1004 East Illinois Street • Assumption, IL 62510 • 1-217-226-4421

I. General

1. Contact a local geotechnical engineer to develop a geotechnical report that will give minimum soil requirements to build the type of structures on the prescribed site.
   a. Follow the geotechnical reports recommendations and requirements.
   b. It is the contractors responsibility to understand the information presented.
   c. Third party inspections are the responsibility of the owner.
2. Construction shall be in accordance with all applicable codes of regulatory agencies having jurisdiction.
3. The work shall be performed in accordance with the specifications and the contract drawings. Report discrepancies between the contract documents to the engineer in writing for clarification prior to implementing work. Where requirements shown on the drawings differ from the specifications, the more severe of the two shall govern.
4. Plans, elevations, sections and details shall not be scaled for determination of quantities, lengths, fit of materials, etc.
5. Existing conditions and related dimensions indicated in the contract documents shall be field verified by the contractor prior to implementing work. Conditions that differ from those indicated in the contract documents shall be submitted to the engineer for review prior to implementing work.
6. The specifications and structural drawings represent the finished structure and unless otherwise noted, do not indicate the means or methods of construction.
7. The structure is designed for permanent loads applied to the structure in its final configuration. The contractor is responsible for maintaining the integrity of the structure during construction and shall provide adequate shoring and/or temporary support, wherever required, to existing and new structures, during the entire construction period.
8. The contractor shall make no deviations from the design drawings without written approval from the engineer.

II. Engineered Fill

1. All engineered fill shall be as specified in the geotechnical report. Remove existing fill material and replace with engineered granular fill in accordance with the geotechnical report.

III. Concrete

A. General

1. All concrete work shall be designed on the basis of “Strength design” in accordance with ACI 318 “Building code requirements for structural concrete”. Concrete work shall be proportioned in accordance with ACI 301 “Specifications for structural concrete” and ACI 211.1 “Recommended practice for selecting proportions for normal weight concrete”.
2. Beams, slabs, walls, columns and foundation elements shall not be sleeved or boxed-out or have the reinforcing interrupted, except as indicated on the structural drawings.
3. Provide 3/4" chamfer at exterior corners and edges of permanently exposed concrete.
4. Slope top of concrete permanently exposed to weather to allow drainage away from the structure.

PNEG-2341

B. Concrete

1. All cast-in-place concrete shall be “Normal weight” concrete and have a minimum, 28 day compressive strength of 4000 PSI (f’c) and shall be mixed using an approved batch machine or mobile mixer until uniform in color.
2. All cast in place concrete shall have 4" minimum to 6" maximum slump, air-entrained to 5%-8%. No additional water shall be added to concrete after slump test is recorded. Maximum W/C ratio shall be 0.45.
3. Cylinders shall be taken for each class of concrete placed each day and not less than once per day nor less than once for each 100 cubic yard and tested for compressive strength at 7 and 28 days. A minimum total of 5 strength tests shall be made.
4. Concrete should be a mix of high grade portland cement, clean sand or granular fill and well graded, washed gravel or crushed stone as coarse aggregate. Maximum aggregate size shall be 3/4". All aggregates shall conform to ASTM C33 “Standard specification for concrete aggregates”.
5. Water used to make concrete shall be potable. Water shall not exceed 5-1/2" gallons for each bag, unless sand is very dry.
6. Admixtures containing chlorine shall not be used.

C. Reinforcing Steel

1. All reinforcing bars (rebar) shall be new billet steel conforming to the standards of ASTM A615, grade 60. Reinforcing bars to be welded shall be ASTM A706. Reinforcement to be epoxy coated shall conform to the standards of ASTM A775.
2. All concrete reinforcement shall be detailed, fabricated, labeled, supported, spaced in forms and secured in place in accordance with the procedures and requirements outlined in the latest edition of the “Building code requirements for structural concrete”, ACI 318 and the “Manual of standard practice for detailing reinforced concrete structures”, ACI 315. All reinforcement steel shall be accurately placed, rigidly supported and firmly tied in place with bar supports and spacers in accordance with ACI 301 and ACI 318.
3. Bar supports in contact with exposed surfaces shall be plastic tipped.
4. All rebar (reinforcing steel) shall be located 3" clear from the bottom and side of footing where forms are not used and 2" clear from the top and where forms are used, unless noted otherwise.

C.I. Construction Joints

1. Each foundation portion shall be placed monolithically. Construction joints are prohibited.

C.II. Anchor Bolts

1. All anchor bolts shall be ASTM F1554 and of grade as called out in *Figure 1 on Page 4* and have a minimum of 18" embedment unless otherwise specified.
2. “Adhesive” anchors are prohibited for all conditions.

C.III. Footings

1. All footings, slabs and walls shall rest on soil with a minimum net allowable bearing capacity of 1500 PSF. Footings shall:
   a. Be a minimum of or equivalent to frost depth (check with local building official) but not less than 12" below undisturbed soil. Footings bearing above frost depth must bear on fill not susceptible to frost heave per geotechnical engineers requirements. Depth of fill must be to frost depth.
   b. Be constructed in accordance with ASCE 32 “Design and construction of frost protected shallow foundations”.
   c. Be erected on solid rock or with compacted engineered granular fill in accordance with the geotechnical report.
   d. Follow the geotechnical report.
2. Concrete finishing:
   a. Repair of surface defects shall begin immediately after removal of form or pouring of slab foundation.
   b. Foundations shall be poured level and shall not vary more than 1/4".
   c. Provide smooth steel trowel finish for all interior slabs. Provide broom finish texture for all exterior slabs.
   d. Patch all voids and depressions exceeding 3/8" in any direction.

Applicable Codes

2015 International Building Code

ASCE 7-10

Loads Design Criteria

Snow Load	
Ground Snow Load, P_g	30 PSF
Snow Exposure Factor, C_e	1.0
Thermal Factor, C_t	1.2
Snow Importance Factor, I_s	1.0
Roof Snow Load, P_f	30 PSF
Wind Load	
Basic Wind Speed	105 MPH
Wind Importance Factor, I_w	1.0
Wind Exposure	C
Seismic Load Design	None

NOTE: *Foundation designs presented here are not applicable for locations where site specific parameters exceed values given above.*

Catalog Tower Structure Overview

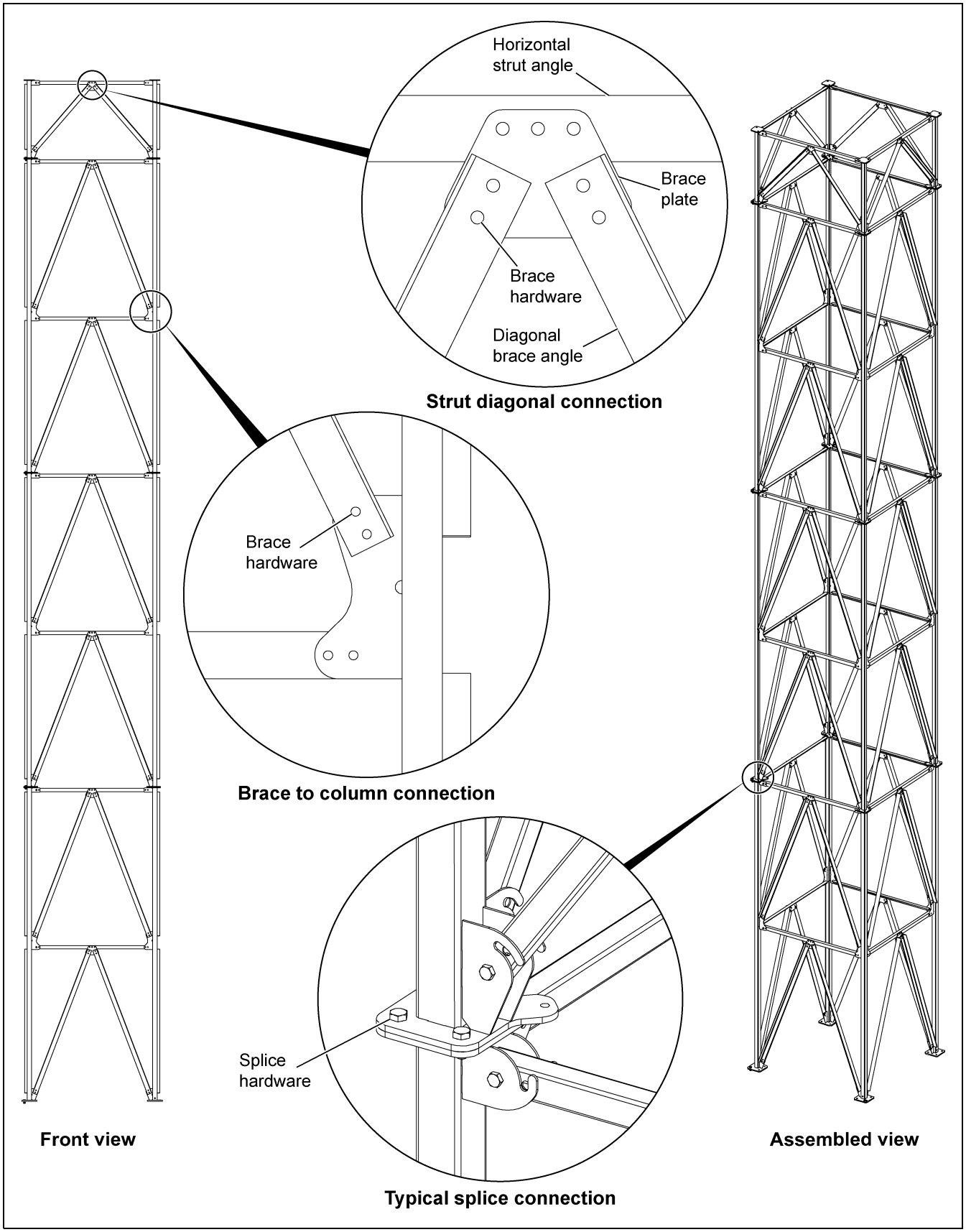

Figure 1 *Catalog Tower Structure Overview*

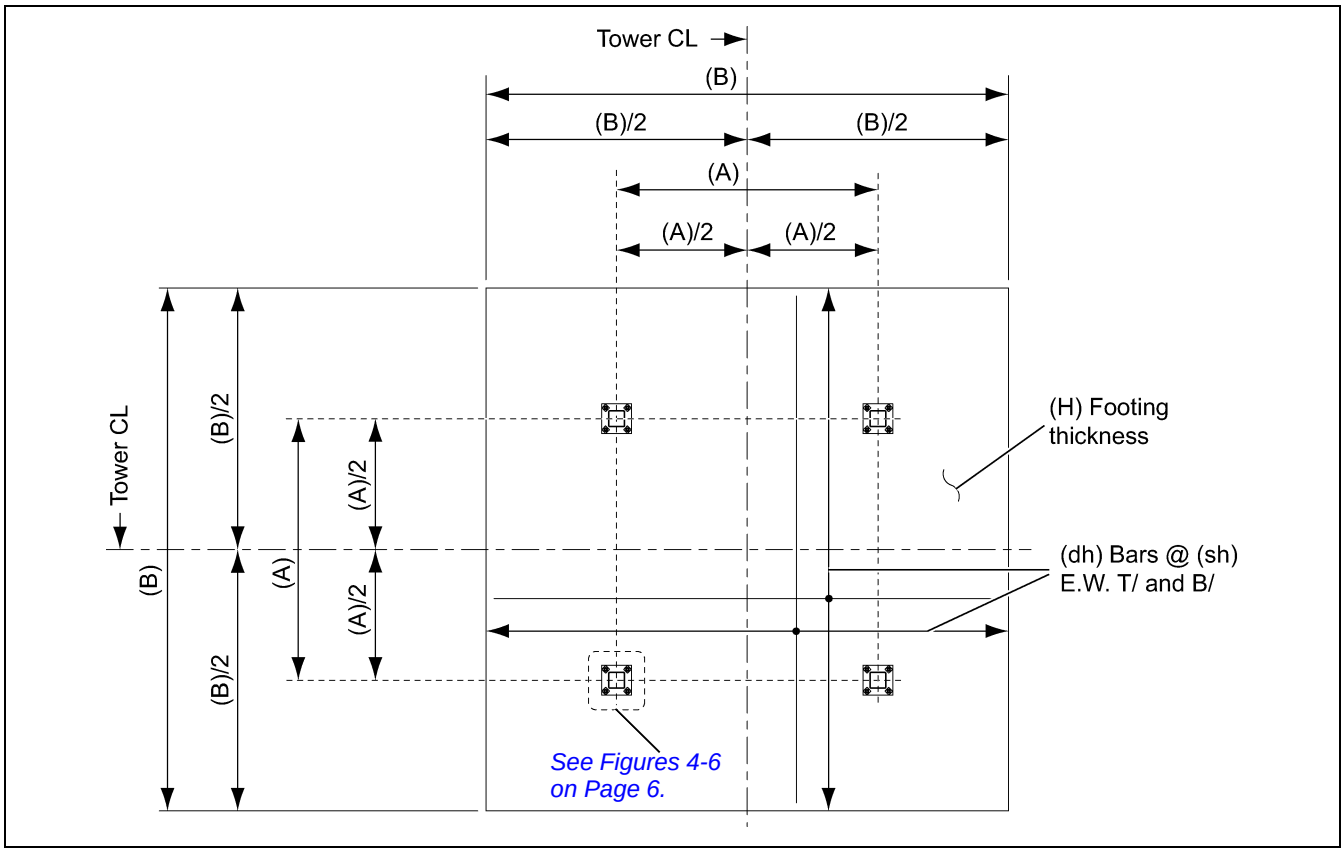

Figure 2 *Foundation Plan*

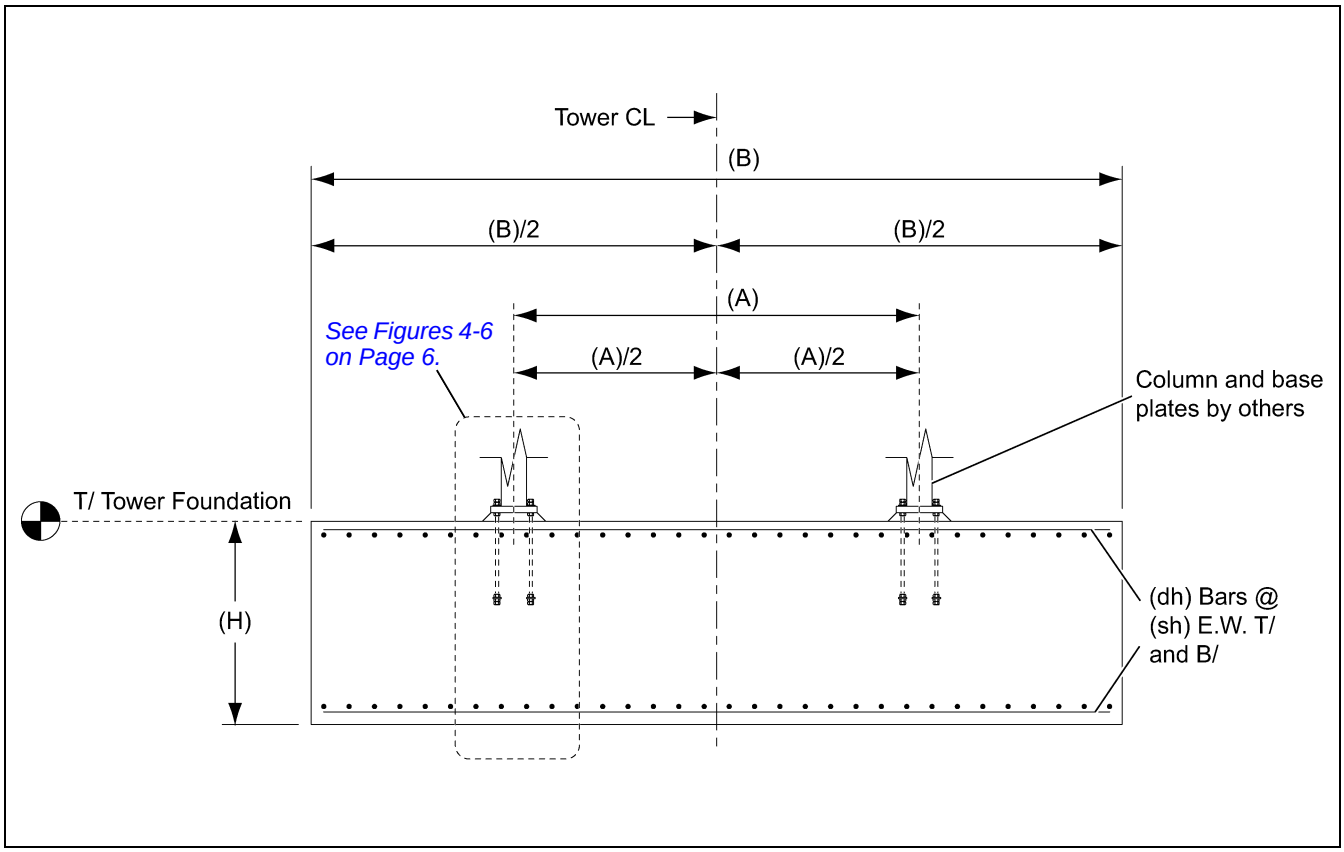

Figure 3 *Foundation Section*

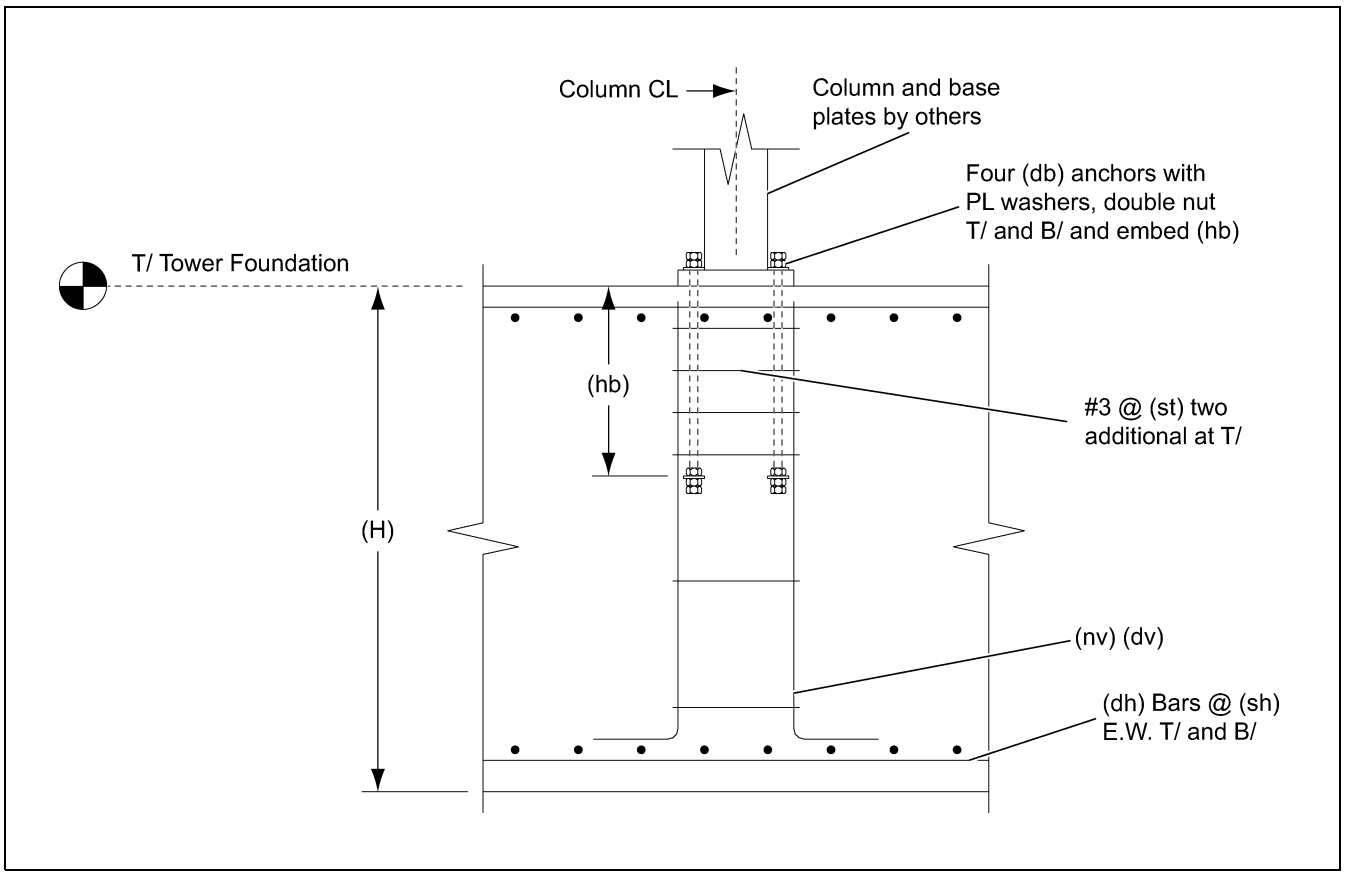

Figure 4 *Foundation Detail*

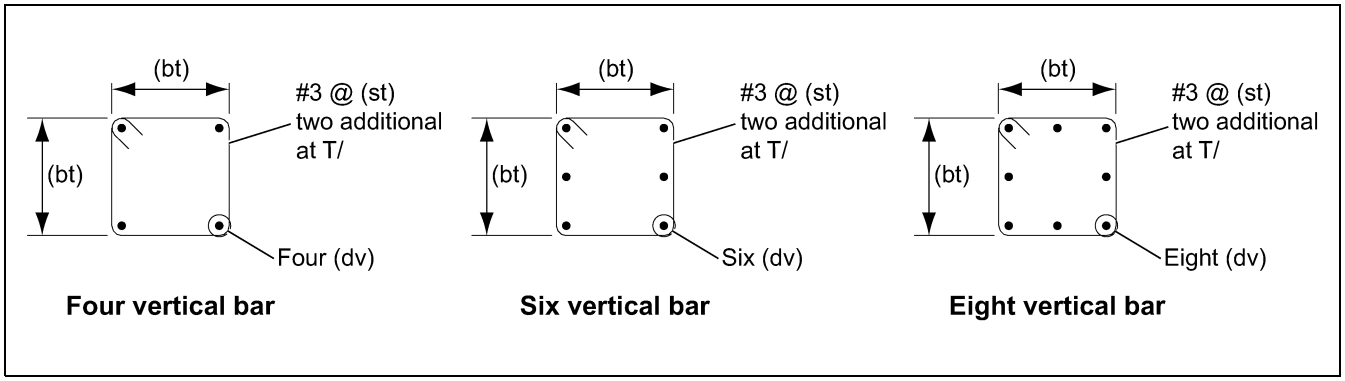

Figure 5 *Foundation Detail*

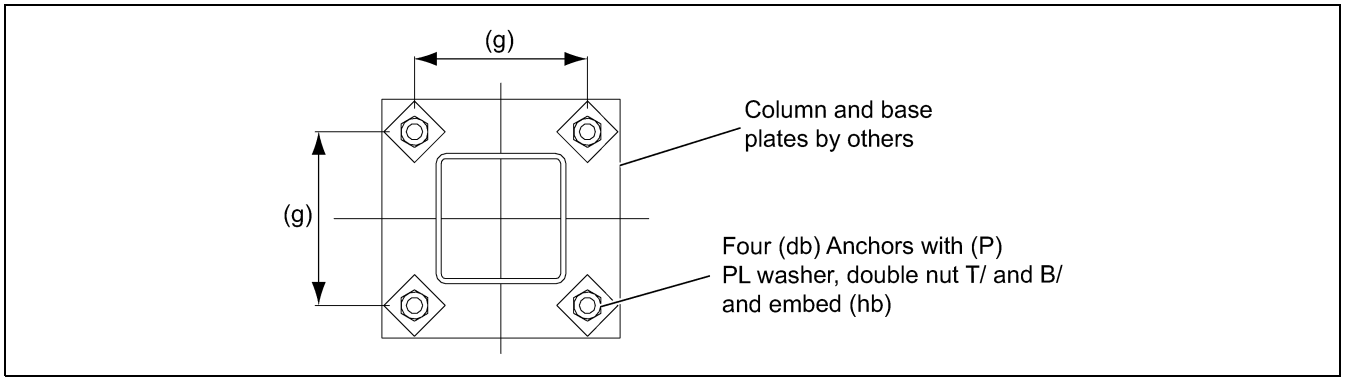

Figure 6 *Anchor Detail*

Anchor Bolt Detail

1. All the tower anchor bolts/rods and associated hardware to be supplied by others.
2. All the tower anchor rods to be ASTM F1554 grade 105.
3. All the tower anchor bolts and nuts to be ASTM A194 grade 2H.
4. All the plate washers to be ASTM A572 grade 50 steel (supplied by GSI). All the plate washers to be fillet welded all around, minimum weld size to be 1/2 the plate thickness.
5. Anchor bolt projection is to be verified by contractor for site conditions and construction practices.
6. Recommended projection assumes 1-1/2" grout thickness between the concrete and the base plate.

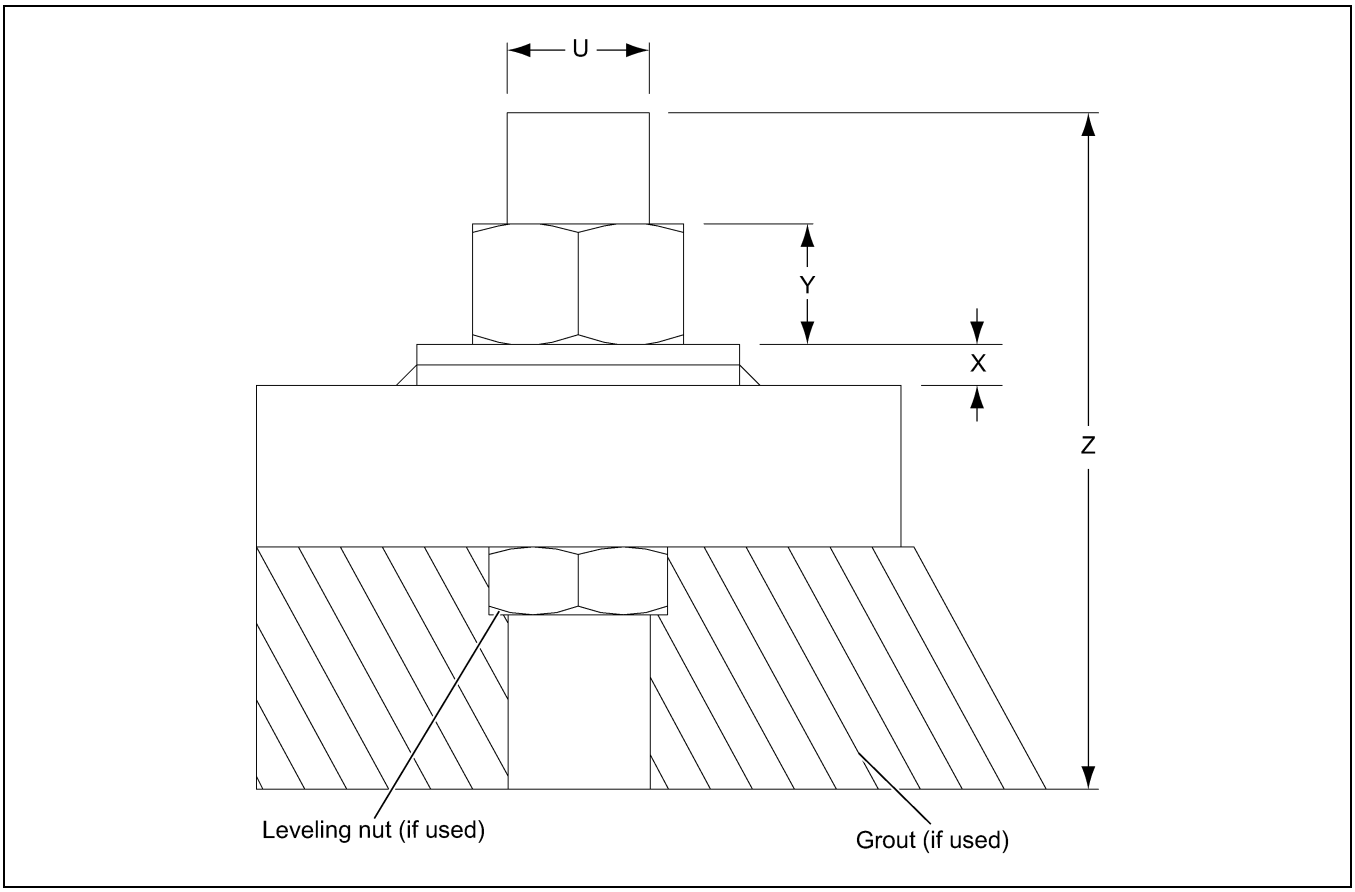

Figure 7 *Anchor Bolt Detail*

Anchor Rod Diameter (U)	Minimum Washer Thickness (X)	Maximum Nut Thickness (Y)	Recommended Projection (Z)
0.750"	0.250"	0.758"	4.250"
1.000"	0.375"	1.012"	5.500"
1.250"	0.500"	1.251"	6.000"
1.500"	0.500"	1.505"	6.500"

8' (A) Catalog Tower Foundation

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T0808045-AAAA	TFA3-PB1	13'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	13	574
T0808050-AAAA	TFA3-PB1	14'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	15	676
T0808055-AAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T0808060-AAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T0808065-AAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T0808070-AAAA	TFA35-PB1	16'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	28	1325
T0808075-AAAA	TFA35-PB1	16'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	28	1325
T0808080-AAAA	TFA35-PB1	16'	42"	#5	8"	0	0	0	0	3/4"	7-1/2"	9"	33	1552
T0808085-AAAA	TA4-PB1	16'	48"	#8	18"	6	#4	12"	12"	3/4"	8"	18"	38	1906
T0808090-AAAA	TA4-PB1	16'	54"	#6	9"	6	#4	12"	12"	3/4"	8"	18"	43	2051
T0808095-AAAA	TA4-PB1	16'	60"	#7	11"	8	#4	12"	12"	3/4"	8"	18"	47	2289
T0808100-AAAA	TA4-PB1	16'	66"	#7	10"	8	#4	12"	12"	3/4"	8"	18"	52	2555
T0808045-BAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T0808050-BAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T0808055-BAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T0808060-BAAA	TFA35-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	9"	24	1117
T0808065-BAAA	TFA35-PB1	16'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	28	1325
T0808070-BAAA	TFA35-PB1	16'	42"	#5	8"	0	0	0	0	3/4"	7-1/2"	9"	33	1552
T0808075-BAAA	TA4-PB1	16'	48"	#8	18"	6	#4	12"	12"	3/4"	8"	18"	38	1906
T0808080-BAAA	TA4-PB1	16'	54"	#6	9"	6	#4	12"	12"	3/4"	8"	18"	43	2051
T0808085-BAAA	TA4-PB1	16'	60"	#7	11"	8	#4	12"	12"	3/4"	8"	18"	47	2289
T0808090-BAAA	TA4-PB1	16'	66"	#7	10"	8	#4	12"	12"	3/4"	8"	18"	52	2555
T0808095-BAAA	TA6-PB3	16'	72"	#8	12"	8	#4	14"	12"	1"	10"	18"	57	2807
T0808100-BAAA	TA6-PB3	16'	84"	#5	4"	4	#6	14"	12"	1"	10"	18"	66	3137
T0808045-CAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T0808050-CAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T0808055-CAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T0808060-CAAA	TFA35-PB1	16'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	28	1325
T0808065-CAAA	TFA35-PB1	14'	54"	#6	9"	6	#4	12"	12"	3/4"	7-1/2"	18"	33	1555
T0808070-CAAA	TFA35-PB1	16'	42"	#5	8"	0	0	0	0	3/4"	7-1/2"	9"	33	1552
T0808075-CAAA	TA4-PB1	16'	48"	#8	18"	6	#4	12"	12"	3/4"	8"	18"	38	1906
T0808080-CAAA	TA4-PB1	16'	54"	#6	9"	6	#4	12"	12"	3/4"	8"	18"	43	2051
T0808085-CAAA	TA4-PB1	16'	60"	#7	11"	8	#4	12"	12"	3/4"	8"	18"	47	2289
T0808090-CAAA	TA4-PB1	16'	72"	#8	12"	8	#4	12"	12"	3/4"	8"	18"	57	2807
T0808095-CAAA	TA6-PB3	16'	78"	#8	11"	4	#6	14"	12"	1"	10"	18"	62	2907
T0808100-CAAA	TA6-PB3	16'	84"	#5	4"	6	#5	14"	12"	1"	10"	18"	66	3179
T0808045-DAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T0808050-DAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T0808055-DAAA	TFA35-PB1	16'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	28	1325
T0808060-DAAA	TFA35-PB1	16'	42"	#5	8"	0	0	0	0	3/4"	7-1/2"	9"	33	1552
T0808065-DAAA	TA4-PB1	16'	48"	#8	18"	6	#4	12"	12"	3/4"	8"	18"	38	1906
T0808070-DAAA	TA4-PB1	16'	54"	#6	9"	6	#4	12"	12"	3/4"	8"	18"	43	2051
T0808075-DAAA	TA4-PB1	16'	66"	#7	10"	8	#4	12"	12"	3/4"	8"	18"	52	2555
T0808080-DAAA	TA4-PB1	16'	72"	#8	12"	8	#4	12"	12"	3/4"	8"	18"	57	2807
T0808085-DAAA	TA6-PB3	16'	78"	#8	11"	4	#6	14"	12"	1"	10"	18"	62	2907
T0808090-DAAA	TA6-PB3	16'	90"	#7	7"	4	#7	14"	14"	1"	10"	18"	71	3523
T0808095-DAAA	TA6-PB3	16'	96"	#8	9"	4	#7	14"	14"	1"	10"	18"	76	3585
T0808100-DAAA	TA6-PB3	16'	108"	#8	8"	4	#7	14"	14"	1"	10"	18"	85	4094

10' (A) Catalog Tower Foundation

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T1010045-AAAA	TFA3-PB1	13'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	13	574
T1010050-AAAA	TFA3-PB1	14'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	15	676
T1010055-AAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1010060-AAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1010065-AAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1010070-AAAA	TFA35-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	9"	24	1117
T1010075-AAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010080-AAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010085-AAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1010090-AAAA	TFA35-PB1	18'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	36	1637
T1010095-AAAA	TFA35-PB1	20'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	12"	37	1757
T1010100-AAAA	TFA4-PB1	20'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	44	2084
T1010105-AAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	52	2441
T1010110-AAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	15"	52	2441
T1010115-AAAA	TA6-PB3	20'	48"	#8	18"	4	#6	14"	12"	1"	10"	18"	59	2848
T1010120-AAAA	TA6-PB3	18'	66"	#7	10"	6	#5	14"	12"	1"	10"	18"	66	3269
T1010125-AAAA	TA6-PB3	20'	54"	#6	9"	4	#7	14"	14"	1"	10"	18"	67	3198
T1010130-AAAA	TA6-PB3	20'	60"	#7	11"	4	#7	14"	14"	1"	10"	18"	74	3672
T1010045-BAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1010050-BAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1010055-BAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1010060-BAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1010065-BAAA	TFA35-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	24	1095
T1010070-BAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010075-BAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1010080-BAAA	TFA35-PB1	19'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	9"	33	1556
T1010085-BAAA	TFA35-PB1	20'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	12"	37	1757
T1010090-BAAA	TA4-PB1	20'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	44	2084
T1010095-BAAA	TA4-PB1	19'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	47	2161
T1010100-BAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	52	2441
T1010105-BAAA	TA6-PB3	20'	48"	#8	18"	4	#6	14"	12"	1"	10"	18"	59	2848
T1010110-BAAA	TA6-PB3	18'	66"	#7	10"	4	#6	14"	12"	1"	10"	18"	66	3185
T1010115-BAAA	TA6-PB3	20'	54"	#6	9"	4	#7	14"	14"	1"	10"	18"	67	3198
T1010120-BAAA	TA6-PB3	20'	60"	#7	11"	4	#7	14"	14"	1"	10"	18"	74	3672
T1010125-BAAA	TA6-PB3	20'	66"	#7	10"	4	#7	14"	14"	1"	10"	18"	81	4005
T1010130-BAAA	TA6-PB3	20'	72"	#8	12"	8	#5	14"	12"	1"	10"	18"	89	4538
T1010045-CAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1010050-CAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1010055-CAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1010060-CAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T1010065-CAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010070-CAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010075-CAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1010080-CAAA	TFA35-PB1	18'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	9"	36	1637
T1010085-CAAA	TFA35-PB1	19'	36"	#4	6"	0	0	0	0	3/4"	7-1/2"	12"	40	1878

10' (A) Catalog Tower Foundation (Continued)

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T1010090-CAAA	TA4-PB1	20'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	44	2084
T1010095-CAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	52	2441
T1010100-CAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	15"	52	2441
T1010105-CAAA	TA6-PB3	20'	48"	#8	18"	4	#6	14"	12"	1"	10"	18"	59	2848
T1010110-CAAA	TA6-PB3	20'	54"	#6	9"	6	#5	14"	12"	1"	10"	18"	67	3272
T1010115-CAAA	TA6-PB3	19'	66"	#7	10"	4	#7	14"	14"	1"	10"	18"	74	3657
T1010120-CAAA	TA6-PB3	20'	60"	#7	11"	4	#7	14"	14"	1"	10"	18"	74	3672
T1010125-CAAA	TA6-PB3	20'	66"	#7	10"	4	#7	14"	14"	1"	10"	18"	81	4005
T1010130-CAAA	TA6-PB3	20'	72"	#8	12"	6	#6	14"	12"	1"	10"	18"	89	4448
T1010045-DAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1010050-DAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1010055-DAAA	TFA3-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	24	1095
T1010060-DAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010065-DAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1010070-DAAA	TFA35-PB1	19'	30"	#6	16"	0	0	0	0	3/4"	7-1/2"	9"	33	1556
T1010075-DAAA	TA4-PB1	19'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	40	1878
T1010080-DAAA	TA4-PB1	20'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	44	2084
T1010085-DAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	52	2441
T1010090-DAAA	TA4-PB1	20'	48"	#8	18"	8	#4	12"	12"	3/4"	8"	18"	59	2980
T1010095-DAAA	TA6-PB3	20'	48"	#8	18"	4	#6	14"	12"	1"	10"	18"	59	2848
T1010100-DAAA	TA6-PB3	20'	54"	#6	9"	4	#7	14"	14"	1"	10"	18"	67	3198
T1010105-DAAA	TA6-PB3	20'	60"	#7	11"	4	#7	14"	14"	1"	10"	18"	74	3672
T1010110-DAAA	TA6-PB3	20'	66"	#7	10"	4	#7	14"	14"	1"	10"	18"	81	4005
T1010115-DAAA	TA6-PB3	20'	72"	#8	12"	6	#6	14"	12"	1"	10"	18"	89	4448
T1010120-DAAA	TA6-PB3	20'	78"	#8	11"	4	#8	14"	16"	1"	10"	18"	96	4784
T1010125-DAAA	TA6-PB3	20'	84"	#5	4"	4	#8	14"	16"	1"	10"	18"	104	5014
T1010130-DAAA	TA6-PB1	20'	90"	#7	7"	4	#8	14"	16"	1"	10"	18"	111	5649
T1010045-EAAA	TFA3-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	24	1095
T1010050-EAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1010055-EAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1010060-EAAA	TA4-PB1	18'	36"	#4	6"	0	0	0	0	3/4"	8"	9"	36	1637
T1010065-EAAA	TA4-PB1	19'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	40	1878
T1010070-EAAA	TA4-PB1	20'	36"	#4	6"	0	0	0	0	3/4"	8"	12"	44	2084
T1010075-EAAA	TA4-PB1	20'	42"	#5	8"	0	0	0	0	3/4"	8"	12"	52	2441
T1010080-EAAA	TA4-PB1	20'	48"	#8	18"	8	#4	12"	12"	3/4"	8"	18"	59	2980
T1010085-EAAA	TA6-PB3	20'	54"	#6	9"	6	#5	14"	12"	1"	10"	18"	67	3272
T1010090-EAAA	TA6-PB3	19'	66"	#7	10"	4	#7	14"	14"	1"	10"	18"	74	3657
T1010095-EAAA	TA6-PB3	19'	72"	#8	12"	4	#7	14"	14"	1"	10"	18"	80	3944
T1010100-EAAA	TA6-PB3	19'	78"	#8	11"	4	#7	14"	14"	1"	10"	18"	87	4353
T1010105-EAAA	TA6-PB3	20'	78"	#8	11"	6	#6	14"	12"	1"	10"	18"	96	4884
T1010110-EAAA	TA6-PB3	20'	84"	#5	4"	4	#8	14"	16"	1"	10"	18"	104	5014
T1010115-EAAA	TA6-PB3	20'	90"	#7	7"	4	#8	14"	16"	1"	10"	18"	111	5649
T1010120-EAAA	TA6-PB1	20'	96"	#8	9"	8	#6	14"	12"	1"	10"	18"	119	5887
T1010125-EAAA	TA6-PB1	20'	108"	#8	8"	6	#7	14"	14"	1"	10"	18"	133	6642
T1010130-EAAA	TA6-PB2	20'	114"	#5	3"	6	#8	14"	16"	1-1/4"	10"	18"	141	6838

12' (A) Catalog Tower Foundation

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T1212045-AAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212050-AAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212055-AAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212060-AAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1212065-AAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1212070-AAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T1212075-AAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212080-AAAA	TFA35-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	27	1235
T1212085-AAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1212090-AAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212095-AAAA	TFA35-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	36	1704
T1212100-AAAA	TA4-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	39	1877
T1212105-AAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212110-AAAA	TA4-PB1	23'	30"	#6	16"	0	0	0	0	3/4"	8"	12"	49	2298
T1212115-AAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212120-AAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212125-AAAA	TA6-PB3	22'	42"	#5	8"	0	0	0	0	1"	10"	15"	63	2960
T1212130-AAAA	TA6-PB3	24'	36"	#4	6"	0	0	0	0	1"	10"	15"	64	3014
T1212135-AAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212140-AAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	18"	75	3530
T1212145-AAAA	TA6-PB3	24'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	85	4214
T1212150-AAAA	TA6-PB3	24'	48"	#8	18"	6	#6	14"	12"	1"	10"	18"	85	4310
T1212045-BAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212050-BAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212055-BAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1212060-BAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1212065-BAAA	TFA3-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	24	1168
T1212070-BAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212075-BAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1212080-BAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212085-BAAA	TFA35-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	36	1704
T1212090-BAAA	TFA35-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	39	1877
T1212095-BAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212100-BAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212105-BAAA	TA6-PB3	23'	30"	#6	16"	0	0	0	0	1"	10"	12"	49	2298
T1212110-BAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212115-BAAA	TA6-PB3	23'	36"	#4	6"	0	0	0	0	1"	10"	15"	59	2766
T1212120-BAAA	TA6-PB3	24'	36"	#4	6"	0	0	0	0	1"	10"	15"	64	3014
T1212125-BAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212130-BAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212135-BAAA	TA6-PB3	24'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	85	4214
T1212140-BAAA	TA6-PB3	24'	48"	#8	18"	6	#6	14"	12"	1"	10"	18"	85	4310
T1212145-BAAA	TA6-PB3	24'	54"	#6	9"	4	#8	14"	16"	1"	10"	18"	96	4733
T1212150-BAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227

12' (A) Catalog Tower Foundation (Continued)

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T1212045-CAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212050-CAAA	TFA3-PB1	15'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	17	786
T1212055-CAAA	TFA3-PB1	15'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	21	958
T1212060-CAAA	TFA3-PB1	17'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	21	1033
T1212065-CAAA	TFA3-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	24	1168
T1212070-CAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212075-CAAA	TFA35-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	30	1383
T1212080-CAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212085-CAAA	TFA35-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	36	1704
T1212090-CAAA	TFA35-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	12"	39	1877
T1212095-CAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212100-CAAA	TA4-PB1	23'	30"	#6	16"	0	0	0	0	3/4"	8"	12"	49	2298
T1212105-CAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212110-CAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212115-CAAA	TA6-PB3	22'	42"	#5	8"	0	0	0	0	1"	10"	15"	63	2960
T1212120-CAAA	TA6-PB3	24'	36"	#4	6"	0	0	0	0	1"	10"	15"	64	3014
T1212125-CAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212130-CAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	18"	75	3530
T1212135-CAAA	TA6-PB3	24'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	85	4214
T1212140-CAAA	TA6-PB3	24'	54"	#6	9"	6	#6	14"	12"	1"	10"	18"	96	4839
T1212145-CAAA	TA6-PB3	24'	54"	#6	9"	4	#8	14"	16"	1"	10"	18"	96	4733
T1212150-CAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227
T1212045-DAAA	TFA3-PB1	16'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	19	905
T1212050-DAAA	TFA3-PB1	15'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	21	958
T1212055-DAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T1212060-DAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212065-DAAA	TFA3-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	30	1383
T1212070-DAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212075-DAAA	TFA35-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	36	1704
T1212080-DAAA	TA4-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	8"	9"	39	1877
T1212085-DAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212090-DAAA	TA4-PB1	23'	30"	#6	16"	0	0	0	0	3/4"	8"	12"	49	2298
T1212095-DAAA	TA4-PB1	24'	30"	#6	16"	0	0	0	0	3/4"	8"	15"	53	2541
T1212100-DAAA	TA6-PB3	23'	36"	#4	6"	0	0	0	0	1"	10"	15"	59	2766
T1212105-DAAA	TA6-PB3	24'	36"	#4	6"	0	0	0	0	1"	10"	15"	64	3014
T1212110-DAAA	TA6-PB3	23'	42"	#5	8"	0	0	0	0	1"	10"	15"	69	3192
T1212115-DAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	18"	75	3530
T1212120-DAAA	TA6-PB3	24'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	85	4214
T1212125-DAAA	TA6-PB3	24'	54"	#6	9"	6	#6	14"	12"	1"	10"	18"	96	4839
T1212130-DAAA	TA6-PB3	24'	54"	#6	9"	4	#8	14"	16"	1"	10"	18"	96	4733
T1212135-DAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227
T1212140-DAAA	TA6-PB1	24'	66"	#7	10"	8	#6	14"	12"	1"	10"	18"	117	6064
T1212145-DAAA	TA6-PB1	24'	66"	#7	10"	8	#6	14"	12"	1"	10"	18"	117	6064
T1212150-DAAA	TA6-PB1	24'	72"	#8	12"	6	#8	14"	16"	1"	10"	18"	128	6418

12' (A) Catalog Tower Foundation (Continued)

Part #	Base PL Type	Footing Width (B)	Footing Thickness (H)	Footing Rebar Size (dh)	Footing Rebar Spacing (sh)	# of Vertical Bars (nv)	Vertical Bar Size (dv)	Tie Bar Layout (bt)	Tie Spacing (st)	Anchor Bolt Diameter (db)	Anchor Bolt Spacing (g)	Anchor Bolt Embed (hb)	Conc Volume (CY)	Rebar Weight (lbs.)
T1212045-EAAA	TFA3-PB1	16'	30"	#6	16"	0	0	0	0	3/4"	7"	9"	24	1117
T1212050-EAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212055-EAAA	TFA3-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	30	1383
T1212060-EAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212065-EAAA	TA4-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	8"	9"	36	1704
T1212070-EAAA	TA4-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	8"	9"	39	1877
T1212075-EAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212080-EAAA	TA4-PB1	23'	30"	#6	16"	0	0	0	0	3/4"	8"	12"	49	2298
T1212085-EAAA	TA4-PB1	24'	30"	#6	16"	0	0	0	0	3/4"	8"	15"	53	2541
T1212090-EAAA	TA6-PB3	23'	36"	#4	6"	0	0	0	0	1"	10"	15"	59	2766
T1212095-EAAA	TA6-PB3	24'	36"	#4	6"	0	0	0	0	1"	10"	15"	64	3014
T1212100-EAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212105-EAAA	TA6-PB3	23'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	78	4044
T1212110-EAAA	TA6-PB3	24'	48"	#8	18"	8	#5	14"	12"	1"	10"	18"	85	4405
T1212115-EAAA	TA6-PB3	24'	54"	#6	9"	6	#6	14"	12"	1"	10"	18"	96	4839
T1212120-EAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227
T1212125-EAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227
T1212130-EAAA	TA6-PB1	24'	66"	#7	10"	8	#6	14"	12"	1"	10"	18"	117	6064
T1212135-EAAA	TA6-PB1	24'	72"	#8	12"	6	#7	14"	14"	1"	10"	18"	128	6418
T1212140-EAAA	TA6-PB1	23'	84"	#5	4"	6	#8	14"	16"	1"	10"	18"	137	6827
T1212145-EAAA	TA6-PB2	24'	84"	#5	4"	6	#8	14"	16"	1-1/4"	10"	18"	149	7404
T1212150-EAAA	TA6-PB2	24'	90"	#7	7"	6	#8	14"	16"	1-1/4"	10"	18"	160	8347
T1212045-FAAA	TFA3-PB1	18'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	24	1168
T1212050-FAAA	TFA3-PB1	19'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	27	1235
T1212055-FAAA	TFA3-PB1	20'	24"	#5	14"	0	0	0	0	3/4"	7"	9"	30	1383
T1212060-FAAA	TFA35-PB1	21'	24"	#5	14"	0	0	0	0	3/4"	7-1/2"	9"	33	1539
T1212065-FAAA	TA4-PB1	22'	24"	#5	14"	0	0	0	0	3/4"	8"	9"	36	1704
T1212070-FAAA	TA4-PB1	23'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	39	1877
T1212075-FAAA	TA4-PB1	24'	24"	#5	14"	0	0	0	0	3/4"	8"	12"	43	2059
T1212080-FAAA	TA4-PB1	23'	30"	#6	16"	0	0	0	0	3/4"	8"	12"	49	2298
T1212085-FAAA	TA6-PB3	24'	30"	#6	16"	0	0	0	0	1"	10"	12"	53	2541
T1212090-FAAA	TA6-PB3	22'	42"	#5	8"	0	0	0	0	1"	10"	15"	63	2960
T1212095-FAAA	TA6-PB3	23'	42"	#5	8"	0	0	0	0	1"	10"	15"	69	3192
T1212100-FAAA	TA6-PB3	24'	42"	#5	8"	0	0	0	0	1"	10"	15"	75	3530
T1212105-FAAA	TA6-PB3	24'	48"	#8	18"	4	#7	14"	14"	1"	10"	18"	85	4214
T1212110-FAAA	TA6-PB3	24'	48"	#8	18"	8	#5	14"	12"	1"	10"	18"	85	4405
T1212115-FAAA	TA6-PB3	24'	54"	#6	9"	4	#8	14"	16"	1"	10"	18"	96	4733
T1212120-FAAA	TA6-PB3	24'	60"	#7	11"	4	#8	14"	16"	1"	10"	18"	107	5227
T1212125-FAAA	TA6-PB3	24'	66"	#7	10"	8	#6	14"	12"	1"	10"	18"	117	6064
T1212130-FAAA	TA6-PB1	24'	66"	#7	10"	8	#6	14"	12"	1"	10"	18"	117	6064
T1212135-FAAA	TA6-PB1	24'	72"	#8	12"	6	#8	14"	16"	1"	10"	18"	128	6418
T1212140-FAAA	TA6-PB2	24'	78"	#8	11"	6	#8	14"	16"	1-1/4"	10"	18"	139	6944
T1212145-FAAA	TA6-PB2	24'	84"	#5	4"	6	#8	14"	16"	1-1/4"	10"	18"	149	7404
T1212150-FAAA	TA6-PB2	24'	90"	#7	7"	6	#8	14"	16"	1-1/4"	10"	18"	160	8347