209.5     | 3.280                     | 42                    | 0.0430    | 0.6117     |
| T90            | 209.5 - 202     | 3.121                     | 42                    | 0.0438    | 0.5763     |
| T91            | 202 - 194.5     | 2.976                     | 42                    | 0.0441    | 0.5460     |
| T92            | 194.5 - 187     | 2.859                     | 42                    | 0.0440    | 0.5282     |
| T93            | 187 - 179.5     | 2.793                     | 42                    | 0.0442    | 0.5281     |
| T94            | 179.5 - 172     | 2.728                     | 42                    | 0.0448    | 0.5285     |
| T95            | 172 - 149.5     | 2.661                     | 42                    | 0.0457    | 0.5288     |
| T96            | 149.5 - 142     | 2.444                     | 42                    | 0.0506    | 0.5301     |
| T97            | 142 - 112       | 2.366                     | 42                    | 0.0527    | 0.5296     |
| T98            | 112 - 97        | 2.173                     | 42                    | 0.0617    | 0.4801     |

| Section No. | Elevation<br>ft | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T99         | 97 - 89.5       | 1.993                     | 42                    | 0.0667    | 0.3756     |
| T100        | 89.5 - 82       | 1.863                     | 42                    | 0.0692    | 0.3004     |
| T101        | 82 - 74.5       | 1.705                     | 42                    | 0.0717    | 0.2283     |
| T102        | 74.5 - 59.5     | 1.536                     | 42                    | 0.0739    | 0.1752     |
| T103        | 59.5 - 52       | 1.159                     | 42                    | 0.0780    | 0.0979     |
| T104        | 52 - 41         | 0.970                     | 42                    | 0.0797    | 0.0702     |
| T105        | 41 - 30         | 0.769                     | 42                    | 0.0826    | 0.0664     |
| T106        | 30 - 23.6       | 0.563                     | 42                    | 0.0849    | 0.0653     |
| T107        | 23.6 - 18.1     | 0.444                     | 42                    | 0.0860    | 0.0639     |
| T108        | 18.1 - 0        | 0.344                     | 42                    | 0.0869    | 0.0641     |

### Critical Deflections and Radius of Curvature - Service Wind

| Elevation<br>ft | Appurtenance                | Gov.<br>Load<br>Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of<br>Curvature<br>ft |
|-----------------|-----------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 1517.00         | Flash Beacon Lighting       | 42                    | 6.847            | 0.2444    | 0.7684     | 245123                       |
| 1424.50         | Guy                         | 48                    | 6.880            | 0.3404    | 0.7685     | 3217                         |
| 1422.00         | Obstruction light           | 48                    | 7.005            | 0.3399    | 0.7739     | 6696                         |
| 1416.00         | USCAN2-DRB-2C               | 48                    | 7.324            | 0.3367    | 0.7987     | 1912                         |
| 1396.00         | USCAN2-DRB-2C               | 48                    | 8.338            | 0.3176    | 0.8798     | 6913                         |
| 1393.00         | 12' Walkway Platform        | 48                    | 8.469            | 0.3143    | 0.8844     | 9257                         |
| 1358.30         | TFU-31JSC/VP-R 4C130        | 48                    | 9.962            | 0.2604    | 1.0153     | 19725                        |
| 1214.50         | Guy                         | 48                    | 10.903           | 0.0956    | 0.6671     | 5569                         |
| 1167.00         | ERI FMH-10AC                | 48                    | 11.339           | 0.0752    | 0.7764     | 58012                        |
| 1162.00         | ERI FMH-10AC                | 44                    | 11.373           | 0.0715    | 0.7893     | 56415                        |
| 1157.00         | ERI FMH-10AC                | 44                    | 11.406           | 0.0676    | 0.8021     | 62612                        |
| 1152.00         | ERI FMH-10AC                | 44                    | 11.434           | 0.0635    | 0.8122     | 68532                        |
| 1147.00         | ERI FMH-10AC                | 44                    | 11.460           | 0.0593    | 0.8215     | 32589                        |
| 1142.00         | Obstruction light           | 44                    | 11.482           | 0.0549    | 0.8369     | 18061                        |
| 1137.00         | ERI FMH-10AC                | 44                    | 11.501           | 0.0504    | 0.8652     | 16877                        |
| 1132.00         | ERI FMH-10AC                | 44                    | 11.508           | 0.0459    | 0.8998     | 10297                        |
| 1127.00         | ERI FMH-10AC                | 44                    | 11.489           | 0.0413    | 0.9249     | 11582                        |
| 1122.00         | ERI FMH-10AC                | 44                    | 11.446           | 0.0368    | 0.9389     | 16876                        |
| 1117.00         | ERI FMH-10AC                | 44                    | 11.388           | 0.0322    | 0.9439     | 24689                        |
| 1112.00         | ERI FMH-10AC                | 44                    | 11.319           | 0.0314    | 0.9419     | 34008                        |
| 1107.00         | ERI FMH-10AC                | 44                    | 11.248           | 0.0344    | 0.9352     | 42763                        |
| 1045.00         | 4 ft standard               | 44                    | 10.076           | 0.0531    | 0.8828     | 12188                        |
| 1038.00         | 3' Yagi                     | 44                    | 9.974            | 0.0526    | 0.8767     | 72067                        |
| 1033.00         | 16' Walkway Platform        | 44                    | 9.912            | 0.0520    | 0.8757     | 11559                        |
| 1019.00         | 4 ft standard               | 44                    | 9.675            | 0.0482    | 0.8532     | 11279                        |
| 1008.00         | 6' std w/radome             | 44                    | 9.563            | 0.0430    | 0.8523     | 325611                       |
| 1004.50         | Guy                         | 44                    | 9.529            | 0.0413    | 0.8514     | 54179                        |
| 976.00          | 18' 8 Bay Di-Pole           | 44                    | 9.454            | 0.0370    | 0.9081     | 128720                       |
| 830.00          | 18 ft x 5" Bogner           | 44                    | 7.745            | 0.0616    | 0.9766     | 167037                       |
| 794.50          | Guy                         | 44                    | 7.020            | 0.0518    | 0.8742     | 4911                         |
| 607.00          | 20' 4-Bay Dipole            | 48                    | 4.901            | 0.0433    | 0.9069     | 44278                        |
| 584.50          | Guy                         | 48                    | 4.537            | 0.0343    | 0.8435     | 4967                         |
| 382.00          | Guy                         | 42                    | 3.710            | 0.0212    | 0.4670     | 5344                         |
| 307.00          | 4 ft Grid                   | 42                    | 4.179            | 0.0212    | 0.6639     | 85274                        |
| 299.00          | 6 ft Grid                   | 42                    | 4.215            | 0.0230    | 0.6724     | 30749                        |
| 277.00          | 6' std w/radome             | 42                    | 4.183            | 0.0288    | 0.5543     | 17718                        |
| 262.00          | 10' std w/radome            | 42                    | 4.084            | 0.0328    | 0.7313     | 13414                        |
| 239.00          | HP6-13                      | 42                    | 3.706            | 0.0386    | 0.6959     | 123125                       |
| 217.00          | PAR10-65-P7A                | 42                    | 3.280            | 0.0430    | 0.6117     | 87836                        |
| 194.50          | Guy                         | 42                    | 2.859            | 0.0440    | 0.5282     | 10875                        |
| 148.00          | 10' std w/radome            | 42                    | 2.428            | 0.0510    | 0.5302     | 250431                       |
| 104.00          | 8' std w/radome             | 42                    | 2.090            | 0.0644    | 0.4362     | 15351                        |
| 101.00          | 1" Dia 4' Omni w/Pipe Mount | 42                    | 2.051            | 0.0654    | 0.4121     | 12638                        |

## Maximum Tower Deflections - Design Wind

| Section No. | Elevation<br>ft      | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|----------------------|---------------------------|-----------------------|-----------|------------|
| L1          | 1517 - 1432          | 179.898                   | 26                    | 1.5924    | 2.6011     |
| T1          | 1432 - 1424.5        | 178.353                   | 26                    | 1.8976    | 2.5891     |
| T2          | 1424.5 - 1409.5      | 178.957                   | 26                    | 1.9028    | 2.5907     |
| T3          | 1409.5 - 1402        | 180.930                   | 2                     | 1.8303    | 2.8808     |
| T4          | 1402 - 1394.5        | 181.930                   | 2                     | 1.7711    | 3.0485     |
| T5          | 1394.5 - 1387        | 182.504                   | 2                     | 1.7115    | 3.0718     |
| T6          | 1387 - 1372          | 183.203                   | 14                    | 1.6357    | 3.1896     |
| T7          | 1372 - 1342          | 184.354                   | 14                    | 1.4562    | 3.4962     |
| T8          | 1342 - 1312          | 190.884                   | 4                     | 1.0131    | 3.4953     |
| T9          | 1312 - 1289.5        | 195.741                   | 4                     | 0.6390    | 2.9432     |
| T10         | 1289.5 - 1282        | 196.831                   | 4                     | 0.8803    | 2.4830     |
| T11         | 1282 - 1274.5        | 196.720                   | 4                     | 0.9455    | 2.3257     |
| T12         | 1274.5 - 1267        | 196.459                   | 4                     | 0.9945    | 2.2104     |
| T13         | 1267 - 1259.5        | 196.092                   | 4                     | 1.0346    | 2.1170     |
| T14         | 1259.5 - 1252        | 195.630                   | 4                     | 1.0651    | 2.0455     |
| T15         | 1252 - 1235.63       | 195.158                   | 4                     | 1.0862    | 2.0392     |
| T16         | 1235.63 -<br>1228.81 | 193.802                   | 4                     | 1.0980    | 2.0274     |
| T17         | 1228.81 - 1222       | 193.192                   | 4                     | 1.0918    | 2.0238     |
| T18         | 1222 - 1214.5        | 192.425                   | 4                     | 1.0793    | 1.9873     |
| T19         | 1214.5 - 1207        | 191.516                   | 4                     | 1.0613    | 1.9441     |
| T20         | 1207 - 1199.5        | 191.045                   | 4                     | 1.0608    | 1.9915     |
| T21         | 1199.5 - 1192        | 190.501                   | 4                     | 1.0623    | 2.0424     |
| T22         | 1192 - 1162          | 189.938                   | 4                     | 1.0659    | 2.0987     |
| T23         | 1162 - 1154.5        | 186.824                   | 4                     | 1.0980    | 2.3150     |
| T24         | 1154.5 - 1139.5      | 185.788                   | 4                     | 1.1083    | 2.3677     |
| T25         | 1139.5 - 1132        | 183.409                   | 4                     | 1.1288    | 2.6109     |
| T26         | 1132 - 1109.5        | 181.974                   | 4                     | 1.1379    | 2.6764     |
| T27         | 1109.5 - 1102        | 176.654                   | 4                     | 1.1558    | 2.7799     |
| T28         | 1102 - 1072          | 174.603                   | 4                     | 1.1951    | 2.8453     |
| T29         | 1072 - 1064.5        | 165.222                   | 4                     | 1.3469    | 2.8814     |
| T30         | 1064.5 - 1057        | 162.624                   | 4                     | 1.3719    | 2.8305     |
| T31         | 1057 - 1049.5        | 160.051                   | 4                     | 1.3929    | 2.7779     |
| T32         | 1049.5 - 1042        | 157.538                   | 4                     | 1.4089    | 2.7265     |
| T33         | 1042 - 1034.5        | 155.009                   | 4                     | 1.4181    | 2.6757     |
| T34         | 1034.5 - 1019.5      | 152.708                   | 4                     | 1.4226    | 2.6692     |
| T35         | 1019.5 - 1012        | 147.743                   | 4                     | 1.4088    | 2.6864     |
| T36         | 1012 - 1004.5        | 145.491                   | 4                     | 1.3940    | 2.6807     |
| T37         | 1004.5 - 997         | 143.276                   | 4                     | 1.3729    | 2.6734     |
| T38         | 997 - 989.5          | 141.147                   | 4                     | 1.3649    | 2.6782     |
| T39         | 989.5 - 982          | 139.162                   | 4                     | 1.3591    | 2.7270     |
| T40         | 982 - 952            | 137.230                   | 4                     | 1.3560    | 2.7935     |
| T41         | 952 - 937            | 129.347                   | 4                     | 1.3643    | 3.0453     |
| T42         | 937 - 929.5          | 126.406                   | 3                     | 1.3781    | 3.1876     |
| T43         | 929.5 - 922          | 124.846                   | 3                     | 1.3861    | 3.2504     |
| T44         | 922 - 907            | 123.151                   | 3                     | 1.3941    | 3.3074     |
| T45         | 907 - 892            | 119.427                   | 3                     | 1.4082    | 3.4115     |
| T46         | 892 - 862            | 115.446                   | 3                     | 1.4168    | 3.5616     |
| T47         | 862 - 847            | 106.808                   | 3                     | 1.4063    | 3.5649     |
| T48         | 847 - 832            | 102.092                   | 3                     | 1.3835    | 3.3824     |
| T49         | 832 - 809.5          | 97.690                    | 3                     | 1.3460    | 3.2475     |
| T50         | 809.5 - 802          | 91.137                    | 3                     | 1.2659    | 3.0264     |
| T51         | 802 - 794.5          | 88.983                    | 3                     | 1.2308    | 2.9431     |
| T52         | 794.5 - 787          | 86.921                    | 3                     | 1.1948    | 2.8817     |
| T53         | 787 - 772            | 85.355                    | 3                     | 1.1646    | 2.9443     |
| T54         | 772 - 742            | 82.373                    | 3                     | 1.1093    | 3.1066     |
| T55         | 742 - 719.5          | 76.587                    | 3                     | 1.0081    | 3.3969     |
| T56         | 719.5 - 712          | 72.376                    | 3                     | 0.9524    | 3.6938     |
| T57         | 712 - 682            | 70.894                    | 3                     | 0.9405    | 3.7810     |
| T58         | 682 - 652            | 64.603                    | 3                     | 0.8888    | 4.0525     |
| T59         | 652 - 637            | 59.244                    | 2                     | 0.8167    | 3.7197     |
| T60         | 637 - 629.5          | 56.944                    | 2                     | 0.7728    | 3.5078     |
| T61         | 629.5 - 622          | 55.839                    | 2                     | 0.7475    | 3.4116     |
| T62         | 622 - 607            | 54.743                    | 2                     | 0.7198    | 3.3143     |
| T63         | 607 - 592            | 52.600                    | 2                     | 0.6665    | 3.1221     |
| T64         | 592 - 584.5          | 50.699                    | 2                     | 0.6038    | 2.9870     |

| Section No. | Elevation<br>ft | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T65         | 584.5 - 577     | 49.839                    | 2                     | 0.5690    | 2.9404     |
| T66         | 577 - 562       | 49.397                    | 2                     | 0.5392    | 2.9795     |
| T67         | 562 - 532       | 48.739                    | 2                     | 0.4865    | 3.1103     |
| T68         | 532 - 517       | 47.640                    | 14                    | 0.4011    | 3.3605     |
| T69         | 517 - 502       | 47.357                    | 14                    | 0.3683    | 3.5392     |
| T70         | 502 - 472       | 46.988                    | 14                    | 0.3500    | 3.6965     |
| T71         | 472 - 442       | 45.596                    | 14                    | 0.3317    | 3.5881     |
| T72         | 442 - 427       | 43.030                    | 14                    | 0.3372    | 2.5634     |
| T73         | 427 - 412       | 41.482                    | 14                    | 0.3306    | 2.2980     |
| T74         | 412 - 404.5     | 39.849                    | 14                    | 0.3149    | 2.0015     |
| T75         | 404.5 - 397     | 39.029                    | 14                    | 0.3050    | 1.8547     |
| T76         | 397 - 389.5     | 38.239                    | 14                    | 0.2927    | 1.7236     |
| T77         | 389.5 - 382     | 37.599                    | 14                    | 0.2781    | 1.6399     |
| T78         | 382 - 374.5     | 37.076                    | 14                    | 0.2613    | 1.5933     |
| T79         | 374.5 - 352     | 36.939                    | 14                    | 0.2478    | 1.6167     |
| T80         | 352 - 329.5     | 36.695                    | 14                    | 0.2239    | 1.7270     |
| T81         | 329.5 - 322     | 36.550                    | 14                    | 0.2249    | 1.8203     |
| T82         | 322 - 307       | 36.455                    | 14                    | 0.2297    | 1.8464     |
| T83         | 307 - 292       | 36.172                    | 14                    | 0.2447    | 1.8900     |
| T84         | 292 - 277       | 35.849                    | 14                    | 0.2694    | 1.8792     |
| T85         | 277 - 262       | 35.283                    | 14                    | 0.3044    | 1.7809     |
| T86         | 262 - 247       | 34.337                    | 16                    | 0.3424    | 2.2324     |
| T87         | 247 - 232       | 33.014                    | 16                    | 0.3783    | 2.2648     |
| T88         | 232 - 217       | 31.446                    | 16                    | 0.4087    | 2.1375     |
| T89         | 217 - 209.5     | 29.619                    | 16                    | 0.4311    | 1.9930     |
| T90         | 209.5 - 202     | 28.619                    | 16                    | 0.4387    | 1.8764     |
| T91         | 202 - 194.5     | 27.697                    | 16                    | 0.4433    | 1.7848     |
| T92         | 194.5 - 187     | 26.874                    | 16                    | 0.4451    | 1.7326     |
| T93         | 187 - 179.5     | 26.241                    | 16                    | 0.4490    | 1.7323     |
| T94         | 179.5 - 172     | 25.601                    | 16                    | 0.4554    | 1.7338     |
| T95         | 172 - 149.5     | 24.938                    | 16                    | 0.4643    | 1.7350     |
| T96         | 149.5 - 142     | 22.790                    | 16                    | 0.5037    | 1.7402     |
| T97         | 142 - 112       | 22.010                    | 16                    | 0.5203    | 1.7383     |
| T98         | 112 - 97        | 18.916                    | 16                    | 0.5949    | 1.5917     |
| T99         | 97 - 89.5       | 16.932                    | 16                    | 0.6367    | 1.4012     |
| T100        | 89.5 - 82       | 15.773                    | 16                    | 0.6570    | 1.2134     |
| T101        | 82 - 74.5       | 14.543                    | 16                    | 0.6764    | 1.0566     |
| T102        | 74.5 - 59.5     | 13.238                    | 16                    | 0.6948    | 0.9130     |
| T103        | 59.5 - 52       | 10.340                    | 16                    | 0.7273    | 0.5902     |
| T104        | 52 - 41         | 8.860                     | 16                    | 0.7411    | 0.4697     |
| T105        | 41 - 30         | 7.017                     | 16                    | 0.7636    | 0.4486     |
| T106        | 30 - 23.6       | 5.137                     | 16                    | 0.7817    | 0.4399     |
| T107        | 23.6 - 18.1     | 4.046                     | 16                    | 0.7899    | 0.4302     |
| T108        | 18.1 - 0        | 3.130                     | 16                    | 0.7969    | 0.4312     |

### Critical Deflections and Radius of Curvature - Design Wind

| Elevation<br>ft | Appurtenance          | Gov.<br>Load<br>Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of<br>Curvature<br>ft |
|-----------------|-----------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 1517.00         | Flash Beacon Lighting | 26                    | 179.898          | 1.5924    | 2.6011     | 65557                        |
| 1424.50         | Guy                   | 26                    | 178.957          | 1.9028    | 2.5907     | 2408                         |
| 1422.00         | Obstruction light     | 26                    | 179.211          | 1.8983    | 2.6134     | 2556                         |
| 1416.00         | USCAN2-DRB-2C         | 2                     | 179.962          | 1.8735    | 2.7172     | 5108                         |
| 1396.00         | USCAN2-DRB-2C         | 2                     | 182.394          | 1.7244    | 3.0661     | 4870                         |
| 1393.00         | 12' Walkway Platform  | 2                     | 182.629          | 1.6978    | 3.0848     | 2402                         |
| 1358.30         | TFU-31JSC/VP-R 4C130  | 4                     | 186.659          | 1.2648    | 3.6011     | 3103                         |
| 1214.50         | Guy                   | 4                     | 191.516          | 1.0613    | 1.9441     | 1207                         |
| 1167.00         | ERI FMH-10AC          | 4                     | 187.458          | 1.0913    | 2.2859     | 6263                         |
| 1162.00         | ERI FMH-10AC          | 4                     | 186.824          | 1.0980    | 2.3150     | 6374                         |
| 1157.00         | ERI FMH-10AC          | 4                     | 186.143          | 1.1048    | 2.3447     | 7712                         |
| 1152.00         | ERI FMH-10AC          | 4                     | 185.424          | 1.1118    | 2.4003     | 6077                         |
| 1147.00         | ERI FMH-10AC          | 4                     | 184.664          | 1.1188    | 2.4848     | 4477                         |
| 1142.00         | Obstruction light     | 4                     | 183.846          | 1.1255    | 2.5733     | 3091                         |
| 1137.00         | ERI FMH-10AC          | 4                     | 182.952          | 1.1320    | 2.6403     | 3240                         |
| 1132.00         | ERI FMH-10AC          | 4                     | 181.974          | 1.1379    | 2.6764     | 3324                         |
| 1127.00         | ERI FMH-10AC          | 4                     | 180.915          | 1.1433    | 2.6884     | 3543                         |

| Elevation<br>ft | Appurtenance                | Gov.<br>Load<br>Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of<br>Curvature<br>ft |
|-----------------|-----------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 1122.00         | ERI FMH-10AC                | 4                     | 179.781          | 1.1480    | 2.6863     | 3919                         |
| 1117.00         | ERI FMH-10AC                | 4                     | 178.577          | 1.1518    | 2.7237     | 4384                         |
| 1112.00         | ERI FMH-10AC                | 4                     | 177.309          | 1.1547    | 2.7600     | 4954                         |
| 1107.00         | ERI FMH-10AC                | 4                     | 175.984          | 1.1634    | 2.8017     | 5235                         |
| 1045.00         | 4 ft standard               | 4                     | 156.000          | 1.4150    | 2.6916     | 2831                         |
| 1038.00         | 3' Yagi                     | 4                     | 153.777          | 1.4213    | 2.6711     | 10045                        |
| 1033.00         | 16' Walkway Platform        | 4                     | 152.231          | 1.4225    | 2.6652     | 2585                         |
| 1019.00         | 4 ft standard               | 4                     | 147.586          | 1.4080    | 2.6867     | 2445                         |
| 1008.00         | 6' std w/radome             | 4                     | 144.307          | 1.3821    | 2.6764     | 14838                        |
| 1004.50         | Guy                         | 4                     | 143.276          | 1.3729    | 2.6734     | 6816                         |
| 976.00          | 18' 8 Bay Di-Pole           | 4                     | 135.672          | 1.3552    | 2.8448     | 17108                        |
| 830.00          | 18 ft x 5" Bogner           | 3                     | 97.110           | 1.3401    | 3.2303     | 27411                        |
| 794.50          | Guy                         | 3                     | 86.921           | 1.1948    | 2.8817     | 1145                         |
| 607.00          | 20' 4-Bay Dipole            | 2                     | 52.600           | 0.6665    | 3.1221     | 6281                         |
| 584.50          | Guy                         | 2                     | 49.839           | 0.5690    | 2.9404     | 1362                         |
| 382.00          | Guy                         | 14                    | 37.076           | 0.2613    | 1.5933     | 1480                         |
| 307.00          | 4 ft Grid                   | 14                    | 36.172           | 0.2447    | 1.8900     | 50300                        |
| 299.00          | 6 ft Grid                   | 14                    | 36.014           | 0.2563    | 1.9173     | 13144                        |
| 277.00          | 6' std w/radome             | 14                    | 35.283           | 0.3044    | 1.7809     | 4482                         |
| 262.00          | 10' std w/radome            | 16                    | 34.337           | 0.3424    | 2.2324     | 3471                         |
| 239.00          | HP6-13                      | 16                    | 32.202           | 0.3954    | 2.1980     | 13336                        |
| 217.00          | PAR10-65-P7A                | 16                    | 29.619           | 0.4311    | 1.9930     | 11164                        |
| 194.50          | Guy                         | 16                    | 26.874           | 0.4451    | 1.7326     | 2998                         |
| 148.00          | 10' std w/radome            | 16                    | 22.634           | 0.5070    | 1.7404     | 29917                        |
| 104.00          | 8' std w/radome             | 16                    | 17.915           | 0.6171    | 1.5236     | 5888                         |
| 101.00          | 1" Dia 4' Omni w/Pipe Mount | 16                    | 17.506           | 0.6255    | 1.4786     | 5174                         |

### Bolt Design Data

| Section No. | Elevation<br>ft | Component Type       | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T1          | 1432            | Diagonal             | A325N      | 0.8750          | 2               | 5.41                       | 25.06                        | 0.216 ✓              | 1               | Member Block Shear |
|             |                 | Horizontal           | A325N      | 0.7500          | 2               | 0.46                       | 35.78                        | 0.013 ✓              | 1               | Bolt Shear         |
| T2          | 1424.5          | Diagonal             | A325N      | 0.7500          | 2               | 20.77                      | 17.89                        | 1.161 ✗              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.7500          | 2               | 14.55                      | 31.32                        | 0.465 ✓              | 1               | Gusset Bearing     |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 27.01                      | 25.12                        | 1.075 ✗              | 1               | Gusset Bearing     |
| T3          | 1409.5          | Leg                  | A325N      | 0.7500          | 6               | 2.58                       | 29.82                        | 0.087 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 18.48                      | 12.43                        | 1.487 ✗              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 13.99                      | 31.32                        | 0.447 ✓              | 1               | Gusset Bearing     |
| T4          | 1402            | Diagonal             | A325N      | 0.8750          | 2               | 14.41                      | 25.06                        | 0.575 ✓              | 1               | Member Block Shear |
|             |                 | Horizontal           | A325N      | 0.7500          | 2               | 13.39                      | 35.78                        | 0.374 ✓              | 1               | Bolt Shear         |
| T5          | 1394.5          | Diagonal             | A325N      | 0.7500          | 2               | 14.92                      | 17.89                        | 0.834 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 5.42                       | 31.32                        | 0.173 ✓              | 1               | Gusset Bearing     |
| T6          | 1387            | Leg                  | A325N      | 0.7500          | 6               | 28.90                      | 29.82                        | 0.969 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 14.28                      | 12.43                        | 1.149 ✗              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.7500          | 2               | 9.52                       | 31.32                        | 0.304 ✓              | 1               | Gusset Bearing     |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 3.67                       | 20.81                        | 0.176 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 10.22                      | 31.32                        | 0.326 ✓              | 1               | Gusset Bearing     |
| T7          | 1372            | Leg                  | A325N      | 0.7500          | 6               | 44.23                      | 29.82                        | 1.483 ✗              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 11.72                      | 12.43                        | 0.943 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 7.40                       | 24.85                        | 0.298 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 3.98                       | 20.81                        | 0.191 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 8.48                       | 24.85                        | 0.341 ✓              | 1               | Bolt Shear         |
| T8          | 1342            | Leg                  | A325N      | 0.7500          | 6               | 45.75                      | 29.82                        | 1.534 ✗              | 1               | Bolt Tension       |



| Section No. | Elevation<br>ft | Component Type       | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T9          | 1312            | Diagonal             | A325N      | 0.6250          | 2               | 6.98                       | 12.43                        | 0.562 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 3.98                       | 18.60                        | 0.214 ✓              | 1               | Member Block Shear |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 3.98                       | 10.41                        | 0.382 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 2.93                       | 24.85                        | 0.118 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 11.40                      | 12.43                        | 0.918 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 7.29                       | 24.85                        | 0.293 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 3.73                       | 20.81                        | 0.179 ✓              | 1               | Member Block Shear |
| T10         | 1289.5          | Top Girt             | A325N      | 0.6250          | 2               | 5.15                       | 24.85                        | 0.207 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 34.33                      | 29.82                        | 1.151 ✗              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 12.83                      | 12.43                        | 1.033 ✗              | 1               | Bolt Shear         |
| T11         | 1282            | Secondary Horizontal | A325N      | 0.6250          | 2               | 3.28                       | 10.41                        | 0.315 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 8.32                       | 24.85                        | 0.335 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 14.09                      | 17.89                        | 0.788 ✓              | 1               | Bolt Shear         |
| T12         | 1274.5          | Top Girt             | A325N      | 0.6250          | 2               | 9.39                       | 24.85                        | 0.378 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 15.27                      | 17.89                        | 0.853 ✓              | 1               | Bolt Shear         |
| T13         | 1267            | Top Girt             | A325N      | 0.6250          | 2               | 10.41                      | 24.85                        | 0.419 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 1.0000          | 2               | 16.11                      | 31.81                        | 0.506 ✓              | 1               | Bolt Shear         |
| T14         | 1259.5          | Top Girt             | A325N      | 0.6250          | 2               | 11.06                      | 24.85                        | 0.445 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.8750          | 6               | 18.70                      | 40.59                        | 0.461 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 19.63                      | 48.71                        | 0.403 ✓              | 1               | Bolt Shear         |
| T15         | 1252            | Secondary Horizontal | A325N      | 0.6250          | 2               | 2.44                       | 10.41                        | 0.234 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 10.73                      | 35.78                        | 0.300 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 18.17                      | 48.71                        | 0.373 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.7500          | 2               | 12.07                      | 35.78                        | 0.337 ✓              | 1               | Bolt Shear         |
| T16         | 1235.63         | Top Girt             | A325N      | 0.7500          | 2               | 11.85                      | 35.78                        | 0.331 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 13.43                      | 48.71                        | 0.276 ✓              | 1               | Bolt Shear         |
| T17         | 1228.81         | Top Girt             | A325N      | 0.7500          | 2               | 13.45                      | 35.78                        | 0.376 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 19.75                      | 24.35                        | 0.811 ✓              | 1               | Bolt Shear         |
| T18         | 1222            | Top Girt             | A325N      | 0.7500          | 2               | 5.01                       | 35.78                        | 0.140 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 20.42                      | 24.35                        | 0.839 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 16.20                      | 31.32                        | 0.517 ✓              | 1               | Gusset Bearing     |
| T19         | 1214.5          | Diagonal             | A325N      | 0.8750          | 2               | 15.88                      | 24.35                        | 0.652 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 6               | 13.47                      | 29.25                        | 0.460 ✓              | 1               | Gusset Bearing     |
| T20         | 1207            | Diagonal             | A325N      | 0.8750          | 2               | 16.03                      | 24.35                        | 0.658 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 12.69                      | 35.78                        | 0.355 ✓              | 1               | Bolt Shear         |
| T21         | 1199.5          | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 14.43                      | 24.35                        | 0.592 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 12.34                      | 24.85                        | 0.497 ✓              | 1               | Bolt Shear         |
| T22         | 1192            | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 13.56                      | 24.35                        | 0.557 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 9.92                       | 24.85                        | 0.399 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.64                       | 10.41                        | 0.446 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 11.07                      | 24.85                        | 0.446 ✓              | 1               | Bolt Shear         |



| Section No. | Elevation<br>ft | Component Type       | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T23         | 1162            | Diagonal             | A325N      | 0.8750          | 2               | 7.76                       | 24.35                        | 0.319 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.70                       | 10.41                        | 0.452 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 6.82                       | 24.85                        | 0.274 ✓              | 1               | Bolt Shear         |
| T24         | 1154.5          | Diagonal             | A325N      | 0.8750          | 2               | 5.73                       | 24.35                        | 0.235 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 4.78                       | 20.88                        | 0.229 ✓              | 1               | Gusset Bearing     |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.78                       | 10.41                        | 0.460 ✓              | 1               | Member Block Shear |
| T25         | 1139.5          | Top Girt             | A325N      | 0.6250          | 2               | 5.37                       | 24.85                        | 0.216 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 1.66                       | 29.82                        | 0.056 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 3.18                       | 12.43                        | 0.256 ✓              | 1               | Bolt Shear         |
| T26         | 1132            | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.81                       | 10.41                        | 0.462 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 2.85                       | 24.85                        | 0.115 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 7.35                       | 12.43                        | 0.591 ✓              | 1               | Bolt Shear         |
| T27         | 1109.5          | Horizontal           | A325N      | 0.6250          | 2               | 4.83                       | 20.88                        | 0.231 ✓              | 1               | Gusset Bearing     |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.83                       | 10.41                        | 0.464 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 2.90                       | 24.85                        | 0.117 ✓              | 1               | Bolt Shear         |
| T28         | 1102            | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 9.21                       | 12.43                        | 0.741 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.74                       | 10.41                        | 0.455 ✓              | 1               | Member Block Shear |
| T29         | 1072            | Top Girt             | A325N      | 0.6250          | 2               | 6.32                       | 24.85                        | 0.254 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 14.82                      | 12.43                        | 1.193 ✗              | 1               | Bolt Shear         |
| T30         | 1064.5          | Horizontal           | A325N      | 0.6250          | 2               | 10.52                      | 24.85                        | 0.423 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.66                       | 10.41                        | 0.448 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 7.54                       | 24.85                        | 0.303 ✓              | 1               | Bolt Shear         |
| T31         | 1057            | Diagonal             | A325N      | 0.6250          | 2               | 16.13                      | 12.43                        | 1.298 ✗              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.20                       | 10.41                        | 0.404 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 11.52                      | 24.85                        | 0.463 ✓              | 1               | Bolt Shear         |
| T32         | 1049.5          | Diagonal             | A325N      | 0.6250          | 2               | 17.00                      | 12.43                        | 1.368 ✗              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.34                       | 10.41                        | 0.417 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 12.24                      | 24.85                        | 0.493 ✓              | 1               | Bolt Shear         |
| T33         | 1042            | Diagonal             | A325N      | 0.8750          | 2               | 18.03                      | 24.35                        | 0.740 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.60                       | 10.41                        | 0.442 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 12.93                      | 24.85                        | 0.520 ✓              | 1               | Bolt Shear         |
| T34         | 1034.5          | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 18.03                      | 24.35                        | 0.740 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 4.85                       | 20.81                        | 0.233 ✓              | 1               | Member Block Shear |
| T35         | 1019.5          | Top Girt             | A325N      | 0.6250          | 2               | 13.47                      | 24.85                        | 0.542 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 14.52                      | 25.06                        | 0.579 ✓              | 1               | Member Block Shear |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 15.01                      | 24.85                        | 0.604 ✓              | 1               | Bolt Shear         |
| T36         | 1012.5          | Diagonal             | A325N      | 1.0000          | 2               | 23.71                      | 31.81                        | 0.745 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 18.34                      | 24.85                        | 0.738 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 8.92                       | 35.78                        | 0.249 ✓              | 1               | Bolt Shear         |
| T37         | 1005.5          | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |

| Section No. | Elevation<br>ft | Component Type       | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T36         | 1012            | Diagonal             | A325N      | 0.8750          | 2               | 22.23                      | 48.71                        | 0.456 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 6.18                       | 35.78                        | 0.173 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 19.45                      | 48.71                        | 0.399 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 6.12                       | 20.81                        | 0.294 ✓              | 1               | Member Block Shear |
| T37         | 1004.5          | Top Girt             | A325N      | 0.7500          | 2               | 13.06                      | 35.78                        | 0.365 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 19.95                      | 48.71                        | 0.410 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 6.24                       | 20.81                        | 0.300 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.7500          | 6               | 17.19                      | 35.78                        | 0.480 ✓              | 1               | Bolt Shear         |
| T38         | 997             | Diagonal             | A325N      | 1.0000          | 2               | 16.06                      | 31.81                        | 0.505 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 2               | 8.17                       | 35.78                        | 0.228 ✓              | 1               | Bolt Shear         |
| T39         | 989.5           | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 15.86                      | 24.35                        | 0.651 ✓              | 1               | Bolt Shear         |
| T40         | 982             | Top Girt             | A325N      | 0.7500          | 2               | 12.76                      | 35.78                        | 0.357 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 14.93                      | 24.35                        | 0.613 ✓              | 1               | Bolt Shear         |
| T41         | 952             | Horizontal           | A325N      | 0.6250          | 2               | 11.49                      | 24.85                        | 0.462 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 12.34                      | 24.85                        | 0.497 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 10.32                      | 17.89                        | 0.577 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 6.84                       | 24.85                        | 0.275 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.38                       | 10.41                        | 0.517 ✓              | 1               | Member Block Shear |
| T42         | 937             | Top Girt             | A325N      | 0.6250          | 2               | 8.35                       | 24.85                        | 0.336 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 7.71                       | 17.89                        | 0.431 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.42                       | 10.41                        | 0.521 ✓              | 1               | Member Block Shear |
| T43         | 929.5           | Top Girt             | A325N      | 0.6250          | 2               | 5.88                       | 24.85                        | 0.237 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 6.33                       | 12.43                        | 0.509 ✓              | 1               | Bolt Shear         |
| T44         | 922             | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.45                       | 10.41                        | 0.523 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 4.80                       | 24.85                        | 0.193 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 4.91                       | 12.43                        | 0.395 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 5.47                       | 20.88                        | 0.262 ✓              | 1               | Gusset Bearing     |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.47                       | 10.41                        | 0.525 ✓              | 1               | Member Block Shear |
| T45         | 907             | Top Girt             | A325N      | 0.6250          | 2               | 3.80                       | 24.85                        | 0.153 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 6.97                       | 12.43                        | 0.561 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 5.44                       | 20.81                        | 0.261 ✓              | 1               | Member Block Shear |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.44                       | 10.41                        | 0.523 ✓              | 1               | Member Block Shear |
| T46         | 892             | Top Girt             | A325N      | 0.6250          | 2               | 3.90                       | 24.85                        | 0.157 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 12.58                      | 12.43                        | 1.012 ✗              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 8.40                       | 24.85                        | 0.338 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 5.50                       | 10.41                        | 0.528 ✓              | 1               | Member Block Shear |
| T47         | 862             | Top Girt             | A325N      | 0.6250          | 2               | 5.37                       | 24.85                        | 0.216 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 15.12                      | 12.43                        | 1.217 ✗              | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 10.35                      | 24.85                        | 0.416 ✓              | 1               | Bolt Shear         |

| Section No. | Elevation<br>ft | Component Type                | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|-------------------------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T48         | 847             | Secondary Horizontal Top Girt | A325N      | 0.6250          | 2               | 6.04                       | 10.41                        | 0.581 ✓              | 1               | Member Block Shear |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 9.66                       | 24.85                        | 0.389 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 16.73                      | 24.35                        | 0.687 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 11.69                      | 24.85                        | 0.470 ✓              | 1               | Bolt Shear         |
| T49         | 832             | Secondary Horizontal Top Girt | A325N      | 0.6250          | 2               | 6.67                       | 10.41                        | 0.641 ✓              | 1               | Member Block Shear |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 11.19                      | 24.85                        | 0.450 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 20.44                      | 24.35                        | 0.839 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 16.17                      | 24.85                        | 0.651 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 13.64                      | 24.85                        | 0.549 ✓              | 1               | Bolt Shear         |
| T50         | 809.5           | Leg                           | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 22.18                      | 24.35                        | 0.911 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal Top Girt | A325N      | 0.6250          | 2               | 8.16                       | 20.81                        | 0.392 ✓              | 1               | Member Block Shear |
| T51         | 802             | Horizontal                    | A325N      | 0.6250          | 2               | 16.32                      | 24.85                        | 0.657 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 20.05                      | 24.35                        | 0.823 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal Top Girt | A325N      | 0.6250          | 2               | 8.52                       | 20.81                        | 0.409 ✓              | 1               | Member Block Shear |
| T52         | 794.5           | Horizontal                    | A325N      | 0.6250          | 2               | 14.86                      | 24.85                        | 0.598 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 12.88                      | 24.35                        | 0.529 ✓              | 1               | Bolt Shear         |
|             |                 | Secondary Horizontal Top Girt | A325N      | 0.6250          | 2               | 8.60                       | 20.81                        | 0.413 ✓              | 1               | Member Block Shear |
| T53         | 787             | Horizontal                    | A325N      | 0.7500          | 6               | 9.94                       | 29.25                        | 0.340 ✓              | 1               | Gusset Bearing     |
|             |                 | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 14.89                      | 24.35                        | 0.611 ✓              | 1               | Bolt Shear         |
| T54         | 772             | Horizontal                    | A325N      | 0.6250          | 2               | 11.30                      | 24.85                        | 0.455 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 10.66                      | 24.85                        | 0.429 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
| T55         | 742             | Diagonal                      | A325N      | 0.8750          | 2               | 11.95                      | 24.35                        | 0.490 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 8.17                       | 20.88                        | 0.391 ✓              | 1               | Gusset Bearing     |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 9.97                       | 24.85                        | 0.401 ✓              | 1               | Bolt Shear         |
| T56         | 719.5           | Diagonal                      | A325N      | 0.6250          | 2               | 7.17                       | 12.43                        | 0.577 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 7.74                       | 20.88                        | 0.371 ✓              | 1               | Gusset Bearing     |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 6.28                       | 24.85                        | 0.253 ✓              | 1               | Bolt Shear         |
| T57         | 712             | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.8750          | 2               | 4.19                       | 12.43                        | 0.338 ✓              | 1               | Bolt Shear         |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 3.99                       | 24.85                        | 0.161 ✓              | 1               | Bolt Shear         |
| T58         | 682             | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.6250          | 2               | 4.53                       | 12.43                        | 0.365 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 7.67                       | 20.81                        | 0.368 ✓              | 1               | Member Block Shear |
| T59         | 652             | Top Girt                      | A325N      | 0.6250          | 2               | 3.22                       | 24.85                        | 0.130 ✓              | 1               | Bolt Shear         |
|             |                 | Leg                           | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓              | 1               | Bolt Tension       |
|             |                 | Diagonal                      | A325N      | 0.6250          | 2               | 9.73                       | 12.43                        | 0.783 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 8.09                       | 20.81                        | 0.389 ✓              | 1               | Member Block Shear |
|             |                 | Top Girt                      | A325N      | 0.6250          | 2               | 4.37                       | 24.85                        | 0.176 ✓              | 1               | Bolt Shear         |
|             |                 | Diagonal                      | A325N      | 0.6250          | 2               | 11.76                      | 12.43                        | 0.946 ✓              | 1               | Bolt Shear         |
|             |                 | Horizontal                    | A325N      | 0.6250          | 2               | 8.38                       | 19.45                        | 0.431 ✓              | 1               | Member Block Shear |

| Section No. | Elevation<br>ft | Component Type       | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load<br>Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------------|------------|-----------------|-----------------|----------------------------|------------------------------|-------------------------|-----------------|--------------------|
| T60         | 637             | Top Girt             | A325N      | 0.6250          | 2               | 8.26                       | 24.85                        | 0.332 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 13.01                      | 12.43                        | 1.047 ✗                 | 1               | Bolt Shear         |
| T61         | 629.5           | Top Girt             | A325N      | 0.6250          | 2               | 9.88                       | 24.85                        | 0.398 ✓                 | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 13.76                      | 12.43                        | 1.107 ✗                 | 1               | Bolt Shear         |
| T62         | 622             | Top Girt             | A325N      | 0.6250          | 2               | 10.68                      | 24.85                        | 0.430 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 15.27                      | 17.89                        | 0.853 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 12.08                      | 24.85                        | 0.486 ✓                 | 1               | Bolt Shear         |
| T63         | 607             | Top Girt             | A325N      | 0.6250          | 2               | 11.53                      | 24.85                        | 0.464 ✓                 | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.7500          | 2               | 17.20                      | 17.89                        | 0.961 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 13.59                      | 24.85                        | 0.547 ✓                 | 1               | Bolt Shear         |
| T64         | 592             | Top Girt             | A325N      | 0.6250          | 2               | 12.89                      | 24.85                        | 0.519 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 15.02                      | 24.35                        | 0.617 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.8750          | 2               | 12.78                      | 36.54                        | 0.350 ✓                 | 1               | Gusset Bearing     |
| T65         | 584.5           | Diagonal             | A325N      | 1.0000          | 2               | 13.60                      | 31.81                        | 0.428 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.7500          | 6               | 8.13                       | 29.25                        | 0.278 ✓                 | 1               | Gusset Bearing     |
| T66         | 577             | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 15.74                      | 24.35                        | 0.646 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.8750          | 2               | 12.27                      | 36.54                        | 0.336 ✓                 | 1               | Gusset Bearing     |
|             |                 | Top Girt             | A325N      | 0.8750          | 2               | 11.67                      | 36.54                        | 0.319 ✓                 | 1               | Gusset Bearing     |
| T67         | 562             | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.8750          | 2               | 13.75                      | 24.35                        | 0.564 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 9.01                       | 20.88                        | 0.431 ✓                 | 1               | Gusset Bearing     |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 11.35                      | 24.85                        | 0.457 ✓                 | 1               | Bolt Shear         |
| T68         | 532             | Diagonal             | A325N      | 0.6250          | 2               | 10.93                      | 12.43                        | 0.880 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 8.11                       | 20.88                        | 0.389 ✓                 | 1               | Gusset Bearing     |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 9.23                       | 24.85                        | 0.371 ✓                 | 1               | Bolt Shear         |
| T69         | 517             | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 9.74                       | 12.43                        | 0.784 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 7.72                       | 20.88                        | 0.370 ✓                 | 1               | Gusset Bearing     |
| T70         | 502             | Top Girt             | A325N      | 0.6250          | 2               | 8.34                       | 24.85                        | 0.335 ✓                 | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 7.66                       | 12.43                        | 0.616 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 7.39                       | 20.81                        | 0.355 ✓                 | 1               | Member Block Shear |
| T71         | 472             | Secondary Horizontal | A325N      | 0.6250          | 2               | 7.39                       | 20.81                        | 0.355 ✓                 | 1               | Member Block Shear |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 6.24                       | 24.85                        | 0.251 ✓                 | 1               | Bolt Shear         |
|             |                 | Leg                  | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 9.41                       | 12.43                        | 0.757 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 7.25                       | 20.81                        | 0.348 ✓                 | 1               | Member Block Shear |
|             |                 | Secondary Horizontal | A325N      | 0.6250          | 2               | 7.25                       | 20.81                        | 0.348 ✓                 | 1               | Member Block Shear |
| T72         | 442             | Top Girt             | A325N      | 0.6250          | 2               | 3.77                       | 24.85                        | 0.152 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal             | A325N      | 0.6250          | 2               | 11.98                      | 12.43                        | 0.964 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal           | A325N      | 0.6250          | 2               | 9.13                       | 24.85                        | 0.367 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt             | A325N      | 0.6250          | 2               | 7.39                       | 24.85                        | 0.297 ✓                 | 1               | Bolt Shear         |

| Section No. | Elevation<br>ft | Component Type | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load<br>Allowable | Allowable Ratio | Criteria       |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|-------------------------|-----------------|----------------|
| T73         | 427             | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 0.6250          | 2               | 14.57                      | 12.43                        | 1.173 ✗                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 11.18                      | 24.85                        | 0.450 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 10.07                      | 24.85                        | 0.405 ✓                 | 1               | Bolt Shear     |
| T74         | 412             | Diagonal       | A325N      | 0.6250          | 2               | 15.85                      | 12.43                        | 1.275 ✗                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 12.09                      | 24.85                        | 0.487 ✓                 | 1               | Bolt Shear     |
| T75         | 404.5           | Diagonal       | A325N      | 0.6250          | 2               | 15.25                      | 12.43                        | 1.228 ✗                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 12.48                      | 24.85                        | 0.502 ✓                 | 1               | Bolt Shear     |
| T76         | 397             | Diagonal       | A325N      | 0.8750          | 2               | 16.64                      | 24.35                        | 0.683 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 12.91                      | 24.85                        | 0.520 ✓                 | 1               | Bolt Shear     |
| T77         | 389.5           | Leg            | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 1.0000          | 2               | 13.36                      | 31.81                        | 0.420 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 11.94                      | 31.32                        | 0.381 ✓                 | 1               | Gusset Bearing |
| T78         | 382             | Diagonal       | A325N      | 1.0000          | 2               | 17.98                      | 31.81                        | 0.565 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 22.69                      | 25.12                        | 0.903 ✓                 | 1               | Gusset Bearing |
| T79         | 374.5           | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 1.0000          | 2               | 20.03                      | 31.81                        | 0.630 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.7500          | 2               | 15.70                      | 31.32                        | 0.501 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 14.89                      | 31.32                        | 0.475 ✓                 | 1               | Gusset Bearing |
| T80         | 352             | Diagonal       | A325N      | 0.8750          | 2               | 17.72                      | 24.35                        | 0.728 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.7500          | 2               | 14.10                      | 31.32                        | 0.450 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 14.66                      | 31.32                        | 0.468 ✓                 | 1               | Gusset Bearing |
| T81         | 329.5           | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 15.34                      | 24.35                        | 0.630 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 12.80                      | 24.85                        | 0.515 ✓                 | 1               | Bolt Shear     |
| T82         | 322             | Diagonal       | A325N      | 0.8750          | 2               | 14.24                      | 24.35                        | 0.585 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 11.37                      | 24.85                        | 0.458 ✓                 | 1               | Bolt Shear     |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 11.94                      | 24.85                        | 0.480 ✓                 | 1               | Bolt Shear     |
| T83         | 307             | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 0.7500          | 2               | 12.45                      | 17.89                        | 0.696 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.38                       | 20.88                        | 0.402 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 10.68                      | 24.85                        | 0.430 ✓                 | 1               | Bolt Shear     |
| T84         | 292             | Diagonal       | A325N      | 0.6250          | 2               | 11.17                      | 12.43                        | 0.899 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.55                       | 20.88                        | 0.410 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 9.59                       | 24.85                        | 0.386 ✓                 | 1               | Bolt Shear     |
| T85         | 277             | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 0.6250          | 2               | 7.92                       | 12.43                        | 0.638 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.66                       | 20.88                        | 0.415 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 7.74                       | 24.85                        | 0.312 ✓                 | 1               | Bolt Shear     |
| T86         | 262             | Diagonal       | A325N      | 0.6250          | 2               | 6.62                       | 12.43                        | 0.532 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.66                       | 20.88                        | 0.415 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 4.76                       | 24.85                        | 0.192 ✓                 | 1               | Bolt Shear     |
| T87         | 247             | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension   |
|             |                 | Diagonal       | A325N      | 0.6250          | 2               | 10.25                      | 12.43                        | 0.825 ✓                 | 1               | Bolt Shear     |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.55                       | 20.88                        | 0.409 ✓                 | 1               | Gusset Bearing |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 6.13                       | 24.85                        | 0.247 ✓                 | 1               | Bolt Shear     |
| T88         | 232             | Diagonal       | A325N      | 0.6250          | 2               | 13.59                      | 12.43                        | 1.093 ✗                 | 1               | Bolt Shear     |



| Section No. | Elevation<br>ft | Component Type | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load<br>Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|-------------------------|-----------------|--------------------|
| T89         | 217             | Horizontal     | A325N      | 0.6250          | 2               | 10.46                      | 24.85                        | 0.421 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 9.07                       | 24.85                        | 0.365 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal       | A325N      | 0.7500          | 2               | 15.80                      | 17.89                        | 0.883 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 11.74                      | 24.85                        | 0.472 ✓                 | 1               | Bolt Shear         |
| T90         | 209.5           | Leg            | A325N      | 0.8750          | 6               | 0.00                       | 40.59                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 17.25                      | 24.35                        | 0.708 ✓                 | 1               | Bolt Shear         |
| T91         | 202             | Top Girt       | A325N      | 0.6250          | 2               | 13.34                      | 24.85                        | 0.537 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal       | A325N      | 1.0000          | 2               | 15.78                      | 31.81                        | 0.496 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.8750          | 2               | 13.01                      | 48.71                        | 0.267 ✓                 | 1               | Bolt Shear         |
| T92         | 194.5           | Diagonal       | A325N      | 0.8750          | 2               | 18.44                      | 48.71                        | 0.379 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.8750          | 2               | 33.19                      | 47.49                        | 0.699 ✓                 | 1               | Member Block Shear |
| T93         | 187             | Diagonal       | A325N      | 0.8750          | 2               | 19.21                      | 48.71                        | 0.394 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.7500          | 6               | 6.14                       | 35.78                        | 0.172 ✓                 | 1               | Bolt Shear         |
| T94         | 179.5           | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 16.61                      | 48.71                        | 0.341 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.8750          | 2               | 18.84                      | 47.49                        | 0.397 ✓                 | 1               | Member Block Shear |
| T95         | 172             | Diagonal       | A325N      | 0.8750          | 2               | 16.28                      | 48.71                        | 0.334 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal     | A325N      | 0.8750          | 2               | 18.19                      | 47.49                        | 0.383 ✓                 | 1               | Member Block Shear |
|             |                 | Top Girt       | A325N      | 0.8750          | 2               | 17.74                      | 47.49                        | 0.374 ✓                 | 1               | Member Block Shear |
| T96         | 149.5           | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 15.39                      | 48.71                        | 0.316 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 18.72                      | 35.78                        | 0.523 ✓                 | 1               | Bolt Shear         |
| T97         | 142             | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 1.0000          | 2               | 7.62                       | 31.81                        | 0.240 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal     | A325N      | 0.7500          | 2               | 9.19                       | 33.49                        | 0.274 ✓                 | 1               | Gusset Bearing     |
| T98         | 112             | Top Girt       | A325N      | 0.7500          | 2               | 10.27                      | 33.49                        | 0.307 ✓                 | 1               | Gusset Bearing     |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 4.67                       | 24.35                        | 0.192 ✓                 | 1               | Bolt Shear         |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 9.29                       | 20.88                        | 0.445 ✓                 | 1               | Gusset Bearing     |
| T99         | 97              | Top Girt       | A325N      | 0.6250          | 2               | 3.30                       | 24.85                        | 0.133 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal       | A325N      | 0.7500          | 2               | 6.23                       | 17.89                        | 0.348 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 4.53                       | 24.85                        | 0.182 ✓                 | 1               | Bolt Shear         |
| T100        | 89.5            | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.7500          | 2               | 7.97                       | 17.89                        | 0.446 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 6.13                       | 31.32                        | 0.196 ✓                 | 1               | Gusset Bearing     |
| T101        | 82              | Diagonal       | A325N      | 0.7500          | 2               | 10.13                      | 17.89                        | 0.566 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.6250          | 2               | 7.52                       | 24.85                        | 0.302 ✓                 | 1               | Bolt Shear         |
| T102        | 74.5            | Diagonal       | A325N      | 0.5000          | 2               | 13.07                      | 7.95                         | 1.643 ✗                 | 1               | Bolt Shear         |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 9.14                       | 20.81                        | 0.439 ✓                 | 1               | Member Block Shear |
| T103        | 59.5            | Top Girt       | A325N      | 0.6250          | 2               | 8.86                       | 24.85                        | 0.356 ✓                 | 1               | Bolt Shear         |
|             |                 | Leg            | A325N      | 0.7500          | 6               | 0.00                       | 29.82                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.5000          | 2               | 11.58                      | 7.95                         | 1.457 ✗                 | 1               | Bolt Shear         |
| T104        | 52              | Top Girt       | A325N      | 0.6250          | 2               | 9.58                       | 24.85                        | 0.385 ✓                 | 1               | Bolt Shear         |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 11.57                      | 33.98                        | 0.341 ✓                 | 1               | Member Block Shear |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 9.32                       | 24.85                        | 0.375 ✓                 | 1               | Bolt Shear         |

| Section No. | Elevation<br>ft | Component Type | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load<br>Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|-------------------------|-----------------|--------------------|
| T105        | 41              | Diagonal       | A325N      | 0.8750          | 2               | 10.55                      | 33.98                        | 0.311 ✓                 | 1               | Member Block Shear |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.79                       | 24.85                        | 0.354 ✓                 | 1               | Bolt Shear         |
| T106        | 30              | Leg            | A325N      | 0.8750          | 6               | 0.00                       | 19.34                        | 0.000 ✓                 | 1               | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.8750          | 2               | 8.54                       | 33.98                        | 0.251 ✓                 | 1               | Member Block Shear |
|             |                 | Horizontal     | A325N      | 0.6250          | 2               | 8.64                       | 24.85                        | 0.348 ✓                 | 1               | Bolt Shear         |
|             |                 | Bottom Girt    | A325N      | 0.7500          | 4               | 16.63                      | 17.89                        | 0.930 ✓                 | 1               | Bolt Shear         |
| T107        | 23.6            | Diagonal       | A325N      | 0.7500          | 2               | 1.08                       | 35.78                        | 0.030 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 34.77                      | 35.78                        | 0.972 ✓                 | 1               | Bolt Shear         |
| T108        | 18.1            | Diagonal       | A325N      | 0.7500          | 2               | 37.78                      | 35.78                        | 1.056 ✗                 | 1               | Bolt Shear         |
|             |                 | Horizontal     | A325N      | 0.7500          | 2               | 29.81                      | 35.78                        | 0.833 ✓                 | 1               | Bolt Shear         |
|             |                 | Top Girt       | A325N      | 0.7500          | 2               | 12.52                      | 35.78                        | 0.350 ✓                 | 1               | Bolt Shear         |

### Guy Design Data

| Section No. | Elevation<br>ft       | Size       | Initial Tension<br>K | Breaking Load<br>K | Actual $T_u$<br>K | Allowable $\phi T_n$<br>K | Required S.F. | Actual S.F. |
|-------------|-----------------------|------------|----------------------|--------------------|-------------------|---------------------------|---------------|-------------|
| T2          | 1424.50 (A)<br>(2236) | 2 1/4 BS   | 62.00                | 620.00             | 266.24            | 372.00                    | 1.000         | 1.397 ✓     |
|             | 1424.50 (B)<br>(2235) | 2 1/4 BS   | 62.00                | 620.00             | 267.15            | 372.00                    | 1.000         | 1.392 ✓     |
|             | 1424.50 (C)<br>(2234) | 2 1/4 BS   | 62.00                | 620.00             | 265.31            | 372.00                    | 1.000         | 1.402 ✓     |
| T19         | 1214.50 (A)<br>(2239) | 2 3/8 BS   | 68.80                | 688.00             | 320.05            | 412.80                    | 1.000         | 1.290 ✓     |
|             | 1214.50 (B)<br>(2238) | 2 3/8 BS   | 68.80                | 688.00             | 320.16            | 412.80                    | 1.000         | 1.289 ✓     |
|             | 1214.50 (C)<br>(2237) | 2 3/8 BS   | 68.80                | 688.00             | 316.18            | 412.80                    | 1.000         | 1.306 ✓     |
| T37         | 1004.50 (A)<br>(2242) | 2 3/8 BS   | 68.80                | 688.00             | 303.69            | 412.80                    | 1.000         | 1.359 ✓     |
|             | 1004.50 (B)<br>(2241) | 2 3/8 BS   | 68.80                | 688.00             | 304.10            | 412.80                    | 1.000         | 1.357 ✓     |
|             | 1004.50 (C)<br>(2240) | 2 3/8 BS   | 68.80                | 688.00             | 299.67            | 412.80                    | 1.000         | 1.378 ✓     |
| T52         | 794.50 (A)<br>(2245)  | 1 15/16 BS | 46.00                | 460.00             | 186.96            | 276.00                    | 1.000         | 1.476 ✓     |
|             | 794.50 (B)<br>(2244)  | 1 15/16 BS | 46.00                | 460.00             | 186.69            | 276.00                    | 1.000         | 1.478 ✓     |
|             | 794.50 (C)<br>(2243)  | 1 15/16 BS | 46.00                | 460.00             | 183.80            | 276.00                    | 1.000         | 1.502 ✓     |
| T65         | 584.50 (A)<br>(2248)  | 1 7/8 BS   | 43.20                | 432.00             | 159.79            | 259.20                    | 1.000         | 1.622 ✓     |
|             | 584.50 (B)<br>(2247)  | 1 7/8 BS   | 43.20                | 432.00             | 160.10            | 259.20                    | 1.000         | 1.619 ✓     |
|             | 584.50 (C)<br>(2246)  | 1 7/8 BS   | 43.20                | 432.00             | 157.57            | 259.20                    | 1.000         | 1.645 ✓     |
| T78         | 382.00 (A)<br>(2251)  | 1 5/8 BS   | 32.40                | 324.00             | 114.79            | 194.40                    | 1.000         | 1.694 ✓     |
|             | 382.00 (B)<br>(2250)  | 1 5/8 BS   | 32.40                | 324.00             | 115.20            | 194.40                    | 1.000         | 1.687 ✓     |
|             | 382.00 (C)<br>(2249)  | 1 5/8 BS   | 32.40                | 324.00             | 115.67            | 194.40                    | 1.000         | 1.681 ✓     |
| T92         | 194.50 (A)<br>(2254)  | 1 5/8 BS   | 32.40                | 324.00             | 105.77            | 194.40                    | 1.000         | 1.838 ✓     |
|             | 194.50 (B)<br>(2253)  | 1 5/8 BS   | 32.40                | 324.00             | 104.63            | 194.40                    | 1.000         | 1.858 ✓     |
|             | 194.50 (C)<br>(2252)  | 1 5/8 BS   | 32.40                | 324.00             | 110.31            | 194.40                    | 1.000         | 1.762 ✓     |

| Section No. | Elevation<br>ft | Size | Initial Tension<br>K | Breaking Load<br>K | Actual<br>$T_u$<br>K | Allowable<br>$\phi T_n$<br>K | Required<br>S.F. | Actual<br>S.F. |
|-------------|-----------------|------|----------------------|--------------------|----------------------|------------------------------|------------------|----------------|
|-------------|-----------------|------|----------------------|--------------------|----------------------|------------------------------|------------------|----------------|

### Compression Checks

### Leg Design Data (Compression)

| Section No. | Elevation<br>ft   | Size                    | L<br>ft | $L_u$<br>ft | $KI/r$         | A<br>in <sup>2</sup> | Mast Stability Index | $P_u$<br>K | $\phi P_n$<br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|-------------------------|---------|-------------|----------------|----------------------|----------------------|------------|-----------------|---------------------------------|
| T1          | 1432 - 1424.5     | 3 3/4" solid            | 7.50    | 7.50        | 48.0<br>K=0.50 | 11.044<br>7          | 1.00                 | -52.68     | 419.95          | 0.125 <sup>1</sup>              |
| T2          | 1424.5 - 1409.5   | 3 3/4" solid            | 15.00   | 7.50        | 96.0<br>K=1.00 | 11.044<br>7          | 1.00                 | -293.03    | 253.35          | 1.157 <sup>1</sup>              |
|             |                   | 4.8.1 (1.16 CR) - 15    |         |             |                |                      |                      |            |                 |                                 |
| T3          | 1409.5 - 1402     | 3 3/4" solid            | 7.50    | 7.50        | 96.0<br>K=1.00 | 11.044<br>7          | 1.00                 | -325.44    | 253.35          | 1.285 <sup>1</sup>              |
|             |                   | 4.8.1 (1.28 CR) - 36    |         |             |                |                      |                      |            |                 |                                 |
| T4          | 1402 - 1394.5     | 4" solid                | 7.50    | 7.50        | 45.0<br>K=0.50 | 12.566<br>4          | 0.93                 | -325.45    | 454.37          | 0.716 <sup>1</sup>              |
| T5          | 1394.5 - 1387     | 4" solid                | 7.50    | 7.50        | 90.0<br>K=1.00 | 12.566<br>4          | 1.00                 | -382.37    | 312.76          | 1.223 <sup>1</sup>              |
|             |                   | 4.8.1 (1.22 CR) - 60    |         |             |                |                      |                      |            |                 |                                 |
| T6          | 1387 - 1372       | 4" solid                | 15.00   | 3.75        | 45.0<br>K=1.00 | 12.566<br>4          | 0.95                 | -423.31    | 460.88          | 0.918 <sup>1</sup>              |
| T7          | 1372 - 1342       | 4" solid                | 30.00   | 3.75        | 45.0<br>K=1.00 | 12.566<br>4          | 0.95                 | -459.45    | 462.31          | 0.994 <sup>1</sup>              |
| T8          | 1342 - 1312       | 4" solid                | 30.00   | 3.75        | 45.0<br>K=1.00 | 12.566<br>4          | 0.95                 | -459.19    | 462.15          | 0.994 <sup>1</sup>              |
| T9          | 1312 - 1289.5     | 3 3/4" solid            | 22.50   | 3.75        | 48.0<br>K=1.00 | 11.044<br>7          | 0.95                 | -430.88    | 398.41          | 1.081 <sup>1</sup>              |
|             |                   | 4.8.1 (1.08 CR) - 201/4 |         |             |                |                      |                      |            |                 |                                 |
| T10         | 1289.5 - 1282     | 3 3/4" solid            | 7.50    | 3.75        | 48.0<br>K=1.00 | 11.044<br>7          | 0.94                 | -379.05    | 395.37          | 0.959 <sup>1</sup>              |
| T11         | 1282 - 1274.5     | 4" solid                | 7.50    | 7.50        | 90.0<br>K=1.00 | 12.566<br>4          | 1.00                 | -366.47    | 312.76          | 1.172 <sup>1</sup>              |
|             |                   | 4.8.1 (1.17 CR) - 254   |         |             |                |                      |                      |            |                 |                                 |
| T12         | 1274.5 - 1267     | 4" solid                | 7.50    | 7.50        | 90.0<br>K=1.00 | 12.566<br>4          | 1.00                 | -352.45    | 312.76          | 1.127 <sup>1</sup>              |
|             |                   | 4.8.1 (1.13 CR) - 266   |         |             |                |                      |                      |            |                 |                                 |
| T13         | 1267 - 1259.5     | 4" solid                | 7.50    | 7.50        | 90.0<br>K=1.00 | 12.566<br>4          | 1.00                 | -337.02    | 312.76          | 1.078 <sup>1</sup>              |
|             |                   | 4.8.1 (1.08 CR) - 278   |         |             |                |                      |                      |            |                 |                                 |
| T14         | 1259.5 - 1252     | 4" solid                | 7.50    | 3.75        | 45.0<br>K=1.00 | 12.566<br>4          | 0.92                 | -281.47    | 450.32          | 0.625 <sup>1</sup>              |
| T15         | 1252 - 1235.63    | 4 1/2" solid            | 16.44   | 8.22        | 87.7<br>K=1.00 | 15.904<br>3          | 1.00                 | -271.07    | 407.99          | 0.664 <sup>1</sup>              |
| T16         | 1235.63 - 1228.81 | 4 1/2" solid            | 6.81    | 6.81        | 72.7<br>K=1.00 | 15.904<br>3          | 1.00                 | -264.90    | 486.46          | 0.545 <sup>1</sup>              |
| T17         | 1228.81 - 1222    | 4 1/2" solid            | 6.81    | 6.81        | 72.7<br>K=1.00 | 15.904<br>3          | 1.00                 | -285.52    | 486.46          | 0.587 <sup>1</sup>              |
| T18         | 1222 - 1214.5     | 4 3/4" solid            | 7.50    | 7.50        | 75.8<br>K=1.00 | 17.720<br>5          | 1.00                 | -324.52    | 523.95          | 0.619 <sup>1</sup>              |
| T19         | 1214.5 - 1207     | 4 3/4" solid            | 7.50    | 7.50        | 75.8<br>K=1.00 | 17.720<br>5          | 1.00                 | -451.56    | 523.95          | 0.862 <sup>1</sup>              |
| T20         | 1207 - 1199.5     | 4 3/4" solid            | 7.50    | 7.50        | 75.8<br>K=1.00 | 17.720<br>5          | 1.00                 | -469.25    | 523.95          | 0.896 <sup>1</sup>              |
| T21         | 1199.5 - 1192     | 4 3/4" solid            | 7.50    | 7.50        | 75.8<br>K=1.00 | 17.720<br>5          | 1.00                 | -485.43    | 523.95          | 0.926 <sup>1</sup>              |



| Section No. | Elevation<br>ft | Size                   | L<br>ft | L <sub>u</sub><br>ft | KI/r           | A<br>in <sup>2</sup> | Mast<br>Stability<br>Index | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>P <sub>u</sub><br>φP <sub>n</sub> |
|-------------|-----------------|------------------------|---------|----------------------|----------------|----------------------|----------------------------|---------------------|----------------------|--|
| T22         | 1192 - 1162     | 4 1/2" solid           | 30.00   | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -535.57             | 614.23               | 0.872 <sup>1</sup>                         |
| T23         | 1162 - 1154.5   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.97                       | -543.22             | 614.45               | 0.884 <sup>1</sup>                         |
| T24         | 1154.5 - 1139.5 | 4 1/2" solid           | 15.00   | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.97                       | -552.40             | 614.67               | 0.899 <sup>1</sup>                         |
| T25         | 1139.5 - 1132   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.97                       | -555.37             | 614.69               | 0.903 <sup>1</sup>                         |
| T26         | 1132 - 1109.5   | 4 1/2" solid           | 22.50   | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.97                       | -557.23             | 614.66               | 0.907 <sup>1</sup>                         |
| T27         | 1109.5 - 1102   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -547.01             | 614.01               | 0.891 <sup>1</sup>                         |
| T28         | 1102 - 1072     | 4 1/2" solid           | 30.00   | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -538.63             | 613.57               | 0.878 <sup>1</sup>                         |
| T29         | 1072 - 1064.5   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -485.20             | 610.79               | 0.794 <sup>1</sup>                         |
| T30         | 1064.5 - 1057   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -501.06             | 611.47               | 0.819 <sup>1</sup>                         |
| T31         | 1057 - 1049.5   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -530.66             | 612.71               | 0.866 <sup>1</sup>                         |
| T32         | 1049.5 - 1042   | 4 1/2" solid           | 7.50    | 3.75                 | 40.0<br>K=1.00 | 15.904<br>3          | 0.96                       | -559.74             | 613.83               | 0.912 <sup>1</sup>                         |
| T33         | 1042 - 1034.5   | 5 1/2" solid           | 7.50    | 7.50                 | 32.7<br>K=0.50 | 23.758<br>3          | 0.95                       | -560.48             | 937.02               | 0.598 <sup>1</sup>                         |
| T34         | 1034.5 - 1019.5 | 5 1/2" solid           | 15.00   | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -662.96             | 781.60               | 0.848 <sup>1</sup>                         |
| T35         | 1019.5 - 1012   | 5 1/2" solid           | 7.50    | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -662.18             | 781.60               | 0.847 <sup>1</sup>                         |
| T36         | 1012 - 1004.5   | 5 1/2" solid           | 7.50    | 3.75                 | 32.7<br>K=1.00 | 23.758<br>3          | 0.96                       | -707.18             | 947.41               | 0.746 <sup>1</sup>                         |
| T37         | 1004.5 - 997    | 5 1/2" solid           | 7.50    | 3.75                 | 32.7<br>K=1.00 | 23.758<br>3          | 0.95                       | -720.22             | 935.07               | 0.770 <sup>1</sup>                         |
| T38         | 997 - 989.5     | 5 1/2" solid           | 7.50    | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -732.61             | 781.60               | 0.937 <sup>1</sup>                         |
| T39         | 989.5 - 982     | 5 1/2" solid           | 7.50    | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -704.36             | 781.60               | 0.901 <sup>1</sup>                         |
| T40         | 982 - 952       | 5 1/2" solid           | 30.00   | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -676.65             | 781.60               | 0.866 <sup>1</sup>                         |
| T41         | 952 - 937       | 5 1/4" solid           | 15.00   | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -621.71             | 838.03               | 0.742 <sup>1</sup>                         |
| T42         | 937 - 929.5     | 5 1/4" solid           | 7.50    | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -625.83             | 838.19               | 0.747 <sup>1</sup>                         |
| T43         | 929.5 - 922     | 5 1/4" solid           | 7.50    | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -628.86             | 838.29               | 0.750 <sup>1</sup>                         |
| T44         | 922 - 907       | 5 1/4" solid           | 15.00   | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -631.09             | 838.32               | 0.753 <sup>1</sup>                         |
| T45         | 907 - 892       | 5 1/4" solid           | 15.00   | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -628.10             | 837.80               | 0.750 <sup>1</sup>                         |
| T46         | 892 - 862       | 5 1/4" solid           | 30.00   | 3.75                 | 34.3<br>K=1.00 | 21.647<br>5          | 0.94                       | -634.86             | 837.56               | 0.758 <sup>1</sup>                         |
| T47         | 862 - 847       | 5 1/2" solid           | 15.00   | 3.75                 | 32.7<br>K=1.00 | 23.758<br>3          | 0.94                       | -697.74             | 927.58               | 0.752 <sup>1</sup>                         |
| T48         | 847 - 832       | 5 1/2" solid           | 15.00   | 3.75                 | 32.7<br>K=1.00 | 23.758<br>3          | 0.94                       | -770.43             | 932.70               | 0.826 <sup>1</sup>                         |
| T49         | 832 - 809.5     | 5 3/4" solid           | 22.50   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -895.82             | 877.34               | 1.021 <sup>1</sup>                         |
|             |                 | 4.8.1 (1.02 CR) - 1026 |         |                      |                |                      |                            |                     |                      |  |
| T50         | 809.5 - 802     | 5 3/4" solid           | 7.50    | 3.75                 | 31.3<br>K=1.00 | 25.967<br>2          | 0.95                       | -942.13             | 1033.38              | 0.912 <sup>1</sup>                         |
| T51         | 802 - 794.5     | 6" solid               | 7.50    | 3.75                 | 30.0<br>K=1.00 | 28.274<br>3          | 0.95                       | -983.70             | 1131.37              | 0.869 <sup>1</sup>                         |
| T52         | 794.5 - 787     | 6" solid               | 7.50    | 3.75                 | 30.0<br>K=1.00 | 28.274<br>3          | 0.94                       | -993.38             | 1123.69              | 0.884 <sup>1</sup>                         |
| T53         | 787 - 772       | 6" solid               | 15.00   | 7.50                 | 60.0<br>K=1.00 | 28.274<br>3          | 1.00                       | -979.08             | 977.89               | 1.001 <sup>1</sup>                         |
|             |                 | 4.8.1 (1.00 CR) - 1101 |         |                      |                |                      |                            |                     |                      |  |

| Section No. | Elevation<br>ft | Size                        | L<br>ft | L <sub>u</sub><br>ft | KI/r           | A<br>in <sup>2</sup> | Mast<br>Stability<br>Index | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------------------------|---------|----------------------|----------------|----------------------|----------------------------|---------------------|----------------------|---------------------------------|
| T54         | 772 - 742       | 5 3/4" solid                | 30.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -943.48             | 877.34               | 1.075 <sup>1</sup>              |
|             |                 | 4.8.1 (1.08 CR) -<br>1122/3 |         |                      |                |                      |                            |                     |                      |                                 |
| T55         | 742 - 719.5     | 5 1/2" solid                | 22.50   | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -893.91             | 781.60               | 1.144 <sup>1</sup>              |
|             |                 | 4.8.1 (1.14 CR) -<br>1161/2 |         |                      |                |                      |                            |                     |                      |                                 |
| T56         | 719.5 - 712     | 5 1/2" solid                | 7.50    | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -874.11             | 781.60               | 1.118 <sup>1</sup>              |
|             |                 | 4.8.1 (1.12 CR) -<br>1191   |         |                      |                |                      |                            |                     |                      |                                 |
| T57         | 712 - 682       | 5 1/2" solid                | 30.00   | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -885.27             | 781.60               | 1.133 <sup>1</sup>              |
|             |                 | 4.8.1 (1.13 CR) -<br>1203   |         |                      |                |                      |                            |                     |                      |                                 |
| T58         | 682 - 652       | 5 1/2" solid                | 30.00   | 7.50                 | 65.5<br>K=1.00 | 23.758<br>3          | 1.00                       | -933.66             | 781.60               | 1.195 <sup>1</sup>              |
|             |                 | 4.8.1 (1.19 CR) -<br>1242   |         |                      |                |                      |                            |                     |                      |                                 |
| T59         | 652 - 637       | 5 3/4" solid                | 15.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -967.24             | 877.34               | 1.102 <sup>1</sup>              |
|             |                 | 4.8.1 (1.10 CR) -<br>1281   |         |                      |                |                      |                            |                     |                      |                                 |
| T60         | 637 - 629.5     | 5 3/4" solid                | 7.50    | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -986.10             | 877.34               | 1.124 <sup>1</sup>              |
|             |                 | 4.8.1 (1.12 CR) -<br>1302   |         |                      |                |                      |                            |                     |                      |                                 |
| T61         | 629.5 - 622     | 5 3/4" solid                | 7.50    | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -1005.67            | 877.34               | 1.146 <sup>1</sup>              |
|             |                 | 4.8.1 (1.15 CR) -<br>1314   |         |                      |                |                      |                            |                     |                      |                                 |
| T62         | 622 - 607       | 6 1/4" solid                | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -1048.84            | 1083.20              | 0.968 <sup>1</sup>              |
| T63         | 607 - 592       | 6 1/4" solid                | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -1098.35            | 1083.20              | 1.014 <sup>1</sup>              |
|             |                 | 4.8.1 (1.01 CR) -<br>1347   |         |                      |                |                      |                            |                     |                      |                                 |
| T64         | 592 - 584.5     | 6 1/4" solid                | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -1118.59            | 1083.20              | 1.033 <sup>1</sup>              |
|             |                 | 4.8.1 (1.03 CR) -<br>1368   |         |                      |                |                      |                            |                     |                      |                                 |
| T65         | 584.5 - 577     | 6 1/4" solid                | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -1126.10            | 1083.20              | 1.040 <sup>1</sup>              |
|             |                 | 4.8.1 (1.04 CR) -<br>1380   |         |                      |                |                      |                            |                     |                      |                                 |
| T66         | 577 - 562       | 6 1/4" solid                | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -1100.00            | 1083.20              | 1.016 <sup>1</sup>              |
|             |                 | 4.8.1 (1.02 CR) -<br>1392   |         |                      |                |                      |                            |                     |                      |                                 |
| T67         | 562 - 532       | 6" solid                    | 30.00   | 7.50                 | 60.0<br>K=1.00 | 28.274<br>3          | 1.00                       | -1039.91            | 977.89               | 1.063 <sup>1</sup>              |
|             |                 | 4.8.1 (1.06 CR) -<br>1413/3 |         |                      |                |                      |                            |                     |                      |                                 |
| T68         | 532 - 517       | 5 3/4" solid                | 15.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -936.77             | 877.34               | 1.068 <sup>1</sup>              |
|             |                 | 4.8.1 (1.07 CR) -<br>1452   |         |                      |                |                      |                            |                     |                      |                                 |
| T69         | 517 - 502       | 5 3/4" solid                | 15.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -891.00             | 877.34               | 1.016 <sup>1</sup>              |
|             |                 | 4.8.1 (1.02 CR) -<br>1473   |         |                      |                |                      |                            |                     |                      |                                 |
| T70         | 502 - 472       | 5 3/4" solid                | 30.00   | 3.75                 | 31.3<br>K=1.00 | 25.967<br>2          | 0.93                       | -853.52             | 1014.03              | 0.842 <sup>1</sup>              |
| T71         | 472 - 442       | 5 3/4" solid                | 30.00   | 3.75                 | 31.3<br>K=1.00 | 25.967<br>2          | 0.93                       | -837.34             | 1011.62              | 0.828 <sup>1</sup>              |
| T72         | 442 - 427       | 5 3/4" solid                | 15.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -865.69             | 877.34               | 0.987 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                      | L<br>ft | L <sub>u</sub><br>ft | KI/r           | A<br>in <sup>2</sup> | Mast<br>Stability<br>Index | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|---------------------------|---------|----------------------|----------------|----------------------|----------------------------|---------------------|----------------------|---------------------------------|
| T73         | 427 - 412       | 5 3/4" solid              | 15.00   | 7.50                 | 62.6<br>K=1.00 | 25.967<br>2          | 1.00                       | -902.36             | 877.34               | 1.029 <sup>1</sup>              |
|             |                 | 4.8.1 (1.03 CR) -<br>1618 |         |                      |                |                      |                            |                     |                      |                                 |
| T74         | 412 - 404.5     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -923.93             | 1083.20              | 0.853 <sup>1</sup>              |
| T75         | 404.5 - 397     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -945.25             | 1083.20              | 0.873 <sup>1</sup>              |
| T76         | 397 - 389.5     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -969.29             | 1083.20              | 0.895 <sup>1</sup>              |
| T77         | 389.5 - 382     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -986.77             | 1083.20              | 0.911 <sup>1</sup>              |
| T78         | 382 - 374.5     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -990.69             | 1083.20              | 0.915 <sup>1</sup>              |
| T79         | 374.5 - 352     | 6 1/4" solid              | 22.50   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -955.49             | 1083.20              | 0.882 <sup>1</sup>              |
| T80         | 352 - 329.5     | 6 1/4" solid              | 22.50   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -895.34             | 1083.20              | 0.827 <sup>1</sup>              |
| T81         | 329.5 - 322     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -912.17             | 1083.20              | 0.842 <sup>1</sup>              |
| T82         | 322 - 307       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -942.35             | 1083.20              | 0.870 <sup>1</sup>              |
| T83         | 307 - 292       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -968.13             | 1083.20              | 0.894 <sup>1</sup>              |
| T84         | 292 - 277       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -987.77             | 1083.20              | 0.912 <sup>1</sup>              |
| T85         | 277 - 262       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -999.96             | 1083.20              | 0.923 <sup>1</sup>              |
| T86         | 262 - 247       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -999.45             | 1083.20              | 0.923 <sup>1</sup>              |
| T87         | 247 - 232       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -986.79             | 1083.20              | 0.911 <sup>1</sup>              |
| T88         | 232 - 217       | 6 1/4" solid              | 15.00   | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -965.01             | 1083.20              | 0.891 <sup>1</sup>              |
| T89         | 217 - 209.5     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -933.76             | 1083.20              | 0.862 <sup>1</sup>              |
| T90         | 209.5 - 202     | 6 1/4" solid              | 7.50    | 7.50                 | 57.6<br>K=1.00 | 30.679<br>6          | 1.00                       | -920.71             | 1083.20              | 0.850 <sup>1</sup>              |
| T91         | 202 - 194.5     | 6 1/2" solid              | 7.50    | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -905.06             | 1193.23              | 0.758 <sup>1</sup>              |
| T92         | 194.5 - 187     | 6 1/2" solid              | 7.50    | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -910.97             | 1193.23              | 0.763 <sup>1</sup>              |
| T93         | 187 - 179.5     | 6 1/2" solid              | 7.50    | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -925.37             | 1193.23              | 0.776 <sup>1</sup>              |
| T94         | 179.5 - 172     | 6 1/2" solid              | 7.50    | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -947.84             | 1193.23              | 0.794 <sup>1</sup>              |
| T95         | 172 - 149.5     | 6 1/2" solid              | 22.50   | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -991.88             | 1193.23              | 0.831 <sup>1</sup>              |
| T96         | 149.5 - 142     | 6 1/2" solid              | 7.50    | 7.50                 | 55.4<br>K=1.00 | 33.183<br>1          | 1.00                       | -999.21             | 1193.23              | 0.837 <sup>1</sup>              |
| T97         | 142 - 112       | 7" solid                  | 30.00   | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1060.70            | 1427.29              | 0.743 <sup>1</sup>              |
| T98         | 112 - 97        | 7" solid                  | 15.00   | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1072.24            | 1427.29              | 0.751 <sup>1</sup>              |
| T99         | 97 - 89.5       | 7" solid                  | 7.50    | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1074.22            | 1427.29              | 0.753 <sup>1</sup>              |
| T100        | 89.5 - 82       | 7" solid                  | 7.50    | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1070.03            | 1427.29              | 0.750 <sup>1</sup>              |
| T101        | 82 - 74.5       | 7" solid                  | 7.50    | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1064.24            | 1427.29              | 0.746 <sup>1</sup>              |
| T102        | 74.5 - 59.5     | 7" solid                  | 15.00   | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1055.70            | 1427.29              | 0.740 <sup>1</sup>              |
| T103        | 59.5 - 52       | 7" solid                  | 7.50    | 7.50                 | 51.4<br>K=1.00 | 38.484<br>5          | 1.00                       | -1027.63            | 1427.29              | 0.720 <sup>1</sup>              |
| T104        | 52 - 41         | 6 1/2" solid              | 11.00   | 11.00                | 40.6<br>K=0.50 | 33.183<br>1          | 0.97                       | -1015.12            | 1280.01              | 0.793 <sup>1</sup>              |
| T105        | 41 - 30         | 6 1/2" solid              | 11.00   | 11.00                | 40.6<br>K=0.50 | 33.183<br>1          | 0.97                       | -998.13             | 1279.14              | 0.780 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size         | L<br>ft | L <sub>u</sub><br>ft | KI/r           | A<br>in <sup>2</sup> | Mast<br>Stability<br>Index | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>P <sub>u</sub> / φP <sub>n</sub> |
|-------------|-----------------|--------------|---------|----------------------|----------------|----------------------|----------------------------|---------------------|----------------------|---|
| T106        | 30 - 23.6       | 6 1/2" solid | 6.40    | 6.32                 | 46.6           | 33.183               | 0.99                       | -980.19             | 1261.06              | 0.777 <sup>1</sup>                        |
| T107        | 23.6 - 18.1     | 6 1/4" solid | 5.66    | 5.66                 | K=1.00<br>43.5 | 1<br>30.679          | 0.98                       | -996.17             | 1174.15              | 0.848 <sup>1</sup>                        |
| T108        | 18.1 - 0        | 6 1/4" solid | 18.63   | 6.21                 | K=1.00<br>47.7 | 6<br>30.679          | 0.99                       | -1004.05            | 1162.80              | 0.863 <sup>1</sup>                        |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Leg Bending Design Data (Compression)

| Section No. | Elevation<br>ft   | Size         | M <sub>ux</sub><br>kip-ft | φM <sub>nx</sub><br>kip-ft | Ratio<br>M <sub>ux</sub> / φM <sub>nx</sub> | M <sub>uy</sub><br>kip-ft | φM <sub>ny</sub><br>kip-ft | Ratio<br>M <sub>uy</sub> / φM <sub>ny</sub> |
|-------------|-------------------|--------------|---------------------------|----------------------------|---|---------------------------|----------------------------|---|
| T1          | 1432 - 1424.5     | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                       | 0.00                      | 32.96                      | 0.000                                       |
| T2          | 1424.5 - 1409.5   | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                       | 0.00                      | 32.96                      | 0.000                                       |
| T3          | 1409.5 - 1402     | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                       | 0.00                      | 32.96                      | 0.000                                       |
| T4          | 1402 - 1394.5     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T5          | 1394.5 - 1387     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T6          | 1387 - 1372       | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T7          | 1372 - 1342       | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T8          | 1342 - 1312       | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T9          | 1312 - 1289.5     | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                       | 0.00                      | 32.96                      | 0.000                                       |
| T10         | 1289.5 - 1282     | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                       | 0.00                      | 32.96                      | 0.000                                       |
| T11         | 1282 - 1274.5     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T12         | 1274.5 - 1267     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T13         | 1267 - 1259.5     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T14         | 1259.5 - 1252     | 4" solid     | 0.00                      | 40.00                      | 0.000                                       | 0.00                      | 40.00                      | 0.000                                       |
| T15         | 1252 - 1235.63    | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T16         | 1235.63 - 1228.81 | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T17         | 1228.81 - 1222    | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T18         | 1222 - 1214.5     | 4 3/4" solid | 0.00                      | 66.98                      | 0.000                                       | 0.00                      | 66.98                      | 0.000                                       |
| T19         | 1214.5 - 1207     | 4 3/4" solid | 0.00                      | 66.98                      | 0.000                                       | 0.00                      | 66.98                      | 0.000                                       |
| T20         | 1207 - 1199.5     | 4 3/4" solid | 0.00                      | 66.98                      | 0.000                                       | 0.00                      | 66.98                      | 0.000                                       |
| T21         | 1199.5 - 1192     | 4 3/4" solid | 0.00                      | 66.98                      | 0.000                                       | 0.00                      | 66.98                      | 0.000                                       |
| T22         | 1192 - 1162       | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T23         | 1162 - 1154.5     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T24         | 1154.5 - 1139.5   | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T25         | 1139.5 - 1132     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T26         | 1132 - 1109.5     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T27         | 1109.5 - 1102     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T28         | 1102 - 1072       | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T29         | 1072 - 1064.5     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T30         | 1064.5 - 1057     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T31         | 1057 - 1049.5     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T32         | 1049.5 - 1042     | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                       | 0.00                      | 56.95                      | 0.000                                       |
| T33         | 1042 - 1034.5     | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T34         | 1034.5 - 1019.5   | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T35         | 1019.5 - 1012     | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T36         | 1012 - 1004.5     | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T37         | 1004.5 - 997      | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T38         | 997 - 989.5       | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T39         | 989.5 - 982       | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T40         | 982 - 952         | 5 1/2" solid | 0.00                      | 103.98                     | 0.000                                       | 0.00                      | 103.98                     | 0.000                                       |
| T41         | 952 - 937         | 5 1/4" solid | 0.00                      | 90.44                      | 0.000                                       | 0.00                      | 90.44                      | 0.000                                       |
| T42         | 937 - 929.5       | 5 1/4" solid | 0.00                      | 90.44                      | 0.000                                       | 0.00                      | 90.44                      | 0.000                                       |
| T43         | 929.5 - 922       | 5 1/4" solid | 0.00                      | 90.44                      | 0.000                                       | 0.00                      | 90.44                      | 0.000                                       |
| T44         | 922 - 907         | 5 1/4" solid | 0.00                      | 90.44                      | 0.000                                       | 0.00                      | 90.44                      | 0.000                                       |
| T45         | 907 - 892         | 5 1/4" solid | 0.00                      | 90.44                      | 0.000                                       | 0.00                      | 90.44                      | 0.000                                       |

| Section No. | Elevation<br>ft | Size         | $M_{ux}$<br>kip-ft | $\phi M_{nx}$<br>kip-ft | Ratio<br>$\frac{M_{ux}}{\phi M_{nx}}$ | $M_{uy}$<br>kip-ft | $\phi M_{ny}$<br>kip-ft | Ratio<br>$\frac{M_{uy}}{\phi M_{ny}}$ |
|-------------|-----------------|--------------|--------------------|-------------------------|---------------------------------------|--------------------|-------------------------|---------------------------------------|
| T46         | 892 - 862       | 5 1/4" solid | 0.00               | 90.44                   | 0.000                                 | 0.00               | 90.44                   | 0.000                                 |
| T47         | 862 - 847       | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T48         | 847 - 832       | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T49         | 832 - 809.5     | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T50         | 809.5 - 802     | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T51         | 802 - 794.5     | 6" solid     | 0.00               | 135.00                  | 0.000                                 | 0.00               | 135.00                  | 0.000                                 |
| T52         | 794.5 - 787     | 6" solid     | 0.00               | 135.00                  | 0.000                                 | 0.00               | 135.00                  | 0.000                                 |
| T53         | 787 - 772       | 6" solid     | 0.00               | 135.00                  | 0.000                                 | 0.00               | 135.00                  | 0.000                                 |
| T54         | 772 - 742       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T55         | 742 - 719.5     | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T56         | 719.5 - 712     | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T57         | 712 - 682       | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T58         | 682 - 652       | 5 1/2" solid | 0.00               | 103.98                  | 0.000                                 | 0.00               | 103.98                  | 0.000                                 |
| T59         | 652 - 637       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T60         | 637 - 629.5     | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T61         | 629.5 - 622     | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T62         | 622 - 607       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T63         | 607 - 592       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T64         | 592 - 584.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T65         | 584.5 - 577     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T66         | 577 - 562       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T67         | 562 - 532       | 6" solid     | 0.00               | 135.00                  | 0.000                                 | 0.00               | 135.00                  | 0.000                                 |
| T68         | 532 - 517       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T69         | 517 - 502       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T70         | 502 - 472       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T71         | 472 - 442       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T72         | 442 - 427       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T73         | 427 - 412       | 5 3/4" solid | 0.00               | 118.82                  | 0.000                                 | 0.00               | 118.82                  | 0.000                                 |
| T74         | 412 - 404.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T75         | 404.5 - 397     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T76         | 397 - 389.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T77         | 389.5 - 382     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T78         | 382 - 374.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T79         | 374.5 - 352     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T80         | 352 - 329.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T81         | 329.5 - 322     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T82         | 322 - 307       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T83         | 307 - 292       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T84         | 292 - 277       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T85         | 277 - 262       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T86         | 262 - 247       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T87         | 247 - 232       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T88         | 232 - 217       | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T89         | 217 - 209.5     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T90         | 209.5 - 202     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T91         | 202 - 194.5     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T92         | 194.5 - 187     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T93         | 187 - 179.5     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T94         | 179.5 - 172     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T95         | 172 - 149.5     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T96         | 149.5 - 142     | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T97         | 142 - 112       | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T98         | 112 - 97        | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T99         | 97 - 89.5       | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T100        | 89.5 - 82       | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T101        | 82 - 74.5       | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T102        | 74.5 - 59.5     | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T103        | 59.5 - 52       | 7" solid     | 0.00               | 214.38                  | 0.000                                 | 0.00               | 214.38                  | 0.000                                 |
| T104        | 52 - 41         | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T105        | 41 - 30         | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T106        | 30 - 23.6       | 6 1/2" solid | 0.00               | 171.64                  | 0.000                                 | 0.00               | 171.64                  | 0.000                                 |
| T107        | 23.6 - 18.1     | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |
| T108        | 18.1 - 0        | 6 1/4" solid | 0.00               | 152.59                  | 0.000                                 | 0.00               | 152.59                  | 0.000                                 |

### Leg Interaction Design Data (Compression)

| Section No. | Elevation<br>ft   | Size         | Ratio               | Ratio                     | Ratio                     | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-------------------|--------------|---------------------|---------------------------|---------------------------|--------------------------|---------------------------|----------|
|             |                   |              | $P_u$<br>$\phi P_n$ | $M_{ux}$<br>$\phi M_{nx}$ | $M_{uy}$<br>$\phi M_{ny}$ |                          |                           |          |
| T1          | 1432 - 1424.5     | 3 3/4" solid | 0.125               | 0.000                     | 0.000                     | 0.125 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T2          | 1424.5 - 1409.5   | 3 3/4" solid | 1.157               | 0.000                     | 0.000                     | 1.157 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T3          | 1409.5 - 1402     | 3 3/4" solid | 1.285               | 0.000                     | 0.000                     | 1.285 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T4          | 1402 - 1394.5     | 4" solid     | 0.716               | 0.000                     | 0.000                     | 0.716 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T5          | 1394.5 - 1387     | 4" solid     | 1.223               | 0.000                     | 0.000                     | 1.223 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T6          | 1387 - 1372       | 4" solid     | 0.918               | 0.000                     | 0.000                     | 0.918 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T7          | 1372 - 1342       | 4" solid     | 0.994               | 0.000                     | 0.000                     | 0.994 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T8          | 1342 - 1312       | 4" solid     | 0.994               | 0.000                     | 0.000                     | 0.994 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T9          | 1312 - 1289.5     | 3 3/4" solid | 1.081               | 0.000                     | 0.000                     | 1.081 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T10         | 1289.5 - 1282     | 3 3/4" solid | 0.959               | 0.000                     | 0.000                     | 0.959 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T11         | 1282 - 1274.5     | 4" solid     | 1.172               | 0.000                     | 0.000                     | 1.172 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T12         | 1274.5 - 1267     | 4" solid     | 1.127               | 0.000                     | 0.000                     | 1.127 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T13         | 1267 - 1259.5     | 4" solid     | 1.078               | 0.000                     | 0.000                     | 1.078 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T14         | 1259.5 - 1252     | 4" solid     | 0.625               | 0.000                     | 0.000                     | 0.625 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T15         | 1252 - 1235.63    | 4 1/2" solid | 0.664               | 0.000                     | 0.000                     | 0.664 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T16         | 1235.63 - 1228.81 | 4 1/2" solid | 0.545               | 0.000                     | 0.000                     | 0.545 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T17         | 1228.81 - 1222    | 4 1/2" solid | 0.587               | 0.000                     | 0.000                     | 0.587 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T18         | 1222 - 1214.5     | 4 3/4" solid | 0.619               | 0.000                     | 0.000                     | 0.619 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T19         | 1214.5 - 1207     | 4 3/4" solid | 0.862               | 0.000                     | 0.000                     | 0.862 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T20         | 1207 - 1199.5     | 4 3/4" solid | 0.896               | 0.000                     | 0.000                     | 0.896 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T21         | 1199.5 - 1192     | 4 3/4" solid | 0.926               | 0.000                     | 0.000                     | 0.926 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T22         | 1192 - 1162       | 4 1/2" solid | 0.872               | 0.000                     | 0.000                     | 0.872 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T23         | 1162 - 1154.5     | 4 1/2" solid | 0.884               | 0.000                     | 0.000                     | 0.884 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T24         | 1154.5 - 1139.5   | 4 1/2" solid | 0.899               | 0.000                     | 0.000                     | 0.899 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T25         | 1139.5 - 1132     | 4 1/2" solid | 0.903               | 0.000                     | 0.000                     | 0.903 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T26         | 1132 - 1109.5     | 4 1/2" solid | 0.907               | 0.000                     | 0.000                     | 0.907 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T27         | 1109.5 - 1102     | 4 1/2" solid | 0.891               | 0.000                     | 0.000                     | 0.891 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T28         | 1102 - 1072       | 4 1/2" solid | 0.878               | 0.000                     | 0.000                     | 0.878 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T29         | 1072 - 1064.5     | 4 1/2" solid | 0.794               | 0.000                     | 0.000                     | 0.794 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T30         | 1064.5 - 1057     | 4 1/2" solid | 0.819               | 0.000                     | 0.000                     | 0.819 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T31         | 1057 - 1049.5     | 4 1/2" solid | 0.866               | 0.000                     | 0.000                     | 0.866 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |

| Section No. | Elevation<br>ft | Size         | Ratio<br>$P_u$ | Ratio<br>$M_{ux}$ | Ratio<br>$M_{uy}$ | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-----------------|--------------|----------------|-------------------|-------------------|--------------------------|---------------------------|----------|
|             |                 |              | $\phi P_n$     | $\phi M_{nx}$     | $\phi M_{ny}$     |                          |                           |          |
| T32         | 1049.5 - 1042   | 4 1/2" solid | 0.912          | 0.000             | 0.000             | 0.912 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T33         | 1042 - 1034.5   | 5 1/2" solid | 0.598          | 0.000             | 0.000             | 0.598 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T34         | 1034.5 - 1019.5 | 5 1/2" solid | 0.848          | 0.000             | 0.000             | 0.848 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T35         | 1019.5 - 1012   | 5 1/2" solid | 0.847          | 0.000             | 0.000             | 0.847 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T36         | 1012 - 1004.5   | 5 1/2" solid | 0.746          | 0.000             | 0.000             | 0.746 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T37         | 1004.5 - 997    | 5 1/2" solid | 0.770          | 0.000             | 0.000             | 0.770 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T38         | 997 - 989.5     | 5 1/2" solid | 0.937          | 0.000             | 0.000             | 0.937 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T39         | 989.5 - 982     | 5 1/2" solid | 0.901          | 0.000             | 0.000             | 0.901 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T40         | 982 - 952       | 5 1/2" solid | 0.866          | 0.000             | 0.000             | 0.866 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T41         | 952 - 937       | 5 1/4" solid | 0.742          | 0.000             | 0.000             | 0.742 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T42         | 937 - 929.5     | 5 1/4" solid | 0.747          | 0.000             | 0.000             | 0.747 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T43         | 929.5 - 922     | 5 1/4" solid | 0.750          | 0.000             | 0.000             | 0.750 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T44         | 922 - 907       | 5 1/4" solid | 0.753          | 0.000             | 0.000             | 0.753 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T45         | 907 - 892       | 5 1/4" solid | 0.750          | 0.000             | 0.000             | 0.750 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T46         | 892 - 862       | 5 1/4" solid | 0.758          | 0.000             | 0.000             | 0.758 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T47         | 862 - 847       | 5 1/2" solid | 0.752          | 0.000             | 0.000             | 0.752 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T48         | 847 - 832       | 5 1/2" solid | 0.826          | 0.000             | 0.000             | 0.826 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T49         | 832 - 809.5     | 5 3/4" solid | 1.021          | 0.000             | 0.000             | 1.021 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T50         | 809.5 - 802     | 5 3/4" solid | 0.912          | 0.000             | 0.000             | 0.912 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T51         | 802 - 794.5     | 6" solid     | 0.869          | 0.000             | 0.000             | 0.869 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T52         | 794.5 - 787     | 6" solid     | 0.884          | 0.000             | 0.000             | 0.884 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T53         | 787 - 772       | 6" solid     | 1.001          | 0.000             | 0.000             | 1.001 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T54         | 772 - 742       | 5 3/4" solid | 1.075          | 0.000             | 0.000             | 1.075 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T55         | 742 - 719.5     | 5 1/2" solid | 1.144          | 0.000             | 0.000             | 1.144 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T56         | 719.5 - 712     | 5 1/2" solid | 1.118          | 0.000             | 0.000             | 1.118 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T57         | 712 - 682       | 5 1/2" solid | 1.133          | 0.000             | 0.000             | 1.133 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T58         | 682 - 652       | 5 1/2" solid | 1.195          | 0.000             | 0.000             | 1.195 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T59         | 652 - 637       | 5 3/4" solid | 1.102          | 0.000             | 0.000             | 1.102 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T60         | 637 - 629.5     | 5 3/4" solid | 1.124          | 0.000             | 0.000             | 1.124 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T61         | 629.5 - 622     | 5 3/4" solid | 1.146          | 0.000             | 0.000             | 1.146 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T62         | 622 - 607       | 6 1/4" solid | 0.968          | 0.000             | 0.000             | 0.968 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |

| Section No. | Elevation<br>ft | Size         | Ratio               | Ratio                     | Ratio                     | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-----------------|--------------|---------------------|---------------------------|---------------------------|--------------------------|---------------------------|----------|
|             |                 |              | $P_u$<br>$\phi P_n$ | $M_{ux}$<br>$\phi M_{nx}$ | $M_{uy}$<br>$\phi M_{ny}$ |                          |                           |          |
| T63         | 607 - 592       | 6 1/4" solid | 1.014               | 0.000                     | 0.000                     | 1.014 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T64         | 592 - 584.5     | 6 1/4" solid | 1.033               | 0.000                     | 0.000                     | 1.033 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T65         | 584.5 - 577     | 6 1/4" solid | 1.040               | 0.000                     | 0.000                     | 1.040 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T66         | 577 - 562       | 6 1/4" solid | 1.016               | 0.000                     | 0.000                     | 1.016 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T67         | 562 - 532       | 6" solid     | 1.063               | 0.000                     | 0.000                     | 1.063 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T68         | 532 - 517       | 5 3/4" solid | 1.068               | 0.000                     | 0.000                     | 1.068 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T69         | 517 - 502       | 5 3/4" solid | 1.016               | 0.000                     | 0.000                     | 1.016 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T70         | 502 - 472       | 5 3/4" solid | 0.842               | 0.000                     | 0.000                     | 0.842 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T71         | 472 - 442       | 5 3/4" solid | 0.828               | 0.000                     | 0.000                     | 0.828 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T72         | 442 - 427       | 5 3/4" solid | 0.987               | 0.000                     | 0.000                     | 0.987 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T73         | 427 - 412       | 5 3/4" solid | 1.029               | 0.000                     | 0.000                     | 1.029 <sup>1</sup>       | 1.000                     | 4.8.1 ✗  |
| T74         | 412 - 404.5     | 6 1/4" solid | 0.853               | 0.000                     | 0.000                     | 0.853 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T75         | 404.5 - 397     | 6 1/4" solid | 0.873               | 0.000                     | 0.000                     | 0.873 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T76         | 397 - 389.5     | 6 1/4" solid | 0.895               | 0.000                     | 0.000                     | 0.895 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T77         | 389.5 - 382     | 6 1/4" solid | 0.911               | 0.000                     | 0.000                     | 0.911 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T78         | 382 - 374.5     | 6 1/4" solid | 0.915               | 0.000                     | 0.000                     | 0.915 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T79         | 374.5 - 352     | 6 1/4" solid | 0.882               | 0.000                     | 0.000                     | 0.882 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T80         | 352 - 329.5     | 6 1/4" solid | 0.827               | 0.000                     | 0.000                     | 0.827 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T81         | 329.5 - 322     | 6 1/4" solid | 0.842               | 0.000                     | 0.000                     | 0.842 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T82         | 322 - 307       | 6 1/4" solid | 0.870               | 0.000                     | 0.000                     | 0.870 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T83         | 307 - 292       | 6 1/4" solid | 0.894               | 0.000                     | 0.000                     | 0.894 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T84         | 292 - 277       | 6 1/4" solid | 0.912               | 0.000                     | 0.000                     | 0.912 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T85         | 277 - 262       | 6 1/4" solid | 0.923               | 0.000                     | 0.000                     | 0.923 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T86         | 262 - 247       | 6 1/4" solid | 0.923               | 0.000                     | 0.000                     | 0.923 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T87         | 247 - 232       | 6 1/4" solid | 0.911               | 0.000                     | 0.000                     | 0.911 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T88         | 232 - 217       | 6 1/4" solid | 0.891               | 0.000                     | 0.000                     | 0.891 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T89         | 217 - 209.5     | 6 1/4" solid | 0.862               | 0.000                     | 0.000                     | 0.862 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T90         | 209.5 - 202     | 6 1/4" solid | 0.850               | 0.000                     | 0.000                     | 0.850 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T91         | 202 - 194.5     | 6 1/2" solid | 0.758               | 0.000                     | 0.000                     | 0.758 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T92         | 194.5 - 187     | 6 1/2" solid | 0.763               | 0.000                     | 0.000                     | 0.763 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T93         | 187 - 179.5     | 6 1/2" solid | 0.776               | 0.000                     | 0.000                     | 0.776 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |



| Section No. | Elevation<br>ft | Size         | Ratio<br>$P_u$<br>$\phi P_n$ | Ratio<br>$M_{ux}$<br>$\phi M_{nx}$ | Ratio<br>$M_{uy}$<br>$\phi M_{ny}$ | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-----------------|--------------|------------------------------|------------------------------------|------------------------------------|--------------------------|---------------------------|----------|
| T94         | 179.5 - 172     | 6 1/2" solid | 0.794                        | 0.000                              | 0.000                              | 0.794 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T95         | 172 - 149.5     | 6 1/2" solid | 0.831                        | 0.000                              | 0.000                              | 0.831 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T96         | 149.5 - 142     | 6 1/2" solid | 0.837                        | 0.000                              | 0.000                              | 0.837 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T97         | 142 - 112       | 7" solid     | 0.743                        | 0.000                              | 0.000                              | 0.743 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T98         | 112 - 97        | 7" solid     | 0.751                        | 0.000                              | 0.000                              | 0.751 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T99         | 97 - 89.5       | 7" solid     | 0.753                        | 0.000                              | 0.000                              | 0.753 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T100        | 89.5 - 82       | 7" solid     | 0.750                        | 0.000                              | 0.000                              | 0.750 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T101        | 82 - 74.5       | 7" solid     | 0.746                        | 0.000                              | 0.000                              | 0.746 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T102        | 74.5 - 59.5     | 7" solid     | 0.740                        | 0.000                              | 0.000                              | 0.740 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T103        | 59.5 - 52       | 7" solid     | 0.720                        | 0.000                              | 0.000                              | 0.720 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T104        | 52 - 41         | 6 1/2" solid | 0.793                        | 0.000                              | 0.000                              | 0.793 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T105        | 41 - 30         | 6 1/2" solid | 0.780                        | 0.000                              | 0.000                              | 0.780 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T106        | 30 - 23.6       | 6 1/2" solid | 0.777                        | 0.000                              | 0.000                              | 0.777 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T107        | 23.6 - 18.1     | 6 1/4" solid | 0.848                        | 0.000                              | 0.000                              | 0.848 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T108        | 18.1 - 0        | 6 1/4" solid | 0.863                        | 0.000                              | 0.000                              | 0.863 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |

<sup>1</sup>  $P_u / \phi P_n$  controls

### Diagonal Design Data (Compression)

| Section No. | Elevation<br>ft   | Size                       | L<br>ft | $L_u$<br>ft | Kl/r            | A<br>in <sup>2</sup> | $P_u$<br>K | $\phi P_n$<br>K | Ratio<br>$P_u$<br>$\phi P_n$ |
|-------------|-------------------|----------------------------|---------|-------------|-----------------|----------------------|------------|-----------------|------------------------------|
| T1          | 1432 - 1424.5     | 2L 3 x 2 x 3/8 LLH (3/8)   | 8.39    | 7.48        | 145.0<br>K=0.90 | 3.4700               | -7.45      | 37.28           | 0.200 <sup>1</sup>           |
| T4          | 1402 - 1394.5     | 2L 3 x 2 x 3/8 LLH (3/8)   | 8.39    | 7.46        | 144.7<br>K=0.90 | 3.4700               | -29.35     | 37.44           | 0.784 <sup>1</sup>           |
| T14         | 1259.5 - 1252     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 10.61   | 5.07        | 82.6<br>K=1.00  | 3.8400               | -39.27     | 86.86           | 0.452 <sup>1</sup>           |
| T15         | 1252 - 1235.63    | 2L 3 x 2.5 x 3/8 LLH (3/8) | 11.54   | 5.69        | 92.8<br>K=1.00  | 3.8400               | -36.34     | 79.10           | 0.459 <sup>1</sup>           |
| T16         | 1235.63 - 1228.81 | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.10   | 5.55        | 90.4<br>K=1.00  | 3.8400               | -26.86     | 80.88           | 0.332 <sup>1</sup>           |
| T33         | 1042 - 1034.5     | 2L 3 x 2 x 3/8 LLH (3/8)   | 9.01    | 8.05        | 152.5<br>K=0.88 | 3.4700               | -29.51     | 33.73           | 0.875 <sup>1</sup>           |
| T35         | 1019.5 - 1012     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.68        | 92.6<br>K=1.00  | 3.8400               | -44.47     | 79.25           | 0.561 <sup>1</sup>           |
| T36         | 1012 - 1004.5     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.96        | 97.2<br>K=1.00  | 3.8400               | -38.90     | 75.64           | 0.514 <sup>1</sup>           |
| T37         | 1004.5 - 997      | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.96        | 97.2<br>K=1.00  | 3.8400               | -39.89     | 75.64           | 0.527 <sup>1</sup>           |
| T92         | 194.5 - 187       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.64        | 91.9<br>K=1.00  | 3.8400               | -36.88     | 79.77           | 0.462 <sup>1</sup>           |

| Section No.                | Elevation<br>ft | Size                       | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|----------------------------|-----------------|----------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T93                        | 187 - 179.5     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.64                 | 91.9<br>K=1.00  | 3.8400               | -38.41              | 79.77                | 0.482 <sup>1</sup>              |
| T94                        | 179.5 - 172     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.64                 | 91.9<br>K=1.00  | 3.8400               | -33.23              | 79.77                | 0.417 <sup>1</sup>              |
| T95                        | 172 - 149.5     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.64                 | 91.9<br>K=1.00  | 3.8400               | -32.55              | 79.77                | 0.408 <sup>1</sup>              |
| T96                        | 149.5 - 142     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.50   | 5.64                 | 91.9<br>K=1.00  | 3.8400               | -30.78              | 79.77                | 0.386 <sup>1</sup>              |
| T104                       | 52 - 41         | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.08   | 10.86                | 155.1<br>K=0.88 | 3.8400               | -23.61              | 36.08                | 0.654 <sup>1</sup>              |
| T105                       | 41 - 30         | 2L 3 x 2.5 x 3/8 LLH (3/8) | 12.08   | 10.86                | 155.1<br>K=0.88 | 3.8400               | -21.62              | 36.08                | 0.599 <sup>1</sup>              |
| T106                       | 30 - 23.6       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 8.06    | 7.05                 | 114.9<br>K=1.00 | 3.8400               | -17.45              | 62.10                | 0.281 <sup>1</sup>              |
| T107                       | 23.6 - 18.1     | 2L 3 x 2.5 x 3/8 LLH (3/8) | 6.74    | 5.77                 | 94.0<br>K=1.00  | 3.8400               | -2.16               | 78.12                | 0.028 <sup>1</sup>              |
| T108                       | 18.1 - 0        | 2L 3 x 3 x 3/8 (5/8)       | 7.19    | 4.05                 | 53.2<br>K=1.00  | 4.2188               | -75.57              | 117.75               | 0.642 <sup>1</sup>              |
| 2L 'a' > 23.4230 in - 2219 |                 |                            |         |                      |                 |                      |                     |                      |                                 |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Horizontal Design Data (Compression)

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 1432 - 1424.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 5.15                 | 69.1<br>K=1.00  | 4.2200               | -0.91               | 106.31               | 0.009 <sup>1</sup>              |
| T2          | 1424.5 - 1409.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 6.71                 | 83.3<br>K=1.00  | 4.2200               | -29.11              | 94.89                | 0.307 <sup>1</sup>              |
| T4          | 1402 - 1394.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 5.15                 | 69.1<br>K=1.00  | 4.2200               | -26.77              | 106.31               | 0.252 <sup>1</sup>              |
| T6          | 1387 - 1372     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 7.17                 | 87.6<br>K=1.00  | 4.2200               | -19.03              | 91.25                | 0.209 <sup>1</sup>              |
| T7          | 1372 - 1342     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -14.80              | 39.92                | 0.371 <sup>1</sup>              |
| T8          | 1342 - 1312     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -8.35               | 39.92                | 0.209 <sup>1</sup>              |
| T9          | 1312 - 1289.5   | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.19                 | 112.2<br>K=1.00 | 2.3800               | -14.57              | 39.77                | 0.366 <sup>1</sup>              |
| T22         | 1192 - 1162     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 135.9<br>K=1.00 | 3.4700               | -19.84              | 42.41                | 0.468 <sup>1</sup>              |
| T24         | 1154.5 - 1139.5 | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 135.9<br>K=1.00 | 3.4700               | -9.57               | 42.41                | 0.226 <sup>1</sup>              |
| T26         | 1132 - 1109.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 139.1<br>K=1.00 | 2.3800               | -9.81               | 27.77                | 0.353 <sup>1</sup>              |
| T28         | 1102 - 1072     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.63                 | 150.2<br>K=1.00 | 2.3800               | -21.04              | 23.83                | 0.883 <sup>1</sup>              |
| T33         | 1042 - 1034.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 6.99                 | 86.0<br>K=1.00  | 4.2200               | -30.03              | 92.63                | 0.324 <sup>1</sup>              |
| T34         | 1034.5 - 1019.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.09                 | 106.5<br>K=1.00 | 4.2200               | -36.67              | 75.25                | 0.487 <sup>1</sup>              |
| T40         | 982 - 952       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -22.98              | 46.64                | 0.493 <sup>1</sup>              |
| T41         | 952 - 937       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 138.4<br>K=1.00 | 2.3800               | -13.69              | 28.09                | 0.487 <sup>1</sup>              |
| T44         | 922 - 907       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 138.4<br>K=1.00 | 2.3800               | -10.93              | 28.09                | 0.389 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                            | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|---------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T45         | 907 - 892       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.56                 | 149.2<br>K=1.00 | 2.3800               | -10.88              | 24.15                | 0.451 <sup>1</sup>              |
| T46         | 892 - 862       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.56                 | 149.2<br>K=1.00 | 2.3800               | -16.80              | 24.15                | 0.696 <sup>1</sup>              |
| T47         | 862 - 847       | 2L 3 x 2.5 x 1/4 LLV (3/8)      | 10.00   | 9.54                 | 121.2<br>K=1.00 | 2.6300               | -20.69              | 39.34                | 0.526 <sup>1</sup>              |
| T48         | 847 - 832       | 2L 3 x 2.5 x 1/4 LLV (3/8)      | 10.00   | 9.54                 | 121.2<br>K=1.00 | 2.6300               | -23.37              | 39.34                | 0.594 <sup>1</sup>              |
| T49         | 832 - 809.5     | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -32.33              | 46.64                | 0.693 <sup>1</sup>              |
| T53         | 787 - 772       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.05                 | 129.0<br>K=1.00 | 3.4700               | -22.59              | 46.80                | 0.483 <sup>1</sup>              |
| T54         | 772 - 742       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -18.08              | 46.64                | 0.388 <sup>1</sup>              |
| T55         | 742 - 719.5     | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.09                 | 129.5<br>K=1.00 | 3.4700               | -15.48              | 46.48                | 0.333 <sup>1</sup>              |
| T57         | 712 - 682       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.09                 | 133.5<br>K=0.94 | 2.3800               | -15.33              | 30.19                | 0.508 <sup>1</sup>              |
| T58         | 682 - 652       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.09                 | 133.5<br>K=0.94 | 2.3800               | -16.17              | 30.19                | 0.536 <sup>1</sup>              |
| T59         | 652 - 637       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.07                 | 133.3<br>K=0.94 | 2.3800               | -18.15              | 30.27                | 0.599 <sup>1</sup>              |
| T62         | 622 - 607       | 2L 3 x 2 x 1/4 LLV (3/8)        | 10.00   | 9.05                 | 132.0<br>K=1.00 | 2.3800               | -24.16              | 30.82                | 0.784 <sup>1</sup>              |
| T63         | 607 - 592       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -27.17              | 46.96                | 0.579 <sup>1</sup>              |
| T66         | 577 - 562       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 10.00   | 8.91                 | 104.6<br>K=1.00 | 4.2200               | -24.55              | 76.83                | 0.319 <sup>1</sup>              |
| T67         | 562 - 532       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.05                 | 129.0<br>K=1.00 | 3.4700               | -21.18              | 46.80                | 0.453 <sup>1</sup>              |
| T68         | 532 - 517       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -17.37              | 46.64                | 0.372 <sup>1</sup>              |
| T69         | 517 - 502       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -15.43              | 46.64                | 0.331 <sup>1</sup>              |
| T70         | 502 - 472       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -14.78              | 24.36                | 0.607 <sup>1</sup>              |
| T71         | 472 - 442       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -14.50              | 24.36                | 0.595 <sup>1</sup>              |
| T72         | 442 - 427       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.07                 | 133.3<br>K=0.94 | 2.3800               | -18.25              | 30.27                | 0.603 <sup>1</sup>              |
| T73         | 427 - 412       | 2L 3 x 2 x 1/4 LLV (3/8)        | 10.00   | 9.09                 | 132.5<br>K=1.00 | 2.3800               | -22.35              | 30.60                | 0.731 <sup>1</sup>              |
| T79         | 374.5 - 352     | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 10.00   | 8.98                 | 105.4<br>K=1.00 | 4.2200               | -31.39              | 76.22                | 0.412 <sup>1</sup>              |
| T80         | 352 - 329.5     | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.00                 | 128.4<br>K=1.00 | 3.4700               | -28.20              | 47.19                | 0.598 <sup>1</sup>              |
| T82         | 322 - 307       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -22.74              | 46.96                | 0.484 <sup>1</sup>              |
| T83         | 307 - 292       | 2L 3 x 2 x 3/8 LLV (3/8)        | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -19.94              | 46.96                | 0.425 <sup>1</sup>              |
| T84         | 292 - 277       | 2L 3 x 2 x 1/4 LLV (3/8)        | 10.00   | 9.05                 | 132.0<br>K=1.00 | 2.3800               | -17.46              | 30.82                | 0.566 <sup>1</sup>              |
| T85         | 277 - 262       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -17.32              | 30.44                | 0.569 <sup>1</sup>              |
| T86         | 262 - 247       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -17.31              | 30.44                | 0.569 <sup>1</sup>              |
| T87         | 247 - 232       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -17.09              | 30.44                | 0.561 <sup>1</sup>              |
| T88         | 232 - 217       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -20.92              | 30.44                | 0.687 <sup>1</sup>              |

| Section No.                | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|----------------------------|-----------------|------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T97                        | 142 - 112       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.94                 | 104.9<br>K=1.00 | 4.2200               | -18.37              | 76.57                | 0.240 <sup>1</sup><br>✓         |
| T98                        | 112 - 97        | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 8.97                 | 128.0<br>K=1.00 | 3.4700               | -18.57              | 47.43                | 0.392 <sup>1</sup><br>✓         |
| T102                       | 74.5 - 59.5     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 8.97                 | 132.3<br>K=0.95 | 2.3800               | -20.04              | 30.70                | 0.653 <sup>1</sup><br>✓         |
| T104                       | 52 - 41         | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 6.84                 | 105.1<br>K=1.00 | 2.3800               | -18.64              | 43.12                | 0.432 <sup>1</sup><br>✓         |
| T105                       | 41 - 30         | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 6.87                 | 105.4<br>K=1.00 | 2.3800               | -17.58              | 42.95                | 0.409 <sup>1</sup><br>✓         |
| T106                       | 30 - 23.6       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 6.87                 | 115.9<br>K=1.00 | 2.3800               | -17.29              | 38.01                | 0.455 <sup>1</sup><br>✓         |
| 2L 'a' > 30.1854 in - 2189 |                 |                              |         |                      |                 |                      |                     |                      |                                 |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Secondary Horizontal Design Data (Compression)

| Section No. | Elevation<br>ft | Size                     | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T6          | 1387 - 1372     | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -7.33               | 39.92                | 0.184 <sup>1</sup><br>✓         |
| T7          | 1372 - 1342     | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -7.96               | 39.92                | 0.199 <sup>1</sup><br>✓         |
| T8          | 1342 - 1312     | L 2.5 x 2.5 x 1/4        | 7.50    | 7.17                 | 111.8<br>K=1.00 | 1.1900               | -7.95               | 19.96                | 0.398 <sup>1</sup><br>✓         |
| T9          | 1312 - 1289.5   | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.19                 | 112.2<br>K=1.00 | 2.3800               | -7.46               | 39.77                | 0.188 <sup>1</sup><br>✓         |
| T10         | 1289.5 - 1282   | L 2.5 x 2.5 x 1/4        | 7.50    | 7.19                 | 112.2<br>K=1.00 | 1.1900               | -6.57               | 19.88                | 0.330 <sup>1</sup><br>✓         |
| T14         | 1259.5 - 1252   | L 2.5 x 2.5 x 1/4        | 7.50    | 3.58                 | 87.6<br>K=1.00  | 1.1900               | -4.88               | 25.75                | 0.189 <sup>1</sup><br>✓         |
| T22         | 1192 - 1162     | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.28               | 11.92                | 0.778 <sup>1</sup><br>✓         |
| T23         | 1162 - 1154.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.41               | 11.92                | 0.790 <sup>1</sup><br>✓         |
| T24         | 1154.5 - 1139.5 | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.57               | 11.92                | 0.803 <sup>1</sup><br>✓         |
| T25         | 1139.5 - 1132   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.62               | 11.92                | 0.807 <sup>1</sup><br>✓         |
| T26         | 1132 - 1109.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.65               | 11.92                | 0.810 <sup>1</sup><br>✓         |
| T27         | 1109.5 - 1102   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.47               | 11.92                | 0.795 <sup>1</sup><br>✓         |
| T28         | 1102 - 1072     | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.33               | 11.92                | 0.783 <sup>1</sup><br>✓         |
| T29         | 1072 - 1064.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -8.40               | 11.92                | 0.705 <sup>1</sup><br>✓         |
| T30         | 1064.5 - 1057   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -8.68               | 11.92                | 0.728 <sup>1</sup><br>✓         |
| T31         | 1057 - 1049.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2<br>K=1.00 | 1.1900               | -9.19               | 11.92                | 0.771 <sup>1</sup><br>✓         |
| T32         | 1049.5 - 1042   | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.63                 | 150.2<br>K=1.00 | 2.3800               | -9.69               | 23.83                | 0.407 <sup>1</sup><br>✓         |
| T36         | 1012 - 1004.5   | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 4.77                 | 74.4<br>K=1.00  | 2.3800               | -12.25              | 57.60                | 0.213 <sup>1</sup><br>✓         |
| T37         | 1004.5 - 997    | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 4.77                 | 74.4<br>K=1.00  | 2.3800               | -12.47              | 57.60                | 0.217 <sup>1</sup><br>✓         |

| Section No. | Elevation<br>ft | Size   | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T41         | 952 - 937       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -10.77              | 12.07                | 0.892 <sup>1</sup><br>✓         |
| T42         | 937 - 929.5     | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -10.84              | 12.07                | 0.898 <sup>1</sup><br>✓         |
| T43         | 929.5 - 922     | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -10.89              | 12.07                | 0.902 <sup>1</sup><br>✓         |
| T44         | 922 - 907       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -10.93              | 12.07                | 0.905 <sup>1</sup><br>✓         |
| T45         | 907 - 892       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -10.88              | 12.07                | 0.901 <sup>1</sup><br>✓         |
| T46         | 892 - 862       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2<br>K=1.00 | 1.1900               | -11.00              | 12.07                | 0.911 <sup>1</sup><br>✓         |
| T47         | 862 - 847       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.54                 | 148.9<br>K=1.00 | 1.1900               | -12.09              | 12.13                | 0.997 <sup>1</sup><br>✓         |
| T48         | 847 - 832       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.54                 | 148.9<br>K=1.00 | 1.1900               | -13.34              | 12.13                | 1.100 <sup>1</sup><br>✗         |
| T50         | 809.5 - 802     | 4.8.1 (1.10 CR) - 1013<br>2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -16.32              | 24.36                | 0.670 <sup>1</sup><br>✓         |
| T51         | 802 - 794.5     | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.50                 | 148.2<br>K=1.00 | 2.3800               | -17.04              | 24.47                | 0.696 <sup>1</sup><br>✓         |
| T52         | 794.5 - 787     | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.50                 | 148.2<br>K=1.00 | 2.3800               | -17.21              | 24.47                | 0.703 <sup>1</sup><br>✓         |
| T70         | 502 - 472       | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -14.78              | 24.36                | 0.607 <sup>1</sup><br>✓         |
| T71         | 472 - 442       | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -14.50              | 24.36                | 0.595 <sup>1</sup><br>✓         |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Compression)

| Section No. | Elevation<br>ft   | Size                            | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|---------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T3          | 1409.5 - 1402     | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 7.50    | 6.71                 | 83.3<br>K=1.00  | 4.2200               | -27.99              | 94.89                | 0.295 <sup>1</sup><br>✓         |
| T5          | 1394.5 - 1387     | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 7.50    | 6.69                 | 83.1<br>K=1.00  | 4.2200               | -10.85              | 95.06                | 0.114 <sup>1</sup><br>✓         |
| T6          | 1387 - 1372       | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 7.50    | 7.17                 | 87.6<br>K=1.00  | 4.2200               | -20.44              | 91.25                | 0.224 <sup>1</sup><br>✓         |
| T7          | 1372 - 1342       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -16.96              | 39.92                | 0.425 <sup>1</sup><br>✓         |
| T8          | 1342 - 1312       | 2L 2.5 x 2.5 x 1/4 (3/8)        | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -5.87               | 39.92                | 0.147 <sup>1</sup><br>✓         |
| T9          | 1312 - 1289.5     | 2L 2.5 x 2.5 x 1/4 (3/8)        | 7.50    | 7.17                 | 111.8<br>K=1.00 | 2.3800               | -10.31              | 39.92                | 0.258 <sup>1</sup><br>✓         |
| T10         | 1289.5 - 1282     | 2L 2.5 x 2.5 x 1/4 (3/8)        | 7.50    | 7.19                 | 112.2<br>K=1.00 | 2.3800               | -16.64              | 39.77                | 0.418 <sup>1</sup><br>✓         |
| T11         | 1282 - 1274.5     | 2L 3 x 2 x 1/4 LLV (3/8)        | 7.50    | 6.74                 | 103.9<br>K=1.00 | 2.3800               | -18.78              | 43.68                | 0.430 <sup>1</sup><br>✓         |
| T12         | 1274.5 - 1267     | 2L 3 x 2 x 1/4 LLV (3/8)        | 7.50    | 6.72                 | 103.7<br>K=1.00 | 2.3800               | -20.81              | 43.80                | 0.475 <sup>1</sup><br>✓         |
| T13         | 1267 - 1259.5     | 2L 3 x 2 x 1/4 LLV (3/8)        | 7.50    | 6.72                 | 103.7<br>K=1.00 | 2.3800               | -22.12              | 43.80                | 0.505 <sup>1</sup><br>✓         |
| T14         | 1259.5 - 1252     | 2L 3 x 2 x 3/8 LLV (3/8)        | 7.50    | 7.17                 | 110.3<br>K=1.00 | 3.4700               | -2.37               | 59.22                | 0.040 <sup>1</sup><br>✓         |
| T17         | 1228.81 -<br>1222 | 2L 3.5 x 2.5 x 3/8 LLV<br>(3/8) | 10.00   | 9.10                 | 108.1<br>K=1.00 | 4.2200               | -10.02              | 73.91                | 0.136 <sup>1</sup><br>✓         |

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T18         | 1222 - 1214.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.15                 | 107.0<br>K=1.00 | 4.2200               | -32.40              | 74.81                | 0.433 <sup>1</sup>              |
| T20         | 1207 - 1199.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.13                 | 106.8<br>K=1.00 | 4.2200               | -25.39              | 74.99                | 0.339 <sup>1</sup>              |
| T21         | 1199.5 - 1192   | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.14                 | 130.0<br>K=1.00 | 3.4700               | -24.68              | 46.16                | 0.535 <sup>1</sup>              |
| T22         | 1192 - 1162     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.60                 | 135.7<br>K=1.00 | 3.4700               | -22.15              | 42.57                | 0.520 <sup>1</sup>              |
| T23         | 1162 - 1154.5   | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 135.9<br>K=1.00 | 3.4700               | -13.63              | 42.41                | 0.321 <sup>1</sup>              |
| T24         | 1154.5 - 1139.5 | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 135.9<br>K=1.00 | 3.4700               | -10.75              | 42.41                | 0.253 <sup>1</sup>              |
| T25         | 1139.5 - 1132   | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.63                 | 122.2<br>K=1.00 | 2.6300               | -5.70               | 38.81                | 0.147 <sup>1</sup>              |
| T26         | 1132 - 1109.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 139.1<br>K=1.00 | 2.3800               | -5.79               | 27.77                | 0.209 <sup>1</sup>              |
| T27         | 1109.5 - 1102   | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.63                 | 150.2<br>K=1.00 | 2.3800               | -12.65              | 23.83                | 0.531 <sup>1</sup>              |
| T28         | 1102 - 1072     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.63                 | 150.2<br>K=1.00 | 2.3800               | -15.08              | 23.83                | 0.633 <sup>1</sup>              |
| T29         | 1072 - 1064.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 139.1<br>K=1.00 | 2.3800               | -23.03              | 27.77                | 0.829 <sup>1</sup>              |
| T30         | 1064.5 - 1057   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 139.1<br>K=1.00 | 2.3800               | -24.48              | 27.77                | 0.882 <sup>1</sup>              |
| T31         | 1057 - 1049.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 139.1<br>K=1.00 | 2.3800               | -25.87              | 27.77                | 0.931 <sup>1</sup>              |
| T32         | 1049.5 - 1042   | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.63                 | 122.2<br>K=1.00 | 2.6300               | -26.93              | 38.81                | 0.694 <sup>1</sup>              |
| T34         | 1034.5 - 1019.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 106.2<br>K=1.00 | 4.2200               | -17.83              | 75.51                | 0.236 <sup>1</sup>              |
| T35         | 1019.5 - 1012   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 106.2<br>K=1.00 | 4.2200               | -7.42               | 75.51                | 0.098 <sup>1</sup>              |
| T39         | 989.5 - 982     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 106.2<br>K=1.00 | 4.2200               | -25.53              | 75.51                | 0.338 <sup>1</sup>              |
| T40         | 982 - 952       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -24.68              | 46.64                | 0.529 <sup>1</sup>              |
| T41         | 952 - 937       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.54                 | 138.1<br>K=1.00 | 2.3800               | -16.71              | 28.19                | 0.593 <sup>1</sup>              |
| T42         | 937 - 929.5     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 138.4<br>K=1.00 | 2.3800               | -11.77              | 28.09                | 0.419 <sup>1</sup>              |
| T43         | 929.5 - 922     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 138.4<br>K=1.00 | 2.3800               | -9.59               | 28.09                | 0.342 <sup>1</sup>              |
| T44         | 922 - 907       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 138.4<br>K=1.00 | 2.3800               | -7.59               | 28.09                | 0.270 <sup>1</sup>              |
| T45         | 907 - 892       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2<br>K=1.00 | 2.3800               | -7.80               | 24.15                | 0.323 <sup>1</sup>              |
| T46         | 892 - 862       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2<br>K=1.00 | 2.3800               | -10.74              | 24.15                | 0.445 <sup>1</sup>              |
| T47         | 862 - 847       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.56                 | 121.4<br>K=1.00 | 2.6300               | -19.32              | 39.21                | 0.493 <sup>1</sup>              |
| T48         | 847 - 832       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.54                 | 121.2<br>K=1.00 | 2.6300               | -22.39              | 39.34                | 0.569 <sup>1</sup>              |
| T49         | 832 - 809.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.09                 | 129.5<br>K=1.00 | 3.4700               | -27.27              | 46.48                | 0.587 <sup>1</sup>              |
| T50         | 809.5 - 802     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.52                 | 134.7<br>K=1.00 | 3.4700               | -32.64              | 43.21                | 0.755 <sup>1</sup>              |
| T51         | 802 - 794.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.52                 | 134.7<br>K=1.00 | 3.4700               | -29.72              | 43.21                | 0.688 <sup>1</sup>              |
| T53         | 787 - 772       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.05                 | 129.0<br>K=1.00 | 3.4700               | -21.32              | 46.80                | 0.456 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T54         | 772 - 742       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.05                 | 129.0<br>K=1.00 | 3.4700               | -19.93              | 46.80                | 0.426 <sup>1</sup>              |
| T55         | 742 - 719.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -12.55              | 46.64                | 0.269 <sup>1</sup>              |
| T56         | 719.5 - 712     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.11                 | 132.8<br>K=1.00 | 2.3800               | -7.98               | 30.49                | 0.262 <sup>1</sup>              |
| T57         | 712 - 682       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 133.5<br>K=0.94 | 2.3800               | -6.45               | 30.19                | 0.214 <sup>1</sup>              |
| T58         | 682 - 652       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 133.5<br>K=0.94 | 2.3800               | -8.73               | 30.19                | 0.289 <sup>1</sup>              |
| T59         | 652 - 637       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 133.5<br>K=0.94 | 2.3800               | -16.51              | 30.19                | 0.547 <sup>1</sup>              |
| T60         | 637 - 629.5     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.07                 | 133.3<br>K=0.94 | 2.3800               | -19.76              | 30.27                | 0.653 <sup>1</sup>              |
| T61         | 629.5 - 622     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 132.5<br>K=1.00 | 2.3800               | -21.36              | 30.60                | 0.698 <sup>1</sup>              |
| T62         | 622 - 607       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 132.5<br>K=1.00 | 2.3800               | -23.06              | 30.60                | 0.754 <sup>1</sup>              |
| T63         | 607 - 592       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -25.78              | 46.96                | 0.549 <sup>1</sup>              |
| T64         | 592 - 584.5     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.91                 | 104.6<br>K=1.00 | 4.2200               | -25.57              | 76.83                | 0.333 <sup>1</sup>              |
| T66         | 577 - 562       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.91                 | 104.6<br>K=1.00 | 4.2200               | -23.33              | 76.83                | 0.304 <sup>1</sup>              |
| T67         | 562 - 532       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -22.70              | 46.96                | 0.483 <sup>1</sup>              |
| T68         | 532 - 517       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.05                 | 129.0<br>K=1.00 | 3.4700               | -18.46              | 46.80                | 0.394 <sup>1</sup>              |
| T69         | 517 - 502       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 129.3<br>K=1.00 | 3.4700               | -16.67              | 46.64                | 0.357 <sup>1</sup>              |
| T70         | 502 - 472       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -12.49              | 24.36                | 0.513 <sup>1</sup>              |
| T71         | 472 - 442       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.52                 | 148.6<br>K=1.00 | 2.3800               | -7.53               | 24.36                | 0.309 <sup>1</sup>              |
| T72         | 442 - 427       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.07                 | 133.3<br>K=0.94 | 2.3800               | -14.78              | 30.27                | 0.488 <sup>1</sup>              |
| T73         | 427 - 412       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 132.5<br>K=1.00 | 2.3800               | -20.15              | 30.60                | 0.658 <sup>1</sup>              |
| T74         | 412 - 404.5     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 132.5<br>K=1.00 | 2.3800               | -24.18              | 30.60                | 0.790 <sup>1</sup>              |
| T75         | 404.5 - 397     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -24.96              | 46.96                | 0.531 <sup>1</sup>              |
| T76         | 397 - 389.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -25.83              | 46.96                | 0.550 <sup>1</sup>              |
| T77         | 389.5 - 382     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.98                 | 105.4<br>K=1.00 | 4.2200               | -23.87              | 76.22                | 0.313 <sup>1</sup>              |
| T79         | 374.5 - 352     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.98                 | 105.4<br>K=1.00 | 4.2200               | -29.77              | 76.22                | 0.391 <sup>1</sup>              |
| T80         | 352 - 329.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.00                 | 128.4<br>K=1.00 | 3.4700               | -29.31              | 47.19                | 0.621 <sup>1</sup>              |
| T81         | 329.5 - 322     | 2L 3 x 2.5 x 3/8 LLV (3/8)   | 10.00   | 9.03                 | 116.8<br>K=1.00 | 3.8400               | -25.61              | 60.68                | 0.422 <sup>1</sup>              |
| T82         | 322 - 307       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -23.87              | 46.96                | 0.508 <sup>1</sup>              |
| T83         | 307 - 292       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -21.36              | 46.96                | 0.455 <sup>1</sup>              |
| T84         | 292 - 277       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.05                 | 132.0<br>K=1.00 | 2.3800               | -19.17              | 30.82                | 0.622 <sup>1</sup>              |
| T85         | 277 - 262       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -15.48              | 30.44                | 0.509 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                     | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T86         | 262 - 247       | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -9.53               | 30.44                | 0.313 <sup>1</sup><br>✓         |
| T87         | 247 - 232       | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -12.26              | 30.44                | 0.403 <sup>1</sup><br>✓         |
| T88         | 232 - 217       | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.03                 | 132.9<br>K=0.94 | 2.3800               | -18.14              | 30.44                | 0.596 <sup>1</sup><br>✓         |
| T89         | 217 - 209.5     | 2L 3 x 2 x 1/4 LLV (3/8) | 10.00   | 9.03                 | 131.7<br>K=1.00 | 2.3800               | -23.48              | 30.93                | 0.759 <sup>1</sup><br>✓         |
| T90         | 209.5 - 202     | 2L 3 x 2 x 3/8 LLV (3/8) | 10.00   | 9.03                 | 128.8<br>K=1.00 | 3.4700               | -26.69              | 46.96                | 0.568 <sup>1</sup><br>✓         |
| T91         | 202 - 194.5     | 2L 4 x 3 x 3/8 LLV (3/8) | 10.00   | 8.93                 | 88.6<br>K=1.00  | 4.9700               | -26.03              | 106.50               | 0.244 <sup>1</sup><br>✓         |
| T98         | 112 - 97        | 2L 3 x 2 x 3/8 LLV (3/8) | 10.00   | 8.97                 | 128.0<br>K=1.00 | 3.4700               | -6.60               | 47.43                | 0.139 <sup>1</sup><br>✓         |
| T99         | 97 - 89.5       | 2L 3 x 2 x 3/8 LLV (3/8) | 10.00   | 8.97                 | 128.0<br>K=1.00 | 3.4700               | -9.05               | 47.43                | 0.191 <sup>1</sup><br>✓         |
| T100        | 89.5 - 82       | 2L 3 x 2 x 3/8 LLV (3/8) | 10.00   | 8.94                 | 127.7<br>K=1.00 | 3.4700               | -12.27              | 47.67                | 0.257 <sup>1</sup><br>✓         |
| T101        | 82 - 74.5       | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 8.97                 | 132.3<br>K=0.95 | 2.3800               | -15.03              | 30.70                | 0.490 <sup>1</sup><br>✓         |
| T102        | 74.5 - 59.5     | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 8.97                 | 132.3<br>K=0.95 | 2.3800               | -17.71              | 30.70                | 0.577 <sup>1</sup><br>✓         |
| T103        | 59.5 - 52       | 2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 8.97                 | 132.3<br>K=0.95 | 2.3800               | -19.16              | 30.70                | 0.624 <sup>1</sup><br>✓         |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Tension Checks

### Leg Design Data (Tension)

| Section No. | Elevation<br>ft | Size                                    | L<br>ft | L <sub>u</sub><br>ft | Kl/r | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|---|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 1432 - 1424.5   | 3 3/4" solid                            | 7.50    | 7.50                 | 96.0 | 11.044<br>7          | 25.51               | 497.01               | 0.051 <sup>1</sup>              |
| T3          | 1409.5 - 1402   | 3 3/4" solid                            | 7.50    | 7.50                 | 96.0 | 11.044<br>7          | 15.51               | 497.01               | 0.031 <sup>1</sup>              |
| T4          | 1402 - 1394.5   | 4.8.1 (1.28 CR) - 36<br>4" solid        | 7.50    | 7.50                 | 90.0 | 12.566<br>4          | 60.60               | 565.49               | 0.107 <sup>1</sup>              |
| T5          | 1394.5 - 1387   | 4" solid                                | 7.50    | 7.50                 | 90.0 | 12.566<br>4          | 104.56              | 565.49               | 0.185 <sup>1</sup>              |
| T6          | 1387 - 1372     | 4.8.1 (1.22 CR) - 60<br>4" solid        | 15.00   | 3.75                 | 45.0 | 12.566<br>4          | 173.68              | 565.49               | 0.307 <sup>1</sup>              |
| T7          | 1372 - 1342     | 4" solid                                | 30.00   | 3.75                 | 45.0 | 12.566<br>4          | 265.67              | 565.49               | 0.470 <sup>1</sup>              |
| T8          | 1342 - 1312     | 4" solid                                | 30.00   | 3.75                 | 45.0 | 12.566<br>4          | 281.14              | 565.49               | 0.497 <sup>1</sup>              |
| T9          | 1312 - 1289.5   | 3 3/4" solid                            | 22.50   | 3.75                 | 48.0 | 11.044<br>7          | 263.93              | 497.01               | 0.531 <sup>1</sup>              |
| T10         | 1289.5 - 1282   | 4.8.1 (1.08 CR) - 201/5<br>3 3/4" solid | 7.50    | 3.75                 | 48.0 | 11.044<br>7          | 206.20              | 497.01               | 0.415 <sup>1</sup>              |
| T11         | 1282 - 1274.5   | 4" solid                                | 7.50    | 7.50                 | 90.0 | 12.566<br>4          | 179.30              | 565.49               | 0.317 <sup>1</sup>              |
| T12         | 1274.5 - 1267   | 4.8.1 (1.15 CR) - 255<br>4" solid       | 7.50    | 7.50                 | 90.0 | 12.566<br>4          | 149.06              | 565.49               | 0.264 <sup>1</sup>              |
|             |                 | 4.8.1 (1.11 CR) - 267                   |         |                      |      |                      |                     |                      |                                 |



| Section No. | Elevation<br>ft | Size                              | L<br>ft | L <sub>u</sub><br>ft | Kl/r | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------------------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T13         | 1267 - 1259.5   | 4" solid                          | 7.50    | 7.50                 | 90.0 | 12.566<br>4          | 116.30              | 565.49               | 0.206 <sup>1</sup>              |
| T14         | 1259.5 - 1252   | 4.8.1 (1.06 CR) - 279<br>4" solid | 7.50    | 3.75                 | 45.0 | 12.566<br>4          | 112.45              | 565.49               | 0.199 <sup>1</sup>              |
| T15         | 1252 - 1235.63  | 4 1/2" solid                      | 16.44   | 8.22                 | 87.7 | 15.904<br>3          | 54.02               | 715.69               | 0.075 <sup>1</sup>              |
| T24         | 1154.5 - 1139.5 | 4 1/2" solid                      | 15.00   | 3.75                 | 40.0 | 15.904<br>3          | 1.71                | 715.69               | 0.002 <sup>1</sup>              |
| T25         | 1139.5 - 1132   | 4 1/2" solid                      | 7.50    | 3.75                 | 40.0 | 15.904<br>3          | 10.28               | 715.69               | 0.014 <sup>1</sup>              |
| T26         | 1132 - 1109.5   | 4 1/2" solid                      | 22.50   | 3.75                 | 40.0 | 15.904<br>3          | 14.26               | 715.69               | 0.020 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Leg Bending Design Data (Tension)

| Section No. | Elevation<br>ft | Size         | M <sub>ux</sub><br>kip-ft | φM <sub>nx</sub><br>kip-ft | Ratio<br>$\frac{M_{ux}}{\phi M_{nx}}$ | M <sub>uy</sub><br>kip-ft | φM <sub>ny</sub><br>kip-ft | Ratio<br>$\frac{M_{uy}}{\phi M_{ny}}$ |
|-------------|-----------------|--------------|---------------------------|----------------------------|---------------------------------------|---------------------------|----------------------------|---------------------------------------|
| T1          | 1432 - 1424.5   | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                 | 0.00                      | 32.96                      | 0.000                                 |
| T3          | 1409.5 - 1402   | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                 | 0.00                      | 32.96                      | 0.000                                 |
| T4          | 1402 - 1394.5   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T5          | 1394.5 - 1387   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T6          | 1387 - 1372     | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T7          | 1372 - 1342     | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T8          | 1342 - 1312     | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T9          | 1312 - 1289.5   | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                 | 0.00                      | 32.96                      | 0.000                                 |
| T10         | 1289.5 - 1282   | 3 3/4" solid | 0.00                      | 32.96                      | 0.000                                 | 0.00                      | 32.96                      | 0.000                                 |
| T11         | 1282 - 1274.5   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T12         | 1274.5 - 1267   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T13         | 1267 - 1259.5   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T14         | 1259.5 - 1252   | 4" solid     | 0.00                      | 40.00                      | 0.000                                 | 0.00                      | 40.00                      | 0.000                                 |
| T15         | 1252 - 1235.63  | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                 | 0.00                      | 56.95                      | 0.000                                 |
| T24         | 1154.5 - 1139.5 | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                 | 0.00                      | 56.95                      | 0.000                                 |
| T25         | 1139.5 - 1132   | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                 | 0.00                      | 56.95                      | 0.000                                 |
| T26         | 1132 - 1109.5   | 4 1/2" solid | 0.00                      | 56.95                      | 0.000                                 | 0.00                      | 56.95                      | 0.000                                 |

### Leg Interaction Design Data (Tension)

| Section No. | Elevation<br>ft | Size         | Ratio<br>$\frac{P_u}{\phi P_n}$ | Ratio<br>$\frac{M_{ux}}{\phi M_{nx}}$ | Ratio<br>$\frac{M_{uy}}{\phi M_{ny}}$ | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-----------------|--------------|---------------------------------|---------------------------------------|---------------------------------------|--------------------------|---------------------------|----------|
| T1          | 1432 - 1424.5   | 3 3/4" solid | 0.051                           | 0.000                                 | 0.000                                 | 0.051 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T3          | 1409.5 - 1402   | 3 3/4" solid | 0.031                           | 0.000                                 | 0.000                                 | 0.031 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T4          | 1402 - 1394.5   | 4" solid     | 0.107                           | 0.000                                 | 0.000                                 | 0.107 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T5          | 1394.5 - 1387   | 4" solid     | 0.185                           | 0.000                                 | 0.000                                 | 0.185 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T6          | 1387 - 1372     | 4" solid     | 0.307                           | 0.000                                 | 0.000                                 | 0.307 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |

| Section No. | Elevation<br>ft | Size         | Ratio<br>$P_u$<br>$\phi P_n$ | Ratio<br>$M_{ux}$<br>$\phi M_{nx}$ | Ratio<br>$M_{uy}$<br>$\phi M_{ny}$ | Comb.<br>Stress<br>Ratio | Allow.<br>Stress<br>Ratio | Criteria |
|-------------|-----------------|--------------|------------------------------|------------------------------------|------------------------------------|--------------------------|---------------------------|----------|
| T7          | 1372 - 1342     | 4" solid     | 0.470                        | 0.000                              | 0.000                              | 0.470 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T8          | 1342 - 1312     | 4" solid     | 0.497                        | 0.000                              | 0.000                              | 0.497 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T9          | 1312 - 1289.5   | 3 3/4" solid | 0.531                        | 0.000                              | 0.000                              | 0.531 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T10         | 1289.5 - 1282   | 3 3/4" solid | 0.415                        | 0.000                              | 0.000                              | 0.415 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T11         | 1282 - 1274.5   | 4" solid     | 0.317                        | 0.000                              | 0.000                              | 0.317 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T12         | 1274.5 - 1267   | 4" solid     | 0.264                        | 0.000                              | 0.000                              | 0.264 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T13         | 1267 - 1259.5   | 4" solid     | 0.206                        | 0.000                              | 0.000                              | 0.206 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T14         | 1259.5 - 1252   | 4" solid     | 0.199                        | 0.000                              | 0.000                              | 0.199 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T15         | 1252 - 1235.63  | 4 1/2" solid | 0.075                        | 0.000                              | 0.000                              | 0.075 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T24         | 1154.5 - 1139.5 | 4 1/2" solid | 0.002                        | 0.000                              | 0.000                              | 0.002 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T25         | 1139.5 - 1132   | 4 1/2" solid | 0.014                        | 0.000                              | 0.000                              | 0.014 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |
| T26         | 1132 - 1109.5   | 4 1/2" solid | 0.020                        | 0.000                              | 0.000                              | 0.020 <sup>1</sup>       | 1.000                     | 4.8.1 ✓  |

<sup>1</sup>  $P_u / \phi P_n$  controls

### Diagonal Design Data (Tension)

| Section No. | Elevation<br>ft | Size   | L<br>ft | $L_u$<br>ft | Kl/r  | A<br>in <sup>2</sup> | $P_u$<br>K | $\phi P_n$<br>K | Ratio<br>$P_u$<br>$\phi P_n$ |
|-------------|-----------------|--|---------|-------------|-------|----------------------|------------|-----------------|------------------------------|
| T1          | 1432 - 1424.5   | 2L 3 x 2 x 3/8 LLH (3/8)                         | 8.39    | 7.48        | 172.5 | 2.0400               | 10.83      | 88.74           | 0.122 <sup>1</sup> ✓         |
| T2          | 1424.5 - 1409.5 | 1" solid   | 10.61   | 10.16       | 487.9 | 0.7854               | 41.54      | 25.45           | 1.632 <sup>1</sup> ✗         |
| T3          | 1409.5 - 1402   | 4.8.1 (1.63 CR) - 31<br>7/8" solid               | 10.61   | 10.16       | 557.6 | 0.6013               | 36.95      | 19.48           | 1.897 <sup>1</sup> ✗         |
| T4          | 1402 - 1394.5   | 4.8.1 (1.90 CR) - 43<br>2L 3 x 2 x 3/8 LLH (3/8) | 8.39    | 7.46        | 172.0 | 2.0400               | 28.83      | 88.74           | 0.325 <sup>1</sup> ✓         |
| T5          | 1394.5 - 1387   | 1" solid   | 10.61   | 10.14       | 486.5 | 0.7854               | 29.85      | 25.45           | 1.173 <sup>1</sup> ✗         |
| T6          | 1387 - 1372     | 4.8.1 (1.17 CR) - 67<br>7/8" solid               | 10.61   | 10.14       | 556.0 | 0.6013               | 28.56      | 19.48           | 1.466 <sup>1</sup> ✗         |
| T7          | 1372 - 1342     | 4.8.1 (1.47 CR) - 91<br>7/8" solid               | 10.61   | 10.14       | 556.0 | 0.6013               | 23.43      | 19.48           | 1.203 <sup>1</sup> ✗         |
| T8          | 1342 - 1312     | 4.8.1 (1.20 CR) - 142<br>7/8" solid              | 10.61   | 10.14       | 556.0 | 0.6013               | 13.97      | 19.48           | 0.717 <sup>1</sup> ✓         |
| T9          | 1312 - 1289.5   | 7/8" solid                                       | 10.61   | 10.16       | 557.6 | 0.6013               | 22.80      | 19.48           | 1.170 <sup>1</sup> ✗         |
| T10         | 1289.5 - 1282   | 4.8.1 (1.17 CR) - 209<br>7/8" solid              | 10.61   | 10.16       | 557.6 | 0.6013               | 25.66      | 19.48           | 1.317 <sup>1</sup> ✗         |
| T11         | 1282 - 1274.5   | 4.8.1 (1.32 CR) - 248<br>1" solid                | 10.61   | 10.15       | 487.2 | 0.7854               | 28.18      | 25.45           | 1.108 <sup>1</sup> ✗         |

| Section No. | Elevation<br>ft   | Size                                  | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|---------------------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T12         | 1274.5 - 1267     | 4.8.1 (1.11 CR) - 263<br>1 1/4" solid | 10.61   | 10.14                | 389.2 | 1.2272               | 30.54               | 39.76                | 0.768 <sup>1</sup> ✓            |
| T13         | 1267 - 1259.5     | 1 1/2" solid                          | 10.61   | 10.14                | 324.3 | 1.7672               | 32.22               | 57.26                | 0.563 <sup>1</sup> ✓            |
| T14         | 1259.5 - 1252     | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 10.61   | 5.07                 | 82.6  | 2.3175               | 5.42                | 100.81               | 0.054 <sup>1</sup> ✓            |
| T15         | 1252 - 1235.63    | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 11.54   | 5.69                 | 97.3  | 2.3175               | 19.38               | 100.81               | 0.192 <sup>1</sup> ✓            |
| T16         | 1235.63 - 1228.81 | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 12.10   | 5.55                 | 94.9  | 2.3175               | 10.95               | 100.81               | 0.109 <sup>1</sup> ✓            |
| T17         | 1228.81 - 1222    | 1 1/2" solid                          | 12.10   | 11.65                | 372.7 | 1.7672               | 39.50               | 57.26                | 0.690 <sup>1</sup> ✓            |
| T18         | 1222 - 1214.5     | 1 1/4" solid                          | 12.50   | 12.02                | 461.5 | 1.2272               | 40.85               | 39.76                | 1.027 <sup>1</sup> ✗            |
| T19         | 1214.5 - 1207     | 4.8.1 (1.03 CR) - 359<br>1 1/4" solid | 12.50   | 12.01                | 461.0 | 1.2272               | 31.77               | 39.76                | 0.799 <sup>1</sup> ✓            |
| T20         | 1207 - 1199.5     | 1 1/2" solid                          | 12.50   | 12.01                | 384.2 | 1.7672               | 32.07               | 57.26                | 0.560 <sup>1</sup> ✓            |
| T21         | 1199.5 - 1192     | 1 1/4" solid                          | 12.50   | 12.01                | 461.0 | 1.2272               | 28.86               | 39.76                | 0.726 <sup>1</sup> ✓            |
| T22         | 1192 - 1162       | 1 1/4" solid                          | 12.50   | 12.03                | 462.0 | 1.2272               | 27.12               | 39.76                | 0.682 <sup>1</sup> ✓            |
| T23         | 1162 - 1154.5     | 1 1/4" solid                          | 12.50   | 12.03                | 462.0 | 1.2272               | 15.53               | 39.76                | 0.391 <sup>1</sup> ✓            |
| T24         | 1154.5 - 1139.5   | 1" solid                              | 12.50   | 12.03                | 577.5 | 0.7854               | 11.45               | 25.45                | 0.450 <sup>1</sup> ✓            |
| T25         | 1139.5 - 1132     | 7/8" solid                            | 12.50   | 12.03                | 660.0 | 0.6013               | 6.35                | 19.48                | 0.326 <sup>1</sup> ✓            |
| T26         | 1132 - 1109.5     | 7/8" solid                            | 12.50   | 12.03                | 660.0 | 0.6013               | 14.69               | 19.48                | 0.754 <sup>1</sup> ✓            |
| T27         | 1109.5 - 1102     | 7/8" solid                            | 12.50   | 12.03                | 660.0 | 0.6013               | 18.42               | 19.48                | 0.946 <sup>1</sup> ✓            |
| T28         | 1102 - 1072       | 7/8" solid                            | 12.50   | 12.03                | 660.0 | 0.6013               | 29.64               | 19.48                | 1.521 <sup>1</sup> ✗            |
| T29         | 1072 - 1064.5     | 4.8.1 (1.52 CR) - 571<br>7/8" solid   | 12.50   | 12.03                | 660.0 | 0.6013               | 32.25               | 19.48                | 1.655 <sup>1</sup> ✗            |
| T30         | 1064.5 - 1057     | 4.8.1 (1.66 CR) - 622<br>1" solid     | 12.50   | 12.03                | 577.5 | 0.7854               | 33.99               | 25.45                | 1.336 <sup>1</sup> ✗            |
| T31         | 1057 - 1049.5     | bolt (1.37 CR) - 637<br>1 1/4" solid  | 12.50   | 12.03                | 462.0 | 1.2272               | 36.06               | 39.76                | 0.907 <sup>1</sup> ✓            |
| T32         | 1049.5 - 1042     | 1 1/4" solid                          | 12.50   | 12.03                | 462.0 | 1.2272               | 36.05               | 39.76                | 0.907 <sup>1</sup> ✓            |
| T33         | 1042 - 1034.5     | 2L 3 x 2 x 3/8 LLH (3/8)              | 9.01    | 8.05                 | 184.6 | 2.0400               | 29.03               | 88.74                | 0.327 <sup>1</sup> ✓            |
| T34         | 1034.5 - 1019.5   | 1 1/2" solid                          | 12.50   | 11.93                | 381.7 | 1.7672               | 47.43               | 57.26                | 0.828 <sup>1</sup> ✓            |
| T35         | 1019.5 - 1012     | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 12.50   | 5.68                 | 97.2  | 2.3175               | 12.83               | 100.81               | 0.127 <sup>1</sup> ✓            |
| T36         | 1012 - 1004.5     | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 12.50   | 5.96                 | 97.2  | 2.3175               | 22.45               | 100.81               | 0.223 <sup>1</sup> ✓            |
| T37         | 1004.5 - 997      | 2L 3 x 2.5 x 3/8 LLH (3/8)            | 12.50   | 5.96                 | 97.2  | 2.3175               | 1.82                | 100.81               | 0.018 <sup>1</sup> ✓            |
| T38         | 997 - 989.5       | 1 1/2" solid                          | 12.50   | 11.93                | 381.7 | 1.7672               | 32.12               | 57.26                | 0.561 <sup>1</sup> ✓            |
| T39         | 989.5 - 982       | 1 1/4" solid                          | 12.50   | 11.93                | 458.0 | 1.2272               | 31.72               | 39.76                | 0.798 <sup>1</sup> ✓            |

| Section No. | Elevation<br>ft | Size                                   | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T40         | 982 - 952       | 1 1/4" solid                           | 12.50   | 11.93                | 458.0 | 1.2272               | 29.86               | 39.76                | 0.751 <sup>1</sup>              |
| T41         | 952 - 937       | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 20.65               | 25.45                | 0.811 <sup>1</sup>              |
| T42         | 937 - 929.5     | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 15.42               | 25.45                | 0.606 <sup>1</sup>              |
| T43         | 929.5 - 922     | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 12.65               | 25.45                | 0.497 <sup>1</sup>              |
| T44         | 922 - 907       | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 9.81                | 25.45                | 0.386 <sup>1</sup>              |
| T45         | 907 - 892       | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 13.93               | 25.45                | 0.548 <sup>1</sup>              |
| T46         | 892 - 862       | 1" solid                               | 12.50   | 11.95                | 573.8 | 0.7854               | 25.16               | 25.45                | 0.989 <sup>1</sup>              |
| T47         | 862 - 847       | 7/8" solid                             | 12.50   | 11.93                | 654.3 | 0.6013               | 30.24               | 19.48                | 1.552 <sup>1</sup>              |
| T48         | 847 - 832       | 4.8.1 (1.55 CR) - 980<br>1 1/4" solid  | 12.50   | 11.93                | 458.0 | 1.2272               | 33.46               | 39.76                | 0.842 <sup>1</sup>              |
| T49         | 832 - 809.5     | 1 1/4" solid                           | 12.50   | 11.90                | 457.0 | 1.2272               | 40.87               | 39.76                | 1.028 <sup>1</sup>              |
| T50         | 809.5 - 802     | 4.8.1 (1.03 CR) - 1033<br>1 1/4" solid | 12.50   | 11.90                | 457.0 | 1.2272               | 44.37               | 39.76                | 1.116 <sup>1</sup>              |
| T51         | 802 - 794.5     | 4.8.1 (1.12 CR) - 1063<br>1 1/4" solid | 12.50   | 11.89                | 456.5 | 1.2272               | 40.09               | 39.76                | 1.008 <sup>1</sup>              |
| T52         | 794.5 - 787     | 4.8.1 (1.01 CR) - 1078<br>1 1/4" solid | 12.50   | 11.88                | 456.0 | 1.2272               | 25.77               | 39.76                | 0.648 <sup>1</sup>              |
| T53         | 787 - 772       | 1 1/4" solid                           | 12.50   | 11.88                | 456.0 | 1.2272               | 29.77               | 39.76                | 0.749 <sup>1</sup>              |
| T54         | 772 - 742       | 1 1/4" solid                           | 12.50   | 11.90                | 457.0 | 1.2272               | 23.89               | 39.76                | 0.601 <sup>1</sup>              |
| T55         | 742 - 719.5     | 7/8" solid                             | 12.50   | 11.93                | 654.3 | 0.6013               | 14.34               | 19.48                | 0.736 <sup>1</sup>              |
| T56         | 719.5 - 712     | 7/8" solid                             | 12.50   | 11.93                | 654.3 | 0.6013               | 8.39                | 19.48                | 0.431 <sup>1</sup>              |
| T57         | 712 - 682       | 7/8" solid                             | 12.50   | 11.93                | 654.3 | 0.6013               | 9.06                | 19.48                | 0.465 <sup>1</sup>              |
| T58         | 682 - 652       | 7/8" solid                             | 12.50   | 11.93                | 654.3 | 0.6013               | 19.45               | 19.48                | 0.998 <sup>1</sup>              |
| T59         | 652 - 637       | 7/8" solid                             | 12.50   | 11.90                | 652.9 | 0.6013               | 23.51               | 19.48                | 1.207 <sup>1</sup>              |
| T60         | 637 - 629.5     | 4.8.1 (1.21 CR) - 1288<br>1" solid     | 12.50   | 11.90                | 571.3 | 0.7854               | 26.02               | 25.45                | 1.023 <sup>1</sup>              |
| T61         | 629.5 - 622     | bolt (1.05 CR) - 1309<br>1" solid      | 12.50   | 11.90                | 571.3 | 0.7854               | 27.51               | 25.45                | 1.081 <sup>1</sup>              |
| T62         | 622 - 607       | bolt (1.11 CR) - 1321<br>1" solid      | 12.50   | 11.85                | 568.8 | 0.7854               | 30.53               | 25.45                | 1.200 <sup>1</sup>              |
| T63         | 607 - 592       | 4.8.1 (1.20 CR) - 1333<br>1 1/4" solid | 12.50   | 11.85                | 455.0 | 1.2272               | 34.40               | 39.76                | 0.865 <sup>1</sup>              |
| T64         | 592 - 584.5     | 1 1/4" solid                           | 12.50   | 11.85                | 455.0 | 1.2272               | 30.05               | 39.76                | 0.756 <sup>1</sup>              |
| T65         | 584.5 - 577     | 1 1/2" solid                           | 12.50   | 11.85                | 379.2 | 1.7672               | 27.20               | 57.26                | 0.475 <sup>1</sup>              |
| T66         | 577 - 562       | 1 1/4" solid                           | 12.50   | 11.85                | 455.0 | 1.2272               | 31.47               | 39.76                | 0.792 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                                   | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T67         | 562 - 532       | 1 1/4" solid                           | 12.50   | 11.88                | 456.0 | 1.2272               | 27.49               | 39.76                | 0.691 <sup>1</sup>              |
| T68         | 532 - 517       | 7/8" solid                             | 12.50   | 11.90                | 652.9 | 0.6013               | 21.86               | 19.48                | 1.122 <sup>1</sup><br>X         |
| T69         | 517 - 502       | 4.8.1 (1.12 CR) - 1459<br>7/8" solid   | 12.50   | 11.90                | 652.9 | 0.6013               | 19.49               | 19.48                | 1.000 <sup>1</sup><br>X         |
| T70         | 502 - 472       | 4.8.1 (1.00 CR) - 1489<br>7/8" solid   | 12.50   | 11.90                | 652.9 | 0.6013               | 15.32               | 19.48                | 0.786 <sup>1</sup>              |
| T71         | 472 - 442       | 7/8" solid                             | 12.50   | 11.90                | 652.9 | 0.6013               | 18.81               | 19.48                | 0.966 <sup>1</sup>              |
| T72         | 442 - 427       | 7/8" solid                             | 12.50   | 11.90                | 652.9 | 0.6013               | 23.96               | 19.48                | 1.230 <sup>1</sup><br>X         |
| T73         | 427 - 412       | 4.8.1 (1.23 CR) - 1604<br>7/8" solid   | 12.50   | 11.90                | 652.9 | 0.6013               | 29.15               | 19.48                | 1.496 <sup>1</sup><br>X         |
| T74         | 412 - 404.5     | 4.8.1 (1.50 CR) - 1625<br>7/8" solid   | 12.50   | 11.88                | 651.4 | 0.6013               | 31.69               | 19.48                | 1.627 <sup>1</sup><br>X         |
| T75         | 404.5 - 397     | 4.8.1 (1.63 CR) - 1646<br>7/8" solid   | 12.50   | 11.85                | 650.0 | 0.6013               | 30.51               | 19.48                | 1.566 <sup>1</sup><br>X         |
| T76         | 397 - 389.5     | 4.8.1 (1.57 CR) - 1658<br>1 1/4" solid | 12.50   | 11.85                | 455.0 | 1.2272               | 33.27               | 39.76                | 0.837 <sup>1</sup>              |
| T77         | 389.5 - 382     | 1 1/2" solid                           | 12.50   | 11.85                | 379.2 | 1.7672               | 26.72               | 57.26                | 0.467 <sup>1</sup>              |
| T78         | 382 - 374.5     | 1 1/2" solid                           | 12.50   | 11.85                | 379.2 | 1.7672               | 35.97               | 57.26                | 0.628 <sup>1</sup>              |
| T79         | 374.5 - 352     | 1 1/2" solid                           | 12.50   | 11.85                | 379.2 | 1.7672               | 40.06               | 57.26                | 0.700 <sup>1</sup>              |
| T80         | 352 - 329.5     | 1 1/4" solid                           | 12.50   | 11.85                | 455.0 | 1.2272               | 35.44               | 39.76                | 0.891 <sup>1</sup>              |
| T81         | 329.5 - 322     | 1 1/4" solid                           | 12.50   | 11.85                | 455.0 | 1.2272               | 30.68               | 39.76                | 0.772 <sup>1</sup>              |
| T82         | 322 - 307       | 1 1/4" solid                           | 12.50   | 11.85                | 455.0 | 1.2272               | 28.48               | 39.76                | 0.716 <sup>1</sup>              |
| T83         | 307 - 292       | 1" solid                               | 12.50   | 11.85                | 568.8 | 0.7854               | 24.89               | 25.45                | 0.978 <sup>1</sup>              |
| T84         | 292 - 277       | 7/8" solid                             | 12.50   | 11.85                | 650.0 | 0.6013               | 22.33               | 19.48                | 1.146 <sup>1</sup><br>X         |
| T85         | 277 - 262       | 4.8.1 (1.15 CR) - 1827<br>7/8" solid   | 12.50   | 11.85                | 650.0 | 0.6013               | 15.85               | 19.48                | 0.813 <sup>1</sup>              |
| T86         | 262 - 247       | 7/8" solid                             | 12.50   | 11.85                | 650.0 | 0.6013               | 13.23               | 19.48                | 0.679 <sup>1</sup>              |
| T87         | 247 - 232       | 1" solid                               | 12.50   | 11.85                | 568.8 | 0.7854               | 20.51               | 25.45                | 0.806 <sup>1</sup>              |
| T88         | 232 - 217       | 1" solid                               | 12.50   | 11.85                | 568.8 | 0.7854               | 27.17               | 25.45                | 1.068 <sup>1</sup><br>X         |
| T89         | 217 - 209.5     | bolt (1.09 CR) - 1905<br>1" solid      | 12.50   | 11.85                | 568.8 | 0.7854               | 31.59               | 25.45                | 1.241 <sup>1</sup><br>X         |
| T90         | 209.5 - 202     | 4.8.1 (1.24 CR) - 1927<br>1 1/4" solid | 12.50   | 11.85                | 455.0 | 1.2272               | 34.50               | 39.76                | 0.868 <sup>1</sup>              |
| T91         | 202 - 194.5     | 1 1/2" solid                           | 12.50   | 11.84                | 378.8 | 1.7672               | 31.56               | 57.26                | 0.551 <sup>1</sup>              |
| T97         | 142 - 112       | 1 1/2" solid                           | 12.50   | 11.77                | 376.7 | 1.7672               | 15.25               | 57.26                | 0.266 <sup>1</sup>              |
| T98         | 112 - 97        | 1 1/4" solid                           | 12.50   | 11.77                | 452.0 | 1.2272               | 9.33                | 39.76                | 0.235 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size  | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|---|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T99         | 97 - 89.5       | 1" solid  | 12.50   | 11.77                | 565.0 | 0.7854               | 12.45               | 25.45                | 0.489 <sup>1</sup>              |
| T100        | 89.5 - 82       | 1" solid  | 12.50   | 11.77                | 565.0 | 0.7854               | 15.95               | 25.45                | 0.627 <sup>1</sup>              |
| T101        | 82 - 74.5       | 1" solid  | 12.50   | 11.77                | 565.0 | 0.7854               | 20.27               | 25.45                | 0.797 <sup>1</sup>              |
| T102        | 74.5 - 59.5     | 7/8" solid  | 12.50   | 11.77                | 645.7 | 0.6013               | 26.13               | 19.48                | 1.341 <sup>1</sup>              |
| T103        | 59.5 - 52       | bolt (1.64 CR) - 2137<br>7/8" solid                 | 12.50   | 11.77                | 645.7 | 0.6013               | 23.17               | 19.48                | 1.189 <sup>1</sup>              |
| T104        | 52 - 41         | bolt (1.46 CR) - 2158<br>2L 3 x 2.5 x 3/8 LLH (3/8) | 12.08   | 10.86                | 186.3 | 2.3175               | 23.15               | 100.81               | 0.230 <sup>1</sup>              |
| T105        | 41 - 30         | 2L 3 x 2.5 x 3/8 LLH (3/8)                          | 12.08   | 10.86                | 186.3 | 2.3175               | 21.11               | 100.81               | 0.209 <sup>1</sup>              |
| T106        | 30 - 23.6       | 2L 3 x 2.5 x 3/8 LLH (3/8)                          | 8.06    | 7.05                 | 124.2 | 2.3175               | 17.09               | 100.81               | 0.169 <sup>1</sup>              |
| T107        | 23.6 - 18.1     | 2L 3 x 2.5 x 3/8 LLH (3/8)                          | 6.74    | 5.77                 | 102.5 | 2.3878               | 0.45                | 103.87               | 0.004 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Horizontal Design Data (Tension)

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 1432 - 1424.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 5.15                 | 58.3  | 2.6728               | 0.91                | 116.27               | 0.008 <sup>1</sup>              |
| T2          | 1424.5 - 1409.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 6.71                 | 78.4  | 2.6728               | 5.08                | 116.27               | 0.044 <sup>1</sup>              |
| T4          | 1402 - 1394.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 5.15                 | 58.3  | 2.6728               | 5.64                | 116.27               | 0.048 <sup>1</sup>              |
| T6          | 1387 - 1372     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 7.17                 | 78.2  | 2.6728               | 7.33                | 116.27               | 0.063 <sup>1</sup>              |
| T7          | 1372 - 1342     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.17                 | 111.8 | 1.5037               | 7.96                | 65.41                | 0.122 <sup>1</sup>              |
| T8          | 1342 - 1312     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.17                 | 111.8 | 1.5037               | 7.95                | 65.41                | 0.122 <sup>1</sup>              |
| T9          | 1312 - 1289.5   | 2L 2.5 x 2.5 x 1/4 (3/8)     | 7.50    | 7.19                 | 112.2 | 1.5037               | 7.46                | 65.41                | 0.114 <sup>1</sup>              |
| T15         | 1252 - 1235.63  | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 8.75    | 7.85                 | 91.4  | 2.6728               | 24.14               | 116.27               | 0.208 <sup>1</sup>              |
| T22         | 1192 - 1162     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 126.0 | 2.1806               | 9.28                | 94.86                | 0.098 <sup>1</sup>              |
| T24         | 1154.5 - 1139.5 | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 126.0 | 2.1806               | 9.57                | 94.86                | 0.101 <sup>1</sup>              |
| T26         | 1132 - 1109.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 129.6 | 1.5037               | 9.65                | 65.41                | 0.148 <sup>1</sup>              |
| T28         | 1102 - 1072     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.63                 | 150.2 | 1.5037               | 9.33                | 65.41                | 0.143 <sup>1</sup>              |
| T33         | 1042 - 1034.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 6.99                 | 78.0  | 2.7431               | 9.71                | 119.33               | 0.081 <sup>1</sup>              |
| T34         | 1034.5 - 1019.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.09                 | 104.1 | 2.7431               | 11.48               | 119.33               | 0.096 <sup>1</sup>              |
| T40         | 982 - 952       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 124.9 | 2.1806               | 11.72               | 94.86                | 0.124 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T41         | 952 - 937       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 128.8 | 1.5037               | 10.77               | 65.41                | 0.165 <sup>1</sup>              |
| T44         | 922 - 907       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.56                 | 128.8 | 1.5037               | 10.93               | 65.41                | 0.167 <sup>1</sup>              |
| T45         | 907 - 892       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2 | 1.5037               | 10.88               | 65.41                | 0.166 <sup>1</sup>              |
| T46         | 892 - 862       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2 | 1.5037               | 11.00               | 65.41                | 0.168 <sup>1</sup>              |
| T47         | 862 - 847       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.54                 | 121.2 | 1.6912               | 12.09               | 73.57                | 0.164 <sup>1</sup>              |
| T48         | 847 - 832       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.54                 | 121.2 | 1.6912               | 13.34               | 73.57                | 0.181 <sup>1</sup>              |
| T49         | 832 - 809.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 124.6 | 2.1806               | 15.52               | 94.86                | 0.164 <sup>1</sup>              |
| T53         | 787 - 772       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.05                 | 124.3 | 2.1806               | 16.96               | 94.86                | 0.179 <sup>1</sup>              |
| T54         | 772 - 742       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 124.6 | 2.1806               | 16.34               | 94.86                | 0.172 <sup>1</sup>              |
| T55         | 742 - 719.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.09                 | 124.9 | 2.1806               | 15.48               | 94.86                | 0.163 <sup>1</sup>              |
| T57         | 712 - 682       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 148.9 | 1.5037               | 15.33               | 65.41                | 0.234 <sup>1</sup>              |
| T58         | 682 - 652       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 148.9 | 1.5037               | 16.17               | 65.41                | 0.247 <sup>1</sup>              |
| T59         | 652 - 637       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.07                 | 148.6 | 1.5037               | 16.75               | 65.41                | 0.256 <sup>1</sup>              |
| T62         | 622 - 607       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.05                 | 127.7 | 1.5037               | 18.17               | 65.41                | 0.278 <sup>1</sup>              |
| T63         | 607 - 592       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 124.0 | 2.1806               | 19.02               | 94.86                | 0.201 <sup>1</sup>              |
| T66         | 577 - 562       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.91                 | 103.4 | 2.6025               | 19.05               | 113.21               | 0.168 <sup>1</sup>              |
| T67         | 562 - 532       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.05                 | 124.3 | 2.1806               | 18.01               | 94.86                | 0.190 <sup>1</sup>              |
| T68         | 532 - 517       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 124.6 | 2.1806               | 16.23               | 94.86                | 0.171 <sup>1</sup>              |
| T69         | 517 - 502       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.07                 | 124.6 | 2.1806               | 15.43               | 94.86                | 0.163 <sup>1</sup>              |
| T70         | 502 - 472       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.52                 | 148.6 | 1.5037               | 14.78               | 65.41                | 0.226 <sup>1</sup>              |
| T71         | 472 - 442       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.52                 | 148.6 | 1.5037               | 14.50               | 65.41                | 0.222 <sup>1</sup>              |
| T72         | 442 - 427       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.07                 | 148.6 | 1.5037               | 14.99               | 65.41                | 0.229 <sup>1</sup>              |
| T73         | 427 - 412       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 128.2 | 1.5037               | 15.63               | 65.41                | 0.239 <sup>1</sup>              |
| T79         | 374.5 - 352     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.98                 | 103.4 | 2.6728               | 16.55               | 116.27               | 0.142 <sup>1</sup>              |
| T80         | 352 - 329.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.00                 | 124.0 | 2.1103               | 15.51               | 91.80                | 0.169 <sup>1</sup>              |
| T82         | 322 - 307       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 124.0 | 2.1806               | 16.32               | 94.86                | 0.172 <sup>1</sup>              |
| T83         | 307 - 292       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.03                 | 124.0 | 2.1806               | 16.77               | 94.86                | 0.177 <sup>1</sup>              |
| T84         | 292 - 277       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.05                 | 127.7 | 1.5037               | 17.11               | 65.41                | 0.262 <sup>1</sup>              |
| T85         | 277 - 262       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.03                 | 147.9 | 1.5037               | 17.32               | 65.41                | 0.265 <sup>1</sup>              |
| T86         | 262 - 247       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.03                 | 147.9 | 1.5037               | 17.31               | 65.41                | 0.265 <sup>1</sup>              |



| Section No. | Elevation<br>ft | Size   | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T87         | 247 - 232       | 2L 2.5 x 2.5 x 1/4 (3/8)                               | 10.00   | 9.03                 | 147.9 | 1.5037               | 17.09               | 65.41                | 0.261 <sup>1</sup>              |
| T88         | 232 - 217       | 2L 2.5 x 2.5 x 1/4 (3/8)                               | 10.00   | 9.03                 | 147.9 | 1.5037               | 16.71               | 65.41                | 0.256 <sup>1</sup>              |
| T95         | 172 - 149.5     | 2L 4 x 3 x 3/8 LLV (3/8)                               | 10.00   | 8.91                 | 90.1  | 3.1650               | 36.38               | 137.68               | 0.264 <sup>1</sup>              |
| T97         | 142 - 112       | 2L 3.5 x 2.5 x 3/8 LLV (3/8)                           | 10.00   | 8.94                 | 102.7 | 2.6728               | 18.37               | 116.27               | 0.158 <sup>1</sup>              |
| T98         | 112 - 97        | 2L 3 x 2 x 3/8 LLV (3/8)                               | 10.00   | 8.97                 | 123.2 | 2.1806               | 18.57               | 94.86                | 0.196 <sup>1</sup>              |
| T102        | 74.5 - 59.5     | 2L 2.5 x 2.5 x 1/4 (3/8)                               | 10.00   | 8.97                 | 146.9 | 1.5037               | 18.29               | 65.41                | 0.280 <sup>1</sup>              |
| T104        | 52 - 41         | 2L 3 x 2 x 1/4 LLV (3/8)                               | 10.00   | 6.84                 | 95.1  | 1.5037               | 17.80               | 65.41                | 0.272 <sup>1</sup>              |
| T105        | 41 - 30         | 2L 3 x 2 x 1/4 LLV (3/8)                               | 10.00   | 6.87                 | 95.5  | 1.5037               | 17.58               | 65.41                | 0.269 <sup>1</sup>              |
| T106        | 30 - 23.6       | 2L 3 x 2 x 1/4 LLV (3/8)                               | 10.00   | 6.87                 | 95.5  | 1.5037               | 17.29               | 65.41                | 0.264 <sup>1</sup>              |
| T108        | 18.1 - 0        | 2L 'a' > 30.1854 in - 2195<br>2L 3 x 2 x 3/8 LLV (3/8) | 5.11    | 4.07                 | 60.1  | 2.1103               | 59.62               | 91.80                | 0.649 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Secondary Horizontal Design Data (Tension)

| Section No. | Elevation<br>ft | Size                     | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T6          | 1387 - 1372     | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.17                 | 111.8 | 1.5037               | 7.33                | 65.41                | 0.112 <sup>1</sup>              |
| T7          | 1372 - 1342     | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.17                 | 111.8 | 1.5037               | 7.96                | 65.41                | 0.122 <sup>1</sup>              |
| T8          | 1342 - 1312     | L 2.5 x 2.5 x 1/4        | 7.50    | 7.17                 | 111.8 | 0.7519               | 7.95                | 32.71                | 0.243 <sup>1</sup>              |
| T9          | 1312 - 1289.5   | 2L 2.5 x 2.5 x 1/4 (3/8) | 7.50    | 7.19                 | 112.2 | 1.5037               | 7.46                | 65.41                | 0.114 <sup>1</sup>              |
| T10         | 1289.5 - 1282   | L 2.5 x 2.5 x 1/4        | 7.50    | 7.19                 | 112.2 | 0.7519               | 6.57                | 32.71                | 0.201 <sup>1</sup>              |
| T14         | 1259.5 - 1252   | L 2.5 x 2.5 x 1/4        | 7.50    | 3.58                 | 111.8 | 0.7519               | 4.88                | 32.71                | 0.149 <sup>1</sup>              |
| T22         | 1192 - 1162     | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.28                | 32.71                | 0.284 <sup>1</sup>              |
| T23         | 1162 - 1154.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.41                | 32.71                | 0.288 <sup>1</sup>              |
| T24         | 1154.5 - 1139.5 | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.57                | 32.71                | 0.293 <sup>1</sup>              |
| T25         | 1139.5 - 1132   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.62                | 32.71                | 0.294 <sup>1</sup>              |
| T26         | 1132 - 1109.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.65                | 32.71                | 0.295 <sup>1</sup>              |
| T27         | 1109.5 - 1102   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.47                | 32.71                | 0.290 <sup>1</sup>              |
| T28         | 1102 - 1072     | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.33                | 32.71                | 0.285 <sup>1</sup>              |
| T29         | 1072 - 1064.5   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 8.40                | 32.71                | 0.257 <sup>1</sup>              |
| T30         | 1064.5 - 1057   | L 2.5 x 2.5 x 1/4        | 10.00   | 9.63                 | 150.2 | 0.7519               | 8.68                | 32.71                | 0.265 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size   | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T31         | 1057 - 1049.5   | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.63                 | 150.2 | 0.7519               | 9.19                | 32.71                | 0.281 <sup>1</sup>              |
| T32         | 1049.5 - 1042   | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.63                 | 150.2 | 1.5037               | 9.69                | 65.41                | 0.148 <sup>1</sup>              |
| T36         | 1012 - 1004.5   | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 4.77                 | 96.5  | 1.5037               | 12.25               | 65.41                | 0.187 <sup>1</sup>              |
| T37         | 1004.5 - 997    | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 4.77                 | 96.5  | 1.5037               | 12.47               | 65.41                | 0.191 <sup>1</sup>              |
| T41         | 952 - 937       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 10.77               | 32.71                | 0.329 <sup>1</sup>              |
| T42         | 937 - 929.5     | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 10.84               | 32.71                | 0.331 <sup>1</sup>              |
| T43         | 929.5 - 922     | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 10.89               | 32.71                | 0.333 <sup>1</sup>              |
| T44         | 922 - 907       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 10.93               | 32.71                | 0.334 <sup>1</sup>              |
| T45         | 907 - 892       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 10.88               | 32.71                | 0.333 <sup>1</sup>              |
| T46         | 892 - 862       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.56                 | 149.2 | 0.7519               | 11.00               | 32.71                | 0.336 <sup>1</sup>              |
| T47         | 862 - 847       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.54                 | 148.9 | 0.7519               | 12.09               | 32.71                | 0.370 <sup>1</sup>              |
| T48         | 847 - 832       | L 2.5 x 2.5 x 1/4                                  | 10.00   | 9.54                 | 148.9 | 0.7519               | 13.34               | 32.71                | 0.408 <sup>1</sup>              |
| T50         | 809.5 - 802     | 4.8.1 (1.10 CR) - 1014<br>2L 2.5 x 2.5 x 1/4 (3/8) | 10.00   | 9.52                 | 148.6 | 1.5037               | 16.32               | 65.41                | 0.249 <sup>1</sup>              |
| T51         | 802 - 794.5     | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.50                 | 148.2 | 1.5037               | 17.04               | 65.41                | 0.260 <sup>1</sup>              |
| T52         | 794.5 - 787     | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.50                 | 148.2 | 1.5037               | 17.21               | 65.41                | 0.263 <sup>1</sup>              |
| T70         | 502 - 472       | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.52                 | 148.6 | 1.5037               | 14.78               | 65.41                | 0.226 <sup>1</sup>              |
| T71         | 472 - 442       | 2L 2.5 x 2.5 x 1/4 (3/8)                           | 10.00   | 9.52                 | 148.6 | 1.5037               | 14.50               | 65.41                | 0.222 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Tension)


| Section No. | Elevation<br>ft   | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-------------------|------------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T2          | 1424.5 - 1409.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 6.71                 | 78.4  | 2.6728               | 54.03               | 116.27               | 0.465 <sup>1</sup>              |
| T5          | 1394.5 - 1387     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 6.69                 | 78.2  | 2.6728               | 0.81                | 116.27               | 0.007 <sup>1</sup>              |
| T14         | 1259.5 - 1252     | 2L 3 x 2 x 3/8 LLV (3/8)     | 7.50    | 7.17                 | 93.8  | 2.1103               | 21.46               | 91.80                | 0.234 <sup>1</sup>              |
| T15         | 1252 - 1235.63    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 7.50    | 6.65                 | 78.2  | 2.6728               | 23.71               | 116.27               | 0.204 <sup>1</sup>              |
| T16         | 1235.63 - 1228.81 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.10                 | 105.0 | 2.6728               | 26.90               | 116.27               | 0.231 <sup>1</sup>              |
| T17         | 1228.81 - 1222    | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.10                 | 105.0 | 2.6728               | 5.56                | 116.27               | 0.048 <sup>1</sup>              |
| T19         | 1214.5 - 1207     | 2C10x20                      | 10.00   | 9.60                 | 125.4 | 8.3226               | 80.79               | 362.03               | 0.223 <sup>1</sup>              |
| T23         | 1162 - 1154.5     | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 126.0 | 2.1806               | 0.32                | 94.86                | 0.003 <sup>1</sup>              |

| Section No. | Elevation<br>ft | Size                         | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------------------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T24         | 1154.5 - 1139.5 | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 9.63                 | 126.0 | 2.1806               | 0.40                | 94.86                | 0.004 <sup>1</sup>              |
| T25         | 1139.5 - 1132   | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 10.00   | 9.63                 | 122.2 | 1.6912               | 0.00                | 73.57                | 0.000 <sup>1</sup>              |
| T29         | 1072 - 1064.5   | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.63                 | 129.6 | 1.5037               | 0.01                | 65.41                | 0.000 <sup>1</sup>              |
| T34         | 1034.5 - 1019.5 | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 104.1 | 2.6728               | 0.49                | 116.27               | 0.004 <sup>1</sup>              |
| T35         | 1019.5 - 1012   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 104.1 | 2.6728               | 12.37               | 116.27               | 0.106 <sup>1</sup>              |
| T36         | 1012 - 1004.5   | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.54                 | 104.1 | 2.6728               | 26.12               | 116.27               | 0.225 <sup>1</sup>              |
| T37         | 1004.5 - 997    | 2C10x20                      | 10.00   | 9.54                 | 124.6 | 8.3226               | 103.12              | 362.03               | 0.285 <sup>1</sup>              |
| T38         | 997 - 989.5     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 9.06                 | 104.1 | 2.6728               | 16.34               | 116.27               | 0.141 <sup>1</sup>              |
| T45         | 907 - 892       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2 | 1.5037               | 0.03                | 65.41                | 0.000 <sup>1</sup>              |
| T46         | 892 - 862       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.56                 | 149.2 | 1.5037               | 0.04                | 65.41                | 0.001 <sup>1</sup>              |
| T52         | 794.5 - 787     | 2C10x20                      | 10.00   | 9.50                 | 124.0 | 8.3226               | 59.61               | 362.03               | 0.165 <sup>1</sup>              |
| T57         | 712 - 682       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.09                 | 148.9 | 1.5037               | 0.38                | 65.41                | 0.006 <sup>1</sup>              |
| T61         | 629.5 - 622     | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.09                 | 128.2 | 1.5037               | 0.02                | 65.41                | 0.000 <sup>1</sup>              |
| T65         | 584.5 - 577     | 2C10x20                      | 10.00   | 9.48                 | 123.7 | 8.3226               | 48.75               | 362.03               | 0.135 <sup>1</sup>              |
| T78         | 382 - 374.5     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.98                 | 103.4 | 2.6728               | 45.38               | 116.27               | 0.390 <sup>1</sup>              |
| T84         | 292 - 277       | 2L 3 x 2 x 1/4 LLV (3/8)     | 10.00   | 9.05                 | 127.7 | 1.5037               | 0.01                | 65.41                | 0.000 <sup>1</sup>              |
| T87         | 247 - 232       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 9.03                 | 147.9 | 1.5037               | 0.33                | 65.41                | 0.005 <sup>1</sup>              |
| T92         | 194.5 - 187     | 2L 4 x 3 x 3/8 LLV (3/8)     | 10.00   | 8.91                 | 90.1  | 3.1650               | 66.39               | 137.68               | 0.482 <sup>1</sup>              |
| T93         | 187 - 179.5     | 2C10x20                      | 10.00   | 9.46                 | 123.5 | 8.3226               | 36.82               | 362.03               | 0.102 <sup>1</sup>              |
| T94         | 179.5 - 172     | 2L 4 x 3 x 3/8 LLV (3/8)     | 10.00   | 8.91                 | 90.1  | 3.1650               | 37.69               | 137.68               | 0.274 <sup>1</sup>              |
| T95         | 172 - 149.5     | 2L 4 x 3 x 3/8 LLV (3/8)     | 10.00   | 8.91                 | 90.1  | 3.1650               | 35.48               | 137.68               | 0.258 <sup>1</sup>              |
| T96         | 149.5 - 142     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.96                 | 103.2 | 2.6728               | 37.43               | 116.27               | 0.322 <sup>1</sup>              |
| T97         | 142 - 112       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 10.00   | 8.98                 | 103.2 | 2.6728               | 20.55               | 116.27               | 0.177 <sup>1</sup>              |
| T98         | 112 - 97        | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 8.97                 | 123.2 | 2.1806               | 0.63                | 94.86                | 0.007 <sup>1</sup>              |
| T99         | 97 - 89.5       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 8.97                 | 123.2 | 2.1806               | 0.43                | 94.86                | 0.005 <sup>1</sup>              |
| T100        | 89.5 - 82       | 2L 3 x 2 x 3/8 LLV (3/8)     | 10.00   | 8.94                 | 123.2 | 2.1103               | 0.64                | 91.80                | 0.007 <sup>1</sup>              |
| T101        | 82 - 74.5       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 8.97                 | 146.9 | 1.5037               | 0.25                | 65.41                | 0.004 <sup>1</sup>              |
| T102        | 74.5 - 59.5     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 10.00   | 8.97                 | 146.9 | 1.5037               | 0.11                | 65.41                | 0.002 <sup>1</sup>              |
| T107        | 23.6 - 18.1     | 2L 5 x 3 x 1/2 LLV (1/2)     | 10.00   | 6.67                 | 65.5  | 4.9688               | 69.53               | 216.14               | 0.322 <sup>1</sup>              |
| T108        | 18.1 - 0        | 2L 3 x 2 x 3/8 LLV (3/8)     | 7.67    | 6.29                 | 93.5  | 2.1103               | 25.03               | 91.80                | 0.273 <sup>1</sup>              |

\* DL controls











<sup>1</sup>  $P_u / \phi P_n$  controls

### Bottom Girt Design Data (Tension)

| Section No. | Elevation<br>ft | Size   | L<br>ft | $L_u$<br>ft | $Kl/r$ | A<br>in <sup>2</sup> | $P_u$<br>K | $\phi P_n$<br>K | Ratio<br>$\frac{P_u}{\phi P_n}$   |
|-------------|-----------------|--------|---------|-------------|--------|----------------------|------------|-----------------|---|
| T106        | 30 - 23.6       | C10x25 | 10.00   | 7.09        | 125.9  | 5.1673               | 66.53      | 224.78          | 0.296 <sup>1</sup><br> |

<sup>1</sup>  $P_u / \phi P_n$  controls

### Section Capacity Table

| Section No. | Elevation<br>ft   | Component Type | Size         | Critical Element | P<br>K  | $\phi P_{allow}$<br>K | %<br>Capacity      | Pass<br>Fail   |
|-------------|-------------------|----------------|--------------|------------------|---------|-----------------------|--------------------|--|
| T1          | 1432 - 1424.5     | Leg            | 3 3/4" solid | 2                | -52.68  | 419.95                | 12.5               | Pass   |
| T2          | 1424.5 - 1409.5   | Leg            | 3 3/4" solid | 15               | -293.03 | 253.35                | 115.7              | Fail    |
| T3          | 1409.5 - 1402     | Leg            | 3 3/4" solid | 36               | -325.44 | 253.35                | 128.5              | Fail    |
| T4          | 1402 - 1394.5     | Leg            | 4" solid     | 48               | -325.45 | 454.37                | 71.6               | Pass   |
| T5          | 1394.5 - 1387     | Leg            | 4" solid     | 60               | -382.37 | 312.76                | 122.3              | Fail    |
| T6          | 1387 - 1372       | Leg            | 4" solid     | 72               | -423.31 | 460.88                | 91.8               | Pass   |
| T7          | 1372 - 1342       | Leg            | 4" solid     | 99               | -459.45 | 462.31                | 96.9 (b)<br>99.4   | Fail   |
| T8          | 1342 - 1312       | Leg            | 4" solid     | 150              | -459.19 | 462.15                | 148.3 (b)<br>99.4  | Fail  |
| T9          | 1312 - 1289.5     | Leg            | 3 3/4" solid | 201              | -430.88 | 398.41                | 153.4 (b)<br>108.1 | Fail  |
| T10         | 1289.5 - 1282     | Leg            | 3 3/4" solid | 239              | -379.05 | 395.37                | 95.9               | Fail  |
| T11         | 1282 - 1274.5     | Leg            | 4" solid     | 254              | -366.47 | 312.76                | 115.1 (b)<br>117.2 | Fail  |
| T12         | 1274.5 - 1267     | Leg            | 4" solid     | 266              | -352.45 | 312.76                | 112.7              | Fail  |
| T13         | 1267 - 1259.5     | Leg            | 4" solid     | 278              | -337.02 | 312.76                | 107.8              | Fail  |
| T14         | 1259.5 - 1252     | Leg            | 4" solid     | 290              | -281.47 | 450.32                | 62.5               | Pass   |
| T15         | 1252 - 1235.63    | Leg            | 4 1/2" solid | 308              | -271.07 | 407.99                | 66.4               | Pass   |
| T16         | 1235.63 - 1228.81 | Leg            | 4 1/2" solid | 329              | -264.90 | 486.46                | 54.5               | Pass   |
| T17         | 1228.81 - 1222    | Leg            | 4 1/2" solid | 340              | -285.52 | 486.46                | 58.7               | Pass   |
| T18         | 1222 - 1214.5     | Leg            | 4 3/4" solid | 350              | -324.52 | 523.95                | 61.9               | Pass   |
| T19         | 1214.5 - 1207     | Leg            | 4 3/4" solid | 364              | -451.56 | 523.95                | 86.2               | Pass   |
| T20         | 1207 - 1199.5     | Leg            | 4 3/4" solid | 375              | -469.25 | 523.95                | 89.6               | Pass   |
| T21         | 1199.5 - 1192     | Leg            | 4 3/4" solid | 387              | -485.43 | 523.95                | 92.6               | Pass   |
| T22         | 1192 - 1162       | Leg            | 4 1/2" solid | 399              | -535.57 | 614.23                | 87.2               | Pass   |
| T23         | 1162 - 1154.5     | Leg            | 4 1/2" solid | 450              | -543.22 | 614.45                | 88.4               | Pass   |
| T24         | 1154.5 - 1139.5   | Leg            | 4 1/2" solid | 464              | -552.40 | 614.67                | 89.9               | Pass   |
| T25         | 1139.5 - 1132     | Leg            | 4 1/2" solid | 491              | -555.37 | 614.69                | 90.3               | Pass   |
| T26         | 1132 - 1109.5     | Leg            | 4 1/2" solid | 506              | -557.23 | 614.66                | 90.7               | Pass   |
| T27         | 1109.5 - 1102     | Leg            | 4 1/2" solid | 545              | -547.01 | 614.01                | 89.1               | Pass   |
| T28         | 1102 - 1072       | Leg            | 4 1/2" solid | 560              | -538.63 | 613.57                | 87.8               | Pass   |
| T29         | 1072 - 1064.5     | Leg            | 4 1/2" solid | 611              | -485.20 | 610.79                | 79.4               | Pass   |
| T30         | 1064.5 - 1057     | Leg            | 4 1/2" solid | 626              | -501.06 | 611.47                | 81.9               | Pass   |
| T31         | 1057 - 1049.5     | Leg            | 4 1/2" solid | 641              | -530.66 | 612.71                | 86.6               | Pass   |
| T32         | 1049.5 - 1042     | Leg            | 4 1/2" solid | 656              | -559.74 | 613.83                | 91.2               | Pass   |
| T33         | 1042 - 1034.5     | Leg            | 5 1/2" solid | 671              | -560.48 | 937.02                | 59.8               | Pass   |
| T34         | 1034.5 - 1019.5   | Leg            | 5 1/2" solid | 683              | -662.96 | 781.60                | 84.8               | Pass   |
| T35         | 1019.5 - 1012     | Leg            | 5 1/2" solid | 704              | -662.18 | 781.60                | 84.7               | Pass   |
| T36         | 1012 - 1004.5     | Leg            | 5 1/2" solid | 716              | -707.18 | 947.41                | 74.6               | Pass   |
| T37         | 1004.5 - 997      | Leg            | 5 1/2" solid | 731              | -720.22 | 935.07                | 77.0               | Pass   |
| T38         | 997 - 989.5       | Leg            | 5 1/2" solid | 746              | -732.61 | 781.60                | 93.7               | Pass   |
| T39         | 989.5 - 982       | Leg            | 5 1/2" solid | 758              | -704.36 | 781.60                | 90.1               | Pass   |
| T40         | 982 - 952         | Leg            | 5 1/2" solid | 770              | -676.65 | 781.60                | 86.6               | Pass   |
| T41         | 952 - 937         | Leg            | 5 1/4" solid | 809              | -621.71 | 838.03                | 74.2               | Pass   |

| Section No. | Elevation ft | Component Type | Size         | Critical Element | P K      | $\phi P_{allow}$ K | % Capacity | Pass Fail |
|-------------|--------------|----------------|--------------|------------------|----------|--------------------|------------|-----------|
| T42         | 937 - 929.5  | Leg            | 5 1/4" solid | 836              | -625.83  | 838.19             | 74.7       | Pass      |
| T43         | 929.5 - 922  | Leg            | 5 1/4" solid | 851              | -628.86  | 838.29             | 75.0       | Pass      |
| T44         | 922 - 907    | Leg            | 5 1/4" solid | 866              | -631.09  | 838.32             | 75.3       | Pass      |
| T45         | 907 - 892    | Leg            | 5 1/4" solid | 893              | -628.10  | 837.80             | 75.0       | Pass      |
| T46         | 892 - 862    | Leg            | 5 1/4" solid | 920              | -634.86  | 837.56             | 75.8       | Pass      |
| T47         | 862 - 847    | Leg            | 5 1/2" solid | 972              | -697.74  | 927.58             | 75.2       | Pass      |
| T48         | 847 - 832    | Leg            | 5 1/2" solid | 999              | -770.43  | 932.70             | 82.6       | Pass      |
| T49         | 832 - 809.5  | Leg            | 5 3/4" solid | 1026             | -895.82  | 877.34             | 102.1      | Fail X    |
| T50         | 809.5 - 802  | Leg            | 5 3/4" solid | 1056             | -942.13  | 1033.38            | 91.2       | Pass      |
| T51         | 802 - 794.5  | Leg            | 6" solid     | 1071             | -983.70  | 1131.37            | 86.9       | Pass      |
| T52         | 794.5 - 787  | Leg            | 6" solid     | 1086             | -993.38  | 1123.69            | 88.4       | Pass      |
| T53         | 787 - 772    | Leg            | 6" solid     | 1101             | -979.08  | 977.89             | 100.1      | Fail X    |
| T54         | 772 - 742    | Leg            | 5 3/4" solid | 1122             | -943.48  | 877.34             | 107.5      | Fail X    |
| T55         | 742 - 719.5  | Leg            | 5 1/2" solid | 1161             | -893.91  | 781.60             | 114.4      | Fail X    |
| T56         | 719.5 - 712  | Leg            | 5 1/2" solid | 1191             | -874.11  | 781.60             | 111.8      | Fail X    |
| T57         | 712 - 682    | Leg            | 5 1/2" solid | 1203             | -885.27  | 781.60             | 113.3      | Fail X    |
| T58         | 682 - 652    | Leg            | 5 1/2" solid | 1242             | -933.66  | 781.60             | 119.5      | Fail X    |
| T59         | 652 - 637    | Leg            | 5 3/4" solid | 1281             | -967.24  | 877.34             | 110.2      | Fail X    |
| T60         | 637 - 629.5  | Leg            | 5 3/4" solid | 1302             | -986.10  | 877.34             | 112.4      | Fail X    |
| T61         | 629.5 - 622  | Leg            | 5 3/4" solid | 1314             | -1005.67 | 877.34             | 114.6      | Fail X    |
| T62         | 622 - 607    | Leg            | 6 1/4" solid | 1326             | -1048.84 | 1083.20            | 96.8       | Pass      |
| T63         | 607 - 592    | Leg            | 6 1/4" solid | 1347             | -1098.35 | 1083.20            | 101.4      | Fail X    |
| T64         | 592 - 584.5  | Leg            | 6 1/4" solid | 1368             | -1118.59 | 1083.20            | 103.3      | Fail X    |
| T65         | 584.5 - 577  | Leg            | 6 1/4" solid | 1380             | -1126.10 | 1083.20            | 104.0      | Fail X    |
| T66         | 577 - 562    | Leg            | 6 1/4" solid | 1392             | -1100.00 | 1083.20            | 101.6      | Fail X    |
| T67         | 562 - 532    | Leg            | 6" solid     | 1413             | -1039.91 | 977.89             | 106.3      | Fail X    |
| T68         | 532 - 517    | Leg            | 5 3/4" solid | 1452             | -936.77  | 877.34             | 106.8      | Fail X    |
| T69         | 517 - 502    | Leg            | 5 3/4" solid | 1473             | -891.00  | 877.34             | 101.6      | Fail X    |
| T70         | 502 - 472    | Leg            | 5 3/4" solid | 1495             | -853.52  | 1014.03            | 84.2       | Pass      |
| T71         | 472 - 442    | Leg            | 5 3/4" solid | 1546             | -837.34  | 1011.62            | 82.8       | Pass      |
| T72         | 442 - 427    | Leg            | 5 3/4" solid | 1597             | -865.69  | 877.34             | 98.7       | Pass      |
| T73         | 427 - 412    | Leg            | 5 3/4" solid | 1618             | -902.36  | 877.34             | 102.9      | Fail X    |
| T74         | 412 - 404.5  | Leg            | 6 1/4" solid | 1639             | -923.93  | 1083.20            | 85.3       | Pass      |
| T75         | 404.5 - 397  | Leg            | 6 1/4" solid | 1651             | -945.25  | 1083.20            | 87.3       | Pass      |
| T76         | 397 - 389.5  | Leg            | 6 1/4" solid | 1663             | -969.29  | 1083.20            | 89.5       | Pass      |
| T77         | 389.5 - 382  | Leg            | 6 1/4" solid | 1675             | -986.77  | 1083.20            | 91.1       | Pass      |
| T78         | 382 - 374.5  | Leg            | 6 1/4" solid | 1687             | -990.69  | 1083.20            | 91.5       | Pass      |
| T79         | 374.5 - 352  | Leg            | 6 1/4" solid | 1699             | -955.49  | 1083.20            | 88.2       | Pass      |
| T80         | 352 - 329.5  | Leg            | 6 1/4" solid | 1729             | -895.34  | 1083.20            | 82.7       | Pass      |
| T81         | 329.5 - 322  | Leg            | 6 1/4" solid | 1759             | -912.17  | 1083.20            | 84.2       | Pass      |
| T82         | 322 - 307    | Leg            | 6 1/4" solid | 1771             | -942.35  | 1083.20            | 87.0       | Pass      |
| T83         | 307 - 292    | Leg            | 6 1/4" solid | 1792             | -968.13  | 1083.20            | 89.4       | Pass      |
| T84         | 292 - 277    | Leg            | 6 1/4" solid | 1813             | -987.77  | 1083.20            | 91.2       | Pass      |
| T85         | 277 - 262    | Leg            | 6 1/4" solid | 1834             | -999.96  | 1083.20            | 92.3       | Pass      |
| T86         | 262 - 247    | Leg            | 6 1/4" solid | 1855             | -999.45  | 1083.20            | 92.3       | Pass      |
| T87         | 247 - 232    | Leg            | 6 1/4" solid | 1876             | -986.79  | 1083.20            | 91.1       | Pass      |
| T88         | 232 - 217    | Leg            | 6 1/4" solid | 1897             | -965.01  | 1083.20            | 89.1       | Pass      |
| T89         | 217 - 209.5  | Leg            | 6 1/4" solid | 1916             | -933.76  | 1083.20            | 86.2       | Pass      |
| T90         | 209.5 - 202  | Leg            | 6 1/4" solid | 1928             | -920.71  | 1083.20            | 85.0       | Pass      |
| T91         | 202 - 194.5  | Leg            | 6 1/2" solid | 1940             | -905.06  | 1193.23            | 75.8       | Pass      |
| T92         | 194.5 - 187  | Leg            | 6 1/2" solid | 1952             | -910.97  | 1193.23            | 76.3       | Pass      |
| T93         | 187 - 179.5  | Leg            | 6 1/2" solid | 1964             | -925.37  | 1193.23            | 77.6       | Pass      |
| T94         | 179.5 - 172  | Leg            | 6 1/2" solid | 1976             | -947.84  | 1193.23            | 79.4       | Pass      |
| T95         | 172 - 149.5  | Leg            | 6 1/2" solid | 1988             | -991.88  | 1193.23            | 83.1       | Pass      |
| T96         | 149.5 - 142  | Leg            | 6 1/2" solid | 2018             | -999.21  | 1193.23            | 83.7       | Pass      |
| T97         | 142 - 112    | Leg            | 7" solid     | 2030             | -1060.70 | 1427.29            | 74.3       | Pass      |
| T98         | 112 - 97     | Leg            | 7" solid     | 2069             | -1072.24 | 1427.29            | 75.1       | Pass      |
| T99         | 97 - 89.5    | Leg            | 7" solid     | 2090             | -1074.22 | 1427.29            | 75.3       | Pass      |
| T100        | 89.5 - 82    | Leg            | 7" solid     | 2102             | -1070.03 | 1427.29            | 75.0       | Pass      |
| T101        | 82 - 74.5    | Leg            | 7" solid     | 2114             | -1064.24 | 1427.29            | 74.6       | Pass      |
| T102        | 74.5 - 59.5  | Leg            | 7" solid     | 2126             | -1055.70 | 1427.29            | 74.0       | Pass      |
| T103        | 59.5 - 52    | Leg            | 7" solid     | 2147             | -1027.63 | 1427.29            | 72.0       | Pass      |
| T104        | 52 - 41      | Leg            | 6 1/2" solid | 2159             | -1015.12 | 1280.01            | 79.3       | Pass      |
| T105        | 41 - 30      | Leg            | 6 1/2" solid | 2171             | -998.13  | 1279.14            | 78.0       | Pass      |
| T106        | 30 - 23.6    | Leg            | 6 1/2" solid | 2183             | -980.19  | 1261.06            | 77.7       | Pass      |

| Section No. | Elevation ft      | Component Type | Size                       | Critical Element | P K      | $\phi P_{allow}$ K | % Capacity | Pass Fail |
|-------------|-------------------|----------------|----------------------------|------------------|----------|--------------------|------------|-----------|
| T107        | 23.6 - 18.1       | Leg            | 6 1/4" solid               | 2198             | -996.17  | 1174.15            | 84.8       | Pass      |
| T108        | 18.1 - 0          | Leg            | 6 1/4" solid               | 2210             | -1004.05 | 1162.80            | 86.3       | Pass      |
| T1          | 1432 - 1424.5     | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8)   | 6                | -7.45    | 37.28              | 20.0       | Pass      |
| T2          | 1424.5 - 1409.5   | Diagonal       | 1" solid                   | 31               | 41.54    | 25.45              | 21.6 (b)   | Fail      |
| T3          | 1409.5 - 1402     | Diagonal       | 7/8" solid                 | 43               | 36.95    | 19.48              | 163.2      | Fail      |
| T4          | 1402 - 1394.5     | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8)   | 55               | -29.35   | 37.44              | 189.7      | Fail      |
| T5          | 1394.5 - 1387     | Diagonal       | 1" solid                   | 67               | 29.85    | 25.45              | 78.4       | Pass      |
| T6          | 1387 - 1372       | Diagonal       | 7/8" solid                 | 91               | 28.56    | 19.48              | 117.3      | Fail      |
| T7          | 1372 - 1342       | Diagonal       | 7/8" solid                 | 142              | 23.43    | 19.48              | 146.6      | Fail      |
| T8          | 1342 - 1312       | Diagonal       | 7/8" solid                 | 157              | 13.97    | 19.48              | 120.3      | Fail      |
| T9          | 1312 - 1289.5     | Diagonal       | 7/8" solid                 | 209              | 22.80    | 19.48              | 71.7       | Pass      |
| T10         | 1289.5 - 1282     | Diagonal       | 7/8" solid                 | 248              | 25.66    | 19.48              | 117.0      | Fail      |
| T11         | 1282 - 1274.5     | Diagonal       | 1" solid                   | 263              | 28.18    | 25.45              | 131.7      | Fail      |
| T12         | 1274.5 - 1267     | Diagonal       | 1 1/4" solid               | 275              | 30.54    | 39.76              | 110.8      | Fail      |
| T13         | 1267 - 1259.5     | Diagonal       | 1 1/2" solid               | 287              | 32.22    | 57.26              | 76.8       | Pass      |
| T14         | 1259.5 - 1252     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 302              | -39.27   | 86.86              | 56.3       | Pass      |
| T15         | 1252 - 1235.63    | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 325              | -36.34   | 79.10              | 45.2       | Pass      |
| T16         | 1235.63 - 1228.81 | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 334              | -26.86   | 80.88              | 45.9       | Pass      |
| T17         | 1228.81 - 1222    | Diagonal       | 1 1/2" solid               | 347              | 39.50    | 57.26              | 33.2       | Pass      |
| T18         | 1222 - 1214.5     | Diagonal       | 1 1/4" solid               | 359              | 40.85    | 39.76              | 69.0       | Pass      |
| T19         | 1214.5 - 1207     | Diagonal       | 1 1/4" solid               | 371              | 31.77    | 39.76              | 81.1 (b)   | Fail      |
| T20         | 1207 - 1199.5     | Diagonal       | 1 1/2" solid               | 383              | 32.07    | 57.26              | 102.7      | Pass      |
| T21         | 1199.5 - 1192     | Diagonal       | 1 1/4" solid               | 396              | 28.86    | 39.76              | 79.9       | Pass      |
| T22         | 1192 - 1162       | Diagonal       | 1 1/4" solid               | 444              | 27.12    | 39.76              | 56.0       | Pass      |
| T23         | 1162 - 1154.5     | Diagonal       | 1 1/4" solid               | 459              | 15.53    | 39.76              | 65.8 (b)   | Pass      |
| T24         | 1154.5 - 1139.5   | Diagonal       | 1" solid                   | 486              | 11.45    | 25.45              | 72.6       | Pass      |
| T25         | 1139.5 - 1132     | Diagonal       | 7/8" solid                 | 498              | 6.35     | 19.48              | 68.2       | Pass      |
| T26         | 1132 - 1109.5     | Diagonal       | 7/8" solid                 | 512              | 14.69    | 19.48              | 39.1       | Pass      |
| T27         | 1109.5 - 1102     | Diagonal       | 7/8" solid                 | 551              | 18.42    | 19.48              | 45.0       | Pass      |
| T28         | 1102 - 1072       | Diagonal       | 7/8" solid                 | 571              | 29.64    | 19.48              | 32.6       | Pass      |
| T29         | 1072 - 1064.5     | Diagonal       | 7/8" solid                 | 622              | 32.25    | 19.48              | 94.6       | Pass      |
| T30         | 1064.5 - 1057     | Diagonal       | 1" solid                   | 637              | 33.99    | 25.45              | 152.1      | Fail      |
| T31         | 1057 - 1049.5     | Diagonal       | 1 1/4" solid               | 652              | 36.06    | 39.76              | 165.5      | Fail      |
| T32         | 1049.5 - 1042     | Diagonal       | 1 1/4" solid               | 666              | 36.05    | 39.76              | 133.6      | Fail      |
| T33         | 1042 - 1034.5     | Diagonal       | 2L 3 x 2 x 3/8 LLH (3/8)   | 679              | -29.51   | 33.73              | 136.8 (b)  | Pass      |
| T34         | 1034.5 - 1019.5   | Diagonal       | 1 1/2" solid               | 691              | 47.43    | 57.26              | 90.7       | Pass      |
| T35         | 1019.5 - 1012     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 712              | -44.47   | 79.25              | 90.7       | Pass      |
| T36         | 1012 - 1004.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 724              | -38.90   | 75.64              | 87.5       | Pass      |
| T37         | 1004.5 - 997      | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8) | 740              | -39.89   | 75.64              | 82.8       | Pass      |
| T38         | 997 - 989.5       | Diagonal       | 1 1/2" solid               | 754              | 32.12    | 57.26              | 56.1       | Pass      |
| T39         | 989.5 - 982       | Diagonal       | 1 1/4" solid               | 766              | 31.72    | 39.76              | 52.7       | Pass      |
| T40         | 982 - 952         | Diagonal       | 1 1/4" solid               | 805              | 29.86    | 39.76              | 56.1       | Pass      |
| T41         | 952 - 937         | Diagonal       | 1" solid                   | 829              | 20.65    | 25.45              | 79.8       | Pass      |
| T42         | 937 - 929.5       | Diagonal       | 1" solid                   | 845              | 15.42    | 25.45              | 75.1       | Pass      |
| T43         | 929.5 - 922       | Diagonal       | 1" solid                   | 860              | 12.65    | 25.45              | 81.1       | Pass      |
| T44         | 922 - 907         | Diagonal       | 1" solid                   | 887              | 9.81     | 25.45              | 60.6       | Pass      |
| T45         | 907 - 892         | Diagonal       | 1" solid                   | 904              | 13.93    | 25.45              | 49.7       | Pass      |
| T46         | 892 - 862         | Diagonal       | 1" solid                   | 929              | 25.16    | 25.45              | 50.9 (b)   | Fail      |
| T47         | 862 - 847         | Diagonal       | 7/8" solid                 | 980              | 30.24    | 19.48              | 38.6       | Pass      |
| T48         | 847 - 832         | Diagonal       | 1 1/4" solid               | 1007             | 33.46    | 39.76              | 39.5 (b)   | Pass      |
| T49         | 832 - 809.5       | Diagonal       | 1 1/4" solid               | 1033             | 40.87    | 39.76              | 54.8       | Pass      |
| T50         | 809.5 - 802       | Diagonal       | 1 1/4" solid               | 1063             | 44.37    | 39.76              | 56.1 (b)   | Fail      |
| T51         | 802 - 794.5       | Diagonal       | 1 1/4" solid               | 1078             | 40.09    | 39.76              | 98.9       | Fail      |
| T52         | 794.5 - 787       | Diagonal       | 1 1/4" solid               | 1094             | 25.77    | 39.76              | 101.2 (b)  | Fail      |
| T53         | 787 - 772         | Diagonal       | 1 1/4" solid               | 1118             | 29.77    | 39.76              | 155.2      | Fail      |
| T54         | 772 - 742         | Diagonal       | 1 1/4" solid               | 1157             | 23.89    | 39.76              | 84.2       | Pass      |



| Section No. | Elevation ft    | Component Type | Size                         | Critical Element | P K    | $\phi P_{allow}$ K | % Capacity                      | Pass Fail                               |
|-------------|-----------------|----------------|------------------------------|------------------|--------|--------------------|---------------------------------|---|
| T55         | 742 - 719.5     | Diagonal       | 7/8" solid                   | 1187             | 14.34  | 19.48              | 73.6                            | Pass                                    |
| T56         | 719.5 - 712     | Diagonal       | 7/8" solid                   | 1198             | 8.39   | 19.48              | 43.1                            | Pass                                    |
| T57         | 712 - 682       | Diagonal       | 7/8" solid                   | 1211             | 9.06   | 19.48              | 46.5                            | Pass                                    |
| T58         | 682 - 652       | Diagonal       | 7/8" solid                   | 1249             | 19.45  | 19.48              | 99.8                            | Pass                                    |
| T59         | 652 - 637       | Diagonal       | 7/8" solid                   | 1288             | 23.51  | 19.48              | 120.7                           | Fail <span style="color: red;">X</span> |
| T60         | 637 - 629.5     | Diagonal       | 1" solid                     | 1309             | 26.02  | 25.45              | 102.3                           | Fail <span style="color: red;">X</span> |
| T61         | 629.5 - 622     | Diagonal       | 1" solid                     | 1321             | 27.51  | 25.45              | 104.7 (b)<br>108.1<br>110.7 (b) | Fail <span style="color: red;">X</span> |
| T62         | 622 - 607       | Diagonal       | 1" solid                     | 1333             | 30.53  | 25.45              | 120.0                           | Fail <span style="color: red;">X</span> |
| T63         | 607 - 592       | Diagonal       | 1 1/4" solid                 | 1354             | 34.40  | 39.76              | 86.5                            | Pass                                    |
| T64         | 592 - 584.5     | Diagonal       | 1 1/4" solid                 | 1375             | 30.05  | 39.76              | 96.1 (b)<br>75.6                | Pass                                    |
| T65         | 584.5 - 577     | Diagonal       | 1 1/2" solid                 | 1387             | 27.20  | 57.26              | 47.5                            | Pass                                    |
| T66         | 577 - 562       | Diagonal       | 1 1/4" solid                 | 1409             | 31.47  | 39.76              | 79.2                            | Pass                                    |
| T67         | 562 - 532       | Diagonal       | 1 1/4" solid                 | 1448             | 27.49  | 39.76              | 69.1                            | Pass                                    |
| T68         | 532 - 517       | Diagonal       | 7/8" solid                   | 1459             | 21.86  | 19.48              | 112.2                           | Fail <span style="color: red;">X</span> |
| T69         | 517 - 502       | Diagonal       | 7/8" solid                   | 1489             | 19.49  | 19.48              | 100.0                           | Fail <span style="color: red;">X</span> |
| T70         | 502 - 472       | Diagonal       | 7/8" solid                   | 1540             | 15.32  | 19.48              | 78.6                            | Pass                                    |
| T71         | 472 - 442       | Diagonal       | 7/8" solid                   | 1552             | 18.81  | 19.48              | 96.6                            | Pass                                    |
| T72         | 442 - 427       | Diagonal       | 7/8" solid                   | 1604             | 23.96  | 19.48              | 123.0                           | Fail <span style="color: red;">X</span> |
| T73         | 427 - 412       | Diagonal       | 7/8" solid                   | 1625             | 29.15  | 19.48              | 149.6                           | Fail <span style="color: red;">X</span> |
| T74         | 412 - 404.5     | Diagonal       | 7/8" solid                   | 1646             | 31.69  | 19.48              | 162.7                           | Fail <span style="color: red;">X</span> |
| T75         | 404.5 - 397     | Diagonal       | 7/8" solid                   | 1658             | 30.51  | 19.48              | 156.6                           | Fail <span style="color: red;">X</span> |
| T76         | 397 - 389.5     | Diagonal       | 1 1/4" solid                 | 1670             | 33.27  | 39.76              | 83.7                            | Pass                                    |
| T77         | 389.5 - 382     | Diagonal       | 1 1/2" solid                 | 1682             | 26.72  | 57.26              | 46.7                            | Pass                                    |
| T78         | 382 - 374.5     | Diagonal       | 1 1/2" solid                 | 1692             | 35.97  | 57.26              | 62.8                            | Pass                                    |
| T79         | 374.5 - 352     | Diagonal       | 1 1/2" solid                 | 1722             | 40.06  | 57.26              | 70.0                            | Pass                                    |
| T80         | 352 - 329.5     | Diagonal       | 1 1/4" solid                 | 1752             | 35.44  | 39.76              | 89.1                            | Pass                                    |
| T81         | 329.5 - 322     | Diagonal       | 1 1/4" solid                 | 1764             | 30.68  | 39.76              | 77.2                            | Pass                                    |
| T82         | 322 - 307       | Diagonal       | 1 1/4" solid                 | 1785             | 28.48  | 39.76              | 71.6                            | Pass                                    |
| T83         | 307 - 292       | Diagonal       | 1" solid                     | 1806             | 24.89  | 25.45              | 97.8                            | Pass                                    |
| T84         | 292 - 277       | Diagonal       | 7/8" solid                   | 1827             | 22.33  | 19.48              | 114.6                           | Fail <span style="color: red;">X</span> |
| T85         | 277 - 262       | Diagonal       | 7/8" solid                   | 1848             | 15.85  | 19.48              | 81.3                            | Pass                                    |
| T86         | 262 - 247       | Diagonal       | 7/8" solid                   | 1861             | 13.23  | 19.48              | 67.9                            | Pass                                    |
| T87         | 247 - 232       | Diagonal       | 1" solid                     | 1884             | 20.51  | 25.45              | 80.6                            | Pass                                    |
| T88         | 232 - 217       | Diagonal       | 1" solid                     | 1905             | 27.17  | 25.45              | 82.5 (b)<br>106.8<br>109.3 (b)  | Fail <span style="color: red;">X</span> |
| T89         | 217 - 209.5     | Diagonal       | 1" solid                     | 1927             | 31.59  | 25.45              | 124.1                           | Fail <span style="color: red;">X</span> |
| T90         | 209.5 - 202     | Diagonal       | 1 1/4" solid                 | 1939             | 34.50  | 39.76              | 86.8                            | Pass                                    |
| T91         | 202 - 194.5     | Diagonal       | 1 1/2" solid                 | 1951             | 31.56  | 57.26              | 55.1                            | Pass                                    |
| T92         | 194.5 - 187     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1958             | -36.88 | 79.77              | 46.2                            | Pass                                    |
| T93         | 187 - 179.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1975             | -38.41 | 79.77              | 48.2                            | Pass                                    |
| T94         | 179.5 - 172     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 1987             | -33.23 | 79.77              | 41.7                            | Pass                                    |
| T95         | 172 - 149.5     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2017             | -32.55 | 79.77              | 40.8                            | Pass                                    |
| T96         | 149.5 - 142     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2026             | -30.78 | 79.77              | 38.6                            | Pass                                    |
| T97         | 142 - 112       | Diagonal       | 1 1/2" solid                 | 2066             | 15.25  | 57.26              | 26.6                            | Pass                                    |
| T98         | 112 - 97        | Diagonal       | 1 1/4" solid                 | 2080             | 9.33   | 39.76              | 23.5                            | Pass                                    |
| T99         | 97 - 89.5       | Diagonal       | 1" solid                     | 2101             | 12.45  | 25.45              | 48.9                            | Pass                                    |
| T100        | 89.5 - 82       | Diagonal       | 1" solid                     | 2113             | 15.95  | 25.45              | 62.7                            | Pass                                    |
| T101        | 82 - 74.5       | Diagonal       | 1" solid                     | 2125             | 20.27  | 25.45              | 79.7                            | Pass                                    |
| T102        | 74.5 - 59.5     | Diagonal       | 7/8" solid                   | 2137             | 26.13  | 19.48              | 134.1                           | Fail <span style="color: red;">X</span> |
| T103        | 59.5 - 52       | Diagonal       | 7/8" solid                   | 2158             | 23.17  | 19.48              | 164.3 (b)<br>118.9<br>145.7 (b) | Fail <span style="color: red;">X</span> |
| T104        | 52 - 41         | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2169             | -23.61 | 36.08              | 65.4                            | Pass                                    |
| T105        | 41 - 30         | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2181             | -21.62 | 36.08              | 59.9                            | Pass                                    |
| T106        | 30 - 23.6       | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2196             | -17.45 | 62.10              | 28.1                            | Pass                                    |
| T107        | 23.6 - 18.1     | Diagonal       | 2L 3 x 2.5 x 3/8 LLH (3/8)   | 2208             | -2.16  | 78.12              | 2.8                             | Pass                                    |
| T108        | 18.1 - 0        | Diagonal       | 2L 3 x 3 x 3/8 (5/8)         | 2219             | -75.57 | 117.75             | 3.0 (b)<br>64.2<br>105.6 (b)    | Fail <span style="color: red;">X</span> |
| T1          | 1432 - 1424.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 5                | -0.91  | 106.31             | 0.9                             | Pass                                    |
| T2          | 1424.5 - 1409.5 | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 27               | -29.11 | 94.89              | 1.3 (b)<br>30.7<br>46.5 (b)     | Pass                                    |



| Section No. | Elevation ft    | Component Type | Size                         | Critical Element | P K    | $\phi P_{allow}$ K | % Capacity       | Pass Fail |
|-------------|-----------------|----------------|------------------------------|------------------|--------|--------------------|------------------|-----------|
| T4          | 1402 - 1394.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 53               | -26.77 | 106.31             | 25.2             | Pass      |
| T6          | 1387 - 1372     | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 84               | -19.03 | 91.25              | 37.4 (b)<br>20.9 | Pass      |
| T7          | 1372 - 1342     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 135              | -14.80 | 39.92              | 30.4 (b)<br>37.1 | Pass      |
| T8          | 1342 - 1312     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 162              | -8.35  | 39.92              | 20.9             | Pass      |
| T9          | 1312 - 1289.5   | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 213              | -14.57 | 39.77              | 21.4 (b)<br>36.6 | Pass      |
| T15         | 1252 - 1235.63  | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 322              | 24.14  | 116.27             | 20.8             | Pass      |
| T22         | 1192 - 1162     | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 436              | -19.84 | 42.41              | 33.7 (b)<br>46.8 | Pass      |
| T24         | 1154.5 - 1139.5 | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 476              | -9.57  | 42.41              | 22.6             | Pass      |
| T26         | 1132 - 1109.5   | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 518              | -9.81  | 27.77              | 22.9 (b)<br>35.3 | Pass      |
| T28         | 1102 - 1072     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 574              | -21.04 | 23.83              | 88.3             | Pass      |
| T33         | 1042 - 1034.5   | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 677              | -30.03 | 92.63              | 32.4             | Pass      |
| T34         | 1034.5 - 1019.5 | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 696              | -36.67 | 75.25              | 60.4 (b)<br>48.7 | Pass      |
| T40         | 982 - 952       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 801              | -22.98 | 46.64              | 73.8 (b)<br>49.3 | Pass      |
| T41         | 952 - 937       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 822              | -13.69 | 28.09              | 48.7             | Pass      |
| T44         | 922 - 907       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 878              | -10.93 | 28.09              | 38.9             | Pass      |
| T45         | 907 - 892       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 905              | -10.88 | 24.15              | 45.1             | Pass      |
| T46         | 892 - 862       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 933              | -16.80 | 24.15              | 69.6             | Pass      |
| T47         | 862 - 847       | Horizontal     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 984              | -20.69 | 39.34              | 52.6             | Pass      |
| T48         | 847 - 832       | Horizontal     | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 1011             | -23.37 | 39.34              | 59.4             | Pass      |
| T49         | 832 - 809.5     | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1038             | -32.33 | 46.64              | 69.3             | Pass      |
| T53         | 787 - 772       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1113             | -22.59 | 46.80              | 48.3             | Pass      |
| T54         | 772 - 742       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1152             | -18.08 | 46.64              | 38.8             | Pass      |
| T55         | 742 - 719.5     | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1172             | -15.48 | 46.48              | 39.1 (b)<br>33.3 | Pass      |
| T57         | 712 - 682       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1223             | -15.33 | 30.19              | 37.1 (b)<br>50.8 | Pass      |
| T58         | 682 - 652       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1263             | -16.17 | 30.19              | 53.6             | Pass      |
| T59         | 652 - 637       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1293             | -18.15 | 30.27              | 59.9             | Pass      |
| T62         | 622 - 607       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1338             | -24.16 | 30.82              | 78.4             | Pass      |
| T63         | 607 - 592       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1359             | -27.17 | 46.96              | 57.9             | Pass      |
| T66         | 577 - 562       | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1404             | -24.55 | 76.83              | 31.9             | Pass      |
| T67         | 562 - 532       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1443             | -21.18 | 46.80              | 33.6 (b)<br>45.3 | Pass      |
| T68         | 532 - 517       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1464             | -17.37 | 46.64              | 37.2             | Pass      |
| T69         | 517 - 502       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1484             | -15.43 | 46.64              | 38.9 (b)<br>33.1 | Pass      |
| T70         | 502 - 472       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1506             | -14.78 | 24.36              | 37.0 (b)<br>60.7 | Pass      |
| T71         | 472 - 442       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1557             | -14.50 | 24.36              | 59.5             | Pass      |
| T72         | 442 - 427       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1608             | -18.25 | 30.27              | 60.3             | Pass      |
| T73         | 427 - 412       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1629             | -22.35 | 30.60              | 73.1             | Pass      |
| T79         | 374.5 - 352     | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1718             | -31.39 | 76.22              | 41.2             | Pass      |
| T80         | 352 - 329.5     | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1748             | -28.20 | 47.19              | 50.1 (b)<br>59.8 | Pass      |
| T82         | 322 - 307       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1781             | -22.74 | 46.96              | 48.4             | Pass      |
| T83         | 307 - 292       | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 1802             | -19.94 | 46.96              | 42.5             | Pass      |
| T84         | 292 - 277       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 1823             | -17.46 | 30.82              | 56.6             | Pass      |
| T85         | 277 - 262       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1845             | -17.32 | 30.44              | 56.9             | Pass      |
| T86         | 262 - 247       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1866             | -17.31 | 30.44              | 56.9             | Pass      |
| T87         | 247 - 232       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1887             | -17.09 | 30.44              | 56.1             | Pass      |
| T88         | 232 - 217       | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1909             | -20.92 | 30.44              | 68.7             | Pass      |
| T95         | 172 - 149.5     | Horizontal     | 2L 4 x 3 x 3/8 LLV (3/8)     | 2011             | 36.38  | 137.68             | 26.4             | Pass      |
| T97         | 142 - 112       | Horizontal     | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2051             | -18.37 | 76.57              | 38.3 (b)<br>24.0 | Pass      |
| T98         | 112 - 97        | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 2081             | -18.57 | 47.43              | 27.4 (b)<br>39.2 | Pass      |
| T102        | 74.5 - 59.5     | Horizontal     | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2140             | -20.04 | 30.70              | 44.5 (b)<br>65.3 | Pass      |
| T104        | 52 - 41         | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2168             | -18.64 | 43.12              | 43.2             | Pass      |
| T105        | 41 - 30         | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2174             | -17.58 | 42.95              | 40.9             | Pass      |
| T106        | 30 - 23.6       | Horizontal     | 2L 3 x 2 x 1/4 LLV (3/8)     | 2189             | -17.29 | 38.01              | 45.5             | Pass      |
| T108        | 18.1 - 0        | Horizontal     | 2L 3 x 2 x 3/8 LLV (3/8)     | 2227             | 59.62  | 91.80              | 64.9             | Pass      |
|             |                 |                |                              |                  |        |                    | 83.3 (b)         |           |

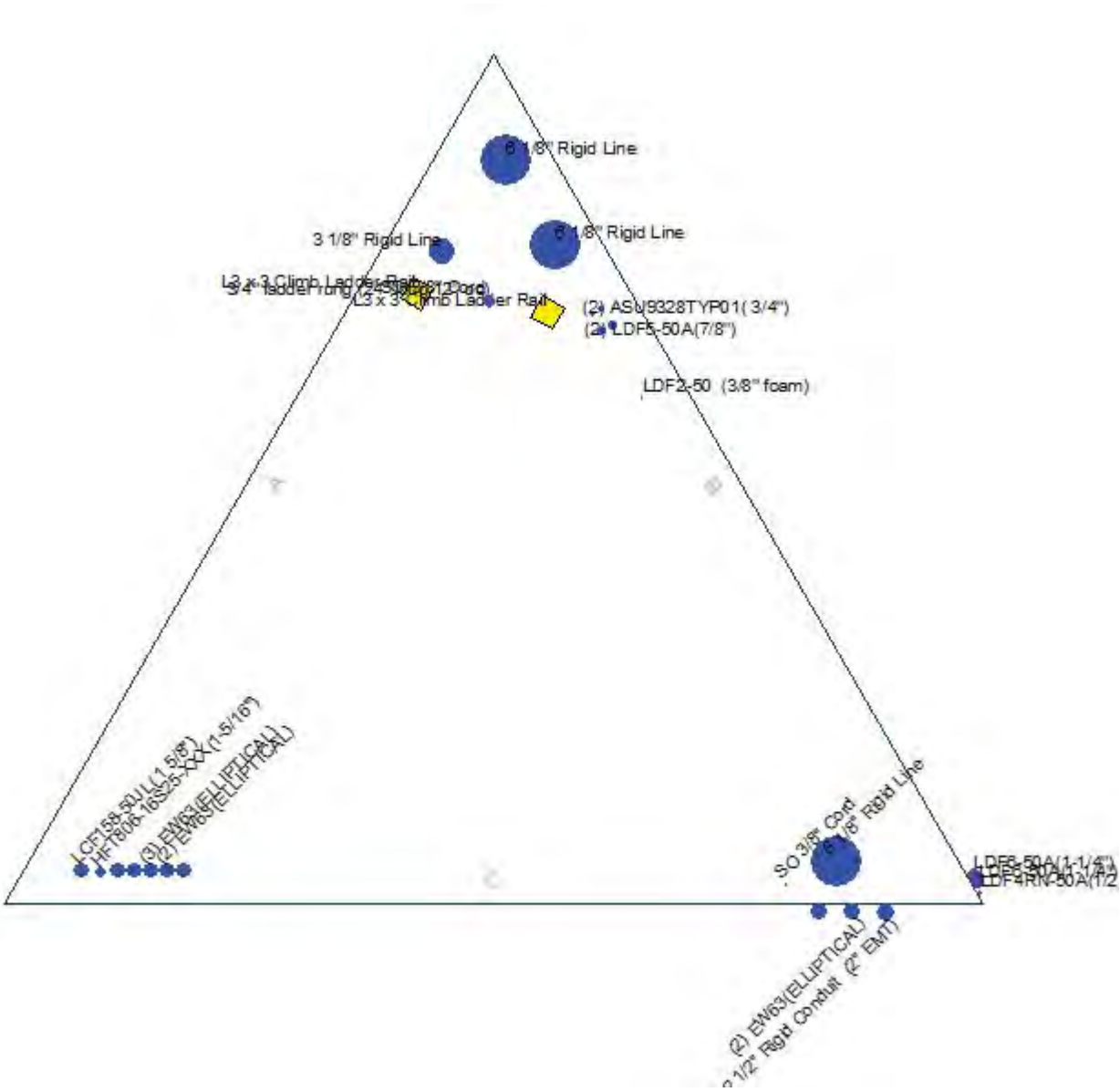
| Section No. | Elevation ft    | Component Type       | Size                         | Critical Element | P K    | $\phi P_{allow} K$ | % Capacity                   | Pass Fail                               |
|-------------|-----------------|----------------------|------------------------------|------------------|--------|--------------------|------------------------------|---|
| T6          | 1387 - 1372     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 86               | -7.33  | 39.92              | 18.4                         | Pass                                    |
| T7          | 1372 - 1342     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 113              | -7.96  | 39.92              | 19.9                         | Pass                                    |
| T8          | 1342 - 1312     | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 176              | -7.95  | 19.96              | 39.8                         | Pass                                    |
| T9          | 1312 - 1289.5   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 215              | -7.46  | 39.77              | 18.8                         | Pass                                    |
| T10         | 1289.5 - 1282   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 251              | -6.57  | 19.88              | 33.0                         | Pass                                    |
| T14         | 1259.5 - 1252   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 305              | -4.88  | 25.75              | 18.9                         | Pass                                    |
| T22         | 1192 - 1162     | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 413              | -9.28  | 11.92              | 23.4 (b)<br>77.8             | Pass                                    |
| T23         | 1162 - 1154.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 461              | -9.41  | 11.92              | 79.0                         | Pass                                    |
| T24         | 1154.5 - 1139.5 | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 488              | -9.57  | 11.92              | 80.3                         | Pass                                    |
| T25         | 1139.5 - 1132   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 503              | -9.62  | 11.92              | 80.7                         | Pass                                    |
| T26         | 1132 - 1109.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 521              | -9.65  | 11.92              | 81.0                         | Pass                                    |
| T27         | 1109.5 - 1102   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 557              | -9.47  | 11.92              | 79.5                         | Pass                                    |
| T28         | 1102 - 1072     | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 589              | -9.33  | 11.92              | 78.3                         | Pass                                    |
| T29         | 1072 - 1064.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 623              | -8.40  | 11.92              | 70.5                         | Pass                                    |
| T30         | 1064.5 - 1057   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 638              | -8.68  | 11.92              | 72.8                         | Pass                                    |
| T31         | 1057 - 1049.5   | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 655              | -9.19  | 11.92              | 77.1                         | Pass                                    |
| T32         | 1049.5 - 1042   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 668              | -9.69  | 23.83              | 40.7                         | Pass                                    |
| T36         | 1012 - 1004.5   | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 728              | -12.25 | 57.60              | 21.3                         | Pass                                    |
| T37         | 1004.5 - 997    | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 743              | -12.47 | 57.60              | 29.4 (b)<br>21.7             | Pass                                    |
| T41         | 952 - 937       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 824              | -10.77 | 12.07              | 30.0 (b)<br>89.2             | Pass                                    |
| T42         | 937 - 929.5     | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 848              | -10.84 | 12.07              | 89.8                         | Pass                                    |
| T43         | 929.5 - 922     | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 863              | -10.89 | 12.07              | 90.2                         | Pass                                    |
| T44         | 922 - 907       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 881              | -10.93 | 12.07              | 90.5                         | Pass                                    |
| T45         | 907 - 892       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 910              | -10.88 | 12.07              | 90.1                         | Pass                                    |
| T46         | 892 - 862       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 947              | -11.00 | 12.07              | 91.1                         | Pass                                    |
| T47         | 862 - 847       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 996              | -12.09 | 12.13              | 99.7                         | Pass                                    |
| T48         | 847 - 832       | Secondary Horizontal | L 2.5 x 2.5 x 1/4            | 1022             | -13.34 | 12.13              | 110.0                        | Fail <span style="color: red;">✗</span> |
| T50         | 809.5 - 802     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1067             | -16.32 | 24.36              | 67.0                         | Pass                                    |
| T51         | 802 - 794.5     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1082             | -17.04 | 24.47              | 69.6                         | Pass                                    |
| T52         | 794.5 - 787     | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1098             | -17.21 | 24.47              | 70.3                         | Pass                                    |
| T70         | 502 - 472       | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1509             | -14.78 | 24.36              | 60.7                         | Pass                                    |
| T71         | 472 - 442       | Secondary Horizontal | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1560             | -14.50 | 24.36              | 59.5                         | Pass                                    |
| T2          | 1424.5 - 1409.5 | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 17               | 54.03  | 116.27             | 46.5                         | Fail <span style="color: red;">✗</span> |
| T3          | 1409.5 - 1402   | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 39               | -27.99 | 94.89              | 107.5 (b)<br>29.5            | Pass                                    |
| T5          | 1394.5 - 1387   | Top Girt             | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 63               | -10.85 | 95.06              | 44.7 (b)<br>11.4<br>17.3 (b) | Pass                                    |

| Section No. | Elevation ft      | Component Type | Size                         | Critical Element | P K    | $\phi P_{allow}$ K | % Capacity       | Pass Fail |
|-------------|-------------------|----------------|------------------------------|------------------|--------|--------------------|------------------|-----------|
| T6          | 1387 - 1372       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 75               | -20.44 | 91.25              | 22.4<br>32.6 (b) | Pass      |
| T7          | 1372 - 1342       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 102              | -16.96 | 39.92              | 42.5             | Pass      |
| T8          | 1342 - 1312       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 152              | -5.87  | 39.92              | 14.7             | Pass      |
| T9          | 1312 - 1289.5     | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 204              | -10.31 | 39.92              | 25.8             | Pass      |
| T10         | 1289.5 - 1282     | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 243              | -16.64 | 39.77              | 41.8             | Pass      |
| T11         | 1282 - 1274.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 258              | -18.78 | 43.68              | 43.0             | Pass      |
| T12         | 1274.5 - 1267     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 270              | -20.81 | 43.80              | 47.5             | Pass      |
| T13         | 1267 - 1259.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 282              | -22.12 | 43.80              | 50.5             | Pass      |
| T14         | 1259.5 - 1252     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 293              | 21.46  | 91.80              | 23.4             | Pass      |
| T15         | 1252 - 1235.63    | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 298              | 23.71  | 116.27             | 30.0 (b)<br>20.4 | Pass      |
| T16         | 1235.63 - 1228.81 | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 313              | 26.90  | 116.27             | 33.1 (b)<br>23.1 | Pass      |
| T17         | 1228.81 - 1222    | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 342              | -10.02 | 73.91              | 37.6 (b)<br>13.6 | Pass      |
| T18         | 1222 - 1214.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 354              | -32.40 | 74.81              | 14.0 (b)<br>43.3 | Pass      |
| T19         | 1214.5 - 1207     | Top Girt       | 2C10x20                      | 365              | 80.79  | 362.03             | 51.7 (b)<br>22.3 | Pass      |
| T20         | 1207 - 1199.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 378              | -25.39 | 74.99              | 46.0 (b)<br>33.9 | Pass      |
| T21         | 1199.5 - 1192     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 391              | -24.68 | 46.16              | 35.5 (b)<br>53.5 | Pass      |
| T22         | 1192 - 1162       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 403              | -22.15 | 42.57              | 52.0             | Pass      |
| T23         | 1162 - 1154.5     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 454              | -13.63 | 42.41              | 32.1             | Pass      |
| T24         | 1154.5 - 1139.5   | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 469              | -10.75 | 42.41              | 25.3             | Pass      |
| T25         | 1139.5 - 1132     | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 495              | -5.70  | 38.81              | 14.7             | Pass      |
| T26         | 1132 - 1109.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 509              | -5.79  | 27.77              | 20.9             | Pass      |
| T27         | 1109.5 - 1102     | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 548              | -12.65 | 23.83              | 53.1             | Pass      |
| T28         | 1102 - 1072       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 563              | -15.08 | 23.83              | 63.3             | Pass      |
| T29         | 1072 - 1064.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 616              | -23.03 | 27.77              | 82.9             | Pass      |
| T30         | 1064.5 - 1057     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 631              | -24.48 | 27.77              | 88.2             | Pass      |
| T31         | 1057 - 1049.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 646              | -25.87 | 27.77              | 93.1             | Pass      |
| T32         | 1049.5 - 1042     | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 661              | -26.93 | 38.81              | 69.4             | Pass      |
| T34         | 1034.5 - 1019.5   | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 687              | -17.83 | 75.51              | 23.6             | Pass      |
| T35         | 1019.5 - 1012     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 708              | 12.37  | 116.27             | 24.9 (b)<br>10.6 | Pass      |
| T36         | 1012 - 1004.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 721              | 26.12  | 116.27             | 17.3 (b)<br>22.5 | Pass      |
| T37         | 1004.5 - 997      | Top Girt       | 2C10x20                      | 734              | 103.12 | 362.03             | 36.5 (b)<br>28.5 | Pass      |
| T38         | 997 - 989.5       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 749              | 16.34  | 116.27             | 48.0 (b)<br>14.1 | Pass      |
| T39         | 989.5 - 982       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 762              | -25.53 | 75.51              | 22.8 (b)<br>33.8 | Pass      |
| T40         | 982 - 952         | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 774              | -24.68 | 46.64              | 35.7 (b)<br>52.9 | Pass      |
| T41         | 952 - 937         | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 813              | -16.71 | 28.19              | 59.3             | Pass      |
| T42         | 937 - 929.5       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 840              | -11.77 | 28.09              | 41.9             | Pass      |
| T43         | 929.5 - 922       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 855              | -9.59  | 28.09              | 34.2             | Pass      |
| T44         | 922 - 907         | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 870              | -7.59  | 28.09              | 27.0             | Pass      |
| T45         | 907 - 892         | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 896              | -7.80  | 24.15              | 32.3             | Pass      |
| T46         | 892 - 862         | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 925              | -10.74 | 24.15              | 44.5             | Pass      |
| T47         | 862 - 847         | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 975              | -19.32 | 39.21              | 49.3             | Pass      |
| T48         | 847 - 832         | Top Girt       | 2L 3 x 2.5 x 1/4 LLV (3/8)   | 1002             | -22.39 | 39.34              | 56.9             | Pass      |
| T49         | 832 - 809.5       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1029             | -27.27 | 46.48              | 58.7             | Pass      |
| T50         | 809.5 - 802       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1059             | -32.64 | 43.21              | 75.5             | Pass      |
| T51         | 802 - 794.5       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1074             | -29.72 | 43.21              | 68.8             | Pass      |
| T52         | 794.5 - 787       | Top Girt       | 2C10x20                      | 1088             | 59.61  | 362.03             | 16.5             | Pass      |
| T53         | 787 - 772         | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1104             | -21.32 | 46.80              | 34.0 (b)<br>45.6 | Pass      |
| T54         | 772 - 742         | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1125             | -19.93 | 46.80              | 42.6             | Pass      |
| T55         | 742 - 719.5       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1164             | -12.55 | 46.64              | 26.9             | Pass      |
| T56         | 719.5 - 712       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1194             | -7.98  | 30.49              | 26.2             | Pass      |
| T57         | 712 - 682         | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1206             | -6.45  | 30.19              | 21.4             | Pass      |
| T58         | 682 - 652         | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1245             | -8.73  | 30.19              | 28.9             | Pass      |
| T59         | 652 - 637         | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1284             | -16.51 | 30.19              | 54.7             | Pass      |
| T60         | 637 - 629.5       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1305             | -19.76 | 30.27              | 65.3             | Pass      |
| T61         | 629.5 - 622       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1317             | -21.36 | 30.60              | 69.8             | Pass      |

| Section No. | Elevation ft    | Component Type | Size                         | Critical Element | P K    | $\phi P_{allow}$ K | % Capacity | Pass Fail |
|-------------|-----------------|----------------|------------------------------|------------------|--------|--------------------|------------|-----------|
| T62         | 622 - 607       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1329             | -23.06 | 30.60              | 75.4       | Pass      |
| T63         | 607 - 592       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1350             | -25.78 | 46.96              | 54.9       | Pass      |
| T64         | 592 - 584.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1371             | -25.57 | 76.83              | 33.3       | Pass      |
|             |                 |                |                              |                  |        |                    | 35.0 (b)   |           |
| T65         | 584.5 - 577     | Top Girt       | 2C10x20                      | 1382             | 48.75  | 362.03             | 13.5       | Pass      |
|             |                 |                |                              |                  |        |                    | 27.8 (b)   |           |
| T66         | 577 - 562       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1395             | -23.33 | 76.83              | 30.4       | Pass      |
|             |                 |                |                              |                  |        |                    | 31.9 (b)   |           |
| T67         | 562 - 532       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1416             | -22.70 | 46.96              | 48.3       | Pass      |
| T68         | 532 - 517       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1455             | -18.46 | 46.80              | 39.4       | Pass      |
| T69         | 517 - 502       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1476             | -16.67 | 46.64              | 35.7       | Pass      |
| T70         | 502 - 472       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1498             | -12.49 | 24.36              | 51.3       | Pass      |
| T71         | 472 - 442       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1547             | -7.53  | 24.36              | 30.9       | Pass      |
| T72         | 442 - 427       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1599             | -14.78 | 30.27              | 48.8       | Pass      |
| T73         | 427 - 412       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1620             | -20.15 | 30.60              | 65.8       | Pass      |
| T74         | 412 - 404.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1641             | -24.18 | 30.60              | 79.0       | Pass      |
| T75         | 404.5 - 397     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1653             | -24.96 | 46.96              | 53.1       | Pass      |
| T76         | 397 - 389.5     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1665             | -25.83 | 46.96              | 55.0       | Pass      |
| T77         | 389.5 - 382     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1677             | -23.87 | 76.22              | 31.3       | Pass      |
|             |                 |                |                              |                  |        |                    | 38.1 (b)   |           |
| T78         | 382 - 374.5     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1689             | 45.38  | 116.27             | 39.0       | Pass      |
|             |                 |                |                              |                  |        |                    | 90.3 (b)   |           |
| T79         | 374.5 - 352     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 1700             | -29.77 | 76.22              | 39.1       | Pass      |
|             |                 |                |                              |                  |        |                    | 47.5 (b)   |           |
| T80         | 352 - 329.5     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1730             | -29.31 | 47.19              | 62.1       | Pass      |
| T81         | 329.5 - 322     | Top Girt       | 2L 3 x 2.5 x 3/8 LLV (3/8)   | 1760             | -25.61 | 60.68              | 42.2       | Pass      |
|             |                 |                |                              |                  |        |                    | 51.5 (b)   |           |
| T82         | 322 - 307       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1772             | -23.87 | 46.96              | 50.8       | Pass      |
| T83         | 307 - 292       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1793             | -21.36 | 46.96              | 45.5       | Pass      |
| T84         | 292 - 277       | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1814             | -19.17 | 30.82              | 62.2       | Pass      |
| T85         | 277 - 262       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1835             | -15.48 | 30.44              | 50.9       | Pass      |
| T86         | 262 - 247       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1857             | -9.53  | 30.44              | 31.3       | Pass      |
| T87         | 247 - 232       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1879             | -12.26 | 30.44              | 40.3       | Pass      |
| T88         | 232 - 217       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 1900             | -18.14 | 30.44              | 59.6       | Pass      |
| T89         | 217 - 209.5     | Top Girt       | 2L 3 x 2 x 1/4 LLV (3/8)     | 1921             | -23.48 | 30.93              | 75.9       | Pass      |
| T90         | 209.5 - 202     | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 1933             | -26.69 | 46.96              | 56.8       | Pass      |
| T91         | 202 - 194.5     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1945             | -26.03 | 106.50             | 24.4       | Pass      |
|             |                 |                |                              |                  |        |                    | 26.7 (b)   |           |
| T92         | 194.5 - 187     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1957             | 66.39  | 137.68             | 48.2       | Pass      |
|             |                 |                |                              |                  |        |                    | 69.9 (b)   |           |
| T93         | 187 - 179.5     | Top Girt       | 2C10x20                      | 1969             | 36.82  | 362.03             | 10.2       | Pass      |
|             |                 |                |                              |                  |        |                    | 17.2 (b)   |           |
| T94         | 179.5 - 172     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1981             | 37.69  | 137.68             | 27.4       | Pass      |
|             |                 |                |                              |                  |        |                    | 39.7 (b)   |           |
| T95         | 172 - 149.5     | Top Girt       | 2L 4 x 3 x 3/8 LLV (3/8)     | 1993             | 35.48  | 137.68             | 25.8       | Pass      |
|             |                 |                |                              |                  |        |                    | 37.4 (b)   |           |
| T96         | 149.5 - 142     | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2023             | 37.43  | 116.27             | 32.2       | Pass      |
|             |                 |                |                              |                  |        |                    | 52.3 (b)   |           |
| T97         | 142 - 112       | Top Girt       | 2L 3.5 x 2.5 x 3/8 LLV (3/8) | 2034             | 20.55  | 116.27             | 17.7       | Pass      |
|             |                 |                |                              |                  |        |                    | 30.7 (b)   |           |
| T98         | 112 - 97        | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2073             | -6.60  | 47.43              | 13.9       | Pass      |
| T99         | 97 - 89.5       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2095             | -9.05  | 47.43              | 19.1       | Pass      |
| T100        | 89.5 - 82       | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2107             | -12.27 | 47.67              | 25.7       | Pass      |
| T101        | 82 - 74.5       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2119             | -15.03 | 30.70              | 49.0       | Pass      |
| T102        | 74.5 - 59.5     | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2131             | -17.71 | 30.70              | 57.7       | Pass      |
| T103        | 59.5 - 52       | Top Girt       | 2L 2.5 x 2.5 x 1/4 (3/8)     | 2152             | -19.16 | 30.70              | 62.4       | Pass      |
| T107        | 23.6 - 18.1     | Top Girt       | 2L 5 x 3 x 1/2 LLV (1/2)     | 2201             | 69.53  | 216.14             | 32.2       | Pass      |
|             |                 |                |                              |                  |        |                    | 97.2 (b)   |           |
| T108        | 18.1 - 0        | Top Girt       | 2L 3 x 2 x 3/8 LLV (3/8)     | 2213             | 25.03  | 91.80              | 27.3       | Pass      |
|             |                 |                |                              |                  |        |                    | 35.0 (b)   |           |
| T106        | 30 - 23.6       | Bottom Girt    | C10x25                       | 2188             | 66.53  | 224.78             | 29.6       | Pass      |
|             |                 |                |                              |                  |        |                    | 93.0 (b)   |           |
| T2          | 1424.5 - 1409.5 | Guy A@1424.5   | 2 1/4                        | 2236             | 266.24 | 372.00             | 71.6       | Pass      |
| T19         | 1214.5 - 1207   | Guy A@1214.5   | 2 3/8                        | 2239             | 320.05 | 412.80             | 77.5       | Pass      |
| T37         | 1004.5 - 997    | Guy A@1004.5   | 2 3/8                        | 2242             | 303.69 | 412.80             | 73.6       | Pass      |
| T52         | 794.5 - 787     | Guy A@794.5    | 1 15/16                      | 2245             | 186.96 | 276.00             | 67.7       | Pass      |
| T65         | 584.5 - 577     | Guy A@584.5    | 1 7/8                        | 2248             | 159.79 | 259.20             | 61.6       | Pass      |
| T78         | 382 - 374.5     | Guy A@382      | 1 5/8                        | 2251             | 114.79 | 194.40             | 59.0       | Pass      |
| T92         | 194.5 - 187     | Guy A@194.5    | 1 5/8                        | 2254             | 105.77 | 194.40             | 54.4       | Pass      |
| T2          | 1424.5 - 1409.5 | Guy B@1424.5   | 2 1/4                        | 2235             | 267.15 | 372.00             | 71.8       | Pass      |

| Section No.                | Elevation ft    | Component Type | Size    | Critical Element | P K    | $\phi P_{allow}$ K | % Capacity   | Pass Fail            |
|----------------------------|-----------------|----------------|---------|------------------|--------|--------------------|--------------|----------------------|
| T19                        | 1214.5 - 1207   | Guy B@1214.5   | 2 3/8   | 2238             | 320.16 | 412.80             | 77.6         | Pass                 |
| T37                        | 1004.5 - 997    | Guy B@1004.5   | 2 3/8   | 2241             | 304.10 | 412.80             | 73.7         | Pass                 |
| T52                        | 794.5 - 787     | Guy B@794.5    | 1 15/16 | 2244             | 186.69 | 276.00             | 67.6         | Pass                 |
| T65                        | 584.5 - 577     | Guy B@584.5    | 1 7/8   | 2247             | 160.10 | 259.20             | 61.8         | Pass                 |
| T78                        | 382 - 374.5     | Guy B@382      | 1 5/8   | 2250             | 115.20 | 194.40             | 59.3         | Pass                 |
| T92                        | 194.5 - 187     | Guy B@194.5    | 1 5/8   | 2253             | 104.63 | 194.40             | 53.8         | Pass                 |
| T2                         | 1424.5 - 1409.5 | Guy C@1424.5   | 2 1/4   | 2234             | 265.31 | 372.00             | 71.3         | Pass                 |
| T19                        | 1214.5 - 1207   | Guy C@1214.5   | 2 3/8   | 2237             | 316.18 | 412.80             | 76.6         | Pass                 |
| T37                        | 1004.5 - 997    | Guy C@1004.5   | 2 3/8   | 2240             | 299.67 | 412.80             | 72.6         | Pass                 |
| T52                        | 794.5 - 787     | Guy C@794.5    | 1 15/16 | 2243             | 183.80 | 276.00             | 66.6         | Pass                 |
| T65                        | 584.5 - 577     | Guy C@584.5    | 1 7/8   | 2246             | 157.57 | 259.20             | 60.8         | Pass                 |
| T78                        | 382 - 374.5     | Guy C@382      | 1 5/8   | 2249             | 115.67 | 194.40             | 59.5         | Pass                 |
| T92                        | 194.5 - 187     | Guy C@194.5    | 1 5/8   | 2252             | 110.31 | 194.40             | 56.7         | Pass                 |
| Summary                    |                 |                |         |                  |        |                    |              |                      |
| Pole (L1)                  |                 |                |         |                  |        |                    | 20.9         | Pass                 |
| Leg (T8)                   |                 |                |         |                  |        |                    | 153.4        | Fail <b>X</b>        |
| Diagonal (T3)              |                 |                |         |                  |        |                    | 189.7        | Fail <b>X</b>        |
| Horizontal (T28)           |                 |                |         |                  |        |                    | 88.3         | Pass                 |
| Secondary Horizontal (T48) |                 |                |         |                  |        |                    | 110.0        | Fail <b>X</b>        |
| Top Girt (T2)              |                 |                |         |                  |        |                    | 107.5        | Fail <b>X</b>        |
| Bottom Girt (T106)         |                 |                |         |                  |        |                    | 93.0         | Pass                 |
| Guy A (T19)                |                 |                |         |                  |        |                    | 77.5         | Pass                 |
| Guy B (T19)                |                 |                |         |                  |        |                    | 77.6         | Pass                 |
| Guy C (T19)                |                 |                |         |                  |        |                    | 76.6         | Pass                 |
| Bolt Checks                |                 |                |         |                  |        |                    | 164.3        | Fail <b>X</b>        |
| <b>RATING =</b>            |                 |                |         |                  |        |                    | <b>189.7</b> | <b>Fail <b>X</b></b> |

**APPENDIX B**  
**BASE LEVEL DRAWING**





## **APPENDIX C**

### **ADDITIONAL CALCULATIONS**

Factored Foundation Loads:

Factored Axial Load (+Comp, -Ten) =  
Factored Horiz. Load at Top of Pier =  
Factored OTM at Top of Pier =

LC1  
2761  
6  
0

kips  
kips  
k-ft

LRFD Resistance and Load Factors:

$\phi$   
Soil Bearing =  
Soil Weight =  
Concrete Weight =

0.6  
0.75  
0.75

Soil Properties:

Depth to Water Table =  
Uplift Cone from

ft  
Top of footing

Dead Load Factors

1.2  
1.2

| Layer Thk | Soil Density | Cohesion | Friction Angle | Ult Bearing | Depth |
|-----------|--------------|----------|----------------|-------------|-------|
| 10        | 100          | 0        | 0              | 4.5         | 10.00 |
|           |              |          |                |             |       |
|           |              |          |                |             |       |

Dimensions:

Pier Shape =  
Pier Width =  
Pier Height above Grade =  
Depth to Bottom of Footing =  
Footing Thickness =  
Footing Width, B =  
Footing Length, L =

Round  
4.5  
2.08  
4.71  
4.7  
32  
32

ft Diameter  
ft  
ft  
ft  
ft  
ft  
ft

Concrete:

Concrete Strength =  
Rebar Strength =

3  
60

ksi  
ksi

Summary Results:

Maximum Net Soil Bearing =  
Uplift =  
Punching Shear Stress =  
Bending Shear Stress =  
Bending Moment =  
Conc Pier Reinforcing Steel =

Required  
2.987  
0.0  
0.125  
817.9  
8190  
2767.0

Available  
ksf  
kips  
ksi  
kips  
k-ft  
kips

Total Pad Reinf Stl =  
Total Pier Reinf Stl =  
Footing Thickness =

39.00  
25.28  
4.70

in^2 >= 38.98 in^2 = Min Stl, OK  
in^2 >= 11.45 in^2 = Min Stl, OK  
ft >= 1.53 ft = Min Ftg Thk, OK

Stress Ratio =  
Stress Ratio =  
Stress Ratio =  
Stress Ratio =  
Stress Ratio =

110.6%  
0.0%  
76.3%  
50.1%  
92.4%

in Soil Bearing  
in Uplift  
in Punching Shear  
in Bending Shear  
in Bending Moment

## DRILLED PIER SOIL AND STEEL ANALYSIS - TIA-222-G

### Factored Base Reactions from RISA

|                  | Comp. (+) | Tension (-) |               |
|------------------|-----------|-------------|---------------|
| Moment, Mu =     |           |             | k-ft          |
| Shear, Vu =      |           | 296.0       | kips          |
| Axial Load, Pu = |           | -217.0      | kips          |
| OTMu =           | 0.0       | 148.0       | k-ft @ Ground |

### Safety Factors / Load Factors / Φ Factors

|                           |            |
|---------------------------|------------|
| Tower Type =              | Guyed      |
| ACI Code =                | ACI 318-08 |
| Seismic Design Category = | A          |
| Reference Standard =      | TIA-222-G  |
| Use 1.3 Load Factor?      | No         |
| Load Factor =             | 1.00       |

### Drilled Pier Parameters

|                       |       |       |
|-----------------------|-------|-------|
| Diameter =            | 7     | ft    |
| Height Above Grade =  | 0.5   | ft    |
| Depth Below Grade =   | 29.5  | ft    |
| fc' =                 | 3     | ksi   |
| εc =                  | 0.003 | in/in |
| L / D Ratio =         | 4.29  |       |
| Mat Fdn. Cap Width =  |       | ft    |
| Mat Fdn. Cap Length = |       | ft    |
| Depth Below Grade =   |       | ft    |

|                              | Safety Factor | Φ Factor |
|------------------------------|---------------|----------|
| Soil Lateral Resistance =    | 2.00          | 0.75     |
| Skin Friction =              | 2.00          | 0.75     |
| End Bearing =                | 2.00          | 0.60     |
| Concrete Wt. Resist Uplift = | 1.25          |          |

### Load Combinations Checked per TIA-222-G

- (0.75) Ult. Skin Friction + (0.60) Ult. End Bearing
- (1.2) Effective Soil Wt. - (1.2) Buoyant Conc. Wt. ≥ Comp.
- (0.75) Ult. Skin Friction + (0.9) Buoyant Conc. Wt. ≥ Uplift

### Steel Parameters

|                            |           |
|----------------------------|-----------|
| Number of Bars =           | 22        |
| Rebar Size =               | #11       |
| Rebar Fy =                 | 60 ksi    |
| Rebar MOE =                | 29000 ksi |
| Tie Size =                 | #4        |
| Side Clear Cover to Ties = | 4 in      |

### Soil Parameters

|  |        |    |
|--|--------|----|
| Water Table Depth =  | 4.00   | ft |
| Depth to Ignore Soil =                                       | 3.50   | ft |
| Depth to Full Cohesion =                                     | 0      | ft |
| Full Cohesion Starts at?*                                    | Ground |    |
| Above Full Cohesion Lateral Resistance = 4(Cohesion)(Dia)(H) |        |    |
| Below Full Cohesion Lateral Resistance = 8(Cohesion)(Dia)(H) |        |    |

### Direct Embed Pole Shaft Parameters

|                           |  |     |
|---------------------------|--|-----|
| Dia @ Grade =             |  | in  |
| Dia @ Depth Below Grade = |  | in  |
| Number of Sides =         |  |     |
| Thickness =               |  | in  |
| Fy =                      |  | ksi |
| Backfill Condition =      |  |     |

### Maximum Capacity Ratios

|                       |        |
|-----------------------|--------|
| Maximum Soil Ratio =  | 110.0% |
| Maximum Steel Ratio = | 105.0% |

\*Note: The drilled pier foundation was analyzed using the methodology in the software 'PLS-Caisson' (Version 8.10, or newer, by Power Line Systems, Inc.). Per the methods in PLS-Caisson, the soil reactions of cohesive soils are calculated using 8CD independent of the depth of the soil layer. The depth of soil to be ignored at the top of the drilled pier is based the recommendations of the site specific geotechnical report. In the absence of any recommendations, the frost depth at the site or one half of the drilled pier diameter (whichever is greater) shall be ignored.

### Define Soil Layers

Note: Cohesion = Undrained Shear Strength = Unconfined Compressive Strength / 2

| Layer | Thickness<br>ft | Unit Weight<br>pcf | Cohesion<br>psf | Friction<br>Angle<br>degrees | Soil Type | Ultimate<br>End Bearing<br>psf | Comp. Ult.<br>Skin Friction<br>psf | Tension Ult.<br>Skin Friction<br>psf | Depth<br>ft |
|-------|-----------------|--------------------|-----------------|------------------------------|-----------|--------------------------------|------------------------------------|--------------------------------------|-------------|
| 1     | 2               | 100                | 0               | 28                           | Sand      | 0                              | 0                                  | 0                                    | 2           |
| 2     | 1.5             | 110                | 0               | 30                           | Sand      | 0                              | 0                                  | 0                                    | 3.5         |
| 3     | 0.5             | 110                | 0               | 31                           | Sand      | 0                              | 350                                | 350                                  | 4           |
| 4     | 2               | 100                | 0               | 28                           | Sand      | 0                              | 240                                | 240                                  | 6           |
| 5     | 2               | 110                | 0               | 30                           | Sand      | 0                              | 445                                | 445                                  | 8           |
| 6     | 5.5             | 105                | 0               | 27                           | Sand      | 0                              | 510                                | 510                                  | 13.5        |
| 7     | 5               | 95                 | 0               | 25                           | Sand      | 0                              | 290                                | 290                                  | 18.5        |
| 8     | 5               | 125                | 0               | 38                           | Sand      | 0                              | 1700                               | 1700                                 | 23.5        |
| 9     | 5               | 110                | 0               | 28                           | Sand      | 0                              | 815                                | 815                                  | 28.5        |
| 10    | 5               | 115                | 0               | 30                           | Sand      | 0                              | 1170                               | 1170                                 | 33.5        |
| 11    |                 |                    |                 |                              |           |                                |                                    |                                      |             |
| 12    |                 |                    |                 |                              |           |                                |                                    |                                      |             |

### Soil Results: Overturning

|                         |         |                |
|-------------------------|---------|----------------|
| Depth to COR =          | 22.70   | ft, from Grade |
| Bending Moment, Mu =    | 6866.33 | k-ft, from COR |
| Resisting Moment, ΦMn = | 6946.79 | k-ft, from COR |

MOMENT RATIO = 98.8% OK

|                        |        |      |
|------------------------|--------|------|
| Shear, Vu =            | 296.00 | kips |
| Resisting Shear, ΦVn = | 299.47 | kips |

SHEAR RATIO = 98.8% OK

### Soil Results: Uplift

|                        |        |      |
|------------------------|--------|------|
| Uplift, Tu =           | 217.00 | kips |
| Uplift Capacity, ΦTn = | 423.11 | kips |

UPLIFT RATIO = 51.3% OK

### Soil Results: Compression

|                       |        |      |
|-----------------------|--------|------|
| Compression, Cu =     | 0.00   | kips |
| Comp. Capacity, ΦCn = | 261.52 | kips |

COMPRESSION RATIO = 0.0% OK

### Steel Results (ACI 318-08):

|                      |       |       |
|----------------------|-------|-------|
| Minimum Steel Area = | 18.47 | sq in |
| Actual Steel Area =  | 34.32 | sq in |

|                    |          |                          |
|--------------------|----------|--------------------------|
| Axial, ΦPn (min) = | -1853.28 | kips, Where ΦMn = 0 k-ft |
| Axial, ΦPn (max) = | 8373.66  | kips, Where ΦMn = 0 k-ft |

|                  |         |                             |
|------------------|---------|-----------------------------|
| Axial Load, Pu = | -135.35 | kips @ 14.25 ft Below Grade |
| Moment, Mu =     | 2986.65 | k-ft @ 14.25 ft Below Grade |
| Moment, ΦMn =    | 4931.06 | k-ft                        |

MOMENT RATIO = 60.6% OK

## DRILLED PIER SOIL AND STEEL ANALYSIS - TIA-222-G

### Factored Base Reactions from RISA

|                  | Comp. (+) | Tension (-) |               |
|------------------|-----------|-------------|---------------|
| Moment, Mu =     |           |             | k-ft          |
| Shear, Vu =      |           | 565.0       | kips          |
| Axial Load, Pu = |           | -838.0      | kips          |
| OTMu =           | 0.0       | 282.5       | k-ft @ Ground |

### Safety Factors / Load Factors / $\Phi$ Factors

|                           |            |
|---------------------------|------------|
| Tower Type =              | Guyed      |
| ACI Code =                | ACI 318-08 |
| Seismic Design Category = | A          |
| Reference Standard =      | TIA-222-G  |
| Use 1.3 Load Factor?      | No         |
| Load Factor =             | 1.00       |

### Drilled Pier Parameters

|                       |       |       |
|-----------------------|-------|-------|
| Diameter =            | 7.5   | ft    |
| Height Above Grade =  | 0.5   | ft    |
| Depth Below Grade =   | 49.5  | ft    |
| fc' =                 | 3     | ksi   |
| εc =                  | 0.003 | in/in |
| L / D Ratio =         | 6.67  | > 6   |
| Mat Fdn. Cap Width =  |       | ft    |
| Mat Fdn. Cap Length = |       | ft    |
| Depth Below Grade =   |       | ft    |

|                              | Safety Factor | $\Phi$ Factor |
|------------------------------|---------------|---------------|
| Soil Lateral Resistance =    | 2.00          | 0.75          |
| Skin Friction =              | 2.00          | 0.75          |
| End Bearing =                | 2.00          | 0.60          |
| Concrete Wt. Resist Uplift = | 1.25          |               |

### Load Combinations Checked per TIA-222-G

- (0.75) Ult. Skin Friction + (0.60) Ult. End Bearing + (1.2) Effective Soil Wt. - (1.2) Buoyant Conc. Wt. ≥ Comp.
- (0.75) Ult. Skin Friction + (0.9) Buoyant Conc. Wt. ≥ Uplift

### Steel Parameters

|                            |           |
|----------------------------|-----------|
| Number of Bars =           | 27        |
| Rebar Size =               | #11       |
| Rebar Fy =                 | 60 ksi    |
| Rebar MOE =                | 29000 ksi |
| Tie Size =                 | #4        |
| Side Clear Cover to Ties = | 3.5 in    |

### Soil Parameters

|  |        |    |
|--|--------|----|
| Water Table Depth =  | 4.00   | ft |
| Depth to Ignore Soil =                                       | 3.75   | ft |
| Depth to Full Cohesion =                                     | 0      | ft |
| Full Cohesion Starts at?*                                    | Ground |    |
| Above Full Cohesion Lateral Resistance = 4(Cohesion)(Dia)(H) |        |    |
| Below Full Cohesion Lateral Resistance = 8(Cohesion)(Dia)(H) |        |    |

### Direct Embed Pole Shaft Parameters

|                           |  |     |
|---------------------------|--|-----|
| Dia @ Grade =             |  | in  |
| Dia @ Depth Below Grade = |  | in  |
| Number of Sides =         |  |     |
| Thickness =               |  | in  |
| Fy =                      |  | ksi |
| Backfill Condition =      |  |     |

### Maximum Capacity Ratios

|                       |        |
|-----------------------|--------|
| Maximum Soil Ratio =  | 110.0% |
| Maximum Steel Ratio = | 105.0% |

\*Note: The drilled pier foundation was analyzed using the methodology in the software 'PLS-Caisson' (Version 8.10, or newer, by Power Line Systems, Inc.). Per the methods in PLS-Caisson, the soil reactions of cohesive soils are calculated using 8CD independent of the depth of the soil layer. The depth of soil to be ignored at the top of the drilled pier is based the recommendations of the site specific geotechnical report. In the absence of any recommendations, the frost depth at the site or one half of the drilled pier diameter (whichever is greater) shall be ignored.

### Define Soil Layers

Note: Cohesion = Undrained Shear Strength = Unconfined Compressive Strength / 2

| Layer | Thickness ft | Unit Weight pcf | Cohesion psf | Friction Angle degrees | Soil Type | Ultimate End Bearing psf | Comp. Ult. Skin Friction psf | Tension Ult. Skin Friction psf | Depth ft |
|-------|--------------|-----------------|--------------|------------------------|-----------|--------------------------|------------------------------|--------------------------------|----------|
| 1     | 4            | 100             | 0            | 30                     | Sand      | 0                        | 300                          | 300                            | 4        |
| 2     | 2            | 105             | 0            | 26                     | Sand      | 0                        | 340                          | 340                            | 6        |
| 3     | 2            | 110             | 0            | 27                     | Sand      | 0                        | 480                          | 480                            | 8        |
| 4     | 5.5          | 105             | 0            | 27                     | Sand      | 0                        | 545                          | 545                            | 13.5     |
| 5     | 5            | 110             | 0            | 30                     | Sand      | 0                        | 870                          | 870                            | 18.5     |
| 6     | 5            | 125             | 0            | 35                     | Sand      | 0                        | 1375                         | 1375                           | 23.5     |
| 7     | 5            | 95              | 250          | 0                      | Clay      | 0                        | 140                          | 140                            | 28.5     |
| 8     | 5            | 125             | 0            | 35                     | Sand      | 0                        | 1730                         | 1730                           | 33.5     |
| 9     | 10           | 95              | 250          | 0                      | Clay      | 0                        | 140                          | 140                            | 43.5     |
| 10    | 5            | 105             | 750          | 0                      | Clay      | 0                        | 415                          | 415                            | 48.5     |
| 11    | 5            | 95              | 250          | 0                      | Clay      | 0                        | 140                          | 140                            | 53.5     |
| 12    |              |                 |              |                        |           |                          |                              |                                |          |

### Soil Results: Overturning

|                         |          |                |
|-------------------------|----------|----------------|
| Depth to COR =          | 30.71    | ft, from Grade |
| Bending Moment, Mu =    | 17633.86 | k-ft, from COR |
| Resisting Moment, ΦMn = | 17328.35 | k-ft, from COR |

MOMENT RATIO = 101.8% OK

|                        |        |      |
|------------------------|--------|------|
| Shear, Vu =            | 565.00 | kips |
| Resisting Shear, ΦVn = | 555.21 | kips |

SHEAR RATIO = 101.8% OK

### Soil Results: Uplift

|                        |        |      |
|------------------------|--------|------|
| Uplift, Tu =           | 838.00 | kips |
| Uplift Capacity, ΦTn = | 696.07 | kips |

UPLIFT RATIO = 120.4% Exceeds Allowable

### Soil Results: Compression

|                       |        |      |
|-----------------------|--------|------|
| Compression, Cu =     | 0.00   | kips |
| Comp. Capacity, ΦCn = | 391.60 | kips |

COMPRESSION RATIO = 0.0% OK

### Steel Results (ACI 318-08):

|                      |          |                          |
|----------------------|----------|--------------------------|
| Minimum Steel Area = | 21.21    | sq in                    |
| Actual Steel Area =  | 42.12    | sq in                    |
| Axial, ΦPn (min) =   | -2274.48 | kips, Where ΦMn = 0 k-ft |
| Axial, ΦPn (max) =   | 9693.94  | kips, Where ΦMn = 0 k-ft |

|                  |         |                             |
|------------------|---------|-----------------------------|
| Axial Load, Pu = | -573.35 | kips @ 17.75 ft Below Grade |
| Moment, Mu =     | 7612.99 | k-ft @ 17.75 ft Below Grade |
| Moment, ΦMn =    | 5394.30 | k-ft                        |

MOMENT RATIO = 141.1% Exceeds Allowable

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON  
EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

- 1) Paul J. Ford and Company has not made a field inspection to verify the tower member sizes or the antenna/coax loading. If the existing conditions are not as represented on these drawings, we should be contacted immediately to evaluate the significance of the deviation.
- 2) No allowance was made for any damaged, missing, or rusted members. The analysis of this tower assumes that no physical deterioration has occurred in any of the structural components of the tower and that all the tower members have the same load carrying capacity as the day the tower was erected.
- 3) It is not possible to have all the detailed information to perform a thorough analysis of every structural sub-component of an existing tower. The structural analysis by Paul J. Ford and Company verifies the adequacy of the main structural members of the tower. Paul J. Ford and Company provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc.
- 4) This tower has been analyzed according to the minimum design wind loads recommended by the Telecommunications Industry Association Standard ANSI/TIA-222-G. If the owner or local or state agencies require a higher design wind load, Paul J. Ford and Company should be made aware of this requirement.
- 5) The enclosed sketches are a schematic representation of the tower that we have analyzed. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions and for the proper fit and clearance in the field.
- 6) Miscellaneous items such as antenna mounts etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

**Request for Extension of Construction Permit**  
**Exhibit 2**

**Date:** November 8, 2019

**Client:** Fort Myers Broadcasting Company  
2824 Palm Beach Blvd  
Fort Myers, FL 33916  
Attn: Mike Mayne

**Structure:** Existing 1432-ft Guyed Tower with Top Mast  
**FCC ASR #:** 1019724  
**Site Name:** WINK-TV  
**Site Address:** 12931 State Road 31  
**City, County, State:** Punta Gorda, Charlotte County, FL  
**Latitude, Longitude:** 26.800611, -81.763139

**PJF Project:** A00018-0546.005.8300

Dear Mike Mayne,

*Paul J. Ford and Company* is pleased to submit this “**Structural Opinion Letter**” for the structural integrity of the aforementioned tower. The purpose of this letter is to address the feasibility of modifying the tower to satisfy local code requirements.

This tower was designed by Kline in 1987 with a top antenna designed by SPX Corporation. The tower was originally designed according to the EIA RS 222-C Standard with no ice considerations.

The equipment loading being considered for this modification consists of the proposed side mount antenna, a new dish, the associated feed lines, and the existing equipment on the tower (as listed in PJF Project 00018-0546.005.8161 dated 10/28/2019). Considering this loading, to bring the tower in compliance with the 2017 FBC and TIA-G standard, the minimum required mods consist of:

- Widening base foundation
- Installing new guy anchor foundations
- Replacing 750' of diagonals
- Adding 850' of bolt on leg reinforcing
- Adding 100' of aerial welded leg reinforcing (around 1100' elevation)
- Adding welded flange connection reinforcement (near 1300' elevation)
- Adding various welded plate reinforcing for connections

The reinforcing listed above would add capacity to the tower to carry the proposed loading configuration but provides limited or no excess capacity for future load additions.

Aerial welding is generally cost prohibitive and has several inherent drawbacks. The welder must not only have American Welding Society Code Certification but must also be certified to climb towers. Part fit up and weld preparation will be difficult and dangerous due to the height at which the welding is required. The presence of antenna feed lines dictates protective shielding to prevent damage or fire.

**Columbus**  
250 E Broad St, Suite 600  
Columbus, OH 43215  
Phone 614.221.6679

**Orlando**  
1801 Lee Rd, Suite 230  
Winter Park, FL 32789  
Phone 407.898.9039



Based upon the severity of the tower overstress, the inability to gain significant reserve load capacity with reasonably feasible methods, the anticipated excessive reinforcing cost, and the difficulty finding contractors able to complete the installation, it is our professional opinion that reinforcing the existing tower is not a viable solution to bring the existing tower into conformance with the ANSI/TIA-222-G standard.

We at *Paul J. Ford and Company* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully submitted,



Rebekah Dorris, PE  
Project Engineer  
Rdorris@pauljford.com

MTL

**JUSTIN T. KLINE, P.E. - FL LICENSE #0000079560**  
**PAUL J. FORD & CO. - #EB-0002848**

This item has been electronically signed and sealed by Justin T. Kline, P.E. using a digital signature and date.

Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



**Request for Extension of Construction Permit**  
**Exhibit 3**

October 30, 2019

*Prepared For:*

Mike Mayne  
Fort Myers Broadcasting  
2824 Palm Beach Blvd  
Fort Myers, FL 33916

*Prepared By:*

James Ruedlinger, P.E.  
Electronics Research, Inc.  
7777 Gardner Road  
Chandler, IN 47610

Re: WINK Tower Review Letter  
1,432' Guyed Tower (1,517' Overall)  
WINK-TV | COL: Fort Myers, FL  
ASRN 1019724 (26° 48' 02.2" N, 081° 45' 47.3" W)  
12931 State Road 31, Punta Gorda, FL 33982 (Charlotte County)

Mr. Mayne,

This letter is submitted by Electronics Research Incorporated (ERI) in response to the reinforcement bid request as well as to provide a professional opinion regarding the existing subject WINK-TV tower. Based on the level of overstress specified throughout the structure and supporting foundations, inherent complexities and resources required to develop and install feasible modifications means, and general safety concerns with performing major structural upgrades including foreseen extensive elevated field-welding, ERI will not be submitting a bid for rehabilitating and retrofitting the existing structure.

Based on our review of the structure's history along with the current maintenance and reinforcement requirements, we believe complete structure replacement is appropriate to provide the reliability and service life needed for the proposed Ch. 31 antenna. Our opinion is based upon the following considerations:

- The structure has been modified in the past and current structural upgrades are significant which would be cost prohibitive, exhaust limited design and construction resources, and ultimately reduce the overall structural reliability as intended in the current ANSI/TIA-222 standards. An overview of the upgrades required are as follows:
  - Well over half of the tower mast possesses overstressed primary structural support members up to over 200% of their rated capacity
  - All tower foundations (base, inner anchors, and outer anchors) are overstressed
- Existing structure is over 30 years old and located in a harsh environment as it relates to wind loading and corrosiveness (manufactured in 1987), and the most recent maintenance inspection identified moderate to severe corrosion on the tower gusset plates, flange connections, leg members, inner bracing members, and bolted joints.
- Ongoing maintenance costs should be expected to increase significantly due to accelerated steel deterioration caused from the structure's general age and damaged/deteriorated protective hot-dip galvanized (HDG) coatings from potential reinforcements which may include substantial welding that can notably damage surfaces on the steel sections with areas inaccessible for rust abatement and treatment.

Please contact ERI if you have any questions or require additional information.



**Request for Extension of Construction Permit**  
**Exhibit 4**

October 31, 2019

Nathan Smith  
Gates Air  
3200 Wismann Lane  
Quincy, IL 62301

Re: Reese Tower Services; Proposed WINK Tower Reinforcement Project

Mr. Smith:

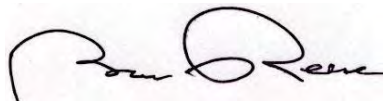
Thank you for your inquiry regarding the above referenced project. Due to the size and type of modifications required for this project, Reese Tower Services will not be providing a proposal for this work.

Comments on the proposed modifications to this structure:

1. Aerial welding is typically very costly and extremely challenging from a safety standpoint. There are limited industry personnel available for performing this work.
2. Replacing 750' of diagonals will require a high level of experience, an extensive rigging plan, and will be extremely challenging from a safety standpoint based on a tower of this height.
3. The foundation modifications will most likely be extensive and very costly.
4. The extensive nature of all of the structure modifications will be cost-prohibitive.
5. Based on the age of the structure and the environment (wind/salt air) where it is located, it will most likely not be prudent to invest in the existing structure vs replacement with a new tower.
6. There are already existing maintenance issues related to the structure and will continue to be in the future on an on-going basis.

Please do not hesitate to call with any questions.

Regards,



Brian Reese  
President