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APPENDIX A

Table A-1 Structural indices for column in transverse direction interior span

Building	Approximated tributary area (m^2)	Dimension (cmxcm)	$\frac{a_c}{h_c}$	$\frac{M_{nc}}{a_c V_n}$	$\frac{P}{f_c' A_g}$	ρ_t	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_c d\sqrt{f_c'}}$
AP1	7.03 (JS)	20x40	3.50	0.50	0.200	0.0230	0.0014	3.01
AP2	7.69 (JS)	20x40	3.13	0.60	0.323	0.0982	0.0044	5.78
AP3	18.33 (JM)	40x80	1.88	0.35	0.228	0.0135	0.0085	3.38
AP4	15.45 (JS)	30x70	1.64	1.09	0.215	0.0358	0.0040	7.51
AP5	19.80 (JM)	30x55	4.14	0.36	0.226	0.0419	0.0063	3.18
AC1	60.84 (JL)	50x50	5.20	0.11	0.522	0.0672	0.0103	1.42
AC2	64.00 (JL)	60x60	3.63	0.55	0.393	0.0576	0.0128	5.50
AC3	36.00 (JM)	60x60	1.83	0.65	0.243	0.0194	0.0068	4.87
AC4	60.84 (JL)	30x30	6.75	0.18	0.903	0.0785	0.0052	2.05
CH1	26.00 (JM)	40x40	4.81	0.43	0.385	0.0794	0.0040	3.39
CH2	26.00 (JM)	40x40	4.81	0.31	0.383	0.0433	0.0040	2.42
CH3	26.00 (JM)	40x40	6.50	0.24	0.308	0.0491	0.0059	1.99
HP1	42.00 (JL)	80x80	2.06	1.27	0.221	0.0185	0.0047	3.53
HP2	15.20 (JS)	45x65	6.85	0.24	0.242	0.0319	0.0033	1.68
HP3	37.50 (JM)	30x50	4.50	0.35	0.381	0.0582	0.0089	3.68
maximum value			6.85	1.27	0.903	0.0982	0.0128	7.51
minimum value			1.64	0.11	0.200	0.0135	0.0014	1.42
average value			4.08	0.48	0.345	0.0477	0.0060	3.56
standard deviation			1.78	0.32	0.180	0.0253	0.0030	1.70

Table A-2 Structural indices for column in transverse direction exterior span

Building	Approximated tributary area (m^2)	Dimension (cmxcm)	$\frac{a_c}{h_c}$	$\frac{M_{nc}}{a_c V_n}$	$\frac{P}{f_c' A_g}$	ρ_t	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_c d\sqrt{f_c'}}$
AP1	8.34 (JS)	20x40	3.50	0.62	0.267	0.0287	0.0028	4.81
AP2	10.15 (JS)	30x60	2.08	1.64	0.205	0.1909	0.0075	11.09
AP3	22.62 (JM)	40x100	1.50	0.46	0.226	0.0129	0.0081	4.41
AP4	13.65 (JS)	30x70	1.64	0.95	0.193	0.0310	0.0040	7.02
AP5	19.40 (JM)	30x55	4.14	0.36	0.226	0.0419	0.0063	3.18
AC1	42.12 (JL)	50x50	5.20	0.17	0.375	0.0446	0.0102	1.90
AC2	58.00 (JL)	50x70	3.11	0.43	0.370	0.0436	0.0119	4.57
AC3	18.00 (JS)	40x40	2.75	0.82	0.269	0.0237	0.0050	6.23
AC4	42.12 (JL)	30x30	6.75	0.25	0.634	0.0785	0.0052	2.41
CH1	14.00 (JS)	40x40	4.81	0.34	0.224	0.0577	0.0059	2.72
CH2	14.00 (JS)	40x40	4.94	0.30	0.223	0.0217	0.0020	1.77
CH3	14.00 (JS)	40x40	6.50	0.33	0.181	0.0771	0.0059	2.49
HP1	11.40 (JS)	80x80	2.13	1.01	0.088	0.0103	0.0031	2.73
HP2	4.00 (SJ)	45x45	9.89	0.43	0.083	0.0821	0.0038	2.61
HP3	25.00 (JM)	30x50	4.50	0.36	0.264	0.0364	0.0058	2.88
maximum value			3.50	0.62	0.267	0.0287	0.0028	4.81
minimum value			2.08	1.64	0.205	0.1909	0.0075	11.09
average value			1.50	0.46	0.226	0.0129	0.0081	4.41
standard deviation			1.64	0.95	0.193	0.0310	0.0040	7.02

Table A-3 Structural indices for column in longitudinal direction interior span

Building	Approximated tributary area (m^2)	Dimension (cmxcm)	$\frac{a_c}{h_c}$	$\frac{M_{nc}}{a_c V_n}$	$\frac{P}{f_c' A_g}$	ρ_t	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_c d\sqrt{f_c'}}$
AP1	7.58 (JS)	40x20	7.00	0.26	0.213	0.0268	0.0021	1.41
AP2	10.15 (JS)	40x20	6.25	0.41	0.415	0.0982	0.0068	3.22
AP3	22.62 (JM)	100x40	3.75	0.27	0.226	0.0126	0.0133	1.77
AP4	13.65 (JS)	70x30	4.00	0.58	0.193	0.0393	0.0064	3.39
AP5	19.8 (JM)	55x30	7.58	0.22	0.230	0.0457	0.0089	1.60
AC1	42.12 (JL)	50x50	5.20	0.27	0.363	0.0672	0.0103	2.48
AC2	29.00 (JM)	70x50	4.20	0.36	0.203	0.0446	0.0143	2.92
AC3	27.00 (JM)	60x60	4.33	0.28	0.191	0.0194	0.0068	1.96
AC4	42.12 (JL)	40x30	6.67	0.29	0.482	0.0639	0.0057	2.34
CH1	16.00 (JS)	40x40	5.06	0.23	0.275	0.0390	0.0059	1.90
CH2	16.00 (JS)	40x40	5.06	0.22	0.249	0.0390	0.0059	1.74
CH3	16.00 (JS)	40x40	6.50	0.23	0.220	0.0491	0.0059	1.83
HP1	39.2 (JM)	80x80	2.06	1.51	0.209	0.0374	0.0079	3.78
HP2	16.7 (JS)	45x45	9.89	0.24	0.359	0.0894	0.0038	1.86
HP3	32.5 (JM)	50x30	8.33	0.27	0.334	0.0887	0.0120	2.27
maximum value			9.89	1.51	0.482	0.0982	0.0143	3.78
minimum value			2.06	0.22	0.191	0.0126	0.0021	1.41
average value			5.73	0.38	0.278	0.0507	0.0077	2.30
standard deviation			2.01	0.33	0.091	0.0258	0.0034	0.72

Table A-4 Structural indices for column in longitudinal direction exterior span

Building	Approximated tributary area (m^2)	Dimension (cmxcm)	$\frac{a_c}{h_c}$	$\frac{M_{nc}}{a_c V_n}$	$\frac{P}{f_c' A_g}$	ρ_t	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_c d\sqrt{f_c'}}$
AP1	4.06 (JS)	40x20	7.00	0.26	0.162	0.0268	0.0021	1.33
AP2	5.08 (JS)	40x20	6.25	0.46	0.226	0.0982	0.0068	3.14
AP3	11.31 (JS)	100x40	3.75	0.24	0.133	0.0126	0.0133	1.48
AP4	6.83 (JS)	70x30	4.00	0.58	0.109	0.0393	0.0064	3.10
AP5	18.81 (JS)	55x30	7.58	0.21	0.233	0.0366	0.0089	1.51
AC1	29.16 (JM)	50x50	5.20	0.28	0.261	0.0672	0.0103	2.46
AC2	58.00 (JL)	70x50	4.20	0.32	0.370	0.0319	0.0107	2.67
AC3	13.50 (JS)	60x40	6.50	0.16	0.151	0.0158	0.0082	1.12
AC4	29.16 (JM)	30x30	6.67	1.18	0.447	0.0785	0.0034	7.95
CH1	16.80 (JS)	50x50	3.95	0.22	0.183	0.0312	0.0056	1.54
CH2	16.80 (JS)	50x50	4.05	0.18	0.179	0.0089	0.0019	0.96
CH3	3.00 (JS)	80x40	6.50	0.23	0.041	0.0175	0.0046	1.10
HP1	15.2 (JS)	80x80	2.53	0.72	0.104	0.0104	0.0031	2.32
HP2	20.8 (JM)	45x45	9.89	0.25	0.432	0.0894	0.0038	2.03
HP3	25.0 (JM)	50x30	8.33	0.28	0.120	0.0393	0.0078	1.69
maximum value			9.89	1.18	0.447	0.0982	0.0133	7.95
minimum value			2.53	0.16	0.041	0.0089	0.0019	0.96
average value			5.76	0.37	0.210	0.0402	0.0065	2.29
standard deviation			2.02	0.27	0.121	0.0293	0.0034	1.72

Table A-5 Structural indices for beam in transverse direction interior span

Building	Dimension (cmxcm)	$\frac{a_b}{h_b}$	$\frac{M_{nb}}{a_b V_n}$	ρ	ρ'	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_b d\sqrt{f_c'}}$
AP1	20x40	1.88	0.70	0.0057	0.0057	0.0014	2.01
AP2	20x40	1.63	1.38	0.0086	0.0144	0.0039	3.76
AP3	30x50	2.00	1.35	0.0073	0.0145	0.0033	3.32
AP4	20x50	3.30	1.34	0.0209	0.0209	0.0014	2.82
AP5	30x50	6.35	0.47	0.0093	0.0202	0.0099	1.19
AC1	30x80	4.56	0.44	0.0078	0.0078	0.0030	1.44
AC2	25x65	5.69	0.62	0.0067	0.0200	0.0063	0.97
AC3	35x80	5.25	0.77	0.0154	0.0192	0.0059	2.22
AC4	20x30	3.50	1.34	0.0251	0.0251	0.0042	3.65
CH1	30x70	6.86	0.43	0.0153	0.0102	0.0030	1.39
CH2	30x70	6.86	0.38	0.0153	0.0077	0.0047	1.38
CH3	30x70	6.86	0.29	0.0153	0.0102	0.0030	1.38
HP1	30x70	5.14	0.33	0.0077	0.0051	0.0047	1.17
HP2	25x60	4.13	0.79	0.0114	0.0046	0.0021	2.27
HP3	30x60	6.25	0.71	0.0297	0.0297	0.0097	2.98
maximum value		6.86	1.38	0.0297	0.0297	0.0099	3.76
minimum value		1.63	0.29	0.0057	0.0046	0.0014	0.97
average value		4.68	0.76	0.0134	0.0144	0.0044	2.13
standard deviation		1.87	0.40	0.0072	0.0079	0.0026	0.96

Table A-6 Structural indices for beam in transverse direction exterior span

Building	Dimension (cmxcm)	$\frac{a_b}{h_b}$	$\frac{M_{nb}}{a_b V_n}$	ρ	ρ'	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_b d\sqrt{f_c'}}$
AP1	20x40	3.19	0.94	0.0090	0.0092	0.0014	1.78
AP2	20x40	4.25	0.53	0.0086	0.0144	0.0039	1.28
AP3	30x50	5.60	0.43	0.0119	0.0145	0.0051	1.36
AP4	20x50	5.60	0.79	0.0209	0.0209	0.0014	2.23
AP5	30x50	6.35	0.47	0.0093	0.0202	0.0099	1.19
AC1	30x80	4.56	0.44	0.0078	0.0078	0.0030	1.44
AC2	25x65	5.62	0.44	0.0100	0.0133	0.0063	1.45
AC3	35x80	1.63	0.92	0.0076	0.0076	0.0029	3.67
AC4	25x60	5.58	0.70	0.0214	0.0214	0.0068	3.14
CH1	30x70	1.86	1.58	0.0153	0.0205	0.0030	3.24
CH2	30x60	2.17	0.48	0.0061	0.0099	0.0048	1.76
CH3	30x70	1.86	1.57	0.0102	0.0153	0.0030	3.24
HP1	30x60	2.50	0.72	0.0078	0.0039	0.0037	2.38
HP2	25x50	1.55	0.90	0.0056	0.0112	0.0039	2.98
HP3	30x60	3.75	0.61	0.0089	0.0089	0.0031	1.98
maximum value		6.35	1.58	0.0214	0.0214	0.0099	3.67
minimum value		1.55	0.43	0.0056	0.0039	0.0014	1.19
average value		3.74	0.77	0.0107	0.0133	0.0042	2.21
standard deviation		1.74	0.37	0.0049	0.0056	0.0022	0.84

Table A-7 Structural indices for beam in longitudinal direction interior span

Building	Dimension (cmxcm)	$\frac{a_b}{h_b}$	$\frac{M_{nb}}{a_b V_n}$	ρ	ρ'	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_b d\sqrt{f_c'}}$
AP1	20x40	3.38	0.42	0.0032	0.0065	0.0013	0.70
AP2	15x40	3.38	0.24	0.0043	0.0043	0.0020	0.86
AP3	15x40	4.38	0.35	0.0077	0.0077	0.0013	1.12
AP4	20x40	3.38	0.37	0.0057	0.0057	0.0014	1.06
AP5	20x50	3.70	0.64	0.0045	0.0134	0.0048	1.01
AC1	30x80	4.56	0.86	0.0250	0.0250	0.0092	4.55
AC2	40x80	4.69	0.64	0.0084	0.0168	0.0089	1.48
AC3	35x80	7.13	0.67	0.0096	0.0192	0.0029	1.03
AC4	20x40	4.63	0.13	0.0122	0.0032	0.0047	2.01
CH1	20x50	3.60	0.31	0.0070	0.0070	0.0032	1.21
CH2	20x50	3.60	0.24	0.0039	0.0026	0.0013	0.68
CH3	15x30	6.00	0.36	0.0121	0.0121	0.0013	1.11
HP1	30x70	3.71	0.64	0.0128	0.0077	0.0074	2.64
HP2	25x60	2.96	0.46	0.0046	0.0069	0.0021	1.32
HP3	20x50	4.70	0.22	0.0045	0.0045	0.0027	0.80
maximum value		7.13	0.86	0.0250	0.0250	0.0092	4.55
minimum value		2.96	0.13	0.0032	0.0026	0.0013	0.68
average value		4.25	0.44	0.0084	0.0095	0.0036	1.44
standard deviation		1.11	0.21	0.0056	0.0065	0.0028	1.00

Table A-8 Structural indices for beam in longitudinal direction exterior span

Building	Dimension (cmxcm)	$\frac{a_b}{h_b}$	$\frac{M_{nb}}{a_b V_n}$	ρ	ρ'	$\rho_s\sqrt{b''/s}$	$\frac{V_a}{b_b d\sqrt{f_c'}}$
AP1	20x40	3.38	0.51	0.0057	0.0090	0.0021	1.13
AP2	15x40	3.38	0.17	0.0043	0.0043	0.0039	0.86
AP3	15x40	4.38	0.35	0.0077	0.0077	0.0013	1.12
AP4	20x40	3.38	0.37	0.0057	0.0057	0.0014	1.06
AP5	20x50	3.70	0.64	0.0045	0.0134	0.0048	1.01
AC1	30x80	4.56	0.86	0.0250	0.0250	0.0092	4.55
AC2	40x80	4.69	0.61	0.0084	0.0134	0.0058	1.48
AC3	35x80	7.25	0.66	0.0096	0.0192	0.0029	1.02
AC4	20x40	4.63	0.13	0.0122	0.0032	0.0047	2.01
CH1	20x60	4.08	0.48	0.0145	0.0087	0.0048	2.15
CH2	25x50	4.90	0.60	0.0178	0.0089	0.0033	2.10
CH3	15x30	1.83	1.18	0.0121	0.0121	0.0013	3.10
HP1	25x50	3.00	1.25	0.0178	0.0089	0.0033	3.39
HP2	25x60	2.96	0.46	0.0046	0.0069	0.0021	1.32
HP3	20x35	3.86	0.63	0.0101	0.0101	0.0022	1.97
maximum value		7.25	1.25	0.0250	0.0250	0.0092	4.55
minimum value		1.83	0.13	0.0043	0.0032	0.0013	0.86
average value		4.00	0.59	0.0107	0.0104	0.0035	1.88
standard deviation		1.22	0.31	0.0060	0.0057	0.0021	1.06

Table A-9 Structural indices for joint in transverse direction interior span

Building	*BI*	$\frac{h_c}{d_b}$	$\frac{b_b}{b_c}$	$\frac{h_b}{h_c}$	$\frac{M_{nc}}{M_{nb}}$	$\frac{V_{jh}}{V_{jn}}$	$\frac{\rho_{sv} f_{ys}}{f_c'}$
AP1	4.14	25.00	1.00	1.00	2.85	0.74	0.000
AP2	4.14	25.00	1.00	1.00	2.13	1.15	0.000
AP3	3.23	32.00	0.75	0.63	3.34	0.72	0.000
AP4	2.77	35.00	0.67	0.71	2.98	1.08	0.000
AP5	4.69	27.50	1.00	0.91	4.28	1.22	0.000
AC1	7.23	17.86	0.60	1.60	1.21	1.21	0.000
AC2	5.38	24.00	0.42	1.08	3.89	0.87	0.000
AC3	4.98	24.00	0.58	1.33	0.68	1.25	0.000
AC4	8.61	15.00	0.67	1.00	1.43	4.08	0.000
CH1	6.05	16.00	0.75	1.75	0.78	1.94	0.000
CH2	6.05	16.00	0.75	1.75	0.65	1.01	0.000
CH3	6.05	16.00	0.75	1.75	1.06	1.51	0.000
HP1	3.77	32.00	0.38	0.88	0.90	0.22	0.000
HP2	3.97	32.50	0.56	0.92	3.10	0.40	0.000
HP3	6.45	20.00	1.00	1.20	0.64	2.60	0.000
maximum value	8.61	35.00	1.00	1.75	4.28	4.08	0.000
minimum value	2.77	15.00	0.38	0.63	0.64	0.22	0.000
average value	5.17	23.86	0.72	1.17	2.00	1.33	0.000
standard deviation	1.59	6.88	0.21	0.38	1.29	0.96	0.000

Table A-10 Structural indices for joint in transverse direction exterior span

Building	*BI*	$\frac{h_c}{d_b}$	$\frac{b_b}{b_c}$	$\frac{h_b}{h_c}$	$\frac{M_{nc}}{M_{nb}}$	$\frac{V_{jh}}{V_{jn}}$	$\frac{\rho_{sv} f_{ys}}{f_c'}$
AP1	5.18	20.00	1.00	1.00	5.83	0.75	0.000
AP2	2.76	37.50	0.67	0.67	26.45	0.40	0.000
AP3	2.59	40.00	0.75	0.50	9.35	0.32	0.000
AP4	2.77	35.00	0.67	0.71	6.57	0.54	0.000
AP5	4.69	27.50	1.00	0.91	4.28	1.22	0.000
AC1	7.23	17.86	0.60	1.60	2.33	0.61	0.000
AC2	4.61	28.00	0.50	0.93	8.00	0.40	0.000
AC3	7.47	16.00	0.88	2.00	1.70	0.67	0.000
AC4	10.76	12.00	0.83	2.00	0.47	2.54	0.000
CH1	6.05	16.00	0.75	1.75	1.09	1.45	0.000
CH2	6.05	16.00	0.75	1.50	2.41	0.61	0.000
CH3	6.05	16.00	0.75	1.75	0.91	1.13	0.000
HP1	3.02	40.00	0.38	0.75	8.18	0.06	0.000
HP2	5.74	22.50	0.56	1.11	14.68	0.62	0.000
HP3	6.45	20.00	1.00	1.20	2.33	0.71	0.000
maximum value	10.76	40.00	1.00	2.00	26.45	2.54	0.000
minimum value	2.59	12.00	0.38	0.50	0.47	0.06	0.000
average value	5.43	24.29	0.74	1.23	6.30	0.80	0.000
standard deviation	2.20	9.69	0.19	0.50	6.84	0.60	0.000

Table A-11 Structural indices for joint in longitudinal direction interior span

Building	*BI*	$\frac{h_c}{d_b}$	$\frac{b_b}{b_c}$	$\frac{h_b}{h_c}$	$\frac{M_{nc}}{M_{nb}}$	$\frac{V_{jh}}{V_{jn}}$	$\frac{\rho_{sv} f_{ys}}{f_c'}$
AP1	6.21	16.67	0.50	2.00	1.35	0.82	0.000
AP2	6.21	16.67	0.38	2.00	3.75	0.46	0.000
AP3	4.14	25.00	0.15	1.00	10.11	0.20	0.000
AP4	5.16	18.75	0.29	1.33	5.84	0.31	0.000
AP5	6.89	18.75	0.36	1.67	1.53	1.06	0.000
AC1	7.23	17.86	0.60	1.60	0.34	3.91	0.000
AC2	6.45	20.00	0.57	1.60	0.96	1.43	0.000
AC3	4.98	24.00	0.58	1.33	0.82	1.69	0.000
AC4	5.16	25.00	0.50	1.33	2.86	0.90	0.000
CH1	4.84	20.00	0.50	1.25	3.58	0.98	0.000
CH2	2.90	33.33	0.50	1.25	6.84	1.00	0.000
CH3	2.90	33.33	0.38	0.75	9.06	0.48	0.000
HP1	3.77	32.00	0.38	0.88	3.64	0.26	0.000
HP2	5.74	22.50	0.56	1.33	4.08	0.80	0.000
HP3	6.89	18.75	0.40	1.67	4.12	0.73	0.000
maximum value	7.23	33.33	0.60	2.00	10.11	3.91	0.000
minimum value	2.90	16.67	0.15	0.75	0.34	0.20	0.000
average value	5.30	22.84	0.44	1.40	3.92	1.00	0.000
standard deviation	1.40	5.87	0.13	0.36	2.95	0.91	0.000

Table A-12 Structural indices for joint in longitudinal direction exterior span

Building	*BI*	$\frac{h_c}{d_b}$	$\frac{b_b}{b_c}$	$\frac{h_b}{h_c}$	$\frac{M_{nc}}{M_{nb}}$	$\frac{V_{jh}}{V_{jn}}$	$\frac{\rho_{sv} f_{ys}}{f_c'}$
AP1	8.28	12.50	0.50	2.00	2.12	0.61	0.000
AP2	6.21	16.67	0.38	2.00	7.79	0.23	0.000
AP3	4.14	25.00	0.15	1.00	18.56	0.10	0.000
AP4	5.16	18.75	0.29	1.33	11.67	0.16	0.000
AP5	6.89	18.75	0.36	1.67	5.36	0.79	0.000
AC1	7.23	17.86	0.60	1.60	0.73	1.95	0.000
AC2	6.45	20.00	0.57	1.60	2.03	0.76	0.000
AC3	7.47	16.00	0.58	2.00	0.87	1.69	0.000
AC4	5.16	25.00	0.67	1.33	3.16	0.22	0.000
CH1	3.87	25.00	0.40	1.20	2.32	0.29	0.000
CH2	4.84	20.00	0.50	1.00	1.55	0.29	0.000
CH3	2.90	33.33	0.19	0.75	20.60	0.14	0.000
HP1	3.77	32.00	0.31	0.63	8.98	0.10	0.000
HP2	5.74	22.50	0.56	1.33	10.25	0.46	0.000
HP3	6.89	18.75	0.40	1.17	6.49	0.44	0.000
maximum value	8.28	33.33	0.67	2.00	20.60	1.95	0.000
minimum value	2.90	12.50	0.15	0.63	0.73	0.10	0.000
average value	5.67	21.47	0.43	1.37	6.83	0.55	0.000
standard deviation	1.57	5.75	0.15	0.44	6.27	0.57	0.000

Table A-13 Demand capacity ratio for transverse direction interior span

Building	Selected frame	Joint	Beam		Column		Evaluation result
		V_{ju}/V_{jn}	V_{ub}/V_{nb}	M_{ub}/M_{nb}	V_{uc}/V_{nc}	M_{uc}/M_{nc}	
AP1	grid line No. 4	0.29	0.73	0.85	0.24	0.23	C
AP2	grid line No. 5	0.38	0.54	0.45	0.12	0.20	C
AP3	grid line No. 3	0.24	0.79	0.56	0.09	0.31	C
AP4	grid line No. 3	0.19	0.65	0.24	0.13	0.11	C
AP5	grid line No. 5	0.34	0.55	0.76	0.07	0.20	C
AC1	grid line No. C8	0.56	0.82	0.86	0.23	0.47	C
AC2	grid line No.G	0.45	0.79	0.59	0.14	0.20	C
AC3	grid line No.10	0.42	0.93	0.47	0.44	0.52	C
AC4	grid line No. 3	0.72	0.98	0.65	0.15	0.51	C
CH1	grid line No.7	0.65	0.92	1.13	0.32	0.51	NC
CH2	grid line No.7	0.67	0.87	1.56	0.31	0.79	NC
CH3	grid line No.6	0.95	1.02	1.46	0.46	2.02	NC
HP1	grid line No.Y3	0.27	0.85	0.80	0.19	0.34	C
HP2	grid line No.X7	0.30	0.77	0.91	0.12	0.27	C
HP3	grid line No.D	1.19	0.71	0.27	0.02	0.08	NC

Remark: C=Compliance, NC=Not compliance

Table A-14 Demand capacity ratio for transverse direction exterior span

Building	Selected frame	Joint	Beam		Column		Evaluation result
		V_{ju}/V_{jn}	V_{ub}/V_{nb}	M_{ub}/M_{nb}	V_{uc}/V_{nc}	M_{uc}/M_{nc}	
AP1	grid line No. 4	0.31	0.76	0.55	0.20	0.24	C
AP2	grid line No. 5	0.20	0.58	0.71	0.17	0.14	C
AP3	grid line No. 3	0.20	0.68	0.78	0.11	0.37	C
AP4	grid line No. 3	0.24	0.84	0.50	0.10	0.14	C
AP5	grid line No. 5	0.54	0.46	0.44	0.11	0.25	C
AC1	grid line No. C8	0.40	0.82	0.83	0.23	0.47	C
AC2	grid line No.G	0.36	0.77	0.87	0.10	0.22	C
AC3	grid line No.10	0.43	0.59	0.56	0.37	0.29	C
AC4	grid line No. 3	1.36	0.77	0.56	0.38	1.06	NC
CH1	grid line No.7	0.32	0.52	0.30	0.25	0.47	C
CH2	grid line No.7	0.40	0.51	0.72	0.32	0.69	C
CH3	grid line No.6	2.48	1.84	1.25	0.59	1.38	NC
HP1	grid line No.Y3	0.10	0.89	1.71	0.16	0.51	NC
HP2	grid line No.X7	0.28	0.86	0.57	0.05	0.09	C
HP3	grid line No.D	0.71	0.29	0.64	0.03	0.10	C

Remark: C=Compliance, NC=Not compliance

Table A-15 Demand capacity ratio for longitudinal direction interior span

Building	Selected frame	Joint	Beam		Column		Evaluation result
		V_{ju}/V_{jn}	V_{ub}/V_{nb}	M_{ub}/M_{nb}	V_{uc}/V_{nc}	M_{uc}/M_{nc}	
AP1	grid line No. D	0.31	0.60	0.86	0.31	0.68	C
AP2	grid line No. A	0.43	0.81	2.00	0.22	0.44	NC
AP3	grid line No. A	0.57	2.58	3.85	0.12	0.38	NC
AP4	grid line No. X4	0.19	0.30	0.72	0.10	0.16	C
AP5	grid line No. E	0.58	0.79	0.74	0.13	0.44	C
AC1	grid line No. 92	0.94	0.64	0.36	0.05	0.15	C
AC2	grid line No. 2	0.63	0.51	0.46	0.25	0.45	C
AC3	grid line No. B	0.82	1.04	0.66	0.21	0.60	NC
AC4	grid line No. B	2.71	1.19	6.92	0.92	1.85	NC
CH1	grid line No. C	0.45	0.56	1.76	0.22	0.64	NC
CH2	grid line No. C	0.66	0.48	3.33	0.24	0.77	NC
CH3	grid line No. E	1.14	3.62	4.97	0.08	0.45	NC
HP1	grid line No. X4	0.17	0.59	0.60	0.14	0.24	C
HP2	grid line No. Y7	1.40	1.51	2.72	0.60	0.50	NC
HP3	grid line No. 4	0.83	1.33	2.62	0.03	0.18	NC

Remark: C=Compliance, NC=Not compliance

Table A-16 Demand capacity ratio for longitudinal direction exterior span

Building	Selected frame	Joint	Beam		Column		Evaluation result
		V_{ju}/V_{jn}	V_{ub}/V_{nb}	M_{ub}/M_{nb}	V_{uc}/V_{nc}	M_{uc}/M_{nc}	
AP1	grid line No. D	0.57	0.60	0.80	0.33	0.71	C
AP2	grid line No. A	0.46	0.65	2.36	0.30	0.40	NC
AP3	grid line No. A	0.42	2.61	3.92	0.13	0.41	NC
AP4	grid line No. X4	0.11	0.32	0.77	0.08	0.14	NC
AP5	grid line No. E	0.10	0.54	0.16	0.03	0.79	NC
AC1	grid line No. 92	0.40	0.58	0.29	0.10	0.26	C
AC2	grid line No. 2	0.45	0.60	0.58	0.31	0.45	C
AC3	grid line No. B	0.56	0.87	0.40	0.21	0.74	C
AC4	grid line No. B	0.80	1.32	4.47	0.77	0.87	NC
CH1	grid line No. C	0.33	0.96	1.93	0.22	0.75	NC
CH2	grid line No. C	0.38	1.23	1.11	0.36	1.81	NC
CH3	grid line No. E	0.49	2.30	4.97	0.50	0.46	NC
HP1	grid line No. X4	0.14	1.83	0.74	0.12	0.35	NC
HP2	grid line No. Y7	0.55	0.73	2.13	0.04	0.15	NC
HP3	grid line No. 4	0.31	1.38	0.96	0.03	0.71	NC

Remark: C=Compliance, NC=Not compliance

Table A-17 Reinforcement detail check for transverse direction exterior span

Building	Location	Transverse steel	Existing	Minimum requirement	Results
AP1	Beam	Zone 1 ($2h_o$)	RB 6 @ 0.20	RB 6 @ 0.08	NC
		Zone 2	RB 6 @ 0.20	RB 6 @ 0.10	NC
	Column	Zone 1 (s_o)	2-RB 6 @ 0.20	2-RB 6 @ 0.10	NC
		Zone 2 (s_t)	2-RB 6 @ 0.20	2-RB 6 @ 0.20	C
	Joint	Zone 3 (s_j)	none	2-RB 6 @ 0.20	NC
AP2	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.10	1-RB 6 @ 0.08	NC
		Zone 2	1-RB 6 @ 0.10	1-RB 6 @ 0.08	NC
	Column	Zone 1 (s_o)	10-RB 6 @ 0.30	10-RB 6 @ 0.14	NC
		Zone 2 (s_t)	10-RB 6 @ 0.30	10-RB 6 @ 0.28	NC
	Joint	Zone 3 (s_j)	none	10-RB 6 @ 0.28	NC
AP3	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.15	1-RB 9 @ 0.11	NC
		Zone 2	1-RB 9 @ 0.15	1-RB 9 @ 0.15	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.16	NC
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.32	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.32	NC
AP4	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	1-RB 6 @ 0.06	NC
		Zone 2	1-RB 6 @ 0.20	1-RB 6 @ 0.06	NC
	Column	Zone 1 (s_o)	3-RB 6 @ 0.20	3-RB 6 @ 0.14	NC
		Zone 2 (s_t)	3-RB 6 @ 0.20	3-RB 6 @ 0.28	C
	Joint	Zone 3 (s_j)	none	3-RB 6 @ 0.28	NC
AP5	Beam	Zone 1 ($2h_o$)	2-RB 9 @ 0.15	2-RB 9 @ 0.11	NC
		Zone 2	2-RB 9 @ 0.15	2-RB 9 @ 0.15	C
	Column	Zone 1 (s_o)	2-RB 9 @ 0.20	2-RB 9 @ 0.15	NC
		Zone 2 (s_t)	2-RB 9 @ 0.20	2-RB 9 @ 0.30	C
	Joint	Zone 3 (s_j)	none	2-RB 9 @ 0.30	NC
AC1	Beam	Zone 1 ($2h_o$)	RB 9 @ 0.20	1-RB 9 @ 0.16	NC
		Zone 2	RB 9 @ 0.20	1-RB 9 @ 0.17	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.20	C
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
AC2	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.125	1-RB 9 @ 0.10	NC
		Zone 2	1-RB 9 @ 0.125	1-RB 9 @ 0.10	NC
	Column	Zone 1 (s_o)	4-RB 9 @ 0.20	4-RB 9 @ 0.20	C
		Zone 2 (s_t)	4-RB 9 @ 0.20	4-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	4-RB 9 @ 0.40	NC
AC3	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
	Column	Zone 1 (s_o)	2-RB 9 @ 0.25	2-RB 9 @ 0.12	NC
		Zone 2 (s_t)	2-RB 9 @ 0.25	2-RB 9 @ 0.25	NC
	Joint	Zone 3 (s_j)	none	2-RB 9 @ 0.25	NC
AC4	Beam	Zone 1 ($2h_o$)	1-RB9@0.12	1-RB9@0.08	NC
		Zone 2	1-RB9@0.12	1-RB9@0.08	NC
	Column	Zone 1 (s_o)	2-RB6@0.15	2-RB6@0.14	NC
		Zone 2 (s_t)	2-RB6@0.15	2-RB6@0.25	C
	Joint	Zone 3 (s_j)	none	2-RB6@0.25	NC
CH1	Beam	Zone 1 ($2h_o$)	RB 9 @ 0.20	1-RB 9 @ 0.04	NC
		Zone 2	RB 9 @ 0.20	1-RB 9 @ 0.04	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
CH2	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.15	1-RB 9 @ 0.07	NC
		Zone 2	1-RB 9 @ 0.15	1-RB 9 @ 0.07	NC
	Column	Zone 1 (s_o)	1-RB 9 @ 0.30	1-RB 9 @ 0.20	NC
		Zone 2 (s_t)	1-RB 9 @ 0.30	1-RB 9 @ 0.21	NC
	Joint	Zone 3 (s_j)	none	1-RB 9 @ 0.21	NC

Table A-17 Reinforcement detail check for transverse direction exterior span (Continued)

Building	Location	Transverse steel	Existing	Minimum requirement	Results
CH3	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	2-RB 9 @ 0.10	NC
		Zone 2	1-RB 9 @ 0.20	2-RB 9 @ 0.10	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	NC
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
HP1	Beam	Zone 1 (2ho)	1-RB 9 @ 0.175	1-RB 9 @ 0.13	NC
		Zone 2	1-RB 9 @ 0.175	1-RB 9 @ 0.16	NC
	Column	Zone 1 (so)	2-RB 9 @ 0.30	2-RB 9 @ 0.21	NC
		Zone 2 (st)	2-RB 9 @ 0.30	2-RB 9 @ 0.21	NC
	Joint	Zone 3 (sj)	none	1-RB 9 @ 0.21	NC
HP2	Beam	Zone 1 (2ho)	1-RB 6 @ 0.10	2-RB 6 @ 0.07	NC
		Zone 2	1-RB 6 @ 0.10	2-RB 6 @ 0.07	NC
	Column	Zone 1 (so)	3-RB 9 @ 0.40	3-RB 9 @ 0.21	NC
		Zone 2 (st)	3-RB 9 @ 0.40	3-RB 9 @ 0.43	C
	Joint	Zone 3 (sj)	none	3-RB 9 @ 0.43	NC
HP3	Beam	Zone 1 (2ho)	1-RB 9 @ 0.20	1-RB 9 @ 0.11	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.12	NC
	Column	Zone 1 (so)	2-RB 6 @ 0.125	2-RB 6 @ 0.14	C
		Zone 2 (st)	2-RB 6 @ 0.125	2-RB 6 @ 0.25	C
	Joint	Zone 3 (sj)	none	2-RB 6 @ 0.25	NC

Remark: C=Compliance, NC=Not compliance

Table A-18 Reinforcement detail check for longitudinal direction interior span

Building	Location	Transverse steel	Existing	Minimum requirement	Results
AP1	Beam	Zone 1 ($2h_o$)	RB 6 @ 0.20	RB 6 @ 0.08	NC
		Zone 2	RB 6 @ 0.20	RB 6 @ 0.17	NC
	Column	Zone 1 (s_o)	RB 6 @ 0.20	RB 6 @ 0.09	NC
		Zone 2 (s_t)	RB 6 @ 0.20	RB 6 @ 0.09	NC
	Joint	Zone 3 (s_j)	none	RB 6 @ 0.09	NC
AP2	Beam	Zone 1 ($2h_o$)	RB 6 @ 0.15	RB 6 @ 0.07	NC
		Zone 2	RB 6 @ 0.15	RB 6 @ 0.08	NC
	Column	Zone 1 (s_o)	3-RB 6 @ 0.20	3-RB 6 @ 0.14	NC
		Zone 2 (s_t)	3-RB 6 @ 0.20	3-RB 6 @ 0.28	C
	Joint	Zone 3 (s_j)	none	3-RB 6 @ 0.28	NC
AP3	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	2-RB 6 @ 0.05	NC
		Zone 2	1-RB 6 @ 0.20	2-RB 6 @ 0.05	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.16	NC
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.26	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.26	NC
AP4	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	1-RB 6 @ 0.08	NC
		Zone 2	1-RB 6 @ 0.20	1-RB 6 @ 0.17	NC
	Column	Zone 1 (s_o)	3-RB 6 @ 0.20	3-RB 6 @ 0.14	NC
		Zone 2 (s_t)	3-RB 6 @ 0.20	3-RB 6 @ 0.16	NC
	Joint	Zone 3 (s_j)	none	3-RB 6 @ 0.16	NC
AP5	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.15	2-RB 9 @ 0.11	NC
		Zone 2	1-RB 9 @ 0.15	2-RB 9 @ 0.12	NC
	Column	Zone 1 (s_o)	2-RB 9 @ 0.20	2-RB 9 @ 0.16	NC
		Zone 2 (s_t)	2-RB 9 @ 0.20	2-RB 9 @ 0.31	C
	Joint	Zone 3 (s_j)	none	2-RB 9 @ 0.31	NC
AC1	Beam	Zone 1 ($2h_o$)	2-RB 9 @ 0.15	2-RB 9 @ 0.12	NC
		Zone 2	2-RB 9 @ 0.15	2-RB 9 @ 0.13	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.14	NC
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.14	NC
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.14	NC
AC2	Beam	Zone 1 ($2h_o$)	2-RB 9 @ 0.15	2-RB 9 @ 0.18	C
		Zone 2	2-RB 9 @ 0.15	2-RB 9 @ 0.23	C
	Column	Zone 1 (s_o)	4-RB 9 @ 0.20	4-RB 9 @ 0.20	C
		Zone 2 (s_t)	4-RB 9 @ 0.20	4-RB 9 @ 0.35	C
	Joint	Zone 3 (s_j)	none	4-RB 9 @ 0.35	NC
AC3	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.25	3-RB 9 @ 0.16	NC
		Zone 2 (s_t)	3-RB 9 @ 0.25	3-RB 9 @ 0.32	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.32	NC
AC4	Beam	Zone 1 ($2h_o$)	1-RB9@0.15	2-RB9@0.05	NC
		Zone 2	1-RB9@0.15	2-RB9@0.05	NC
	Column	Zone 1 (s_o)	2-RB6@0.15	2-RB6@0.14	NC
		Zone 2 (s_t)	2-RB6@0.15	2-RB6@0.16	C
	Joint	Zone 3 (s_j)	none	2-RB6@0.16	NC
CH1	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	1-RB 9 @ 0.11	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.12	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
CH2	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	1-RB 6 @ 0.09	NC
		Zone 2	1-RB 6 @ 0.20	1-RB 6 @ 0.19	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC

Table A-18 Reinforcement detail check for longitudinal direction interior span (Continued)

Building	Location	Transverse steel	Existing	Minimum requirement	Results
CH3	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	2-RB 9 @ 0.06	NC
		Zone 2	1-RB 6 @ 0.20	2-RB 9 @ 0.12	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
HP1	Beam	Zone 1 (2ho)	1-RB 9 @ 0.11	1-RB 9 @ 0.11	C
		Zone 2	1-RB 9 @ 0.11	1-RB 9 @ 0.12	C
	Column	Zone 1 (so)	5-RB 9 @ 0.30	5-RB 9 @ 0.21	NC
		Zone 2 (st)	5-RB 9 @ 0.30	5-RB 9 @ 0.43	C
	Joint	Zone 3 (sj)	none	5-RB 9 @ 0.43	NC
HP2	Beam	Zone 1 (2ho)	1-RB 6 @ 0.15	2-RB 6 @ 0.08	NC
		Zone 2	1-RB 6 @ 0.15	2-RB 6 @ 0.08	NC
	Column	Zone 1 (so)	3-RB 9 @ 0.40	3-RB 9 @ 0.21	NC
		Zone 2 (st)	3-RB 9 @ 0.40	3-RB 9 @ 0.43	C
	Joint	Zone 3 (sj)	none	3-RB 9 @ 0.43	NC
HP3	Beam	Zone 1 (2ho)	2-RB 6 @ 0.20	2-RB 6 @ 0.08	NC
		Zone 2	2-RB 6 @ 0.20	2-RB 6 @ 0.09	NC
	Column	Zone 1 (so)	4-RB 6 @ 0.15	4-RB 6 @ 0.14	NC
		Zone 2 (st)	4-RB 6 @ 0.15	4-RB 6 @ 0.28	C
	Joint	Zone 3 (sj)	none	4-RB 6 @ 0.28	NC

Remark: C=Compliance, NC=Not compliance

Table A-19 Reinforcement detail check for longitudinal direction exterior span

Building	Location	Transverse steel	Existing	Minimum requirement	Results
AP1	Beam	Zone 1 ($2h_o$)	RB 6 @ 0.15	RB 6 @ 0.08	NC
		Zone 2	RB 6 @ 0.15	RB 6 @ 0.16	NC
	Column	Zone 1 (s_o)	RB 6 @ 0.20	RB 6 @ 0.09	NC
		Zone 2 (s_t)	RB 6 @ 0.20	RB 6 @ 0.09	NC
	Joint	Zone 3 (s_j)	none	RB 6 @ 0.09	NC
AP2	Beam	Zone 1 ($2h_o$)	RB 6 @ 0.15	2-RB 6 @ 0.08	NC
		Zone 2	RB 6 @ 0.15	2-RB 6 @ 0.12	NC
	Column	Zone 1 (s_o)	3-RB 6 @ 0.20	3-RB 6 @ 0.14	NC
		Zone 2 (s_t)	3-RB 6 @ 0.20	3-RB 6 @ 0.28	C
	Joint	Zone 3 (s_j)	none	3-RB 6 @ 0.28	NC
AP3	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	2-RB 6 @ 0.04	NC
		Zone 2	1-RB 6 @ 0.20	2-RB 6 @ 0.05	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.16	NC
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.26	NC
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.26	NC
AP4	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	1-RB 6 @ 0.08	NC
		Zone 2	1-RB 6 @ 0.20	1-RB 6 @ 0.17	NC
	Column	Zone 1 (s_o)	3-RB 6 @ 0.20	3-RB 6 @ 0.14	NC
		Zone 2 (s_t)	3-RB 6 @ 0.20	3-RB 6 @ 0.16	NC
	Joint	Zone 3 (s_j)	none	3-RB 6 @ 0.16	NC
AP5	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.15	1-RB 9 @ 0.11	NC
		Zone 2	1-RB 9 @ 0.15	1-RB 9 @ 0.12	NC
	Column	Zone 1 (s_o)	2-RB 9 @ 0.20	2-RB 9 @ 0.16	NC
		Zone 2 (s_t)	2-RB 9 @ 0.20	2-RB 9 @ 0.31	C
	Joint	Zone 3 (s_j)	none	2-RB 9 @ 0.31	NC
AC1	Beam	Zone 1 ($2h_o$)	2-RB 9 @ 0.15	2-RB 9 @ 0.12	NC
		Zone 2	2-RB 9 @ 0.15	2-RB 9 @ 0.13	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.21	C
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.43	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.43	NC
AC2	Beam	Zone 1 ($2h_o$)	2-RB 9 @ 0.20	2-RB 9 @ 0.16	NC
		Zone 2	2-RB 9 @ 0.20	2-RB 9 @ 0.16	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.20	3-RB 9 @ 0.20	C
		Zone 2 (s_t)	3-RB 9 @ 0.20	3-RB 9 @ 0.37	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.37	NC
AC3	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.06	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.25	3-RB 9 @ 0.12	NC
		Zone 2 (s_t)	3-RB 9 @ 0.25	3-RB 9 @ 0.25	NC
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.25	NC
AC4	Beam	Zone 1 ($2h_o$)	1-RB9@0.15	1-RB9@0.07	NC
		Zone 2	1-RB9@0.15	1-RB9@0.07	NC
	Column	Zone 1 (s_o)	2-RB6@0.15	2-RB6@0.14	NC
		Zone 2 (s_t)	2-RB6@0.15	2-RB6@0.25	C
	Joint	Zone 3 (s_j)	none	2-RB6@0.25	NC
CH1	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.15	2-RB 9 @ 0.06	NC
		Zone 2	1-RB 9 @ 0.15	2-RB 9 @ 0.07	NC
	Column	Zone 1 (s_o)	3-RB 9 @ 0.30	3-RB 9 @ 0.20	NC
		Zone 2 (s_t)	3-RB 9 @ 0.30	3-RB 9 @ 0.40	C
	Joint	Zone 3 (s_j)	none	3-RB 9 @ 0.40	NC
CH2	Beam	Zone 1 ($2h_o$)	1-RB 9 @ 0.20	1-RB 9 @ 0.09	NC
		Zone 2	1-RB 9 @ 0.20	1-RB 9 @ 0.10	NC
	Column	Zone 1 (s_o)	1-RB 9 @ 0.30	1-RB 9 @ 0.17	NC
		Zone 2 (s_t)	1-RB 9 @ 0.30	1-RB 9 @ 0.17	NC
	Joint	Zone 3 (s_j)	none	1-RB 9 @ 0.17	NC

Table A-19 Reinforcement detail check for longitudinal direction exterior span (Continued)

Building	Location	Transverse steel	Existing	Minimum requirement	Results
CH3	Beam	Zone 1 ($2h_o$)	1-RB 6 @ 0.20	2-RB 6 @ 0.06	NC
		Zone 2	1-RB 6 @ 0.20	2-RB 6 @ 0.08	NC
	Column	Zone 1 (s_o)	2-RB 9 @ 0.30	2-RB 9 @ 0.20	NC
		Zone 2 (s_t)	2-RB 9 @ 0.30	2-RB 9 @ 0.21	NC
	Joint	Zone 3 (s_j)	none	2-RB 9 @ 0.21	NC
HP1	Beam	Zone 1 (2ho)	1-RB 9 @ 0.175	1-RB 9 @ 0.05	NC
		Zone 2	1-RB 9 @ 0.175	1-RB 9 @ 0.05	NC
	Column	Zone 1 (so)	2-RB 9 @ 0.30	2-RB 9 @ 0.21	NC
		Zone 2 (st)	2-RB 9 @ 0.30	2-RB 9 @ 0.21	NC
	Joint	Zone 3 (sj)	none	1-RB 9 @ 0.17	NC
HP2	Beam	Zone 1 (2ho)	1-RB 6 @ 0.15	1-RB 6 @ 0.13	NC
		Zone 2	1-RB 6 @ 0.15	1-RB 6 @ 0.15	C
	Column	Zone 1 (so)	3-RB 9 @ 0.40	3-RB 9 @ 0.21	NC
		Zone 2 (st)	3-RB 9 @ 0.40	3-RB 9 @ 0.43	C
	Joint	Zone 3 (sj)	none	3-RB 9 @ 0.43	NC
HP3	Beam	Zone 1 (2ho)	1-RB 6 @ 0.15	1-RB 9 @ 0.07	NC
		Zone 2	1-RB 6 @ 0.15	1-RB 9 @ 0.09	NC
	Column	Zone 1 (so)	2-RB 6 @ 0.125	2-RB 6 @ 0.14	C
		Zone 2 (st)	2-RB 6 @ 0.125	2-RB 6 @ 0.15	C
	Joint	Zone 3 (sj)	none	2-RB 6 @ 0.15	NC

Remark: C=Compliance, NC=Not compliance

APPENDIX B

Table B1 List of measuring gage for control specimen (J0)

CH-No	Code	Gage type	Position	Description	C
0	LOAD	Actuator	Actuator	Lateral Force at top column	0.5
1	LVDT	Actuator	Actuator	Lateral Displ at top column	0.5
2	RBZ11	SDP-50C	Left -beam	Rotation Measuring in zone 1	1.0
3	RBZ12	SDP-50C	Left -beam	Rotation Measuring in zone 1	1.0
4	RBZ21	SDP-50C	Right-beam	Rotation Measuring in zone 2	1.0
5	RBZ22	SDP-50C	Right-beam	Rotation Measuring in zone 2	1.0
6	RCZ11	PI-5-200	Top Column	Rotation Measuring in zone 1	1.0
7	RCZ12	PI-5-200	Top Column	Rotation Measuring in zone 1	1.0
8	RCZ21	PI-5-200	Bottom Column	Rotation Measuring in zone 2	1.0
9	RCZ22	PI-5-200	Bottom Column	Rotation Measuring in zone 2	1.0
10	SBZ11	CDP-25	Left-Beam	Shear Measuring in zone1	2.0
11	SBZ12	CDP-25	Left-Beam	Shear Measuring in zone 1	2.0
12	SBZ21	CDP-25	Right-Beam	Shear Measuring in zone 2	2.0
13	SBZ22	CDP-25	Right-Beam	Shear Measuring in zone 2	2.0
14	SCZ11	PI-2-200	Top Column	Shear Measuring in zone 1	1.0
15	SCZ12	PI-2-200	Top Column	Shear Measuring in zone 1	1.0
16	SCZ21	PI-2-200	Bottom Column	Shear Measuring in zone 2	1.0
17	SCZ22	PI-2-200	Bottom Column	Shear Measuring in zone 2	1.0
18	SJZ11	CDP-25	Joint zone	Shear Measuring in joint zone	2.0
19	SJZ12	CDP-25	Joint zone	Shear Measuring in joint zone	2.0
20	KBZ11	SDP-50C	Left–Beam	Rocking measuring in zone1	1.0
21	KBZ12	SDP-50C	Left-Beam	Rocking measuring in zone1	1.0
22	KBZ21	CDP-10C	Right-Beam	Rocking measuring in zone2	1.0
23	KBZ22	CDP-10C	Right-Beam	Rocking measuring in zone2	1.0
24	STBTL-1	FLA-5-11	Top-beam	Left top beam	0.943
25	STBTL-1’	FLA-5-11	Top-beam	Left top Joint	0.943
26	STBTR-1	FLA-5-11	Top-beam	Right top Joint	0.943
27	STBTR-1’	FLA-5-11	Top-beam	Right top beam	0.943
28	STBBL-1	FLA-5-11	Bottom-beam	Left bot beam	0.943
29	STBBL-1’	FLA-5-11	Bottom-beam	Left bot Joint	0.943
30	STBBR-1’	FLA-5-11	Bottom-beam	Right bot Joint	0.943
31	STBBR-1	FLA-5-11	Bottom-beam	Right bot beam	0.943
32	STCTL-2	FLA-5-11	Left-column	Left top column 2	0.943
33	STCTL-1	FLA-5-11	Left-column	Left top column 1	0.943
34	STCML	FLA-5-11	Left-column	Left joint	0.943
35	STCBL-1	FLA-5-11	Left-column	Left bot column 1	0.943
36	STCTR-2	FLA-5-11	Right-column	Right top column 2	0.943
37	STCTR-1	FLA-5-11	Right-column	Right top column 1	0.943
38	STCMR	FLA-5-11	Right-column	Right joint	0.943
39	STCBR-1	FLA-5-11	Right-column	Right bot column 1	0.943
40	STBLT-0	FLA-5-11	Left-beam	Transverse rein. on left beam	0.943
41	STBLT-0’	FLA-5-11	Left-beam	Transverse rein. on left beam	0.943
42	STBRT-0	FLA-5-11	Right-beam	Transverse rein. on right beam	0.943
43	STBRT-0’	FLA-5-11	Right-beam	Transverse rein. on right beam	0.943
44	PTT1	FLA-5-11	PC-wire	Strain of PC wire	0.943

Table B2 List of measuring gage for retrofit specimen PJE1

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.943
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.943
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.943
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.943
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.943
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.943
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.943
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.943
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.943
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.943
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.943
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.943
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.943
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.943
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.943
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.943
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.943
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.943
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.943
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.943

Table B2 List of measuring gage for retrofit specimen PJE1 (continued)

CH-No	Code	Gage type	Position	Description	C
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.943
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.943
46	STBPTL2	FLA-5-11	Top-left planar	Outer top beam dowel	0.943
47	STBPTL1	FLA-5-11	Top-left planar	Inner top beam dowel	0.943
48	STBPTR1	FLA-5-11	Top-right planar	Inner top beam dowel	0.943
49	STBPTR2	FLA-5-11	Top-right planar	Outer top beam dowel	0.943
50	STBPBL2	FLA-5-11	Bot.-left planar	Outer bottom beam dowel	0.943
51	STBPBL1	FLA-5-11	Bot.-left planar	Inner bottom beam dowel	0.943
52	STBPBR1	FLA-5-11	Bot.-right planar	Inner bottom beam dowel	0.943
53	STBPBR2	FLA-5-11	Bot.-right planar	Outer bottom beam dowel	0.943
54	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.943
55	STCML	FLA-5-11	Mid-left column	Mid center column	0.943
56	STCTL	FLA-5-11	Top-left column	Mid top column	0.943
57	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.943
58	STCMR	FLA-5-11	Mid-right column	Mid center column	0.943
59	STCTR	FLA-5-11	Top-right column	Mid top column	0.943
60	STCPTL1	FLA-5-11	Top-left planar	Inner top column dowel	0.943
61	STCPTL2	FLA-5-11	Top-left planar	Outer top column dowel	0.943
62	STCPBL2	FLA-5-11	Bot.-left planar	Outer bottom column dowel	0.943
63	STCPBL1	FLA-5-11	Bot.-left planar	Inner bottom column dowel	0.943
64	STCPBR1	FLA-5-11	Bot.-right planar	Inner bottom column dowel	0.943
65	STCPBR2	FLA-5-11	Bot.-right planar	Outer bottom column dowel	0.943
66	STCPTR1	FLA-5-11	Top-right planar	Inner top column dowel	0.943
67	STCPTR2	FLA-5-11	Top-right planar	Outer top column dowel	0.943
68	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
69	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
70	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
71	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943

Table B3 List of measuring gage for retrofit specimen PJE2

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.943
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.943
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.943
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.943
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.943
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.943
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.943
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.943
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.943
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.943
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.943
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.943
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.943
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.943
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.943
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.943
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.943

Table B3 List of measuring gage for retrofit specimen PJE2 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.943
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.943
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.943
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.943
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.943
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.943
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.943
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.943
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.943
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.943
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.943
52	STBPBL1	FLA-5-11	Bot.-left planar	Inner bottom beam dowel	0.943
53	STBPBL2	FLA-5-11	Bot.-left planar	Outer bottom beam dowel	0.943
54	STBPTL1	FLA-5-11	Top-left planar	Inner top beam dowel	0.943
55	STBPTL2	FLA-5-11	Top-left planar	Outer top beam dowel	0.943
56	STBPTR1	FLA-5-11	Top-right planar	Inner top beam dowel	0.943
57	STBPTR2	FLA-5-11	Top-right planar	Outer top beam dowel	0.943
58	STBPBR1	FLA-5-11	Bot.-right planar	Inner bottom beam dowel	0.943
59	STBPBR2	FLA-5-11	Bot.-right planar	Outer bottom beam dowel	0.943
60	STCPBL1	FLA-5-11	Bot.-left planar	Inner bottom column dowel	0.943
61	STCPBL2	FLA-5-11	Bot.-left planar	Outer bottom column dowel	0.943
62	STCPTL1	FLA-5-11	Top-left planar	Inner top column dowel	0.943
63	STCPTL2	FLA-5-11	Top-left planar	Outer top column dowel	0.943
64	STCPTR1	FLA-5-11	Top-right planar	Inner top column dowel	0.943
65	STCPTR2	FLA-5-11	Top-right planar	Outer top column dowel	0.943
66	STCPBR1	FLA-5-11	Bot.-right planar	Inner bottom column dowel	0.943
67	STCPBR2	FLA-5-11	Bot.-right planar	Outer bottom column dowel	0.943
68	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
69	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
70	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
71	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943

Table B4 List of measuring gage for retrofit specimen PJE3

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.943
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.943
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.943
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.943
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.943
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.943
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.943
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.943
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.943
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.943
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.943
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.943
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.943
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.943
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.943
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.943
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.943

Table B4 List of measuring gage for retrofit specimen PJE3 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.943
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.943
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.943
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.943
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.943
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.943
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.943
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.943
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.943
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.943
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.943
52	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
53	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
54	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
55	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
56	STSTL11	Rosette	Top-left planar	Inner top steel bracket	0.943
57	STSTL12	Rosette	Top-left planar	Inner top steel bracket	0.943
58	STSTL13	Rosette	Top-left planar	Inner top steel bracket	0.943
59	STSTL21	Rosette	Top-left planar	Outer top steel bracket	0.943
60	STSTL22	Rosette	Top-left planar	Outer top steel bracket	0.943
61	STSTL23	Rosette	Top-left planar	Outer top steel bracket	0.943
62	STSTR11	Rosette	Top-right planar	Inner top steel bracket	0.943
63	STSTR12	Rosette	Top-right planar	Inner top steel bracket	0.943
64	STSTR13	Rosette	Top-right planar	Inner top steel bracket	0.943
65	STSTR21	Rosette	Top-right planar	Outer top steel bracket	0.943
66	STSTR22	Rosette	Top-right planar	Outer top steel bracket	0.943
67	STSTR23	Rosette	Top-right planar	Outer top steel bracket	0.943
68	STSBL11	Rosette	Bot.-left planar	Inner bottom steel bracket	0.943
69	STSBL12	Rosette	Bot.-left planar	Inner bottom steel bracket	0.943
70	STSBL13	Rosette	Bot.-left planar	Inner bottom steel bracket	0.943
71	STSBL21	Rosette	Bot.-left planar	Outer bottom steel bracket	0.943
72	STSBL22	Rosette	Bot.-left planar	Outer bottom steel bracket	0.943
73	STSBL23	Rosette	Bot.-left planar	Outer bottom steel bracket	0.943
74	STSBR11	Rosette	Bot.-right planar	Inner bottom steel bracket	0.943
75	STSBR12	Rosette	Bot.-right planar	Inner bottom steel bracket	0.943
76	STSBR13	Rosette	Bot.-right planar	Inner bottom steel bracket	0.943
77	STSBR21	Rosette	Bot.-right planar	Outer bottom steel bracket	0.943
78	STSBR22	Rosette	Bot.-right planar	Outer bottom steel bracket	0.943
79	STSBR23	Rosette	Bot.-right planar	Outer bottom steel bracket	0.943

Table B5 List of measuring gage for retrofit specimen PJE4

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.943
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.943
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-100	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.943
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.943
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.943
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.943
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.943
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.943
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.943
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.943
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.943
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.943
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.943
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.943
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.943
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.943
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.943

Table B5 List of measuring gage for retrofit specimen PJE4 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.943
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.943
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.943
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.943
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.943
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.943
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.943
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.943
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.943
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.943
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.943
52	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
53	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
54	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
55	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
56	STBPTL1	FLA-5-11	Top-left planar	Inner top beam dowel	0.943
57	STBPTL2	FLA-5-11	Top-left planar	Outer top beam dowel	0.943
58	STCPTL1	FLA-5-11	Top-left planar	Inner top column dowel	0.943
59	STCPTL2	FLA-5-11	Top-left planar	Outer top column dowel	0.943
60	STCPTR1	FLA-5-11	Top-right planar	Inner top column dowel	0.943
61	STCPTR2	FLA-5-11	Top-right planar	Outer top column dowel	0.943
62	STBPTR1	FLA-5-11	Top-right planar	Inner top beam dowel	0.943
63	STBPTR2	FLA-5-11	Top-right planar	Outer top beam dowel	0.943

Table B6 List of measuring gage for retrofit specimen PJE5

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.943
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.943
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-100	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-100	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-200	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.943
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.943
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.943
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.943
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.943
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.943
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.943
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.943
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.943
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.943
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.943
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.943
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.943
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.943
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.943

Table B6 List of measuring gage for retrofit specimen PJE5 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.943
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.943
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.943
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.943
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.943
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.943
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.943
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.943
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.943
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.943
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.943
52	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
53	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.943
54	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
55	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.943
56	STBPBL1	FLA-5-11	Bot.-left planar	Inner bottom beam dowel	0.943
57	STBPBL2	FLA-5-11	Bot.-left planar	Outer bottom beam dowel	0.943
58	STCPBL1	FLA-5-11	Bot.-left planar	Inner bottom column dowel	0.943
59	STCPBL2	FLA-5-11	Bot.-left planar	Outer bottom column dowel	0.943
60	STBPBR1	FLA-5-11	Bot.-right planar	Inner bottom beam dowel	0.948
61	STBPBR2	FLA-5-11	Bot.-right planar	Outer bottom beam dowel	0.948
62	STCPBR1	FLA-5-11	Bot.-right planar	Inner bottom column dowel	0.948
63	STCPBR2	FLA-5-11	Bot.-right planar	Outer bottom column dowel	0.948

Table B7 List of measuring gage for retrofit specimen PJE6

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.948
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.948
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-100	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-100	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.948
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.948
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.948
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.948
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.948
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.948
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.948
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.948
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.948
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.948
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.948
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.948
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.948
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.948
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.948

Table B7 List of measuring gage for retrofit specimen PJE6 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.948
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.948
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.948
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.948
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.948
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.948
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.948
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.948
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.948
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.948
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.948
52	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.948
53	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.948
54	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.948
55	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.948
56	STBPBL1	FLA-5-11	Bot.-left planar	Inner bottom beam dowel	0.943
57	STBPBL2	FLA-5-11	Bot.-left planar	Outer bottom beam dowel	0.943
58	STCPBL1	FLA-5-11	Bot.-left planar	Inner bottom column dowel	0.943
59	STCPBL2	FLA-5-11	Bot.-left planar	Outer bottom column dowel	0.943
60	STBPBR1	FLA-5-11	Bot.-right planar	Inner bottom beam dowel	0.948
61	STBPBR2	FLA-5-11	Bot.-right planar	Outer bottom beam dowel	0.948
62	STCPBR1	FLA-5-11	Bot.-right planar	Inner bottom column dowel	0.948
63	STCPBR2	FLA-5-11	Bot.-right planar	Outer bottom column dowel	0.948
64	STBPTL1	FLA-5-11	Top-left planar	Inner top beam dowel	0.943
65	STBPTL2	FLA-5-11	Top-left planar	Outer top beam dowel	0.943
66	STCPTL1	FLA-5-11	Top-left planar	Inner top column dowel	0.943
67	STCPTL2	FLA-5-11	Top-left planar	Outer top column dowel	0.943
68	STBPTR1	FLA-5-11	Top-right planar	Inner top beam dowel	0.948
69	STBPTR2	FLA-5-11	Top-right planar	Outer top beam dowel	0.948
70	STCPTR1	FLA-5-11	Top-right planar	Inner top column dowel	0.948
71	STCPTR2	FLA-5-11	Top-right planar	Outer top column dowel	0.948

Table B8 List of measuring gage for retrofit specimen PJE7

CH-No	Code	Gage type	Position	Description	C
0	LOAD		Actuator	Lateral Force at top column	0.5
1	LVDT		Actuator	Lateral Displ at top column	0.5
2	PC1	FLA-5-11	PC strand	Compression force in column1	0.948
3	PC2	FLA-5-11	PC strand	Compression force in column2	0.948
4	KBZ11	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
5	KBZ12	SDP-50C	Left -beam	Rocking measuring in zone1	1.0
6	KBZ21	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
7	KBZ22	SDP-50C	Right-beam	Rocking measuring in zone2	1.0
8	RBZ11	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
9	RBZ12	SDP-50C	Left-beam	Rotation measuring in zone1	1.0
10	RBZ21	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
11	RBZ22	SDP-50C	Right-beam	Rotation measuring in zone2	1.0
12	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
13	RCZ11	PI-2-200	Top-column	Rotation measuring in zone1	0.5
14	RCZ21	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
15	RCZ22	PI-2-100	Bot.-column	Rotation measuring in zone2	0.5
16	SCZ11	PI-5-200	Top-column	Shear measuring in zone1	1.0
17	SCZ12	PI-5-200	Top-column	Shear measuring in zone1	1.0
18	SCZ21	PI-5-100	Bot.-column	Shear measuring in zone2	1.0
19	SCZ22	PI-5-100	Bot.-column	Shear measuring in zone2	1.0
20	SJZ11	CDP-25	Joint zone	Shear measuring in joint zone	2.0
21	SJZ12	CDP-25	Joint zone	Shear measuring in joint zone	2.0
22	SBZ11	CDP-25	Left -beam	Shear measuring in zone1	2.0
23	SBZ12	CDP-25	Left -beam	Shear measuring in zone1	2.0
24	SBZ21	CDP-25	Right-beam	Shear measuring in zone2	2.0
25	SBZ22	CDP-25	Right-beam	Shear measuring in zone2	2.0
26	STBTL2	FLA-5-11	Top-left beam	Side left edge of expansion	0.948
27	STBTL1	FLA-5-11	Top-left beam	Side left column face	0.948
28	STBTM	FLA-5-11	Top-mid beam	Side center of column	0.948
29	STBTR1	FLA-5-11	Top-right beam	Side right column face	0.948
30	STBTR2	FLA-5-11	Top-right beam	Side right edge of expansion	0.948
31	STBTL2’	FLA-5-11	Top-left beam	Mid. left edge of expansion	0.948
32	STBTL1’	FLA-5-11	Top-left beam	Mid. left column face	0.948
33	STBTM’	FLA-5-11	Top-mid beam	Mid. center of column	0.948
34	STBTR1’	FLA-5-11	Top-right beam	Mid. right column face	0.948
35	STBTR2’	FLA-5-11	Top-right beam	Mid. right edge of expansion	0.948
36	STBBL2	FLA-5-11	Bot.-left beam	Side left edge of expansion	0.948
37	STBBL1	FLA-5-11	Bot.-left beam	Side left column face	0.948
38	STBBM	FLA-5-11	Bot.-mid beam	Side center of column	0.948
39	STBBR1	FLA-5-11	Bot.-right beam	Side right column face	0.948
40	STBBR2	FLA-5-11	Bot.-right beam	Side right edge of expansion	0.948

Table B8 List of measuring gage for retrofit specimen PJE7 (continued)

CH-No	Code	Gage type	Position	Description	C
41	STBBL2’	FLA-5-11	Bot.-left beam	Mid. left edge of expansion	0.948
42	STBBL1’	FLA-5-11	Bot.-left beam	Mid. left column face	0.948
43	STBBM’	FLA-5-11	Bot.-mid beam	Mid. center of column	0.948
44	STBBR1’	FLA-5-11	Bot.-right beam	Mid. right column face	0.948
45	STBBR2’	FLA-5-11	Bot.-right beam	Mid. right edge of expansion	0.948
46	STCBL	FLA-5-11	Bot.-left column	Mid bottom column	0.948
47	STCML	FLA-5-11	Mid-left column	Mid center column	0.948
48	STCTL	FLA-5-11	Top-left column	Mid top column	0.948
49	STCBR	FLA-5-11	Bot.-right column	Mid bottom column	0.948
50	STCMR	FLA-5-11	Mid-right column	Mid center column	0.948
51	STCTR	FLA-5-11	Top-right column	Mid top column	0.948
52	STBLT0	FLA-5-11	Left-beam	Transverse rein.-left beam	0.948
53	STBLT1	FLA-5-11	Left-beam	Transverse rein.-left beam	0.948
54	STBRT0	FLA-5-11	Right-beam	Transverse rein.-right beam	0.948
55	STBRT1	FLA-5-11	Right-beam	Transverse rein.-right beam	0.948
56	STBPBL1	FLA-5-11	Bot.-left planar	Inner bottom beam dowel	0.952
57	STBPBL2	FLA-5-11	Bot.-left planar	Outer bottom beam dowel	0.952
58	STCPBL1	FLA-5-11	Bot.-left planar	Inner bottom column dowel	0.952
59	STCPBL2	FLA-5-11	Bot.-left planar	Outer bottom column dowel	0.952
60	STBPBR1	FLA-5-11	Bot.-right planar	Inner bottom beam dowel	0.952
61	STBPBR2	FLA-5-11	Bot.-right planar	Outer bottom beam dowel	0.952
62	STCPBR1	FLA-5-11	Bot.-right planar	Inner bottom column dowel	0.952
63	STCPBR2	FLA-5-11	Bot.-right planar	Outer bottom column dowel	0.952
64	STBPTL1	FLA-5-11	Top-left planar	Inner top beam dowel	0.952
65	STBPTL2	FLA-5-11	Top-left planar	Outer top beam dowel	0.939
66	STCPTL1	FLA-5-11	Top-left planar	Inner top column dowel	0.939
67	STCPTL2	FLA-5-11	Top-left planar	Outer top column dowel	0.939
68	STBPTR1	FLA-5-11	Top-right planar	Inner top beam dowel	0.939
69	STBPTR2	FLA-5-11	Top-right planar	Outer top beam dowel	0.939
70	STCPTR1	FLA-5-11	Top-right planar	Inner top column dowel	0.939
71	STCPTR2	FLA-5-11	Top-right planar	Outer top column dowel	0.939

APPENDIX C

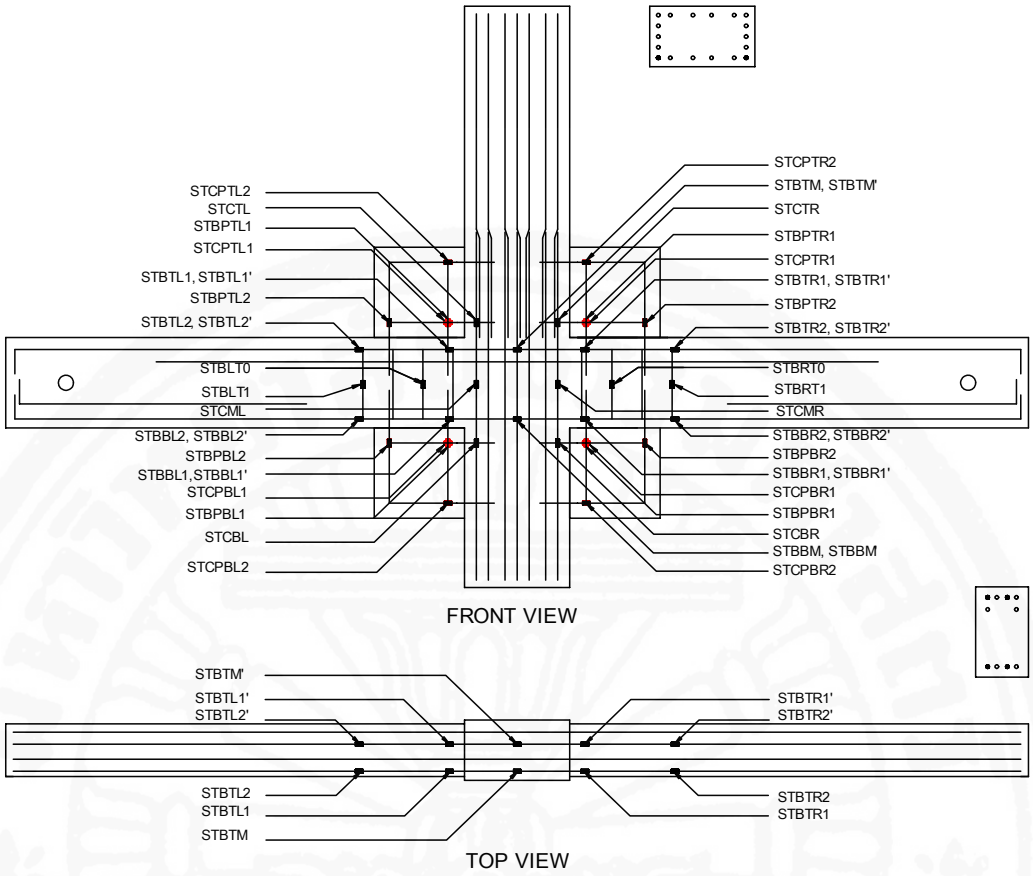


Fig. C1 Position of strain gages on longitudinal and transverse bar of specimen PJE1

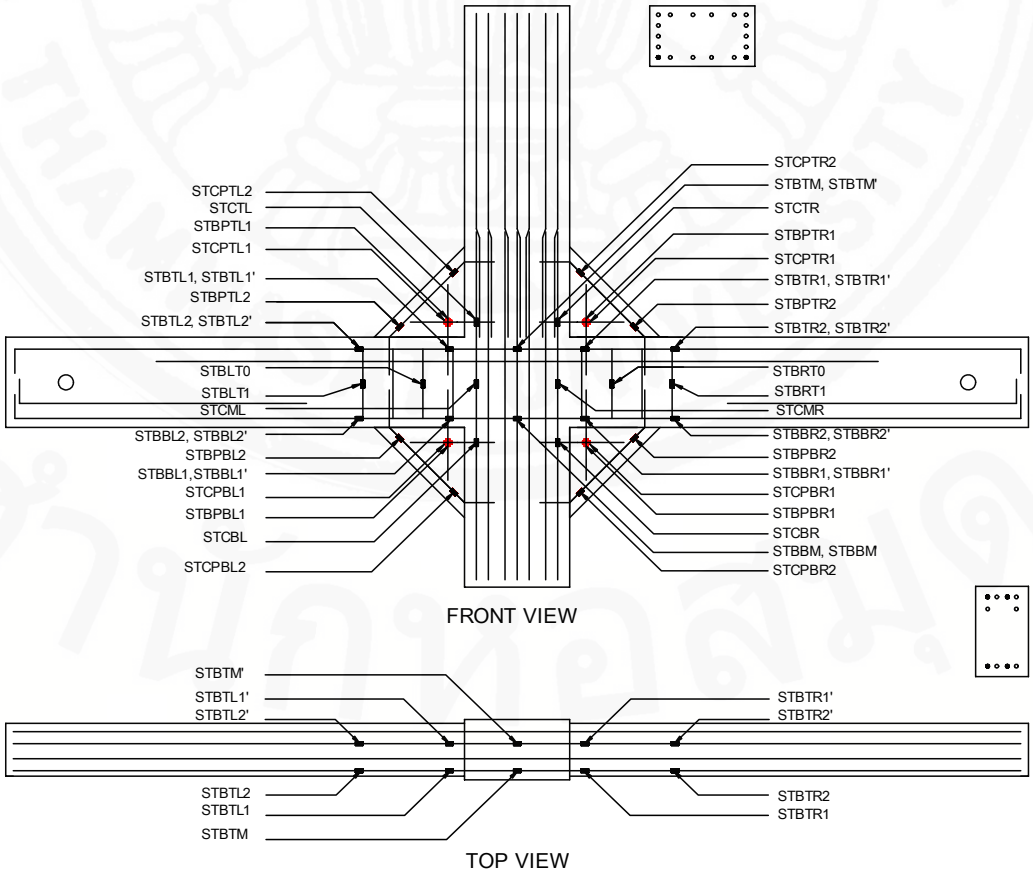


Fig. C2 Position of strain gages on longitudinal and transverse bar of specimen PJE2

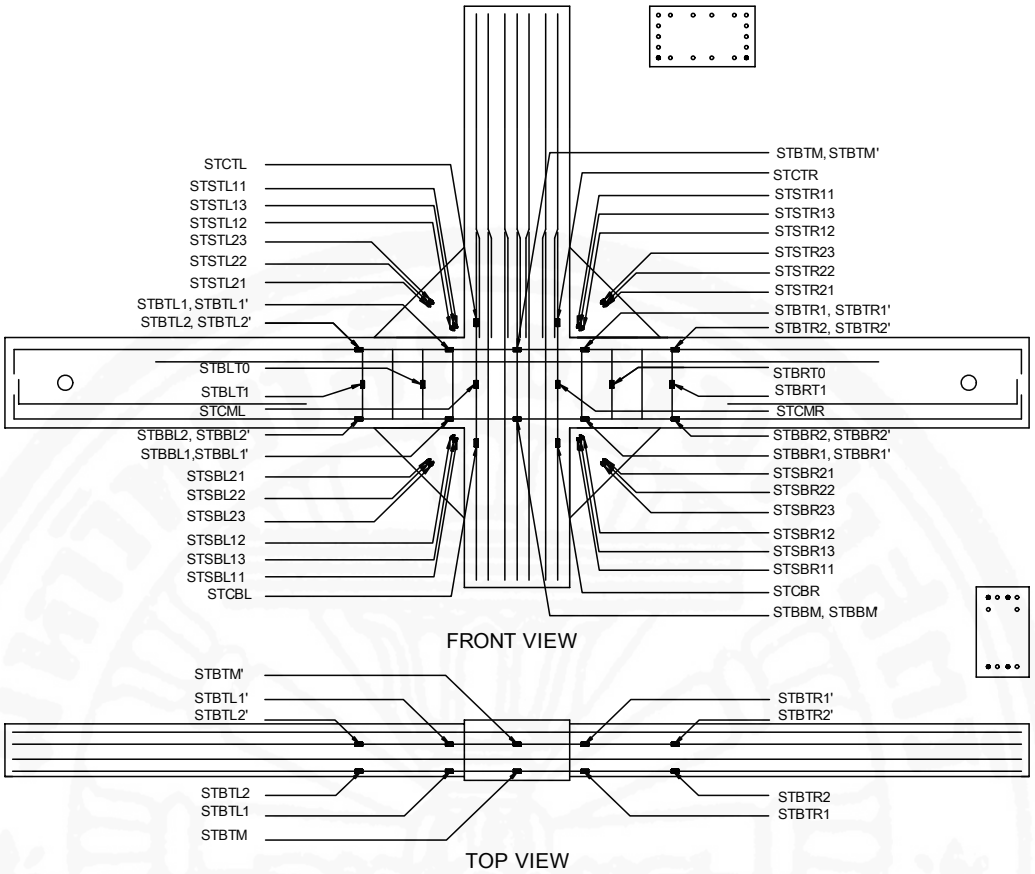


Fig. C3 Position of strain gages on longitudinal and transverse bar of specimen PJE3

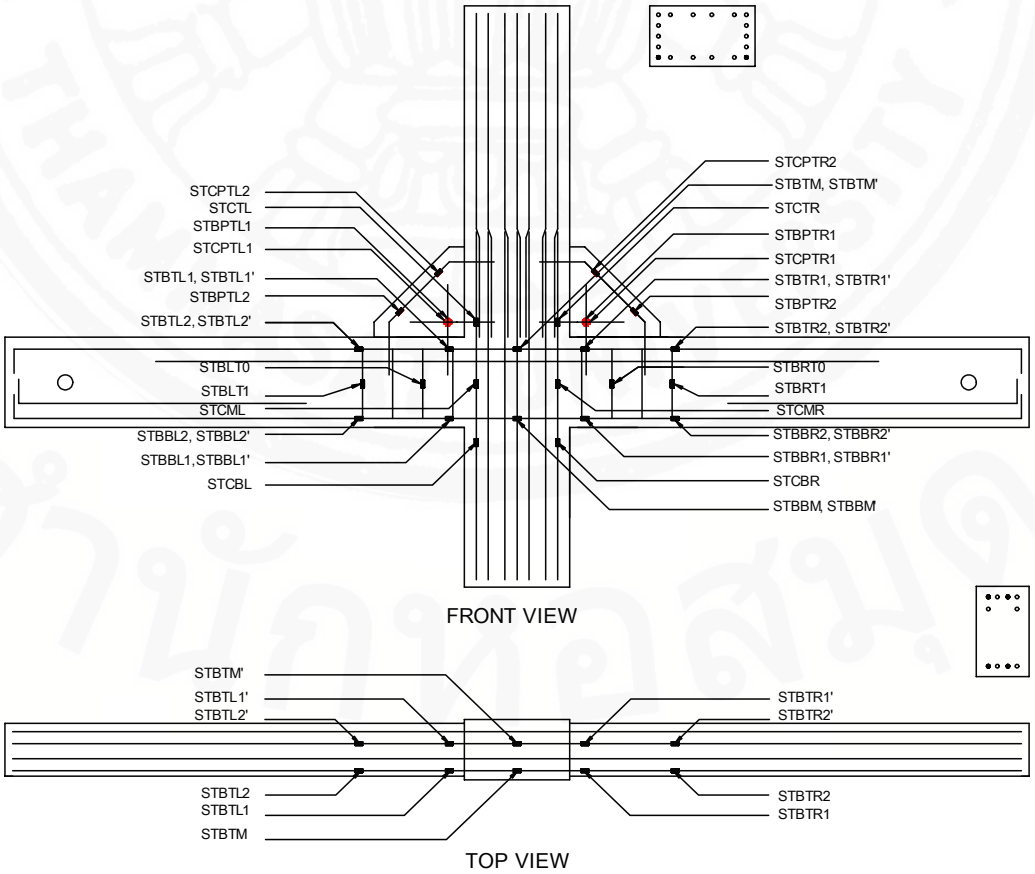


Fig. C4 Position of strain gages on longitudinal and transverse bar of specimen PJE4

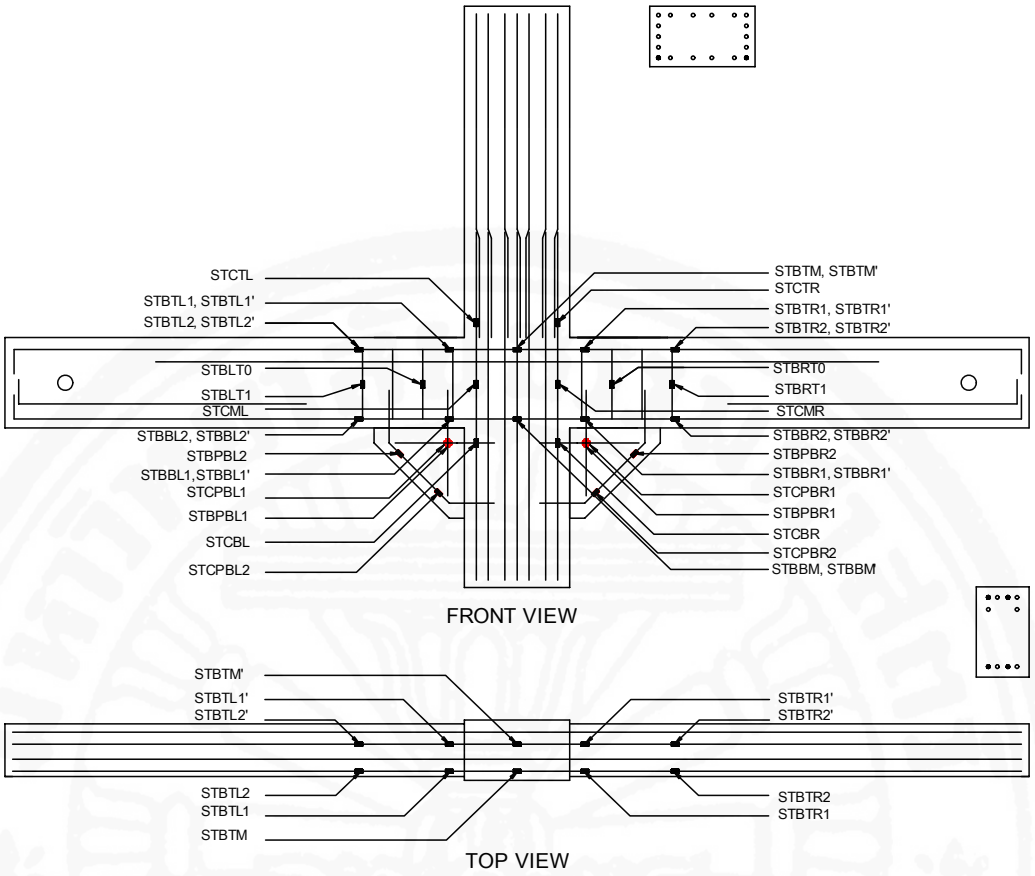
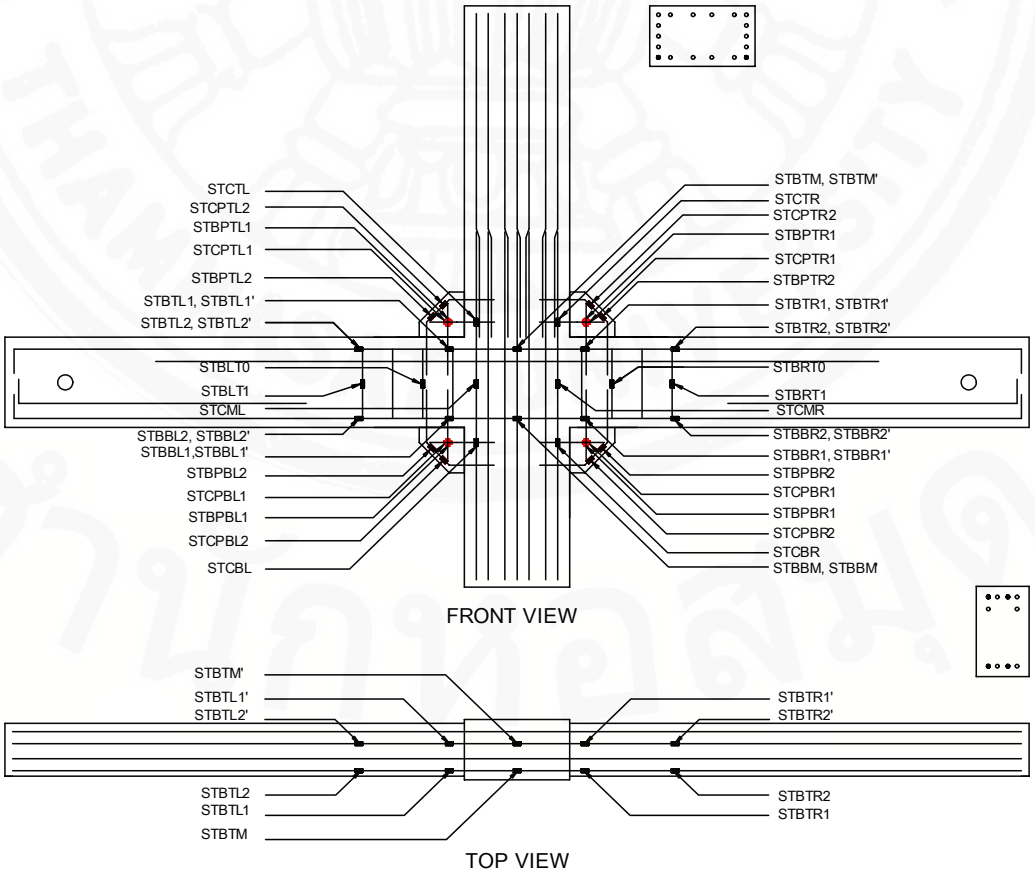


Fig. C5 Position of strain gages on longitudinal and transverse bar of specimen PJE5



. Fig.C6 Position of strain gages on longitudinal and transverse bar of specimen PJE6

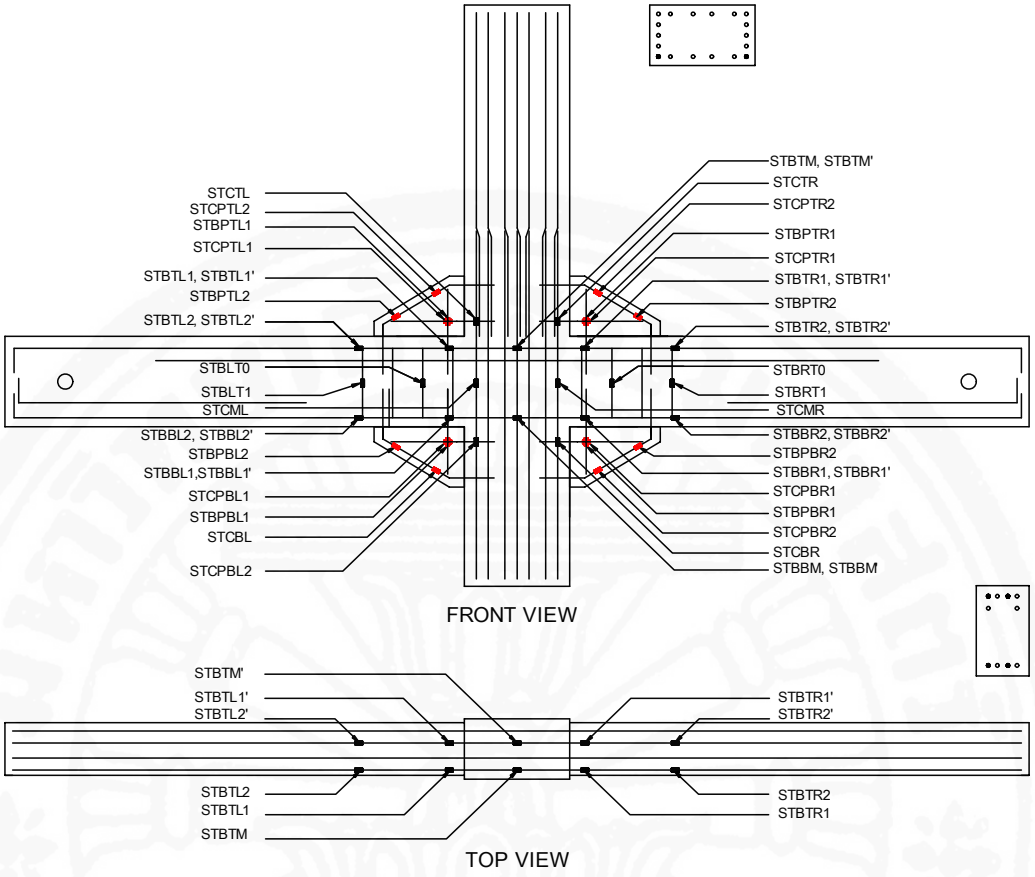


Fig.C7 Position of strain gages on longitudinal and transverse bar of specimen PJE7