

SPAN (ft)	DESIGN WIND HEIGHT TO ϕ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT DIAMETER (in)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
					AVERAGE N (BLOWS/12")			
					10	20	30	40
150	15	130	72	42	37	20	14	11
	20	163	116	42	45	24	17	14
	25	197	171	42	54	29	20	16
	30	232	237	42	63	33	23	18
	35	269	316	42	73	38	26	20
	40	287	406	48	68	36	25	20
	45	322	509	48	76	40	27	23
	50	338	625	54	71	37	26	25
160	15	136	82	48	34	18	13	11
	20	167	131	48	41	22	16	13
	25	200	192	48	49	26	18	14
	30	235	265	48	56	30	21	16
	35	270	351	48	64	34	23	18
	40	307	451	48	73	38	26	20
	45	326	564	54	69	36	25	23
	50	362	691	54	76	40	27	25
170	15	141	82	48	35	19	14	11
	20	174	131	48	42	23	16	13
	25	208	192	48	50	27	19	15
	30	244	265	48	58	31	21	17
	35	281	351	48	67	35	24	19
	40	319	451	48	75	39	27	21
	45	338	564	54	71	37	26	23
	50	375	691	54	79	41	28	25
180	15	149	87	48	37	20	14	11
	20	183	139	48	45	24	17	13
	25	219	202	48	53	28	20	15
	30	257	279	48	61	32	22	18
	35	296	370	48	70	37	25	20
	40	336	474	48	79	41	28	22
	45	356	592	54	75	39	27	23
	50	377	725	60	72	37	26	25
190	15	156	93	48	38	21	15	12
	20	192	146	48	47	25	18	14
	25	230	213	48	55	29	20	16
	30	269	294	48	64	34	23	18
	35	310	388	48	73	38	26	21
	40	333	497	54	70	37	25	20
	45	373	621	54	78	41	28	23
	50	394	759	60	75	39	27	25
200	15	161	93	48	40	21	15	12
	20	199	146	48	48	26	18	14
	25	239	213	48	57	30	21	17
	30	279	294	48	66	35	24	19
	35	321	388	48	76	40	27	21
	40	345	497	54	73	38	26	20
	45	369	621	60	70	37	25	23
	50	407	759	60	77	40	28	25

SPAN (ft)	DESIGN WIND HEIGHT TO ϕ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT DIAMETER (in)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
					AVERAGE N (BLOWS/12")			
					10	20	30	40
210	15	170	98	48	42	22	16	13
	20	209	155	48	51	27	19	15
	25	250	225	48	60	31	22	17
	30	293	309	48	70	36	25	20
	35	337	407	48	80	41	29	22
	40	361	521	54	76	39	27	21
	45	385	650	60	73	38	26	23
	50	426	794	60	80	42	29	25
220	15	176	98	48	43	23	16	13
	20	216	155	48	52	28	19	15
	25	259	225	48	62	32	23	18
	30	303	309	48	72	37	26	20
	35	330	407	54	70	36	25	20
	40	373	521	54	78	41	28	22
	45	397	650	60	75	39	27	23
	50	439	794	60	83	43	30	25

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.

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 (CONT)

 **Texas Department of Transportation**
Houston District Bridge
Green Ribbon Project

**OVERHEAD SIGN BRIDGE
FOUNDATION DATA AND
EMBEDMENT SELECTION
TABLE**
HORIZONTAL SCHEME
OSB-HS

FILE#	STDN37.DGN	DN#	HOU	CK#	HOU	DW#	HOU	CK#	HOU
©	TxDOT	AUGUST	2011	DISTRICT	HOUSTON	FED REG	6	PROJECT NO.	SHEET
REVISIONS		COUNTY		CONTROL		SECT		JOB	HIGHWAY