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DATE:
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DRILLED SHAFT MOMENTS (Kip-ft)

CLAY SOIL

COLUMN MOMENT (Kip-ft)	C N	30" DIA DRILLED SHAFT				36" DIA DRILLED SHAFT				42" DIA DRILLED SHAFT									
		4	8	12	20	4	8	12	20	4	8	12	20						
		10	20	30	50	10	20	30	50	10	20	30	50						
75		77	76	75	75														
150		155	154	153	151														
225		234	231	230	228														
300		317	309	307	305														
375		399	388	385	382														
450		484	470	464	461														
525		571	550	544	538	564	548	543	537										
600		657	636	625	615	650	628	623	616										
675		742	717	705	682	739	712	703	694										
750		820	801	787	778	825	795	785	773										
825			888	871	857	921	882	865	853	909	875	863	851						
900						1020	968	949	934	998	959	944	931						
975						1108	1052	1032	1015	1091	1043	1027	1011						
1050						1195	1138	1113	1095	1180	1128	1108	1092						
1125						1293	1224	1198	1177	1273	1215	1193	1173						
1200						1383	1317	1282	1258	1373	1301	1277	1264						
1275							1404	1369	1339	1460	1393	1359	1336						
1350							1490	1448	1420	1565	1478	1443	1416						
1425							1577	1539	1504	1655	1568	1532	1498						
1500							1664	1627	1584		1657	1614	1579						
1575																			
1650																			
1725																			
1800																			
1875																			
1950																			
2025																			

DRILLED SHAFT MOMENTS (Kip-ft)

SAND SOIL

COLUMN MOMENT (Kip-ft)	C N	30" DIA DRILLED SHAFT					36" DIA DRILLED SHAFT					42" DIA DRILLED SHAFT							
		28.5°	30°	32°	36°	40°	28.5°	30°	32°	36°	40°	28.5°	30°	32°	36°	40°			
		12	21	35	65	100	12	21	35	65	100	12	21	35	65	100			
75		82	80	79	78	75													
150		164	161	159	157	155													
225		255	242	238	236	234													
300		343	328	322	316	314													
375		432	416	403	396	394													
450		533	500	479	477	475													
525		617	587	576	561	555	610	583	567	556	553								
600		690	675	658	643	635	722	672	656	640	634								
675			763	743	725	717	805	760	727	723	714								
750			850	832	812	801	906	852	826	805	799								
825			935	917	892	883	1002	943	914	889	880	1015	937	908	889	877			
900								1035	1002	973	965	1108	1028	996	971	958			
975								1130	1088	1054	1045		1118	1083	1054	1041			
1050								1218	1176	1141	1127		1223	1172	1137	1123			
1125								1310	1267	1228	1208		1305	1257	1223	1209			
1200									1357	1312	1294		1399	1346	1306	1291			
1275									1450	1398	1376		1500	1438	1394	1377			
1350									1536	1485	1460		1589	1524	1478	1458			
1425									1623	1572	1543		1679	1615	1567	1542			
1500									1658	1634			1709	1653	1627				
1575																			
1650																			
1725																			
1800																			
1875																			
1950																			
2025																			

EXAMPLE:

- Given, 140' Span, Zone 4, Design Wind Height=30', Clay Soil with N=30.
- From sheet OSBC-SC-24 determine column bending moment = 594 Kip-ft and column size is 30" Dia with 13~#11 Bars.
 - From sheet OSB-FD-SC with Clay Soil, N = 30 and column moment = 594 Kip-ft determine length of Drilled Shaft.
30" Dia = 14'+ 3'; 36" Dia = 14'+ 3'
 - From sheet OSBS-SC with column moment = 594 Kip-ft, Clay Soil N = 30 determine Drilled Shaft moments.
30" Dia Drilled Shaft M = 625 Kip-ft, 36" Dia Drilled Shaft M = 623 Kip-ft
With Drilled Shaft moment enter Drilled Shaft reinforcing steel table (using next larger moment shown).
Determine: 30" Dia shaft with 14~#11 Bars
36" Dia shaft with 16~# 9 Bars
 - If 36" Dia Drilled Shaft is used the saving in length would be minimal, therefore use 30" Dia x 17' Drilled Shaft with 14~#11 Bars. If same reinforcing steel is desired in both shaft and column use 14~#11 Bars.

MOMENT	COLUMN OR SHAFT REINFORCING STEEL (Gr 60)			
	COLUMN OR SHAFT SIZE			
	30" DIA	36" DIA	42" DIA	48" DIA
100	8~#9			
150	8~#9			
200	8~#9			
250	8~#9			
300	9~#9			
350	11~#9			
400	13~#9	9~#9		
450	10~#10	11~#9		
500	13~#10	12~#9		
550	12~#11	13~#9		
600	13~#11	15~#9		
650	14~#11	16~#9	10~#10	
700		14~#10	11~#10	
750		15~#10	12~#10	
800		16~#10	13~#10	
850		18~#10	14~#10	
900		19~#10	15~#10	
950		16~#11	13~#11	
1000		17~#11	14~#11	
1050		18~#11	14~#11	
1100		19~#11	15~#11	12~#11
1150			16~#11	13~#11
1200			17~#11	14~#11
1250			17~#11	14~#11
1300			18~#11	15~#11
1350			19~#11	16~#11
1400			20~#11	16~#11
1450			21~#11	17~#11
1500			21~#11	17~#11
1550			22~#11	18~#11
1600			23~#11	19~#11
1650				19~#11
1700				20~#11
1750				21~#11
1800				21~#11
1850				22~#11
1900				23~#11
1950				23~#11
2000				24~#11
2050				
2100				
2150				
2200				

Note: In cases where shaft and column are different size, and the same size bar cage is desired, use the reinforcing required for a shaft same size as column.

All Column and Shaft Reinforcing to be Grade 60.



OVERHEAD SIGN BRIDGE SINGLE COLUMN AND DRILLED SHAFT REINFORCING OSBS-SC

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REVISIONS	CUA#	SECT	JUR	HIGHWAY
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