

## PERENCANAAN ULANG STRUKTUR BANGUNAN ATAS JEMBATAN RAJAMANDALA CIANJUR JAWA BARA

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### LAMPIRAN A SECTION PROPERTIES

jarak	H (m)	A (m <sup>2</sup> )	Ya(m)	Yb(m)	I(m <sup>4</sup> )	Wa(m <sup>3</sup> )	Wb(m <sup>3</sup> )
0	8,00	28,47	3,91	4,09	233,60	59,77	57,09
3	8,00	28,47	3,91	4,09	233,60	59,77	57,09
6	7,44	27,09	3,63	3,81	195,13	53,73	51,21
9	6,91	25,77	3,37	3,54	162,45	48,23	45,85
12	6,41	24,52	3,12	3,29	134,80	43,21	40,99
15	5,93	23,34	2,88	3,05	111,51	38,67	36,59
18	5,48	22,23	2,66	2,82	91,98	34,55	32,61
21	5,06	21,18	2,45	2,61	75,67	30,83	29,03
24	4,67	20,20	2,41	2,41	62,12	27,49	25,81
27	4,30	19,29	2,08	2,22	50,92	24,49	22,94
30	3,96	18,45	1,91	2,05	41,71	21,81	20,38
33	3,65	17,67	1,76	1,89	34,19	19,44	18,11
36	3,36	16,97	1,62	1,74	28,07	17,34	16,12
39	3,10	16,32	1,49	1,61	23,13	15,49	14,37
42	2,87	15,75	1,38	1,49	19,18	13,90	12,86
45	2,67	15,24	1,28	1,39	16,04	12,52	11,57
48	2,49	14,81	1,19	1,29	13,57	11,36	10,48
51	2,34	14,43	1,12	1,22	11,67	10,40	9,58
54	2,22	14,13	1,06	1,15	10,23	9,63	8,86
57	2,12	13,89	1,02	1,11	9,19	9,04	8,31
60	2,05	13,73	0,98	1,07	8,48	8,62	7,92
63	2,01	13,62	0,96	1,05	8,07	8,37	7,69
66	2,00	13,59	0,96	1,04	7,94	8,29	7,61
69	2,01	13,62	0,96	1,05	8,07	8,37	7,69

<b>jarak</b>	<b>H (m)</b>	<b>A (m2)</b>	<b>Ya(m)</b>	<b>Yb(m)</b>	<b>I(m4)</b>	<b>Wa(m3)</b>	<b>Wb(m3)</b>
72	2,05	<b>13,73</b>	0,98	<b>1,07</b>	<b>8,48</b>	<b>8,62</b>	<b>7,92</b>
75	2,12	13,89	1,02	1,11	9,19	9,04	8,31
78	2,22	14,13	1,06	1,15	10,23	9,63	8,86
81	2,34	14,43	1,12	1,22	11,67	10,40	9,58
84	2,49	14,81	1,19	1,29	13,57	11,36	10,48
87	2,67	15,24	1,28	1,39	16,04	12,52	11,57
90	2,87	15,75	1,38	1,49	19,18	13,90	12,86
93	3,10	16,32	1,49	1,61	23,13	15,49	14,37
96	3,36	16,97	1,62	1,74	28,07	17,34	16,12
99	3,65	17,67	1,76	1,89	34,19	19,44	18,11
102	3,96	18,45	1,91	2,05	41,71	21,81	20,38
105	4,30	19,29	2,08	2,22	50,92	24,49	22,94
108	4,67	20,20	2,41	2,41	62,12	27,49	25,81
111	5,06	21,18	2,45	2,61	75,67	30,83	29,03
114	5,48	22,23	2,66	2,82	91,98	34,55	32,61
117	5,93	23,34	2,88	3,05	111,51	38,67	36,59
120	6,41	24,52	3,12	3,29	134,80	43,21	40,99
123	6,91	25,77	3,37	3,54	162,45	48,23	45,85
126	7,44	27,09	3,63	3,81	195,13	53,73	51,21
129	8,00	28,47	3,91	4,09	233,60	59,77	57,09
132	8,00	28,47	3,91	4,09	233,60	59,77	57,09

**LAMPIRAN A1 RESUME MOMEN**

Join	Jarak	Momen pada Box Girder Prestress Akibat Beban					
		Berat Sendiri (MS)	Beban Mati Tambahan (MA)	Beban Hidup (LL)	Beban Angin (EW)	Beban Gempa (EQ)	Beban Rem (TB)
	(m)	kNm	kNm	kNm	kNm	kNm	kNm
1	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	3,00	28974,36	10878,57	10476,90	806,80	10180,48	148,53
3	6,00	56008,26	21251,16	20506,50	1576,07	19887,46	283,61
4	9,00	81242,68	31117,77	30088,80	2307,82	29120,92	406,24
5	12,00	104808,96	40478,40	39223,80	3002,04	37880,87	517,42
6	15,00	126828,78	49333,05	47911,50	3658,74	46167,31	618,15
7	18,00	147414,21	57681,72	56151,90	4277,91	53980,25	709,44
8	21,00	166667,65	65524,41	63945,00	4859,55	61319,66	792,27
9	24,00	184681,89	72861,12	71290,80	5403,67	68185,57	896,32
10	27,00	201540,07	79691,85	78189,30	5910,27	74577,97	936,57
11	30,00	217315,68	86016,60	84640,50	6379,34	80496,86	1000,02
12	33,00	232072,58	91835,37	90644,40	6810,88	85942,23	1059,00
13	36,00	245864,99	97148,16	96201,00	7204,90	90914,10	1114,48
14	39,00	258737,50	101954,97	101310,30	7561,39	95412,45	1167,44
15	42,00	270725,04	106255,80	105972,30	7880,36	99437,29	1218,85
16	45,00	281852,92	110050,65	110187,00	8161,80	102988,63	1269,69

Join	Jarak	Momen pada Box Girder Prestress Akibat Beban					
		Berat Sendiri (MS)	Beban Mati Tambahan (MA)	Beban Hidup (LL)	Beban Angin (EW)	Beban Gempa (EQ)	Beban Rem (TB)
	(m)	kNm	kNm	kNm	kNm	kNm	kNm
17	48,00	292136,81	113339,52	113954,40	8405,71	106066,45	1320,91
18	51,00	301582,72	116122,41	117274,50	8612,10	108670,76	1373,46
19	54,00	310187,05	118399,32	120147,30	8780,97	110801,56	1428,30
20	57,00	317936,53	120170,25	122572,80	8912,31	112458,84	1486,36
21	60,00	324808,28	121435,20	124551,00	9006,12	113642,62	1548,61
22	63,00	330769,76	122194,17	126081,90	9062,41	114352,89	1615,98
23	66,00	335778,81	122447,16	127165,50	9081,17	114589,64	1689,41
24	69,00	339783,61	122194,17	127801,80	9062,41	114352,89	1769,88
25	72,00	342722,70	121435,20	127990,80	9006,12	113642,62	1858,33
26	75,00	344525,01	120170,25	127732,50	8912,31	112458,84	1955,74
27	78,00	345109,81	118399,32	127026,90	8780,97	110801,56	2063,10
28	81,00	344386,72	116122,41	125874,00	8612,10	108670,76	2181,38
29	84,00	342255,74	113339,52	124273,80	8405,71	106066,45	2311,59
30	87,00	338607,23	110050,65	122226,30	8161,80	102988,63	2454,74
31	90,00	333321,90	106255,80	119731,50	7880,36	99437,29	2611,83
32	93,00	326270,82	101954,97	116789,40	7561,39	95412,45	2783,89
33	96,00	317315,44	97148,16	113400,00	7204,90	90914,10	2971,94

Join	Jarak	Momen pada Box Girder Prestress Akibat Beban					
		Berat Sendiri (MS)	Beban Mati Tambahan (MA)	Beban Hidup (LL)	Beban Angin (EW)	Beban Gempa (EQ)	Beban Rem (TB)
	(m)	kNm	kNm	kNm	kNm	kNm	kNm
34	99,00	306307,54	91835,37	109563,30	6810,88	85942,23	3176,99
35	102,00	293089,30	86016,60	105279,30	6379,34	80496,86	3400,08
36	105,00	277493,22	79691,85	100548,00	5910,27	74577,97	3642,21
37	108,00	259342,19	72861,12	95369,40	5403,67	68185,57	4033,44
38	111,00	238449,45	65524,41	89743,50	4859,55	61319,66	4187,71
39	114,00	214618,60	57681,72	83670,30	4277,91	53980,25	4493,10
40	117,00	187643,60	49333,05	77149,80	3658,74	46167,31	4821,61
41	120,00	157308,77	40478,40	70182,00	3002,04	37880,87	5174,23
42	123,00	123388,81	31117,77	62766,90	2307,82	29120,92	5551,99
43	126,00	85648,75	21251,16	54904,50	1576,07	19887,46	5955,88
44	129,00	43844,00	10878,57	46594,80	806,80	10180,48	6386,91
45	132,00	0,00	0,00	37837,80	0,00	0,00	6535,44

**LAMPIRAN A2 RESUME GESER**

Jarak	Geser pada Box Girder Prestress Akibat Beban					COMB I	COMB II	COMB III
	Berat Sendiri (MS)	Beban Mati Tambahan (MA)	Beban Hidup (LL)	Beban Angin (EW)	Beban Gempa (EQ)	MS+MA+TD	MS+MA+TD+EW	MS+MA+EQ
0	31009,6782	3393,72	3853,5	275,187	34720,1976	38256,8982	38532,0852	69123,5958
3	28970,4222	11793,06	3704,4	262,6785	33142,0068	44467,8822	44730,5607	73905,489
6	27128,7684	11638,8	3555,3	250,17	31563,816	42322,8684	42573,0384	70331,3844
9	25470,2637	11484,54	3406,2	237,6615	29985,6252	40361,0037	40598,6652	66940,4289
12	23980,4406	11330,28	3257,1	225,153	28407,4344	38567,8206	38792,9736	63718,155
15	22644,8457	11176,02	3108	212,6445	26829,2436	36928,8657	37141,5102	60650,1093
18	21449,0196	11021,76	2958,9	200,136	25251,0528	35429,6796	35629,8156	57721,8324
21	20378,5038	10867,5	2809,8	187,6275	23672,862	34055,8038	34243,4313	54918,8658
24	19450,3158	10713,24	2660,7	175,119	22094,6712	32824,2558	32999,3748	52258,227
27	18555,5529	10558,98	2511,6	162,6105	20516,4804	31626,1329	31788,7434	49631,0133
30	17774,2182	10404,72	2362,5	150,102	18938,2896	30541,4382	30691,5402	47117,2278
33	17060,3406	10250,46	2213,4	137,5935	17360,0988	29524,2006	29661,7941	44670,8994
36	16399,4994	10096,2	2064,3	125,085	15781,908	28559,9994	28685,0844	42277,6074
39	15777,1986	9941,94	1915,2	112,5765	14203,7172	27634,3386	27746,9151	39922,8558
42	15178,992	9787,68	1766,1	100,068	12625,5264	26732,772	26832,84	37592,1984
45	14590,4292	9633,42	1617	87,5595	11047,3356	25840,8492	25928,4087	35271,1848
48	13997,0478	9479,16	1467,9	75,051	9469,1448	24944,1078	25019,1588	32945,3526



Jarak	Geser pada Box Girder Prestress Akibat Beban					COMB I	COMB II	COMB III
	Berat Sendiri (MS)	Beban Mati Tambahan (MA)	Beban Hidup (LL)	Beban Angin (EW)	Beban Gempa (EQ)	MS+MA+TD	MS+MA+TD+EW	MS+MA+EQ
51	13384,3893	9324,9	1318,8	62,5425	7890,954	24028,0893	24090,6318	30600,2433
54	12738,0006	9170,64	1169,7	50,034	6312,7632	23078,3406	23128,3746	28221,4038
57	12043,4184	9016,38	1020,6	37,5255	4734,5724	22080,3984	22117,9239	25794,3708
60	11286,1782	8862,12	871,5	25,017	3156,3816	21019,7982	21044,8152	23304,6798
63	10451,8017	8707,86	722,4	12,5085	1578,1908	19882,0617	19894,5702	20737,8525
66	9525,8862	8553,6	573,3	0	0	18652,7862	18652,7862	18079,4862

### JARAK SENKANG YANG DIGUNAKAN

x (m)	Jarak sengkang D13		
	Tinjauan Geser-1	Tinjauan Geser-2	Jarak Yang Diambil
0	0,00	2210,41	100
3	0,54	4317,82	100
6	1,36	7239,00	100
9	2,52	11148,17	100
12	4,13	16235,01	100
15	6,27	22734,25	100
18	9,08	30950,73	100
21	12,70	41292,78	100
24	17,35	54320,59	100
27	23,31	70820,52	100
30	31,00	91924,29	100
33	41,05	119308,12	100
36	54,39	155539,98	100
39	72,55	204716,76	100
42	98,04	273705,46	100
45	135,38	374746,23	100
48	193,27	531441,18	100
51	290,28	794301,39	100
54	472,39	1288347,86	100
57	881,18	2398847,82	100
60	2152,52	5857407,34	100
63	11204,47	30518910,40	100
66	128402,92	350567940,30	100
69	4260,53	11675928,88	100
72	1247,65	3437041,73	100
75	568,32	1576236,11	100
78	313,95	878111,04	100
81	192,78	544742,21	100
84	126,27	361226,28	100
87	86,24	250304,04	100
90	60,53	178719,57	100
93	43,24	130261,74	100
96	31,21	96269,80	100
99	22,64	71778,31	100
102	16,42	53775,45	100
105	11,86	40347,94	100
108	8,50	30232,11	100
111	6,01	22564,75	100
114	4,18	16738,34	100

x (m)	Jarak sengkang D13		
	Tinjauan Geser-1	Tinjauan Geser-2	Jarak Yang Diambil
117	2,83	12313,59	100
120	1,86	8964,79	100
123	1,15	6444,87	100
126	0,64	4562,77	100
129	0,28	3168,73	100
132	0,00	2052,17	100

**TINJAUAN GESER DI ATAS GARIS NETRAL**

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fa (kPa)	Pers. (8) $\dot{y}$ (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
0	0,00	10337,87	0,00	0,18	124352,56	22609,56	-12271,68	-10936,49	0,94	-0,79	0,00
3	28974,36	9658,12	0,53	0,17	124529,70	21612,59	-11954,47	-10653,79	4517,11	-0,68	0,00
6	56008,26	8978,37	1,04	0,16	124699,31	20611,46	-11633,09	-10367,38	8916,12	-0,58	0,00
9	81242,68	8331,55	1,52	0,16	124861,29	19606,32	-11274,77	-10048,04	13178,02	-0,50	0,00
12	104808,96	7716,06	1,98	0,15	125015,56	18597,36	-10881,30	-9697,38	17284,14	-0,42	0,00
15	126828,78	7130,29	2,42	0,14	125162,00	17584,74	-10454,46	-9316,98	21217,10	-0,36	0,01
18	147414,21	6572,63	2,83	0,13	125300,56	16568,67	-9996,04	-8908,44	24960,80	-0,31	0,01
21	166667,65	6041,48	3,21	0,12	125431,13	15549,31	-9507,83	-8473,35	28500,42	-0,27	0,01
24	184681,89	5535,24	3,57	0,12	125553,66	14526,87	-8991,63	-8013,32	31822,45	-0,23	0,02
27	201540,07	5052,29	3,90	0,11	125668,05	13501,53	-8449,24	-7529,94	34914,68	-0,20	0,02
30	217315	4591,02	4,21	0,10	125774,2	12473,48	-7882,46	-7024,82	37766,	-0,18	0,03

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fa (kPa)	Pers. (8) $\dot{y}$ (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
	,68				5				17		
33	232072,58	4149,84	4,50	0,09	125872,20	11442,93	-7293,09	-6499,58	40367,31	-0,16	0,04
36	245864,99	3727,13	4,76	0,08	125961,82	10410,07	-6682,93	-5955,81	42709,78	-0,14	0,05
39	258737,50	3321,29	5,00	0,07	126043,08	9375,11	-6053,81	-5395,14	44786,60	-0,12	0,07
42	270725,04	2930,72	5,21	0,07	126115,92	8338,24	-5407,52	-4819,17	46592,05	-0,10	0,10
45	281852,92	2553,80	5,39	0,06	126180,29	7299,69	-4745,89	-4229,52	48121,77	-0,09	0,14
48	292136,81	2188,93	5,55	0,05	126236,16	6259,64	-4070,72	-3627,81	49372,68	-0,07	0,19
51	301582,72	1834,50	5,69	0,04	126283,49	5218,33	-3383,83	-3015,66	50343,04	-0,06	0,29
54	310187,05	1488,90	5,80	0,03	126322,26	4175,94	-2687,04	-2394,68	51032,42	-0,05	0,47
57	317936,53	1150,54	5,89	0,02	126352,43	3132,70	-1982,17	-1766,50	51441,70	-0,03	0,88
60	324808,28	817,80	5,95	0,02	126374,00	2088,83	-1271,03	-1132,74	51573,09	-0,02	2,15
63	330769,76	489,07	5,99	0,01	126386,94	1044,52	-555,45	-495,01	51430,14	-0,01	11,20
66	335778	162,76	6,00	0,00	126391,2	0,00	162,76	145,05	51017,	0,00	128,

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fa (kPa)	Pers. (8) $\dot{y}$ (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
	,81				6				68		40
69	339783,61	-162,76	5,99	-0,01	126386,94	-1044,52	881,76	785,83	50341,90	0,02	4,26
72	342722,70	-489,07	5,95	-0,02	126374,00	-2088,83	1599,76	1425,70	49410,29	0,03	1,25
75	344525,01	-817,80	5,89	-0,02	126352,43	-3132,70	2314,91	2063,04	48231,67	0,04	0,57
78	345109,81	-1150,54	5,80	-0,03	126322,26	-4175,94	3025,40	2696,23	46816,19	0,06	0,31
81	344386,72	-1488,90	5,69	-0,04	126283,49	-5218,33	3729,42	3323,65	45175,31	0,07	0,19
84	342255,74	-1834,50	5,55	-0,05	126236,16	-6259,64	4425,15	3943,68	43321,82	0,09	0,13
87	338607,23	-2188,93	5,39	-0,06	126180,29	-7299,69	5110,76	4554,70	41269,82	0,11	0,09
90	333321,90	-2553,80	5,21	-0,07	126115,92	-8338,24	5784,45	5155,08	39034,74	0,13	0,06
93	326270,82	-2930,72	5,00	-0,07	126043,08	-9375,11	6444,39	5743,22	36633,30	0,15	0,04
96	317315,44	-3321,29	4,76	-0,08	125961,82	-10410,07	7088,77	6317,49	34083,57	0,18	0,03
99	306307,54	-3727,13	4,50	-0,09	125872,20	-11442,93	7715,79	6876,29	31404,92	0,21	0,02
102	293089	-4149,84	4,21	-0,10	125774,2	-12473,48	8323,64	7418,00	28618,	0,24	0,02



x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fa (kPa)	Pers. (8) $\dot{y}$ (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
	,30				5				02		
105	277493,22	-4591,02	3,90	-0,11	125668,05	-13501,53	8910,50	7941,02	25744,85	0,28	0,01
108	259342,19	-5052,29	3,57	-0,12	125553,66	-14526,87	9474,58	8443,72	22808,72	0,32	0,01
111	238449,45	-5535,24	3,21	-0,12	125431,13	-15549,31	10014,08	8924,52	19834,21	0,37	0,01
114	214618,60	-6041,48	2,83	-0,13	125300,56	-16568,67	10527,18	9381,80	16847,21	0,42	0,00
117	187643,60	-6572,63	2,42	-0,14	125162,00	-17584,74	11012,11	9813,96	13874,93	0,48	0,00
120	157308,77	-7130,29	1,98	-0,15	125015,56	-18597,36	11467,07	10219,42	10945,84	0,54	0,00
123	123388,81	-7716,06	1,52	-0,16	124861,29	-19606,32	11890,26	10596,57	8089,72	0,60	0,00
126	85648,75	-8331,55	1,04	-0,16	124699,31	-20611,46	12279,91	10943,82	5337,63	0,67	0,00
129	43844,00	-8978,37	0,53	-0,17	124529,70	-21612,59	12634,23	11259,59	2721,90	0,73	0,00
132	0,00	-9658,12	0,00	-0,18	124352,56	-22609,56	12951,44	11542,28	0,94	0,79	0,00

**TINJAUAN GESER DIBAWAH GARIS NETRAL**

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fb (kPa)	Pers. (8) y' (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
0	0,00	10337,87	0,00	0,18	124352,56	22609,56	-12271,68	-10936,49	9168,51	-0,59	2,21
3	28974,36	9658,12	0,53	0,17	124529,70	21612,59	-11954,47	-10653,79	14097,4 7	-0,49	4,32
6	56008,26	8978,37	1,04	0,16	124699,31	20611,46	-11633,09	-10367,38	18898,3 5	-0,42	7,24
9	81242,68	8331,55	1,52	0,16	124861,29	19606,32	-11274,77	-10048,04	23549,4 1	-0,35	11,15
12	104808,96	7716,06	1,98	0,15	125015,56	18597,36	-10881,30	-9697,38	28030,3 5	-0,30	16,24
15	126828,78	7130,29	2,42	0,14	125162,00	17584,74	-10454,46	-9316,98	32322,2 1	-0,26	22,73
18	147414,21	6572,63	2,83	0,13	125300,56	16568,67	-9996,04	-8908,44	36407,4 8	-0,23	30,95
21	166667,65	6041,48	3,21	0,12	125431,13	15549,31	-9507,83	-8473,35	40270,0 3	-0,20	41,29

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fb (kPa)	Pers. (8) y' (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
24	184681,89	5535,24	3,57	0,12	125553,66	14526,87	-8991,63	-8013,32	43895,1 3	-0,18	54,32
27	201540,07	5052,29	3,90	0,11	125668,05	13501,53	-8449,24	-7529,94	47269,4 8	-0,15	70,82
30	217315,68	4591,02	4,21	0,10	125774,25	12473,48	-7882,46	-7024,82	50381,1 9	-0,14	91,92
33	232072,58	4149,84	4,50	0,09	125872,20	11442,93	-7293,09	-6499,58	53219,7 8	-0,12	119,31
36	245864,99	3727,13	4,76	0,08	125961,82	10410,07	-6682,93	-5955,81	55776,2 0	-0,11	155,54
39	258737,50	3321,29	5,00	0,07	126043,08	9375,11	-6053,81	-5395,14	58042,8 2	-0,09	204,72
42	270725,04	2930,72	5,21	0,07	126115,92	8338,24	-5407,52	-4819,17	60013,4 5	-0,08	273,71
45	281852,92	2553,80	5,39	0,06	126180,29	7299,69	-4745,89	-4229,52	61683,3 1	-0,07	374,75
48	292136,81	2188,93	5,55	0,05	126236,16	6259,64	-4070,72	-3627,81	63049,0 6	-0,06	531,44
51	301582,72	1834,50	5,69	0,04	126283,49	5218,33	-3383,83	-3015,66	64108,8 0	-0,05	794,30
54	310187,05	1488,90	5,80	0,03	126322,26	4175,94	-2687,04	-2394,68	64862,0 5	-0,04	1288,3 5
57	317936,53	1150,54	5,89	0,02	126352,43	3132,70	-1982,17	-1766,50	65309,7 8	-0,03	2398,8 5

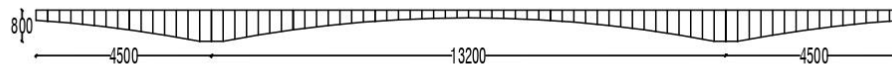
x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fb (kPa)	Pers. (8) y' (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
60	324808,28	817,80	5,95	0,02	126374,00	2088,83	-1271,03	-1132,74	65454,4 0	-0,02	5857,4 1
63	330769,76	489,07	5,99	0,01	126386,94	1044,52	-555,45	-495,01	65299,7 4	-0,01	30518, 91
66	335778,81	162,76	6,00	0,00	126391,26	0,00	162,76	145,05	64851,0 9	0,00	35056 7,94
69	339783,61	-162,76	5,99	-0,01	126386,94	-1044,52	881,76	785,83	64115,1 8	0,01	11675, 93
72	342722,70	-489,07	5,95	-0,02	126374,00	-2088,83	1599,76	1425,70	63100,1 6	0,02	3437,0 4
75	344525,01	-817,80	5,89	-0,02	126352,43	-3132,70	2314,91	2063,04	61815,6 3	0,03	1576,2 4
78	345109,81	-1150,54	5,80	-0,03	126322,26	-4175,94	3025,40	2696,23	60272,6 4	0,04	878,11
81	344386,72	-1488,90	5,69	-0,04	126283,49	-5218,33	3729,42	3323,65	58483,6 7	0,06	544,74
84	342255,74	-1834,50	5,55	-0,05	126236,16	-6259,64	4425,15	3943,68	56462,6 3	0,07	361,23
87	338607,23	-2188,93	5,39	-0,06	126180,29	-7299,69	5110,76	4554,70	54224,8 9	0,08	250,30
90	333321,90	-2553,80	5,21	-0,07	126115,92	-8338,24	5784,45	5155,08	51787,2 3	0,10	178,72
93	326270,82	-2930,72	5,00	-0,07	126043,08	-9375,11	6444,39	5743,22	49167,8 7	0,11	130,26

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fb (kPa)	Pers. (8) y' (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
96	317315,44	-3321,29	4,76	-0,08	125961,82	-10410,07	7088,77	6317,49	46386,4 7	0,13	96,27
99	306307,54	-3727,13	4,50	-0,09	125872,20	-11442,93	7715,79	6876,29	43464,1 2	0,15	71,78
102	293089,30	-4149,84	4,21	-0,10	125774,25	-12473,48	8323,64	7418,00	40423,3 3	0,18	53,78
105	277493,22	-4591,02	3,90	-0,11	125668,05	-13501,53	8910,50	7941,02	37288,0 3	0,20	40,35
108	259342,19	-5052,29	3,57	-0,12	125553,66	-14526,87	9474,58	8443,72	34083,5 8	0,23	30,23
111	238449,45	-5535,24	3,21	-0,12	125431,13	-15549,31	10014,08	8924,52	30836,7 6	0,26	22,56
114	214618,60	-6041,48	2,83	-0,13	125300,56	-16568,67	10527,18	9381,80	27575,7 6	0,30	16,74
117	187643,60	-6572,63	2,42	-0,14	125162,00	-17584,74	11012,11	9813,96	24330,1 8	0,34	12,31
120	157308,77	-7130,29	1,98	-0,15	125015,56	-18597,36	11467,07	10219,42	21131,0 3	0,38	8,96
123	123388,81	-7716,06	1,52	-0,16	124861,29	-19606,32	11890,26	10596,57	18010,7 4	0,43	6,44
126	85648,75	-8331,55	1,04	-0,16	124699,31	-20611,46	12279,91	10943,82	15003,1 1	0,48	4,56
129	43844,00	-8978,37	0,53	-0,17	124529,70	-21612,59	12634,23	11259,59	12143,3 7	0,54	3,17

x (m)	KOMBINASI - III		Pers. (1) e (m)	Pers. (2) $\dot{\alpha}$ (rad)	Pers. (3) Px (kN)	Pers. (4) Py (kN)	Pers. (5) Vr (kN)	Pers. (6) fv (kPa)	Pers. (7) fb (kPa)	Pers. (8) $\dot{\gamma}$ (rad)	Pers. (9) as (m)
	Momen M (kNm)	Geser V (kN)									
132	0,00	-9658,12	0,00	-0,18	124352,56	-22609,56	12951,44	11542,28	9168,51	0,60	2,05



## LAMPIRAN B



TAMPAK SAMPING JEMBATAN

Skala 1:1000



FAKULTAS TEKNIK  
PROGRAM STUDI TEKNIK SIPIL

TUGAS AKHIR

PERENCANAAN ULANG  
STRUKTUR BANGUNAN ATAS  
JEMBATAN RAJAMANDALA  
CIANJUR JAWA BARAT

DOSEN PEMBIMBING 1

Ir. Gaxot Rusbiantoro, M. R. Eng. Sc., Ph. D.

DOSEN PEMBIMBING 2

M. Rusli Ahyar, ST, M. Eng.

DIGAMBAR OLEH :

MOCH. KHOZINATUL MUNA  
30201504170

AS'AD MUSTAQHFRIN  
30201604347

NAMA GAMBAR

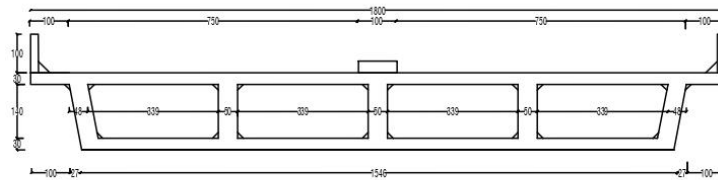
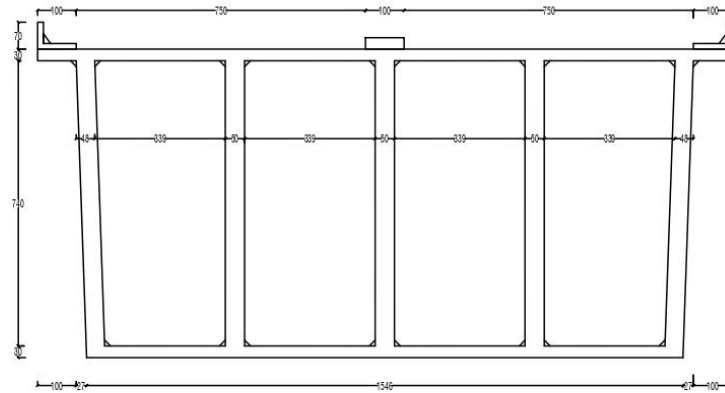
TAMPAK SAMPING JEMBATAN

NO. LEMBAR

JML. LEMBAR

00

### LAMPIRAN C



**PENAMPANG MELINTANG BOX GIRDER 8 METER DAN 2 METER**

Skala 1:100



FAKULTAS TEKNIK  
PROGRAM STUDI TEKNIK SIPIL

TUGAS AKHIR

PERENCANAAN ULANG  
STRUKTUR BANGUNAN ATAS  
JEMBATAN RAJAMANDALA  
CANJUR JAWA BARAT

DOSEN PEMBIMBING 1

Ir. Gatot Rusbiantoro M.Eng.Sc. Ph.D

DOSEN PEMBIMBING 2

M. Rusli Ahyar ST M.Eng

DIGAMBAR OLEH:

MOCH KHOZINATUL MUNA  
30201504170

AS'AD MUSTAQFIRIN  
30201604347

NAMA GAMBAR

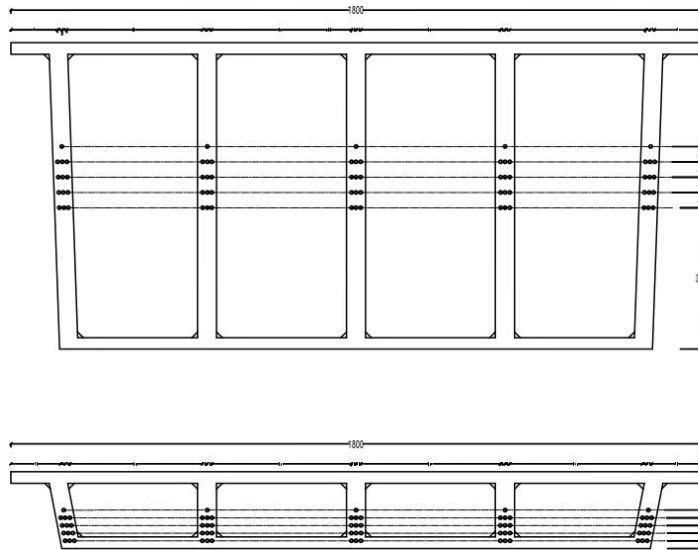
PEWAMPANG MELINTANG BOX GIRDER  
8 METER DAN 2 METER

NO. LEMBAR

JML LEMBAR

00

## LAMPIRAN D



PENAMPANG TENDON BOX GIRDER 8 METER DAN 2 METER

Skala 1:100



FAKULTAS TEKNIK  
PROGRAM STUDI TEKNIK SIPIL

TUGAS AKHIR

PERENCANAAN ULANG  
STRUKTUR BANGUNAN ATAS  
JEMBATAN RAJAMANDALA  
CIANJUR, JAWA BARAT

DOSEN PEMBIMBING 1

Ir. Gatot Rusiantardjo, M. R. Eng. Sc., Ph.D.

DOSEN PEMBIMBING 2

M. Rizal Ahyar, ST, MErg

DIGAMBAR OLEH :

MOCH. KHOZINATUL MUNA  
30201504170

ASAD MUSTAQHFRIN  
30201604347

NAMA GAMBAR

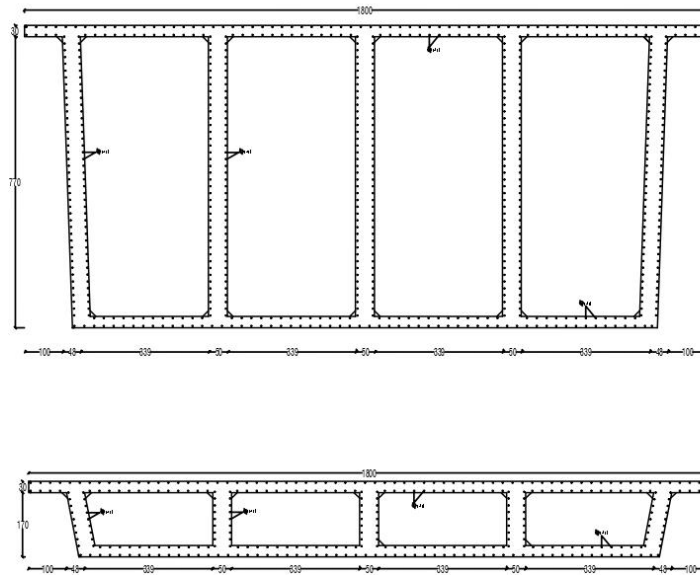
PENAMPANG TENDON BOX GIRDER  
8 METER DAN 2 METER

NO. LEMBAR

JML. LEMBAR

00

## LAMPIRAN E



DETAIL PENULANGAN BOX GIRDER 8 METER DAN 2 METER

Skala 1:100



FAKULTAS TEKNIK  
PROGRAM STUDI TEKNIK SIPIL

TUGAS AKHIR

PERENCANAAN ULANG  
STRUKTUR BANGUNAN ATAS  
JEMBATAN RAJAMANDALA  
CIANJUR JAWA BARAT

DOSEN PEMBIMBING 1

Ir. Gatot Rusbiantoro, M.Eng.Sc.,Ph.D

DOSEN PEMBIMBING 2

M. Rauli Ahyar, ST, M.Eng

DIGAMBAR OLEH :

MOCH. KHOZINATUL MUNIA  
3020150470

ASFAD MUSTAQHRIN  
30201604347

NAMA GAMBAR

DETAIL PENULANGAN BOX GIRDER  
8 METER DAN 2 METER

NO. LEMBAR

JML. LEMBAR

00

## LAMPIRAN F



CABLE LAYOUT  
Skala 1:200

Posisi Tendón di Tumpuan ( $x=0$ m)	Posisi Tendón di Tengah Bentang ( $x=66$ m)
$Z_i'$	$Z_i'$
5.29	1.0
4.89	0.8
4.49	0.6
4.09	0.4
3.69	0.2



FAKULTAS TEKNIK  
PROGRAM STUDI TEKNIK SIPIL

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DOSEN PEMBIMBING 1

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DOSEN PEMBIMBING 2

M. Rusli Alhyar, ST, M.Eng

DIGAMBAR OLEH :

MOCHA KHOZINATUL MUNIA  
30201504170

ASAD MUSTAQHFRIN  
30201604347

NAMA GAMBAR

CABLE LAYOUT

NO. LEMBAR

JML. LEMBAR

00