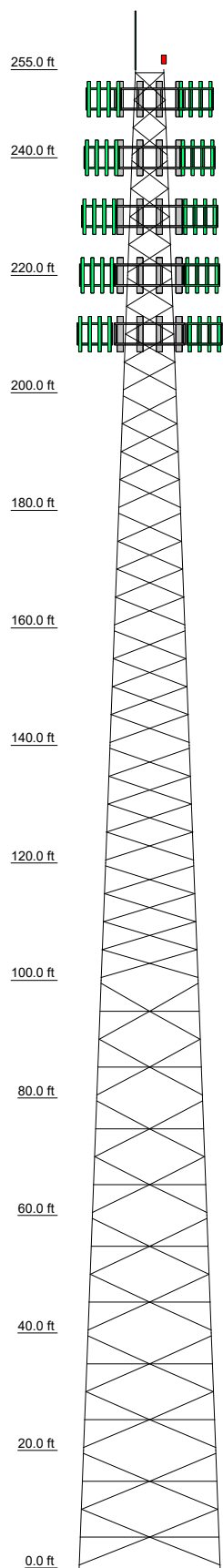


| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|-------------------|-------------------|----------|-------------------|-------------------|------------------|-------------|------------|---------------|------------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|
| Section | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 | T11 | T12 | T13 | T14 | T15 | T16 | T17 | T18 | T19 | T20 | T21 | T22 | T23 | T24 | |
| Legs | SR 1 3/4 | SR 2 1/4 | SR 2 3/4 | SR 3 | SR 3 1/4 | SR 3 1/2 | SR 3 3/4 | SR 4 | SR 4 1/4 | SR 4 1/2 | SR 4 3/4 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | SR 4 3/8 | |
| Leg Grade | L1 3/4x1 3/4x3/16 | L1 3/4x1 3/4x3/16 | L2 2x1/4 | L2 1/2x2 1/2x3/16 | L2 1/2x2 1/2x3/16 | L2 1/2x2 1/2x1/4 | L3 3/8x3/16 | L3 3/8x1/4 | 2L2x2x1/4x3/8 | 2L2 1/2x2 1/2x3/16x3/8 | 2L2 1/2x2 1/2x3/16 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | 2L2x2x1/4x3/8 | |
| Diagonals | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diagonal Grade | | | | | | | | | | | | | | | | | | | | | | | | | |
| Top Girts | | | | | | | | | | | | | | | | | | | | | | | | | |
| Horizontals | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inner Bracing | | | | | | | | | | | | | | | | | | | | | | | | | |
| Face Width (ft) | 6 | 6 | 7.5 | 9 | 10.5 | 12 | 13.5 | 15 | 16.5 | 18 | 19.5 | 21 | 22.5 | 24 | 24.5 | 25.5 | 26.5 | 27.5 | 28.5 | 29.5 | 30.5 | 31.5 | 32.5 | 33.5 | |
| # Panels @ (ft) | 3 @ 4.66667 | | | | | | | | | | | | | | | | | | | | | | | | |
| Weight (K) | 0.7 | 1.2 | 1.9 | 2.2 | 2.6 | 3.3 | 3.6 | 4.5 | 5.0 | 5.1 | 5.6 | 6.9 | 6.9 | 49.5 | | | | | | | | | | | |



DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|--|-----------|--|-----------|
| Lightning Rod 1"x10' | 255 | Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | 230 |
| Top Beacon | 255 | Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | 230 |
| Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | 250 | Sector1(CaAa=10000 Sq.in)No Ice (Carrier 4) | 220 |
| Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | 250 | Sector2(CaAa=10000 Sq.in)No Ice (Carrier 4) | 220 |
| Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | 250 | Sector3(CaAa=10000 Sq.in)No Ice (Carrier 4) | 220 |
| Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2) | 240 | Sector1(CaAa=10000 Sq.in)No Ice (Carrier 5) | 210 |
| Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2) | 240 | Sector2(CaAa=10000 Sq.in)No Ice (Carrier 5) | 210 |
| Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2) | 240 | Sector3(CaAa=10000 Sq.in)No Ice (Carrier 5) | 210 |
| Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | 230 | Sector3(CaAa=10000 Sq.in)No Ice (Carrier 5) | 210 |

SYMBOL LIST

| MARK | SIZE | MARK | SIZE |
|------|-----------------------|------|------------------------|
| A | 2L2 1/2x2 1/2x1/4x3/8 | C | 2L1 3/4x1 3/4x3/16x3/8 |
| B | L1 3/4x1 3/4x3/16 | D | 2L2 1/2x2 1/2x3/16x3/8 |

MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|---------|--------|--------|
| A529-50 | 50 ksi | 65 ksi | A36M-50 | 50 ksi | 65 ksi |

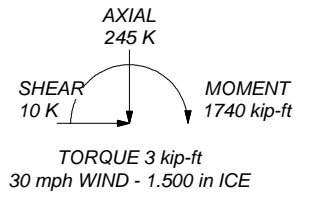
TOWER DESIGN NOTES

1. Tower is located in Hall County, Georgia.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 107 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 30 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity.

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 617 K
SHEAR: 45 K

UPLIFT: -539 K
SHEAR: 42 K



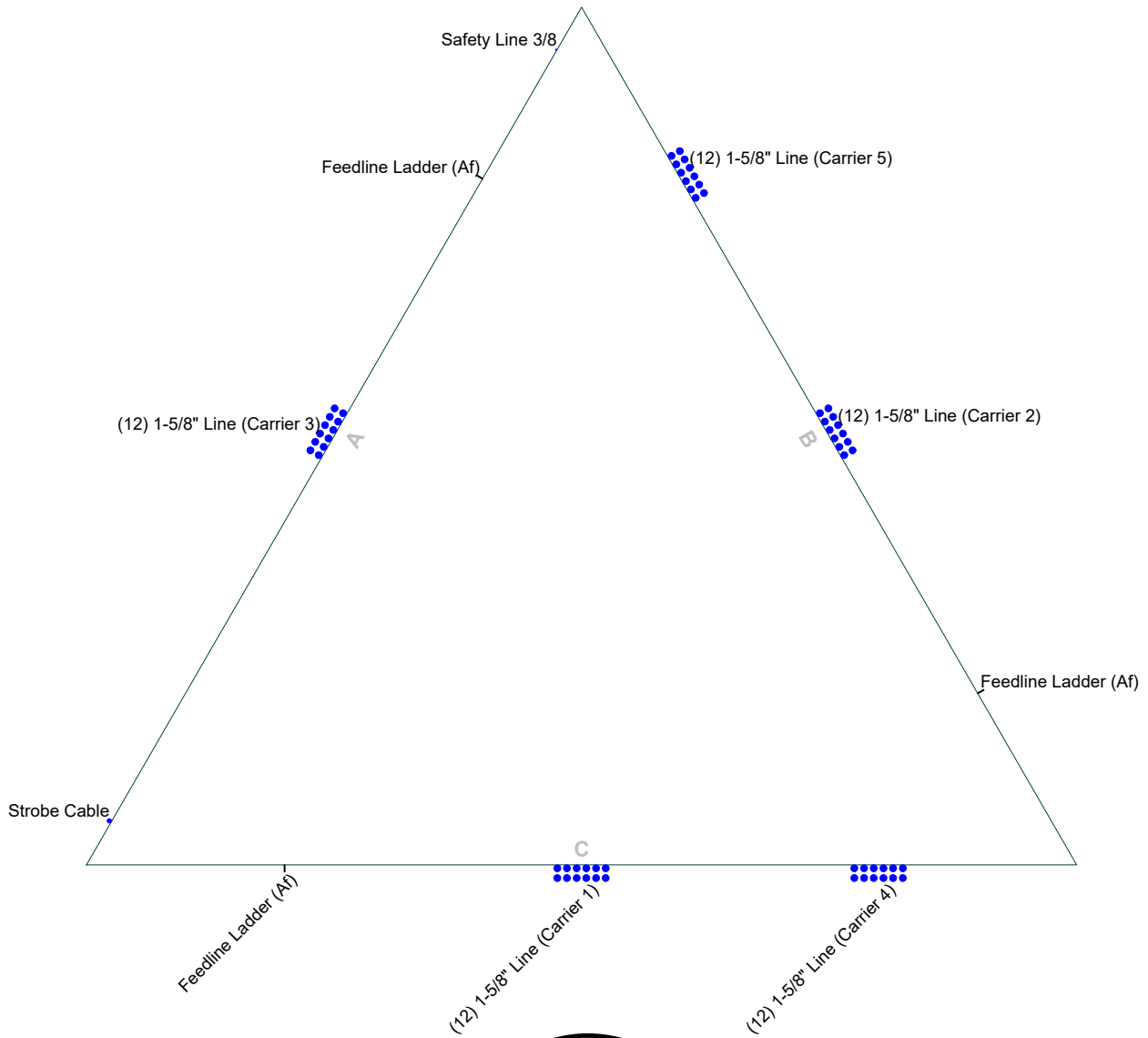
B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

| | | |
|--|------------------------------|-------------|
| Job: ATS 9832 - Gillsville (Site# US-GA-5321) | | |
| Project: 255' SST/34.305869, -83.649236 | | |
| Client: Vertical Bridge | Drawn by: christopher.guidry | App'd: |
| Code: TIA-222-H | Date: 12/19/22 | Scale: NTS |
| Path: | | Dwg No. E-1 |

S:\Projects\Arcosa Telecom Structures\166527_8932_Gillsville\Engineering\Tower\G0166527_001.dwg, 2/15/22, Gillsville

Feed Line Plan

— Round
 — Flat
 — App In Face
 — App Out Face



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| | | |
|--|------------------------------|------------|
| Job: ATS 9832 - Gillsville (Site# US-GA-5321) | | |
| Project: 255' SST/34.305869, -83.649236 | | |
| Client: Vertical Bridge | Drawn by: christopher.guidry | App'd: |
| Code: TIA-222-H | Date: 12/19/22 | Scale: NTS |
| Path: | Dwg No. E-7 | |

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| | | |
|--|--|--|
| <p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | Job ATS 9832 - Gillsville (Site# US-GA-5321) | Page 1 of 33 |
| | Project 255' SST/34.305869, -83.649236 | Date 15:51:53 12/19/22 |
| | Client Vertical Bridge | Designed by christopher.guidry |

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 255.000 ft above the ground line.

The base of the tower is set at an elevation of 0.000 ft above the ground line.

The face width of the tower is 4.875 ft at the top and 24.000 ft at the base.

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

The following design criteria apply:

Tower is located in Hall County, Georgia.

Tower base elevation above sea level: 913.000 ft.

Basic wind speed of 107 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.500 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

Please see feedline plan for proper feedline placement. Deviation from plan may reduce tower capacity..

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

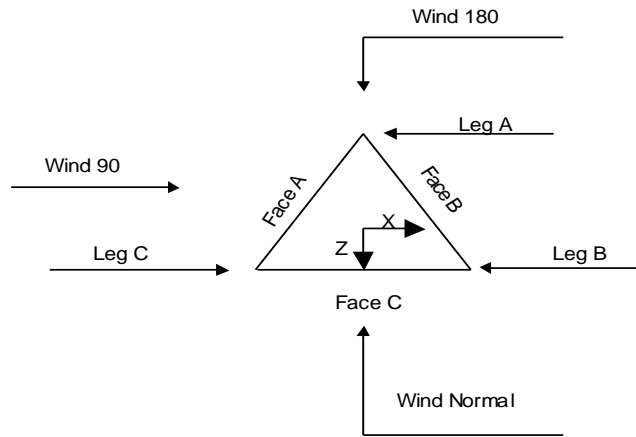
Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque √ Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles Include Shear-Torsion Interaction 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 |
|--|---|---|

| | | |
|---|--|--|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job ATS 9832 - Gillsville (Site# US-GA-5321) | Page 2 of 33 |
| | Project 255' SST/34.305869, -83.649236 | Date 15:51:53 12/19/22 |
| | Client Vertical Bridge | Designed by christopher.guidry |



Triangular Tower

Tower Section Geometry

| Tower Section | Tower Elevation | Assembly Database | Description | Section Width | Number of Sections | Section Length |
|---------------|-----------------|-------------------|-------------|---------------|--------------------|----------------|
| | ft | | | ft | | ft |
| T1 | 255.000-240.000 | | | 4.875 | 1 | 15.000 |
| T2 | 240.000-220.000 | | | 6.000 | 1 | 20.000 |
| T3 | 220.000-200.000 | | | 7.500 | 1 | 20.000 |
| T4 | 200.000-180.000 | | | 9.000 | 1 | 20.000 |
| T5 | 180.000-160.000 | | | 10.500 | 1 | 20.000 |
| T6 | 160.000-140.000 | | | 12.000 | 1 | 20.000 |
| T7 | 140.000-120.000 | | | 13.500 | 1 | 20.000 |
| T8 | 120.000-100.000 | | | 15.000 | 1 | 20.000 |
| T9 | 100.000-80.000 | | | 16.500 | 1 | 20.000 |
| T10 | 80.000-60.000 | | | 18.000 | 1 | 20.000 |
| T11 | 60.000-40.000 | | | 19.500 | 1 | 20.000 |
| T12 | 40.000-20.000 | | | 21.000 | 1 | 20.000 |
| T13 | 20.000-0.000 | | | 22.500 | 1 | 20.000 |

Tower Section Geometry (cont'd)

| 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 |
| T1 | 255.000-240.000 | 4.667 | X Brace | No | No | 6.000 | 6.000 |
| T2 | 240.000-220.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |

| | | | |
|----------------|--|--------------------|--------------------|
| Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 3 of 33 |
| Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| Client | Vertical Bridge | Designed by | christopher.guidry |

| Tower Section | Tower Elevation ft | Diagonal Spacing ft | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset in | Bottom Girt Offset in |
|---------------|-----------------------|------------------------|--------------|------------------------|-----------------|-----------------------|--------------------------|
| T3 | 220.000-200.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T4 | 200.000-180.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T5 | 180.000-160.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T6 | 160.000-140.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T7 | 140.000-120.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T8 | 120.000-100.000 | 4.750 | X Brace | No | No | 6.000 | 6.000 |
| T9 | 100.000-80.000 | 4.750 | Double K | No | Yes | 6.000 | 6.000 |
| T10 | 80.000-60.000 | 4.750 | Double K | No | Yes | 6.000 | 6.000 |
| T11 | 60.000-40.000 | 4.750 | Double K | No | Yes | 6.000 | 6.000 |
| T12 | 40.000-20.000 | 4.750 | Double K | No | Yes | 6.000 | 6.000 |
| T13 | 20.000-0.000 | 4.750 | Double K | No | Yes | 6.000 | 6.000 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Type | Leg Size | Leg Grade | Diagonal Type | Diagonal Size | Diagonal Grade |
|-----------------------|-----------------|----------|------------------|--------------------|------------------------|------------------|
| 255.000-240.000 | T1 Solid Round | 1 3/4 | A529-50 (50 ksi) | Equal Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| 240.000-220.000 | T2 Solid Round | 2 1/4 | A529-50 (50 ksi) | Equal Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| 220.000-200.000 | T3 Solid Round | 2 3/4 | A529-50 (50 ksi) | Equal Angle | L2x2x1/4 | A36M-50 (50 ksi) |
| 200.000-180.000 | T4 Solid Round | 3 | A529-50 (50 ksi) | Equal Angle | L2 1/2x2 1/2x3/16 | A36M-50 (50 ksi) |
| 180.000-160.000 | T5 Solid Round | 3 1/4 | A529-50 (50 ksi) | Equal Angle | L2 1/2x2 1/2x3/16 | A36M-50 (50 ksi) |
| 160.000-140.000 | T6 Solid Round | 3 1/2 | A529-50 (50 ksi) | Equal Angle | L2 1/2x2 1/2x1/4 | A36M-50 (50 ksi) |
| 140.000-120.000 | T7 Solid Round | 3 3/4 | A529-50 (50 ksi) | Equal Angle | L3x3x3/16 | A36M-50 (50 ksi) |
| 120.000-100.000 | T8 Solid Round | 4 | A529-50 (50 ksi) | Equal Angle | L3x3x1/4 | A36M-50 (50 ksi) |
| 100.000-80.000 | T9 Solid Round | 4 1/4 | A529-50 (50 ksi) | Double Equal Angle | 2L2x2x1/4x3/8 | A36M-50 (50 ksi) |
| 80.000-60.000 | T10 Solid Round | 4 1/4 | A529-50 (50 ksi) | Double Equal Angle | 2L2 1/2x2 1/2x3/16x3/8 | A36M-50 (50 ksi) |
| 60.000-40.000 | T11 Solid Round | 4 1/2 | A529-50 (50 ksi) | Double Equal Angle | 2L2 1/2x2 1/2x3/16x3/8 | A36M-50 (50 ksi) |
| 40.000-20.000 | T12 Solid Round | 4 3/4 | A529-50 (50 ksi) | Double Equal Angle | 2L2 1/2x2 1/2x1/4x3/8 | A36M-50 (50 ksi) |
| T13 20.000-0.000 | T13 Solid Round | 4 3/4 | A529-50 (50 ksi) | Double Equal Angle | 2L3x3x3/16x3/8 | A36M-50 (50 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Top Girt Type | Top Girt Size | Top Girt Grade | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|-----------------------|----------------|-------------------|------------------|------------------|------------------|-------------------|
| 255.000-240.000 | T1 Equal Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) | Solid Round | | A36M-50 (50 ksi) |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 4 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

Tower Section Geometry (cont'd)

| Tower Elevation | No. of Mid Girts | Mid Girt Type | Mid Girt Size | Mid Girt Grade | Horizontal Type | Horizontal Size | Horizontal Grade |
|----------------------|------------------|---------------|---------------|-----------------|--------------------|------------------------|---------------------|
| ft | | | | | | | |
| T9 100.000-80.000 | None | Flat Bar | | A36 (36 ksi) | Double Angle | 2L1 3/4x1 3/4x3/16x3/8 | A36M-50 (50 ksi) |
| T10 80.000-60.000 | None | Flat Bar | | A36 (36 ksi) | Double Equal Angle | 2L2x2x3/16x3/8 | A36M-50 (50 ksi) |
| T11 60.000-40.000 | None | Flat Bar | | A36 (36 ksi) | Double Equal Angle | 2L2x2x3/16x3/8 | A36M-50 (50 ksi) |
| T12 40.000-20.000 | None | Flat Bar | | A36 (36 ksi) | Double Equal Angle | 2L2x2x1/4x3/8 | A36M-50 (50 ksi) |
| T13 20.000-0.000 | None | Flat Bar | | A36 (36 ksi) | Double Equal Angle | 2L2 1/2x2 1/2x3/16x3/8 | A36M-50 (50 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation | Secondary Horizontal Type | Secondary Horizontal Size | Secondary Horizontal Grade | Inner Bracing Type | Inner Bracing Size | Inner Bracing Grade |
|----------------------|---------------------------|---------------------------|----------------------------|--------------------|--------------------|---------------------|
| ft | | | | | | |
| T9 100.000-80.000 | Solid Round | | A36M-50 (50 ksi) | Single Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| T10 80.000-60.000 | Solid Round | | A36M-50 (50 ksi) | Single Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| T11 60.000-40.000 | Solid Round | | A36M-50 (50 ksi) | Single Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| T12 40.000-20.000 | Solid Round | | A36M-50 (50 ksi) | Single Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |
| T13 20.000-0.000 | Solid Round | | A36M-50 (50 ksi) | Single Angle | L1 3/4x1 3/4x3/16 | A36M-50 (50 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | 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 ² | in | | | | | in | in | in |
| T1 255.000-240.000 | 0.000 | 0.375 | A36M-50 (50 ksi) | 1 | 1 | 1 | 36.000 | 36.000 | 36.000 |
| T2 240.000-220.000 | 0.000 | 0.375 | A36M-50 (50 ksi) | 1 | 1 | 1 | 36.000 | 36.000 | 36.000 |
| T3 220.000-200.000 | 0.000 | 0.375 | A36M-50 (50 ksi) | 1 | 1 | 1 | 36.000 | 36.000 | 36.000 |

| | | | | |
|---|----------------|--|--------------------|--------------------|
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| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Connection Type | Leg | | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|-----------------------|------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
| | | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. |
| T1 255.000-240.000 | Flange | 0.000 A325N | 0 | 0.625 A325X | 1 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T2 240.000-220.000 | Flange | 0.750 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T3 220.000-200.000 | Flange | 0.750 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T4 200.000-180.000 | Flange | 1.000 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T5 180.000-160.000 | Flange | 1.000 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T6 160.000-140.000 | Flange | 1.000 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T7 140.000-120.000 | Flange | 1.250 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T8 120.000-100.000 | Flange | 1.250 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 |
| T9 100.000-80.000 | Flange | 1.250 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.625 A325X | 1 | 0.625 A325N | 0 |
| T10 80.000-60.000 | Flange | 1.250 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.625 A325X | 1 | 0.625 A325N | 0 |
| T11 60.000-40.000 | Flange | 1.500 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.625 A325X | 1 | 0.625 A325N | 0 |
| T12 40.000-20.000 | Flange | 1.500 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.625 A325X | 1 | 0.625 A325N | 0 |
| T13 20.000-0.000 | Flange | 1.500 A325N | 6 | 0.625 A325X | 1 | 0.000 A325X | 0 | 0.000 A325X | 0 | 0.625 A325N | 0 | 0.625 A325X | 1 | 0.625 A325N | 0 |

Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight klf |
|------------------------------|-------------|--------------|---------------------------------|----------------|------------------|-------------------|-----------------------------|----|-----------|---------------------|-------------------------|-----------------|---------------|
| 1-5/8" Line (Carrier 1) * | C | No | No | Ar (CaAa) | 250.000 - 10.000 | 0.000 | 0 | 12 | 6 | 0.750 | 1.980 | | 0.001 |
| 1-5/8" Line (Carrier 2) * | B | No | No | Ar (CaAa) | 240.000 - 10.000 | 0.000 | 0 | 12 | 6 | 0.750 | 1.980 | | 0.001 |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 9 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight klf |
|-------------------------------|-------------|--------------|---------------------------------|----------------|------------------|----------------|--------------------------|----|-----------|------------------|----------------------|--------------|------------|
| 1-5/8" Line (Carrier 3) * | A | No | No | Ar (CaAa) | 230.000 - 10.000 | 0.000 | 0 | 12 | 6 | 0.750 | 1.980 | | 0.001 |
| 1-5/8" Line (Carrier 4) ** | C | No | No | Ar (CaAa) | 220.000 - 10.000 | 0.000 | -0.3 | 12 | 6 | 0.750 | 1.980 | | 0.001 |
| 1-5/8" Line (Carrier 5) * | B | No | No | Ar (CaAa) | 210.000 - 10.000 | 0.000 | -0.3 | 12 | 6 | 0.750 | 1.980 | | 0.001 |
| Safety Line 3/8 | A | No | No | Ar (CaAa) | 255.000 - 10.000 | 0.000 | 0.45 | 1 | 1 | 0.375 | 0.375 | | 0.000 |
| Strobe Cable ** | A | No | No | Ar (CaAa) | 255.000 - 10.000 | 0.000 | -0.45 | 1 | 1 | 1.250 | 1.250 | | 0.001 |
| Feedline Ladder (Af) | C | No | No | Af (CaAa) | 250.000 - 10.000 | 0.000 | 0.3 | 1 | 1 | 3.000 | 0.250 | | 0.008 |
| Feedline Ladder (Af) | B | No | No | Af (CaAa) | 240.000 - 10.000 | 0.000 | 0.3 | 1 | 1 | 3.000 | 0.250 | | 0.008 |
| Feedline Ladder (Af) ** | A | No | No | Af (CaAa) | 230.000 - 10.000 | 0.000 | 0.3 | 1 | 1 | 3.000 | 0.250 | | 0.008 |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Total Number | C _A A _A ft ² /ft | Weight klf |
|-------------|-------------|--------------|---------------------------------|----------------|--------------|--------------|---|------------|
| ** | | | | | | | | |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight K |
|---------------|--------------------|------|--------------------------------|--------------------------------|---|--|----------|
| T1 | 255.000-240.000 | A | 0.000 | 0.000 | 2.438 | 0.000 | 0.014 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | 0.000 | 0.000 | 24.177 | 0.000 | 0.182 |
| T2 | 240.000-220.000 | A | 0.000 | 0.000 | 27.427 | 0.000 | 0.201 |
| | | B | 0.000 | 0.000 | 48.353 | 0.000 | 0.365 |
| | | C | 0.000 | 0.000 | 48.353 | 0.000 | 0.365 |
| T3 | 220.000-200.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 72.113 | 0.000 | 0.463 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T4 | 200.000-180.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T5 | 180.000-160.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |

| Tower Section | Tower Elevation ft | Face | A_R ft ² | A_F ft ² | C_{AA} In Face ft ² | C_{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|--------------------------|--------------------------|--|---|-------------|
| T6 | 160.000-140.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T7 | 140.000-120.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T8 | 120.000-100.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T9 | 100.000-80.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T10 | 80.000-60.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T11 | 60.000-40.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T12 | 40.000-20.000 | A | 0.000 | 0.000 | 51.603 | 0.000 | 0.383 |
| | | B | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| | | C | 0.000 | 0.000 | 95.873 | 0.000 | 0.562 |
| T13 | 20.000-0.000 | A | 0.000 | 0.000 | 25.802 | 0.000 | 0.192 |
| | | B | 0.000 | 0.000 | 47.937 | 0.000 | 0.281 |
| | | C | 0.000 | 0.000 | 47.937 | 0.000 | 0.281 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A_R ft ² | A_F ft ² | C_{AA} In Face ft ² | C_{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------------|------------------------|--------------------------|--------------------------|--|---|-------------|
| T1 | 255.000-240.000 | A | 1.835 | 0.000 | 0.000 | 13.447 | 0.000 | 0.192 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | C | | 0.000 | 0.000 | 30.387 | 0.000 | 0.723 |
| T2 | 240.000-220.000 | A | 1.821 | 0.000 | 0.000 | 48.137 | 0.000 | 0.972 |
| | | B | | 0.000 | 0.000 | 60.632 | 0.000 | 1.438 |
| | | C | | 0.000 | 0.000 | 60.632 | 0.000 | 1.438 |
| T3 | 220.000-200.000 | A | 1.805 | 0.000 | 0.000 | 78.147 | 0.000 | 1.679 |
| | | B | | 0.000 | 0.000 | 86.659 | 0.000 | 1.981 |
| | | C | | 0.000 | 0.000 | 112.862 | 0.000 | 2.532 |
| T4 | 200.000-180.000 | A | 1.787 | 0.000 | 0.000 | 77.813 | 0.000 | 1.665 |
| | | B | | 0.000 | 0.000 | 112.553 | 0.000 | 2.515 |
| | | C | | 0.000 | 0.000 | 112.553 | 0.000 | 2.515 |
| T5 | 180.000-160.000 | A | 1.767 | 0.000 | 0.000 | 77.446 | 0.000 | 1.651 |
| | | B | | 0.000 | 0.000 | 112.215 | 0.000 | 2.497 |
| | | C | | 0.000 | 0.000 | 112.215 | 0.000 | 2.497 |
| T6 | 160.000-140.000 | A | 1.745 | 0.000 | 0.000 | 77.038 | 0.000 | 1.634 |
| | | B | | 0.000 | 0.000 | 111.838 | 0.000 | 2.477 |
| | | C | | 0.000 | 0.000 | 111.838 | 0.000 | 2.477 |
| T7 | 140.000-120.000 | A | 1.720 | 0.000 | 0.000 | 76.577 | 0.000 | 1.616 |
| | | B | | 0.000 | 0.000 | 111.413 | 0.000 | 2.454 |
| | | C | | 0.000 | 0.000 | 111.413 | 0.000 | 2.454 |
| T8 | 120.000-100.000 | A | 1.692 | 0.000 | 0.000 | 76.048 | 0.000 | 1.595 |
| | | B | | 0.000 | 0.000 | 110.925 | 0.000 | 2.428 |
| | | C | | 0.000 | 0.000 | 110.925 | 0.000 | 2.428 |
| T9 | 100.000-80.000 | A | 1.658 | 0.000 | 0.000 | 75.425 | 0.000 | 1.571 |
| | | B | | 0.000 | 0.000 | 110.350 | 0.000 | 2.398 |
| | | C | | 0.000 | 0.000 | 110.350 | 0.000 | 2.398 |
| T10 | 80.000-60.000 | A | 1.617 | 0.000 | 0.000 | 74.661 | 0.000 | 1.542 |

| | | |
|--|---|---|
| <p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>ATS 9832 - Gillsville (Site# US-GA-5321)</p> | <p>Page</p> <p>11 of 33</p> |
| | <p>Project</p> <p>255' SST/34.305869, -83.649236</p> | <p>Date</p> <p>15:51:53 12/19/22</p> |
| | <p>Client</p> <p>Vertical Bridge</p> | <p>Designed by</p> <p>christopher.guidry</p> |

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|---|--|-------------|
| T11 | 60.000-40.000 | B | | 0.000 | 0.000 | 109.646 | 0.000 | 2.361 |
| | | C | | 0.000 | 0.000 | 109.646 | 0.000 | 2.361 |
| | | A | 1.564 | 0.000 | 0.000 | 73.669 | 0.000 | 1.504 |
| T12 | 40.000-20.000 | B | | 0.000 | 0.000 | 108.732 | 0.000 | 2.313 |
| | | C | | 0.000 | 0.000 | 108.732 | 0.000 | 2.313 |
| | | A | 1.486 | 0.000 | 0.000 | 72.226 | 0.000 | 1.450 |
| T13 | 20.000-0.000 | B | | 0.000 | 0.000 | 107.402 | 0.000 | 2.245 |
| | | C | | 0.000 | 0.000 | 107.402 | 0.000 | 2.245 |
| | | A | 1.331 | 0.000 | 0.000 | 34.681 | 0.000 | 0.673 |
| | | B | | 0.000 | 0.000 | 52.384 | 0.000 | 1.056 |
| | | C | | 0.000 | 0.000 | 52.384 | 0.000 | 1.056 |

Feed Line Center of Pressure

| Section | Elevation ft | CP _x in | CP _z in | CP _x Ice in | CP _z Ice in |
|---------|-----------------|-----------------------|-----------------------|------------------------------|------------------------------|
| T1 | 255.000-240.000 | -1.006 | 3.077 | -2.585 | 1.983 |
| T2 | 240.000-220.000 | 0.773 | -2.422 | -0.286 | -1.275 |
| T3 | 220.000-200.000 | 5.433 | -5.104 | 3.171 | -3.286 |
| T4 | 200.000-180.000 | 5.997 | -8.313 | 3.806 | -5.969 |
| T5 | 180.000-160.000 | 6.541 | -9.068 | 4.179 | -6.556 |
| T6 | 160.000-140.000 | 7.027 | -9.745 | 4.520 | -7.092 |
| T7 | 140.000-120.000 | 6.993 | -9.735 | 4.674 | -7.358 |
| T8 | 120.000-100.000 | 7.345 | -10.231 | 4.950 | -7.786 |
| T9 | 100.000-80.000 | 9.754 | -13.419 | 6.087 | -9.463 |
| T10 | 80.000-60.000 | 9.637 | -13.321 | 6.249 | -9.730 |
| T11 | 60.000-40.000 | 10.049 | -13.893 | 6.589 | -10.224 |
| T12 | 40.000-20.000 | 10.422 | -14.412 | 6.952 | -10.732 |
| T13 | 20.000-0.000 | 6.135 | -8.557 | 4.391 | -6.747 |

Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|----------------------|-------------------------|--------------------------|-----------------------|
| T1 | 1 | 1-5/8" Line | 240.00 - 250.00 | 0.6000 | 0.6000 |
| T1 | 11 | Safety Line 3/8 | 240.00 - 255.00 | 0.6000 | 0.6000 |
| T1 | 12 | Strobe Cable | 240.00 - 255.00 | 0.6000 | 0.6000 |
| T1 | 14 | Feedline Ladder (Af) | 240.00 - 250.00 | 0.6000 | 0.6000 |
| T2 | 1 | 1-5/8" Line | 220.00 - 240.00 | 0.6000 | 0.6000 |
| T2 | 3 | 1-5/8" Line | 220.00 - 240.00 | 0.6000 | 0.6000 |
| T2 | 5 | 1-5/8" Line | 220.00 - 230.00 | 0.6000 | 0.6000 |
| T2 | 11 | Safety Line 3/8 | 220.00 - 240.00 | 0.6000 | 0.6000 |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|----------------------|-------------------------|-----------------|--------------|
| T2 | 12 | Strobe Cable | 220.00 - 240.00 | 0.6000 | 0.6000 |
| T2 | 14 | Feedline Ladder (Af) | 220.00 - 240.00 | 0.6000 | 0.6000 |
| T2 | 15 | Feedline Ladder (Af) | 220.00 - 240.00 | 0.6000 | 0.6000 |
| T2 | 16 | Feedline Ladder (Af) | 220.00 - 230.00 | 0.6000 | 0.6000 |
| T3 | 1 | 1-5/8" Line | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 3 | 1-5/8" Line | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 5 | 1-5/8" Line | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 7 | 1-5/8" Line | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 9 | 1-5/8" Line | 200.00 - 210.00 | 0.6000 | 0.6000 |
| T3 | 11 | Safety Line 3/8 | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 12 | Strobe Cable | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 14 | Feedline Ladder (Af) | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 15 | Feedline Ladder (Af) | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T3 | 16 | Feedline Ladder (Af) | 200.00 - 220.00 | 0.6000 | 0.6000 |
| T4 | 1 | 1-5/8" Line | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 3 | 1-5/8" Line | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 5 | 1-5/8" Line | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 7 | 1-5/8" Line | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 9 | 1-5/8" Line | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 11 | Safety Line 3/8 | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 12 | Strobe Cable | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 14 | Feedline Ladder (Af) | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 15 | Feedline Ladder (Af) | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T4 | 16 | Feedline Ladder (Af) | 180.00 - 200.00 | 0.6000 | 0.6000 |
| T5 | 1 | 1-5/8" Line | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 3 | 1-5/8" Line | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 5 | 1-5/8" Line | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 7 | 1-5/8" Line | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 9 | 1-5/8" Line | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 11 | Safety Line 3/8 | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 12 | Strobe Cable | 160.00 - 180.00 | 0.6000 | 0.6000 |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|----------------------|-------------------------|-----------------|--------------|
| T5 | 14 | Feedline Ladder (Af) | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 15 | Feedline Ladder (Af) | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T5 | 16 | Feedline Ladder (Af) | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T6 | 1 | 1-5/8" Line | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 3 | 1-5/8" Line | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 5 | 1-5/8" Line | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 7 | 1-5/8" Line | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 9 | 1-5/8" Line | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 11 | Safety Line 3/8 | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 12 | Strobe Cable | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 14 | Feedline Ladder (Af) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 15 | Feedline Ladder (Af) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T6 | 16 | Feedline Ladder (Af) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T7 | 1 | 1-5/8" Line | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 3 | 1-5/8" Line | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 5 | 1-5/8" Line | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 7 | 1-5/8" Line | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 9 | 1-5/8" Line | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 11 | Safety Line 3/8 | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 12 | Strobe Cable | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 14 | Feedline Ladder (Af) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 15 | Feedline Ladder (Af) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T7 | 16 | Feedline Ladder (Af) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T8 | 1 | 1-5/8" Line | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 3 | 1-5/8" Line | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 5 | 1-5/8" Line | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 7 | 1-5/8" Line | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 9 | 1-5/8" Line | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 11 | Safety Line 3/8 | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 12 | Strobe Cable | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 14 | Feedline Ladder (Af) | 100.00 - 120.00 | 0.6000 | 0.6000 |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|----------------------|-------------------------|--------------|-----------|
| T8 | 15 | Feedline Ladder (Af) | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T8 | 16 | Feedline Ladder (Af) | 100.00 - 120.00 | 0.6000 | 0.6000 |
| T9 | 1 | 1-5/8" Line | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 3 | 1-5/8" Line | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 5 | 1-5/8" Line | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 7 | 1-5/8" Line | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 9 | 1-5/8" Line | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 11 | Safety Line 3/8 | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 12 | Strobe Cable | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 14 | Feedline Ladder (Af) | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 15 | Feedline Ladder (Af) | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T9 | 16 | Feedline Ladder (Af) | 80.00 - 100.00 | 0.6000 | 0.6000 |
| T10 | 1 | 1-5/8" Line | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 3 | 1-5/8" Line | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 5 | 1-5/8" Line | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 7 | 1-5/8" Line | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 9 | 1-5/8" Line | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 11 | Safety Line 3/8 | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 12 | Strobe Cable | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 14 | Feedline Ladder (Af) | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 15 | Feedline Ladder (Af) | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T10 | 16 | Feedline Ladder (Af) | 60.00 - 80.00 | 0.6000 | 0.6000 |
| T11 | 1 | 1-5/8" Line | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 3 | 1-5/8" Line | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 5 | 1-5/8" Line | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 7 | 1-5/8" Line | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 9 | 1-5/8" Line | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 11 | Safety Line 3/8 | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 12 | Strobe Cable | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 14 | Feedline Ladder (Af) | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 15 | Feedline Ladder (Af) | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T11 | 16 | Feedline Ladder (Af) | 40.00 - 60.00 | 0.6000 | 0.6000 |
| T12 | 1 | 1-5/8" Line | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 3 | 1-5/8" Line | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 5 | 1-5/8" Line | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 7 | 1-5/8" Line | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 9 | 1-5/8" Line | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 11 | Safety Line 3/8 | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 12 | Strobe Cable | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 14 | Feedline Ladder (Af) | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 15 | Feedline Ladder (Af) | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T12 | 16 | Feedline Ladder (Af) | 20.00 - 40.00 | 0.6000 | 0.6000 |
| T13 | 1 | 1-5/8" Line | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 3 | 1-5/8" Line | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 5 | 1-5/8" Line | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 7 | 1-5/8" Line | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 9 | 1-5/8" Line | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 11 | Safety Line 3/8 | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 12 | Strobe Cable | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 14 | Feedline Ladder (Af) | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 15 | Feedline Ladder (Af) | 10.00 - 20.00 | 0.6000 | 0.6000 |
| T13 | 16 | Feedline Ladder (Af) | 10.00 - 20.00 | 0.6000 | 0.6000 |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 15 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight | |
|--|-------------|-------------|--------------|-------|--------------------|-----------|-----------------------|----------------------|---------|-------|
| | | | Horz Lateral | Vert | | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| Lightning Rod 1"x10' | C | From Leg | 0.000 | 0.000 | 0.000 | 255.000 | No Ice | 1.000 | 1.000 | 0.040 |
| | | | 0.000 | | | | 1/2" Ice | 2.017 | 2.017 | 0.049 |
| | | | 5.000 | | | | 1" Ice | 3.050 | 3.050 | 0.065 |
| | | | | | | | 2" Ice | 5.148 | 5.148 | 0.116 |
| Top Beacon | B | From Leg | 0.000 | 0.000 | 0.000 | 255.000 | No Ice | 2.700 | 2.700 | 0.050 |
| | | | 0.000 | | | | 1/2" Ice | 3.100 | 3.100 | 0.070 |
| | | | 1.000 | | | | 1" Ice | 3.500 | 3.500 | 0.090 |
| | | | | | | | 2" Ice | 4.300 | 4.300 | 0.130 |
| ** | | | | | | | | | | |
| Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | A | From Leg | 4.000 | 0.000 | 0.000 | 250.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | B | From Leg | 4.000 | 0.000 | 0.000 | 250.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 1) | C | From Leg | 4.000 | 0.000 | 0.000 | 250.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| ** | | | | | | | | | | |
| Sector1(CaAa=10000 Sq.in)No Ice (Carrier 2) | A | From Leg | 4.000 | 0.000 | 0.000 | 240.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector2(CaAa=10000 Sq.in)No Ice (Carrier 2) | B | From Leg | 4.000 | 0.000 | 0.000 | 240.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector3(CaAa=10000 Sq.in)No Ice (Carrier 2) | C | From Leg | 4.000 | 0.000 | 0.000 | 240.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| ** | | | | | | | | | | |
| Sector1(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | A | From Leg | 4.000 | 0.000 | 0.000 | 230.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| Sector2(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | B | From Leg | 4.000 | 0.000 | 0.000 | 230.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| Sector3(CaAa=13333.33 Sq.in)No Ice (Carrier 3) | C | From Leg | 4.000 | 0.000 | 0.000 | 230.000 | No Ice | 92.600 | 62.040 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 115.750 | 77.550 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 138.900 | 93.060 | 2.100 |
| | | | | | | | 2" Ice | 185.200 | 124.080 | 3.500 |
| ** | | | | | | | | | | |
| Sector1(CaAa=10000 Sq.in)No Ice (Carrier 4) | A | From Leg | 4.000 | 0.000 | 0.000 | 220.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector2(CaAa=10000 Sq.in)No Ice | B | From Leg | 4.000 | 0.000 | 0.000 | 220.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 16 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA Front | CAAA Side | Weight |
|---|-------------|-------------|----------|-------|--------------------|-----------|-----------------|-----------------|--------|
| | | | Horz | Vert | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| (Carrier 4) | | | 0.000 | | | | | | |
| | | | | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector3(CaAa=10000 Sq.in)No Ice (Carrier 4) | C | From Leg | 4.000 | 0.000 | 220.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| ** | | | | | | | | | |
| Sector1(CaAa=10000 Sq.in)No Ice (Carrier 5) | A | From Leg | 4.000 | 0.000 | 210.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector2(CaAa=10000 Sq.in)No Ice (Carrier 5) | B | From Leg | 4.000 | 0.000 | 210.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |
| Sector3(CaAa=10000 Sq.in)No Ice (Carrier 5) | C | From Leg | 4.000 | 0.000 | 210.000 | No Ice | 69.440 | 46.525 | 0.700 |
| | | | 0.000 | | | 1/2" Ice | 86.800 | 58.156 | 1.400 |
| | | | 0.000 | | | 1" Ice | 104.160 | 69.787 | 2.100 |
| | | | | | | 2" Ice | 138.880 | 93.050 | 3.500 |

Load Combinations

| Comb. No. | Description |
|-----------|--|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.0 Wind 0 deg - No Ice |
| 3 | 0.9 Dead+1.0 Wind 0 deg - No Ice |
| 4 | 1.2 Dead+1.0 Wind 30 deg - No Ice |
| 5 | 0.9 Dead+1.0 Wind 30 deg - No Ice |
| 6 | 1.2 Dead+1.0 Wind 60 deg - No Ice |
| 7 | 0.9 Dead+1.0 Wind 60 deg - No Ice |
| 8 | 1.2 Dead+1.0 Wind 90 deg - No Ice |
| 9 | 0.9 Dead+1.0 Wind 90 deg - No Ice |
| 10 | 1.2 Dead+1.0 Wind 120 deg - No Ice |
| 11 | 0.9 Dead+1.0 Wind 120 deg - No Ice |
| 12 | 1.2 Dead+1.0 Wind 150 deg - No Ice |
| 13 | 0.9 Dead+1.0 Wind 150 deg - No Ice |
| 14 | 1.2 Dead+1.0 Wind 180 deg - No Ice |
| 15 | 0.9 Dead+1.0 Wind 180 deg - No Ice |
| 16 | 1.2 Dead+1.0 Wind 210 deg - No Ice |
| 17 | 0.9 Dead+1.0 Wind 210 deg - No Ice |
| 18 | 1.2 Dead+1.0 Wind 240 deg - No Ice |
| 19 | 0.9 Dead+1.0 Wind 240 deg - No Ice |
| 20 | 1.2 Dead+1.0 Wind 270 deg - No Ice |
| 21 | 0.9 Dead+1.0 Wind 270 deg - No Ice |
| 22 | 1.2 Dead+1.0 Wind 300 deg - No Ice |
| 23 | 0.9 Dead+1.0 Wind 300 deg - No Ice |
| 24 | 1.2 Dead+1.0 Wind 330 deg - No Ice |
| 25 | 0.9 Dead+1.0 Wind 330 deg - No Ice |
| 26 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 27 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |

| | | |
|---|--|--|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job ATS 9832 - Gillsville (Site# US-GA-5321) | Page 17 of 33 |
| | Project 255' SST/34.305869, -83.649236 | Date 15:51:53 12/19/22 |
| | Client Vertical Bridge | Designed by christopher.guidry |

| Comb. No. | Description |
|-----------|--|
| 28 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp |
| 29 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp |
| 30 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 31 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 32 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 33 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 34 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |
| 35 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 36 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 37 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 38 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 39 | Dead+Wind 0 deg - Service |
| 40 | Dead+Wind 30 deg - Service |
| 41 | Dead+Wind 60 deg - Service |
| 42 | Dead+Wind 90 deg - Service |
| 43 | Dead+Wind 120 deg - Service |
| 44 | Dead+Wind 150 deg - Service |
| 45 | Dead+Wind 180 deg - Service |
| 46 | Dead+Wind 210 deg - Service |
| 47 | Dead+Wind 240 deg - Service |
| 48 | Dead+Wind 270 deg - Service |
| 49 | Dead+Wind 300 deg - Service |
| 50 | Dead+Wind 330 deg - Service |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| T1 | 255 - 240 | Leg | Max Tension | 15 | 12.934 | 1.028 | -0.001 |
| | | | Max. Compression | 2 | -14.871 | 0.508 | -0.001 |
| | | | Max. Mx | 2 | -14.869 | -1.108 | 0.002 |
| | | | Max. My | 4 | -1.209 | 0.003 | 0.678 |
| | | | Max. Vy | 2 | -3.231 | 0.508 | -0.001 |
| | | | Max. Vx | 12 | 1.979 | -0.003 | -0.098 |
| | | Diagonal | Max Tension | 8 | 3.200 | 0.000 | 0.000 |
| | | | Max. Compression | 8 | -2.986 | 0.000 | 0.000 |
| | | | Max. Mx | 34 | 0.252 | 0.021 | -0.002 |
| | | | Max. My | 20 | -2.979 | 0.004 | 0.008 |
| | | | Max. Vy | 36 | 0.023 | 0.020 | 0.002 |
| | | | Max. Vx | 20 | -0.002 | 0.000 | 0.000 |
| | | Top Girt | Max Tension | 22 | 0.803 | 0.000 | 0.000 |
| | | | Max. Compression | 11 | -0.693 | 0.000 | 0.000 |
| | | | Max. Mx | 26 | 0.086 | -0.037 | 0.000 |
| | | | Max. My | 28 | 0.084 | 0.000 | 0.001 |
| | | | Max. Vy | 26 | 0.030 | 0.000 | 0.000 |
| | | | Max. Vx | 28 | 0.001 | 0.000 | 0.000 |
| T2 | 240 - 220 | Leg | Max Tension | 15 | 57.649 | 2.334 | 0.000 |
| | | | Max. Compression | 2 | -64.383 | 1.271 | -0.008 |
| | | | Max. Mx | 2 | -15.724 | 2.859 | -0.003 |
| | | | Max. My | 4 | -3.812 | 0.035 | 1.662 |
| | | | Max. Vy | 2 | -8.173 | 1.271 | -0.008 |
| | | | Max. Vx | 4 | 3.672 | 0.003 | -0.174 |
| | | Diagonal | Max Tension | 4 | 7.410 | 0.000 | 0.000 |
| | | | Max. Compression | 2 | -6.973 | 0.000 | 0.000 |
| | | | Max. Mx | 2 | 1.339 | 0.036 | -0.001 |
| | | | Max. My | 8 | -5.350 | 0.003 | -0.033 |
| | | | Max. Vy | 32 | 0.029 | 0.028 | -0.003 |
| | | | Max. Vx | 8 | 0.009 | 0.000 | 0.000 |

| | |
|----------------|--|
| Job | ATS 9832 - Gillsville (Site# US-GA-5321) |
| Project | 255' SST/34.305869, -83.649236 |
| Client | Vertical Bridge |

| | |
|--------------------|--------------------|
| Page | 18 of 33 |
| Date | 15:51:53 12/19/22 |
| Designed by | christopher.guidry |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | | | |
|-------------|------------------|----------------|------------------|-----------------|----------|--------------------------|--------------------------|----------|-------|--------|
| T3 | 220 - 200 | Leg | Max Tension | 15 | 119.097 | 4.215 | -0.036 | | | |
| | | | Max. Compression | 2 | -131.987 | 1.063 | -0.018 | | | |
| | | | Max. Mx | 2 | -65.250 | 6.051 | -0.020 | | | |
| | | | Max. My | 4 | -4.627 | -0.048 | -2.756 | | | |
| | | | Max. Vy | 2 | -12.628 | 1.063 | -0.018 | | | |
| | | | Max. Vx | 4 | 5.632 | -0.000 | -0.297 | | | |
| | | Diagonal | Max Tension | 24 | 10.676 | 0.000 | 0.000 | | | |
| | | | Max. Compression | 24 | -9.933 | 0.000 | 0.000 | | | |
| | | | Max. Mx | 2 | 2.219 | 0.053 | 0.002 | | | |
| | | | Max. My | 8 | -9.489 | 0.000 | -0.041 | | | |
| | | | Max. Vy | 34 | 0.040 | 0.042 | -0.004 | | | |
| | | | Max. Vx | 8 | 0.009 | 0.000 | 0.000 | | | |
| | | | T4 | 200 - 180 | Leg | Max Tension | 15 | 176.702 | 4.465 | -0.076 |
| | | | | | | Max. Compression | 2 | -193.740 | 1.065 | -0.025 |
| Max. Mx | 2 | -132.008 | | | | 7.349 | -0.098 | | | |
| Max. My | 4 | -7.006 | | | | -0.067 | -3.118 | | | |
| Max. Vy | 2 | -13.549 | | | | 1.065 | -0.025 | | | |
| Max. Vx | 4 | 5.641 | | | | -0.067 | -3.118 | | | |
| Diagonal | Max Tension | 24 | | | 10.349 | 0.000 | 0.000 | | | |
| | Max. Compression | 24 | | | -10.862 | 0.000 | 0.000 | | | |
| | Max. Mx | 32 | | | 1.651 | 0.060 | -0.004 | | | |
| | Max. My | 24 | | | -10.852 | -0.009 | -0.030 | | | |
| | Max. Vy | 28 | | | 0.050 | 0.059 | 0.006 | | | |
| | Max. Vx | 24 | | | 0.006 | 0.000 | 0.000 | | | |
| | T5 | 180 - 160 | | | Leg | Max Tension | 15 | 227.591 | 4.647 | -0.107 |
| | | | | | | Max. Compression | 2 | -249.293 | 1.161 | -0.037 |
| Max. Mx | | | 2 | -193.763 | | 7.811 | -0.168 | | | |
| Max. My | | | 16 | -8.675 | | -0.059 | 3.148 | | | |
| Max. Vy | | | 2 | -14.276 | | 1.161 | -0.037 | | | |
| Max. Vx | | | 16 | -5.555 | | -0.009 | 0.622 | | | |
| Diagonal | | | Max Tension | 24 | 10.327 | 0.000 | 0.000 | | | |
| | | | Max. Compression | 24 | -10.707 | 0.000 | 0.000 | | | |
| | | | Max. Mx | 28 | 0.566 | 0.073 | 0.007 | | | |
| | | | Max. My | 2 | -10.569 | -0.016 | -0.019 | | | |
| | | | Max. Vy | 28 | 0.057 | 0.073 | 0.007 | | | |
| | | | Max. Vx | 2 | 0.004 | 0.000 | 0.000 | | | |
| | | | T6 | 160 - 140 | Leg | Max Tension | 15 | 274.089 | 5.090 | -0.152 |
| | | | | | | Max. Compression | 2 | -301.163 | 1.042 | -0.026 |
| Max. Mx | 2 | -249.318 | | | | 8.268 | -0.232 | | | |
| Max. My | 16 | -10.418 | | | | -0.046 | 3.404 | | | |
| Max. Vy | 2 | -15.100 | | | | 1.042 | -0.026 | | | |
| Max. Vx | 16 | -5.775 | | | | -0.006 | 0.462 | | | |
| Diagonal | Max Tension | 24 | | | 10.673 | 0.000 | 0.000 | | | |
| | Max. Compression | 24 | | | -10.901 | 0.000 | 0.000 | | | |
| | Max. Mx | 28 | | | 0.549 | 0.097 | 0.009 | | | |
| | Max. My | 2 | | | -10.870 | -0.007 | -0.016 | | | |
| | Max. Vy | 28 | | | 0.068 | 0.097 | 0.009 | | | |
| | Max. Vx | 2 | | | 0.003 | 0.000 | 0.000 | | | |
| | T7 | 140 - 120 | | | Leg | Max Tension | 15 | 317.743 | 5.318 | -0.169 |
| | | | | | | Max. Compression | 2 | -350.632 | 1.306 | -0.052 |
| Max. Mx | | | 2 | -301.190 | | 8.570 | -0.268 | | | |
| Max. My | | | 16 | -12.401 | | -0.027 | 3.354 | | | |
| Max. Vy | | | 2 | -16.149 | | 1.306 | -0.052 | | | |
| Max. Vx | | | 16 | -6.111 | | -0.003 | 0.778 | | | |
| Diagonal | | | Max Tension | 2 | 11.084 | 0.000 | 0.000 | | | |
| | | | Max. Compression | 2 | -11.169 | 0.000 | 0.000 | | | |
| | | | Max. Mx | 28 | 0.549 | 0.123 | 0.012 | | | |
| | | | Max. My | 2 | -11.158 | -0.007 | -0.017 | | | |
| | | | Max. Vy | 28 | 0.079 | 0.123 | 0.012 | | | |
| | | | Max. Vx | 30 | 0.003 | 0.000 | 0.000 | | | |
| | | | T8 | 120 - 100 | Leg | Max Tension | 15 | 359.440 | 5.834 | -0.185 |

| | | | |
|----------------|--|--------------------|--------------------|
| Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 19 of 33 |
| Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | | |
|------------------|--------------|------------------|------------------|-----------------|------------------|--------------------------|--------------------------|-------|--------|
| T9 | 100 - 80 | Leg | Max. Compression | 2 | -399.027 | 0.938 | -0.075 | | |
| | | | Max. Mx | 2 | -350.662 | 9.352 | -0.333 | | |
| | | | Max. My | 16 | -14.459 | -0.008 | 3.838 | | |
| | | | Max. Vy | 2 | -16.745 | 0.938 | -0.075 | | |
| | | | Max. Vx | 16 | -6.980 | -0.027 | 1.310 | | |
| | | | Max Tension | 2 | 12.004 | 0.000 | 0.000 | | |
| | | | Max. Compression | 2 | -11.955 | 0.000 | 0.000 | | |
| | | | Max. Mx | 31 | 1.190 | 0.157 | 0.014 | | |
| | | | Max. My | 14 | -11.250 | 0.048 | 0.023 | | |
| | | | Max. Vy | 28 | 0.092 | 0.152 | 0.014 | | |
| | | | Max. Vx | 30 | 0.004 | 0.000 | 0.000 | | |
| | | | Max Tension | 15 | 399.373 | 7.529 | -0.261 | | |
| | | | Max. Compression | 2 | -446.060 | -0.709 | -0.013 | | |
| | | | Max. Mx | 2 | -446.030 | -9.453 | 0.335 | | |
| | | | Max. My | 16 | -16.883 | -0.000 | 4.804 | | |
| | | Max. Vy | 2 | -17.474 | -0.709 | -0.013 | | | |
| | | Max. Vx | 16 | -7.060 | -0.026 | 0.606 | | | |
| | | Max Tension | 3 | 13.543 | 0.000 | 0.000 | | | |
| | | Max. Compression | 2 | -14.277 | 0.000 | 0.000 | | | |
| | | Max. Mx | 28 | 1.641 | 0.227 | 0.000 | | | |
| | | Max. My | 27 | -0.199 | 0.000 | -0.006 | | | |
| | | Max. Vy | 28 | -0.089 | 0.000 | 0.000 | | | |
| | | Max. Vx | 27 | 0.002 | 0.000 | 0.000 | | | |
| | | Max Tension | 2 | 2.115 | -0.050 | 0.000 | | | |
| | | Max. Compression | 15 | -2.047 | -0.037 | 0.002 | | | |
| | | Max. Mx | 29 | 0.215 | -0.156 | 0.003 | | | |
| | | Max. My | 14 | 0.717 | -0.041 | 0.006 | | | |
| | | Max. Vy | 29 | 0.089 | -0.156 | 0.003 | | | |
| | | Max. Vx | 27 | -0.002 | -0.156 | 0.004 | | | |
| | | Max Tension | 5 | 0.000 | 0.000 | 0.000 | | | |
| Max. Compression | 29 | -0.009 | 0.000 | 0.000 | | | | | |
| Max. Mx | 26 | -0.008 | -0.106 | 0.000 | | | | | |
| Max. My | 2 | -0.005 | 0.000 | -0.000 | | | | | |
| Max. Vy | 26 | 0.048 | 0.000 | 0.000 | | | | | |
| Max. Vx | 2 | 0.000 | 0.000 | 0.000 | | | | | |
| T10 | 80 - 60 | Leg | Max Tension | 15 | 437.076 | 7.214 | -0.257 | | |
| | | | Max. Compression | 2 | -490.911 | 0.117 | -0.047 | | |
| | | | Max. Mx | 2 | -490.881 | -9.153 | 0.335 | | |
| | | | Max. My | 16 | -19.509 | -0.014 | 4.141 | | |
| | | | Max. Vy | 2 | -18.524 | 0.117 | -0.047 | | |
| | | | Max. Vx | 16 | -7.200 | -0.022 | 1.012 | | |
| | | | Max Tension | 3 | 13.570 | 0.000 | 0.000 | | |
| | | | Max. Compression | 2 | -14.074 | 0.000 | 0.000 | | |
| | | | Max. Mx | 28 | 1.636 | 0.279 | 0.000 | | |
| | | | Max. My | 27 | -0.153 | 0.000 | -0.007 | | |
| | | | Max. Vy | 28 | -0.103 | 0.000 | 0.000 | | |
| | | | Max. Vx | 27 | 0.003 | 0.000 | 0.000 | | |
| | | | Max Tension | 2 | 2.039 | -0.067 | 0.000 | | |
| | | | Max. Compression | 15 | -2.014 | -0.050 | 0.002 | | |
| | | | Max. Mx | 35 | 0.026 | -0.197 | 0.004 | | |
| | | Max. My | 14 | 0.662 | -0.056 | 0.006 | | | |
| | | Max. Vy | 35 | -0.105 | -0.197 | 0.004 | | | |
| | | Max. Vx | 27 | -0.002 | -0.197 | 0.004 | | | |
| | | Max Tension | 15 | 0.000 | 0.000 | 0.000 | | | |
| | | Max. Compression | 29 | -0.010 | 0.000 | 0.000 | | | |
| | | Max. Mx | 26 | -0.010 | -0.121 | 0.000 | | | |
| | | Max. My | 2 | -0.004 | 0.000 | -0.000 | | | |
| | | Max. Vy | 26 | -0.051 | 0.000 | 0.000 | | | |
| | | Max. Vx | 2 | 0.000 | 0.000 | 0.000 | | | |
| | | T11 | 60 - 40 | Leg | Max Tension | 15 | 473.160 | 7.448 | -0.260 |
| | | | | | Max. Compression | 2 | -534.534 | 0.281 | -0.076 |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 20 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | |
|-------------|--------------|----------------|------------------|------------------|----------|--------------------------|--------------------------|--------|
| T12 | 40 - 20 | Diagonal | Max. Mx | 2 | -490.944 | 9.397 | -0.428 | |
| | | | Max. My | 16 | -22.184 | -0.007 | 4.616 | |
| | | | Max. Vy | 2 | -19.206 | 0.281 | -0.076 | |
| | | | Max. Vx | 16 | -7.356 | -0.016 | 1.333 | |
| | | | Max Tension | 3 | 13.723 | 0.000 | 0.000 | |
| | | | Max. Compression | 3 | -14.398 | 0.000 | 0.000 | |
| | | | Max. Mx | 28 | 1.743 | 0.311 | 0.000 | |
| | | | Max. My | 27 | -0.013 | 0.000 | -0.007 | |
| | | | Max. Vy | 28 | -0.108 | 0.000 | 0.000 | |
| | | | Max. Vx | 27 | 0.003 | 0.000 | 0.000 | |
| | | | Horizontal | Max Tension | 2 | 2.109 | -0.078 | 0.001 |
| | | | | Max. Compression | 15 | -2.031 | -0.058 | 0.002 |
| | | | | Max. Mx | 35 | 0.017 | -0.221 | 0.005 |
| | | | | Max. My | 14 | 0.635 | -0.068 | 0.006 |
| | | | | Max. Vy | 35 | -0.110 | -0.221 | 0.005 |
| | | | | Max. Vx | 27 | -0.002 | -0.221 | 0.005 |
| | | | Inner Bracing | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | | Max. Compression | 29 | -0.011 | 0.000 | 0.000 |
| | | Max. Mx | | 26 | -0.010 | -0.136 | 0.000 | |
| | | Max. My | | 2 | -0.004 | 0.000 | -0.000 | |
| | | Max. Vy | | 26 | 0.053 | 0.000 | 0.000 | |
| | | Max. Vx | | 2 | 0.000 | 0.000 | 0.000 | |
| | | Leg | Max Tension | 15 | 507.566 | 8.707 | -0.338 | |
| | | | Max. Compression | 2 | -577.383 | -0.903 | 0.000 | |
| | | | Max. Mx | 2 | -577.345 | -10.944 | 0.422 | |
| | | | Max. My | 16 | -25.040 | 0.026 | 5.015 | |
| | | | Max. Vy | 2 | -20.066 | -0.903 | 0.000 | |
| | | | Max. Vx | 16 | -7.370 | -0.025 | 0.531 | |
| | | | Diagonal | Max Tension | 3 | 14.193 | 0.000 | 0.000 |
| | | | | Max. Compression | 3 | -14.762 | 0.000 | 0.000 |
| | | | | Max. Mx | 28 | 2.098 | 0.380 | 0.000 |
| | | | | Max. My | 27 | 0.352 | 0.000 | -0.009 |
| | | | | Max. Vy | 28 | -0.125 | 0.000 | 0.000 |
| | | | | Max. Vx | 27 | 0.003 | 0.000 | 0.000 |
| | | | Horizontal | Max Tension | 2 | 2.501 | -0.118 | 0.001 |
| | | | | Max. Compression | 15 | -2.316 | -0.088 | 0.003 |
| | | | | Max. Mx | 35 | -0.083 | -0.272 | 0.006 |
| | | | | Max. My | 14 | 0.751 | -0.105 | 0.007 |
| | | | | Max. Vy | 35 | -0.125 | -0.266 | 0.005 |
| | | | | Max. Vx | 33 | 0.003 | -0.272 | 0.007 |
| | | Inner Bracing | Max Tension | 1 | 0.000 | 0.000 | 0.000 | |
| | | | Max. Compression | 29 | -0.012 | 0.000 | 0.000 | |
| Max. Mx | 26 | | -0.011 | -0.149 | 0.000 | | | |
| Max. My | 2 | | -0.006 | 0.000 | -0.000 | | | |
| Max. Vy | 26 | | 0.054 | 0.000 | 0.000 | | | |
| Max. Vx | 2 | | 0.000 | 0.000 | 0.000 | | | |
| T13 | 20 - 0 | Leg | Max Tension | 15 | 540.294 | 8.269 | -0.332 | |
| | | | Max. Compression | 2 | -617.986 | 0.000 | 0.000 | |
| | | | Max. Mx | 2 | -617.950 | -10.510 | 0.422 | |
| | | | Max. My | 16 | -28.401 | 0.043 | 4.221 | |
| | | | Max. Vy | 2 | -21.003 | 0.000 | 0.000 | |
| | | | Max. Vx | 16 | -7.375 | 0.043 | 4.221 | |
| | | Diagonal | Max Tension | 3 | 13.947 | 0.000 | 0.000 | |
| | | | Max. Compression | 2 | -14.842 | 0.000 | 0.000 | |
| | | | Max. Mx | 27 | 2.665 | 0.414 | 0.000 | |
| | | | Max. My | 35 | 1.187 | 0.000 | -0.010 | |
| | | | Max. Vy | 27 | -0.128 | 0.000 | 0.000 | |
| | | | Max. Vx | 35 | 0.003 | 0.000 | 0.000 | |
| | | Horizontal | Max Tension | 2 | 2.412 | -0.131 | 0.002 | |
| | | | Max. Compression | 15 | -2.218 | -0.093 | 0.003 | |
| | | | Max. Mx | 27 | -0.120 | -0.325 | 0.007 | |

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|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 21 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| | | Inner Bracing | Max. My | 14 | 0.745 | -0.110 | 0.009 |
| | | | Max. Vy | 27 | 0.133 | -0.325 | 0.007 |
| | | | Max. Vx | 33 | 0.003 | -0.323 | 0.008 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 33 | -0.012 | 0.000 | 0.000 |
| | | | Max. Mx | 31 | -0.011 | -0.152 | 0.000 |
| | | | Max. My | 31 | -0.011 | 0.000 | -0.000 |
| | | | Max. Vy | 31 | 0.051 | 0.000 | 0.000 |
| | | | Max. Vx | 31 | 0.000 | 0.000 | 0.000 |

Maximum Reactions

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------|------------|-----------------|-----------------|
| Leg C | Max. Vert | 18 | 611.696 | 38.997 | -22.754 |
| | Max. H _x | 18 | 611.696 | 38.997 | -22.754 |
| | Max. H _z | 7 | -535.330 | -35.670 | 20.873 |
| | Min. Vert | 7 | -535.330 | -35.670 | 20.873 |
| | Min. H _x | 7 | -535.330 | -35.670 | 20.873 |
| | Min. H _z | 18 | 611.696 | 38.997 | -22.754 |
| Leg B | Max. Vert | 10 | 592.821 | -37.426 | -21.883 |
| | Max. H _x | 23 | -514.391 | 33.972 | 19.911 |
| | Max. H _z | 25 | -455.623 | 28.964 | 20.100 |
| | Min. Vert | 23 | -514.391 | 33.972 | 19.911 |
| | Min. H _x | 10 | 592.821 | -37.426 | -21.883 |
| | Min. H _z | 10 | 592.821 | -37.426 | -21.883 |
| Leg A | Max. Vert | 2 | 616.675 | 0.695 | 45.389 |
| | Max. H _x | 21 | 23.188 | 6.475 | 0.998 |
| | Max. H _z | 2 | 616.675 | 0.695 | 45.389 |
| | Min. Vert | 15 | -538.919 | -0.772 | -41.565 |
| | Min. H _x | 9 | 23.187 | -6.461 | 0.997 |
| | Min. H _z | 15 | -538.919 | -0.772 | -41.565 |

Tower Mast Reaction Summary

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|-----------------------------------|------------|----------------------|----------------------|---|---|---------------|
| Dead Only | 76.949 | 0.000 | -0.000 | -2.192 | -11.908 | 0.000 |
| 1.2 Dead+1.0 Wind 0 deg - No Ice | 92.339 | -0.000 | -75.858 | -12177.611 | -14.519 | 30.593 |
| 0.9 Dead+1.0 Wind 0 deg - No Ice | 69.254 | -0.000 | -75.859 | -12153.555 | -10.906 | 30.561 |
| 1.2 Dead+1.0 Wind 30 deg - No Ice | 92.339 | 36.939 | -63.979 | -10341.672 | -5983.842 | 37.647 |
| 0.9 Dead+1.0 Wind 30 deg - No Ice | 69.254 | 36.939 | -63.980 | -10321.092 | -5968.743 | 37.621 |
| 1.2 Dead+1.0 Wind 60 deg - No Ice | 92.339 | 61.895 | -35.735 | -5811.937 | -10076.340 | -9.358 |
| 0.9 Dead+1.0 Wind 60 deg - No Ice | 69.254 | 61.896 | -35.736 | -5800.059 | -10053.294 | -9.373 |
| 1.2 Dead+1.0 Wind 90 deg - No Ice | 92.339 | 70.156 | -0.000 | -2.781 | -11447.726 | -36.761 |

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|--|---|---|
| <p style="text-align: center;">tnxTower</p> <p style="text-align: center;">B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p style="text-align: center;">Job</p> <p style="text-align: center;">ATS 9832 - Gillsville (Site# US-GA-5321)</p> | <p style="text-align: center;">Page</p> <p style="text-align: center;">22 of 33</p> |
| | <p style="text-align: center;">Project</p> <p style="text-align: center;">255' SST/34.305869, -83.649236</p> | <p style="text-align: center;">Date</p> <p style="text-align: center;">15:51:53 12/19/22</p> |
| | <p style="text-align: center;">Client</p> <p style="text-align: center;">Vertical Bridge</p> | <p style="text-align: center;">Designed by</p> <p style="text-align: center;">christopher.guidry</p> |

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|--|---------------|-------------------------|-------------------------|---|---|------------------|
| Ice | | | | | | |
| 0.9 Dead+1.0 Wind 90 deg - No Ice | 69.254 | 70.158 | -0.000 | -2.136 | -11421.973 | -36.760 |
| 1.2 Dead+1.0 Wind 120 deg - No Ice | 92.339 | 62.476 | 36.071 | 5832.677 | -10121.505 | -10.339 |
| 0.9 Dead+1.0 Wind 120 deg - No Ice | 69.254 | 62.477 | 36.071 | 5822.065 | -10098.368 | -10.323 |
| 1.2 Dead+1.0 Wind 150 deg - No Ice | 92.339 | 35.267 | 61.086 | 9974.771 | -5774.810 | 1.764 |
| 0.9 Dead+1.0 Wind 150 deg - No Ice | 69.254 | 35.268 | 61.086 | 9956.111 | -5760.027 | 1.796 |
| 1.2 Dead+1.0 Wind 180 deg - No Ice | 92.339 | -0.000 | 71.847 | 11703.009 | -14.517 | -30.591 |
| 0.9 Dead+1.0 Wind 180 deg - No Ice | 69.254 | -0.000 | 71.848 | 11681.034 | -10.903 | -30.559 |
| 1.2 Dead+1.0 Wind 210 deg - No Ice | 92.339 | -36.938 | 63.980 | 10336.593 | 5954.742 | -37.647 |
| 0.9 Dead+1.0 Wind 210 deg - No Ice | 69.254 | -36.939 | 63.981 | 10317.345 | 5946.851 | -37.621 |
| 1.2 Dead+1.0 Wind 240 deg - No Ice | 92.339 | -65.369 | 37.741 | 6041.284 | 10454.056 | 9.355 |
| 0.9 Dead+1.0 Wind 240 deg - No Ice | 69.254 | -65.370 | 37.741 | 6030.345 | 10437.579 | 9.370 |
| 1.2 Dead+1.0 Wind 270 deg - No Ice | 92.339 | -70.156 | -0.000 | -2.808 | 11418.959 | 36.761 |
| 0.9 Dead+1.0 Wind 270 deg - No Ice | 69.254 | -70.158 | -0.000 | -2.156 | 11400.434 | 36.760 |
| 1.2 Dead+1.0 Wind 300 deg - No Ice | 92.339 | -59.003 | -34.065 | -5603.340 | 9686.244 | 10.339 |
| 0.9 Dead+1.0 Wind 300 deg - No Ice | 69.254 | -59.003 | -34.066 | -5591.788 | 9670.994 | 10.323 |
| 1.2 Dead+1.0 Wind 330 deg - No Ice | 92.339 | -35.268 | -61.085 | -9980.014 | 5746.092 | -1.764 |
| 0.9 Dead+1.0 Wind 330 deg - No Ice | 69.254 | -35.268 | -61.086 | -9960.022 | 5738.559 | -1.796 |
| 1.2 Dead+1.0 Ice+1.0 Temp | 244.795 | -0.003 | 0.000 | -16.729 | -60.478 | 0.002 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp | 244.795 | -0.000 | -10.006 | -1724.524 | -61.714 | 2.402 |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp | 244.795 | 4.943 | -8.561 | -1483.550 | -908.460 | 2.722 |
| 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp | 244.795 | 8.411 | -4.856 | -851.981 | -1508.058 | -1.150 |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp | 244.795 | 9.593 | 0.000 | -16.929 | -1714.886 | -3.392 |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp | 244.795 | 8.412 | 4.857 | 816.694 | -1505.602 | -1.260 |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp | 244.795 | 4.811 | 8.334 | 1420.839 | -891.817 | -0.115 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 244.795 | -0.000 | 9.742 | 1660.188 | -61.716 | -2.400 |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp | 244.795 | -4.943 | 8.561 | 1449.679 | 785.033 | -2.722 |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp | 244.795 | -8.639 | 4.988 | 833.304 | 1410.953 | 1.150 |
| 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp | 244.795 | -9.593 | 0.000 | -16.941 | 1591.457 | 3.391 |
| 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp | 244.795 | -8.184 | -4.725 | -835.335 | 1355.792 | 1.260 |
| 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp | 244.795 | -4.811 | -8.334 | -1454.713 | 768.385 | 0.115 |
| Dead+Wind 0 deg - Service | 76.949 | -0.000 | -23.866 | -3826.667 | -11.989 | 9.613 |

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| Job | ATS 9832 - Gillsville (Site# US-GA-5321) |
| Project | 255' SST/34.305869, -83.649236 |
| Client | Vertical Bridge |

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|--------------------|--------------------|
| Page | 23 of 33 |
| Date | 15:51:53 12/19/22 |
| Designed by | christopher.guidry |

| Load Combination | Vertical K | Shear _x K | Shear _z K | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|-----------------------------|---------------|-------------------------|-------------------------|--|--|------------------|
| Dead+Wind 30 deg - Service | 76.949 | 11.621 | -20.129 | -3249.964 | -1887.091 | 11.853 |
| Dead+Wind 60 deg - Service | 76.949 | 19.473 | -11.243 | -1827.034 | -3172.682 | -2.946 |
| Dead+Wind 90 deg - Service | 76.949 | 22.073 | -0.000 | -2.205 | -3603.474 | -11.577 |
| Dead+Wind 120 deg - Service | 76.949 | 19.656 | 11.349 | 1830.830 | -3186.873 | -3.247 |
| Dead+Wind 150 deg - Service | 76.949 | 11.096 | 19.219 | 3131.948 | -1821.474 | 0.579 |
| Dead+Wind 180 deg - Service | 76.949 | -0.000 | 22.604 | 3674.825 | -11.989 | -9.613 |
| Dead+Wind 210 deg - Service | 76.949 | -11.621 | 20.129 | 3245.590 | 1863.113 | -11.853 |
| Dead+Wind 240 deg - Service | 76.949 | -20.566 | 11.874 | 1896.363 | 3276.433 | 2.944 |
| Dead+Wind 270 deg - Service | 76.949 | -22.073 | -0.000 | -2.212 | 3579.524 | 11.577 |
| Dead+Wind 300 deg - Service | 76.949 | -18.564 | -10.718 | -1761.501 | 3035.224 | 3.248 |
| Dead+Wind 330 deg - Service | 76.949 | -11.096 | -19.219 | -3136.340 | 1797.525 | -0.579 |

Solution Summary

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|----------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 1 | 0.000 | -76.949 | 0.000 | -0.000 | 76.949 | 0.000 | 0.000% |
| 2 | 0.000 | -92.339 | -75.863 | 0.000 | 92.339 | 75.858 | 0.004% |
| 3 | 0.000 | -69.254 | -75.863 | 0.000 | 69.254 | 75.859 | 0.003% |
| 4 | 36.941 | -92.339 | -63.983 | -36.939 | 92.339 | 63.979 | 0.004% |
| 5 | 36.941 | -69.254 | -63.983 | -36.939 | 69.254 | 63.980 | 0.003% |
| 6 | 61.898 | -92.339 | -35.737 | -61.895 | 92.339 | 35.735 | 0.003% |
| 7 | 61.898 | -69.254 | -35.737 | -61.896 | 69.254 | 35.736 | 0.003% |
| 8 | 70.160 | -92.339 | -0.000 | -70.156 | 92.339 | 0.000 | 0.003% |
| 9 | 70.160 | -69.254 | -0.000 | -70.158 | 69.254 | 0.000 | 0.003% |
| 10 | 62.480 | -92.339 | 36.073 | -62.476 | 92.339 | -36.071 | 0.004% |
| 11 | 62.480 | -69.254 | 36.073 | -62.477 | 69.254 | -36.071 | 0.003% |
| 12 | 35.270 | -92.339 | 61.089 | -35.267 | 92.339 | -61.086 | 0.004% |
| 13 | 35.270 | -69.254 | 61.089 | -35.268 | 69.254 | -61.086 | 0.003% |
| 14 | -0.000 | -92.339 | 71.851 | 0.000 | 92.339 | -71.847 | 0.003% |
| 15 | -0.000 | -69.254 | 71.851 | 0.000 | 69.254 | -71.848 | 0.003% |
| 16 | -36.941 | -92.339 | 63.983 | 36.938 | 92.339 | -63.980 | 0.004% |
| 17 | -36.941 | -69.254 | 63.983 | 36.939 | 69.254 | -63.981 | 0.003% |
| 18 | -65.373 | -92.339 | 37.743 | 65.369 | 92.339 | -37.741 | 0.004% |
| 19 | -65.373 | -69.254 | 37.743 | 65.370 | 69.254 | -37.741 | 0.003% |
| 20 | -70.160 | -92.339 | -0.000 | 70.156 | 92.339 | 0.000 | 0.003% |
| 21 | -70.160 | -69.254 | -0.000 | 70.158 | 69.254 | 0.000 | 0.003% |
| 22 | -59.006 | -92.339 | -34.067 | 59.003 | 92.339 | 34.065 | 0.003% |
| 23 | -59.006 | -69.254 | -34.067 | 59.003 | 69.254 | 34.066 | 0.003% |
| 24 | -35.270 | -92.339 | -61.089 | 35.268 | 92.339 | 61.085 | 0.004% |
| 25 | -35.270 | -69.254 | -61.089 | 35.268 | 69.254 | 61.086 | 0.003% |
| 26 | 0.000 | -244.795 | 0.000 | 0.003 | 244.795 | -0.000 | 0.001% |
| 27 | 0.000 | -244.795 | -10.006 | 0.000 | 244.795 | 10.006 | 0.000% |
| 28 | 4.943 | -244.795 | -8.562 | -4.943 | 244.795 | 8.561 | 0.000% |
| 29 | 8.412 | -244.795 | -4.857 | -8.411 | 244.795 | 4.856 | 0.000% |
| 30 | 9.594 | -244.795 | 0.000 | -9.593 | 244.795 | -0.000 | 0.000% |
| 31 | 8.413 | -244.795 | 4.857 | -8.412 | 244.795 | -4.857 | 0.000% |
| 32 | 4.812 | -244.795 | 8.334 | -4.811 | 244.795 | -8.334 | 0.000% |
| 33 | 0.000 | -244.795 | 9.743 | 0.000 | 244.795 | -9.742 | 0.000% |
| 34 | -4.943 | -244.795 | 8.562 | 4.943 | 244.795 | -8.561 | 0.000% |
| 35 | -8.640 | -244.795 | 4.988 | 8.639 | 244.795 | -4.988 | 0.000% |
| 36 | -9.594 | -244.795 | 0.000 | 9.593 | 244.795 | -0.000 | 0.000% |
| 37 | -8.184 | -244.795 | -4.725 | 8.184 | 244.795 | 4.725 | 0.000% |
| 38 | -4.812 | -244.795 | -8.334 | 4.811 | 244.795 | 8.334 | 0.000% |
| 39 | 0.000 | -76.949 | -23.867 | 0.000 | 76.949 | 23.866 | 0.001% |
| 40 | 11.622 | -76.949 | -20.130 | -11.621 | 76.949 | 20.129 | 0.001% |
| 41 | 19.474 | -76.949 | -11.243 | -19.473 | 76.949 | 11.243 | 0.001% |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 24 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 42 | 22.074 | -76.949 | 0.000 | -22.073 | 76.949 | 0.000 | 0.001% |
| 43 | 19.657 | -76.949 | 11.349 | -19.656 | 76.949 | -11.349 | 0.001% |
| 44 | 11.097 | -76.949 | 19.220 | -11.096 | 76.949 | -19.219 | 0.001% |
| 45 | 0.000 | -76.949 | 22.606 | 0.000 | 76.949 | -22.604 | 0.001% |
| 46 | -11.622 | -76.949 | 20.130 | 11.621 | 76.949 | -20.129 | 0.001% |
| 47 | -20.567 | -76.949 | 11.874 | 20.566 | 76.949 | -11.874 | 0.001% |
| 48 | -22.074 | -76.949 | 0.000 | 22.073 | 76.949 | 0.000 | 0.001% |
| 49 | -18.565 | -76.949 | -10.718 | 18.564 | 76.949 | 10.718 | 0.001% |
| 50 | -11.097 | -76.949 | -19.220 | 11.096 | 76.949 | 19.219 | 0.001% |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|------------------|------------|------------------|------------------------|-----------------|
| 1 | Yes | 6 | 0.00000001 | 0.00000001 |
| 2 | Yes | 12 | 0.00004880 | 0.00011708 |
| 3 | Yes | 12 | 0.00003669 | 0.00008847 |
| 4 | Yes | 12 | 0.00004626 | 0.00011125 |
| 5 | Yes | 12 | 0.00003427 | 0.00008283 |
| 6 | Yes | 12 | 0.00004373 | 0.00010546 |
| 7 | Yes | 12 | 0.00003181 | 0.00007712 |
| 8 | Yes | 12 | 0.00004627 | 0.00011139 |
| 9 | Yes | 12 | 0.00003427 | 0.00008292 |
| 10 | Yes | 12 | 0.00004871 | 0.00011700 |
| 11 | Yes | 12 | 0.00003659 | 0.00008835 |
| 12 | Yes | 12 | 0.00004631 | 0.00011152 |
| 13 | Yes | 12 | 0.00003430 | 0.00008302 |
| 14 | Yes | 12 | 0.00004373 | 0.00010551 |
| 15 | Yes | 12 | 0.00003181 | 0.00007715 |
| 16 | Yes | 12 | 0.00004626 | 0.00011128 |
| 17 | Yes | 12 | 0.00003427 | 0.00008284 |
| 18 | Yes | 12 | 0.00004875 | 0.00011696 |
| 19 | Yes | 12 | 0.00003664 | 0.00008836 |
| 20 | Yes | 12 | 0.00004627 | 0.00011142 |
| 21 | Yes | 12 | 0.00003427 | 0.00008293 |
| 22 | Yes | 12 | 0.00004383 | 0.00010587 |
| 23 | Yes | 12 | 0.00003190 | 0.00007745 |
| 24 | Yes | 12 | 0.00004630 | 0.00011151 |
| 25 | Yes | 12 | 0.00003430 | 0.00008301 |
| 26 | Yes | 6 | 0.00000001 | 0.00008691 |
| 27 | Yes | 13 | 0.00000001 | 0.00010973 |
| 28 | Yes | 13 | 0.00000001 | 0.00010997 |
| 29 | Yes | 13 | 0.00000001 | 0.00010965 |
| 30 | Yes | 13 | 0.00000001 | 0.00010959 |
| 31 | Yes | 13 | 0.00000001 | 0.00011060 |
| 32 | Yes | 13 | 0.00000001 | 0.00010870 |
| 33 | Yes | 13 | 0.00000001 | 0.00010780 |
| 34 | Yes | 13 | 0.00000001 | 0.00010739 |
| 35 | Yes | 13 | 0.00000001 | 0.00010694 |
| 36 | Yes | 13 | 0.00000001 | 0.00010513 |
| 37 | Yes | 13 | 0.00000001 | 0.00010490 |
| 38 | Yes | 13 | 0.00000001 | 0.00010691 |
| 39 | Yes | 12 | 0.00000001 | 0.00009144 |
| 40 | Yes | 12 | 0.00000001 | 0.00008971 |
| 41 | Yes | 12 | 0.00000001 | 0.00008803 |
| 42 | Yes | 12 | 0.00000001 | 0.00008981 |

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|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 25 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| | | | | |
|----|-----|----|------------|------------|
| 43 | Yes | 12 | 0.00000001 | 0.00009148 |
| 44 | Yes | 12 | 0.00000001 | 0.00008991 |
| 45 | Yes | 12 | 0.00000001 | 0.00008813 |
| 46 | Yes | 12 | 0.00000001 | 0.00008976 |
| 47 | Yes | 12 | 0.00000001 | 0.00009139 |
| 48 | Yes | 12 | 0.00000001 | 0.00008984 |
| 49 | Yes | 12 | 0.00000001 | 0.00008827 |
| 50 | Yes | 12 | 0.00000001 | 0.00008989 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|--------------------|-----------|------------|
| T1 | 255 - 240 | 12.824 | 39 | 0.430 | 0.053 |
| T2 | 240 - 220 | 11.441 | 39 | 0.427 | 0.051 |
| T3 | 220 - 200 | 9.578 | 39 | 0.405 | 0.048 |
| T4 | 200 - 180 | 7.838 | 39 | 0.369 | 0.045 |
| T5 | 180 - 160 | 6.269 | 39 | 0.325 | 0.039 |
| T6 | 160 - 140 | 4.891 | 39 | 0.279 | 0.033 |
| T7 | 140 - 120 | 3.720 | 39 | 0.236 | 0.027 |
| T8 | 120 - 100 | 2.712 | 39 | 0.196 | 0.021 |
| T9 | 100 - 80 | 1.879 | 39 | 0.159 | 0.015 |
| T10 | 80 - 60 | 1.228 | 39 | 0.124 | 0.012 |
| T11 | 60 - 40 | 0.720 | 39 | 0.089 | 0.009 |
| T12 | 40 - 20 | 0.350 | 39 | 0.057 | 0.005 |
| T13 | 20 - 0 | 0.117 | 39 | 0.029 | 0.003 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|------------------------------------|--------------------|------------------|-----------|------------|---------------------------|
| 255.000 | Lightning Rod 1"x10' | 39 | 12.824 | 0.430 | 0.053 | 179105 |
| 250.000 | Sector1(CaAa=13333.33 Sq.in)No Ice | 39 | 12.365 | 0.430 | 0.052 | 179105 |
| 240.000 | Sector1(CaAa=10000 Sq.in)No Ice | 39 | 11.441 | 0.427 | 0.051 | 72991 |
| 230.000 | Sector1(CaAa=13333.33 Sq.in)No Ice | 39 | 10.504 | 0.418 | 0.050 | 109268 |
| 220.000 | Sector1(CaAa=10000 Sq.in)No Ice | 39 | 9.578 | 0.405 | 0.048 | 31038 |
| 210.000 | Sector1(CaAa=10000 Sq.in)No Ice | 39 | 8.687 | 0.389 | 0.047 | 29086 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|--------------------|-----------|------------|
| T1 | 255 - 240 | 40.877 | 2 | 1.371 | 0.168 |
| T2 | 240 - 220 | 36.464 | 2 | 1.362 | 0.163 |
| T3 | 220 - 200 | 30.521 | 2 | 1.291 | 0.154 |
| T4 | 200 - 180 | 24.976 | 2 | 1.177 | 0.142 |

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|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 26 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T5 | 180 - 160 | 19.971 | 2 | 1.035 | 0.125 |
| T6 | 160 - 140 | 15.582 | 2 | 0.890 | 0.105 |
| T7 | 140 - 120 | 11.848 | 2 | 0.751 | 0.087 |
| T8 | 120 - 100 | 8.637 | 2 | 0.623 | 0.066 |
| T9 | 100 - 80 | 5.984 | 2 | 0.505 | 0.049 |
| T10 | 80 - 60 | 3.912 | 2 | 0.395 | 0.038 |
| T11 | 60 - 40 | 2.294 | 2 | 0.283 | 0.028 |
| T12 | 40 - 20 | 1.115 | 2 | 0.183 | 0.017 |
| T13 | 20 - 0 | 0.374 | 2 | 0.092 | 0.009 |

Critical Deflections and Radius of Curvature - Design Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|------------------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 255.000 | Lightning Rod 1"x10' | 2 | 40.877 | 1.371 | 0.168 | 56992 |
| 250.000 | Sector1(CaAa=13333.33 Sq.in)No Ice | 2 | 39.413 | 1.371 | 0.167 | 56992 |
| 240.000 | Sector1(CaAa=10000 Sq.in)No Ice | 2 | 36.464 | 1.362 | 0.163 | 23211 |
| 230.000 | Sector1(CaAa=13333.33 Sq.in)No Ice | 2 | 33.475 | 1.334 | 0.159 | 34858 |
| 220.000 | Sector1(CaAa=10000 Sq.in)No Ice | 2 | 30.521 | 1.291 | 0.154 | 9713 |
| 210.000 | Sector1(CaAa=10000 Sq.in)No Ice | 2 | 27.682 | 1.238 | 0.149 | 9110 |

Bolt Design Data

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt K | Allowable Load per Bolt K | Ratio Load Allowable | Allowable Ratio | Criteria |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T1 | 255 | Diagonal | A325X | 0.625 | 1 | 3.200 | 9.598 | 0.333 ✓ | 1 | Member Block Shear |
| | | Top Girt | A325X | 0.625 | 1 | 0.803 | 9.598 | 0.084 ✓ | 1 | Member Block Shear |
| T2 | 240 | Leg | A325N | 0.750 | 6 | 2.155 | 30.101 | 0.072 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 7.410 | 9.598 | 0.772 ✓ | 1 | Member Block Shear |
| T3 | 220 | Leg | A325N | 0.750 | 6 | 9.606 | 30.101 | 0.319 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 10.676 | 14.320 | 0.745 ✓ | 1 | Member Block Shear |
| T4 | 200 | Leg | A325N | 1.000 | 6 | 19.847 | 54.517 | 0.364 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 10.349 | 13.025 | 0.795 ✓ | 1 | Member Block Shear |
| T5 | 180 | Leg | A325N | 1.000 | 6 | 29.448 | 54.517 | 0.540 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 10.327 | 13.025 | 0.793 ✓ | 1 | Member Block Shear |
| T6 | 160 | Leg | A325N | 1.000 | 6 | 37.929 | 54.517 | 0.696 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 10.901 | 17.257 | 0.632 ✓ | 1 | Bolt Shear |
| T7 | 140 | Leg | A325N | 1.250 | 6 | 45.679 | 87.220 | 0.524 ✓ | 1 | Bolt Tension |

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| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 27 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt K | Allowable Load per Bolt K | Ratio Load Allowable | Allowable Ratio | Criteria | |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|----------|--------------------|
| T8 | 120 | Diagonal | A325X | 0.625 | 1 | 11.084 | 14.168 | 0.782 | ✓ | 1 | Member Block Shear |
| | | Leg | A325N | 1.250 | 6 | 52.954 | 87.220 | 0.607 | ✓ | 1 | Bolt Tension |
| T9 | 100 | Diagonal | A325X | 0.625 | 1 | 12.004 | 17.257 | 0.696 | ✓ | 1 | Bolt Shear |
| | | Leg | A325N | 1.250 | 6 | 59.903 | 87.220 | 0.687 | ✓ | 1 | Bolt Tension |
| T10 | 80 | Diagonal | A325X | 0.625 | 1 | 14.277 | 29.250 | 0.488 | ✓ | 1 | Gusset Bearing |
| | | Horizontal | A325X | 0.625 | 1 | 7.731 | 19.195 | 0.403 | ✓ | 1 | Member Block Shear |
| | | Leg | A325N | 1.250 | 6 | 66.559 | 87.220 | 0.763 | ✓ | 1 | Bolt Tension |
| T11 | 60 | Diagonal | A325X | 0.625 | 1 | 13.570 | 26.051 | 0.521 | ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.625 | 1 | 8.509 | 21.480 | 0.396 | ✓ | 1 | Member Block Shear |
| | | Leg | A325N | 1.500 | 6 | 72.842 | 126.472 | 0.576 | ✓ | 1 | Bolt Tension |
| T12 | 40 | Diagonal | A325X | 0.625 | 1 | 13.724 | 26.051 | 0.527 | ✓ | 1 | Member Block Shear |
| | | Horizontal | A325X | 0.625 | 1 | 9.265 | 21.480 | 0.431 | ✓ | 1 | Member Block Shear |
| | | Leg | A325N | 1.500 | 6 | 78.856 | 126.472 | 0.624 | ✓ | 1 | Bolt Tension |
| T13 | 20 | Diagonal | A325X | 0.625 | 1 | 14.762 | 29.250 | 0.505 | ✓ | 1 | Gusset Bearing |
| | | Horizontal | A325X | 0.625 | 1 | 10.008 | 28.641 | 0.349 | ✓ | 1 | Member Block Shear |
| | | Leg | A325N | 1.500 | 6 | 84.590 | 126.472 | 0.669 | ✓ | 1 | Bolt Tension |
| | | Diagonal | A325X | 0.625 | 1 | 14.842 | 29.250 | 0.507 | ✓ | 1 | Member Bearing |
| | | Horizontal | A325X | 0.625 | 1 | 10.711 | 26.051 | 0.411 | ✓ | 1 | Member Block Shear |

Compression Checks

Leg Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio P _u /φP _n |
|-------------|-----------------|-------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|--|
| T1 | 255 - 240 | 1 3/4 | 15.014 | 4.671 | 128.1 K=1.00 | 2.405 | -11.703 | 33.103 | 0.354 ¹ ✓ |
| T2 | 240 - 220 | 2 1/4 | 20.019 | 4.754 | 101.4 K=1.00 | 3.976 | -58.152 | 84.331 | 0.690 ¹ ✓ |
| T3 | 220 - 200 | 2 3/4 | 20.019 | 4.754 | 83.0 K=1.00 | 5.940 | -123.886 | 161.540 | 0.767 ¹ ✓ |
| T4 | 200 - 180 | 3 | 20.019 | 4.754 | 76.1 K=1.00 | 7.069 | -186.259 | 208.347 | 0.894 ¹ ✓ |
| T5 | 180 - 160 | 3 1/4 | 20.019 | 4.754 | 70.2 K=1.00 | 8.296 | -242.242 | 260.312 | 0.931 ¹ ✓ |
| T6 | 160 - 140 | 3 1/2 | 20.019 | 4.754 | 65.2 | 9.621 | -294.356 | 317.273 | 0.928 ¹ ✓ |

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|--|---|---|
| <p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>ATS 9832 - Gillsville (Site# US-GA-5321)</p> | <p>Page</p> <p>28 of 33</p> |
| | <p>Project</p> <p>255' SST/34.305869, -83.649236</p> | <p>Date</p> <p>15:51:53 12/19/22</p> |
| | <p>Client</p> <p>Vertical Bridge</p> | <p>Designed by</p> <p>christopher.guidry</p> |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|----------------|----------------------|---------------------|----------------------|---------------------------------|
| T7 | 140 - 120 | 3 3/4 | 20.019 | 4.754 | K=1.00 60.9 | 11.045 | -343.912 | 379.106 | 0.907 ¹ ✓ |
| T8 | 120 - 100 | 4 | 20.019 | 4.754 | K=1.00 57.1 | 12.566 | -392.507 | 445.717 | 0.881 ¹ ✓ |
| T9 | 100 - 80 | 4 1/4 | 20.019 | 4.754 | K=1.00 53.7 | 14.186 | -433.826 | 517.034 | 0.839 ¹ ✓ |
| T10 | 80 - 60 | 4 1/4 | 20.019 | 4.754 | K=1.00 53.7 | 14.186 | -479.030 | 517.034 | 0.926 ¹ ✓ |
| T11 | 60 - 40 | 4 1/2 | 20.019 | 4.754 | K=1.00 50.7 | 15.904 | -522.856 | 593.004 | 0.882 ¹ ✓ |
| T12 | 40 - 20 | 4 3/4 | 20.019 | 4.754 | K=1.00 48.0 | 17.721 | -565.690 | 673.582 | 0.840 ¹ ✓ |
| T13 | 20 - 0 | 4 3/4 | 20.019 | 4.754 | K=1.00 48.0 | 17.721 | -606.623 | 673.582 | 0.901 ¹ ✓ |

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 255 - 240 | L1 3/4x1 3/4x3/16 | 7.435 | 3.736 | K=1.00 130.5 | 0.621 | -2.875 | 10.431 | 0.276 ¹ ✓ |
| T2 | 240 - 220 | L1 3/4x1 3/4x3/16 | 8.697 | 4.343 | K=1.00 151.7 | 0.621 | -6.843 | 7.721 | 0.886 ¹ ✓ |
| T3 | 220 - 200 | L2x2x1/4 | 9.987 | 4.964 | K=1.00 152.4 | 0.938 | -9.933 | 11.565 | 0.859 ¹ ✓ |
| T4 | 200 - 180 | L2 1/2x2 1/2x3/16 | 11.329 | 5.625 | K=1.00 136.4 | 0.902 | -9.703 | 13.885 | 0.699 ¹ ✓ |
| T5 | 180 - 160 | L2 1/2x2 1/2x3/16 | 12.706 | 6.303 | K=1.00 152.8 | 0.902 | -9.851 | 11.057 | 0.891 ¹ ✓ |
| T6 | 160 - 140 | L2 1/2x2 1/2x1/4 | 14.108 | 6.994 | K=1.00 170.9 | 1.190 | -10.225 | 11.657 | 0.877 ¹ ✓ |
| T7 | 140 - 120 | L3x3x3/16 | 15.529 | 7.694 | K=1.00 154.9 | 1.090 | -10.792 | 13.000 | 0.830 ¹ ✓ |
| T8 | 120 - 100 | L3x3x1/4 | 16.963 | 8.401 | K=1.00 170.3 | 1.440 | -11.444 | 14.213 | 0.805 ¹ ✓ |
| T9 | 100 - 80 | 2L2x2x1/4x3/8 | 10.161 | 9.960 | K=1.00 196.3 | 1.880 | -13.174 | 13.970 | 0.943 ¹ ✓ |
| T10 | 80 - 60 | 2L 'a' > 57.553 in - 222 2L2 1/2x2 1/2x3/16x3/8 | 10.829 | 10.632 | K=1.00 168.2 | 1.800 | -13.383 | 17.635 | 0.759 ¹ ✓ |
| T11 | 60 - 40 | 2L 'a' > 60.882 in - 261 2L2 1/2x2 1/2x3/16x3/8 | 11.508 | 11.302 | K=1.00 178.8 | 1.800 | -13.740 | 15.672 | 0.877 ¹ ✓ |
| T12 | 40 - 20 | 2L 'a' > 64.717 in - 300 2L2 1/2x2 1/2x1/4x3/8 | 12.195 | 11.980 | K=1.00 189.8 | 2.380 | -14.462 | 18.671 | 0.775 ¹ ✓ |

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| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 29 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T13 | 20 - 0 | 2L 'a' > 68.842 in - 339 2L3x3x3/16x3/8 | 12.889 | 12.676 | 168.6 K=1.00 | 2.180 | -14.842 | 20.884 | 0.711 ¹ ✓ |
| | | 2L 'a' > 72.411 in - 378 | | | | | | | |

¹ P_u / φP_n controls

Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 100 - 80 | 2L1 3/4x1 3/4x3/16x3/8 | 17.606 | 8.626 | 192.8 K=1.00 | 1.242 | -7.731 | 9.567 | 0.808 ¹ ✓ |
| T10 | 80 - 60 | 2L 'a' > 49.658 in - 220 2L2x2x3/16x3/8 | 19.106 | 9.376 | 183.4 K=1.00 | 1.430 | -8.509 | 11.971 | 0.711 ¹ ✓ |
| T11 | 60 - 40 | 2L 'a' > 53.886 in - 259 2L2x2x3/16x3/8 | 20.606 | 10.116 | 197.9 K=1.00 | 1.430 | -9.265 | 10.310 | 0.899 ¹ ✓ |
| T12 | 40 - 20 | 2L 'a' > 58.136 in - 298 2L2x2x1/4x3/8 | 22.106 | 10.855 | 213.9 K=1.00 | 1.880 | -10.008 | 11.761 | 0.851 ¹ ✓ |
| T13 | 20 - 0 | 2L 'a' > 62.725 in - 337 2L2 1/2x2 1/2x3/16x3/8 | 23.606 | 11.605 | 183.6 K=1.00 | 1.800 | -10.711 | 14.887 | 0.720 ¹ ✓ |
| | | 2L 'a' > 66.454 in - 376 | | | | | | | |

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 255 - 240 | L1 3/4x1 3/4x3/16 | 4.913 | 4.767 | 166.5 K=1.00 | 0.621 | -0.693 | 6.409 | 0.108 ¹ ✓ |

¹ P_u / φP_n controls

Inner Bracing Design Data (Compression)

| | | |
|---|--|--|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job ATS 9832 - Gillsville (Site# US-GA-5321) | Page 30 of 33 |
| | Project 255' SST/34.305869, -83.649236 | Date 15:51:53 12/19/22 |
| | Client Vertical Bridge | Designed by christopher.guidry |

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|---|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 100 - 80 | L1 3/4x1 3/4x3/16 | 8.803 | 8.803 | 307.6 K=1.00 | 0.621 | -0.009 | 1.879 | 0.005 ¹ ✓ |
| T10 | 80 - 60 | KL/R > 250 (C) - 228 L1 3/4x1 3/4x3/16 | 9.553 | 9.553 | 333.8 K=1.00 | 0.621 | -0.010 | 1.596 | 0.006 ¹ ✓ |
| T11 | 60 - 40 | KL/R > 250 (C) - 267 L1 3/4x1 3/4x3/16 | 10.303 | 10.303 | 360.0 K=1.00 | 0.621 | -0.011 | 1.372 | 0.008 ¹ ✓ |
| T12 | 40 - 20 | KL/R > 250 (C) - 306 L1 3/4x1 3/4x3/16 | 11.053 | 11.053 | 386.2 K=1.00 | 0.621 | -0.012 | 1.192 | 0.010 ¹ ✓ |
| T13 | 20 - 0 | KL/R > 250 (C) - 345 L1 3/4x1 3/4x3/16 KL/R > 250 (C) - 383 | 11.803 | 11.803 | 412.4 K=1.00 | 0.621 | -0.012 | 1.045 | 0.011 ¹ ✓ |

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 255 - 240 | 1 3/4 | 15.014 | 0.500 | 13.7 | 2.405 | 12.934 | 108.238 | 0.119 ¹ ✓ |
| T2 | 240 - 220 | 2 1/4 | 20.019 | 0.500 | 10.7 | 3.976 | 57.649 | 178.924 | 0.322 ¹ ✓ |
| T3 | 220 - 200 | 2 3/4 | 20.019 | 0.500 | 8.7 | 5.940 | 119.097 | 267.281 | 0.446 ¹ ✓ |
| T4 | 200 - 180 | 3 | 20.019 | 0.500 | 8.0 | 7.069 | 176.702 | 318.086 | 0.556 ¹ ✓ |
| T5 | 180 - 160 | 3 1/4 | 20.019 | 0.500 | 7.4 | 8.296 | 227.591 | 373.310 | 0.610 ¹ ✓ |
| T6 | 160 - 140 | 3 1/2 | 20.019 | 0.500 | 6.9 | 9.621 | 274.089 | 432.951 | 0.633 ¹ ✓ |
| T7 | 140 - 120 | 3 3/4 | 20.019 | 0.500 | 6.4 | 11.045 | 317.743 | 497.010 | 0.639 ¹ ✓ |
| T8 | 120 - 100 | 4 | 20.019 | 0.500 | 6.0 | 12.566 | 359.440 | 565.487 | 0.636 ¹ ✓ |
| T9 | 100 - 80 | 4 1/4 | 20.019 | 0.500 | 5.7 | 14.186 | 399.373 | 638.381 | 0.626 ¹ ✓ |
| T10 | 80 - 60 | 4 1/4 | 20.019 | 0.500 | 5.7 | 14.186 | 437.076 | 638.381 | 0.685 ¹ ✓ |
| T11 | 60 - 40 | 4 1/2 | 20.019 | 0.500 | 5.3 | 15.904 | 473.160 | 715.694 | 0.661 ¹ ✓ |
| T12 | 40 - 20 | 4 3/4 | 20.019 | 0.500 | 5.1 | 17.721 | 507.566 | 797.425 | 0.637 ¹ ✓ |

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 31 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T13 | 20 - 0 | 4 3/4 | 20.019 | 0.500 | 5.1 | 17.721 | 540.295 | 797.425 | 0.678 ¹ ✓ ✓ |

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 255 - 240 | L1 3/4x1 3/4x3/16 | 7.435 | 3.736 | 83.5 | 0.360 | 3.200 | 17.567 | 0.182 ¹ ✓ |
| T2 | 240 - 220 | L1 3/4x1 3/4x3/16 | 8.697 | 4.343 | 97.1 | 0.360 | 7.410 | 17.567 | 0.422 ¹ ✓ |
| T3 | 220 - 200 | L2x2x1/4 | 9.987 | 4.964 | 97.8 | 0.563 | 10.676 | 27.440 | 0.389 ¹ ✓ |
| T4 | 200 - 180 | L2 1/2x2 1/2x3/16 | 11.329 | 5.625 | 86.8 | 0.571 | 10.349 | 27.838 | 0.372 ¹ ✓ |
| T5 | 180 - 160 | L2 1/2x2 1/2x3/16 | 12.706 | 6.303 | 97.2 | 0.571 | 10.327 | 27.838 | 0.371 ¹ ✓ |
| T6 | 160 - 140 | L2 1/2x2 1/2x1/4 | 14.108 | 6.994 | 109.1 | 0.752 | 10.673 | 36.654 | 0.291 ¹ ✓ |
| T7 | 140 - 120 | L3x3x3/16 | 15.529 | 7.694 | 98.3 | 0.712 | 11.084 | 34.712 | 0.319 ¹ ✓ |
| T8 | 120 - 100 | L3x3x1/4 | 16.963 | 8.401 | 108.4 | 0.939 | 12.004 | 45.794 | 0.262 ¹ ✓ |
| T9 | 100 - 80 | 2L2x2x1/4x3/8 | 10.161 | 9.960 | 196.3 | 1.129 | 13.543 | 55.027 | 0.246 ¹ ✓ |
| T10 | 80 - 60 | 2L 'a' > 57.553 in - 221 2L2 1/2x2 1/2x3/16x3/8 | 10.829 | 10.632 | 164.0 | 1.139 | 13.570 | 55.529 | 0.244 ¹ ✓ |
| T11 | 60 - 40 | 2L 'a' > 60.882 in - 260 2L2 1/2x2 1/2x3/16x3/8 | 11.508 | 11.302 | 174.3 | 1.139 | 13.724 | 55.529 | 0.247 ¹ ✓ |
| T12 | 40 - 20 | 2L 'a' > 64.717 in - 299 2L2 1/2x2 1/2x1/4x3/8 | 12.195 | 11.980 | 186.9 | 1.504 | 14.193 | 73.308 | 0.194 ¹ ✓ |
| T13 | 20 - 0 | 2L 'a' > 68.842 in - 338 2L3x3x3/16x3/8 | 12.889 | 12.676 | 162.0 | 1.424 | 13.947 | 69.423 | 0.201 ¹ ✓ |
| | | 2L 'a' > 72.411 in - 377 | | | | | | | ✓ |

¹ P_u / φP_n controls

Horizontal Design Data (Tension)

| | | | | |
|---|----------------|--|--------------------|--------------------|
| tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | ATS 9832 - Gillsville (Site# US-GA-5321) | Page | 32 of 33 |
| | Project | 255' SST/34.305869, -83.649236 | Date | 15:51:53 12/19/22 |
| | Client | Vertical Bridge | Designed by | christopher.guidry |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 100 - 80 | 2L1 3/4x1 3/4x3/16x3/8 | 16.894 | 8.270 | 184.8 | 0.721 | 7.731 | 35.134 | 0.220 ¹ ✓ |
| T10 | 80 - 60 | 2L 'a' > 47.607 in - 238 2L2x2x3/16x3/8 | 19.106 | 9.376 | 182.4 | 0.862 | 8.509 | 42.001 | 0.203 ¹ ✓ |
| T11 | 60 - 40 | 2L 'a' > 53.886 in - 259 2L2x2x3/16x3/8 | 20.606 | 10.116 | 196.7 | 0.862 | 9.265 | 42.001 | 0.221 ¹ ✓ |
| T12 | 40 - 20 | 2L 'a' > 58.136 in - 298 2L2x2x1/4x3/8 | 21.394 | 10.499 | 206.9 | 1.129 | 10.008 | 55.027 | 0.182 ¹ ✓ |
| T13 | 20 - 0 | 2L 'a' > 60.666 in - 355 2L2 1/2x2 1/2x3/16x3/8 2L 'a' > 66.454 in - 376 | 23.606 | 11.605 | 179.0 | 1.139 | 10.711 | 55.529 | 0.193 ¹ ✓ |

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 255 - 240 | L1 3/4x1 3/4x3/16 | 4.913 | 4.767 | 106.5 | 0.360 | 0.803 | 17.567 | 0.046 ¹ ✓ |

¹ P_u / φP_n controls

Inner Bracing Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T9 | 100 - 80 | L1 3/4x1 3/4x3/16 | 8.803 | 8.803 | 196.7 | 0.621 | 0.000 | 27.949 | 0.000 ¹ ✓ |
| T10 | 80 - 60 | L1 3/4x1 3/4x3/16 | 9.553 | 9.553 | 213.5 | 0.621 | 0.000 | 27.949 | 0.000 ¹ ✓ |

¹ P_u / φP_n controls

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | φP _{allow} K | % Capacity | Pass Fail |
|-------------|-----------------|-------------------|------|---------------------|--------|--------------------------|---------------|--------------|
|-------------|-----------------|-------------------|------|---------------------|--------|--------------------------|---------------|--------------|

| | | |
|--|---|---|
| <p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>ATS 9832 - Gillsville (Site# US-GA-5321)</p> | <p>Page</p> <p>33 of 33</p> |
| | <p>Project</p> <p>255' SST/34.305869, -83.649236</p> | <p>Date</p> <p>15:51:53 12/19/22</p> |
| | <p>Client</p> <p>Vertical Bridge</p> | <p>Designed by</p> <p>christopher.guidry</p> |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|--------------|----------------|------------------------|------------------|----------|--------------------|---------------------|------------------|
| T1 | 255 - 240 | Leg | 1 3/4 | 3 | -11.703 | 33.103 | 35.4 | Pass |
| T2 | 240 - 220 | Leg | 2 1/4 | 27 | -58.152 | 84.331 | 69.0 | Pass |
| T3 | 220 - 200 | Leg | 2 3/4 | 54 | -123.886 | 161.540 | 76.7 | Pass |
| T4 | 200 - 180 | Leg | 3 | 81 | -186.259 | 208.347 | 89.4 | Pass |
| T5 | 180 - 160 | Leg | 3 1/4 | 108 | -242.242 | 260.312 | 93.1 | Pass |
| T6 | 160 - 140 | Leg | 3 1/2 | 135 | -294.356 | 317.273 | 92.8 | Pass |
| T7 | 140 - 120 | Leg | 3 3/4 | 162 | -343.912 | 379.106 | 90.7 | Pass |
| T8 | 120 - 100 | Leg | 4 | 189 | -392.507 | 445.717 | 88.1 | Pass |
| T9 | 100 - 80 | Leg | 4 1/4 | 216 | -433.826 | 517.034 | 83.9 | Pass |
| T10 | 80 - 60 | Leg | 4 1/4 | 255 | -479.030 | 517.034 | 92.6 | Pass |
| T11 | 60 - 40 | Leg | 4 1/2 | 294 | -522.856 | 593.004 | 88.2 | Pass |
| T12 | 40 - 20 | Leg | 4 3/4 | 333 | -565.690 | 673.582 | 84.0 | Pass |
| T13 | 20 - 0 | Leg | 4 3/4 | 372 | -606.623 | 673.582 | 90.1 | Pass |
| T1 | 255 - 240 | Diagonal | L1 3/4x1 3/4x3/16 | 8 | -2.875 | 10.431 | 27.6 | Pass |
| | | | | | | | 33.3 (b) | |
| T2 | 240 - 220 | Diagonal | L1 3/4x1 3/4x3/16 | 32 | -6.843 | 7.721 | 88.6 | Pass |
| T3 | 220 - 200 | Diagonal | L2x2x1/4 | 58 | -9.933 | 11.565 | 85.9 | Pass |
| T4 | 200 - 180 | Diagonal | L2 1/2x2 1/2x3/16 | 85 | -9.703 | 13.885 | 69.9 | Pass |
| | | | | | | | 79.5 (b) | |
| T5 | 180 - 160 | Diagonal | L2 1/2x2 1/2x3/16 | 112 | -9.851 | 11.057 | 89.1 | Pass |
| T6 | 160 - 140 | Diagonal | L2 1/2x2 1/2x1/4 | 139 | -10.225 | 11.657 | 87.7 | Pass |
| T7 | 140 - 120 | Diagonal | L3x3x3/16 | 166 | -10.792 | 13.000 | 83.0 | Pass |
| T8 | 120 - 100 | Diagonal | L3x3x1/4 | 193 | -11.444 | 14.213 | 80.5 | Pass |
| T9 | 100 - 80 | Diagonal | 2L2x2x1/4x3/8 | 222 | -13.174 | 13.970 | 94.3 | Pass |
| T10 | 80 - 60 | Diagonal | 2L2 1/2x2 1/2x3/16x3/8 | 261 | -13.383 | 17.635 | 75.9 | Pass |
| T11 | 60 - 40 | Diagonal | 2L2 1/2x2 1/2x3/16x3/8 | 300 | -13.740 | 15.672 | 87.7 | Pass |
| T12 | 40 - 20 | Diagonal | 2L2 1/2x2 1/2x1/4x3/8 | 339 | -14.462 | 18.671 | 77.5 | Pass |
| T13 | 20 - 0 | Diagonal | 2L3x3x3/16x3/8 | 378 | -14.842 | 20.884 | 71.1 | Pass |
| T9 | 100 - 80 | Horizontal | 2L1 3/4x1 3/4x3/16x3/8 | 220 | -7.731 | 9.567 | 80.8 | Pass |
| T10 | 80 - 60 | Horizontal | 2L2x2x3/16x3/8 | 259 | -8.509 | 11.971 | 71.1 | Pass |
| T11 | 60 - 40 | Horizontal | 2L2x2x3/16x3/8 | 298 | -9.265 | 10.310 | 89.9 | Pass |
| T12 | 40 - 20 | Horizontal | 2L2x2x1/4x3/8 | 337 | -10.008 | 11.761 | 85.1 | Pass |
| T13 | 20 - 0 | Horizontal | 2L2 1/2x2 1/2x3/16x3/8 | 376 | -10.711 | 14.887 | 72.0 | Pass |
| T1 | 255 - 240 | Top Girt | L1 3/4x1 3/4x3/16 | 6 | -0.693 | 6.409 | 10.8 | Pass |
| T9 | 100 - 80 | Inner Bracing | L1 3/4x1 3/4x3/16 | 227 | -0.009 | 1.879 | 0.5 | Pass |
| T10 | 80 - 60 | Inner Bracing | L1 3/4x1 3/4x3/16 | 267 | -0.010 | 1.596 | 0.6 | Pass |
| T11 | 60 - 40 | Inner Bracing | L1 3/4x1 3/4x3/16 | 306 | -0.011 | 1.372 | 0.8 | Pass |
| T12 | 40 - 20 | Inner Bracing | L1 3/4x1 3/4x3/16 | 345 | -0.012 | 1.192 | 1.0 | Pass |
| T13 | 20 - 0 | Inner Bracing | L1 3/4x1 3/4x3/16 | 383 | -0.012 | 1.045 | 1.1 | Pass |
| | | | | | | | Summary | |
| | | | | | | | Leg (T5) | 93.1 Pass |
| | | | | | | | Diagonal (T9) | 94.3 Pass |
| | | | | | | | Horizontal (T11) | 89.9 Pass |
| | | | | | | | Top Girt (T1) | 10.8 Pass |
| | | | | | | | Inner Bracing (T13) | 1.1 Pass |
| | | | | | | | Bolt Checks | 79.5 Pass |
| | | | | | | | RATING = | 94.3 Pass |