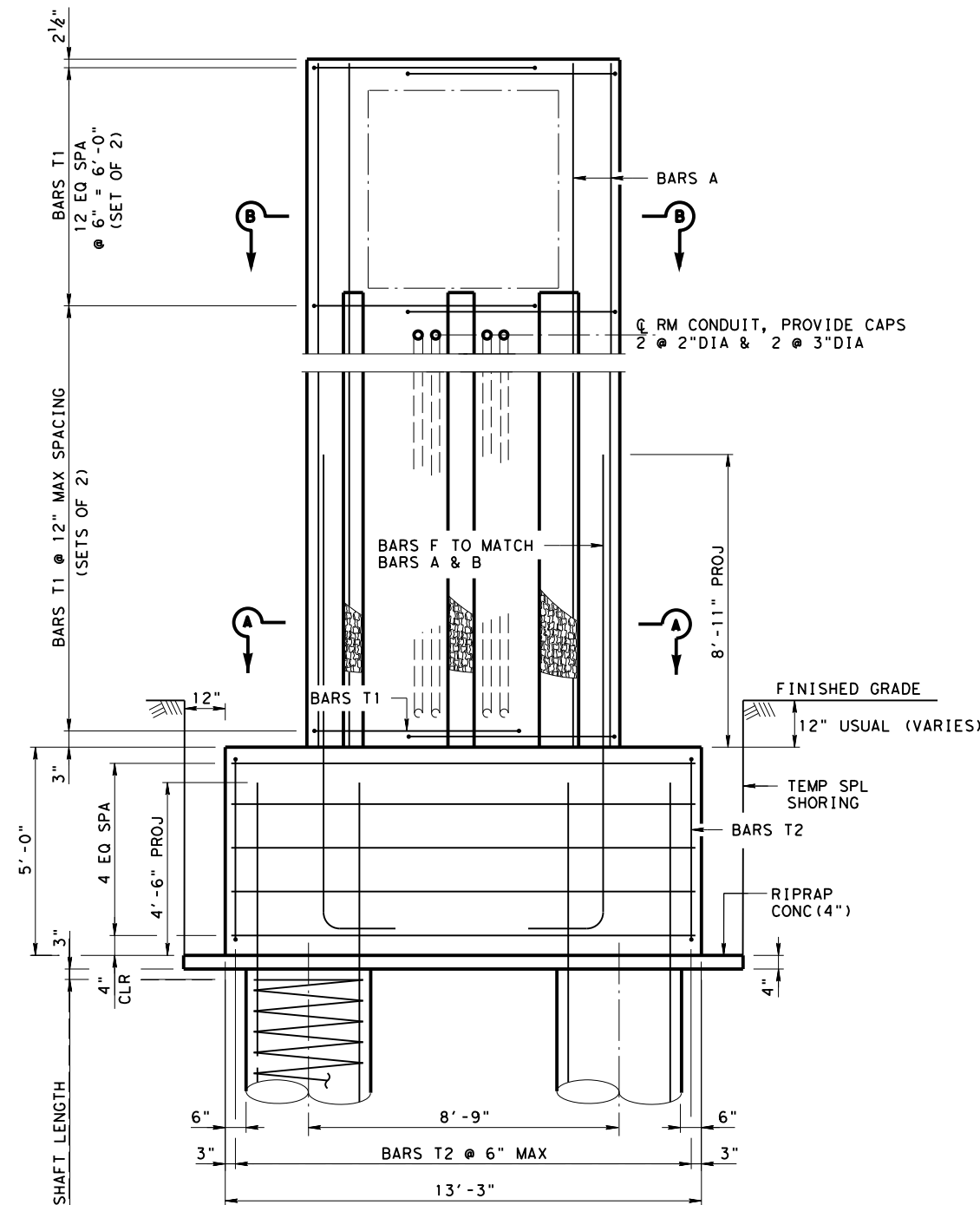
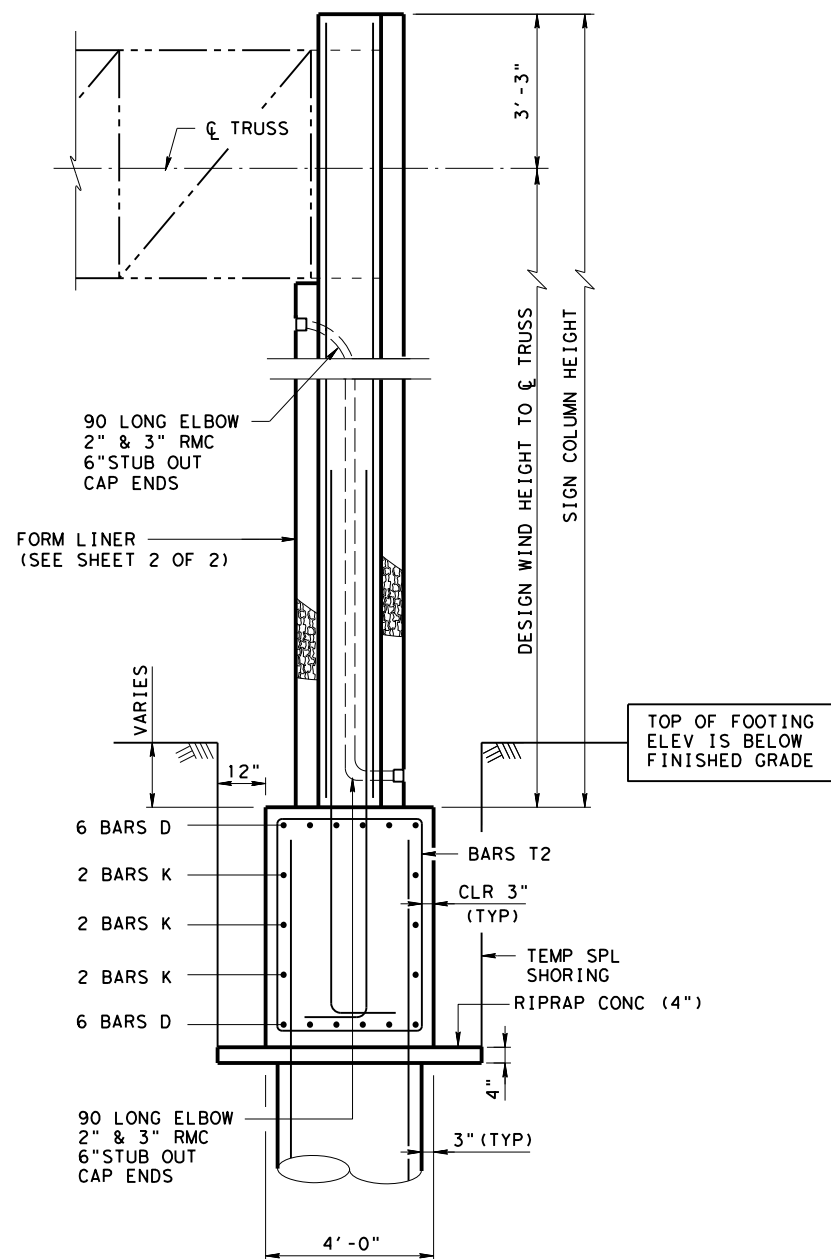
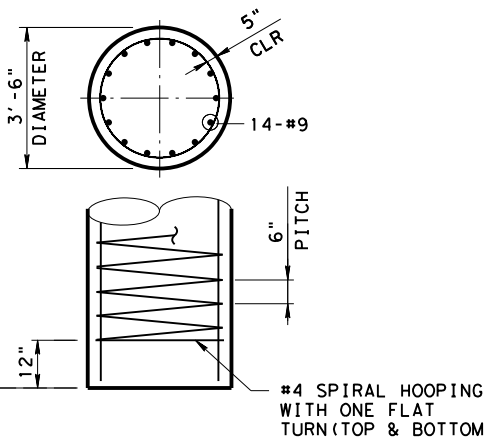


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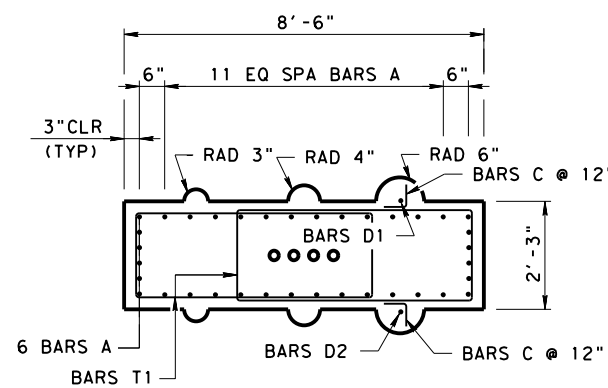
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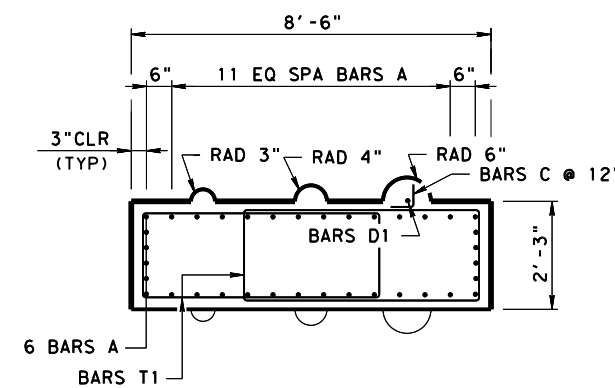
FRONT ELEVATION



SIDE ELEVATION



SECTION A-A



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 ϕ OF BARS UNLESS OTHERWISE NOTED
4. CHAMFER ALL EXPOSED CORNERS $\frac{3}{4}$ ".
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. FORM LINER IS "FRACTURED GRANITE", MODEL NO. 110 BY SCOTT SYSTEMS, INC. OR EQUAL AS APPROVED BY ARCHITECT.
8. 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.
9. EMBEDDED CHORD ANGLES, COMPLETE WITH STUDS & HOLES, SHALL BE PROVIDED BY THE TRUSS FABRICATOR.
10. 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)
11. IF SINGLE SHEAR SPLICES CONFLICT WITH THE GUSSET PLATES, THEN USE DOUBLE SHEAR SPLICES.
12. WELD STUDS TO ANGLE FLANGES IN ACCORDANCE WITH AWS D1.5.
13. FOR CANTILEVER TRUSS LENGTHS FALLING BETWEEN THOSE SHOWN USE SIZES CALLED FOR IN THE NEXT LONGER SPAN.
14. CONCRETE COLUMNS ARE DESIGNED FOR THE EQUIVALENT AREA OF A 12'-6" 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.

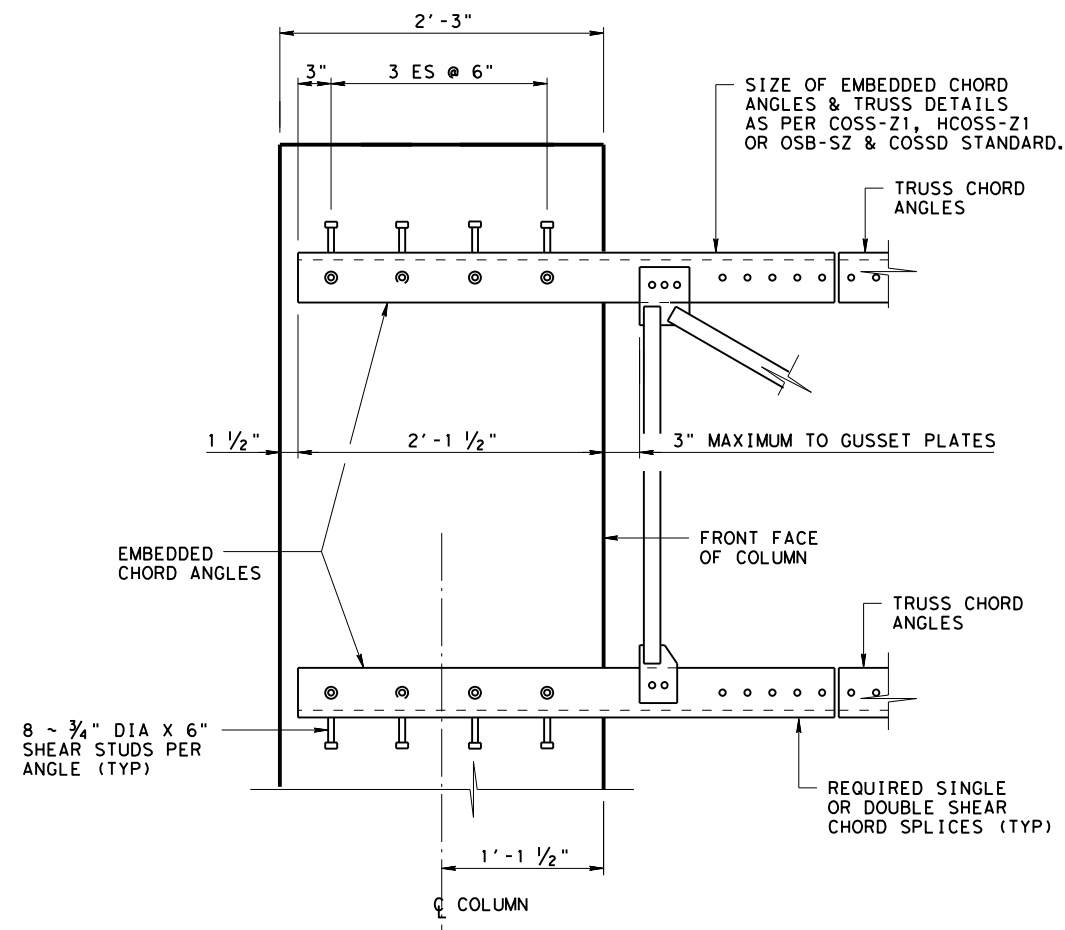
**CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
VERTICAL SCHEME**

COSS-VS-25 (HOU)

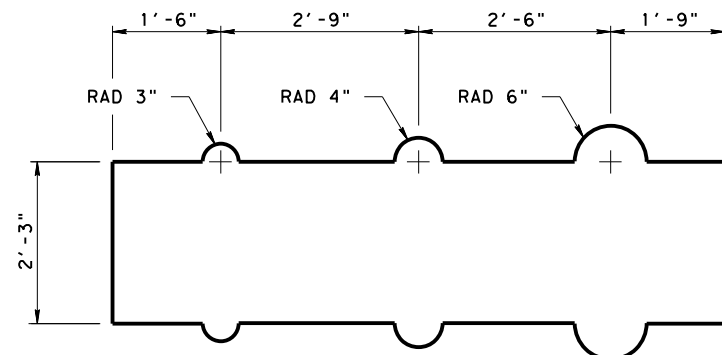
| | | | | |
|----------------------------|-----------|-----------|-----------|-----------|
| FILE: COSS-VS-25 (HOU).DGN | DW: TXDOT | CK: TXDOT | OW: TXDOT | CR: TXDOT |
| © TXDOT April 2025 | CONT | SECT | JOB | HIGHWAY |
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| HOU | | | | |

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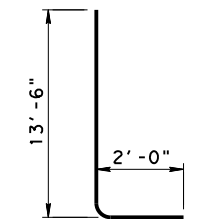
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FILE:



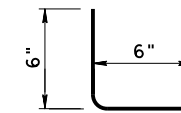
SECTION THRU EMBEDDED TRUSS



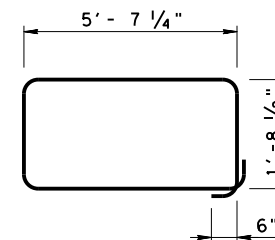
FORM LINER



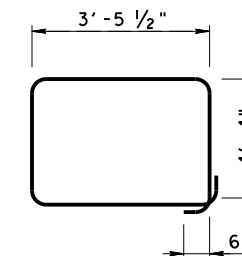
BAR F (#11)



BAR C (#4)



BAR T1 (#5)



BAR T2 (#5)

| TABLE OF ESTIMATED COLUMN ① | | | | |
|-----------------------------|-----|------|------------|--------|
| QUANTITIES (FOR ONE COLUMN) | | | | |
| 4.5' x 4.5' TRUSS | | | | |
| BARS | NO. | SIZE | LENGTH | WEIGHT |
| A | 40 | #11 | 29'-10" | 6,340 |
| D | 12 | #11 | 12'-11" | 824 |
| F | 40 | #11 | 15'-6" | 3,294 |
| G | 74 | #4 | 3'-4 1/2" | 167 |
| K | 6 | #6 | 12'-11" | 116 |
| T1 | 74 | #5 | 15'-7 1/2" | 1,206 |
| T2 | 27 | #5 | 16'-7" | 467 |
| REINFORCING STEEL | | | LBS | 12,414 |
| TEMPORARY SPECIAL SHORING | | | SF | 269 |
| CL C CONC (SIGN FOOTING) | | | CY | 9.8 |
| CL C CONC (SIGN COLUMN) | | | CY | 23.3 |
| 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.

| | | | |
|---|-----------|---|-----------|
| | | Bridge Houston District Standard | |
| CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS VERTICAL SCHEME | | | |
| COSS-VS-25 (HOU) | | | |
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| 04/2025: 2024 Spec Updates | DIST | COUNTY | SHEET NO. |
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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 | 63 | 60 | 19 | 14 | 14 | 14 |
| | 20 | 77 | 93 | 23 | 14 | 14 | 14 |
| | 25 | 91 | 135 | 27 | 17 | 17 | 17 |
| | 30 | 107 | 184 | 31 | 20 | 20 | 20 |
| | 35 | 123 | 243 | 35 | 23 | 23 | 23 |
| | 40 | 140 | 311 | 39 | 27 | 27 | 27 |
| | 45 | 158 | 388 | 44 | 30 | 30 | 30 |
| | 50 | 177 | 474 | 49 | 33 | 33 | 33 |
| 15 | 15 | 69 | 65 | 21 | 14 | 14 | 14 |
| | 20 | 85 | 99 | 25 | 14 | 14 | 14 |
| | 25 | 101 | 140 | 29 | 17 | 17 | 17 |
| | 30 | 119 | 190 | 34 | 20 | 20 | 20 |
| | 35 | 137 | 248 | 39 | 23 | 23 | 23 |
| | 40 | 157 | 316 | 44 | 27 | 27 | 27 |
| | 45 | 177 | 393 | 49 | 30 | 30 | 30 |
| | 50 | 198 | 480 | 54 | 33 | 33 | 33 |
| 20 | 15 | 75 | 73 | 22 | 14 | 14 | 14 |
| | 20 | 92 | 106 | 27 | 15 | 14 | 14 |
| | 25 | 110 | 147 | 32 | 17 | 17 | 17 |
| | 30 | 130 | 197 | 37 | 20 | 20 | 20 |
| | 35 | 150 | 256 | 42 | 23 | 23 | 23 |
| | 40 | 171 | 324 | 47 | 27 | 27 | 27 |
| | 45 | 193 | 401 | 53 | 30 | 30 | 30 |
| | 50 | 217 | 487 | 59 | 33 | 33 | 33 |
| 25 | 15 | 81 | 82 | 24 | 14 | 14 | 14 |
| | 20 | 100 | 116 | 29 | 16 | 14 | 14 |
| | 25 | 120 | 157 | 34 | 19 | 17 | 17 |
| | 30 | 141 | 207 | 40 | 21 | 20 | 20 |
| | 35 | 163 | 265 | 45 | 24 | 23 | 23 |
| | 40 | 186 | 333 | 51 | 27 | 27 | 27 |
| | 45 | 210 | 410 | 58 | 30 | 30 | 30 |
| | 50 | 236 | 497 | 64 | 34 | 33 | 33 |
| 30 | 15 | 86 | 94 | 25 | 14 | 14 | 14 |
| | 20 | 107 | 127 | 31 | 17 | 14 | 14 |
| | 25 | 129 | 169 | 36 | 20 | 17 | 17 |
| | 30 | 152 | 218 | 42 | 23 | 20 | 20 |
| | 35 | 176 | 277 | 49 | 26 | 23 | 23 |
| | 40 | 201 | 345 | 55 | 29 | 27 | 27 |
| | 45 | 227 | 422 | 62 | 33 | 30 | 30 |
| | 50 | 254 | 508 | 69 | 36 | 33 | 33 |
| 55 | 283 | 604 | 76 | 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 | 92 | 108 | 27 | 15 | 14 | 14 |
| | 20 | 114 | 141 | 33 | 18 | 14 | 14 |
| | 25 | 138 | 182 | 39 | 21 | 17 | 17 |
| | 30 | 162 | 232 | 45 | 24 | 20 | 20 |
| | 35 | 188 | 291 | 52 | 27 | 23 | 23 |
| | 40 | 215 | 359 | 59 | 31 | 27 | 27 |
| | 45 | 244 | 436 | 66 | 35 | 30 | 30 |
| | 50 | 273 | 522 | 74 | 38 | 33 | 33 |
| 40 | 15 | 97 | 124 | 28 | 16 | 14 | 14 |
| | 20 | 121 | 157 | 35 | 19 | 14 | 14 |
| | 25 | 147 | 198 | 41 | 22 | 17 | 17 |
| | 30 | 173 | 248 | 48 | 26 | 20 | 20 |
| | 35 | 201 | 307 | 55 | 29 | 23 | 23 |
| | 40 | 230 | 375 | 63 | 33 | 27 | 27 |
| | 45 | 260 | 452 | 71 | 37 | 30 | 30 |
| | 50 | 292 | 538 | 79 | 41 | 33 | 33 |
| 45 | 15 | 103 | 142 | 30 | 16 | 14 | 14 |
| | 20 | 129 | 175 | 36 | 20 | 14 | 14 |
| | 25 | 156 | 216 | 43 | 23 | 17 | 17 |
| | 30 | 184 | 266 | 51 | 27 | 20 | 20 |
| | 35 | 214 | 325 | 59 | 31 | 23 | 23 |
| | 40 | 245 | 393 | 67 | 35 | 27 | 27 |
| | 45 | 277 | 470 | 75 | 39 | 30 | 30 |
| | 50 | 310 | 556 | 84 | 43 | 33 | 33 |
| 55 | 345 | 652 | 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)

| | | | |
|---|---|-----------|-----------|
|  Texas Department of Transportation |  Bridge Houston District Standard | | |
| CANTILEVER OVERHEAD SIGN STRUCTURE FOUNDATION DATA AND EMBEDMENT SELECTION TABLE VERTICAL SCHEME COSS-VS-25 (HOU) | | | |
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