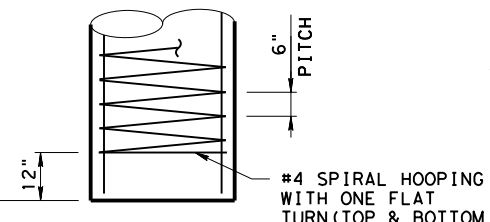
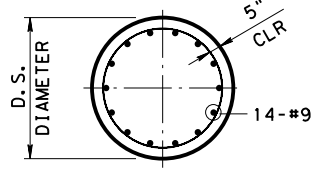
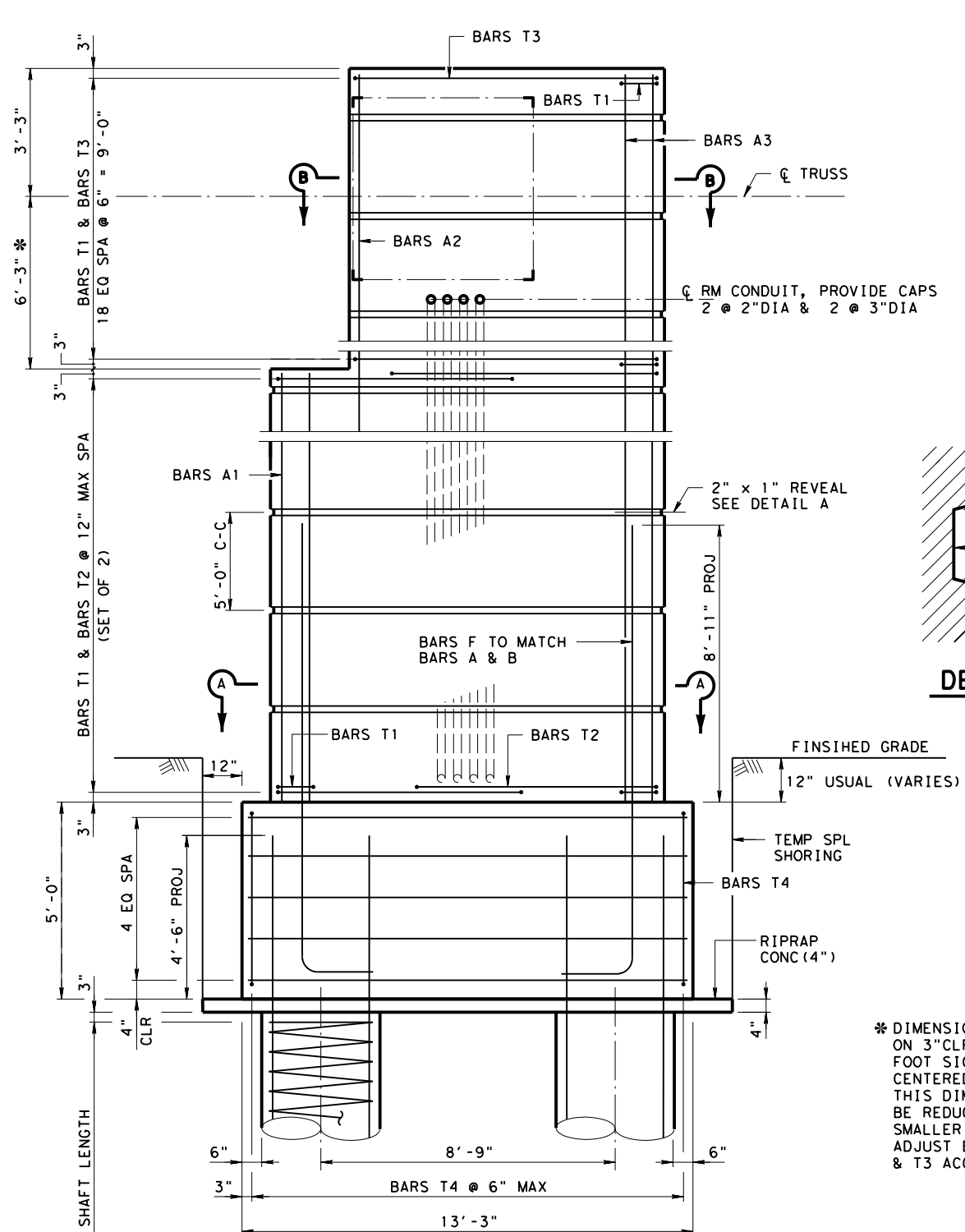
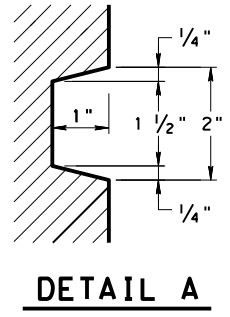


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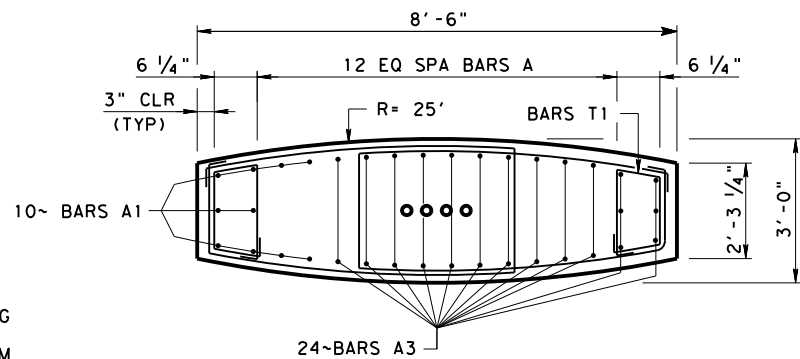


FRONT ELEVATION

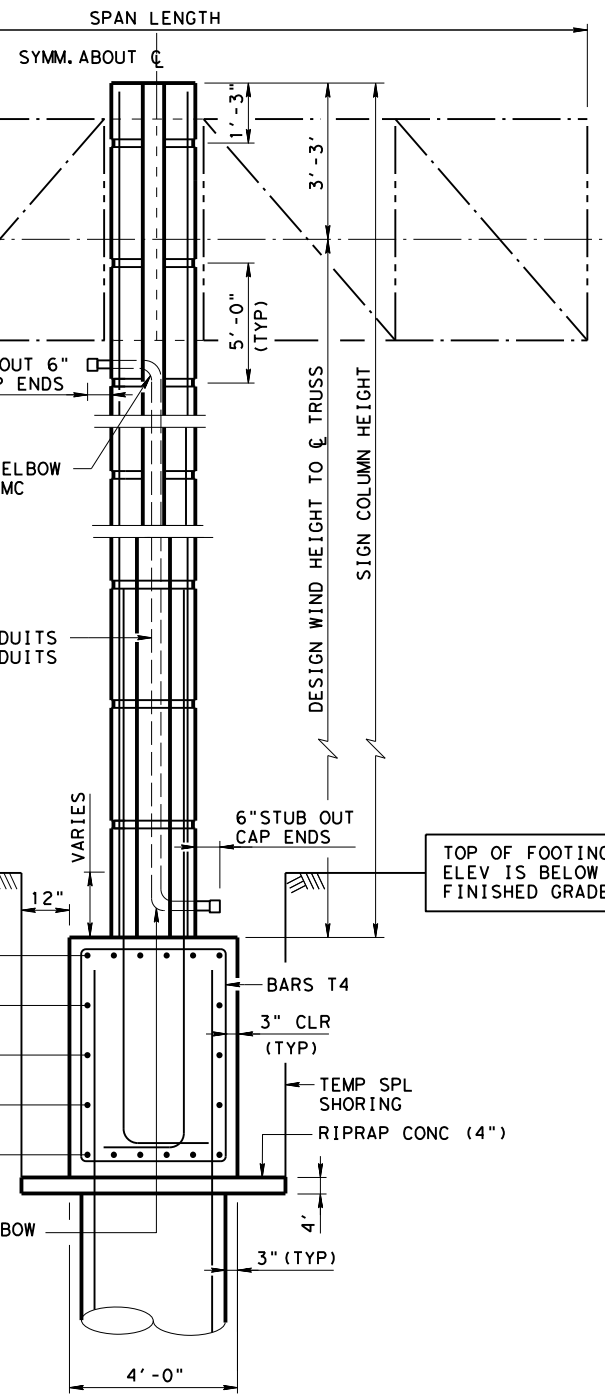


DETAIL A

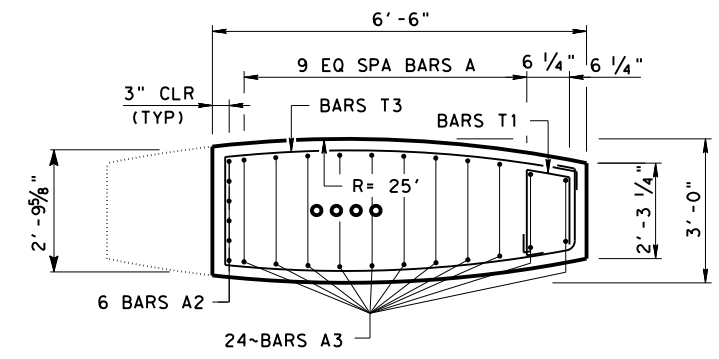
* DIMENSION IS BASED ON 3" CLR FROM A 12 FOOT SIGN PANEL CENTERED ON TRUSS. THIS DIMENSION MAY BE REDUCED FOR A SMALLER SIGN. ADJUST BARS A1, T1 & T3 ACCORDINGLY.



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
WAVE SCHEME**

BTOSS-WS-25 (HOU)

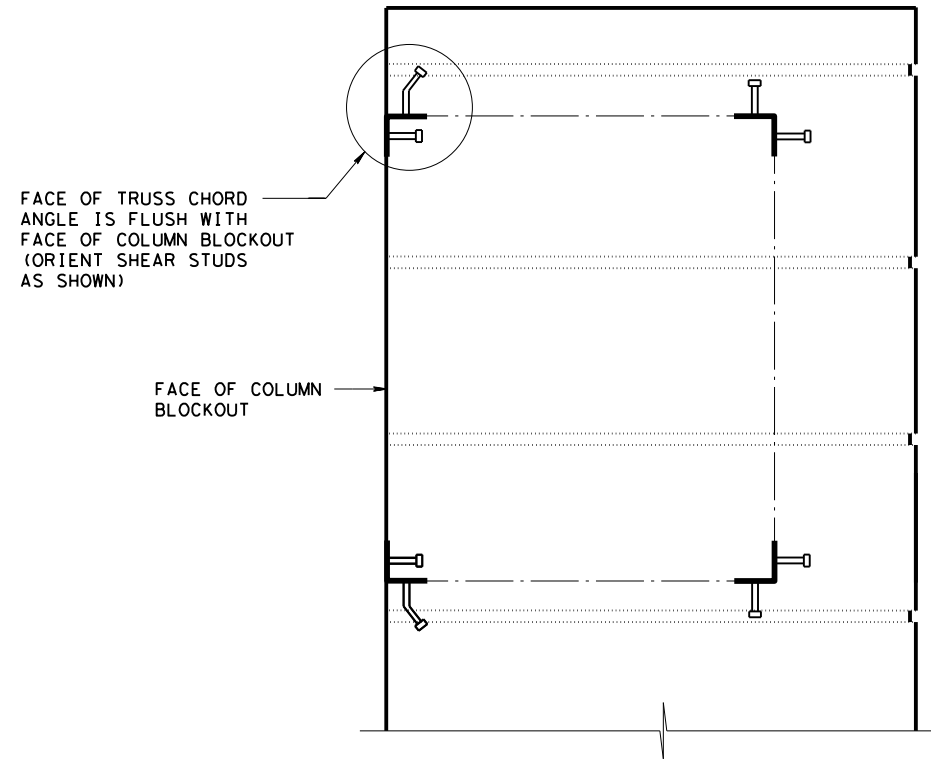
FILE: BTOSS-WS-25 (HOU).DGN	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
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DATE:
FILE:



SECTION THRU EMBEDDED TRUSS

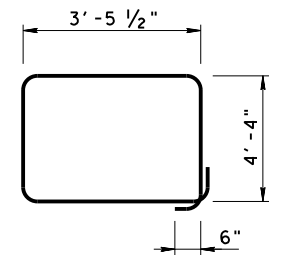


SECTION B-B

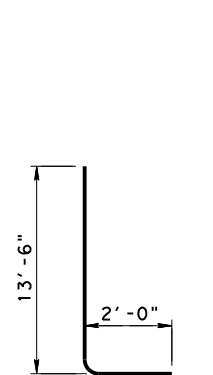
TABLE OF ESTIMATED COLUMN QUANTITIES (FOR ONE COLUMN)				
4.5' x 4.5' TRUSS				
BARS	NO.	SIZE	LENGTH	WEIGHT
A1	10	#11	20'-4"	1,080
A2	6	#9	12'-9"	260
A3	24	#11	29'-10"	3,804
D	12	#11	12'-11"	824
F	34	#11	15'-6"	2,800
K	6	#6	12'-11"	116
T1	61	#5	6'-1/4"	388
T2	42	#5	15'-6/4"	680
T3	19	#5	17'-0/2"	338
T4	27	#5	16'-7"	467
REINFORCING STEEL			LBS	10,757
TEMPORARY SPECIAL SHORING			SF	269
CL C CONC (SIGN FOOTING)			CY	9.8
CL C CONC (SIGN COLUMN)			CY	25.2
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:

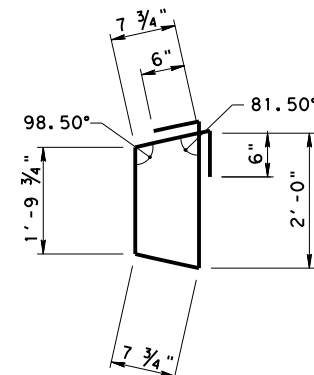
BARS A LENGTH, 1'-0"
REINFORCING STEEL, 236 LB
CL C CONC (SIGN COLUMN), 0.87 CY.



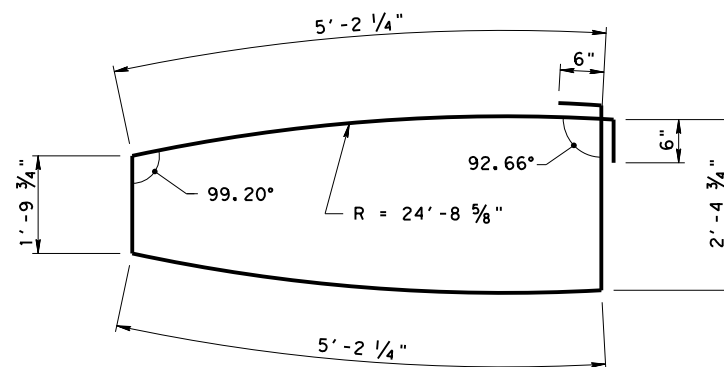
BAR T4 (#5)



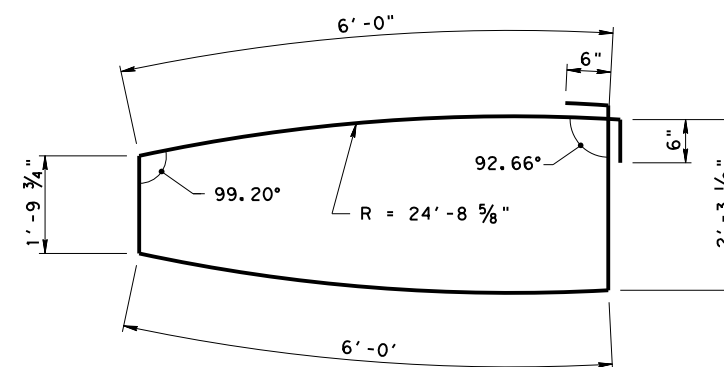
BAR F (#11)



BAR T1 (#5)



BAR T2 (#5)



BAR T3 (#5)

SHEET 2 OF 2

Texas Department of Transportation
 Bridge Houston District Standard

BRACED TEE OVERHEAD SIGN STRUCTURE DETAILS
WAVE SCHEME
BTOS-WS-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	67	56	20	14	14	14
	20	81	89	24	14	14	14
	25	96	130	28	17	17	17
	30	112	180	32	20	20	20
	35	129	239	37	23	23	23
	40	147	307	41	27	27	27
	45	166	384	46	30	30	30
	50	185	470	51	33	33	33
15	15	72	56	22	14	14	14
	20	89	89	26	15	14	14
	25	106	130	31	17	17	17
	30	124	180	35	20	20	20
	35	143	239	40	23	23	23
	40	163	307	45	27	27	27
	45	183	384	51	30	30	30
	50	205	470	56	33	33	33
20	15	78	56	23	14	14	14
	20	96	89	28	15	14	14
	25	114	130	33	18	17	17
	30	134	180	38	20	20	20
	35	155	239	43	23	23	23
	40	177	307	49	27	27	27
	45	199	384	55	30	30	30
	50	223	470	61	33	33	33
25	15	83	56	25	14	14	14
	20	103	89	30	16	14	14
	25	123	130	35	19	17	17
	30	145	180	41	22	20	20
	35	168	239	47	25	23	23
	40	191	307	53	28	27	27
	45	216	384	59	31	30	30
	50	241	470	66	34	33	33
30	15	89	56	26	15	14	14
	20	110	89	32	17	14	14
	25	132	130	37	20	17	17
	30	155	180	43	23	20	20
	35	180	239	50	26	23	23
	40	205	307	56	30	27	27
	45	232	384	63	33	30	30
	50	259	470	70	37	33	33
55	287	566	78	40	37	37	

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	94	56	27	15	14	14
	20	117	89	33	18	14	14
	25	141	130	40	21	17	17
	30	166	180	46	25	20	20
	35	192	239	53	28	23	23
	40	219	307	60	31	27	27
	45	247	384	67	35	30	30
	50	277	470	75	39	33	33
40	15	99	56	29	16	14	14
	20	124	89	35	19	14	14
	25	149	130	42	22	17	17
	30	176	180	49	26	20	20
	35	204	239	56	30	23	23
	40	233	307	64	33	27	27
	45	263	384	71	37	30	30
	50	295	470	80	41	33	33
45	15	105	56	30	17	14	14
	20	131	89	37	20	14	14
	25	158	130	44	24	17	17
	30	187	180	51	27	20	20
	35	216	239	59	31	23	23
	40	247	307	67	35	27	27
	45	279	384	76	39	30	30
	50	313	470	84	44	33	33
55	347	566	93	48	37	37	

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)

	Bridge Houston District Standard			
BRACED TEE OVERHEAD SIGN STRUCTURE FOUNDATION DATA AND EMBEDMENT SELECTION TABLE WAVE SCHEME BTOSS-WS-25 (HOU)				
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