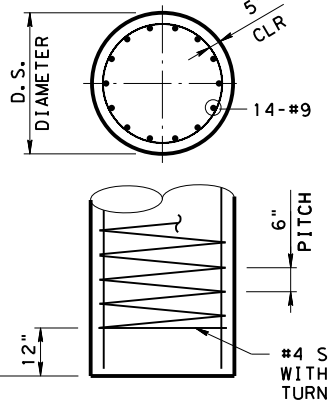
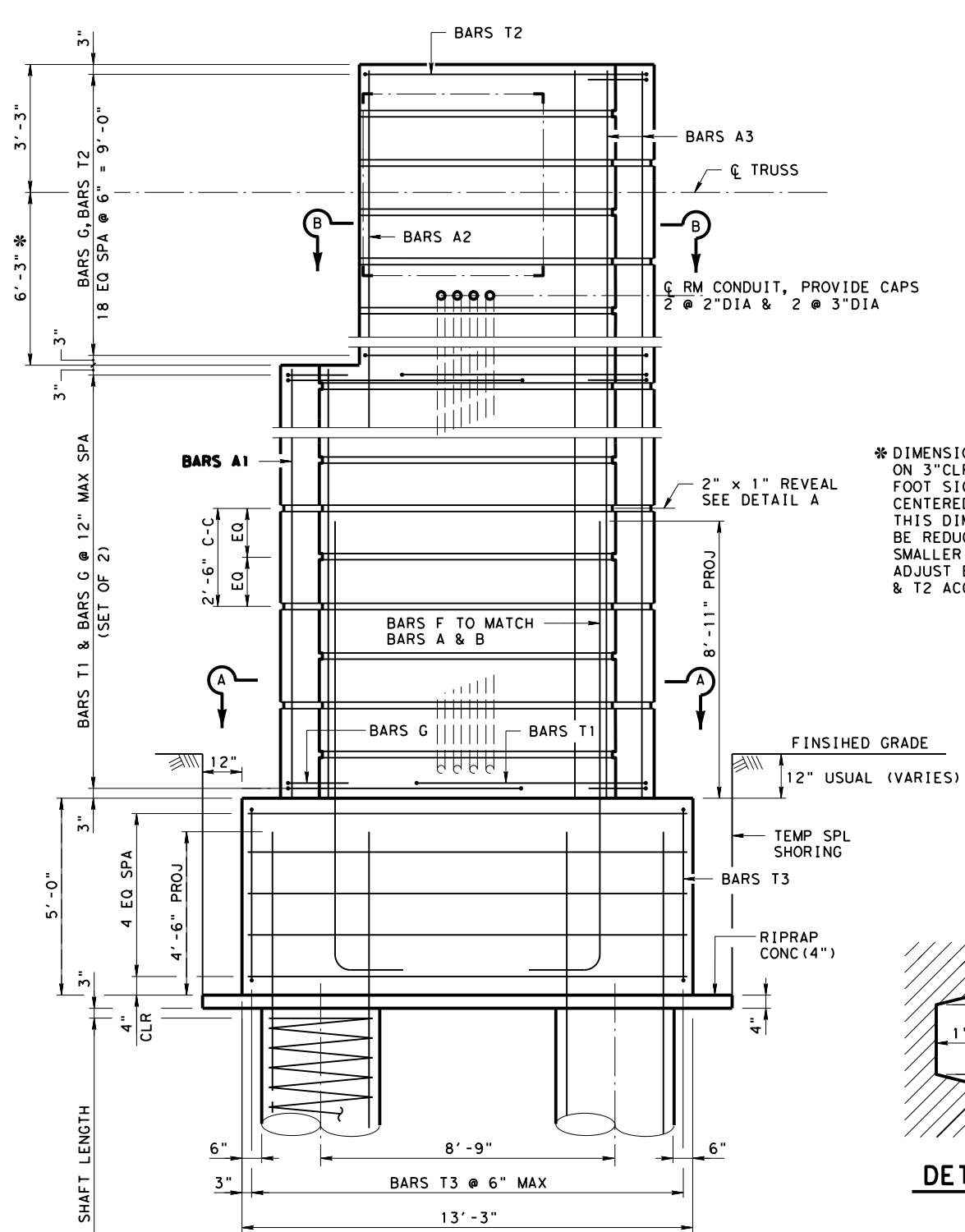


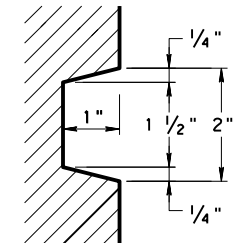
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DATE:
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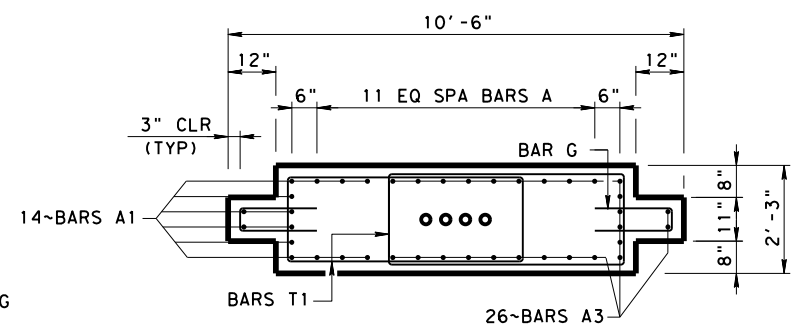


FRONT ELEVATION

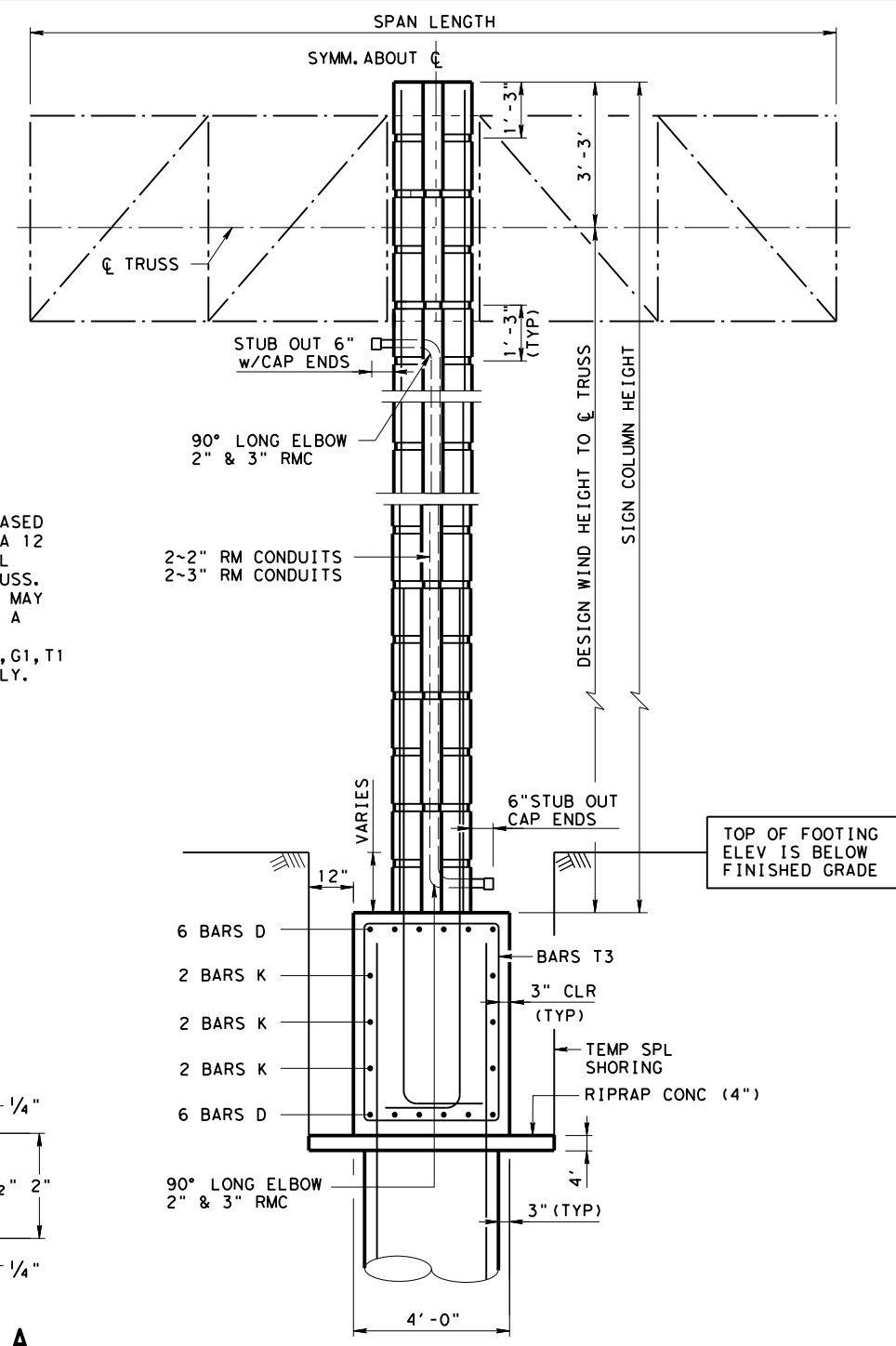
* DIMENSION IS BASED ON 3" CLR FROM A 12 FOOT SIGN PANEL CENTERED ON TRUSS. THIS DIMENSION MAY BE REDUCED FOR A SMALLER SIGN. ADJUST BARS A1, G1, T1 & T2 ACCORDINGLY.



DETAIL A



SECTION A-A



SIDE ELEVATION

SECTION B-B

GENERAL NOTES:

1. CONCRETE SHALL BE CLASS "C" F' C = 3600 psi.
2. ALL REINFORCING SHALL BE ASTM A615 GRADE 60.
3. ALL DIMENSIONS OF THE REINFORCING BARS ARE TO C OF BARS UNLESS OTHERWISE NOTED
4. CHAMFER ALL EXPOSED CORNERS 3/4".
5. ANGLE AND STUD ASSEMBLIES AND ALL STEEL HARDWARE, INCLUDING EMBEDDED CHORD ANGLES, STUDS & CONDUIT IN THE COLUMNS ARE INCIDENTAL TO ITEM 650 OVERHEAD SIGN SUPPORTS.
6. ALL STEEL HARDWARE SHALL BE GALVANIZED.
7. COMPONENTS OF THE STRUCTURE DESIGNED ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND/OR AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.
8. EMBEDDED CHORD ANGLES, COMPLETE WITH STUDS & HOLES, SHALL BE PROVIDED BY THE TRUSS FABRICATOR.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING & MAINTAINING LOCATION & ORIENTATION OF THE EMBEDDED ANGLES FOR TRUSS FIT-UP, CAMBER & DEFLECTION. TEMPLATES MAY BE NEEDED TO HOLD THE ANGLES IN PLACE. (NO DIRECT PAY)
10. IF SINGLE SHEAR SPLICES CONFLICT WITH THE GUSSET PLATES, THEN USE DOUBLE SHEAR SPLICES.
11. WELD STUDS TO ANGLE FLANGES IN ACCORDANCE WITH AWS D1.5.
12. FOR CANTILEVER TRUSS LENGTHS FALLING BETWEEN THOSE SHOWN USE SIZES CALLED FOR IN THE NEXT LONGER SPAN.
13. CONCRETE COLUMNS ARE DESIGNED FOR THE EQUIVALENT AREA OF A 12'-0" DEEP SIGN PANEL OVER 100% OF THE SPAN LENGTH. DESIGN INCLUDES 3 POUNDS PER FOOT SQUARED FOR SIGN PANEL AND 20 POUNDS PER FOOT FOR LIGHTS AND 50 POUNDS PER FOOT FOR WALKWAYS OVER 100% OF THE SPAN LENGTH.

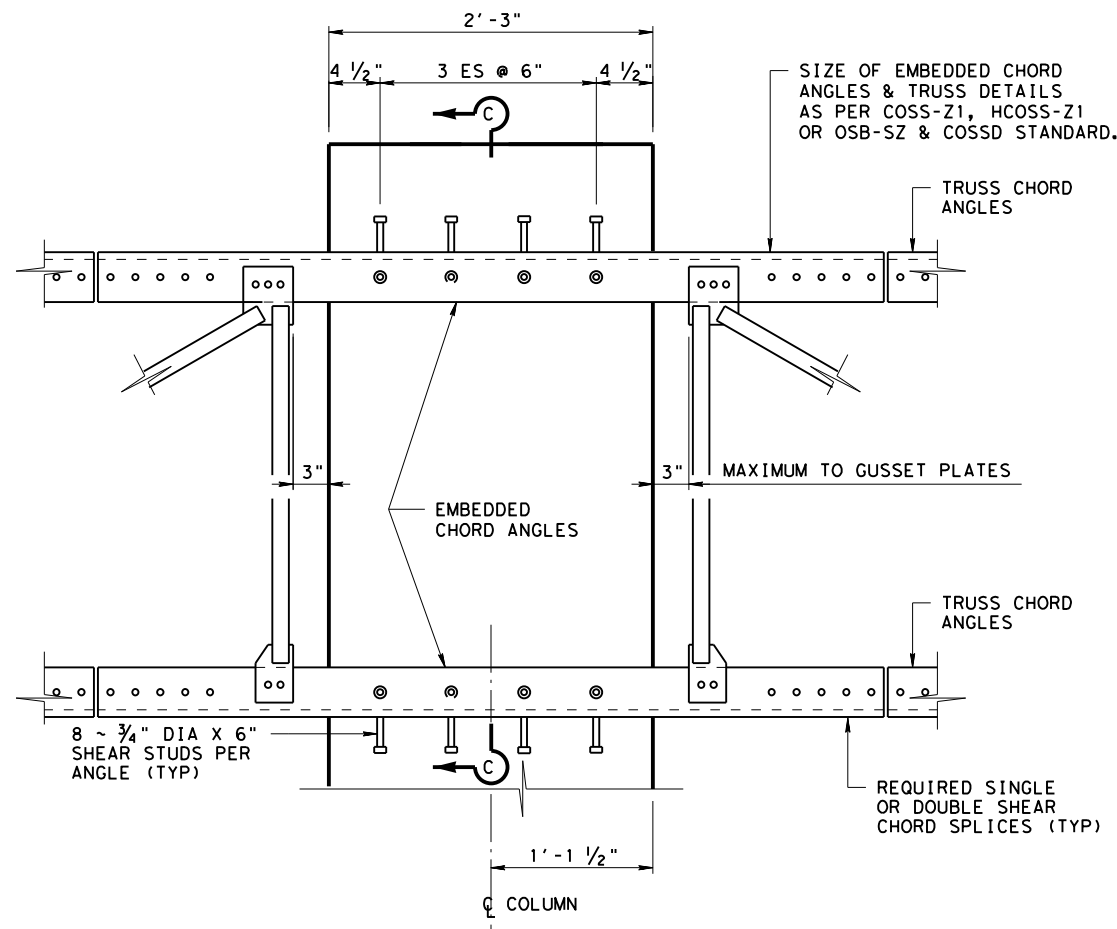
**BRACED TEE OVERHEAD SIGN STRUCTURE DETAILS
HORIZONTAL SCHEME**

BTOSS-HS-25 (HOU)

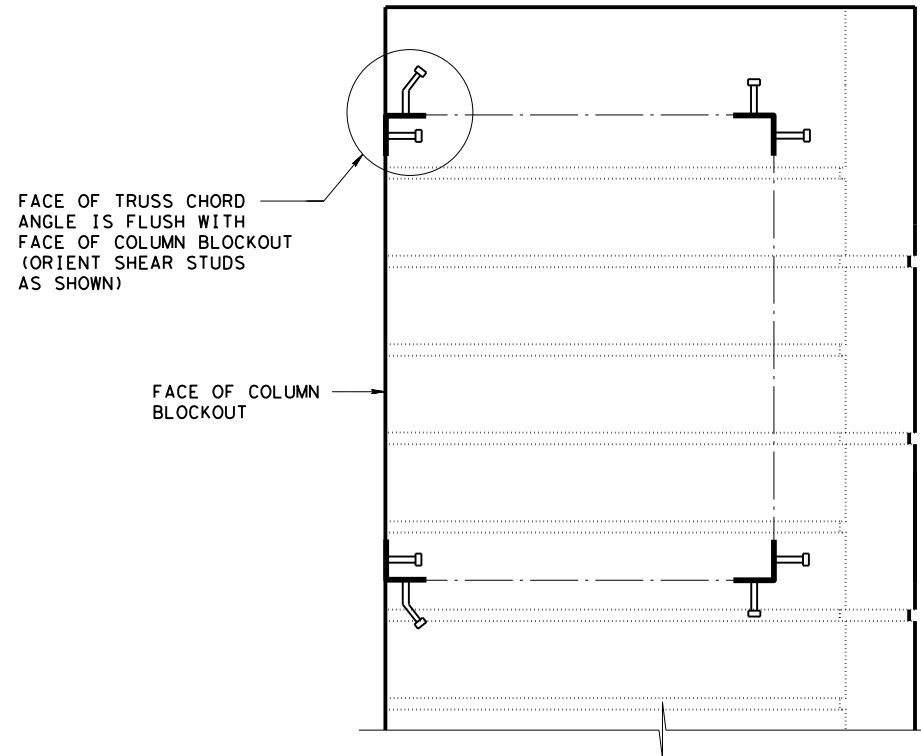
FILE: BTOSS-HS-25 (HOU).DGN	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TXDOT April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS				
04/2025: 2024 Spec Updates	DIST	COUNTY	SHEET NO.	
HOU				

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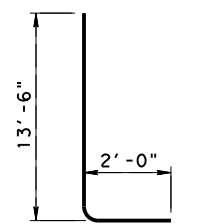
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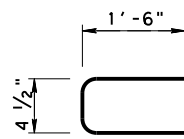
SECTION THRU EMBEDDED TRUSS



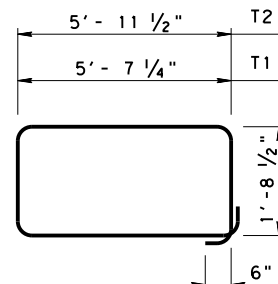
SECTION B-B



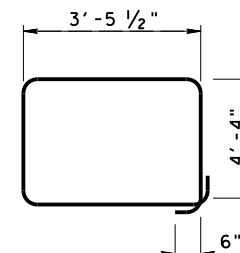
BAR F (#11)



BAR G (#4)



BAR T1 & T2 (#5)



BAR T3 (#5)

TABLE OF ESTIMATED COLUMN QUANTITIES (FOR ONE COLUMN)				
4.5' x 4.5' TRUSS				
BARS	NO.	SIZE	LENGTH	WEIGHT
A1	14	#11	20'-4"	1,512
A2	6	#9	12'-9"	260
A3	26	#11	29'-10"	4,121
D	12	#11	12'-11"	824
F	36	#11	15'-6"	2,965
G	61	#4	3'-4 1/2"	138
K	6	#6	12'-11"	116
T1	42	#5	15'-7 1/2"	684
T2	19	#5	16'-4"	324
T3	27	#5	16'-7"	467
REINFORCING STEEL			LBS	11,411
TEMPORARY SPECIAL SHORING			SF	269
CL C CONC(SIGN FOOTING)			CY	9.8
CL C CONC(SIGN COLUMN)			CY	22.2
RIPRAP CONC (4 IN)			CY	1.0

① QUANTITIES SHOWN ARE BASED ON A SIGN COLUMN HEIGHT OF 30'. FOR EACH LINEAR FOOT VARIATION IN HEIGHT MAKE THE FOLLOWING ADJUSTMENTS:

BARS A LENGTH, 1'-0"
REINFORCING STEEL, 250 LB
CL C CONC(SIGN COLUMN), 0.78 CY.

**BRACED TEE OVERHEAD SIGN STRUCTURE DETAILS
HORIZONTAL SCHEME**

BTOSS-HS-25 (HOU)

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SPAN (ft)	DESIGN WIND HEIGHT TO ϕ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
				AVERAGE N (BLOWS/12") (SEE NOTE 8)			
				10	20	30	40
10	15	62	69	19	14	14	14
	20	75	110	22	14	14	14
	25	88	161	26	17	17	17
	30	103	223	30	20	20	20
	35	117	295	33	23	23	23
	40	133	379	37	27	27	27
	45	149	474	42	30	30	30
	50	165	581	46	33	33	33
15	15	68	69	21	14	14	14
	20	83	110	24	14	14	14
	25	98	161	28	17	17	17
	30	114	223	33	20	20	20
	35	131	295	37	23	23	23
	40	148	379	42	27	27	27
	45	166	474	46	30	30	30
	50	185	581	51	33	33	33
20	15	73	69	22	14	14	14
	20	89	110	26	15	14	14
	25	107	161	31	17	17	17
	30	124	223	35	20	20	20
	35	143	295	40	23	23	23
	40	162	379	45	27	27	27
	45	182	474	50	30	30	30
	50	203	581	56	33	33	33
25	15	79	69	23	14	14	14
	20	97	110	28	16	14	14
	25	115	161	33	18	17	17
	30	135	223	38	21	20	20
	35	156	295	43	23	23	23
	40	177	379	49	27	27	27
	45	199	474	55	30	30	30
	50	222	581	61	33	33	33
30	15	84	69	25	14	14	14
	20	104	110	30	16	14	14
	25	124	161	35	19	17	17
	30	146	223	41	22	20	20
	35	168	295	47	25	23	23
	40	191	379	53	28	27	27
	45	215	474	59	31	30	30
	50	239	581	65	34	33	33
35	15	89	69	26	15	14	14
	20	111	110	32	17	14	14
	25	133	161	38	20	17	17
	30	156	223	44	23	20	20
	35	180	295	50	26	23	23
	40	205	379	56	30	27	27
	45	231	474	63	33	30	30
	50	257	581	70	36	33	33
40	15	95	69	28	15	14	14
	20	118	110	34	18	14	14
	25	141	161	40	21	17	17
	30	166	223	46	25	20	20
	35	192	295	53	28	23	23
	40	219	379	60	31	27	27
	45	247	474	67	35	30	30
	50	275	581	75	39	33	33
45	15	100	69	29	16	14	14
	20	125	110	35	19	14	14
	25	150	161	42	23	17	17
	30	177	223	49	26	20	20
	35	204	295	56	30	23	23
	40	233	379	64	33	27	27
	45	263	474	71	37	30	30
	50	293	581	79	41	33	33

SPAN (ft)	DESIGN WIND HEIGHT TO ϕ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
				AVERAGE N (BLOWS/12") (SEE NOTE 8)			
				10	20	30	40
35	15	89	69	26	15	14	14
	20	111	110	32	17	14	14
	25	133	161	38	20	17	17
	30	156	223	44	23	20	20
	35	180	295	50	26	23	23
	40	205	379	56	30	27	27
	45	231	474	63	33	30	30
	50	257	581	70	36	33	33
40	15	95	69	28	15	14	14
	20	118	110	34	18	14	14
	25	141	161	40	21	17	17
	30	166	223	46	25	20	20
	35	192	295	53	28	23	23
	40	219	379	60	31	27	27
	45	247	474	67	35	30	30
	50	275	581	75	39	33	33
45	15	100	69	29	16	14	14
	20	125	110	35	19	14	14
	25	150	161	42	23	17	17
	30	177	223	49	26	20	20
	35	204	295	56	30	23	23
	40	233	379	64	33	27	27
	45	263	474	71	37	30	30
	50	293	581	79	41	33	33

1. DETERMINE DRILLED SHAFT DIAMETER AND MAXIMUM DRILLED SHAFT AXIAL LOAD (KIPS) FROM TABLE BASED ON SPAN LENGTH AND DESIGN WIND HEIGHT TO CENTERLINE OF TRUSS.
2. CONTACT THE HOUSTON DISTRICT LABORATORY FOR CONCISE DRILLED SHAFT EMBEDMENT LENGTH OR USE THE FOLLOWING ITERATIVE PROCEDURE.
3. MAKE AN INITIAL ESTIMATE OF THE DRILLED SHAFT EMBEDMENT LENGTH.
4. FROM SOIL EXPLORATION DATA, DETERMINE AN AVERAGE N VALUE (BLOWS/12") OF THE SOIL THROUGHOUT THE INITIAL EMBEDMENT LENGTH. USE A WEIGHTED-AVERAGE OF THE BLOW COUNT OF INDIVIDUAL STRATA.
5. USE TABLE TO DETERMINE THE REQUIRED DRILLED SHAFT EMBEDMENT LENGTH BASED ON AXIAL LOAD AND AVERAGE N.
6. IF THE REQUIRED EMBEDMENT LENGTH DIFFERS SIGNIFICANTLY FROM THE INITIAL ESTIMATED EMBEDMENT LENGTH, RETURN TO STEP 3 WITH THE REQUIRED EMBEDMENT LENGTH DETERMINED IN STEP 5 AND REPEAT STEPS 3, 4 & 5.
7. THE EMBEDMENT LENGTH TABLE IS BASED UPON THE GREATEST EMBEDMENT LENGTH DERIVED FROM MOMENT, UPLIFT, OR THE AXIAL LOAD IN THE DRILLED SHAFT.
8. TCP N-VALUE, REFER TO APPENDIX 2, TXDOT GEOTECHNICAL MANUAL-LRFD, APRIL 2024 FOR SPT N-VALUES AND TCP BLOW COUNTS CONVERSION

DESIGNER NOTE:
 THIS SHEET IS FOR DESIGNER'S USE IN DETERMINING DRILLED SHAFT DIAMETER, LOADS AND EMBEDMENT. DO NOT INSERT INTO PLANSET.

FOUNDATION DATA AND EMBEDMENT LENGTH TABLE
 (42" DIAMETER DRILLED SHAFT FOR ALL CASES)

 Texas Department of Transportation	 Bridge Houston District Standard		
BRACED TEE OVERHEAD SIGN STRUCTURE FOUNDATION DATA AND EMBEDMENT SELECTION TABLE HORIZONTAL SCHEME BTOS-HS-25 (HOU)			
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