

30-OCT-09
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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
54' CURB-CURB; 9 BEAMS; 140' SPAN; 60' TALL; BRIDGE 19 ; PIER 14

PROB. NO. 0001

DESIGN NO.	NO. CAN	NO. COL	NO. LLC	SKEW D	ANG M	F'C S	FC PSI	N	FY PSI	FS PSI	DESIGN DATA EC KSI	ES KSI	CONC. STRAIN	Z FACT	* MAIN SIZE	* STR TOP	* CAP MAX	REINFORCING MAX	STEEL MIN	* REBAR NO.	* ALL. CAPACITY	* PILE UPLIFT	* CAP MIN DEPTH	* CAP BOT
D D D L	2	3	18	17-16-39		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 COEF	KL	OC	OF	CM	BD1	BD2	IMPACT %	SOIL KCF	WT KSF	ALL.S.P.	MIN PL	MAX 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	10.000	2.50	5.00	1.250	0.300	3.000	0.000	0.000			

CAP DATA

CN	C	L	A	DE	BC	BE	DH	LH	XB1	XB2	XB3	XB4	XB5	XB6	XB7	XB8
11	L	10.473	2.500	4.000	5.000	5.000	2.000	7.973	6.917	4.917						
12	C	19.761	2.500	6.000	5.000		0.000	0.000	2.000	4.197	6.557	5.007				
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	ND	NB	SZ	ND	NB	SZ	SLOPE	EP	AP		
21	1	C	T		60.000	0.000	5.000	5.000	5.000	5.000	4.000	0.000	5	5	11	5	5	11	13	13	11	13	11	0.000	0.000	0.000
22	1	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	S	7.000	7.000	2.250	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

WIND TRANS.	* WIND ON SUPERSTRUCTURE AREA*STD. LONG.	WIND FT1	FL1	FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	* WIND FORCE APT	ARM APL	* WIND ON PIER PT	PL	
1365.	2730.	1	50	0	44	6	41	12	33	16	17	19	7.375	7.375	6.396	44.551

GROUP III WIND

STD. WIND FT1	* WIND ON SUPERSTRUCTURE FL1	INTENSITIES FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	* STD. WIND FT1	* WIND ON LIVE LOAD FL1	INTENSITIES FT2	FL2	FT3	FL3	FT4	FL4	FT5	FL5	* LENGTHS OF TRANS.	OF LL LONGI.	* WIND ON APT	LL ARMS 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
5.111	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	243.647 271.675	0.000 0.000	271.675 243.647	0.000	271.675	271.675	0.000	271.675	0.000	271.675	271.675	0.000
LL 1	1	66.544 0.000	0.000 0.000	70.867 0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LL 2	2	66.544 0.000	0.000 0.000	96.030 0.000	0.000	71.570	40.679	0.000	0.000	0.000	0.000	0.000	0.000
LL 3	3	66.544 0.000	0.000 0.000	96.030 0.000	0.000	71.570	93.517	0.000	71.570	0.000	13.003	0.000	0.000
LL 4	4	66.544 0.000	0.000 0.000	96.030 0.000	0.000	71.570	93.517	0.000	83.377	0.000	84.573	54.034	0.000
LL 5	1	0.000 70.867	0.000 0.000	0.000 66.544	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LL 6	2	0.000 96.030	0.000 0.000	0.000 66.544	0.000	0.000	0.000	0.000	0.000	0.000	40.679	71.570	0.000
LL 7	3	0.000 96.030	0.000 0.000	0.000 66.544	0.000	0.000	13.003	0.000	71.570	0.000	93.517	71.570	0.000
LL 8	4	0.000 96.030	0.000 0.000	0.000 66.544	0.000	54.034	84.573	0.000	83.377	0.000	93.517	71.570	0.000
LL 9	1	0.000 0.000	0.000 0.000	0.000 0.000	0.000	0.000	32.920	0.000	71.570	0.000	32.920	0.000	0.000
LL10	2	0.000 0.000	0.000 0.000	5.245 0.000	0.000	71.570	93.517	0.000	71.570	0.000	32.920	0.000	0.000
LL11	3	0.000 5.245	0.000 0.000	5.245 0.000	0.000	71.570	93.517	0.000	71.570	0.000	93.517	71.570	0.000

PIER-54-9-140-60.OUT

I.D.	NL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
LL12	4	46.275 5.245	0.000 0.000	76.815 0.000	0.000	91.136	93.517	0.000	71.570	0.000	93.517	71.570	0.000
LL13	2	0.000 0.000	0.000 0.000	0.000 0.000	0.000	19.083	71.570	0.000	93.517	0.000	71.570	19.083	0.000
LL14	3	0.000 0.000	0.000 0.000	60.113 0.000	0.000	90.653	77.298	0.000	93.517	0.000	71.570	19.083	0.000
LL15	4	0.000 60.113	0.000 0.000	60.113 0.000	0.000	90.653	77.298	0.000	93.517	0.000	77.298	90.653	0.000
LL16	2	66.544 70.867	0.000 0.000	70.867 66.544	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LL17	3	66.544 70.867	0.000 0.000	96.030 66.544	0.000	71.570	40.679	0.000	0.000	0.000	0.000	0.000	0.000
LL18	4	66.544 96.030	0.000 0.000	96.030 66.544	0.000	71.570	40.679	0.000	0.000	0.000	40.679	71.570	0.000

□ 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	0.737	9.216	0.321	10.047	0.737	0.000	-9.216	1.333	0.333	20.000	20.000	20.000
	2	0.000	10.691	0.358	10.784	0.000	-5.345	-5.345	1.333	0.333	20.000	20.000	20.000
	3	-0.737	9.216	0.321	10.047	-0.737	-9.216	0.000	1.333	0.333	20.000	20.000	20.000
EXPANSION OF CAP	1	9.664	127.308	4.446	139.440	9.664	0.000	-127.308	0.000	0.000	0.000	0.000	0.000
	2	-19.327	0.000	0.000	0.000	-19.327	-63.654	63.654	0.000	0.000	0.000	0.000	0.000
	3	9.664	-127.308	-4.446	-139.440	9.664	127.307	0.000	0.000	0.000	0.000	0.000	0.000
SHRINKAGE OF CAP	1	-23.622	-311.196	-10.867	-340.853	-23.622	0.000	311.196	0.000	0.000	0.000	0.000	0.000
	2	47.244	0.000	0.000	0.000	47.244	155.598	-155.598	0.000	0.000	0.000	0.000	0.000
	3	-23.622	311.196	10.867	340.853	-23.622	-311.196	0.000	0.000	0.000	0.000	0.000	0.000
DEAD LOAD TOTAL	1	919.982	-81.652	-2.041	-40.826	1129.982	1885.361	-1803.708	0.000	0.000	0.000	0.000	0.000
	2	1129.982	0.000	0.000	0.000	1019.201	1087.599	-1087.599	0.000	0.000	0.000	0.000	0.000
	3	809.201	81.652	2.041	40.826	1129.982	1803.708	-1885.361	0.000	0.000	0.000	0.000	0.000
TRAC. FORCE 1 LN	1	3.312	26.987	0.940	29.421	3.312	0.000	-26.987	-61.459	-3.138	-237.207	-237.207	-237.207
	2	0.000	31.307	1.048	31.582	0.000	-15.654	-15.654	-61.459	-3.138	-237.207	-237.207	-237.207
	3	-3.312	26.987	0.940	29.421	-3.312	-26.987	0.000	-61.459	-3.138	-237.207	-237.207	-237.207
CENT. FORCE 1 LN	1	5.520	44.975	1.567	49.032	5.520	0.000	-44.975	9.909	0.506	38.244	38.244	38.244
	2	0.000	52.175	1.747	52.632	0.000	-26.087	-26.087	9.909	0.506	38.244	38.244	38.244
	3	-5.520	44.975	1.567	49.032	-5.520	-44.975	0.000	9.909	0.506	38.244	38.244	38.244
WIND ON SUBSTR.	1	4.713	58.942	2.053	64.260	4.713	0.000	-58.942	-59.401	-14.850	-891.020	-891.020	-891.020
	2	0.000	68.378	2.289	68.978	0.000	-34.189	-34.189	-59.401	-14.850	-891.020	-891.020	-891.020
	3	-4.713	58.942	2.053	64.260	-4.713	-58.942	0.000	-59.401	-14.850	-891.020	-891.020	-891.020
GROUP 2 WIND 1 1	1	64.895	659.521	22.976	719.018	64.895	0.000	-659.521	17.457	-8.094	-435.784	-435.784	-435.784
	2	0.000	765.100	25.615	771.807	0.000	-382.550	-382.550	17.457	-8.094	-435.784	-435.784	-435.784
	3	-64.895	659.521	22.976	719.018	-64.895	-659.521	0.000	17.457	-8.094	-435.784	-435.784	-435.784
GROUP 2 WIND 1 2	1	64.895	659.521	22.976	719.018	64.895	0.000	-659.521	136.259	21.607	1346.256	1346.256	1346.256
	2	0.000	765.100	25.615	771.807	0.000	-382.550	-382.550	136.259	21.607	1346.256	1346.256	1346.256
	3	-64.895	659.521	22.976	719.018	-64.895	-659.521	0.000	136.259	21.607	1346.256	1346.256	1346.256
GROUP 2 WIND 2 1	1	62.165	632.283	22.027	689.323	62.165	0.000	-632.283	-51.071	-14.118	-841.681	-841.681	-841.681
	2	0.000	733.502	24.557	739.933	0.000	-366.751	-366.751	-51.071	-14.118	-841.681	-841.681	-841.681
	3	-62.165	632.283	22.027	689.323	-62.165	-632.283	0.000	-51.071	-14.118	-841.681	-841.681	-841.681
GROUP 2 WIND 2 2	1	53.181	542.619	18.903	591.570	53.181	0.000	-542.619	186.341	26.010	1642.896	1642.896	1642.896
	2	0.000	629.484	21.075	635.003	0.000	-314.742	-314.742	186.341	26.010	1642.896	1642.896	1642.896
	3	-53.181	542.619	18.903	591.570	-53.181	-542.619	0.000	186.341	26.010	1642.896	1642.896	1642.896
GROUP 2 WIND 3 1	1	63.047	641.081	22.333	698.914	63.047	0.000	-641.081	-114.988	-19.737	-1220.263	-1220.263	-1220.263
	2	0.000	743.708	24.899	750.228	0.000	-371.854	-371.854	-114.988	-19.737	-1220.263	-1220.263	-1220.263
	3	-63.047	641.081	22.333	698.914	-63.047	-641.081	0.000	-114.988	-19.737	-1220.263	-1220.263	-1220.263

□ 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 3 2	1	45.077	461.752	16.086	503.408	45.077	0.000	-461.752	241.035	30.818	1966.850	1966.850	1966.850
	2	0.000	535.672	17.934	540.368	0.000	-267.836	-267.836	241.035	30.818	1966.850	1966.850	1966.850
	3	-45.077	461.752	16.086	503.408	-45.077	-461.752	0.000	241.035	30.818	1966.850	1966.850	1966.850
GROUP 2 WIND 4 1	1	56.413	574.876	20.027	626.738	56.413	0.000	-574.876	-166.822	-24.294	-1527.280	-1527.280	-1527.280
	2	0.000	666.905	22.328	672.752	0.000	-333.453	-333.453	-166.822	-24.294	-1527.280	-1527.280	-1527.280
	3	-56.413	574.876	20.027	626.738	-56.413	-574.876	0.000	-166.822	-24.294	-1527.280	-1527.280	-1527.280
GROUP 2 WIND 4 2	1	32.453	335.772	11.697	366.062	32.453	0.000	-335.772	268.274	33.213	2128.191	2128.191	2128.191
	2	0.000	389.523	13.041	392.938	0.000	-194.762	-194.762	268.274	33.213	2128.191	2128.191	2128.191
	3	-32.453	335.772	11.697	366.062	-32.453	-335.772	0.000	268.274	33.213	2128.191	2128.191	2128.191
GROUP 2 WIND 5 1	1	39.401	405.107	14.113	441.653	39.401	0.000	-405.107	-221.069	-29.063	-1848.590	-1848.590	-1848.590
	2	0.000	469.959	15.734	474.079	0.000	-234.979	-234.979	-221.069	-29.063	-1848.590	-1848.590	-1848.590
	3	-39.401	405.107	14.113	441.653	-39.401	-405.107	0.000	-221.069	-29.063	-1848.590	-1848.590	-1848.590
GROUP 2 WIND 5 2	1	10.949	121.171	4.221	132.102	10.949	0.000	-121.171	273.332	33.657	2158.150	2158.150	2158.150
	2	0.000	140.568	4.706	141.800	0.000	-70.284	-70.284	273.332	33.657	2158.150	2158.150	2158.150
	3	-10.949	121.171	4.221	132.102	-10.949	-121.171	0.000	273.332	33.657	2158.150	2158.150	2158.150
GROUP 3 WIND 1 1	1	34.590	321.052	11.184	350.015	34.590	0.000	-321.052	32.379	-1.042	-25.977	-25.977	-25.977

PIER-54-9-140-60.OUT												
	2	0.000	372.447	12.469	375.712	0.000	-186.224	-186.224	32.379	-1.042	-25.977	-25.977
	3	-34.590	321.052	11.184	350.015	-34.590	-321.052	0.000	32.379	-1.042	-25.977	-25.977
GROUP 3 WIND 1	2	34.590	321.052	11.184	350.015	34.590	0.000	-321.052	68.020	7.868	508.635	508.635
	2	0.000	372.447	12.469	375.712	0.000	-186.224	-186.224	68.020	7.868	508.635	508.635
	3	-34.590	321.052	11.184	350.015	-34.590	-321.052	0.000	68.020	7.868	508.635	508.635
GROUP 3 WIND 2	1	33.085	307.293	10.705	335.015	33.085	0.000	-307.293	-12.380	-4.085	-241.150	-241.150
	2	0.000	356.486	11.935	359.612	0.000	-178.243	-178.243	-12.380	-4.085	-241.150	-241.150
	3	-33.085	307.293	10.705	335.015	-33.085	-307.293	0.000	-12.380	-4.085	-241.150	-241.150
GROUP 3 WIND 2	1	28.132	262.001	9.127	285.637	28.132	0.000	-262.001	100.731	10.092	665.889	665.889
	2	0.000	303.944	10.176	306.609	0.000	-151.972	-151.972	100.731	10.092	665.889	665.889
	3	-28.132	262.001	9.127	285.637	-28.132	-262.001	0.000	100.731	10.092	665.889	665.889
GROUP 3 WIND 3	1	33.571	311.737	10.860	339.860	33.571	0.000	-311.737	-54.126	-6.924	-441.844	-441.844
	2	0.000	361.642	12.108	364.812	0.000	-180.821	-180.821	-54.126	-6.924	-441.844	-441.844
	3	-33.571	311.737	10.860	339.860	-33.571	-311.737	0.000	-54.126	-6.924	-441.844	-441.844
GROUP 3 WIND 3	1	23.665	221.153	7.704	241.104	23.665	0.000	-221.153	136.454	12.521	837.623	837.623
	2	0.000	256.557	8.589	258.806	0.000	-128.278	-128.278	136.454	12.521	837.623	837.623
	3	-23.665	221.153	7.704	241.104	-23.665	-221.153	0.000	136.454	12.521	837.623	837.623
GROUP 3 WIND 4	1	29.914	278.296	9.695	303.401	29.914	0.000	-278.296	-87.982	-9.225	-604.599	-604.599
	2	0.000	322.846	10.809	325.677	0.000	-161.423	-161.423	-87.982	-9.225	-604.599	-604.599
	3	-29.914	278.296	9.695	303.401	-29.914	-278.296	0.000	-87.982	-9.225	-604.599	-604.599
GROUP 3 WIND 4	1	16.706	157.517	5.487	171.727	16.706	0.000	-157.517	154.245	13.731	923.153	923.153
	2	0.000	182.733	6.118	184.335	0.000	-91.367	-91.367	154.245	13.731	923.153	923.153
	3	-16.706	157.517	5.487	171.727	-16.706	-157.517	0.000	154.245	13.731	923.153	923.153

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

TRANSVERSE *												
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF
GROUP 3 WIND 5	1	20.536	192.540	6.708	209.910	20.536	0.000	-192.540	-123.413	-11.634	-774.931	-774.931
	2	0.000	223.363	7.478	225.321	0.000	-111.682	-111.682	-123.413	-11.634	-774.931	-774.931
	3	-20.536	192.540	6.708	209.910	-20.536	-192.540	0.000	-123.413	-11.634	-774.931	-774.931
GROUP 3 WIND 5	1	4.851	49.116	1.711	53.547	4.851	0.000	-49.116	157.548	13.955	939.035	939.035
	2	0.000	56.979	1.908	57.478	0.000	-28.489	-28.489	157.548	13.955	939.035	939.035
	3	-4.851	49.116	1.711	53.547	-4.851	-49.116	0.000	157.548	13.955	939.035	939.035
LIVE LOAD LL	1	163.246	-66.214	-1.496	-23.541	163.246	460.285	-394.071	0.000	0.000	0.000	0.000
	2	-29.346	39.611	1.150	29.372	-29.346	-116.455	76.845	0.000	0.000	0.000	0.000
	3	3.511	7.470	0.346	13.302	3.511	-7.470	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	244.999	-16.236	-0.333	-3.749	244.999	460.285	-444.049	0.000	0.000	0.000	0.000
	2	33.799	-6.057	-0.079	1.341	33.799	71.056	-64.999	0.000	0.000	0.000	0.000
	3	-3.975	13.554	0.412	11.146	-3.975	-13.554	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	232.408	1.808	0.095	3.887	232.408	414.256	-416.064	0.000	0.000	0.000	0.000
	2	143.079	-21.181	-0.480	-7.607	143.079	178.248	-157.067	0.000	0.000	0.000	0.000
	3	-4.477	13.407	0.385	9.686	-4.477	-13.407	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	186.808	-5.539	-0.034	3.471	186.808	345.214	-339.675	0.000	0.000	0.000	0.000
	2	188.793	21.653	0.645	17.067	188.793	277.174	-298.827	0.000	0.000	0.000	0.000
	3	36.633	-28.594	-0.611	-8.057	36.633	28.594	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	3.511	-7.470	-0.346	-13.302	3.511	0.000	7.470	0.000	0.000	0.000	0.000
	2	-29.346	-39.611	-1.150	-29.372	-29.346	-76.845	116.455	0.000	0.000	0.000	0.000
	3	163.246	66.214	1.496	23.541	163.246	394.071	-460.285	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	-3.975	-13.554	-0.412	-11.146	-3.975	0.000	13.554	0.000	0.000	0.000	0.000
	2	33.799	6.057	0.079	-1.341	33.799	64.999	-71.056	0.000	0.000	0.000	0.000
	3	244.999	16.236	0.333	3.749	244.999	444.049	-460.285	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	-4.477	-13.407	-0.385	-9.686	-4.477	0.000	13.407	0.000	0.000	0.000	0.000
	2	143.079	21.181	0.480	7.607	143.079	157.067	-178.248	0.000	0.000	0.000	0.000
	3	232.408	-1.808	-0.095	-3.887	232.408	416.064	-414.256	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	36.633	28.594	0.611	8.057	36.633	0.000	-28.594	0.000	0.000	0.000	0.000
	2	188.793	-21.653	-0.645	-17.067	188.793	298.827	-277.174	0.000	0.000	0.000	0.000
	3	186.808	5.539	0.034	-3.471	186.808	339.675	-345.214	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	6.116	8.451	0.211	4.225	6.116	0.000	-8.451	0.000	0.000	0.000	0.000
	2	125.177	0.000	0.000	0.000	125.177	118.257	-118.257	0.000	0.000	0.000	0.000
	3	6.116	-8.451	-0.211	-4.225	6.116	8.451	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	73.360	65.882	1.552	27.217	73.360	0.000	-65.882	0.000	0.000	0.000	0.000
	2	204.539	-54.406	-1.456	-32.928	204.539	345.913	-291.507	0.000	0.000	0.000	0.000
	3	-3.077	-0.027	-0.096	-5.738	-3.077	0.027	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	57.750	51.713	1.293	25.856	57.750	0.000	-51.713	0.000	0.000	0.000	0.000
	2	255.511	0.000	0.000	0.000	255.511	467.246	-467.246	0.000	0.000	0.000	0.000
	3	57.750	-51.713	-1.293	-25.856	57.750	51.713	0.000	0.000	0.000	0.000	0.000

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

TRANSVERSE *												
LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF
LIVE LOAD LL	1	159.321	15.686	0.461	11.988	159.321	240.063	-255.749	0.000	0.000	0.000	0.000
	2	203.776	14.955	0.443	11.622	203.776	350.270	-365.225	0.000	0.000	0.000	0.000
	3	49.136	-38.930	-0.904	-15.320	49.136	38.930	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	24.375	27.292	0.682	13.646	24.375	0.000	-27.292	0.000	0.000	0.000	0.000
	2	226.073	0.000	0.000	0.000	226.073	305.952	-305.952	0.000	0.000	0.000	0.000
	3	24.375	-27.292	-0.682	-13.646	24.375	27.292	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	118.429	57.772	1.380	25.042	118.429	0.000	-57.772	0.000	0.000	0.000	0.000
	2	234.684	-27.299	-0.747	-17.494	234.684	380.717	-353.418	0.000	0.000	0.000	0.000
	3	17.897	-22.784	-0.634	-15.236	17.897	22.784	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL	1	95.324	46.661	1.167	23.330	95.324	0.000	-46.661	0.000	0.000	0.000	0.000

						PIER-54-9-140-60.OUT									
	2	221.586	0.000	0.000	0.000	221.586	382.315	-382.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	3	95.324	-46.661	-1.167	-23.330	95.324	46.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL16	1	166.757	-73.684	-1.842	-36.842	166.757	460.285	-386.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2	-58.691	0.000	0.000	0.000	-58.691	-193.300	193.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	3	166.757	73.684	1.842	36.842	166.757	386.600	-460.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL17	1	223.659	-21.336	-0.611	-15.345	223.659	414.256	-392.920	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2	4.008	-41.101	-1.105	-25.228	4.008	-5.210	46.311	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	3	143.344	71.791	1.717	31.218	143.344	342.465	-414.256	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL18	1	180.768	-22.342	-0.559	-11.171	180.768	345.214	-322.871	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2	50.698	0.000	0.000	0.000	50.698	102.041	-102.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	3	180.768	22.342	0.559	11.171	180.768	322.871	-345.214	0.000	0.000	0.000	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	-26.491	-26.491	-26.491	-26.491	-26.491	-26.491	-26.491	-15.415	-332.156	-15.415	-332.156	-15.415	-476.623			
P 2	-1722.200	-1722.200	-2432.545	-1722.200	-1722.200	-1722.200	-2147.556	-358.534	-358.534	-358.534	-358.534	-503.001	-503.001			
C 1L	-2450.969	-2450.969	-3450.248	-2450.969	-2450.969	-2450.969	-3049.339	-370.234		-370.234		-514.701				
C 1R	-2344.821	-2315.396	-3425.786	-1487.444	-3202.198	-1815.301	-3555.658		472.565		672.093		462.845			
P 4	-1411.391	-1257.503	-2221.517	-691.121	-2131.660	-889.042	-2345.477	460.865	460.865	660.393	660.393	451.145	451.145			
P 5	471.337	1244.703	-66.111	903.886	38.788	1180.392	-99.787	436.313	83.135	635.840	156.195	426.593	44.599			
P 6	890.697	1617.192	750.514	907.655	873.739	1336.295	797.806	44.777	-308.401	117.836	-235.341	6.241	-518.927			
P 7	-726.795	-385.432	-1326.312	-366.588	-1087.002	-297.850	-1300.931	-337.692	-337.692	-264.632	-264.632	-548.218	-548.218			
C 2L	-1413.878	-926.396	-2428.270	-916.564	-1911.193	-811.971	-2318.333	-349.392		-276.332		-559.918				
C 2R	-1413.878	-994.224	-2519.837	-916.564	-1911.193	-879.798	-2409.900		349.392		569.451		285.682			
P 9	-726.795	-434.560	-1392.635	-366.588	-1087.002	-346.978	-1367.253	337.692	337.692	557.751	557.751	273.982	273.982			
P10	890.697	1454.277	688.832	907.655	873.738	1238.299	758.438	308.401	-44.777	528.460	7.784	244.691	-108.486			
P11	471.337	1152.150	-36.614	903.886	38.788	1169.313	-73.724	-83.135	-436.313	-30.574	-413.970	-146.845	-623.218			
P12	-1411.391	-1147.199	-2154.743	-691.122	-2131.660	-755.032	-2247.242	-460.865	-460.865	-438.523	-438.523	-647.771	-647.771			
C 3L	-2344.821	-2157.851	-3308.850	-1487.444	-3202.198	-1657.438	-3409.617	-472.565		-450.223		-659.471				
C 3R	-2450.969	-2450.969	-3450.248	-2450.969	-2450.969	-2450.969	-3049.339		370.234		514.701		370.234			
P14	-1722.200	-1722.200	-2432.544	-1722.200	-1722.200	-1722.200	-2147.556	358.534	358.534	503.001	503.001	358.534	358.534			
P15	-26.491	-26.491	-26.491	-26.491	-26.491	-26.491	-26.491	332.156	15.415	476.623	15.415	332.156	15.415			

PT.	CAP DESIGN DATA		LEFT STIRRUPS		RIGHT STIRRUPS		D IN.	FC PSI	PS %	FS/FF RATIO	FS/FZ RATIO
	M+ UNF. K-FT.	M- UNF. K-FT.	TOP REINFORCE. AS NO. SIZE	BOT. REINFORCE. AS NO. SIZE	M.SP. AV/IN BAR&SPAC	M.SP. AV/IN BAR&SPAC					
P 1	-20.378	-20.378	3.12 2 # 11	3.12 2 # 11	0.00 0.000 #5@ 0.00	24.00 0.050 #5@12.29	58.70		0.10	0.000	0.076
P 2	-1324.770	-1651.966	8.03 6 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.050 #5@12.40	72.00		0.19	0.441	1.164
C 1	-1790.155	-2345.646	11.84 8 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.074 #5@ 8.43	72.00		0.31	0.574	1.135
P 4	-1014.802	-1489.160	7.74 5 # 11	3.12 2 # 11	24.00 0.070 #5@ 8.83	24.00 0.070 #5@ 8.83	72.00		0.19	0.728	1.331
P 5	718.793	105.906	3.12 2 # 11	5.42 4 # 11	24.00 0.063 #5@ 9.80	0.00 0.000 #5@ 0.00	72.00		0.13	0.737	0.861
P 6	1020.501	620.581	3.12 2 # 11	7.07 5 # 11	0.00 0.000 #5@ 0.00	24.00 0.050 #5@12.40	72.00		0.17	0.511	0.912
P 7	-386.674	-835.221	5.78 4 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.050 #5@12.40	72.00		0.14	0.672	1.000
C 2	-842.124	-1625.281	8.32 6 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.050 #5@12.40	72.00		0.20	0.868	1.145
P 9	-424.464	-886.238	6.08 4 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.050 #5@12.40	72.00		0.15	0.705	1.061
P10	944.746	591.205	3.12 2 # 11	6.35 5 # 11	24.00 0.050 #5@12.40	0.00 0.000 #5@ 0.00	72.00		0.15	0.446	0.845
P11	700.740	128.596	3.12 2 # 11	5.09 4 # 11	0.00 0.000 #5@ 0.00	24.00 0.060 #5@10.40	72.00		0.12	0.682	0.839
P12	-918.519	-1428.086	7.58 5 # 11	3.12 2 # 11	24.00 0.067 #5@ 9.30	24.00 0.067 #5@ 9.30	72.00		0.18	0.745	1.277
C 3	-1668.869	-2345.646	11.48 8 # 11	3.12 2 # 11	24.00 0.070 #5@ 8.86	24.00 0.050 #5@12.40	72.00		0.30	0.671	1.135
P14	-1324.769	-1651.966	8.03 6 # 11	3.12 2 # 11	24.00 0.050 #5@12.40	24.00 0.050 #5@12.40	72.00		0.19	0.441	1.164
P15	-20.378	-20.378	3.12 2 # 11	3.12 2 # 11	24.00 0.050 #5@12.29	0.00 0.000 #5@ 0.00	58.70		0.10	0.000	0.076

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

COLUMN ANALYSIS AND DESIGN OUTPUT

CN	T B	CRITICAL COLUMN LOADS										MTU	MLU	PU/PM	B	D				
		GR	LLC	WC	R	E S	C F	S F	PF	MTF	MLF						PM	MTM	MLM	PU
1	T	1	LL 2	0.0				C	1742.2	-24.5	25.8	1742.2	1018.6	1847.9	4552.4	2661.9	4829.4	2.613	60.00	60.00
1	B	2		5.2					1483.2	118.7	2805.6	1483.2	842.9	4517.3	1904.6	1083.1	5804.6	1.285	60.00	60.00

2	T	1	LL11	0.0	C	1606.7	183.1	34.8	1606.7	PIER-54-9-140-60.OUT 945.5 1576.6 4723.6	2780.8	4636.8	2.941	60.00	60.00
2	B	2		5.2		1325.0	184.3	2805.6	1325.0	752.9 4215.1 1799.9	1025.6	5741.3	1.362	60.00	60.00
3	T	1	LL 6	0.0	C	1713.5	258.3	25.8	1713.5	1000.6 1786.9 4593.1	2682.6	4790.8	2.681	60.00	60.00
3	B	2		5.2 R		1483.2	-118.7	-2805.6	1483.2	842.9 4517.3 1904.6	1083.1	5804.6	1.285	60.00	60.00

COLUMN DESIGN DATA

CN	T B	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	0.115	4450.	30738.	1.169	2.121	1.000	2	0.70
1	B	7 # 11	7 # 11	5 # 11	5 # 11	37.44	1.040	1.00	0.000	3853.	32074.	1.137	1.610	1.000	2	0.70
2	T	7 # 11	7 # 11	5 # 11	5 # 11	37.44	1.040	1.00	0.000	4659.	30978.	1.177	1.963	1.000	2	0.70
2	B	7 # 11	7 # 11	5 # 11	5 # 11	37.44	1.040	1.00	0.000	3853.	32074.	1.137	1.502	1.000	2	0.70
3	T	7 # 11	7 # 11	5 # 11	5 # 11	37.44	1.040	1.00	0.346	4450.	30961.	1.168	2.086	1.000	2	0.70
3	B	7 # 11	7 # 11	5 # 11	5 # 11	37.44	1.040	1.00	0.000	3853.	32074.	1.137	1.610	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		3.2R				1175.060	-462.582	-14.045	-1966.850	-30.818	10.060	1.088	3.279	12.251	69.033	14.003	28.138	MAX.P1
3	2		3.2R				1527.577	-601.357	-18.258	-2556.905	-40.064	13.077	1.414	4.263	15.927	89.742	18.204	36.580	MAX.MT
3	2		3.2R				1527.577	-601.357	-18.258	-2556.905	-40.064	13.077	1.414	4.263	15.927	89.742	18.204	36.580	MAX.VT
3	2		3.2R				1527.577	-601.357	-18.258	-2556.905	-40.064	13.077	1.414	4.263	15.927	89.742	18.204	36.580	MAX.VP
3	2		4.2R				1511.166	-422.807	-12.553	-2766.649	-43.177	13.896	1.277	3.277	15.896	127.752	26.516	36.187	MAX.ML
3	2		4.2R				1511.166	-422.807	-12.553	-2766.649	-43.177	13.896	1.277	3.277	15.896	127.752	26.516	36.187	MAX.VL
3	5		4.2		S		1073.907	747.741	24.606	2128.191	33.213	9.223	-0.487	3.082	12.792	69.279	14.149	25.717	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	2.750	0.980	0.76	25 # 6 @	6.625	TOP TRAN	99.317	34.698	69.396	28.750	0.000
				0.99	24 # 7 @	7.000	BOT.LONG	132.831	35.678	71.357	29.562	0.000

FOOTING 2 DESIGN SAME AS FOOTING 1

FOOTING 3 DESIGN SAME AS FOOTING 1