

02-NOV-09
14:27:47

GEORGIA DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION - OFFICE OF BRIDGE & STRUCTURAL DESIGN
THE ANALYSIS AND DESIGN OF PIERS FOR BRIDGES - V 4.2.07 - AASHTO SPECS 1984 INTERIM
REVISED: JUNE 30, 2008
49' CURB-CURB; 8 BEAMS; 140' SPAN; 70' TALL; BRIDGE 13 ; PIER 7

PROB. NO. 0001

DESIGN NO. OPTIONS	NO. CAN	NO. COL	NO. LLC	SKEW D	ANG M	F'C PSI	FC PSI	N	FY PSI	FS PSI	DESIGN DATA		CONC. STRAIN	Z	* MAIN SIZE	* STR SIZ	* CAP MAX TOP	REINFORCING MAX BOT	STEEL MIN SIZE	* MIN NO.	* TOP CL.	* MIN S.SP INCR.	* CAP DEPTH	* BOT CL.
											EC KSI	ES KSI												
D D D L	2	3	18	0-00-00		3500.	1400.	8.	60000.	24000.	3409.	29000.	0.0030	170.	11	5	13	13	11	2	2.00	4.00	3.00	2.00
COLUMN REINFORCING	MIN.P	MAX.P	CL.SP.	CLEAR	MODE	R	KL	OC	OF	CM	BD1	BD2	IMPACT %	SOIL WT KCF	ALL.S.P. KSF	MIN PL SP	MAX PL SP	EDGE DIST	PILE DEPTH	REBAR CLEAR	ALL.PILE CAPACITY	PILE UPLIFT	ALL.PILE I P	
	1.00	8.00	2.50	3.750	2	2.00	0.70	0.90	0.00	1.00	0.75	18.87	0.120	0.000	3.00	9.00	1.250	1.000	3.000	235.000	-9.999			

CAP DATA

CN	C	L	A	DE	BC	BE	DH	LH	XB1	XB2	XB3	XB4	XB5	XB6	XB7	XB8
11	L	10.000	2.500	4.000	5.000	5.000	2.000	7.500	6.125	3.625						
12	C	16.275	2.500	6.000	5.000		0.000	0.000	2.500	4.175	6.400	0.700				
13	3	SAME AS CAP SECTION 2														
14	4	SAME AS CANTILEVER 1														

COLUMN DATA

CN	P	I	T	S	HT	A	DT	BT	DB	BB	DL	FLEX	ND	NB	SZ	SLOPE	EP	AP									
21	1	C	T		70.000	0.000	5.000	5.000	5.000	5.000	4.000	0.000	5	5	11	5	5	11	14	14	11	13	14	11	0.000	0.000	0.000
22	0	2	SAME AS COLUMN 1																								
23	1	3	SAME AS COLUMN 1																								

FOOTING DATA

CN	S/P	B	D	T	DEL.B	DEL.D	DEL.T	R.B/D	R.D/B	S.HT.	NP	SYM.	BP	DP	SET.	
31	P	7.000	7.000	3.000	0.500	0.500	0.250	1.000	1.000	2.500	4	3	0.000	0.000	0.000	
32	2	SAME AS FOOTING 1														
33	3	SAME AS FOOTING 1														

GROUP II WIND

SUPERSTRUCTURE AREA*STD.		WIND ON SUPERSTRUCTURE INTENSITIES										* WIND FORCE		* WIND ON PIER		
TRANS.	LONG.	WIND FT1	FL1	FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	APT	APL	PT	PL	
1365.	2730.	1	50	0	44	6	41	12	33	16	17	19	7.375	7.375	7.397	49.512

GROUP III WIND

STD. * WIND ON SUPERSTRUCTURE INTENSITIES										* WIND ON LIVE LOAD INTENSITIES					LENGTHS OF LL		* WIND ON LL								
WIND FT1	FL1	FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	STD. WIND FT1	FL1	FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	TRANS.	LONGI.	APT	APL		
1	50	0	44	6	41	12	33	16	17	19	1	100	0	88	12	82	24	66	32	34	38	140.0	280.0	15.583	15.583

MISCELLANEOUS FORCES

CENTRI. FT	TRACTION FL	FORCE APT	AND ARMS APL	EXPANSION COEFFICIENT	SHRINKAGE COEFFICIENT	STREAM PT	FLOW PL
0.000	9.860	15.583	15.583	0.00018000	0.00044000	0.000	0.000

DEAD LOAD SUPERSTRUCTURE AND LIVE LOAD CASES

I.D.	NL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
D.L.	0	250.076 0.000	0.000 250.076	276.006	0.000	276.006	276.006	0.000	0.000	276.006	276.006	0.000	276.006
LL 1	1	75.683 0.000	0.000 0.000	61.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LL 2	2	75.683 0.000	0.000 0.000	94.470	0.000	73.000	31.669	0.000	0.000	0.000	0.000	0.000	0.000
LL 3	3	75.683 0.000	0.000 0.000	94.470	0.000	73.000	94.470	0.000	0.000	73.000	1.610	0.000	0.000
LL 4	4	75.683 0.000	0.000 0.000	94.470	0.000	73.000	94.470	0.000	0.000	97.154	74.610	0.000	40.257
LL 5	1	0.000 0.000	0.000 75.683	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61.728
LL 6	2	0.000 0.000	0.000 75.683	0.000	0.000	0.000	0.000	0.000	0.000	31.669	73.000	0.000	94.470
LL 7	3	0.000 0.000	0.000 75.683	0.000	0.000	1.610	73.000	0.000	0.000	94.470	73.000	0.000	94.470
LL 8	4	0.000 0.000	0.000 75.683	40.257	0.000	74.610	97.154	0.000	0.000	94.470	73.000	0.000	94.470
LL 9	1	0.000 0.000	0.000 0.000	0.000	0.000	32.205	73.000	0.000	0.000	32.205	0.000	0.000	0.000
LL10	2	2.147 0.000	0.000 0.000	73.000	0.000	94.470	73.000	0.000	0.000	32.205	0.000	0.000	0.000
LL11	3	2.147 0.000	0.000 0.000	73.000	0.000	94.470	73.000	0.000	0.000	94.470	73.000	0.000	2.147

DEAD LOAD SUPERSTRUCTURE AND LIVE LOAD CASES

PIER-49-8-140-70.out

I.D.	NL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
LL12	4	2.147 0.000	0.000 40.794	73.000	0.000	94.470	73.000	0.000	0.000	94.470	96.617	0.000	75.147
LL13	2	0.000 0.000	0.000 0.000	0.000	0.000	51.529	85.882	0.000	0.000	85.882	51.529	0.000	0.000
LL14	3	21.470 0.000	0.000 0.000	73.000	0.000	94.470	85.882	0.000	0.000	85.882	51.529	0.000	0.000
LL15	4	21.470 0.000	0.000 21.470	73.000	0.000	94.470	85.882	0.000	0.000	85.882	94.470	0.000	73.000
LL16	2	75.683 0.000	0.000 75.683	61.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61.728
LL17	3	75.683 0.000	0.000 75.683	94.470	0.000	73.000	31.669	0.000	0.000	0.000	0.000	0.000	61.728
LL18	4	75.683 0.000	0.000 75.683	94.470	0.000	73.000	31.669	0.000	0.000	31.669	73.000	0.000	94.470

□ COLUMN MOMENTS(KIP-FEET), SHEARS(KIPS), REACTIONS(KIPS)

LOAD	COL	TRANSVERSE									LONGITUDINAL		
		PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
UNIT F.AT CL.CAP	1	1.053	10.986	0.324	11.696	1.053	0.000	-10.986	1.333	0.333	23.333	23.333	
	2	0.000	12.289	0.352	12.347	0.000	-6.144	-6.144	1.333	0.333	23.333	23.333	
	3	-1.053	10.986	0.324	11.696	-1.053	-10.986	0.000	1.333	0.333	23.333	23.333	
EXPANSION OF CAP	1	7.450	80.838	2.387	86.276	7.450	0.000	-80.838	0.000	0.000	0.000	0.000	
	2	-14.901	0.000	0.000	0.000	-14.901	-40.419	40.419	0.000	0.000	0.000	0.000	
	3	7.450	-80.838	-2.387	-86.276	7.450	80.838	0.000	0.000	0.000	0.000	0.000	
SHRINKAGE OF CAP	1	-18.212	-197.603	-5.836	-210.897	-18.212	0.000	197.603	0.000	0.000	0.000	0.000	
	2	36.425	0.000	0.000	0.000	36.425	98.802	-98.802	0.000	0.000	0.000	0.000	
	3	-18.212	197.603	5.836	210.897	-18.212	-197.603	0.000	0.000	0.000	0.000	0.000	
DEAD LOAD TOTAL	1	872.502	-98.985	-2.121	-49.493	1120.002	1714.528	-1615.543	0.000	0.000	0.000	0.000	
	2	1120.002	0.000	0.000	0.000	883.910	747.241	-747.241	0.000	0.000	0.000	0.000	
	3	872.502	98.985	2.121	49.493	1120.002	1615.543	-1714.528	0.000	0.000	0.000	0.000	
TRAC. FORCE 1 LN	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-281.283	-281.283	
	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-281.283	-281.283	
	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-64.363	-3.287	-281.283	-281.283	
WIND ON SUBSTR.	1	7.786	81.264	2.397	86.514	7.786	0.000	-81.264	-66.016	-16.504	-1155.280	-1155.280	
	2	0.000	90.901	2.603	91.333	0.000	-45.450	-45.450	-66.016	-16.504	-1155.280	-1155.280	
	3	-7.786	81.264	2.397	86.514	-7.786	-81.264	0.000	-66.016	-16.504	-1155.280	-1155.280	
GROUP 2 WIND 1 1	1	95.087	831.060	24.512	884.758	95.087	0.000	-831.060	-66.016	-16.504	-1155.280	-1155.280	
	2	0.000	929.617	26.624	934.037	0.000	-464.808	-464.808	-66.016	-16.504	-1155.280	-1155.280	
	3	-95.087	831.060	24.512	884.758	-95.087	-831.060	0.000	-66.016	-16.504	-1155.280	-1155.280	
GROUP 2 WIND 1 2	1	95.087	831.060	24.512	884.758	95.087	0.000	-831.060	66.016	16.504	1155.280	1155.280	
	2	0.000	929.617	26.624	934.037	0.000	-464.808	-464.808	66.016	16.504	1155.280	1155.280	
	3	-95.087	831.060	24.512	884.758	-95.087	-831.060	0.000	66.016	16.504	1155.280	1155.280	
GROUP 2 WIND 2 1	1	84.611	741.084	21.858	788.969	84.611	0.000	-741.084	-128.124	-21.964	-1577.748	-1577.748	
	2	0.000	828.971	23.741	832.913	0.000	-414.485	-414.485	-128.124	-21.964	-1577.748	-1577.748	
	3	-84.611	741.084	21.858	788.969	-84.611	-741.084	0.000	-128.124	-21.964	-1577.748	-1577.748	
GROUP 2 WIND 2 2	1	84.611	741.084	21.858	788.969	84.611	0.000	-741.084	128.124	21.964	1577.748	1577.748	
	2	0.000	828.971	23.741	832.913	0.000	-414.485	-414.485	128.124	21.964	1577.748	1577.748	
	3	-84.611	741.084	21.858	788.969	-84.611	-741.084	0.000	128.124	21.964	1577.748	1577.748	
GROUP 2 WIND 3 1	1	79.373	696.096	20.531	741.075	79.373	0.000	-696.096	-190.231	-27.424	-2000.215	-2000.215	
	2	0.000	778.648	22.300	782.350	0.000	-389.324	-389.324	-190.231	-27.424	-2000.215	-2000.215	
	3	-79.373	696.096	20.531	741.075	-79.373	-696.096	0.000	-190.231	-27.424	-2000.215	-2000.215	
GROUP 2 WIND 3 2	1	79.373	696.096	20.531	741.075	79.373	0.000	-696.096	190.231	27.424	2000.215	2000.215	
	2	0.000	778.648	22.300	782.350	0.000	-389.324	-389.324	190.231	27.424	2000.215	2000.215	
	3	-79.373	696.096	20.531	741.075	-79.373	-696.096	0.000	190.231	27.424	2000.215	2000.215	

□ COLUMN MOMENTS(KIP-FEET), SHEARS(KIPS), REACTIONS(KIPS)

LOAD	COL	TRANSVERSE									LONGITUDINAL		
		PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
GROUP 2 WIND 4 1	1	65.405	576.129	16.993	613.355	65.405	0.000	-576.129	-231.636	-31.064	-2281.860	-2281.860	
	2	0.000	644.453	18.457	647.518	0.000	-322.227	-322.227	-231.636	-31.064	-2281.860	-2281.860	
	3	-65.405	576.129	16.993	613.355	-65.405	-576.129	0.000	-231.636	-31.064	-2281.860	-2281.860	
GROUP 2 WIND 4 2	1	65.405	576.129	16.993	613.355	65.405	0.000	-576.129	231.636	31.064	2281.860	2281.860	
	2	0.000	644.453	18.457	647.518	0.000	-322.227	-322.227	231.636	31.064	2281.860	2281.860	
	3	-65.405	576.129	16.993	613.355	-65.405	-576.129	0.000	231.636	31.064	2281.860	2281.860	
GROUP 2 WIND 5 1	1	37.468	336.194	9.916	357.917	37.468	0.000	-336.194	-262.690	-33.794	-2493.094	-2493.094	
	2	0.000	376.064	10.770	377.852	0.000	-188.032	-188.032	-262.690	-33.794	-2493.094	-2493.094	
	3	-37.468	336.194	9.916	357.917	-37.468	-336.194	0.000	-262.690	-33.794	-2493.094	-2493.094	
GROUP 2 WIND 5 2	1	37.468	336.194	9.916	357.917	37.468	0.000	-336.194	262.690	33.794	2493.094	2493.094	
	2	0.000	376.064	10.770	377.852	0.000	-188.032	-188.032	262.690	33.794	2493.094	2493.094	
	3	-37.468	336.194	9.916	357.917	-37.468	-336.194	0.000	262.690	33.794	2493.094	2493.094	
GROUP 3 WIND 1 1	1	49.964	403.122	11.890	429.170	49.964	0.000	-403.122	-19.805	-4.951	-346.584	-346.584	
	2	0.000	450.929	12.914	453.073	0.000	-225.465	-225.465	-19.805	-4.951	-346.584	-346.584	
	3	-49.964	403.122	11.890	429.170	-49.964	-403.122	0.000	-19.805	-4.951	-346.584	-346.584	
GROUP 3 WIND 1 2	1	49.964	403.122	11.890	429.170	49.964	0.000	-403.122	19.805	4.951	346.584	346.584	

		PIER-49-8-140-70.out										
	2	0.000	450.929	12.914	453.073	0.000	-225.465	-225.465	19.805	4.951	346.584	346.584
	3	-49.964	403.122	11.890	429.170	-49.964	-403.122	0.000	19.805	4.951	346.584	346.584
GROUP 3 WIND 2	1	44.249	357.673	10.549	380.784	44.249	0.000	-357.673	-60.370	-7.709	-569.177	-569.177
	2	0.000	400.090	11.458	401.993	0.000	-200.045	-200.045	-60.370	-7.709	-569.177	-569.177
	3	-44.249	357.673	10.549	380.784	-44.249	-357.673	0.000	-60.370	-7.709	-569.177	-569.177
GROUP 3 WIND 2	1	44.249	357.673	10.549	380.784	44.249	0.000	-357.673	60.370	7.709	569.177	569.177
	2	0.000	400.090	11.458	401.993	0.000	-200.045	-200.045	60.370	7.709	569.177	569.177
	3	-44.249	357.673	10.549	380.784	-44.249	-357.673	0.000	60.370	7.709	569.177	569.177
GROUP 3 WIND 3	1	41.391	334.948	9.879	356.591	41.391	0.000	-334.948	-100.935	-10.467	-791.771	-791.771
	2	0.000	374.671	10.730	376.452	0.000	-187.335	-187.335	-100.935	-10.467	-791.771	-791.771
	3	-41.391	334.948	9.879	356.591	-41.391	-334.948	0.000	-100.935	-10.467	-791.771	-791.771
GROUP 3 WIND 3	1	41.391	334.948	9.879	356.591	41.391	0.000	-334.948	100.935	10.467	791.771	791.771
	2	0.000	374.671	10.730	376.452	0.000	-187.335	-187.335	100.935	10.467	791.771	791.771
	3	-41.391	334.948	9.879	356.591	-41.391	-334.948	0.000	100.935	10.467	791.771	791.771
GROUP 3 WIND 4	1	33.771	274.350	8.092	292.077	33.771	0.000	-274.350	-127.979	-12.306	-940.166	-940.166
	2	0.000	306.885	8.789	308.344	0.000	-153.443	-153.443	-127.979	-12.306	-940.166	-940.166
	3	-33.771	274.350	8.092	292.077	-33.771	-274.350	0.000	-127.979	-12.306	-940.166	-940.166
GROUP 3 WIND 4	1	33.771	274.350	8.092	292.077	33.771	0.000	-274.350	127.979	12.306	940.166	940.166
	2	0.000	306.885	8.789	308.344	0.000	-153.443	-153.443	127.979	12.306	940.166	940.166
	3	-33.771	274.350	8.092	292.077	-33.771	-274.350	0.000	127.979	12.306	940.166	940.166
GROUP 3 WIND 5	1	18.529	153.152	4.517	163.048	18.529	0.000	-153.152	-148.261	-13.685	-1051.463	-1051.463
	2	0.000	171.314	4.906	172.129	0.000	-85.657	-85.657	-148.261	-13.685	-1051.463	-1051.463
	3	-18.529	153.152	4.517	163.048	-18.529	-153.152	0.000	-148.261	-13.685	-1051.463	-1051.463

□ COLUMN MOMENTS (KIP- FEET), SHEARS (KIPS), REACTIONS (KIPS)

		TRANSVERSE									* LONGITUDINAL		
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
GROUP 3 WIND 5	2	18.529	153.152	4.517	163.048	18.529	0.000	-153.152	148.261	13.685	1051.463	1051.463	
	3	-18.529	153.152	4.517	163.048	-18.529	-153.152	0.000	148.261	13.685	1051.463	1051.463	
LIVE LOAD LL 1	1	170.048	-49.637	-0.963	-17.767	170.048	463.558	-413.921	0.000	0.000	0.000	0.000	
	2	-37.658	30.198	0.748	22.150	-37.658	-117.245	87.047	0.000	0.000	0.000	0.000	
	3	5.021	5.337	0.215	9.720	5.021	-5.337	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL 2	1	244.769	-22.946	-0.428	-7.015	244.769	463.558	-440.612	0.000	0.000	0.000	0.000	
	2	32.659	4.005	0.150	6.461	32.659	28.383	-32.388	0.000	0.000	0.000	0.000	
	3	-2.606	10.024	0.278	9.470	-2.606	-10.024	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL 3	1	222.928	-17.964	-0.326	-4.874	222.928	417.203	-399.239	0.000	0.000	0.000	0.000	
	2	145.121	5.765	0.182	6.990	145.121	166.203	-171.968	0.000	0.000	0.000	0.000	
	3	2.962	3.983	0.144	6.099	2.962	-3.983	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL 4	1	180.441	-18.084	-0.311	-3.703	180.441	347.669	-329.584	0.000	0.000	0.000	0.000	
	2	168.372	23.367	0.577	17.023	168.372	222.172	-245.539	0.000	0.000	0.000	0.000	
	3	63.421	-15.961	-0.266	-2.641	63.421	15.961	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL 5	1	5.021	-5.337	-0.215	-9.720	5.021	0.000	5.337	0.000	0.000	0.000	0.000	
	2	-37.658	30.198	0.748	22.150	-37.658	-87.047	117.245	0.000	0.000	0.000	0.000	
	3	170.048	-49.637	-0.963	-17.767	170.048	413.921	-463.558	0.000	0.000	0.000	0.000	
LIVE LOAD LL 6	1	-2.606	10.024	0.278	9.470	-2.606	0.000	10.024	0.000	0.000	0.000	0.000	
	2	32.659	4.005	0.150	6.461	32.659	32.388	-28.383	0.000	0.000	0.000	0.000	
	3	244.769	-22.946	-0.428	-7.015	244.769	440.612	-463.558	0.000	0.000	0.000	0.000	
LIVE LOAD LL 7	1	2.962	3.983	0.144	6.099	2.962	0.000	3.983	0.000	0.000	0.000	0.000	
	2	145.121	5.765	0.182	6.990	145.121	171.968	-166.203	0.000	0.000	0.000	0.000	
	3	222.928	-17.964	-0.326	-4.874	222.928	399.239	-417.203	0.000	0.000	0.000	0.000	
LIVE LOAD LL 8	1	63.421	15.961	0.266	2.641	63.421	0.000	-15.961	0.000	0.000	0.000	0.000	
	2	168.372	23.367	0.577	17.023	168.372	245.539	-222.172	0.000	0.000	0.000	0.000	
	3	180.441	-18.084	-0.311	-3.703	180.441	329.584	-347.669	0.000	0.000	0.000	0.000	
LIVE LOAD LL 9	1	23.889	17.220	0.351	7.329	23.889	0.000	-17.220	0.000	0.000	0.000	0.000	
	2	116.807	-16.701	-0.376	-9.632	116.807	171.195	-154.494	0.000	0.000	0.000	0.000	
	3	-3.286	2.043	0.025	-0.259	-3.286	-2.043	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL10	1	132.297	35.039	0.706	14.365	132.297	13.150	-48.190	0.000	0.000	0.000	0.000	
	2	150.316	-33.003	-0.752	-19.656	150.316	258.587	-225.585	0.000	0.000	0.000	0.000	
	3	-7.791	4.272	0.046	-1.018	-7.791	-4.272	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL11	1	110.310	25.361	0.538	12.315	110.310	11.835	-37.196	0.000	0.000	0.000	0.000	
	2	224.462	-0.846	-0.023	-0.788	224.462	369.082	-368.236	0.000	0.000	0.000	0.000	
	3	36.239	-23.784	-0.515	-12.257	36.239	23.784	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL12	1	92.632	18.385	0.357	6.628	92.632	9.863	-28.248	0.000	0.000	0.000	0.000	
	2	181.665	-8.032	-0.209	-6.581	181.665	293.305	-285.273	0.000	0.000	0.000	0.000	
	3	137.937	-5.224	-0.149	-5.177	137.937	192.621	-187.397	0.000	0.000	0.000	0.000	

□ COLUMN MOMENTS (KIP- FEET), SHEARS (KIPS), REACTIONS (KIPS)

		TRANSVERSE									* LONGITUDINAL		
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF	
LIVE LOAD LL13	1	28.042	19.341	0.414	9.670	28.042	0.000	-19.341	0.000	0.000	0.000	0.000	
	2	218.738	0.000	0.000	0.000	218.738	332.460	-332.460	0.000	0.000	0.000	0.000	
	3	28.042	-19.341	-0.414	-9.670	28.042	19.341	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL14	1	138.663	16.668	0.364	8.847	138.663	118.353	-135.021	0.000	0.000	0.000	0.000	
	2	208.712	-2.940	-0.056	-0.957	208.712	325.587	-322.647	0.000	0.000	0.000	0.000	
	3	23.635	-14.754	-0.309	-6.864	23.635	14.754	0.000	0.000	0.000	0.000	0.000	
LIVE LOAD LL15	1	114.217	11.679	0.250	5.840	114.217	98.628	-110.307	0.000	0.000	0.000	0.000	
	2	183.799	0.000	0.000	0.000	183.799	290.850	-290.850	0.000	0.000	0.000	0.000	
	3	114.217	-11.679	-0.250	-5.840	114.217	110.307	-98.628	0.000	0.000	0.000	0.000	
LIVE LOAD LL16	1	175.069	-54.974	-1.178	-27.487	175.069	463.558	-408.584	0.000	0.000	0.000	0.000	

PIER-49-8-140-70.out												
	2	-75.315	0.000	0.000	0.000	-75.315	-204.292	204.292	0.000	0.000	0.000	0.000
	3	175.069	54.974	1.178	27.487	175.069	408.584	-463.558	0.000	0.000	0.000	0.000
LIVE LOAD LL17	1	224.810	-25.455	-0.579	-15.061	224.810	417.203	-391.748	0.000	0.000	0.000	0.000
	2	-4.498	-23.573	-0.538	-14.120	-4.498	-52.798	76.371	0.000	0.000	0.000	0.000
	3	150.698	53.695	1.117	24.514	150.698	363.508	-417.203	0.000	0.000	0.000	0.000
LIVE LOAD LL18	1	181.622	-24.727	-0.530	-12.364	181.622	347.669	-322.941	0.000	0.000	0.000	0.000
	2	48.989	0.000	0.000	0.000	48.989	45.578	-45.578	0.000	0.000	0.000	0.000
	3	181.622	24.727	0.530	12.364	181.622	322.941	-347.669	0.000	0.000	0.000	0.000

CAP ANALYSIS AND DESIGN DATA

CAP MOMENTS AND SHEARS

POINT	MOMENTS(KIP-FEET)							SHEARS(KIPS)						
	D.L.TOT.	G1 MAX.+	G1 MAX.-	G2 MAX.+	G2 MAX.-	G3 MAX.+	G3 MAX.-	DL T.LT	DL T.RT	G1 + LT	G1 + RT	G1 - LT	G1 - RT	
P 1	-31.802	-31.802	-31.802	-31.802	-31.802	-31.802	-31.802	-17.065	-342.163	-17.065	-342.163	-17.065	-506.471	
P 2	-1306.452	-1306.452	-1902.068	-1306.452	-1306.452	-1306.452	-1663.108	-361.661	-361.661	-361.661	-361.661	-525.969	-525.969	
C 1L	-2228.886	-2228.886	-3235.271	-2228.886	-2228.886	-2228.886	-2831.512	-376.286		-376.286		-540.594		
C 1R	-2100.206	-2078.444	-3056.775	-1019.828	-3180.583	-1563.116	-3197.061		399.158		561.148		393.500	
P 4	-1120.593	-915.031	-1842.078	-298.991	-1942.195	-598.967	-1951.155	384.533	384.533	546.523	546.523	378.875	378.875	
P 5	433.847	1157.411	8.180	823.294	44.400	1056.028	-9.952	360.109	1.301	522.100	83.056	354.451	-90.631	
P 6	322.367	593.508	270.156	595.386	49.349	617.160	158.670	-36.139	-394.947	45.616	-313.192	-128.071	-634.452	
P 7	44.471	283.603	-170.388	389.947	-301.004	355.244	-251.767	-399.042	-399.042	-317.287	-317.287	-638.547	-638.547	
C 2L	-971.413	-527.895	-1772.690	-367.162	-1575.664	-412.730	-1744.324	-413.667		-331.912		-653.172		
C 2R	-971.413	-527.895	-1770.853	-367.162	-1575.664	-412.730	-1743.223		413.667		666.406		331.912	
P 8	44.472	283.604	-228.193	389.947	-301.004	355.244	-286.380	399.042	399.042	651.781	651.781	317.287	317.287	
P 9	322.368	523.800	110.485	595.386	49.349	575.419	63.059	394.947	36.139	647.686	104.293	313.192	-45.616	
P10	433.847	880.716	8.180	823.294	44.400	890.342	-9.952	-1.301	-360.109	66.853	-343.194	-83.056	-522.100	
P11	-1120.593	-974.899	-1842.078	-298.991	-1942.195	-634.816	-1951.155	-384.533	-384.533	-367.618	-367.618	-546.523	-546.523	
C 3L	-2100.206	-2078.444	-3056.775	-1019.828	-3180.583	-1563.116	-3197.061	-399.158		-382.243		-561.148		
C 3R	-2228.886	-2228.886	-3235.271	-2228.886	-2228.886	-2228.886	-2831.512		376.286		540.594		376.286	
P13	-1306.452	-1306.452	-1902.068	-1306.452	-1306.452	-1306.452	-1663.108	361.661	361.661	525.969	525.969	361.661	361.661	
P14	-31.802	-31.802	-31.802	-31.802	-31.802	-31.802	-31.802	342.163	17.065	506.471	17.065	342.163	17.065	

PT.	UNF.		TOP REINFORCE.		BOT. REINFORCE.		CAP DESIGN DATA LEFT STIRRUPS		RIGHT STIRRUPS		D IN.	FC PSI	PS %	FS/FF RATIO	FS/FZ RATIO
	M+	M-	AS	NO. SIZE	AS	NO. SIZE	M.SP.	AV/IN BAR&SPAC	M.SP.	AV/IN BAR&SPAC					
P 1	-24.463	-24.463	3.12	2 # 11	3.12	2 # 11	0.00	0.000 #5@ 0.00	24.00	0.056 #5@11.13	60.40		0.09	0.000	0.088
P 2	-1004.963	-1279.314	7.58	5 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.18	0.419	1.144
C 1	-1605.519	-2178.086	10.75	7 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.28	0.682	1.255
P 4	-767.309	-1194.323	7.58	5 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.18	0.581	1.068
P 5	667.015	137.659	3.12	2 # 11	5.04	4 # 11	24.00	0.050 #5@12.40	0.00	0.000 #5@ 0.00	72.00		0.12	0.629	0.799
P 6	372.867	223.926	3.12	2 # 11	3.12	2 # 11	0.00	0.000 #5@ 0.00	24.00	0.063 #5@ 9.87	72.00		0.13	0.453	1.111
P 7	144.357	-64.759	3.12	2 # 11	3.12	2 # 11	24.00	0.064 #5@ 9.69	24.00	0.064 #5@ 9.69	72.00		0.11	0.369	0.000
C 2	-542.949	-1116.323	7.58	5 # 11	3.12	2 # 11	24.00	0.068 #5@ 9.09	24.00	0.072 #5@ 8.62	72.00		0.18	0.709	0.998
P 8	144.357	-91.385	3.12	2 # 11	3.12	2 # 11	24.00	0.068 #5@ 9.15	24.00	0.068 #5@ 9.15	72.00		0.11	0.373	0.000
P 9	340.758	150.378	3.12	2 # 11	3.12	2 # 11	24.00	0.067 #5@ 9.31	0.00	0.000 #5@ 0.00	72.00		0.12	0.539	1.015
P10	539.564	137.659	3.12	2 # 11	3.87	3 # 11	0.00	0.000 #5@ 0.00	24.00	0.050 #5@12.40	72.00		0.09	0.622	0.943
P11	-794.885	-1194.323	7.58	5 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.18	0.551	1.068
C 3	-1605.519	-2178.086	10.75	7 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.28	0.682	1.255
P13	-1004.963	-1279.314	7.58	5 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.18	0.419	1.144
P14	-24.463	-24.463	3.12	2 # 11	3.12	2 # 11	24.00	0.056 #5@11.13	0.00	0.000 #5@ 0.00	60.40		0.09	0.000	0.088

NOTE: *** FS/FZ RATIO EXCEEDS 1.0! ***

COLUMN ANALYSIS AND DESIGN OUTPUT

CN	T/B	CRITICAL COLUMN LOADS				PF	MTF	MLF	PM	MTM	MLM	PU	MTU	MLU	PU/PM	B	D
		GR	LLC	WC	R												
1	T	1	LL 2	0.0		1665.6	-178.5	0.0	1665.6	1088.9	2686.6	3427.8	2249.8	5550.8	2.064	60.00	60.00
1	B	2		5.1		1504.7	401.0-3241.0	1504.7	885.0	6583.0	1493.8	878.7	6536.0	0.993	60.00	60.00	
2	T	1	LL13	0.0		1302.2	0.0	0.0	1302.2	913.5	1455.7	4237.4	2972.7	4737.2	3.254	60.00	60.00
2	B	2		5.1		1149.1	491.2-3241.0	1149.1	675.8	5171.7	1182.4	695.4	5321.2	1.029	60.00	60.00	

3	T	1	LL	6	0.0	1665.6	178.5	0.0	1665.6	PIER-49-8-140-70.out 1088.9	2686.6	3427.8	2249.8	5550.8	2.064	60.00	60.00
3	B	2		5.1	R	1504.7	-401.0	3241.0	1504.7	885.0	6583.0	1493.8	878.7	6536.0	0.993	60.00	60.00

COLUMN DESIGN DATA

CN	T	B	FACE 1 NO.SIZE	B	FACE 2 NO.SIZE	D	FACE 3 NO.SIZE	D	FACE 4 NO.SIZE	AS	PS	BD12	BD	SUMPU	SUMPC	DEL.T	DEL.L	CM	R	PHIC
1	T		7 # 11		7 # 11		5 # 11		5 # 11	37.44	1.040	1.00	0.765	4175.	17751.	1.308	3.226	1.000	2	0.70
1	B		5 # 11		5 # 11		10 # 11		10 # 11	46.80	1.300	1.00	0.000	3578.	23874.	1.176	2.031	1.000	2	0.70
2	T		7 # 11		7 # 11		5 # 11		5 # 11	37.44	1.040	1.00	0.848	4175.	14536.	1.403	2.236	1.000	2	0.70
2	B		7 # 11		7 # 11		5 # 11		5 # 11	37.44	1.040	1.00	0.000	3578.	23874.	1.176	1.596	1.000	2	0.70
3	T		7 # 11		7 # 11		5 # 11		5 # 11	37.44	1.040	1.00	0.765	4175.	17751.	1.308	3.226	1.000	2	0.70
3	B		5 # 11		5 # 11		10 # 11		10 # 11	46.80	1.300	1.00	0.000	3578.	23874.	1.176	2.031	1.000	2	0.70

FOOTING 1 DESIGN LOADS

F	G	LLID	WC	ES	C	S	P	MT	VT	ML	VL	P4	P3	P2	P1	MTF	VBF	VPF	LOAD
3	2		4.1R				1185.406	-563.863	-14.872	2281.860	31.064	238.339	97.954	152.805	293.190	93.663	15.675	31.884	MAX.P1
3	2		4.1R				1541.028	-733.022	-19.333	2966.418	40.383	309.841	127.340	198.647	381.148	121.762	20.377	41.449	MAX.MT
3	2		4.1R				1541.028	-733.022	-19.333	2966.418	40.383	309.841	127.340	198.647	381.148	121.762	20.377	41.449	MAX.VT
3	2		4.1R				1541.028	-733.022	-19.333	2966.418	40.383	309.841	127.340	198.647	381.148	121.762	20.377	41.449	MAX.VP
3	2		5.1R				1504.711	-400.952	-10.133	3241.022	43.932	329.314	129.968	168.798	368.144	230.031	38.075	40.503	MAX.ML
3	2		5.1R				1504.711	-400.952	-10.133	3241.022	43.932	329.314	129.968	168.798	368.144	230.031	38.075	40.503	MAX.VL
2	2		4.1				883.910	647.518	18.457	-2281.860	-31.064	190.930	50.545	114.073	254.458	75.680	12.735	24.023	MAX.P3

FOOTING 1 ANALYSIS/DESIGN RESULTS

FOOTING SIZE				* BAR REINFORCEMENT STEEL						* SECTION CAPACITIES			
B	D	T	P1/PA	AS	NO.SIZE	SPAC.	PLACEMENT	MT.	VB	VP	DS	FC	
14.000	14.000	4.500	0.998	0.95	23 # 7	@ 7.250	TOP TRAN	161.745	45.008	90.015	37.292	0.000	
				1.37	16 #10	@10.500	BOT.LONG	242.612	46.302	92.604	38.365	0.000	

NUMBER OF PILES = 7 BP = 5.750 DP = 5.750

FOOTING 2 DESIGN SAME AS FOOTING 1

FOOTING 3 DESIGN SAME AS FOOTING 1