

30-OCT-09  
18:43:41

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  
48' CURB-CURB; 7 BEAMS; 140' SPAN; 60' TALL; BRIDGE 19 ; PIER 18

PROB. NO. 0001

DESIGN NO.	NO. CAN	NO. COL	NO. LLC	SKEW D	ANG M	F'C PSI	FC PSI	N	FY PSI	FS PSI	DESIGN DATA		CONC.	Z	* * * CAP			REINFORCING STEEL			* * * CAP					
OPTIONS											EC	ES	STRAIN	FACT	MAIN SIZE	STR SIZE	MAX TOP	MAX BOT	MIN TOP	MIN BOT	NO.	CL.	S.SP	INCR.	CL.	
D	D	D	L	2	2	17	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	STEEL	R	KL	OC	OF	CM	BD1	BD2	IMPACT	SOIL	WT	ALL.S.P.	MIN	MAX	EDGE	PILE	REBAR	ALL.PILE	ALL.PILE	I
MIN.P	MAX.P	CL.SP.	CLEAR	MODE	COEF					%	KCF	KSF		PL	SP	DIST	DEPTH	CLEAR	CAPACITY	UPLIFT	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	11.000	2.500	4.000	5.000	5.000	2.000	8.500	7.602	5.102						
12	C	29.250	2.500	6.000	5.000		0.000	0.000	2.500	4.716	7.409	7.409	4.716			
13	3	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	14	14	11	13	14	11	0.000	0.000	0.000
22	1	2	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													

GROUP II WIND

WIND ON SUPERSTRUCTURE	WIND ON PIER
TRANS. AREA*STD. 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 32.900

GROUP III WIND

STD. * WIND ON SUPERSTRUCTURE INTENSITIES	* STD. * WIND ON LIVE LOAD INTENSITIES	* LENGTHS OF LL * WIND ON LL ARMS
WIND FT1 FL1 FT2 FL2 FT3 FL3 FT4 FL4 FT5 FL5	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
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	264.269	0.000	303.246	0.000	303.246	303.246	303.246	0.000	303.246	0.000	264.269	
LL 1	1	77.562	0.000	59.849	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LL 2	2	77.562	0.000	102.423	0.000	81.772	13.066	0.000	0.000	0.000	0.000	0.000	
LL 3	3	77.562	0.000	102.423	0.000	100.318	94.838	37.093	0.000	0.000	0.000	0.000	
LL 4	4	77.562	0.000	102.423	0.000	100.318	94.838	107.904	0.000	66.600	0.000	0.000	
LL 5	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	59.850	0.000	77.562	
LL 6	2	0.000	0.000	0.000	0.000	0.000	13.066	81.772	0.000	102.423	0.000	77.562	
LL 7	3	0.000	0.000	0.000	0.000	37.093	94.838	100.318	0.000	102.423	0.000	77.562	
LL 8	4	0.000	0.000	66.600	0.000	107.904	94.838	100.318	0.000	102.423	0.000	77.562	
LL 9	1	0.000	0.000	0.000	0.000	27.819	81.772	27.819	0.000	0.000	0.000	0.000	
LL10	2	0.000	0.000	51.847	0.000	109.592	85.564	27.819	0.000	0.000	0.000	0.000	
LL11	3	0.000	0.000	51.847	0.000	109.592	89.357	109.592	0.000	51.847	0.000	0.000	
LL12	2	0.000	0.000	5.480	0.000	81.772	100.318	81.772	0.000	5.480	0.000	0.000	
LL13	3	29.507	0.000	87.252	0.000	107.904	100.318	81.772	0.000	5.480	0.000	0.000	
LL14	4	29.507	0.000	87.252	0.000	107.904	100.318	107.904	0.000	87.252	0.000	29.507	
LL15	2	77.562	0.000	59.849	0.000	0.000	0.000	0.000	0.000	59.850	0.000	77.562	
LL16	3	77.562	0.000	102.423	0.000	81.772	13.066	0.000	0.000	59.850	0.000	77.562	
LL17	4	77.562	0.000	102.423	0.000	81.772	26.132	81.772	0.000	102.423	0.000	77.562	

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

TRANSVERSE

\* LONGITUDINAL

LOAD	COL	PC	MT	V	MB	RF	ML	MR	MT	V	MB	MF
UNIT F.AT CL.CAP	1	0.980	14.326	0.500	15.674	0.980	0.000	-14.326	2.000	0.500	30.000	30.000

						PIER-48-7-140-60.OUT						
						-0.980	-14.326	0.000	2.000	0.500	30.000	30.000
EXPANSION OF CAP	1	0.000	71.714	2.728	91.946	0.000	0.000	-71.714	0.000	0.000	0.000	0.000
	2	0.000	-71.714	-2.728	-91.946	0.000	71.714	0.000	0.000	0.000	0.000	0.000
SHRINKAGE OF CAP	1	0.000	-175.301	-6.668	-224.756	0.000	0.000	175.301	0.000	0.000	0.000	0.000
	2	0.000	175.301	6.668	224.756	0.000	-175.301	0.000	0.000	0.000	0.000	0.000
DEAD LOAD TOTAL	1	1131.322	306.173	7.654	153.086	1341.322	2229.161	-2535.333	0.000	0.000	0.000	0.000
	2	1341.322	-306.173	-7.654	-153.086	1341.322	2535.333	-2229.161	0.000	0.000	0.000	0.000
		1341.322										
TRAC. FORCE 1 LN	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-96.544	-4.930	-372.624	-372.624
	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-96.544	-4.930	-372.624	-372.624
CENT. FORCE 1 LN	1	7.730	73.222	2.556	80.108	7.730	0.000	-73.222	0.000	0.000	0.000	0.000
	2	-7.730	73.222	2.556	80.108	-7.730	-73.222	0.000	0.000	0.000	0.000	0.000
WIND ON SUBSTR.	1	6.265	91.632	3.198	100.248	6.265	0.000	-91.632	-65.800	-16.450	-987.000	-987.000
	2	-6.265	91.632	3.198	100.248	-6.265	-91.632	0.000	-65.800	-16.450	-987.000	-987.000
GROUP 2 WIND 1 1	1	90.330	1069.407	37.323	1169.973	90.330	0.000	-1069.407	-65.800	-16.450	-987.000	-987.000
	2	-90.330	1069.407	37.323	1169.973	-90.330	-1069.407	0.000	-65.800	-16.450	-987.000	-987.000
GROUP 2 WIND 1 2	1	90.330	1069.407	37.323	1169.973	90.330	0.000	-1069.407	65.800	16.450	987.000	987.000
	2	-90.330	1069.407	37.323	1169.973	-90.330	-1069.407	0.000	65.800	16.450	987.000	987.000
GROUP 2 WIND 2 1	1	80.242	952.074	33.228	1041.606	80.242	0.000	-952.074	-158.961	-24.640	-1538.801	-1538.801
	2	-80.242	952.074	33.228	1041.606	-80.242	-952.074	0.000	-158.961	-24.640	-1538.801	-1538.801
GROUP 2 WIND 2 2	1	80.242	952.074	33.228	1041.606	80.242	0.000	-952.074	158.961	24.640	1538.801	1538.801
	2	-80.242	952.074	33.228	1041.606	-80.242	-952.074	0.000	158.961	24.640	1538.801	1538.801
GROUP 2 WIND 3 1	1	75.199	893.407	31.181	977.423	75.199	0.000	-893.407	-252.123	-32.830	-2090.603	-2090.603
	2	-75.199	893.407	31.181	977.423	-75.199	-893.407	0.000	-252.123	-32.830	-2090.603	-2090.603
GROUP 2 WIND 3 2	1	75.199	893.407	31.181	977.423	75.199	0.000	-893.407	252.123	32.830	2090.603	2090.603
	2	-75.199	893.407	31.181	977.423	-75.199	-893.407	0.000	252.123	32.830	2090.603	2090.603
GROUP 2 WIND 4 1	1	61.748	736.963	25.720	806.267	61.748	0.000	-736.963	-314.230	-38.290	-2458.470	-2458.470
	2	-61.748	736.963	25.720	806.267	-61.748	-736.963	0.000	-314.230	-38.290	-2458.470	-2458.470
GROUP 2 WIND 4 2	1	61.748	736.963	25.720	806.267	61.748	0.000	-736.963	314.230	38.290	2458.470	2458.470
	2	-61.748	736.963	25.720	806.267	-61.748	-736.963	0.000	314.230	38.290	2458.470	2458.470
GROUP 2 WIND 5 1	1	34.847	424.075	14.801	463.955	34.847	0.000	-424.075	-360.811	-42.385	-2734.371	-2734.371
	2	-34.847	424.075	14.801	463.955	-34.847	-424.075	0.000	-360.811	-42.385	-2734.371	-2734.371
GROUP 2 WIND 5 2	1	34.847	424.075	14.801	463.955	34.847	0.000	-424.075	360.811	42.385	2734.371	2734.371
	2	-34.847	424.075	14.801	463.955	-34.847	-424.075	0.000	360.811	42.385	2734.371	2734.371

□ 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 1 1	1	48.272	521.391	18.197	570.423	48.272	0.000	-521.391	-19.740	-4.935	-296.100	-296.100		
	2	-48.272	521.391	18.197	570.423	-48.272	-521.391	0.000	-19.740	-4.935	-296.100	-296.100		
GROUP 3 WIND 1 2	1	48.272	521.391	18.197	570.423	48.272	0.000	-521.391	19.740	4.935	296.100	296.100		
	2	-48.272	521.391	18.197	570.423	-48.272	-521.391	0.000	19.740	4.935	296.100	296.100		
GROUP 3 WIND 2 1	1	42.705	462.123	16.128	505.581	42.705	0.000	-462.123	-80.588	-9.072	-588.620	-588.620		
	2	-42.705	462.123	16.128	505.581	-42.705	-462.123	0.000	-80.588	-9.072	-588.620	-588.620		
GROUP 3 WIND 2 2	1	42.705	462.123	16.128	505.581	42.705	0.000	-462.123	80.588	9.072	588.620	588.620		
	2	-42.705	462.123	16.128	505.581	-42.705	-462.123	0.000	80.588	9.072	588.620	588.620		
GROUP 3 WIND 3 1	1	39.921	432.489	15.094	473.160	39.921	0.000	-432.489	-141.436	-13.209	-881.140	-881.140		
	2	-39.921	432.489	15.094	473.160	-39.921	-432.489	0.000	-141.436	-13.209	-881.140	-881.140		
GROUP 3 WIND 3 2	1	39.921	432.489	15.094	473.160	39.921	0.000	-432.489	141.436	13.209	881.140	881.140		
	2	-39.921	432.489	15.094	473.160	-39.921	-432.489	0.000	141.436	13.209	881.140	881.140		
GROUP 3 WIND 4 1	1	32.498	353.465	12.336	386.704	32.498	0.000	-353.465	-182.001	-15.967	-1076.153	-1076.153		
	2	-32.498	353.465	12.336	386.704	-32.498	-353.465	0.000	-182.001	-15.967	-1076.153	-1076.153		
GROUP 3 WIND 4 2	1	32.498	353.465	12.336	386.704	32.498	0.000	-353.465	182.001	15.967	1076.153	1076.153		
	2	-32.498	353.465	12.336	386.704	-32.498	-353.465	0.000	182.001	15.967	1076.153	1076.153		
GROUP 3 WIND 5 1	1	17.653	195.416	6.820	213.793	17.653	0.000	-195.416	-212.425	-18.035	-1222.413	-1222.413		
	2	-17.653	195.416	6.820	213.793	-17.653	-195.416	0.000	-212.425	-18.035	-1222.413	-1222.413		
GROUP 3 WIND 5 2	1	17.653	195.416	6.820	213.793	17.653	0.000	-195.416	212.425	18.035	1222.413	1222.413		
	2	-17.653	195.416	6.820	213.793	-17.653	-195.416	0.000	212.425	18.035	1222.413	1222.413		
LIVE LOAD LL 1	1	156.664	-119.582	-2.659	-39.932	156.664	589.626	-470.045	0.000	0.000	0.000	0.000		
	2	-19.253	93.103	6.641	156.665	-19.253	-93.103	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 2	1	267.715	-17.126	-0.224	3.712	267.715	589.626	-572.500	0.000	0.000	0.000	0.000		
	2	7.108	0.760	0.224	12.655	7.108	-0.760	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 3	1	298.480	129.707	3.453	77.449	298.480	530.664	-660.371	0.000	0.000	0.000	0.000		
	2	72.531	-146.501	-3.453	-60.655	72.531	146.501	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 4	1	261.611	156.871	4.179	93.858	261.611	442.220	-599.091	0.000	0.000	0.000	0.000		
	2	150.623	-177.434	-4.179	-73.295	150.623	177.434	0.000	0.000	0.000	0.000	0.000		
LIVE LOAD LL 5	1	-19.253	-93.103	-2.659	-66.411	-19.253	0.000	93.103	0.000	0.000	0.000	0.000		
	2	156.665	119.582	2.659	39.932	156.665	470.045	-589.626	0.000	0.000	0.000	0.000		
LIVE LOAD LL 6	1	7.108	-0.760	-0.224	-12.655	7.108	0.000	0.760	0.000	0.000	0.000	0.000		
	2	267.715	17.126	0.224	-3.712	267.715	572.500	-589.626	0.000	0.000	0.000	0.000		
LIVE LOAD LL 7	1	72.531	146.501	3.453	60.655	72.531	0.000	-146.501	0.000	0.000	0.000	0.000		

	2	298.480	-129.707	-3.453	-77.449	PIER-48-7-140-60.OUT 298.480	660.371	-530.664	0.000	0.000	0.000	0.000
LIVE LOAD LL 8	1	150.623	177.434	4.179	73.295	150.623	0.000	-177.434	0.000	0.000	0.000	0.000
	2	261.611	-156.871	-4.179	-93.858	261.611	599.091	-442.220	0.000	0.000	0.000	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
LIVE LOAD LL 9	1	68.705	162.391	4.060	81.195	68.705	0.000	-162.391	0.000	0.000	0.000	0.000
	2	68.705	-162.391	-4.060	-81.195	68.705	162.391	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL10	1	184.393	252.617	6.189	118.724	184.393	0.000	-252.617	0.000	0.000	0.000	0.000
	2	90.429	-242.504	-6.189	-128.836	90.429	242.504	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL11	1	185.506	299.458	7.486	149.729	185.506	0.000	-299.458	0.000	0.000	0.000	0.000
	2	185.506	-299.458	-7.486	-149.729	185.506	299.458	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL12	1	137.411	292.639	7.316	146.319	137.411	0.000	-292.639	0.000	0.000	0.000	0.000
	2	137.411	-292.639	-7.316	-146.319	137.411	292.639	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL13	1	248.229	246.943	6.251	128.090	248.229	201.881	-448.824	0.000	0.000	0.000	0.000
	2	122.781	-253.101	-6.251	-121.932	122.781	253.101	0.000	0.000	0.000	0.000	0.000
LIVE LOAD LL14	1	206.116	197.224	4.931	98.612	206.116	168.234	-365.458	0.000	0.000	0.000	0.000
	2	206.117	-197.224	-4.931	-98.612	206.116	365.458	-168.234	0.000	0.000	0.000	0.000
LIVE LOAD LL15	1	137.411	-212.684	-5.317	-106.342	137.411	589.626	-376.942	0.000	0.000	0.000	0.000
	2	137.412	212.684	5.317	106.342	137.412	376.942	-589.626	0.000	0.000	0.000	0.000
LIVE LOAD LL16	1	223.616	-99.206	-2.594	-56.429	223.616	530.664	-431.458	0.000	0.000	0.000	0.000
	2	147.395	108.307	2.594	47.328	147.395	422.357	-530.664	0.000	0.000	0.000	0.000
LIVE LOAD LL17	1	206.117	-13.414	-0.335	-6.707	206.117	442.220	-428.806	0.000	0.000	0.000	0.000
	2	206.117	13.414	0.335	6.707	206.117	428.806	-442.220	0.000	0.000	0.000	0.000

□ CAP ANALYSIS AND DESIGN DATA

POINT	D.L.TOT.	MOMENTS (KIP- FEET)						SHEARS (KIPS)					
		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	-24.016	-24.016	-24.016	-24.016	-24.016	-24.016	-24.016	-14.577	-358.126	-14.577	-358.126	-14.577	-526.513
P 2	-1917.159	-1917.159	-2776.270	-1917.159	-1917.159	-1917.159	-2431.597	-384.987	-384.987	-384.987	-384.987	-553.374	-553.374
C 1L	-2897.909	-2897.909	-4177.987	-2897.909	-2897.909	-2897.909	-3664.423	-399.612		-399.612		-567.999	
C 1R	-3295.933	-3093.808	-4986.607	-1905.705	-4686.162	-2497.091	-5089.233		676.886		1005.229		635.088
P 4	-1622.000	-1451.035	-2616.889	-469.417	-2774.583	-957.682	-2831.803	662.261	662.261	990.604	990.604	620.463	620.463
P 5	1436.169	2964.199	521.383	2140.456	731.881	2694.534	506.322	634.672	240.453	963.016	371.532	592.874	198.654
P 6	3057.119	5295.427	2238.778	3057.119	3057.119	4397.423	2567.094	197.110	-197.110	328.189	-148.803	155.312	-333.036
P 7	1436.169	3091.358	617.827	2140.456	731.881	2822.913	602.767	-240.453	-634.672	-192.146	-586.366	-376.378	-936.101
P 8	-1622.000	-1224.056	-2537.972	-469.417	-2774.583	-726.782	-2732.430	-662.261	-662.261	-613.954	-613.954	-963.690	-963.690
C 2L	-3295.933	-2998.619	-4729.598	-1905.705	-4686.162	-2401.903	-4832.224	-676.886		-628.579		-978.315	
C 2R	-2897.909	-2897.909	-4177.987	-2897.909	-2897.909	-2897.909	-3664.423		399.612		567.999		399.612
P10	-1917.160	-1917.160	-2776.271	-1917.160	-1917.160	-1917.160	-2431.597	384.987	384.987	553.374	553.374	384.987	384.987
P11	-24.016	-24.016	-24.016	-24.016	-24.016	-24.016	-24.016	358.126	14.577	526.513	14.577	358.126	14.577

PT.	M+ UNF. K-FT.	M- UNF. K-FT.	TOP REINFORCE.		BOT. REINFORCE.		CAP DESIGN DATA LEFT STIRRUPS		RIGHT STIRRUPS		D IN.	FC PSI	PS %	FS/FF RATIO	FS/FZ RATIO
			AS	NO. SIZE	AS	NO. SIZE	M.SP.	AV/IN BAR&SPAC	M.SP.	AV/IN BAR&SPAC					
P 1	-18.474	-18.474	3.12	2 # 11	3.12	2 # 11	0.00	0.000 #5@ 0.00	24.00	0.072 #5@ 8.62	57.60		0.10	0.000	0.070
P 2	-1474.738	-1870.459	9.19	6 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.23	0.572	1.318
C 1	-2229.161	-3393.404	17.13	11 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.169D#5@ 7.35	72.00		0.46	0.840	1.085
P 4	-1168.943	-1746.045	9.38	7 # 11	3.12	2 # 11	24.00	0.165D#5@ 7.54	24.00	0.165D#5@ 7.54	72.00		0.24	0.586	1.006
P 5	1808.582	653.615	3.12	2 # 11	9.83	7 # 11	24.00	0.157D#5@ 7.92	24.00	0.050 #5@12.40	72.00		0.25	0.999	1.042
P 6	3382.633	1974.688	3.12	2 # 11	17.85	12 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.48	0.850	0.966
P 7	1907.336	727.803	3.12	2 # 11	10.26	7 # 11	24.00	0.050 #5@12.40	24.00	0.149 #5@ 4.16	72.00		0.27	1.042	1.099
P 8	-991.328	-1669.605	9.19	6 # 11	3.12	2 # 11	24.00	0.157D#5@ 7.91	24.00	0.157D#5@ 7.91	72.00		0.23	0.796	1.176
C 2	-2229.161	-3195.704	16.24	11 # 11	3.12	2 # 11	24.00	0.161D#5@ 7.70	24.00	0.050 #5@12.40	72.00		0.44	0.697	1.022
P10	-1474.738	-1870.459	9.19	6 # 11	3.12	2 # 11	24.00	0.050 #5@12.40	24.00	0.050 #5@12.40	72.00		0.23	0.572	1.318
P11	-18.474	-18.474	3.12	2 # 11	3.12	2 # 11	24.00	0.072 #5@ 8.62	0.00	0.000 #5@ 0.00	57.60		0.10	0.000	0.070

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

NOTE: \*\*\* FS/FF RATIO EXCEEDS 1.0! \*\*\*

□ COLUMN ANALYSIS AND DESIGN OUTPUT

CRITICAL COLUMN LOADS

T E C S

CN	B	GR	LLC	WC	R	S	F	F	PF	MTF	MLF	PM	PIER-48-7-140-60.OUT			MTU	MLU	PU/PM	B	D
													MTM	MLM	PU					
1	T	1	LL 3	0.0			C		2145.8	936.6	0.0	2145.8	1433.6	2998.4	3776.9	2516.9	5264.4	1.757	60.00	60.00
1	B	3	LL 4	5.1			C		2136.9	911.4	-3042.4	2136.9	1322.5	6959.4	2159.3	1330.0	6998.7	1.006	60.00	60.00
2	T	1	LL 7	0.0			C		2091.6	-422.6	0.0	2091.6	1415.2	2803.0	3868.1	2608.4	5166.4	1.845	60.00	60.00
2	B	3	LL 8	5.1	R				2106.8	-599.0	3042.4	2106.8	1375.7	6827.0	2096.1	1368.7	6792.6	0.995	60.00	60.00

COLUMN DESIGN DATA

CN	T	B	FACE 1	B	FACE 2	D	FACE 3	D	FACE 4	AS	PS	BD12	BD	SUMPU	SUMPC	DEL.T	DEL.L	CM	R	PHIC
			NO.SIZE		NO.SIZE		NO.SIZE		NO.SIZE											
1	T	7	# 11	7	# 11	5	# 11	5	# 11	37.44	1.040	1.00	0.366	4020.	15979.	1.336	2.795	1.000	2	0.70
1	B	6	# 11	6	# 11	10	# 11	10	# 11	49.92	1.387	1.00	0.284	3750.	19520.	1.238	2.288	1.000	2	0.70
2	T	7	# 11	7	# 11	5	# 11	5	# 11	37.44	1.040	1.00	0.687	4020.	15401.	1.353	2.680	1.000	2	0.70
2	B	5	# 11	5	# 11	10	# 11	10	# 11	46.80	1.300	1.00	0.399	3750.	16008.	1.306	2.244	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
1	3	LL 4	4.1		C		1617.090	859.073	31.172-2194.025	-30.757	9.028	2.308	5.121	11.842	111.500	18.913	38.148	MAX.P1	
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	11.737	3.000	6.658	15.395	144.950	24.587	49.592	MAX.MT	
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	11.737	3.000	6.658	15.395	144.950	24.587	49.592	MAX.VT	
1	3	LL 4	4.1		C		2102.217	1116.794	40.524-2852.233	-39.984	11.737	3.000	6.658	15.395	144.950	24.587	49.592	MAX.VP	
1	3	LL 4	5.1		C		2082.918	892.010	33.353-3042.371	-42.673	12.316	2.997	5.928	15.247	176.814	30.428	49.137	MAX.ML	
1	3	LL 4	5.1		C		2082.918	892.010	33.353-3042.371	-42.673	12.316	2.997	5.928	15.247	176.814	30.428	49.137	MAX.VL	
2	2		5.1R				1376.169	-617.041	-22.455 2734.371	42.385	9.330	0.916	2.937	11.352	92.648	15.687	32.465	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
16.000	16.000	3.250	0.947	0.95	26 # 7 @ 7.375		TOP TRAN	148.048	41.713	83.426	34.562	0.000
				1.14	24 # 8 @ 8.000		BOT.LONG	183.994	42.844	85.689	35.500	0.000

FOOTING 2 DESIGN SAME AS FOOTING 1