BAB VI

KESIMPULAN DAN SARAN

6.1 Kesimpulan

Dalam perancangan struktur *Apartement Kalibata Residence* Jakarta, penulis melakukan penghitungan elemen struktur mengacu pada standar Tata Cara Perhitungan Struktur Beton Untuk Bangunan Gedung SNI 03-2847-2002. Analisis perancangan gedung untuk ketahanan gempa penulis lakukan berdasarkan standar Tata Cara Perencanaan Ketahanan Gempa Untuk Bangunan Gedung SNI 3-1726-2002. Analisis perancangan gedung tersebut dapat diambil kesimpulan sebagai berikut:

1. Dalam perancangan gedung ini digunakan pelat dua arah. Pelat dua arah dengan luasan pelat 5,0 x 5,0 m^2 dengan tebal 120 mm, dan memenuhi syarat lendutan maksimum yang diijinkan.
2. Dalam perancangan tangga tipe I dengan tinggi (H = 3,2 m) digunakan tebal 120 mm dengan tulangan D14-300 pada tumpuan dan D14-100 pada lapangan dan untuk tulangan susut digunakan tulangan P10-300. Untuk penulangan bordes sendiri digunakan tulangan 3D16 pada tumpuan, tulangan 2D16 pada lapangan dan untuk tulangan geser digunakan 2P10-150. Untuk tangga tipe II dengan tinggi (H = 2,7 m) digunakan tebal 120 mm dengan tulangan D14-300 pada tumpuan dan D14-100 pada lapangan dan untuk tulangan susut digunakan P10-300. untuk penulangan bordes

digunakan tulangan 3D16 pada tumpuan, tulangan 2D16 pada lapangan dan untuk tulangan geser digunakan 2P10-150.

3. Dalam perencanaan balok, digunakan dimensi balok induk ukuran 400 mm x 700 mm. Dalam perencanaan balok tersebut dihasilkan jumlah tulangan lentur dan geser.
4. Dalam perencanaan kolom, dimensi yang digunakan untuk kolom bervariasi. Pada perencanaan ini ditinjau kolom ukuran 1000 mm x 1000 mm. Dalam Perencanaan kolom tersebut dihasilkan jumlah tulangan lentur dan geser.
5. Dinding geser menggunakan tebal dinding 400 mm dengan tulangan vertikal sebanyak 70D25 dan tulangan pengekang 3D13-100 mm.

6.2 Saran

1. Dalam perancangan elemen-elemen struktur seperti penentuan tulangan pelat, balok serta kolom sebaiknya digunakan ukuran yang hampir seragam untuk mempermudah pelaksanaan di lapangan.
2. Perancangan struktur dengan bantuan program, seperti menggunakan program ETABS hendaknya dilakukan dengan teliti proses penginputan data yang disesuai dengan asumsi–asumsi yang telah ditetapkan sebelumnya sehingga dapat dihasilkan suatu analisis struktur yang mendekati keadaan sebenarnya.
3. Sebelum melakukan suatu perencanaan & perancangan struktur akan lebih baik bila memahami peraturan yang berlaku khususnya SNI 03-2847-2002

mengenai Tata Cara Perhitungan Struktur Beton Untuk Bangunan Gedung dan SNI 03-1726-2002 mengenai Tata Cara Perencanaan Ketahanan Gempa Untuk Bangunan Gedung.

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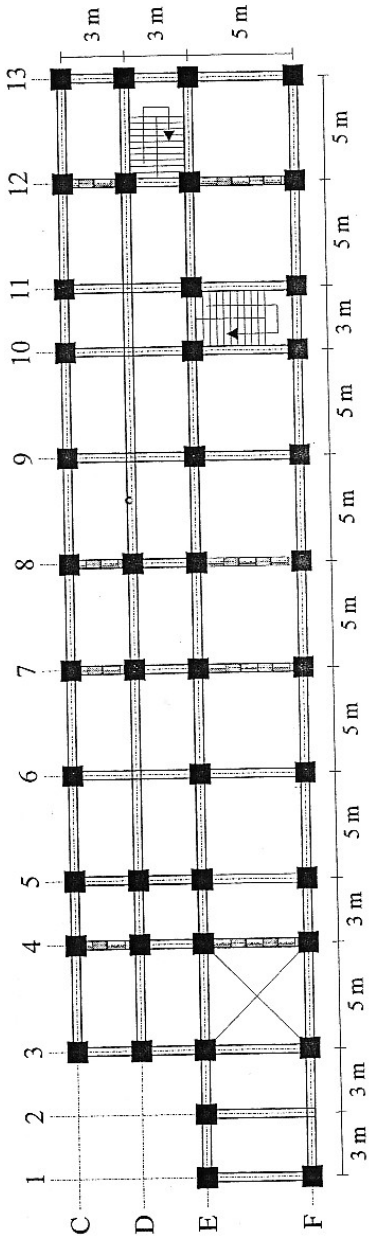

DENAH STRUKTUR LANTAI 1-21

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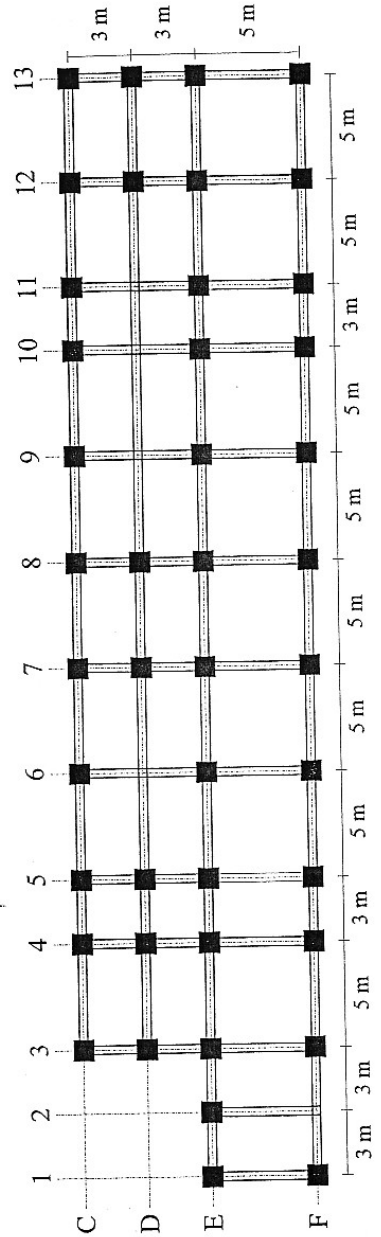

DENAH STRUKTUR LANTAI ATAP

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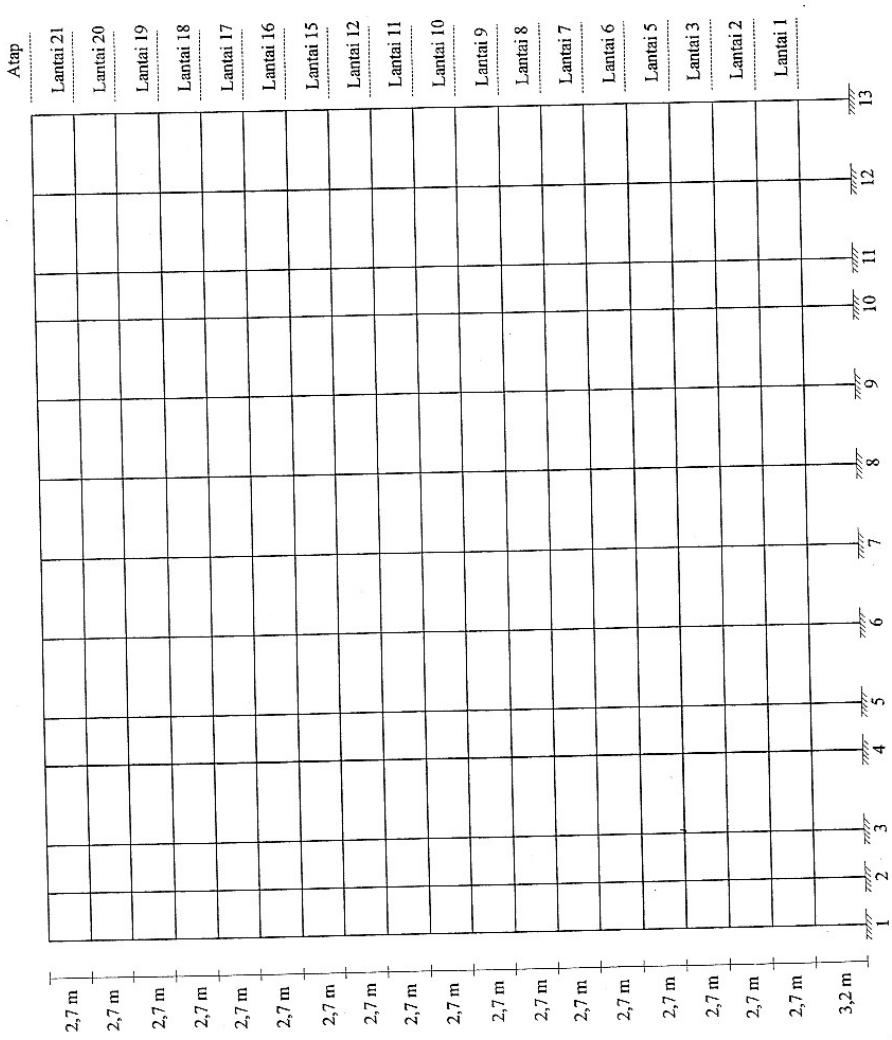
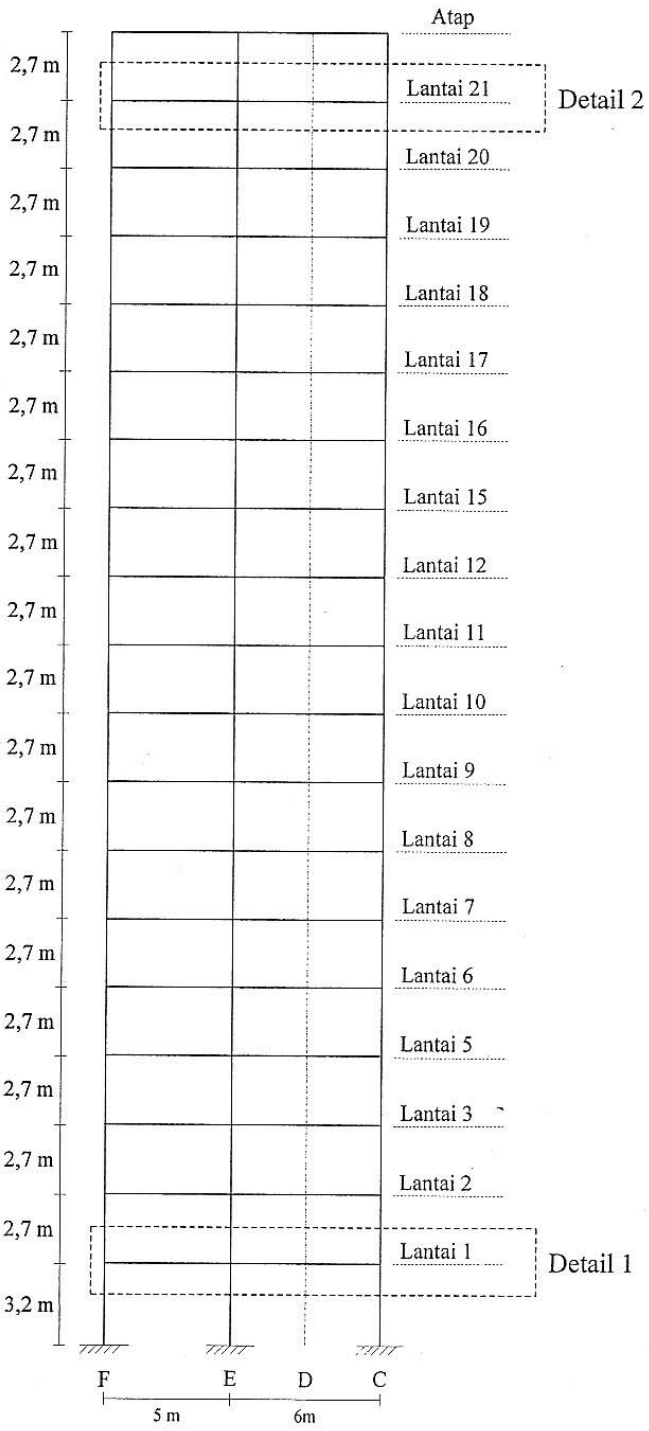
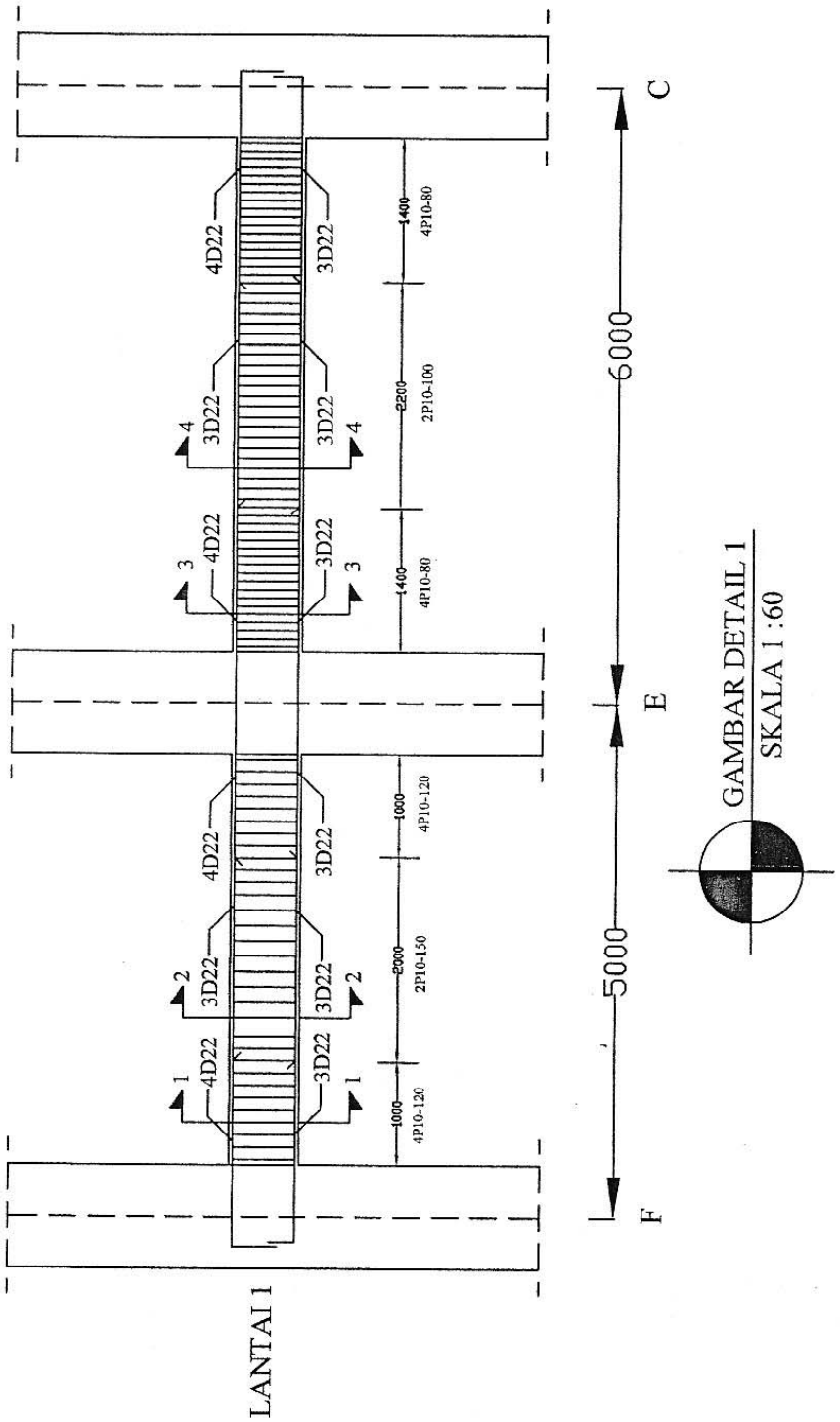


GAMBAR PORTAL AS E
SKALA 1:400



GAMBAR PORTAL AS 6

SKALA 1: 250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3D22
1400
4P10-80
4
3D22
3D22
4
2200
2P10-100
3
4D22
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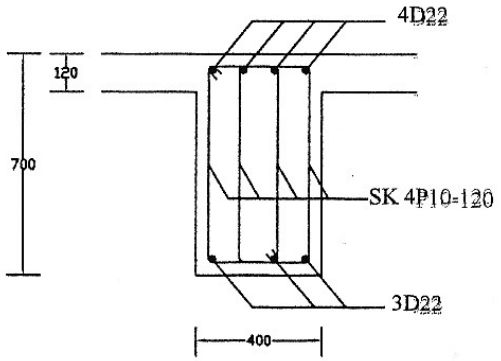
3
1400
4P10-80
4D22
3D22
1000
4P10-120
2
3D22
3D22
2
2000
2P10-150
1
4D22
3D22
1
1000
4P10-120
6000
5000
C
E
F
GAMBAR DETAIL 1
SKALA 1 :60
LANTAI 1



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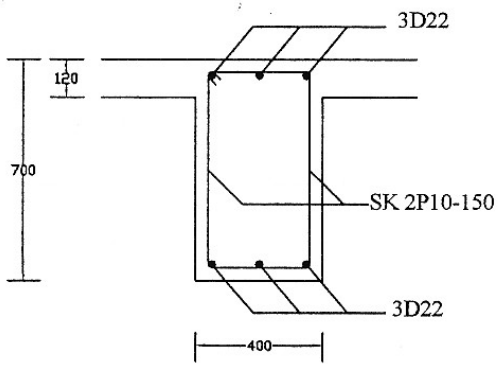
SKALA 1:20



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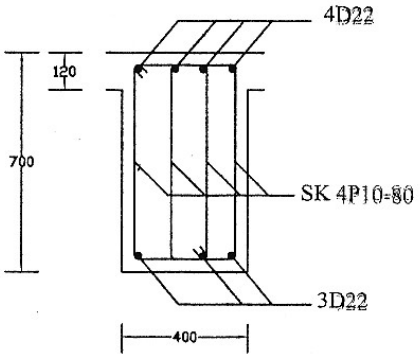
SKALA 1:20



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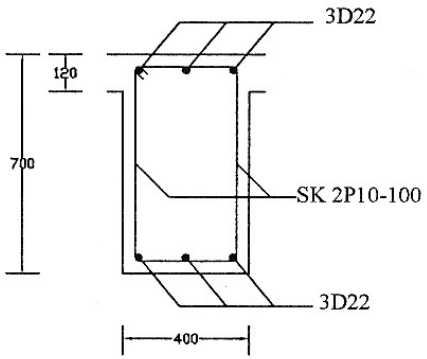

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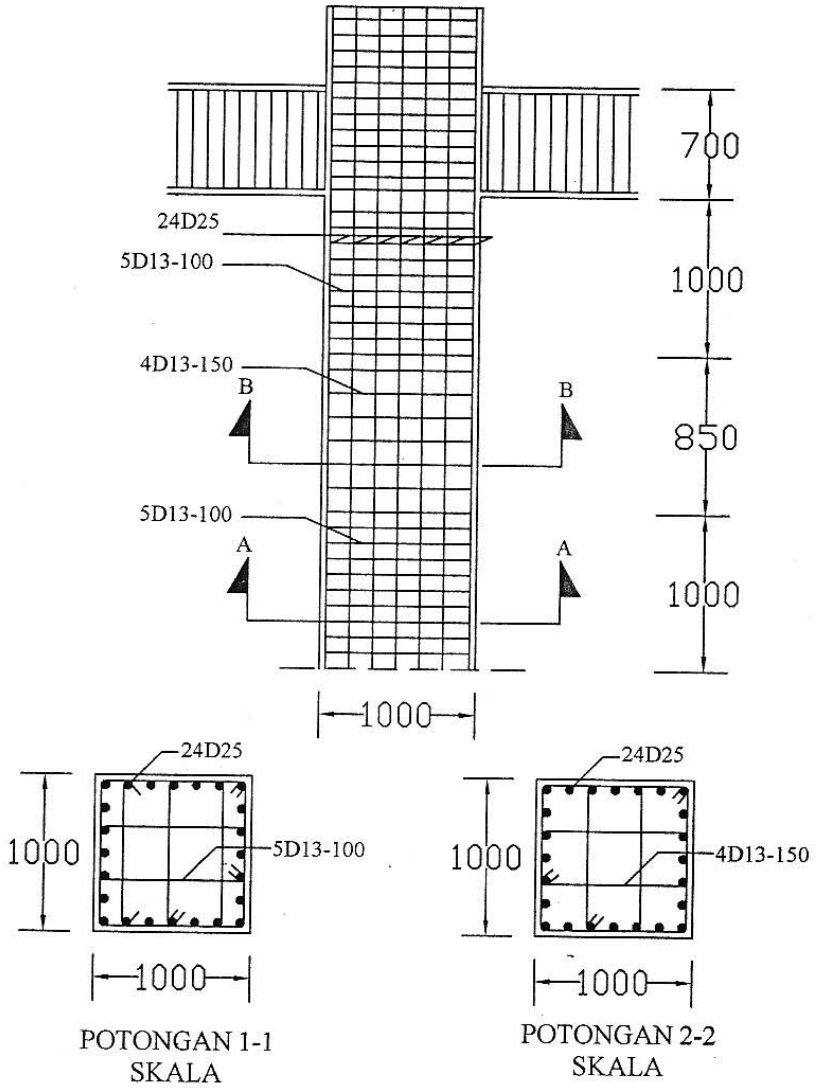
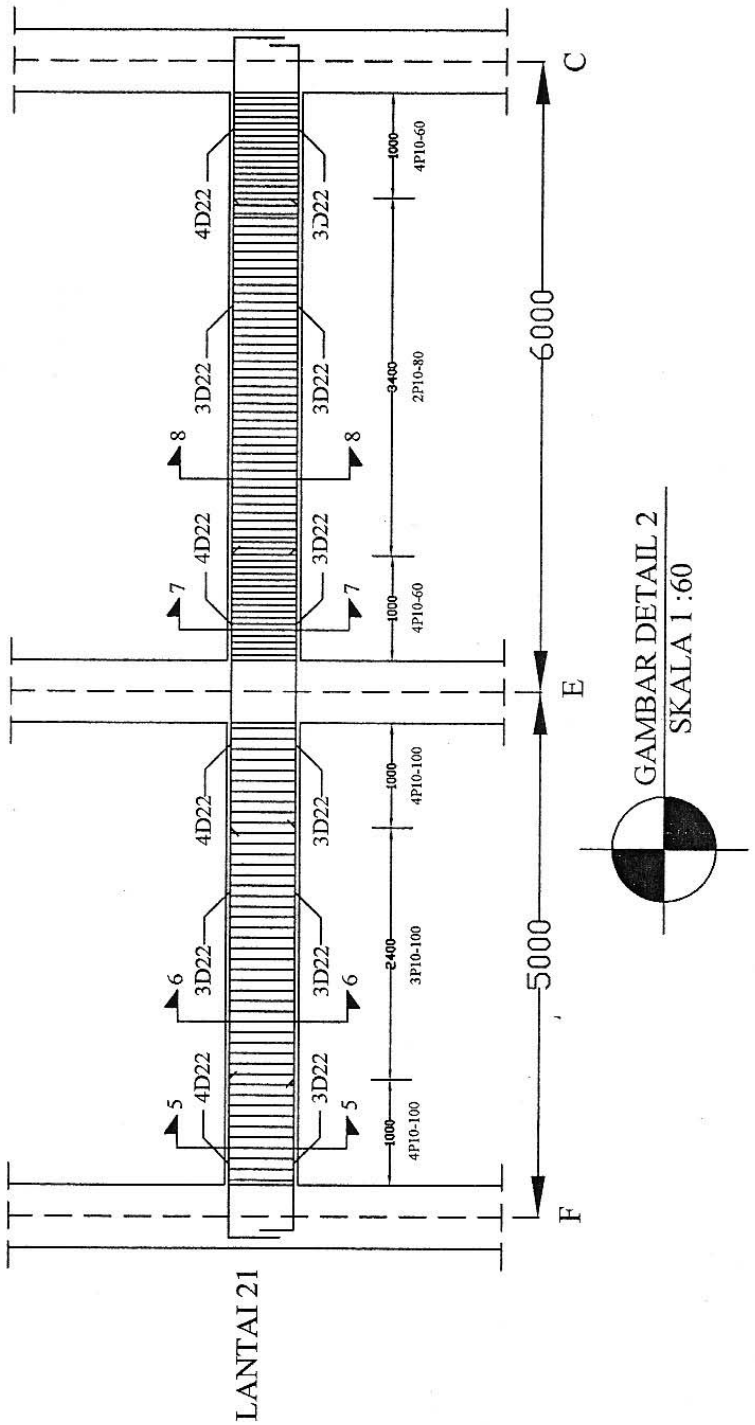


GAMBAR PENULANGAN KOLOM LANTAI 1
SKALA 1 : 40



LANTAI 21

GAMBAR DETAIL 2
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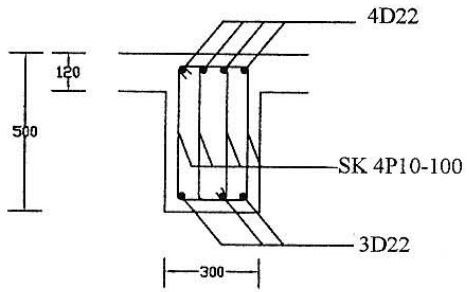

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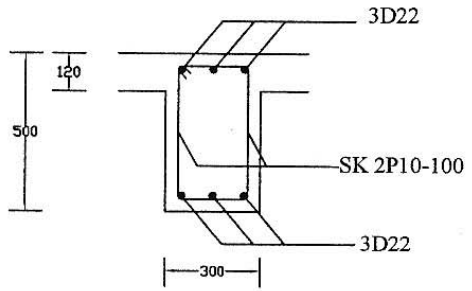
SKALA 1:20



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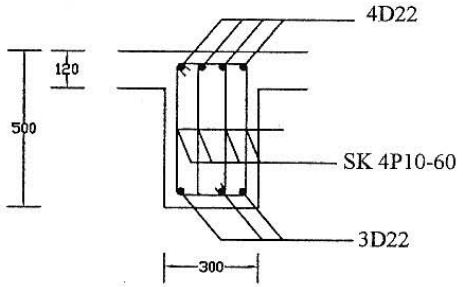

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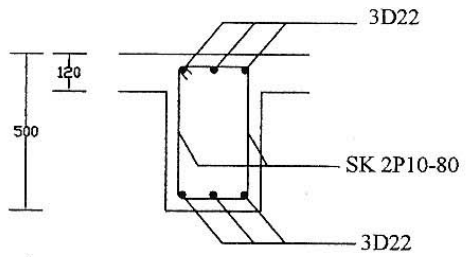

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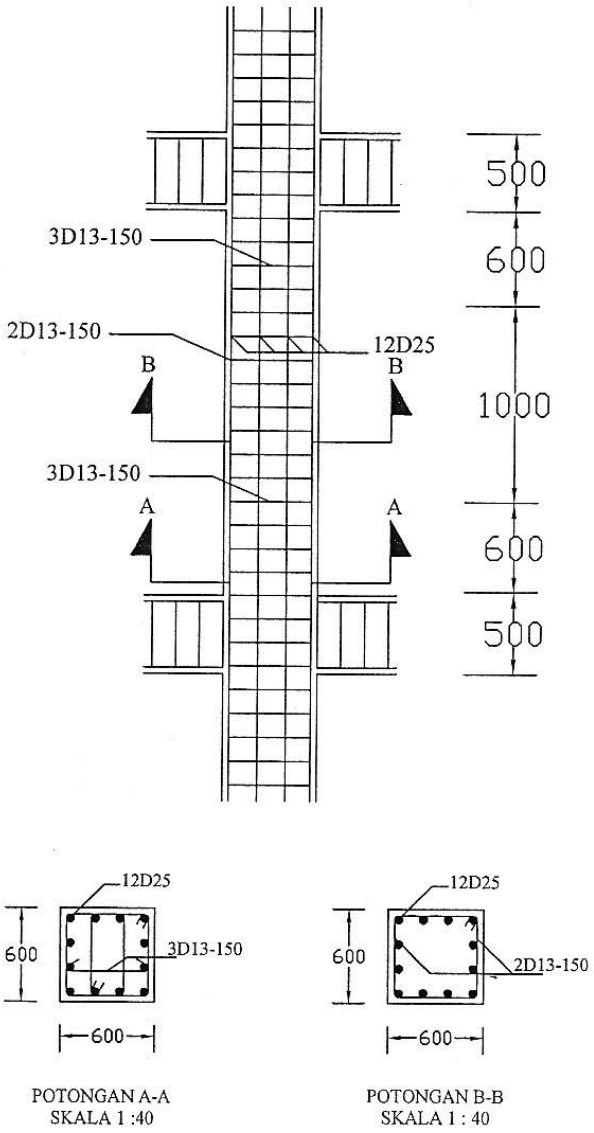
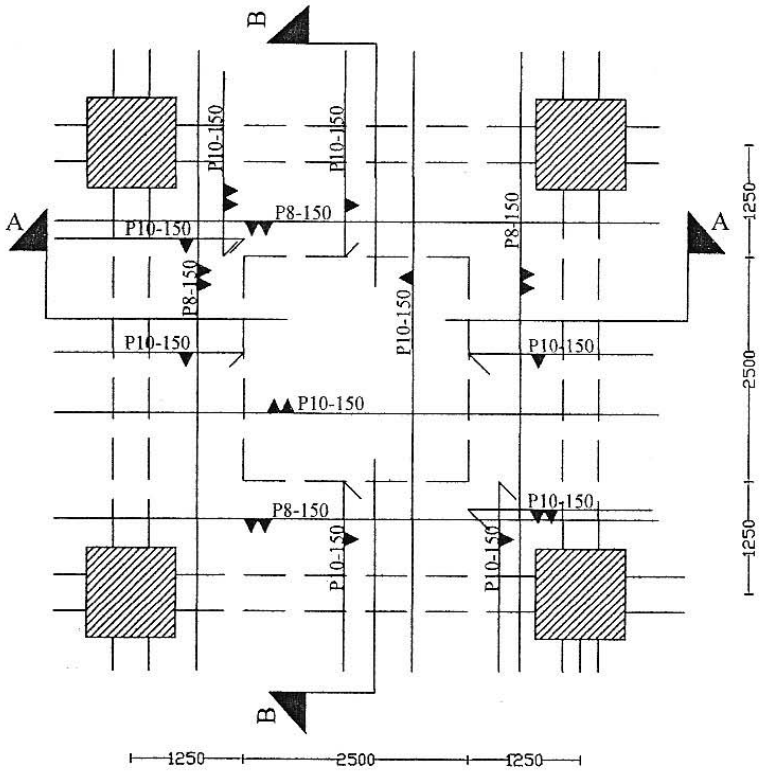


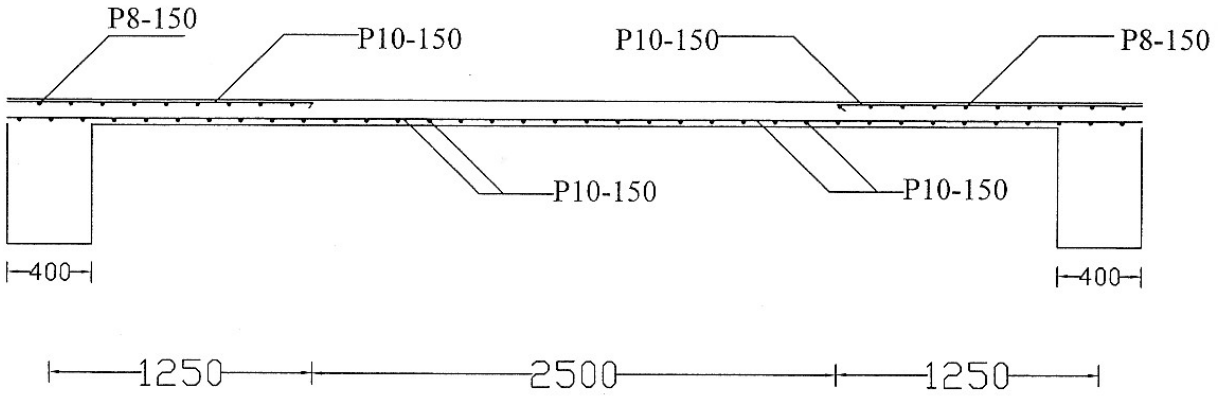
POTONGAN A-A
SKALA 1 :40

POTONGAN B-B
SKALA 1 : 40

GAMBAR PENULANGAN KOLOM LANTAI 21
SKALA 1 : 40



DENAH PENULANGAN PELAT LANTAI
SKALA 1 : 70



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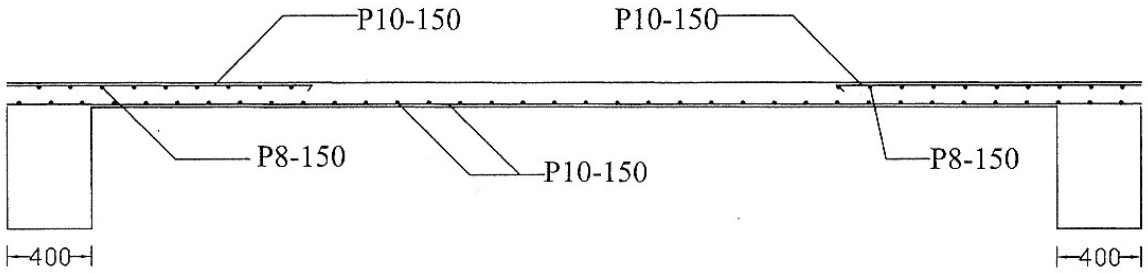
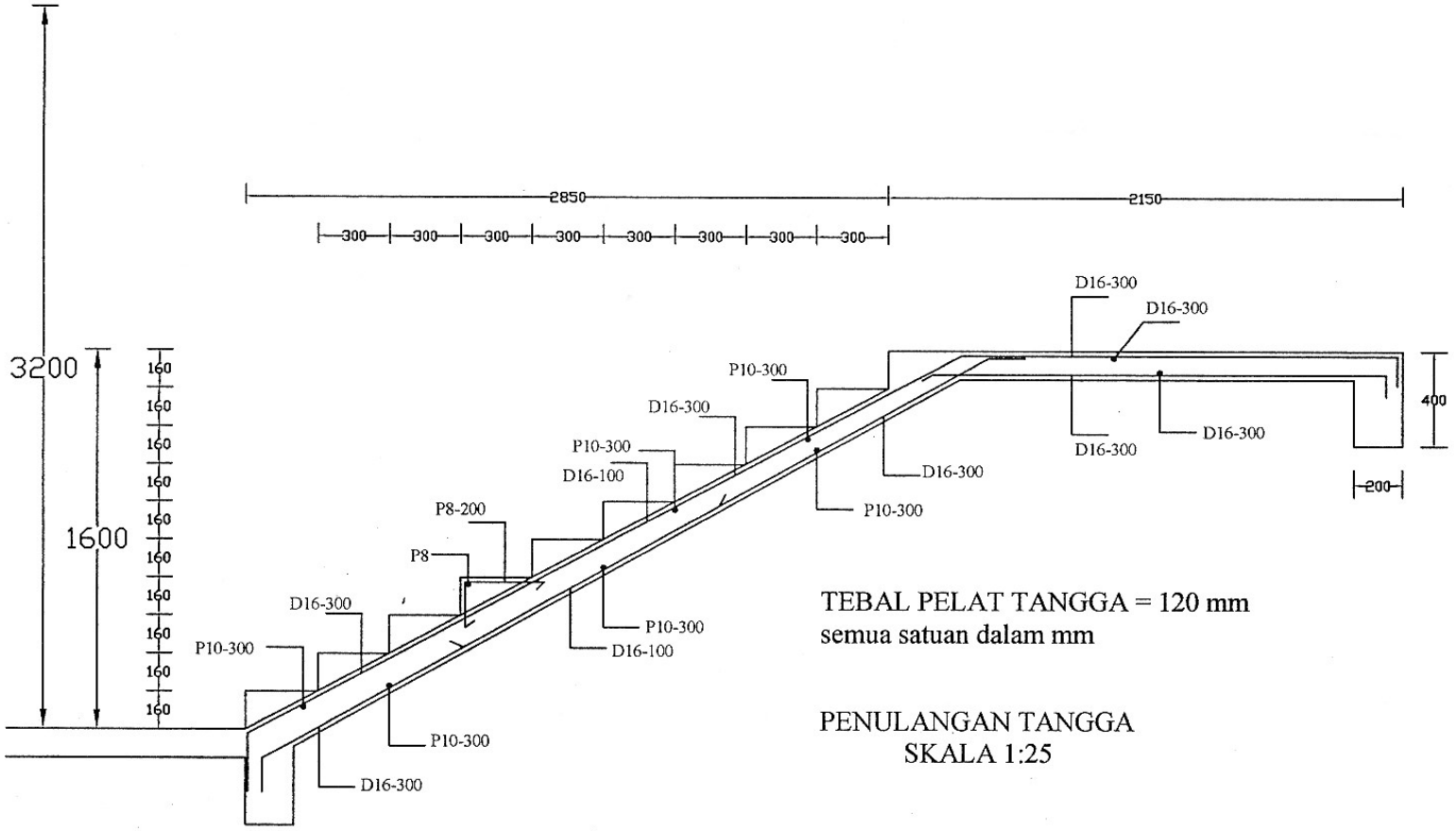
SKALA 1: 30



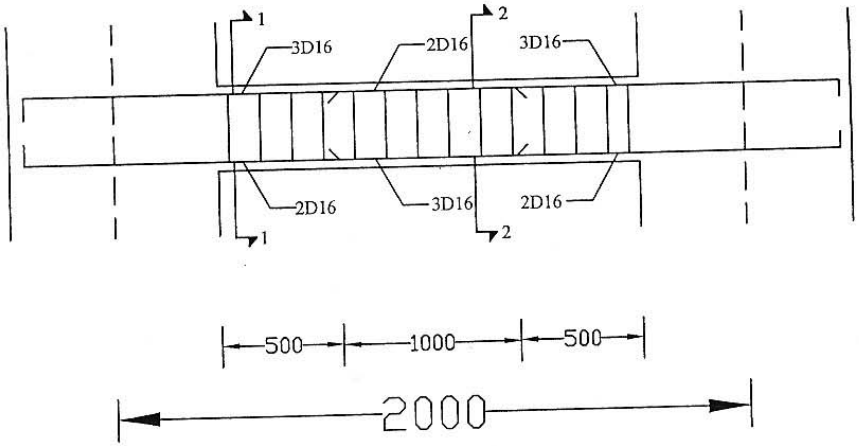
POTONGAN B-B
SKALA 1: 30



TEBAL PELAT TANGGA = 120 mm
semua satuan dalam mm

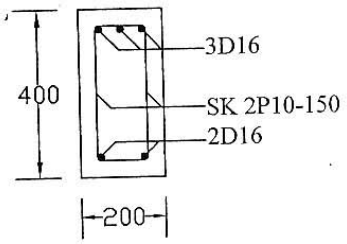
PENULANGAN TANGGA
SKALA 1:25

LAMPIRAN 5 | Hal. 177
GAMBAR PENULANGAN TANGGA

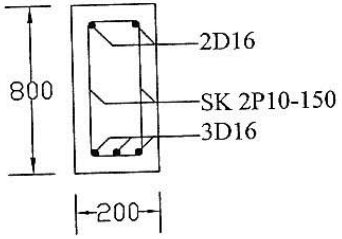


GAMBAR PENULANGAN BALOK BORDES TANGGA

SKALA 1 : 30



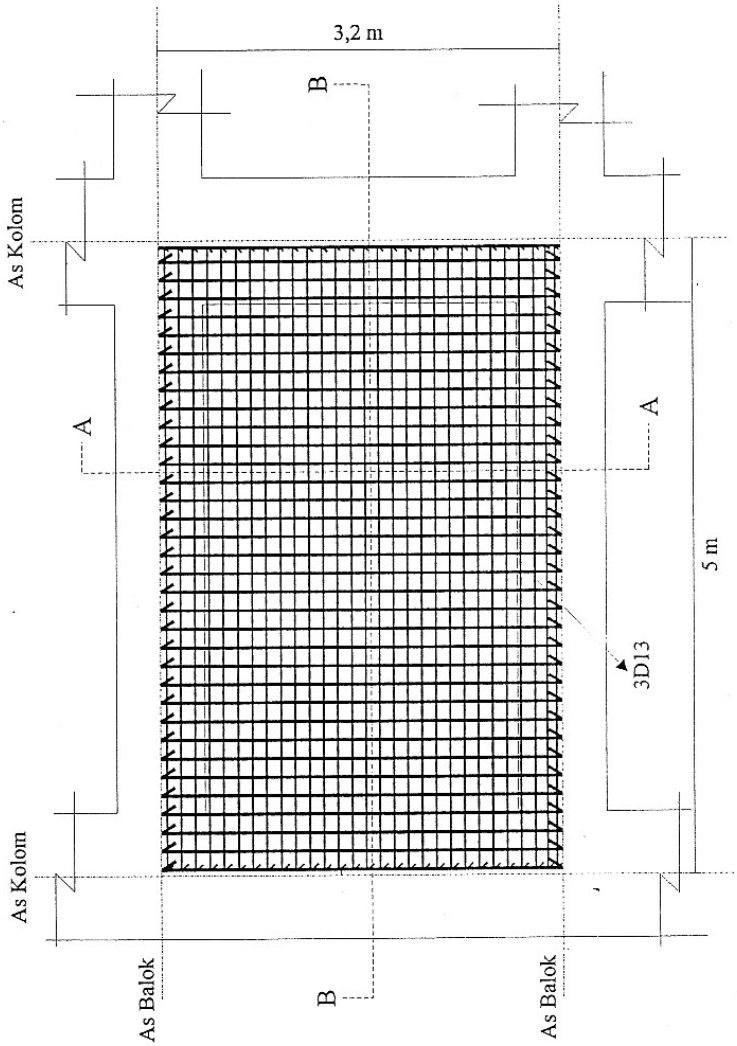
POTONGAN 1-1
SKALA 1 : 15

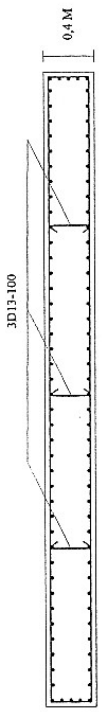


POTONGAN 2-2
SKALA 1 : 15

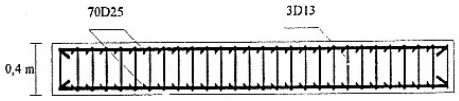
GAMBAR PENULANGAN DINDING GESER

Skala 1:50





Gambar Potongan B-B



Gambar Potongan A-A

Tabel Penulangan Lentur Balok Lantai 1

Balok	Posisi	b	h	Φ	β_1	M_u	*Check Syarat*		*Mn*	R_n	ρ yg dipakai	A_s	n	Tul. D22	
						(kNm)	$0{,}5M_{tumpuan-}$	$0{,}25M_{tumpuan-}$				(mm^2)		Atas	Bawah
B13	Tump -	400	700	0.8	0.85	-213.27	106.633	53.3165	266.5825	1.6322	0.0042	1078.6707	2.8376	3	
	Tump +	400	700	0.8	0.85	206.063			257.57875	1.5771	0.0041	1040.9942	2.7385		3
	Lap +	400	700	0.8	0.85	15.039			66.645625	0.4080	0.0034	869.0400	2.2861		3
B14	Tump -	400	700	0.8	0.85	-212.15	106.0725	53.03625	265.18125	1.6236	0.0042	1072.8010	2.8222	3	
	Tump +	400	700	0.8	0.85	208.003			260.00375	1.5919	0.0041	1051.1325	2.7652		3
	Lap +	400	700	0.8	0.85	10.742			66.2953125	0.4059	0.0034	869.0400	2.2861		3
B15	Tump -	400	700	0.8	0.85	-213.51	106.757	53.3785	266.8925	1.6341	0.0042	1079.9696	2.8410	3	
	Tump +	400	700	0.8	0.85	183.424			229.28	1.4038	0.0036	923.1783	2.4286		3
	Lap +	400	700	0.8	0.85	22.152			27.69	0.1695	0.0034	869.0400	2.2861		3
B16	Tump -	400	700	0.8	0.85	-234.54	117.2685	58.63425	293.17125	1.7950	0.0047	1190.4808	3.1318	4	
	Tump +	400	700	0.8	0.85	217.686			272.1075	1.6660	0.0043	1101.8365	2.8986		3
	Lap +	400	700	0.8	0.85	13.255			71.5696875	0.4382	0.0034	869.0400	2.2861		3
B17	Tump -	400	700	0.8	0.85	-229.02	114.5115	57.25575	286.27875	1.7528	0.0045	1161.4174	3.0553	4	
	Tump +	400	700	0.8	0.85	184.193			230.24125	1.4097	0.0036	927.1655	2.4391		3
	Lap +	400	700	0.8	0.85	49.807			62.25875	0.3812	0.0034	869.0400	2.2861		3
B18	Tump -	400	700	0.8	0.85	-242.33	121.1635	60.58175	302.90875	1.8546	0.0048	1231.6362	3.2400	4	
	Tump +	400	700	0.8	0.85	180.11			225.1375	1.3784	0.0035	906.0076	2.3834		3
	Lap +	400	700	0.8	0.85	48.471			60.58875	0.3710	0.0034	869.0400	2.2861		3
B19	Tump -	400	700	0.8	0.85	-223.34	111.668	55.834	279.17	1.7093	0.0044	1131.5005	2.9766	3	
	Tump +	400	700	0.8	0.85	183.255			229.06875	1.4025	0.0036	922.3022	2.4263		3
	Lap +	400	700	0.8	0.85	48.106			69.4434375	0.4252	0.0034	869.0400	2.2861		3
B20	Tump -	400	700	0.8	0.85	-242.26	121.1295	60.56475	302.82375	1.8541	0.0048	1231.2765	3.2391	4	
	Tump +	400	700	0.8	0.85	182.078			227.5975	1.3935	0.0036	916.2020	2.4102		3
	Lap +	400	700	0.8	0.85	48.385			60.48125	0.3703	0.0034	869.0400	2.2861	3	
B21	Tump -	400	700	0.8	0.85	-222.22	111.1095	55.55475	277.77375	1.7007	0.0044	1125.6313	2.9612	3	
	Tump +	400	700	0.8	0.85	184.182			230.2275	1.4096	0.0036	927.1084	2.4389		3
	Lap +	400	700	0.8	0.85	49.372			61.715	0.3779	0.0034	869.0400	2.2861		3
B22	Tump -	400	700	0.8	0.85	-212.3	106.151	53.0755	265.3775	1.6248	0.0042	1073.6229	2.8243	3	
	Tump +	400	700	0.8	0.85	199.995			249.99375	1.5306	0.0039	1009.3266	2.6552		3
	Lap +	400	700	0.8	0.85	19.513			48.349375	0.2960	0.0034	869.0400	2.2861		3
B23	Tump -	400	700	0.8	0.85	-242.9	121.4495	60.72475	303.62375	1.8590	0.0048	1234.6626	3.2480	4	
	Tump +	400	700	0.8	0.85	180.811			226.01375	1.3838	0.0036	909.6381	2.3929		3
	Lap +	400	700	0.8	0.85	49.041			61.30125	0.3753	0.0034	869.0400	2.2861		3
B24	Tump -	400	700	0.8	0.85	-214.62	107.309	53.6545	268.2725	1.6425	0.0042	1085.7530	2.8562	3	
	Tump +	400	700	0.8	0.85	177.616			222.02	1.3593	0.0035	893.0981	2.3494		3
	Lap +	400	700	0.8	0.85	35.13			43.9125	0.2689	0.0034	869.0400	2.2861		3
B57	Tump -	400	700	0.8	0.85	-154.72	77.359	38.6795	193.3975	1.1841	0.0034	1234.6626	3.2391	4	
	Tump +	400	700	0.8	0.85	166.081			207.60125	1.2711	0.0034	869.0400	2.2861		3
	Lap +	400	700	0.8	0.85	63.1825			78.978125	0.4836	0.0034	869.0400	2.2861		3
B58	Tump -	400	700	0.8	0.85	-95.653	47.8265	23.91325	119.56625	0.7321	0.0034	1234.6626	3.2391	4	
	Tump +	400	700	0.8	0.85	48.355			60.44375	0.3701	0.0034	869.0400	2.2861		3
	Lap +	400	700	0.8	0.85	52.849			66.06125	0.4045	0.0034	869.0400	2.2861		3

Tabel Penulangan Lentur Balok Lantai 21

Balok	Posisi	b	h	Φ	β_1	M_u	*Check Syarat*		Mn	R_n	ρ yg dipakai	A_s	n	Tul. D22	
						(kNm)	$0,5M_{tumpuan-}$	$0,25M_{tumpuan-}$				(mm^2)		Atas	Bawah
B13	Tump -	300	500	0.8	0.85	-58.92	29.46	14.73	73.65	1.2739	0.0034	447.7800	1.1780	2	
	Tump +	300	500	0.8	0.85	42.094			52.6175	0.9101	0.0034	447.7800	1.1780		2
	Lap +	300	500	0.8	0.85	10.5235			18.4125	0.3185	0.0034	447.7800	1.1780		2
B14	Tump -	300	500	0.8	0.85	-42.536	21.268	10.634	53.17	0.9196	0.0034	447.7800	1.1780	2	
	Tump +	300	500	0.8	0.85	41.161			51.45125	0.8899	0.0034	447.7800	1.1780		2
	Lap +	300	500	0.8	0.85	10.29025			13.2925	0.2299	0.0034	447.7800	1.1780		2
B15	Tump -	300	500	0.8	0.85	-162.79	81.395	40.6975	203.4875	3.5196	0.0095	1252.1907	3.2941	4	
	Tump +	300	500	0.8	0.85	96.529			120.66125	2.0870	0.0055	717.8228	1.8883		2
	Lap +	300	500	0.8	0.85	24.13225			30.1653125	0.5217	0.0034	447.7800	1.1780		2
B16	Tump -	300	500	0.8	0.85	-215.224	107.612	53.806	269.03	4.6532	0.0129	1705.2305	4.4859	5	
	Tump +	300	500	0.8	0.85	148.486			185.6075	3.2103	0.0086	1133.5063	2.9819		3
	Lap +	300	500	0.8	0.85	37.1215			57.5309375	0.9951	0.0034	447.7800	1.1780		2
B17	Tump -	300	500	0.8	0.85	-184.099	92.0495	46.02475	230.12375	3.9803	0.0109	1432.7483	3.7691	4	
	Tump +	300	500	0.8	0.85	111.635			139.54375	2.4136	0.0064	836.3217	2.2001		3
	Lap +	300	500	0.8	0.85	27.90875			34.8859375	0.6034	0.0034	447.7800	1.1780		2
B18	Tump -	300	500	0.8	0.85	-295.523	147.7615	73.88075	369.40375	6.3893	0.0187	2465.7415	6.4865	7	
	Tump +	300	500	0.8	0.85	173.889			217.36125	3.7595	0.0102	1345.6589	3.5400		4
	Lap +	300	500	0.8	0.85	43.47225			54.3403125	0.9399	0.0034	447.7800	1.1780		2
B19	Tump -	300	500	0.8	0.85	-127.663	63.8315	31.91575	159.57875	2.7601	0.0073	964.1189	2.5363	3	
	Tump +	300	500	0.8	0.85	60.923			76.15375	1.3172	0.0034	447.7800	1.1780		2
	Lap +	300	500	0.8	0.85	15.23075			35.968125	0.6221	0.0034	447.7800	1.1780		2
B20	Tump -	300	500	0.8	0.85	-302.955	151.4775	75.73875	378.69375	6.5499	0.0193	2541.1225	6.6848	7	
	Tump +	300	500	0.8	0.85	173.389			216.73625	3.7487	0.0102	1341.4216	3.5288		4
	Lap +	300	500	0.8	0.85	43.34725			54.1840625	0.9372	0.0034	447.7800	1.1780	2	
B21	Tump -	300	500	0.8	0.85	-115.098	57.549	28.7745	143.8725	2.4884	0.0066	863.7499	2.2722	3	
	Tump +	300	500	0.8	0.85	73.142			91.4275	1.5813	0.0041	537.8878	1.4150		2
	Lap +	300	500	0.8	0.85	18.2855			22.856875	0.3953	0.0034	447.7800	1.1780		2
B22	Tump -	300	500	0.8	0.85	-71.878	35.939	17.9695	89.8475	1.5540	0.0040	528.2801	1.3897	2	
	Tump +	300	500	0.8	0.85	50.898			127.10625	2.1985	0.0058	758.0624	1.9942		2
	Lap +	300	500	0.8	0.85	12.7245			63.553125	1.0992	0.0034	447.7800	1.1780		2
B23	Tump -	300	500	0.8	0.85	-289.858	144.929	72.4645	362.3225	6.2668	0.0183	2408.9202	6.3371	7	
	Tump +	300	500	0.8	0.85	162.909			203.63625	3.5221	0.0095	1253.1864	3.2967		4
	Lap +	300	500	0.8	0.85	40.72725			50.9090625	0.8805	0.0034	447.7800	1.1780		2
B24	Tump -	300	500	0.8	0.85	-124.854	62.427	31.2135	156.0675	2.6994	0.0071	941.5633	2.4769	3	
	Tump +	300	500	0.8	0.85	49.455			61.81875	1.0692	0.0034	447.7800	1.1780		2
	Lap +	300	500	0.8	0.85	12.36375			15.4546875	0.2673	0.0034	447.7800	1.1780		2
B57	Tump -	300	500	0.8	0.85	-203.37	101.685	50.8425	254.2125	4.3969	0.0122	1432.7483	3.2095	4	
	Tump +	300	500	0.8	0.85	123.774			154.7175	2.6760	0.0071	932.9094	2.4542		3
	Lap +	300	500	0.8	0.85	30.9435			38.679375	0.6690	0.0034	447.7800	1.1780		3
B58	Tump -	300	500	0.8	0.85	-115.471	57.7355	28.86775	144.33875	2.4965	0.0066	1345.6589	3.2800	4	
	Tump +	300	500	0.8	0.85	115.691			144.61375	2.5013	0.0066	868.4566	2.2846		3
	Lap +	300	500	0.8	0.85	28.92275			36.1534375	0.6253	0.0034	528.2801	1.1780		3

Tabel Momen Nominal Negatif Tumpuan Balok Lantai 1

Balok	l_n	h_f	b_e (mm)	As = As atas ($mm^{2)}$	A_s' = As bawah ($mm^{2)}$	A	B	C	c (mm)	a (mm)	d	f_s' (MPa)	Mpr- (KNm)
B13	3000	120	500	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.1987	105.2212	457.7137
B14	3000	120	500	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.1987	105.2212	457.7137
B15	5000	120	1000	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515
B16	3000	120	500	1897.6737	1140.8571	8670	-264322.5650	41619331.3532	86.1854	73.2576	639.1987	176.7176	566.8672
B17	5000	120	1000	1897.6737	1140.8571	8670	-264322.5650	41619331.3532	86.1854	73.2576	639.2485	176.7176	566.9144
B18	5000	120	1000	1897.6737	1140.8571	8670	-264322.5650	41619331.3532	86.1854	73.2576	639.2485	176.7176	566.9144
B19	5000	120	1000	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.1987	105.2212	457.7137
B20	5000	120	1000	1897.6737	1140.8571	8670	-264322.5650	41619331.3532	86.1854	73.2576	639.2485	176.7176	566.9144
B21	5000	120	1000	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515
B22	3000	120	500	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515
B23	5000	120	1000	1897.6737	1140.8571	8670	-264322.5650	41619331.3532	86.1854	73.2576	639.2485	176.7176	566.9144
B24	5000	120	1125	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515
B57	3000	120	625	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515
B58	3000	120	500	1517.5410	1140.8571	8670	-74256.2095	41585254.3279	73.6711	62.6204	639.2485	105.2212	457.7515

Tabel Momen Nominal Positif Tumpuan Balok Lantai 1

Balok	l_n	h_f	b_e (mm)	$As = As\ atas$ ($mm^{2)}$	$A_s' = As\ bawah$ ($mm^{2)}$	A	B	C	c (mm)	a (mm)	f_s' (Mpa)	$Mpr+$ (kNm)
B13	3000	120	500	1517.5410	1140.8571	10837.5	340096.0228	55315714.5342	57.4550	48.8368	-34.4244	352.4730
B14	3000	120	500	1517.5410	1140.8571	10837.5	340096.0228	55315714.5342	57.4550	48.8368	-34.4244	352.4730
B15	5000	120	1000	1517.5410	1140.8571	21675	340096.0228	55315714.5342	43.2780	36.7863	-242.2491	369.5838
B16	3000	120	500	1897.6737	1140.8571	10837.5	568175.6495	69228571.7599	57.8997	49.2147	-30.0681	352.5323
B17	5000	120	1000	1897.6737	1140.8571	21675	568175.6495	69228571.7599	44.9081	38.1719	-212.3417	370.4261
B18	5000	120	1000	1897.6737	1140.8571	21675	568175.6495	69228571.7599	44.9081	38.1719	-212.3417	370.4261
B19	5000	120	1000	1517.5410	1140.8571	21675	340096.0228	55315714.5342	43.2780	36.7863	-242.2491	369.5838
B20	5000	120	1000	1897.6737	1140.8571	21675	568175.6495	69228571.7599	44.9081	38.1719	-212.3417	370.4261
B21	5000	120	1000	1517.5410	1140.8571	21675	340096.0228	55315714.5342	43.2780	36.7863	-242.2491	369.5838
B22	3000	120	500	1517.5410	1140.8571	10837.5	340096.0228	55315714.5342	57.4550	48.8368	-34.4244	352.4730
B23	5000	120	1000	1897.6737	1140.8571	21675	568175.6495	69228571.7599	44.9081	38.1719	-212.3417	370.4261
B24	5000	120	1125	1517.5410	1140.8571	24384.375	340096.0228	55315714.5342	41.1628	34.9884	-285.5288	373.2681
B57	3000	120	625	1517.5410	1140.8571	13546.875	340096.0228	55315714.5342	52.5692	44.6839	-93.3881	357.2028
B58	3000	120	500	1517.5410	1140.8571	10837.5	340096.0228	55315714.5342	57.4550	48.8368	-34.4244	352.4730

Tabel Penulangan Geser Balok Lantai 1

Jenis	Nilai	V_e (kN)	V_g (kN)	Gaya Gempa		*Dalam Sendi Plastis*		*Luar Sendi Plastis*		*Vsmax*	*Vs < Vsmax*	*4* kaki P10	*2* kaki P10	spasi yg digunakan (mm)	
				Ve_1	Ve_2	*Ve(kN)*	*Vs= Φ.Ve*	*Ve(kN)*	*Vs*			*Dalam Sendi Plastis*	*Luar Sendi Plastis*	Dalam Sendi Plastis	Luar Sendi Plastis
Mpr-	457.71	405.0933	27.19	432.2833	377.90	414.91	553.21	394.2173	292.29	933.3192	Ok	87.1255	82.4163	80	80
Mpr+	352.47														
Mpr-	457.71	405.0933	26.064	431.1573	379.03	414.50	552.67	394.6677	292.89	933.3192	Ok	87.2109	82.2473	80	80
Mpr+	352.47														
Mpr-	457.75	206.8338	37.668	244.5018	169.17	232.47	309.96	218.1342	57.52	933.3192	Ok	155.5023	418.8367	150	150
Mpr+	369.58														
Mpr-	566.87	459.6997	49.28	508.9797	410.42	477.49	636.65	439.9877	353.32	933.3192	Ok	75.7066	68.1809	70	70
Mpr+	352.53														
Mpr-	566.91	234.3351	78.142	312.4771	156.19	287.51	383.35	257.7777	110.37	933.3192	Ok	125.7314	218.2558	100	150
Mpr+	370.43														
Mpr-	566.91	234.3351	83.006	317.3411	151.33	290.82	387.76	259.2369	112.32	933.3192	Ok	124.3004	214.4752	120	150
Mpr+	370.43														
Mpr-	457.71	206.8244	74.92	281.7444	131.90	257.81	343.74	229.3004	72.40	933.3192	Ok	140.2176	332.7126	120	150
Mpr+	369.58														
Mpr-	566.91	234.3351	83.3	317.6351	151.04	291.02	388.03	259.3251	112.44	933.3192	Ok	124.2150	214.2508	100	150
Mpr+	370.43														
Mpr-	457.75	206.8338	76.134	282.9678	130.70	258.64	344.86	229.6740	72.90	933.3192	Ok	139.7646	330.4389	120	150
Mpr+	369.58														
Mpr-	457.75	405.1122	53.326	458.4382	351.79	424.36	565.82	383.7818	278.38	933.3192	Ok	85.1845	86.5356	80	80
Mpr+	352.47														
Mpr-	566.91	234.3351	82.244	316.5791	152.09	290.30	387.07	259.0083	112.01	933.3192	Ok	124.5225	215.0588	120	150
Mpr+	370.43														
Mpr-	457.75	207.7549	56.964	264.7189	150.79	246.52	328.69	224.8441	66.46	933.3192	Ok	146.6384	362.4569	120	150
Mpr+	373.27														
Mpr-	457.75	407.4771	145.008	552.4851	262.47	459.83	613.10	349.4739	232.64	933.3192	Ok	78.6150	103.5514	80	100
Mpr+	357.20														
Mpr-	457.75	405.1122	125.086	530.1982	280.03	450.27	600.36	355.0778	240.11	933.3192	Ok	80.2836	100.3290	80	100
Mpr+	352.47														

Tabel Momen Nominal Negatif Tumpuan Balok Lantai 21

Balok	l_n	h_f	b_e (mm)	As = As atas (mm^2)	A_s' = As bawah (mm^2)	A	B	C	c (mm)	a (mm)	d	f_s' (MPa)	Mpr- (KNm)
B13	3000	120	500	1137.4083	760.5714	6502.5	-112361.2825	27685599.7120	74.4603	63.2913	439.1987	111.1348	229.3240
B14	3000	120	500	1137.4083	760.5714	6502.5	-112361.2825	27685599.7120	74.4603	63.2913	439.1241	111.1348	229.2815
B15	5000	120	1000	1897.6737	760.5714	6502.5	-492493.9936	27746220.9021	113.3753	96.3690	439.2485	278.2301	368.3861
B16	3000	120	500	2277.8064	1140.8571	6502.5	-454388.9206	41642034.4601	122.2595	103.9206	439.1241	301.4494	437.8902
B17	5000	120	1000	1897.6737	1140.8571	6502.5	-264322.5650	41619331.3532	102.8693	87.4389	439.2485	245.3677	370.5109
B18	5000	120	1000	3038.0718	1521.1429	6502.5	-606350.2031	55560528.7824	150.1537	127.6307	439.3316	356.7458	572.0178
B19	5000	120	1000	1517.5410	760.5714	6502.5	-302427.6381	27723502.8853	92.5678	78.6826	439.1241	206.2248	299.9853
B20	5000	120	1000	3038.0718	1521.1429	6502.5	-606350.2031	55560528.7824	150.1537	127.6307	439.2485	356.7458	571.8916
B21	5000	120	1000	1517.5410	760.5714	6502.5	-302427.6381	27723502.8853	92.5678	78.6826	439.1656	206.2248	300.0167
B22	3000	120	500	1137.4083	760.5714	6502.5	-112361.2825	27685599.7120	74.4603	63.2913	439.2485	111.1348	229.3523
B23	5000	120	1000	3038.0718	1521.1429	6502.5	-606350.2031	55560528.7824	150.1537	127.6307	439.1987	356.7458	571.8160
B24	5000	120	1125	1517.5410	760.5714	6502.5	-302427.6381	27723502.8853	92.5678	78.6826	439.2485	206.2248	300.0796
B57	3000	120	625	2277.8064	1140.8571	6502.5	-454388.9206	41642034.4601	122.2595	103.9206	439.1656	301.4494	437.9374
B58	3000	120	500	1517.5410	1140.8571	6502.5	-74256.2095	41585254.3279	85.8838	73.0013	439.2485	175.5792	300.7355

Tabel Momen Nominal Positif Tumpuan Balok Lantai 21

Balok	l_n	h_f	b_e (mm)	As = As atas (mm^2)	A_s' = As bawah (mm^2)	A	B	C	c (mm)	a (mm)	f_s' (Mpa)	Mpr+ (kNm)
B13	3000	120	500	1137.4083	760.5714	10837.5	302159.2533	41402857.3085	49.4210	42.0078	-136.5508	165.1184
B14	3000	120	500	1137.4083	760.5714	10837.5	302159.2533	41402857.3085	49.4210	42.0078	-136.5508	165.1184
B15	5000	120	1000	1897.6737	760.5714	21675	758318.5066	69228571.7599	41.6674	35.4172	-275.5237	182.7423
B16	3000	120	500	2277.8064	1140.8571	10837.5	796255.2761	83141428.9856	58.2438	49.5072	-26.6874	238.4913
B17	5000	120	1000	1897.6737	1140.8571	21675	568175.6495	69228571.7599	44.9081	38.1719	-212.3417	256.3404
B18	5000	120	1000	3038.0718	1521.1429	21675	1062271.6723	110967143.4370	51.1266	43.4576	-114.4137	330.9720
B19	5000	120	1000	1517.5410	760.5714	21675	530238.8800	55315714.5342	39.7459	33.7841	-317.0970	181.6271
B20	5000	120	1000	3038.0718	1521.1429	21675	1062271.6723	110967143.4370	51.1266	43.4576	-114.4137	330.9720
B21	5000	120	1000	1517.5410	760.5714	21675	530238.8800	55315714.5342	39.7459	33.7841	-317.0970	181.6271
B22	3000	120	500	1137.4083	760.5714	10837.5	302159.2533	41402857.3085	49.4210	42.0078	-136.5508	165.1184
B23	5000	120	1000	3038.0718	1521.1429	21675	1062271.6723	110967143.4370	51.1266	43.4576	-114.4137	330.9720
B24	5000	120	1125	1517.5410	760.5714	24384.375	530238.8800	55315714.5342	37.9814	32.2842	-359.7044	185.1576
B57	3000	120	625	2277.8064	1140.8571	13546.875	796255.2761	83141428.9856	54.2832	46.1407	-72.4115	243.4869
B58	3000	120	500	1517.5410	1140.8571	10837.5	340096.0228	55315714.5342	57.4550	48.8368	-34.4244	238.3873

Tabel Penulangan Geser Balok Lantai 21

Jenis	Nilai	V_e (kN)	V_g (kN)	Gaya Gempa		*Dalam Sendi Plastis*		*Luar Sendi Plastis*		*Vsmax*	*Vs < Vsmax*	*4* kaki P10	*2* kaki P10	spasi yg digunakan (mm)	
				Ve_1	Ve_2	*Ve(kN)*	*Vs= Φ.Ve*	*Ve(kN)*	*Vs*			*Dalam Sendi Plastis*	*Luar Sendi Plastis*	Dalam Sendi Plastis	Luar Sendi Plastis
Mpr-	229.32	197.2212	43.234	240.4552	153.99	221.48	295.30	197.2212	142.74	480.9004	Ok	112.1337	115.9473	100	100
Mpr+	165.12														
Mpr-	229.28	197.2000	32.186	229.3860	165.01	215.26	287.01	197.2000	142.71	480.9004	Ok	115.3734	115.9703	100	100
Mpr+	165.12														
Mpr-	368.39	137.7821	10.976	148.7581	126.81	146.35	195.13	143.2701	70.80	480.9004	Ok	169.6963	233.7502	100	100
Mpr+	182.74														
Mpr-	437.89	338.1908	151.57	489.7628	186.62	423.22	564.30	338.1908	330.70	480.9004	Ok	58.6804	50.0457	50	50
Mpr+	238.49														
Mpr-	370.51	156.7128	109.9	266.6108	46.81	242.49	323.32	211.6618	161.99	480.9004	Ok	102.4168	102.1658	100	100
Mpr+	256.34														
Mpr-	572.02	225.7474	2.378	228.1254	223.37	227.60	303.47	226.9364	182.36	480.9004	Ok	109.1146	90.7556	100	90
Mpr+	330.97														
Mpr-	299.99	120.4031	77.762	198.1651	42.64	181.10	241.46	159.2841	92.15	480.9004	Ok	137.1362	179.5903	100	100
Mpr+	181.63														
Mpr-	571.89	225.7159	159.7	385.4199	66.01	350.36	467.15	305.5679	287.20	480.9004	Ok	70.8828	57.6253	70	50
Mpr+	330.97														
Mpr-	300.02	120.4110	79.642	200.0530	40.77	182.57	243.43	160.2320	93.42	480.9004	Ok	136.0281	177.1606	100	100
Mpr+	181.63														
Mpr-	229.35	197.2353	20.71	217.9453	176.53	208.85	278.47	197.2353	142.76	480.9004	Ok	118.9103	115.9320	100	100
Mpr+	165.12														
Mpr-	571.82	225.6970	14.4	240.0970	211.30	236.94	315.91	232.8970	190.30	480.9004	Ok	104.8166	86.9655	100	80
Mpr+	330.97														
Mpr-	300.08	121.3093	77.32	198.6293	43.99	181.66	242.21	159.9693	93.07	480.9004	Ok	136.7125	177.8273	100	100
Mpr+	185.16														
Mpr-	437.94	340.7122	54.726	395.4382	285.99	371.41	495.22	340.7122	334.06	480.9004	Ok	66.8658	49.5420	60	40
Mpr+	243.49														
Mpr-	300.74	269.5614	88.372	357.9334	181.19	319.14	425.52	269.5614	239.19	480.9004	Ok	77.8185	69.1914	70	60
Mpr+	238.39														

Tabel Penulangan Longitudinal Kolom

Lt.	Kolom	dimensi (mm)			h	ω	Momen Gempa arah X						Momen Gempa arah Y					
		b	h	f'c			Kolom Atas	Kolom Tinjau	αk	Mpr-	Mpr+	Mux	Kolom Atas	Kolom Tinjau	αk	Mpr-	Mpr+	Muy
1	C40	1000	1000	30	3.2	1	56.5130	72.8330	0.4369	566.91	370.43	430.0132	148.0640	250.7520	0.3713	457.75	369.58	322.5113
2	C40	1000	1000	30	2.7	1.3	60.5400	56.5130	0.5172	457.75	369.58	584.0786	115.9040	148.0640	0.4391	675.70	482.44	694.1301
3	C40	1000	1000	30	2.7	1.3	62.5660	60.5400	0.5082	675.70	482.44	803.4390	100.7550	115.9040	0.4650	457.75	369.58	525.1717
5	C40	1000	1000	30	2.7	1.3	54.1600	62.5660	0.4640	782.72	482.80	801.5170	90.3500	100.7550	0.4728	457.75	369.58	533.9094
6	C40	900	900	30	2.7	1.3	58.0580	54.1600	0.5174	784.30	593.92	973.3090	86.1040	90.3500	0.4880	457.75	369.58	551.0655
7	C40	900	900	30	2.7	1.3	56.1960	58.0580	0.4919	784.30	593.92	925.3056	81.1650	86.1040	0.4852	457.75	369.58	547.9801
8	C40	900	900	30	2.7	1.3	55.9650	56.1960	0.4990	784.30	593.92	938.6979	77.7180	81.1650	0.4892	457.75	369.58	552.4025
9	C40	900	900	30	2.7	1.3	45.2160	55.9650	0.4469	784.30	593.92	840.7064	71.7960	77.7180	0.4802	457.75	369.58	542.2878
10	C40	800	800	30	2.7	1.3	48.7190	45.2160	0.5186	784.30	593.92	975.7131	69.6180	71.7960	0.4923	457.75	369.58	555.9562
11	C40	800	800	30	2.7	1.3	44.9220	48.7190	0.4797	784.30	593.92	902.4938	64.1610	69.6180	0.4796	457.75	369.58	541.6199
12	C40	800	800	30	2.7	1.3	43.4140	44.9220	0.4915	784.30	593.92	924.5774	60.0820	64.1610	0.4836	457.75	369.58	546.1147
15	C40	800	800	30	2.7	1.3	32.0420	43.4140	0.4246	782.78	482.80	733.5810	51.7480	60.0820	0.4627	457.75	369.58	522.5726
16	C40	700	700	30	2.7	1.3	33.9520	32.0420	0.5145	782.78	482.80	888.7573	48.8630	51.7480	0.4857	457.75	369.58	548.4614
17	C40	700	700	30	2.7	1.3	29.5490	33.9520	0.4653	782.78	482.80	803.8675	41.6700	48.8630	0.4603	457.75	369.58	519.7901
18	C40	700	700	30	2.7	1.3	27.2680	29.5490	0.4799	675.76	482.44	758.7369	35.8840	41.6700	0.4627	457.75	369.58	522.5262
19	C40	700	700	30	2.7	1.3	17.5810	27.2680	0.3920	674.79	371.07	559.6249	25.3240	35.8840	0.4137	457.75	369.58	467.2352
20	C40	600	600	30	2.7	1.3	17.6410	17.5810	0.5009	674.59	371.07	714.8787	20.3390	25.3240	0.4454	457.75	369.58	503.0100
21	C40	600	600	30	2.7	1.3	16.4300	17.6410	0.4822	566.91	370.43	616.9962	13.7020	20.3390	0.4025	457.75	369.58	454.5619
ATAP	C40	600	600	30	2.7	1	0.0000	16.4300	0.0000	457.75	369.58	0.0000	0.0000	13.7020	0.0000	457.75	369.58	0.0000

Tabel (lanjutan) Penulangan Longitudinal Kolom

Rn	*Ng*	*Pu*	*Mnx*	*Mny*	*Pn*	*Mnoy*	*km*	*kp*	*ρ*	*Ag*	*0,1f'c.Ag*	*Ket*	*Jlh. Tul.*	*Tul Pakai*
0.625	-4316.82	4450.6438	661.5588	496.1713	6847.1442	852.3952	0.0284	0.22823814	1%	1000000	3000000	ok	20.36363636	24D25
0.625	-3991.02	4089.2338	898.5825	1067.8924	6291.1288	1551.7445	0.0517	0.20970429	1%	1000000	3000000	ok	20.36363636	24D25
0.625	-3677.47	3760.0063	1236.0599	807.9564	5784.6250	1473.5272	0.0491	0.19282083	1%	1000000	3000000	ok	20.36363636	24D25
0.625	-3374.41	3432.3975	1233.1030	821.3990	5280.6115	1485.3776	0.0495	0.17602038	1%	1000000	3000000	ok	20.36363636	24D25
0.625	-3089.23	3123.0973	1497.3985	847.7931	4804.7650	1654.0846	0.0756	0.19772695	1%	810000	2430000	ok	16.49454545	20D25
0.625	-2817.32	2837.5918	1423.5471	843.0462	4365.5258	1609.5716	0.0736	0.17965127	1%	810000	2430000	ok	16.49454545	20D25
0.625	-2555.37	2562.5443	1444.1506	849.8499	3942.3758	1627.4695	0.0744	0.16223769	1%	810000	2430000	ok	16.49454545	20D25
0.625	-2302.39	2296.9153	1293.3945	834.2889	3533.7158	1530.7321	0.0700	0.1454204	1%	810000	2430000	ok	16.49454545	20D25
0.625	-2063.95	2046.5533	1501.0970	855.3172	3148.5435	1663.6002	0.1083	0.16398664	1%	640000	1920000	ok	13.03272727	16D25
0.625	-1835.6	1806.7858	1388.4520	833.2614	2779.6704	1580.8894	0.1029	0.1447745	1%	640000	1920000	ok	13.03272727	16D25
0.625	-1615.61	1575.7963	1422.4268	840.1765	2424.3019	1606.0986	0.1046	0.12626573	1%	640000	1920000	ok	13.03272727	16D25
0.625	-1403.01	1362.4223	1128.5862	803.9579	2096.0342	1411.6582	0.0919	0.10916845	1%	640000	1920000	ok	13.03272727	16D25
0.625	-1201.13	1150.4483	1367.3189	843.7868	1769.9204	1580.0354	0.1536	0.12040275	1%	490000	1470000	ok	9.978181818	12D25
0.625	-1005.09	944.6063	1236.7193	799.6771	1453.2404	1465.6028	0.1424	0.09885989	1%	490000	1470000	ok	9.978181818	12D25
0.625	-815.51	754.9430	1167.2875	803.8865	1161.4508	1432.4259	0.1392	0.07901026	1%	490000	1470000	ok	9.978181818	12D25
0.625	-631.34	571.3943	860.9614	718.8234	879.0681	1182.4179	0.1149	0.05980055	1%	490000	1470000	ok	9.978181818	12D25
0.625	-452.68	383.8188	1099.8133	773.8615	590.4904	1366.0686	0.2108	0.05467504	1%	360000	1080000	ok	7.330909091	12D25
0.625	-272.74	204.3598	949.2249	699.3261	314.3996	1210.4472	0.1868	0.02911108	1%	360000	1080000	ok	7.330909091	12D25
0.625	-99.3	31.8736	0.0000	0.0000	49.0363	0.0000	0.0000	0.0045404	1%	360000	1080000	ok	7.330909091	12D25

Tabel Penulangan Transversal Kolom

Lantai	Kolom		sepanjang λo						luar λo					Balok bawah Kolom			Balok atas Kolom						
			s max		s dipakai	Tulangan			smax	s pakai	Tulangan												
		λo	≤0.25b	≤ 6.Ø$_{tul}$		Transversal			≤ 6.Ø$_{tul}$		Transversal			Mpr+	Mpr-	Mpr bawah	Mpr+	Mpr-	Mpr atas	Ve	Vs	Vterpakai	Ket
1	C40	1000	250	150	100	5	D	13	150	100	4	D	13	0	0	0	0	0	0	0	0	2493.715714	ok
2	C40	1000	250	150	100	5	D	13	150	100	4	D	13	370.43	566.91	937.34	482.44	675.7	1158.14	523.87	698.4933333	2493.715714	ok
3	C40	1000	250	150	100	5	D	13	150	100	4	D	13	482.44	675.7	1158.14	482.44	782.72	1265.16	605.825	807.7666667	2493.715714	ok
5	C40	1000	250	150	100	5	D	13	150	100	4	D	13	482.44	675.7	1158.14	482.44	675.7	1158.14	579.07	772.0933333	2493.715714	ok
6	C40	900	225	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	482.8	784.3	1267.1	633.46	844.6133333	1994.972571	ok
7	C40	900	225	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	482.8	784.3	1267.1	633.46	844.6133333	1994.972571	ok
8	C40	900	225	150	100	4	D	13	150	100	3	D	13	482.8	784.3	1267.1	482.44	784.3	1266.74	633.46	844.6133333	1994.972571	ok
9	C40	900	225	150	100	4	D	13	150	100	3	D	13	482.8	784.3	1267.1	482.44	784.3	1266.74	633.46	844.6133333	1994.972571	ok
10	C40	800	200	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	482.44	784.3	1266.74	633.37	844.4933333	1994.972571	ok
11	C40	800	200	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	482.44	784.3	1266.74	633.37	844.4933333	1994.972571	ok
12	C40	800	200	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	482.44	782.78	1265.22	632.99	843.9866667	1994.972571	ok
15	C40	800	200	150	100	4	D	13	150	100	3	D	13	482.44	784.3	1266.74	371.07	782.78	1153.85	605.1475	806.8633333	1994.972571	ok
16	C40	700	175	150	100	3	D	13	150	100	2	D	13	482.44	782.78	1265.22	370.43	782.78	1153.21	604.6075	806.1433333	1496.229429	ok
17	C40	700	175	150	100	3	D	13	150	100	2	D	13	371.07	782.78	1153.85	370.43	675.76	1046.19	550.01	733.3466667	1496.229429	ok
18	C40	700	175	150	100	3	D	13	150	100	2	D	13	370.43	782.78	1153.21	370.43	674.59	1045.02	549.5575	732.7433333	1496.229429	ok
19	C40	700	175	150	100	3	D	13	150	100	2	D	13	370.43	675.76	1046.19	369.58	674.59	1044.17	522.59	696.7866667	1496.229429	ok
20	C40	600	150	150	100	3	D	13	150	100	2	D	13	370.43	674.59	1045.02	369.58	566.91	936.49	495.3775	660.5033333	1496.229429	ok
21	C40	600	150	150	100	3	D	13	150	100	2	D	13	369.58	674.59	1044.17	369.58	457.75	827.33	467.875	623.8333333	1496.229429	ok
ATAP	C40	600	150	150	100	3	D	13	150	100	2	D	13	369.58	566.91	936.49	0	0	0	234.1225	312.1633333	1496.229429	ok

Tabel Hubungan Balok Kolom

Lantai	*bawah kolom*			atas kolom			*V*	As tarik balok kiri	As tekan balok kanan	*T1*	*C2 = T2*	*Vj*	*ØVn*	Ket
	Mpr+	*Mpr-*	*Mpr bawah*	*Mpr+*	*Mpr-*	*Mpr atas*								
1	0	0	0	369.58	457.75	827.33	140.2254237	1521.142857	1140.857143	760.5714286	570.4285714	1190.774576	5214.318747	ok
2	370.43	566.91	937.34	482.44	675.7	1158.14	355.1661017	1901.428571	1521.142857	950.7142857	760.5714286	1356.119613	5214.318747	ok
3	369.58	457.75	827.33	482.80	782.72	1265.52	354.720339	1901.428571	1521.142857	950.7142857	760.5714286	1356.565375	5214.318747	ok
5	482.44	675.7	1158.14	593.92	784.30	1378.22	429.8915254	1901.428571	1521.142857	950.7142857	760.5714286	1281.394189	5214.318747	ok
6	482.8	782.72	1265.52	593.92	784.30	1378.22	448.0915254	1901.428571	1901.428571	950.7142857	950.7142857	1453.337046	4692.886873	ok
7	593.92	784.3	1378.22	593.92	784.30	1378.22	467.1932203	2281.714286	1901.428571	1140.857143	950.7142857	1624.378208	4692.886873	ok
8	593.92	784.3	1378.22	593.92	784.30	1378.22	467.1932203	2281.714286	1901.428571	1140.857143	950.7142857	1624.378208	4692.886873	ok
9	593.92	784.3	1378.22	593.92	784.30	1378.22	467.1932203	1901.428571	1901.428571	950.7142857	950.7142857	1434.235351	4692.886873	ok
10	593.92	784.3	1378.22	593.92	784.30	1378.22	467.1932203	1901.428571	1901.428571	950.7142857	950.7142857	1434.235351	4171.454998	ok
11	593.92	784.3	1378.22	593.92	784.30	1378.22	467.1932203	1901.428571	1901.428571	950.7142857	950.7142857	1434.235351	4171.454998	ok
12	593.92	784.3	1378.22	482.80	782.78	1265.58	448.1016949	1901.428571	1901.428571	950.7142857	950.7142857	1453.326877	4171.454998	ok
15	593.92	784.3	1378.22	482.80	782.78	1265.58	448.1016949	1901.428571	1521.142857	950.7142857	760.5714286	1263.184019	4171.454998	ok
16	482.8	782.78	1265.58	482.80	782.78	1265.58	429.0101695	1901.428571	1521.142857	950.7142857	760.5714286	1282.275545	3650.023123	ok
17	482.8	782.78	1265.58	482.44	675.76	1158.2	410.8101695	1521.142857	1521.142857	760.5714286	760.5714286	1110.332688	3650.023123	ok
18	482.8	782.78	1265.58	371.07	674.79	1045.86	391.7694915	1521.142857	1521.142857	760.5714286	760.5714286	1129.373366	3650.023123	ok
19	482.44	675.76	1158.2	371.07	674.59	1045.66	373.5355932	1521.142857	1140.857143	760.5714286	570.4285714	957.4644068	3650.023123	ok
20	371.07	674.79	1045.86	370.43	566.91	937.34	336.1355932	1901.428571	1521.142857	950.7142857	760.5714286	1375.150121	2234.708035	ok
21	371.07	674.59	1045.66	369.58	457.75	827.33	317.4559322	1521.142857	1521.142857	760.5714286	760.5714286	1203.686925	2234.708035	ok
ATAP	370.43	566.91	937.34	0	0	0	158.8711864	1140.857143	1140.857143	570.4285714	570.4285714	981.9859564	2234.708035	ok

L O A D I N G C O M B I N A T I O N S

COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
COMB1	ADD	DL	Static	1.4000
		SDEAD	Static	1.4000
COMB2	ADD	DL	Static	1.2000
		LIVE	Static	1.6000
		SDEAD	Static	1.2000
COMB3	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	1.0000
		EY	Static	0.3000
		SDEAD	Static	1.2000
COMB4	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	1.0000
		EY	Static	-0.3000
		SDEAD	Static	1.2000
COMB5	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	-1.0000
		EY	Static	0.3000
		SDEAD	Static	1.2000
COMB6	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	-1.0000
		EY	Static	-0.3000
		SDEAD	Static	1.2000
COMB7	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	0.3000
		EY	Static	1.0000
		SDEAD	Static	1.2000
COMB8	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	0.3000
		EY	Static	-1.0000
		SDEAD	Static	1.2000
COMB9	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	-0.3000
		EY	Static	1.0000
		SDEAD	Static	1.2000
COMB10	ADD	DL	Static	1.2000
		LIVE	Static	1.0000
		EX	Static	-0.3000
		EY	Static	-1.0000
		SDEAD	Static	1.2000
COMB11	ADD	DL	Static	0.9000
		EX	Static	1.0000
		EY	Static	0.3000
		SDEAD	Static	0.9000
COMB12	ADD	DL	Static	0.9000
		EX	Static	1.0000
		EY	Static	-0.3000
		SDEAD	Static	0.9000
COMB13	ADD	DL	Static	0.9000
		EX	Static	-1.0000
		EY	Static	0.3000
		SDEAD	Static	0.9000
COMB14	ADD	DL	Static	0.9000
		EX	Static	-1.0000
		EY	Static	-0.3000
		SDEAD	Static	0.9000
COMB15	ADD	DL	Static	0.9000
		EX	Static	0.3000
		EY	Static	1.0000
		SDEAD	Static	0.9000
COMB16	ADD	DL	Static	0.9000
		EX	Static	0.3000
		EY	Static	-1.0000
		SDEAD	Static	0.9000
COMB17	ADD	DL	Static	0.9000
		EX	Static	-0.3000
		EY	Static	1.0000
		SDEAD	Static	0.9000
COMB18	ADD	DL	Static	0.9000
		EX	Static	-0.3000
		EY	Static	-1.0000
		SDEAD	Static	0.9000

C E N T E R S O F C U M U L A T I V E M A S S & C E N T E R S O F R I G I D I T Y

STORY LEVEL	DIAPHRAGM NAME	/----------CENTER OF MASS----------//--CENTER OF RIGIDITY--/ MASS	ORDINATE-X	ORDINATE-Y	ORDINATE-X	ORDINATE-Y
ATAP	D1	521.0473	27.936	5.426	27.424	5.804
LT.21	D1	1148.274	27.953	5.452	27.425	5.808
LT.20	D1	1775.501	27.959	5.459	27.427	5.809

LT.19	D1	2416.405	27.954	5.464	27.428	5.81
LT.18	D1	3074.985	27.944	5.467	27.43	5.806
LT.17	D1	3733.564	27.938	5.469	27.432	5.801
LT.16	D1	4392.144	27.933	5.47	27.436	5.797
LT.15	D1	5067.124	27.926	5.472	27.441	5.791
LT.12	D1	5762.501	27.916	5.473	27.448	5.783
LT.11	D1	6457.879	27.908	5.474	27.458	5.774
LT.10	D1	7153.257	27.902	5.475	27.47	5.763
LT.9	D1	7867.757	27.894	5.476	27.485	5.752
LT.8	D1	8605.377	27.884	5.477	27.502	5.737
LT7	D1	9342.998	27.876	5.478	27.523	5.72
LT.6	D1	10080.62	27.869	5.479	27.546	5.7
LT.5	D1	10840.08	27.861	5.48	27.568	5.675
LT.3	D1	11625.39	27.851	5.481	27.584	5.643
LT.2	D1	12410.7	27.842	5.481	27.585	5.602
LT.1	D1	13229.51	27.833	5.482	27.508	5.562

R E S P O N S E S P E C T R U M B A S E R E A C T I O N S
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE		DIR	F1	F2	F3	M1	M2	M3
EX	Mode	1	U1	8173.34	-163.68	0	6026.491	279834.5	-49330.7
EX	Mode	2	U1	0.05	15.99	0	-583.613	1.362	445.673
EX	Mode	3	U1	13.44	173.99	0	-6332.09	428.452	4779.362
EX	Mode	4	U1	1268.65	-23.72	0	546.439	-4872.98	-7646.92
EX	Mode	5	U1	0.45	-6.09	0	41.371	0.131	-171.236
EX	Mode	6	U1	0.83	39.43	0	-257.315	1.336	1088.949
EX	Mode	7	U1	476.34	-25.79	0	145.288	3395.657	-3324.82
EX	Mode	8	U1	218.62	0.57	0	10.478	-20.205	-1190.37
EX	Mode	9	U1	0	0.01	0	-0.082	-0.001	0.343
EX	Mode	10	U1	127.72	-2.54	0	12.881	540.604	-769.254
EX	Mode	11	U1	0.01	2.81	0	-17.719	0.092	77.808
EX	Mode	12	U1	79.64	-0.33	0	4.293	63.907	-449.175
EX	Mode	13	U1	0.01	-0.14	0	0.523	0.014	-3.905
EX	Mode	14	U1	55.67	0.6	0	-3.005	173.976	-287.547
EX	Mode	15	U1	0	-0.4	0	1.34	0.007	-11.102
EX	Mode	16	U1	39.74	0.09	0	0.618	37.282	-217.194
EX	Mode	17	U1	0	0.02	0	-0.073	0.002	0.641
EX	Mode	18	U1	30.08	-0.15	0	-0.032	80.852	-168.65
EX	Mode	19	U1	0	0.17	0	-0.52	0.001	4.727
EX	Mode	20	U1	23.46	-0.08	0	0.721	16.872	-131.838
EX	Mode	21	U1	0	-0.02	0	0.039	0	-0.496
EX	Mode	22	U1	16.63	0.04	0	-0.207	33.424	-89.332
EX	Mode	23	U1	0	-0.03	0	0.055	0	-0.757
EX	Mode	24	U1	12.33	0.01	0	0.061	14.722	-67.657
EX	Mode	25	U1	0	0	0	-0.004	0	0.062
EX	Mode	26	U1	10.65	-0.02	0	0.023	17.783	-58.817
EX	Mode	27	U1	0	0.04	0	-0.068	0	0.981
EX	Mode	28	U1	9.62	-0.02	0	0.035	13.81	-53.354
EX	Mode	29	U1	0	-0.01	0	0.009	0	-0.178

EX	Mode	30	U1	5.33	0	0	0.018	6.791	-29.187
EX	Mode	31	U1	0	0	0	-0.001	0	0.018
EX	Mode	32	U1	0	0	0	0.003	0	-0.075
EX	Mode	33	U1	7.38	0	0	-0.009	10.468	-40.549
EX	Mode	34	U1	5.05	0	0	0.023	5.816	-27.846
EX	Mode	35	U1	0	0.01	0	-0.008	0	0.154
EX	Mode	36	U1	0	0	0	0.002	0	-0.057
EX	Mode	37	U1	3.67	0	0	-0.003	4.888	-20.188
EX	Mode	38	U1	0	0	0	0.002	0	-0.05
EX	All		All	8306.14	236.7	0	8590.433	279920.8	49748.1
EY	Mode	1	U2	-163.68	3.28	0	-120.687	-5604	987.902
EY	Mode	2	U2	15.99	5381.36	0	-196447	458.439	150016.1
EY	Mode	3	U2	173.99	2252.08	0	-81961.4	5545.797	61863.15
EY	Mode	4	U2	-23.72	0.44	0	-10.217	91.109	142.973
EY	Mode	5	U2	-6.09	82.39	0	-560.11	-1.776	2318.296
EY	Mode	6	U2	39.43	1882.79	0	-12285.5	63.772	51991.82
EY	Mode	7	U2	-25.79	1.4	0	-7.866	-183.842	180.006
EY	Mode	8	U2	0.57	0	0	0.027	-0.053	-3.097
EY	Mode	9	U2	0.01	6.41	0	-42.401	-0.649	177.651
EY	Mode	10	U2	-2.54	0.05	0	-0.257	-10.771	15.327
EY	Mode	11	U2	2.81	542.01	0	-3415.92	17.738	14999.96
EY	Mode	12	U2	-0.33	0	0	-0.018	-0.267	1.88
EY	Mode	13	U2	-0.14	1.43	0	-5.405	-0.14	40.349
EY	Mode	14	U2	0.6	0.01	0	-0.032	1.872	-3.094
EY	Mode	15	U2	-0.4	243.42	0	-814.713	-4.134	6748.139
EY	Mode	16	U2	0.09	0	0	0.001	0.083	-0.485
EY	Mode	17	U2	0.02	0.52	0	-1.621	0.037	14.203
EY	Mode	18	U2	-0.15	0	0	0	-0.41	0.854
EY	Mode	19	U2	0.17	126.57	0	-385.073	0.716	3501.481
EY	Mode	20	U2	-0.08	0	0	-0.002	-0.055	0.431
EY	Mode	21	U2	-0.02	0.31	0	-0.677	0.005	8.627
EY	Mode	22	U2	0.04	0	0	-0.001	0.089	-0.238
EY	Mode	23	U2	-0.03	74.44	0	-149.823	-0.431	2062.777
EY	Mode	24	U2	0.01	0	0	0	0.017	-0.08
EY	Mode	25	U2	0	0.17	0	-0.323	-0.003	4.809
EY	Mode	26	U2	-0.02	0	0	0	-0.037	0.122
EY	Mode	27	U2	0.04	45.01	0	-86.724	0.126	1244.141
EY	Mode	28	U2	-0.02	0	0	0	-0.024	0.094
EY	Mode	29	U2	-0.01	0.12	0	-0.176	-0.002	3.408
EY	Mode	30	U2	0	0	0	0	0.002	-0.01
EY	Mode	31	U2	0	28.59	0	-40.665	-0.082	792.39
EY	Mode	32	U2	0	0.09	0	-0.123	-0.006	2.62
EY	Mode	33	U2	0	0	0	0	-0.001	0.004
EY	Mode	34	U2	0	0	0	0	-0.004	0.02
EY	Mode	35	U2	0.01	18.69	0	-26.898	0.025	515.63
EY	Mode	36	U2	0	0.08	0	-0.091	0.003	2.301
EY	Mode	37	U2	0	0	0	0	-0.002	0.009
EY	Mode	38	U2	0	0.04	0	-0.037	-0.005	1.004
EY	All		All	236.7	7745.18	0	272403.3	7683.373	215096.5

COLOUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
LT.2	C40	EX							
			0	35	271.62	8.88	0.53	9.341	530.191
			1	35	271.62	8.88	0.53	0.457	258.574
			2	35	271.62	8.88	0.53	-8.427	-13.043
LT.2	C40	EY							
			0	-191.13	-7.98	57.49	0.788	157.239	-10.994
			1	-191.13	-7.98	57.49	0.788	99.745	-3.012
			2	-191.13	-7.98	57.49	0.788	42.251	4.97
LT.2	C40	COMB1							
			0	-5654.63	8	-38.11	0.278	-53.529	11.498
			1	-5621.03	8	-38.11	0.278	-15.42	3.502
			2	-5587.43	8	-38.11	0.278	22.689	-4.495
LT.2	C40	COMB2							
			0	-6079.77	9.04	-41.3	0.253	-57.848	13.109
			1	-6050.97	9.04	-41.3	0.253	-16.548	4.065
			2	-6022.17	9.04	-41.3	0.253	24.752	-4.979
LT.2	C40	COMB3							
			0	-5639.75	277.45	-11.93	1.014	3.152	538.782
			1	-5610.95	277.45	-11.93	1.014	15.082	261.337
			2	-5582.15	277.45	-11.93	1.014	27.011	-16.109
LT.2	C40	COMB4							
			0	-5525.08	282.23	-46.43	0.541	-91.191	545.378
			1	-5496.28	282.23	-46.43	0.541	-44.765	263.144
			2	-5467.48	282.23	-46.43	0.541	1.66	-19.091
LT.2	C40	COMB5							
			0	-5709.75	-265.79	-29.7	-0.046	-15.531	-521.6
			1	-5680.95	-265.79	-29.7	-0.046	14.167	-255.811
			2	-5652.15	-265.79	-29.7	-0.046	43.866	9.977
LT.2	C40	COMB6							
			0	-5595.08	-261	-64.19	-0.519	-109.874	-515.004
			1	-5566.28	-261	-64.19	-0.519	-45.68	-254.004
			2	-5537.48	-261	-64.19	-0.519	18.515	6.995
LT.2	C40	COMB7							
			0	-5798.04	81.73	22.1	1.195	106.68	159.953
			1	-5769.24	81.73	22.1	1.195	84.583	78.227
			2	-5740.44	81.73	22.1	1.195	62.486	-3.5
LT.2	C40	COMB8							
			0	-5415.79	97.69	-92.89	-0.382	-207.797	181.94
			1	-5386.99	97.69	-92.89	-0.382	-114.907	84.25
			2	-5358.19	97.69	-92.89	-0.382	-22.017	-13.44
LT.2	C40	COMB9							
			0	-5819.04	-81.24	16.77	0.877	101.076	-158.162
			1	-5790.24	-81.24	16.77	0.877	84.309	-76.918
			2	-5761.44	-81.24	16.77	0.877	67.542	4.326
LT.2	C40	COMB10							
			0	-5436.79	-65.28	-98.22	-0.7	-213.402	-136.175
			1	-5407.99	-65.28	-98.22	-0.7	-115.181	-70.894

				2	-5379.19	-65.28	-98.22	-0.7	-16.96	-5.614
	LT.2	C40	COMB11							
				0	-3657.46	274.36	1.63	0.945	22.102	534.285
				1	-3635.86	274.36	1.63	0.945	20.468	259.922
				2	-3614.26	274.36	1.63	0.945	18.834	-14.442
	LT.2	C40	COMB12							
				0	-3542.78	279.15	-32.86	0.472	-72.242	540.881
				1	-3521.18	279.15	-32.86	0.472	-39.379	261.729
				2	-3499.58	279.15	-32.86	0.472	-6.517	-17.423
	LT.2	C40	COMB13							
				0	-3727.46	-268.87	-16.13	-0.114	3.419	-526.097
				1	-3705.86	-268.87	-16.13	-0.114	19.554	-257.226
				2	-3684.26	-268.87	-16.13	-0.114	35.689	11.645
	LT.2	C40	COMB14							
				0	-3612.78	-264.08	-50.63	-0.587	-90.925	-519.501
				1	-3591.18	-264.08	-50.63	-0.587	-40.293	-255.419
				2	-3569.58	-264.08	-50.63	-0.587	10.338	8.663
	LT.2	C40	COMB15							
				0	-3815.75	78.64	35.66	1.126	125.63	155.456
				1	-3794.15	78.64	35.66	1.126	89.969	76.812
				2	-3772.55	78.64	35.66	1.126	54.309	-1.832
	LT.2	C40	COMB16							
				0	-3433.49	94.61	-79.33	-0.45	-188.848	177.443
				1	-3411.89	94.61	-79.33	-0.45	-109.521	82.835
				2	-3390.29	94.61	-79.33	-0.45	-30.193	-11.772
	LT.2	C40	COMB17							
				0	-3836.75	-84.33	30.33	0.808	120.025	-162.659
				1	-3815.15	-84.33	30.33	0.808	89.695	-78.333
				2	-3793.55	-84.33	30.33	0.808	59.365	5.993
	LT.2	C40	COMB18							
				0	-3454.49	-68.36	-84.66	-0.768	-194.453	-140.672
				1	-3432.89	-68.36	-84.66	-0.768	-109.795	-72.309
				2	-3411.29	-68.36	-84.66	-0.768	-25.137	-3.946

BEAM FORCES

STORY	BEAM	LOAD	LOC	P	V2	V3	T	M2	M3
LT.1	B17	DL							
			0.5	0	-44.85	0	-0.056	0	-25.219
			1	0	-35.96	0	-0.056	0	-4.955
			1.5	0	-25.62	0	-0.056	0	10.501
			2	0	-14.21	0	-0.056	0	20.49
			2.5	0	-2.07	0	-0.056	0	24.591
			3	0	10.06	0	-0.056	0	22.565
			3.5	0	21.48	0	-0.056	0	14.651
			4	0	31.81	0	-0.056	0	1.27
			4.5	0	40.71	0	-0.056	0	-16.919
LT.1	B17	SDEAD							
			0.5	0	-8.36	0	-0.012	0	-4.931
			1	0	-7.26	0	-0.012	0	-0.995
			1.5	0	-5.42	0	-0.012	0	2.205

			2	0	-3.03	0	-0.012	0	4.334
			2.5	0	-0.28	0	-0.012	0	5.177
			3	0	2.48	0	-0.012	0	4.611
			3.5	0	4.87	0	-0.012	0	2.759
			4	0	6.71	0	-0.012	0	-0.166
			4.5	0	7.81	0	-0.012	0	-3.825
LT.1	B17	LIVE							
			0.5	0	-14.29	0	-0.022	0	-8.524
			1	0	-12.41	0	-0.022	0	-1.796
			1.5	0	-9.29	0	-0.022	0	3.681
			2	0	-5.23	0	-0.022	0	7.336
			2.5	0	-0.54	0	-0.022	0	8.804
			3	0	4.15	0	-0.022	0	7.875
			3.5	0	8.21	0	-0.022	0	4.759
			4	0	11.34	0	-0.022	0	-0.18
			4.5	0	13.21	0	-0.022	0	-6.369
LT.1	B17	COMB1							
			0.5	0	-74.5	0	-0.096	0	-42.21
			1	0	-60.51	0	-0.096	0	-8.331
			1.5	0	-43.47	0	-0.096	0	17.789
			2	0	-24.14	0	-0.096	0	34.754
			2.5	0	-3.29	0	-0.096	0	41.675
			3	0	17.56	0	-0.096	0	38.046
			3.5	0	36.88	0	-0.096	0	24.373
			4	0	53.92	0	-0.096	0	1.545
			4.5	0	67.92	0	-0.096	0	-29.042
LT.1	B17	COMB2							
			0.5	0	-86.72	0	-0.117	0	-49.819
			1	0	-71.72	0	-0.117	0	-10.015
			1.5	0	-52.12	0	-0.117	0	21.138
			2	0	-29.05	0	-0.117	0	41.527
			2.5	0	-3.68	0	-0.117	0	49.807
			3	0	21.69	0	-0.117	0	45.211
			3.5	0	44.75	0	-0.117	0	28.506
			4	0	64.36	0	-0.117	0	1.037
			4.5	0	79.35	0	-0.117	0	-35.083
LT.1	B17	COMB3							
			0.5	0	14.32	0	0.086	0	139.362
			1	0	28.19	0	0.086	0	128.895
			1.5	0	45.93	0	0.086	0	110.526
			2	0	66.55	0	0.086	0	82.487
			2.5	0	89.11	0	0.086	0	43.652
			3	0	111.67	0	0.086	0	-6.622
			3.5	0	132.29	0	0.086	0	-67.693
			4	0	150.03	0	0.086	0	-138.433
			4.5	0	163.9	0	0.086	0	-217.074
LT.1	B17	COMB4							
			0.5	0	14.3	0	0.116	0	139.614
			1	0	28.18	0	0.116	0	129.155
			1.5	0	45.91	0	0.116	0	110.794

			2	0	66.54	0	0.116	0	82.764
			2.5	0	89.09	0	0.116	0	43.937
			3	0	111.65	0	0.116	0	-6.328
			3.5	0	132.28	0	0.116	0	-67.39
			4	0	150.01	0	0.116	0	-138.122
			4.5	0	163.88	0	0.116	0	-216.755
LT.1	B17	COMB5							
			0.5	0	-170.6	0	-0.323	0	-229.023
			1	0	-156.73	0	-0.323	0	-147.029
			1.5	0	-139	0	-0.323	0	-72.936
			2	0	-118.37	0	-0.323	0	-8.514
			2.5	0	-95.81	0	-0.323	0	45.113
			3	0	-73.26	0	-0.323	0	87.3
			3.5	0	-52.63	0	-0.323	0	118.691
			4	0	-34.9	0	-0.323	0	140.412
			4.5	0	-21.03	0	-0.323	0	154.232
LT.1	B17	COMB6							
			0.5	0	-170.62	0	-0.294	0	-228.771
			1	0	-156.75	0	-0.294	0	-146.769
			1.5	0	-139.01	0	-0.294	0	-72.668
			2	0	-118.39	0	-0.294	0	-8.237
			2.5	0	-95.83	0	-0.294	0	45.398
			3	0	-73.27	0	-0.294	0	87.594
			3.5	0	-52.65	0	-0.294	0	118.993
			4	0	-34.91	0	-0.294	0	140.723
			4.5	0	-21.04	0	-0.294	0	154.551
LT.1	B17	COMB7							
			0.5	0	-50.38	0	-0.092	0	10.134
			1	0	-36.51	0	-0.092	0	32.018
			1.5	0	-18.78	0	-0.092	0	46.001
			2	0	1.85	0	-0.092	0	50.313
			2.5	0	24.41	0	-0.092	0	43.83
			3	0	46.96	0	-0.092	0	25.908
			3.5	0	67.59	0	-0.092	0	-2.811
			4	0	85.32	0	-0.092	0	-41.2
			4.5	0	99.19	0	-0.092	0	-87.49
LT.1	B17	COMB8							
			0.5	0	-50.44	0	0.008	0	10.973
			1	0	-36.57	0	0.008	0	32.885
			1.5	0	-18.83	0	0.008	0	46.896
			2	0	1.79	0	0.008	0	51.237
			2.5	0	24.35	0	0.008	0	44.782
			3	0	46.91	0	0.008	0	26.887
			3.5	0	67.53	0	0.008	0	-1.803
			4	0	85.27	0	0.008	0	-40.164
			4.5	0	99.14	0	0.008	0	-86.426
LT.1	B17	COMB9							
			0.5	0	-105.86	0	-0.215	0	-100.382
			1	0	-91.99	0	-0.215	0	-50.759
			1.5	0	-74.25	0	-0.215	0	-9.038

			2	0	-53.63	0	-0.215	0	23.013
			2.5	0	-31.07	0	-0.215	0	44.268
			3	0	-8.51	0	-0.215	0	54.084
			3.5	0	12.11	0	-0.215	0	53.104
			4	0	29.85	0	-0.215	0	42.454
			4.5	0	43.72	0	-0.215	0	23.902
LT.1	B17	COMB10							
			0.5	0	-105.92	0	-0.115	0	-99.542
			1	0	-92.04	0	-0.115	0	-49.892
			1.5	0	-74.31	0	-0.115	0	-8.143
			2	0	-53.68	0	-0.115	0	23.937
			2.5	0	-31.13	0	-0.115	0	45.22
			3	0	-8.57	0	-0.115	0	55.064
			3.5	0	12.06	0	-0.115	0	54.112
			4	0	29.79	0	-0.115	0	43.489
			4.5	0	43.66	0	-0.115	0	24.966
LT.1	B17	COMB11							
			0.5	0	44.58	0	0.129	0	156.932
			1	0	53.57	0	0.129	0	132.476
			1.5	0	64.53	0	0.129	0	103.033
			2	0	76.95	0	0.129	0	67.704
			2.5	0	90.35	0	0.129	0	25.918
			3	0	103.76	0	0.129	0	-22.65
			3.5	0	116.18	0	0.129	0	-77.674
			4	0	127.13	0	0.129	0	-138.584
			4.5	0	136.13	0	0.129	0	-204.482
LT.1	B17	COMB12							
			0.5	0	44.56	0	0.158	0	157.183
			1	0	53.56	0	0.158	0	132.736
			1.5	0	64.51	0	0.158	0	103.301
			2	0	76.93	0	0.158	0	67.981
			2.5	0	90.34	0	0.158	0	26.204
			3	0	103.74	0	0.158	0	-22.356
			3.5	0	116.16	0	0.158	0	-77.372
			4	0	127.12	0	0.158	0	-138.274
			4.5	0	136.12	0	0.158	0	-204.163
LT.1	B17	COMB13							
			0.5	0	-140.35	0	-0.281	0	-211.453
			1	0	-131.35	0	-0.281	0	-143.447
			1.5	0	-120.39	0	-0.281	0	-80.43
			2	0	-107.97	0	-0.281	0	-23.297
			2.5	0	-94.57	0	-0.281	0	27.379
			3	0	-81.17	0	-0.281	0	71.272
			3.5	0	-68.74	0	-0.281	0	108.709
			4	0	-57.79	0	-0.281	0	140.261
			4.5	0	-48.79	0	-0.281	0	166.824
LT.1	B17	COMB14							
			0.5	0	-140.36	0	-0.251	0	-211.202
			1	0	-131.37	0	-0.251	0	-143.187

			1.5	0	-120.41	0	-0.251	0	-80.161
			2	0	-107.99	0	-0.251	0	-23.02
			2.5	0	-94.59	0	-0.251	0	27.664
			3	0	-81.18	0	-0.251	0	71.566
			3.5	0	-68.76	0	-0.251	0	109.011
			4	0	-57.81	0	-0.251	0	140.571
			4.5	0	-48.81	0	-0.251	0	167.143
LT.1	B17	COMB15							
			0.5	0	-20.13	0	-0.05	0	27.703
			1	0	-11.13	0	-0.05	0	35.599
			1.5	0	-0.18	0	-0.05	0	38.508
			2	0	12.25	0	-0.05	0	35.53
			2.5	0	25.65	0	-0.05	0	26.096
			3	0	39.05	0	-0.05	0	9.88
			3.5	0	51.48	0	-0.05	0	-12.793
			4	0	62.43	0	-0.05	0	-41.351
			4.5	0	71.43	0	-0.05	0	-74.898
LT.1	B17	COMB16							
			0.5	0	-20.18	0	0.05	0	28.542
			1	0	-11.19	0	0.05	0	36.467
			1.5	0	-0.23	0	0.05	0	39.403
			2	0	12.19	0	0.05	0	36.453
			2.5	0	25.59	0	0.05	0	27.048
			3	0	39	0	0.05	0	10.859
			3.5	0	51.42	0	0.05	0	-11.785
			4	0	62.37	0	0.05	0	-40.315
			4.5	0	71.37	0	0.05	0	-73.834
LT.1	B17	COMB17							
			0.5	0	-75.61	0	-0.173	0	-82.812
			1	0	-66.61	0	-0.173	0	-47.178
			1.5	0	-55.65	0	-0.173	0	-16.531
			2	0	-43.23	0	-0.173	0	8.23
			2.5	0	-29.83	0	-0.173	0	26.535
			3	0	-16.42	0	-0.173	0	38.057
			3.5	0	-4	0	-0.173	0	43.122
			4	0	6.95	0	-0.173	0	42.302
			4.5	0	15.95	0	-0.173	0	36.494
LT.1	B17	COMB18							
			0.5	0	-75.66	0	-0.073	0	-81.973
			1	0	-66.66	0	-0.073	0	-46.31
			1.5	0	-55.71	0	-0.073	0	-15.636
			2	0	-43.28	0	-0.073	0	9.153
			2.5	0	-29.88	0	-0.073	0	27.486
			3	0	-16.48	0	-0.073	0	39.036
			3.5	0	-4.06	0	-0.073	0	44.13
			4	0	6.9	0	-0.073	0	43.338
			4.5	0	15.9	0	-0.073	0	37.558

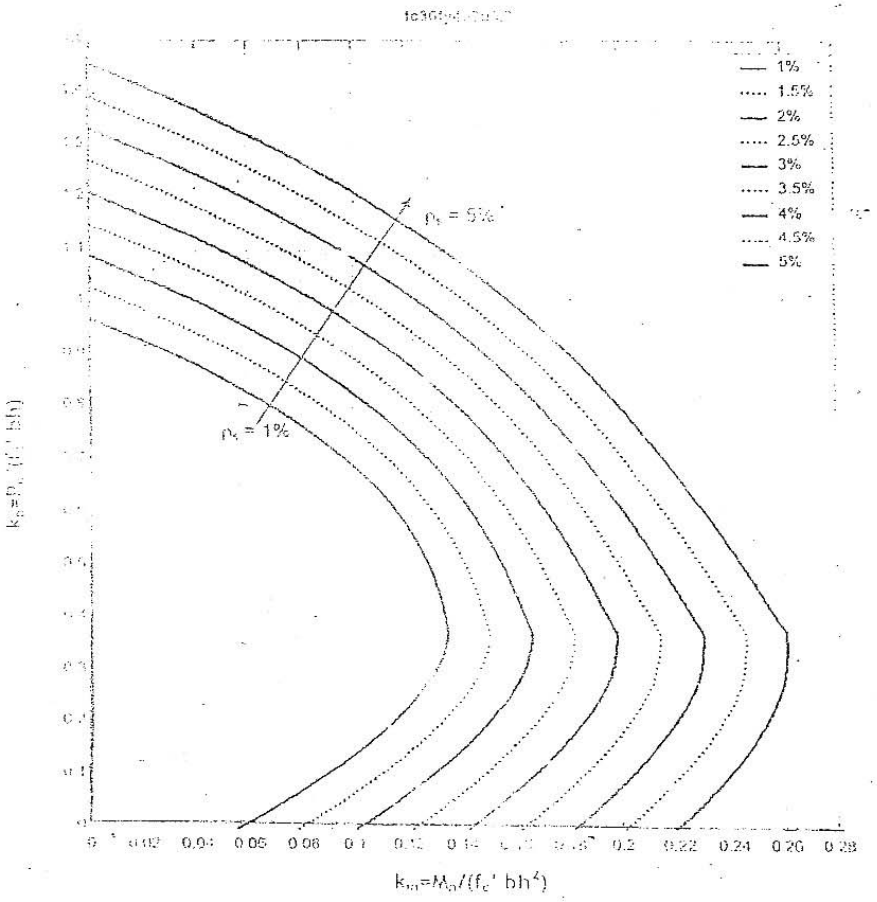
P I E R F O R C E

STORY	PIER	LOAD	LOC	P	V2	V3	T	M2	M3
LT.1	P2	SDEAD							
			Top	-516.78	-2.92	-0.09	-0.034	0.058	15.463
			Bottom	-516.78	-2.92	-0.09	-0.034	-0.22	6.122
LT.1	P2	LIVE							
			Top	-849.95	-4.94	-0.13	-0.051	0.188	33.137
			Bottom	-849.95	-4.94	-0.13	-0.051	-0.233	17.338
LT.1	P2	COMB1							
			Top	-7339.86	-20.27	-0.85	-0.163	1.319	136.949
			Bottom	-7554.9	-20.27	-0.85	-0.163	-1.414	72.07
LT.1	P2	COMB2							
			Top	-7651.23	-25.28	-0.94	-0.221	1.431	170.403
			Bottom	-7835.55	-25.28	-0.94	-0.221	-1.585	89.516
LT.1	P2	COMB3							
			Top	-6454.33	356.7	-98.96	0.487	4.489	1145.459
			Bottom	-6638.65	356.7	-98.96	0.487	-312.175	2286.889
LT.1	P2	COMB4							
			Top	-7724.29	-410.13	-98.78	-0.395	4.048	-1022.64
			Bottom	-7908.61	-410.13	-98.78	-0.395	-312.063	-2335.05
LT.1	P2	COMB5							
			Top	-6558.23	365.5	97.06	0.013	-1.411	1323.681
			Bottom	-6742.55	365.5	97.06	0.013	309.173	2493.273
LT.1	P2	COMB6							
			Top	-7828.19	-401.33	97.23	-0.868	-1.852	-844.417
			Bottom	-8012.51	-401.33	97.23	-0.868	309.285	-2128.66
LT.1	P2	COMB7							
			Top	-5009.08	1254.41	-30.55	1.349	2.938	3737.283
			Bottom	-5193.4	1254.41	-30.55	1.349	-94.834	7751.383
LT.1	P2	COMB8							
			Top	-9242.27	-1301.68	-29.98	-1.588	1.468	-3489.71
			Bottom	-9426.59	-1301.68	-29.98	-1.588	-94.46	-7655.07
LT.1	P2	COMB9							
			Top	-5040.25	1257.05	28.25	1.207	1.168	3790.75
			Bottom	-5224.57	1257.05	28.25	1.207	91.57	7813.298
LT.1	P2	COMB10							
			Top	-9273.44	-1299.04	28.83	-1.73	-0.302	-3436.24
			Bottom	-9457.76	-1299.04	28.83	-1.73	91.944	-7593.16
LT.1	P2	COMB11							
			Top	-4031.55	365.98	-98.64	0.573	4.018	1082.976
			Bottom	-4169.79	365.98	-98.64	0.573	-311.639	2254.107
LT.1	P2	COMB12							
			Top	-5301.51	-400.85	-98.47	-0.309	3.577	-1085.12
			Bottom	-5439.75	-400.85	-98.47	-0.309	-311.527	-2367.83
LT.1	P2	COMB13							
			Top	-4135.46	374.78	97.37	0.099	-1.882	1261.198
			Bottom	-4273.7	374.78	97.37	0.099	309.709	2460.491
LT.1	P2	COMB14							
			Top	-5405.41	-392.05	97.54	-0.782	-2.323	-906.899

			Bottom	-5543.65	-392.05	97.54	-0.782	309.821	-2161.45
LT.1	P2	COMB15							
			Top	-2586.3	1263.69	-30.24	1.435	2.468	3674.801
			Bottom	-2724.54	1263.69	-30.24	1.435	-94.298	7718.601
LT.1	P2	COMB16							
			Top	-6819.49	-1292.39	-29.66	-1.502	0.998	-3552.19
			Bottom	-6957.73	-1292.39	-29.66	-1.502	-93.924	-7687.85
LT.1	P2	COMB17							
			Top	-2617.47	1266.33	28.57	1.293	0.698	3728.267
			Bottom	-2755.71	1266.33	28.57	1.293	92.106	7780.516
LT.1	P2	COMB18							
			Top	-6850.66	-1289.75	29.14	-1.644	-0.772	-3498.72
			Bottom	-6988.9	-1289.75	29.14	-1.644	92.48	-7625.94

LAMPIRAN 10	Hal. 203
DIAGRAM INTERAKSI KOLOM	

Non-Dimensional Interaction Diagram
Four Faces



Tabel 13.3.2

Momen di dalam pelat persegi yang menumpu pada keempat tepinya akibat beban terbagi rata

			ly/lx	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	2,2	2,3	2,4	2,5	>2,5
I			(Mlx) = 0,001 $q l x^2$ X	44	52	59	66	73	78	84	88	93	97	100	103	106	108	110	112	125
			(Mly) = 0,001 $q l x^2$ X	44	45	45	44	44	43	41	40	39	38	37	36	35	34	32	32	25
II		(Mlx) =	– (Mtx) = 0,001 $q l x^2$ X	36	42	46	50	53	56	58	59	60	61	62	62	62	63	63	63	63
			(Mly) = 0,001 $q l x^2$ X	36	37	38	38	38	37	36	36	35	35	35	34	34	34	34	34	13
			– (Mty) = 0,001 $q l x^2$ X	36	37	38	38	38	37	36	36	35	35	35	34	34	34	34	34	38
III		(Mlx) =	– (Mtx) = 0,001 $q l x^2$ X	48	55	61	67	71	76	79	82	84	86	88	89	90	91	92	92	94
			(Mly) = 0,001 $q l x^2$ X	48	50	51	51	51	51	51	50	50	49	49	49	48	48	47	47	19
			– (Mty) = 0,001 $q l x^2$ X	48	50	51	51	51	51	51	50	50	49	49	49	48	48	47	47	56
IVA			(Mlx) = 0,001 $q l x^2$ X	22	28	34	41	48	55	62	68	74	80	85	89	93	97	100	103	125
			(Mly) = 0,001 $q l x^2$ X	51	57	62	67	70	73	75	77	78	79	79	79	79	79	79	79	25
			– (Mty) = 0,001 $q l x^2$ X	51	57	62	67	70	73	75	77	78	79	79	79	79	79	79	79	75
IVB		(Mlx) =	– (Mtx) = 0,001 $q l x^2$ X	51	54	57	59	60	61	62	62	63	63	63	63	63	63	63	63	63
			(Mty) = 0,001 $q l x^2$ X	22	20	18	17	15	14	13	12	11	10	10	10	9	9	9	9	13
VA			(Mlx) = 0,001 $q l x^2$ X	31	38	45	53	59	66	72	78	83	88	92	96	99	102	105	108	125
			(Mly) = 0,001 $q l x^2$ X	60	65	69	73	75	77	78	79	79	80	80	80	79	79	79	79	25
			– (Mty) = 0,001 $q l x^2$ X	60	65	69	73	75	77	78	79	79	80	80	80	79	79	79	79	75
VB		(Mlx) =	– (Mlx) = 0,001 $q l x^2$ X	60	66	71	76	79	82	85	87	88	89	90	91	91	92	92	93	94
			(Mly) = 0,001 $q l x^2$ X	31	30	28	27	25	24	22	21	20	19	18	17	17	16	16	15	12
VIA		(Mlx) =	– (Mtx) = 0,001 $q l x^2$ X	38	46	53	59	65	69	73	77	80	83	85	86	87	88	89	90	54
			(Mly) = 0,001 $q l x^2$ X	43	46	48	50	51	51	51	51	50	50	50	49	49	48	48	48	19
			– (Mty) = 0,001 $q l x^2$ X	43	46	48	50	51	51	51	51	50	50	50	49	49	48	48	48	56
VIB		(Mlx) =	– (Mtx) = 0,001 $q l x^2$ X	13	48	51	55	57	58	60	61	62	62	62	63	63	63	63	63	63
			(Mly) = 0,001 $q l x^2$ X	38	39	38	38	37	36	36	35	35	34	34	34	33	33	33	33	13
			– (Mty) = 0,001 $q l x^2$ X	38	39	38	38	37	36	36	35	35	34	34	34	33	33	33	33	38

– – – = Terletak bebas

——— = Menerus atau terjepit elastis