





1	2	3	4	5	6
<b>Diponegoro (Asbes Gelombang Kecil)</b>					
	100 cm X 105 cm X 4 mm	bh	11.500	12.000	
	100 cm X 105 cm X 4 mm	bh	12.000	12.500	
	210 cm X 105 cm X 4 mm	bh	13.500	17.500	
	240 cm X 105 cm X 4 mm	bh	15.750	19.500	
	270 cm X 105 cm X 4 mm	bh	21.000	22.500	
	300 cm X 105 cm X 4 mm	bh	23.500	24.500	
<b>1. ACCESS PLAT</b>					
<b>Diponegoro</b>					
	100 cm X 100 cm X 3 mm	lbr	3.500	4.500	
	30 cm X 200 cm X 3 mm	lbr	2.500	2.900	
	40 cm X 200 cm X 3 mm	lbr	3.000	4.000	
	50 cm X 200 cm X 3 mm	lbr	3.500	4.800	
<b>Jales Pak</b>					
	Karpas Gantung	pos	6.250	6.800	
	Sial gantung	pos	13.000	13.500	
	Patok Besar 105 cm	pos	7.500	8.500	
<b>Hokstel gelombang nangkak</b>					
	Stol Besar 110 cm	pos	15.500	17.000	
	Patok Besar 110 cm	pos	13.750	14.500	
	Plat besar 110 cm	lbr	14.500	15.250	
<b>7. FISHE GLASS (JAGES)</b>					
	150 X 92 cm	lbr	20.500	24.250	
	200 X 92 cm	lbr	20.500	31.250	
	250 X 92 cm	lbr	34.500	35.250	
	150 X 105 cm	lbr	21.200	21.950	
	210 X 105 cm	lbr	23.800	24.550	
	250 X 105 cm	lbr	32.500	33.250	
<b>3. SENG PLAT</b>					
	BJLS 0,18	lbr	9.200	9.950	
	BJLS 0,20	lbr	10.500	11.250	
	BJLS 0,23	lbr	12.500	13.250	
	BJLS 0,30 ✓	lbr	13.300	14.550	
<b>3. SENG GELOMBANG</b>					
	BJLS 0,18 panjang 120 cm	lbr	9.500	10.250	
	BJLS 0,20 panjang 120 cm	lbr	7.500	8.250	
	BJLS 0,30 panjang 120 cm	lbr	11.000	11.750	
	BJLS 0,40 panjang 120 cm	lbr	13.500	16.250	
<b>DAFTAR KAYU</b>					
<b>1. JATI</b>					
	Papan	m3	2.500.000	3.000.000	semua ukuran
	Balok/pesagen	m3	1.200.000	2.250.000	semua ukuran
<b>2. KAMPER</b>					
	Papan	m3	1.200.000	1.250.000	semua ukuran
	Balok	m3	1.000.000	1.150.000	semua ukuran
<b>3. KRUIWING</b>					
	Papan	m3	530.000	600.000	semua ukuran
	Balok	m3	450.000	500.000	semua ukuran
<b>4. MERANTI</b>					
	Papan	m3	400.000	425.000	semua ukuran
	Balok ✓	m3	350.000	400.000	semua ukuran
<b>5. LAJAN</b>					
	Papan ✓	m3	195.000	200.000	
	Balok	m3	185.000	190.000	
<b>6. DOLKEN</b>					
	Sedang 8 x 10 x 400 cm	btg	4.500	5.000	
	Kecil 5 x 7 x 400 cm	btg	3.000	4.000	
	Besar 10 x 12 x 400 cm	btg	4.000	4.500	
	Kayu oetakan	btg	55.000	60.000	
	Kayu bakar	m3	8.500	9.000	
<b>7. BENGKIRAI</b>					
	Papan	m3	650.000	750.000	
	Balok	m3	300.000	550.000	

1	2	3	4	5	6
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#### IV. BAHAN PENUTUP DINDING / LANTAI

1. UBIN (TEGEL BIASA)					
<u>PC polos</u>	30 X 30 cm	m2	8.500	7.000	
	20 X 20 cm	m2	5.000	6.000	
<u>PC warna</u>	30 X 30 cm	m2	8.000	10.000	
	20 X 20 cm	m2	7.500	9.500	
<u>Teraso</u>	30 X 30 cm	m2	12.500	15.000	
	20 X 20 cm	m2	11.000	14.000	
2. TEGEL PLINT					
<u>PC warna</u>	10 X 20 cm	bh	200	250	
<u>Teraso</u>		bh	600	700	
3. POLIS UBIN					
	Lantai/badan	m2	1.250	1.500	
	Plint	m'	550	650	
	Trap	m'	800	900	
4. PASANG ALDAS DECORATIVE STON					
		m2	2.500	2.750	
5. UBIN PORSELIN					
<u>Lokal</u>	11 X 11	putih	dos	10.000	12.000
	11 X 11	warna	dos	15.000	16.000
<u>Lokal</u>	15 X 15	putih	dos	14.500	15.000
	15 X 15	warna	dos	19.500	20.000
6. MOZAIK PORSELIN					
10 X 20 cm	(diamond)	m2	10.000	14.200	
15 X 15 cm	(diamond)	m2	11.500	15.200	
20 X 20 cm	(diamond)	m2	12.000	15.200	
20 X 25 cm	(diamond)	m2	13.000	19.500	
30 X 30 cm	(diamond)	m2	16.000	19.900	
7. VINYL (Rol-rol an 1 x 2 m)					
		m'	6.000	8.000	
8. KARPET					
	Classic Ball	m2	39.000	41.000	
lbr 4 m	Nobel Long Life	m2	42.000	43.000	
	Classic Hercules	m2	65.000	66.000	

#### V. BAHAN CEKAM

1. BUIS BETON Ø					
10 cm - 100 cm		bh	3.100	3.850	
Ø 20 cm - 100 cm		bh	5.750	6.500	
Ø 30 cm - 100 cm		bh	10.500	11.250	
Ø 50 cm - 100 cm		bh	15.500	16.250	
U 10 cm - 100 cm		bh	2.000	2.750	
U 15 cm - 100 cm		bh	3.500	4.250	
U 20 cm - 100 cm		bh	4.500	5.250	
U 30 cm - 100 cm		bh	5.750	6.500	
U 50 cm - 100 cm		bh	8.000	8.750	
2. LUBANG ANGIN (ROSTER) PC + PASIR					
				750	
10 X 20 cm		bh	200	950	
20 X 20 cm		bh	550	1.300	
25 X 25 cm		bh	800	1.550	
30 X 30 cm		bh	1.000	1.750	
15 X 25 cm		bh	500	1.250	
15 X 30 cm		bh	575	1.325	

#### V. BAHAN BESI

1. BESI BETON Ø					
4 mm - 12 m		btg	1.450	2.200	
Ø 6 mm - 12 m		btg	2.500	3.250	
Ø 8 mm - 12 m		btg	4.500	5.250	
Ø 10 mm - 12 m		btg	7.000	7.750	
Ø 12 mm - 12 m		btg	9.900	10.650	
Ø 16 mm - 12 m		btg	16.625	17.375	
Ø 19 mm - 12 m		btg	23.450	24.200	
Ø 25 mm - 12 m		btg	40.425	41.175	

1	2	3	4	5	6
<b>2. BESI PLAT</b>					
	3' X 6' tebal 0,6 mm	ibr	13.000	13.750	
	4' X 6' tebal 0,8 mm	ibr	30.000	35.000	
	4' X 8' tebal 1,4 mm	ibr	46.500	47.500	
<b>3. BESI PROFIL</b>					
	Kanal UNP - 10 cm	btg	40.000	45.000	
	Kanal UNP - 12 cm	btg	65.000	70.000	
	Kanal UNP - 15 cm	btg	125.000	135.000	
	Kanal UNP - 20 cm	btg	180.000	210.000	
	Kanal IWF - 15 cm ✓	kg	1.250 ✓	1.500 ✓	
	Kanal INP - 20 cm	kg	1.600	1.750	
<b>4. JARING JARING BAJA</b>					
	Diameter 4 - 15	kg	1.200	1.500	
	Diameter 6 - 15	kg	1.250	1.500	
<b>5. BESI SIKU</b>					
	L 40 X 40 X 4	btg	11.000	11.500	
	L 50 X 50 X 5	btg	17.000	17.500	
	L 60 X 60 X 6	btg	26.500	27.000	
<b>6. KAWAT - ikat beton/bendrat</b>					
	- Harmonika 12 X 45 mm	kg	1.500	1.700	
	- Harmonika 12 X 24 mm	m2	2.000	4.000	
	- Harmonika 14 X 30 mm	m2	6.000	5.500	
	- Harmonika 14 X 35 mm ✓	m2	6.500	7.000	
	- Saringan pasir ✓	m2	8.000	8.500	
	- Kawat loket ✓	m2	4.000	5.000	
	- Kawat duri 50	rol	4.000	5.000	
<b>VII. BAHAN PLPA</b>					
<b>1. PIPA PVC - Diameter</b>					
	1/2"	btg	3.000	6.000	
	- Diameter 3/4"	btg	4.000	7.500	
	Diameter 1"	btg	5.500	10.900	
	- Diameter 2"	btg	13.500	27.200	
<b>2. KNEE PVC - Diameter</b>					
	1/2"	bh	200	250	
	- Diameter 3/4"	bh	250	300	
	Diameter 1"	bh	275	375	
<b>3. PIPA GALVANIZED (LEIDING)</b>					
	Diameter 1/2" - 6 m	btg	STR 8.500	MEDIUM 1.350	
	Diameter 3/4" - 6 m	btg	10.000	17.000	
	Diameter 1" - 6 m	btg	14.000	25.000	
	Diameter 1 1/2" - 6 m	btg	22.000	35.000	
	Diameter 2" - 6 m	btg	27.500	47.500	
	Diameter 2 1/2" - 6 m	btg	42.000	60.000	
	Diameter 3" - 6 m	btg	45.000	60.000	
	Diameter 4" - 6 m	btg	65.000	125.000	
<b>4. PIPA MEDIUM</b>					
	Diameter 3" - 6 m	btg	80.000	85.500	
	Diameter 4" - 6 m	btg	125.000	130.000	
<b>VIII. BAHAN LANGIT</b>					
<b>1. AKUSTIK - ukuran :</b>					
	30 X 30	ibr	2.000	4.000	
	30 X 60	ibr	4.500	5.000	
	40 X 40	ibr	6.000	7.000	
<b>2. SOFT BOARD - ukuran :</b>					
	4' X 8'	ibr	13.000	14.500	
<b>3. HARD BOARD - ukuran :</b>					
	4' X 8'	ibr	6.000	7.000	
<b>4. PLY WOOD</b>					
	Teak wood				
	. 90 X 210 X 3 mm	ibr	13.000	14.000	

1	2	3	4	5	6
. 120 X 240	X 3 mm	lbr	17.000	18.000	
. 90 X 210	X 4 mm	lbr	14.500	15.000	
. 90 X 210	X 9 mm	lbr	21.000	24.000	
. 90 X 210	X 12 mm	lbr	26.500	30.000	
. 90 X 210	X 15 mm	lbr	33.000	37.500	
. 90 X 210	X 18 mm	lbr	39.000	42.000	
<u>Triplaka</u>					
. 120 X 240	X 3 mm	lbr	9.500	10.000	
. 120 X 240	X 4 mm	lbr	13.000	14.000	
. 120 X 240	X 5 mm ✓	lbr	18.000	19.000	
<u>Multiplaks</u>					
. 120 X 240	X 9 mm	lbr	29.000	30.000	
. 120 X 240	X 12 mm	lbr	33.000	34.000	
. 120 X 240	X 15 mm	lbr	37.500	38.500	
. 120 X 240	X 18 mm	lbr	42.000	43.000	

1 X BAHAN FINISHING

1. KAYU

Menle		kg	3.000	4.500
Dempul plamur		kg	2.500	4.500
Ambril/amplas		lbr	350	400
Batu Apung		bh.	250	500
Cat				
. Toyo		kg	6.500	7.000
. Yuntor 68 (nippon paint)		kg	4.750	5.000
. Primalin		ltr	1.750	2.000
. Deculux		kg	3.500	4.000
. Sirelax		ons	1.900	2.500
. Spiritus		ltr	1.200	1.500
. Pliur jadi		ltr	4.800	5.200
. Herotex		ltr	2.000	2.250

2. TEMBOK

Kalkarium		kg	500	600
Kepur sirih		kg	200	300
Plamur	Toto	kg	2.000	3.000
	Decolith	5kg	3.000	9.000
Klirtek	(Nippon paint)	5 kg	6.250	7.000
Matak	(Nippon paint)	5 kg	9.400	9.000
Toto		5 kg	6.800	17.000
Catylac		5 kg	11.750	12.000
Mowilac		5 kg	39.000	41.000

3. DESI

Menie	Patana	kg	3.500	4.500
Cat	Beebrand	kg	6.000	6.500
	Toyo paint	kg	4.000	5.000
Thinner A		ltr	2.400	2.700
Minyak cat		ltr	1.750	2.000
Thinner Super		ltr	2.500	3.000

4. LAIN-LAIN

Basidu (teer/aspal)		drum	67.000	120.000
Fibre glass (tanki air)				
kapasitas 550 liter.		bh	162.000	180.000

BAHAN KAJA

1. POLOS

Tebal :	2 mm	m2	9.500	9.000
	3 mm	m2	11.000	11.500
	5 mm	m2	13.500	14.000
	6 mm	m2	19.000	22.000
	8 mm	m2	31.000	35.000

1	2	3	4	5	6
2. ES KABUR	Tabel :	2 mm	m2	7.500	9.000
		3 mm	m2	12.500	13.000
		5 mm	m2	18.000	18.500
	3. RAY BAND	Tabel :	3 mm	m2	15.000
		5 mm	m2	19.500	20.500
		8 mm	m2	47.500	48.500
		10 mm	m2	53.500	55.000

XII BAHAN INSTALASI LISTRIK

<b>1. KABEL LISTRIK</b>					
1. KABEL LISTRIK	NYN :	1 X 1 1/2 mm	m'	290	300
		1 X 2 1/2 mm	m'	460	500
		1 X 4 mm	m'	760	700
	NYV :	2 X 1 1/2 mm	m'	1.100	1.200
	2 X 2 1/2 mm	m'	1.700	2.000	
	2 X 4 mm	m'	2.300	2.500	
<b>2. SKAKELAR</b>					
- Out bouw	Seri	(broco)	bh	1.200	1.400
	Engkel	(broco)	bh	900	1.000
In bouw	Seri	(broco)	bh	1.700	1.800
	Engkel	(broco)	bh	1.200	1.500
<b>3. FUSE BOX (SEKERING KASA)</b>					
1 group			bh	4.500	5.000
2 group			bh	7.500	8.000
3 group			bh	10.500	11.000
<b>4. STEKER - Biasa (tunggal)</b>					
- Double			bh	350	400
- Kombinasi kecil			bh	225	300
- Kombinasi besar			bh	150	250
- T			bh	250	300
- T dengan ardar			bh	500	600
			bh	2.000	2.200

XIII ALAT ALAT PENGUNCI & PENGGANTUNG

<b>1. KUNCI TANAM</b>					
Union :	1 X slag	bh	7.500	9.000	
	2 X slag	bh	10.000	12.000	
Yale :	1 X slag	bh	8.000	7.000	
	2 X slag	bh	17.500	18.000	
Kuda :	1 X slag	bh	6.000	8.000	
	2 X slag	bh	9.750	11.000	
<b>2. ENGSEL DAN GERENDEL</b>					
Kupu-kupu biasa		bh	650	750	
Nylon kupu-kupu		bh	900	1.000	
Espagnoled - dalam negeri		bh	5.500	6.500	
Gerandel Tanam luar negeri		bh	12.500	9.000	

XIV BAHAN SANITAIR

(MERKINA)					
<b>1. KLOSET DUDUK</b>					
Type C - 4		bh	390.000	425.000	dg pembilas
Type C - 5		bh	490.000	530.000	dg pembilas
Type C - 13 T		bh	80.000	115.000	dg pembilas
Type C - 14 T		bh	80.000	115.000	dg pembilas
Type C - 27		bh	925.000	1.025.000	dg pembilas
<b>2. KLOSET JONGH</b>					
Type C - 1		bh	40.000	52.000	
Type C - 2		bh	30.000	40.000	
Type C - 3		bh	270.000	285.000	dg pembilas
<b>3. WASTAFEL PEDESTAL 7,5 liter</b>					
Type L - 266 Wdk - 23 p		bh	570.000	625.000	dg kran air
Type L - 266G - Wsk - 1 p		bh	370.000	425.000	dg kran air
<b>4. WASTAFEL MEJA OVAL</b>					
Type L - 2584 WMK - 3SM		bh	600.000	645.000	dg kran air
Type L - 2394 WMK - 3SM		bh	485.000	520.000	

1	2	3	4	5	6
	Type L --2293 WMM--38M	bh	585.000	600.000	
5.	WASTAFEL GANTUNG BULAT				
	Type L --2293 WMM--38M	bh	470.000	485.000 body only	
	Type L --2294 WMM--38M	bh	470.000	485.000 body only	
6.	WASTAFEL GANTUNG SUDUT				
	Type L --143	bh	41.000	77.000 body only	
7.	WASTAFEL GANTUNG SUDUT KECIL				
	Type L --30	bh	40.000	46.000 body only	
8.	WASTAFEL BAK CUCI*				
	600x100x55 mm / Type H--401	bh	35.000	40.000 body only	
9.	TEMPAT BAGUN GANTUNG ✓				
	210x110x45 mm / Type H--411	bh	16.000	19.000	
	110x110x45 mm / Type H--412	bh	11.000	13.500	
10.	TEMPAT BAGUN TANAM				
	109x109x95 mm / Type H-- 23	bh	5.000	6.500	
	220x109x90 mm / Type H-- 27	bh	10.000	12.500	
11.	SEPTIC TANK (STERMIT GRESIK)				
	5 Pemakai 500 liter	unit	115.000	120.000	
	10 Pemakai 1.000 liter	unit	147.000	150.000	
<b>XIV. ALAT PENGIKAT KAYU</b>					
1.	MUR BAUT (kuda-kuda)	kg	1.500	2.000	
2.	PAKU - ukuran 1" s/d 4"	kg	1.500	2.000	
3.	PAKU - payung	kg	2.000	2.500	
4.	PAKU - sekrup	gros	1.250	2.500	
5.	PAKU - beton	kg	1.500	2.000	
<b>XV. PAMPA AIR DAN BAHAN</b>					
<b>1. POMPA AIR TANGAN</b>					
	Dragon buatan Korea	bh	45.000	50.000	
	Dragon buatan Jepang	bh	100.000	120.000	
	Dragon buatan Indonesia	bh	25.000	40.000	
<b>2. POMPA AIR LISTRIK</b>					
	Sanyo 100 watt	bh	250.000	295.000	
	Fuji 250 watt	bh	130.000	140.000	
	Shimizu 100 watt	bh	170.000	190.000	
	. 50 watt	bh	150.000	175.000	
	D a b . 125 watt	bh	110.000	120.000 aqua 125 A	
	. 175 watt	bh	200.000	210.000 aqua 175 A	
	. 200 watt	bh	200.000	210.000 miniJet 101A	
	. 250 watt	bh	300.000	320.000 autosub 250	
	. 375 watt	bh	541.000	545.000 aquaJet 375A	
	. 500 watt	bh	835.000	845.000 aquaJet 501A	
<b>XVI. PAVING BLOCK</b>					
1.	SQUARE Abu-abu	bh	90	100	
	Merah/hitam	bh	135	145	
2.	HOLLAND Abu-abu	bh	175	190	
	Merah/hitam	bh	245	260	
3.	UNIDECOR Abu-abu	bh	230	250	
	Merah/hitam	bh	320	340	
4.	UNI Abu-abu	bh	220	240	
	Merah/hitam	bh	305	325	
5.	TRIHIX Abu-abu	bh	180	200	
	Merah/hitam	bh	225	275	
6.	OLYMPIA HEXA Abu-abu	bh	325	355	
	Merah/hitam	bh	450	480	
7.	HEXAGONAL Abu-abu ✓	bh	300	330	
	Merah/hitam	bh	420	450	

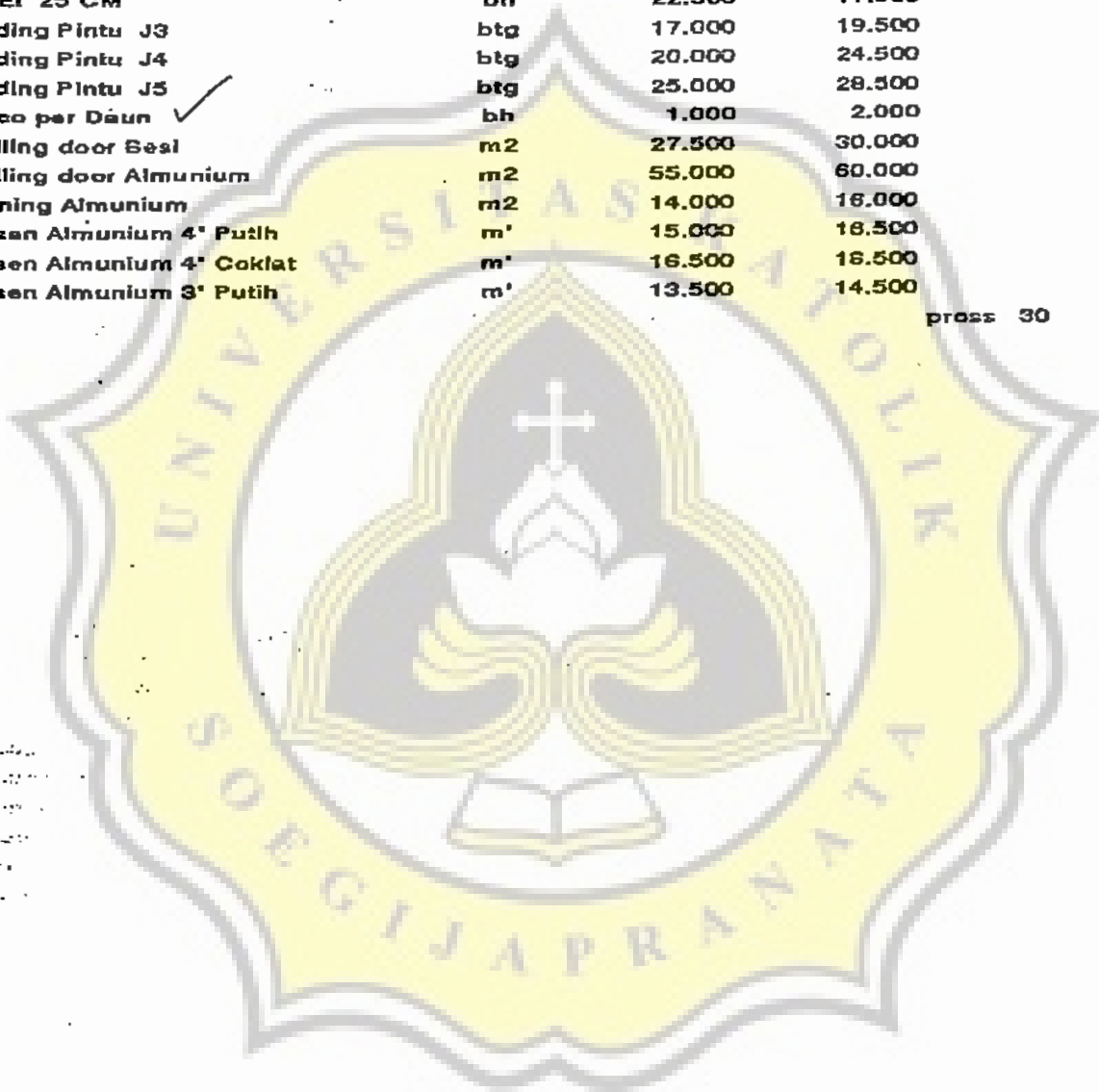


1	2	3	4	5	6
8. CASTLE	Abu-abu	bh	850	1.150	
	Merah/hitam	bh	1.300	1.700	
9. TRAPEZ	Abu-abu	bh	480	520	
	Merah/hitam	bh	660	700	
10. TRAPEZ GRASS BLOCK					
	Abu-abu	bh	480	520	
	Merah/hitam	bh	660	700	
11. STANDARD GRASS BLOCK	Abu-abu	bh	2.895	3.085	
12. BATACO		bh	600	710	

### XV. LAIN - LAIN

1. KREI 25 CM		bh	22.500	17.500	
2. Sliding Pintu J3		btg	17.000	19.500	
Sliding Pintu J4		btg	20.000	24.500	
Sliding Pintu J5		btg	25.000	28.500	
3. Naco per Daun ✓		bh	1.000	2.000	
4. Rolling door Besi		m2	27.500	30.000	
Rolling door Almunium		m2	55.000	60.000	
5. Awning Almunium		m2	14.000	16.000	
6. Kusen Almunium 4" Putih		m'	15.000	16.500	
Kusen Almunium 4" Coklat		m'	16.500	16.500	
Kusen Almunium 3" Putih		m'	13.500	14.500	

gross 30



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

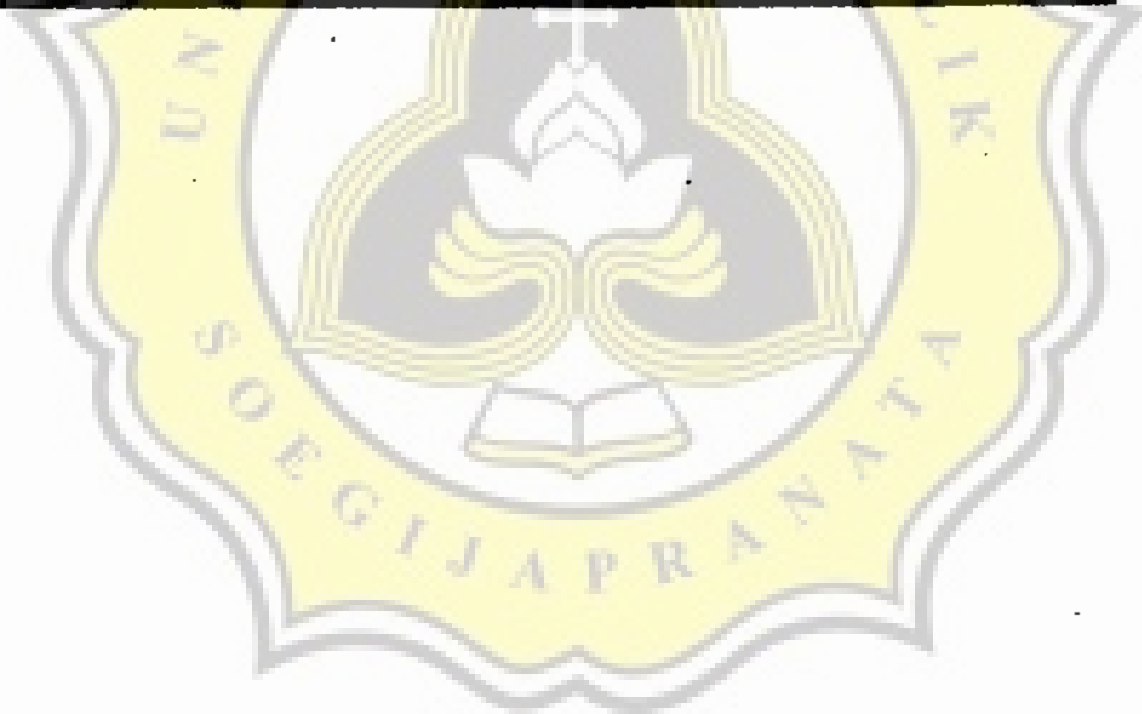
**DAFTAR HARGA SATUAN UPAH TENAGA KERJA**  
**UNTUK BULAN: APRIL - MEI 1996**  
**SUMBER DATA: PASARAN BEBAS**  
**DAERAH : SEMARANG dan SEKITARNYA**

| No | URAIAN | KODE | U P A H          |                   | KETERANGAN |
|----|--------|------|------------------|-------------------|------------|
|    |        |      | MINIMUM<br>(Rp.) | MAKSIMUM<br>(Rp.) |            |

|     |                    |          |       |       |  |
|-----|--------------------|----------|-------|-------|--|
| 01. | Pekerja            | A( 1)/hr | 5.000 | 6.000 |  |
| 02. | Mandor             | A( 2)/hr | 5.000 | 6.000 |  |
| 03. | Tukang listrik     | A( 3)/hr | 6.000 | 7.000 |  |
| 04. | Tukang kayu        | A( 4)/hr | 7.000 | 8.000 |  |
| 05. | Kep. tk. kayu      | A( 5)/hr | 8.000 | 9.000 |  |
| 06. | Tukang batu        | A( 6)/hr | 7.000 | 7.500 |  |
| 07. | Kep. tk. batu      | A( 7)/hr | 7.500 | 8.000 |  |
| 08. | Tukang besi        | A( 8)/hr | 7.000 | 7.500 |  |
| 09. | Kep. tk. besi      | A( 9)/hr | 7.500 | 8.000 |  |
| 10. | Tukang cat         | A(10)/hr | 7.000 | 7.500 |  |
| 11. | Kep. tk. cat       | A(11)/hr | 7.500 | 8.000 |  |
| 12. | Tukang piltur      | A(12)/hr | 7.000 | 7.500 |  |
| 13. | Tukang jajan       | A(13)/hr | 7.500 | 8.000 |  |
| 14. | Tukang gall        | A(14)/hr | 7.000 | 7.500 |  |
| 15. | Tukang masak aspal | A(15)/hr | 6.500 | 7.000 |  |
| 16. | Tk. leideng        | A(16)/hr | 6.500 | 7.000 |  |
| 17. | Masinis            | A(17)/hr | 7.000 | 7.500 |  |
| 18. | Pemb. Masinis      | A(18)/hr | 6.500 | 7.000 |  |
| 19. | Penjaga api        | A(19)/hr | 5.000 | 6.000 |  |



**DAFTAR HARGA SATUAN INDIKATOR  
DIHITUNG DENGAN  
ANALISA BOW**



**PERHITUNGAN UNIT PRICE**

UNTUK BULAN : APRIL - MEI 1998  
 SUMBER DATA : PASARAN BEBAS  
 DAERAH : SEMARANG dan SEKITARNYA

Halaman : 1

| No | URAIAN PEKERJAAN | MATERIAL | UPAH | TOTAL | JUMLAH |
|----|------------------|----------|------|-------|--------|
| 1  | 2                | 3        | 4    | 5     | 6      |

|                        |   |        |                       |           |   |
|------------------------|---|--------|-----------------------|-----------|---|
| <b>PEKERJAAN TANAH</b> |   |        |                       |           |   |
| 1.                     | Galian tanah biasa per m <sup>3</sup>                             |        |                       |           | (A.1/m <sup>3</sup> )                         |
|                        | 0,7500 Pekerja  | 5.000  | 3.750,00              |           |   |
|                        | 0,0250 Mandor   | 5.000  | 125,00                |           |   |
|                        |   |        |                       | 3.875,00  | 3.875,00                                      |
| 2.                     | Galian tanah keras per m <sup>3</sup>                             |        |                       |           | (A.2/m <sup>3</sup> )                         |
|                        | 1,0000 Pekerja  | 5.000  | 5.000,00              |           |   |
|                        | 0,0300 Mandor   | 6.000  | 180,00                |           |   |
|                        |   |        |                       | 5.180,00  | 5.180,00                                      |
| 3.                     | Galian tanah lumpur per m <sup>3</sup>                            |        |                       |           | (A.4/m <sup>3</sup> )                         |
|                        | 1,5000 Pekerja  | 5.000  | 7.500,00              |           |   |
|                        | 0,0500 Mandor   | 5.000  | 250,00                |           |   |
|                        |   |        |                       | 7.750,00  | 7.750,00                                      |
| 4.                     | Tanah diangkut sejauh < 30 meter per m <sup>3</sup>               |        |                       |           | (A.6/m <sup>3</sup> )                         |
|                        | 0,3000 Pekerja  | 5.000  | 1.500,00              |           |   |
|                        | 0,0100 Mandor   | 5.000  | 50,00                 |           |   |
|                        |   |        |                       | 1.700,00  | 1.700,00                                      |
| 5.                     | Tanah diangkut sejauh > 30 meter per m <sup>3</sup>               |        |                       |           | (A.7/m <sup>3</sup> )                         |
|                        | K = $a / 275 (L + 75)$  |        |                       |           |   |
|                        | K = $6.000 / 275 (25 + 75)$                                       |        |                       |           |   |
|                        |   |        |                       |           | -> : L = jarak angkut 25 m dan a = upah kerja |
|                        |   |        |                       | 2.000,00  | 2.000,00                                      |
| 6.                     | Mengurug kembali per m <sup>3</sup>                               | 1/2 X  | (A.1/m <sup>3</sup> ) |           |   |
|                        |   | 1/2 X  | 0.875,00              |           | 1.007,50                                      |
| 7.                     | Urugan pasir dibawah lantai per m <sup>3</sup>                    |        |                       |           | (A.18/m <sup>3</sup> )                        |
|                        | 1,2000 m <sup>3</sup> pasir urug                                  | 8.500  |                       | 10.200,00 |   |
|                        | 0,3000 pekerja  | 5.000  | 1.500,00              |           |   |
|                        | 0,0100 mandor   | 5.000  | 50,00                 |           |   |
|                        |   |        |                       | 1.550,00  | 11.750,00                                     |
| 8.                     | Tanah diratakan dan dipadatkan per m <sup>3</sup>                 |        |                       |           |   |
|                        | 0,3000 pekerja  | 5.000  | 1.500,00              |           |   |
|                        | 0,0100 mandor   | 5.000  | 50,00                 |           |   |
|                        |   |        |                       | 1.550,00  | 1.550,00                                      |
| 9.                     | Urugan tanah padat untuk badan jalan/berm per m <sup>3</sup>      |        |                       |           |   |
|                        | 1,2000 m <sup>3</sup> Tanah padat                                 | 7.000  |                       | 8.400,00  |   |
|                        | 0,3000 pekerja  | 5.000  | 1.500,00              |           |   |
|                        | 0,0100 mandor   | 5.000  | 50,00                 |           |   |
|                        |   |        |                       | 1.550,00  | 8.400,00                                      |
| 10.                    | Pasangan batu belah dengan 1 Pa : 3 Kp : 10 Ps per m <sup>3</sup> |        |                       |           |   |
|                        | 1,2000 m <sup>3</sup> batu belah                                  | 12.000 |                       | 14.400,00 |   |
|                        | 1,3000 zak PC   | 9.500  |                       | 12.350,00 |   |
|                        | 0,1500 m <sup>3</sup> kapur                                       | 25.000 |                       | 3.750,00  |   |
|                        | 0,4800 m <sup>3</sup> pasir pasang                                | 12.500 |                       | 6.125,00  |   |
|                        | 1,2000 nikang batu  | 7.000  | 8.400,00              |           |   |
|                        | 0,1200 kep. lukang batu   | 7.500  | 900,00                |           |   |
|                        | 3,6000 pekerja  | 5.000  | 18.000,00             |           |   |
|                        | 0,1800 mandor   | 5.000  | 900,00                |           |   |
|                        |   |        |                       | 20.200,00 | 36.967,00                                     |
|                        |   |        |                       |           | 85.167,00                                     |

| 1  | 2  | 3      | 4         | 5         | 6          |
|----|--|--------|-----------|-----------|------------|
| 2. | Pasangan batu belah dengan 1 Pa : 4 Pa per m <sup>3</sup>  |        |           |           |            |
|    | 1,2000 m <sup>3</sup> batu belah   | 12.000 | 11.000    | 14.400,00 | 12.000     |
|    | 3,2580 zak PC  | 11.500 | 9.750     | 30.932,00 | 31.746     |
|    | 0,6200 m <sup>3</sup> pasir pasang   | 12.500 | 25.000    | 6.500,00  | 12.500     |
|    | 1,2000 tukang batu   | 7.000  | 8.400,00  |           | 9.500      |
|    | 0,1200 kep.tukang batu   | 7.500  | 900,00    |           |            |
|    | 3,6000 pekerja   | 6.000  | 18.000,00 |           |            |
|    | 0,1800 mandor  | 6.000  | 800,00    |           |            |
|    |  |        | 28.200,00 | 61.832,00 | 80.032,00  |
| 3. | Pasangan batu belah dengan 1 Pa : 3 Pa per m <sup>3</sup> (G.32.1/m <sup>3</sup> + G.26/m <sup>3</sup> )           |        |           |           |            |
|    | 1,2000 m <sup>3</sup> batu gunung  | 10.000 |           | 12.000,00 |            |
|    | 4,2880 zak PC  | 9.500  |           | 40.736,00 |            |
|    | 0,4800 m <sup>3</sup> pasir pasang   | 12.500 |           | 6.000,00  |            |
|    | 1,2000 tukang batu   | 7.000  | 8.400,00  |           |            |
|    | 0,1200 kep.tukang batu   | 7.500  | 900,00    |           |            |
|    | 3,6000 pekerja   | 6.000  | 18.000,00 |           |            |
|    | 0,1800 mandor  | 6.000  | 800,00    |           |            |
|    |  |        | 29.200,00 | 58.736,00 | 88.936,00  |
| 4. | Pasangan batu belah/batu kali dengan 1 Pa : 2 Pa per m <sup>3</sup> (G.32.k/m <sup>3</sup> + G.26/m <sup>3</sup> ) |        |           |           |            |
|    | 1,2000 m <sup>3</sup> batu belah   | 12.000 |           | 14.400,00 |            |
|    | 5,7600 zak PC  | 9.500  |           | 54.720,00 |            |
|    | 0,4280 m <sup>3</sup> pasir pasang   | 12.500 |           | 5.350,00  |            |
|    | 1,2000 tukang batu   | 7.000  | 8.400,00  |           |            |
|    | 0,1200 kep.tukang batu   | 7.500  | 900,00    |           |            |
|    | 3,6000 pekerja   | 6.000  | 18.000,00 |           |            |
|    | 0,1800 mandor  | 6.000  | 800,00    |           |            |
|    |  |        | 28.200,00 | 74.470,00 | 102.670,00 |
| 5. | Pasangan batu bata dengan 1 Pa : 3 Kp : 10 Pa per m <sup>2</sup> V   |        |           |           |            |
|    | 320 475,0000 m <sup>3</sup> batu bata  | 80     |           | 28.500,00 |            |
|    | 1,0362 zak PC-V  | 9.500  |           | 8.872,40  |            |
|    | 0,1160 m <sup>3</sup> kapur  | 25.000 |           | 2.875,00  |            |
|    | 0,3620 m <sup>3</sup> pasir pasang   | 12.500 |           | 4.775,00  |            |
|    | 2,0000 tukang batu   | 7.000  | 14.000,00 |           |            |
|    | 0,2000 kep.tukang batu   | 7.500  | 1.500,00  |           |            |
|    | 6,0000 pekerja   | 6.000  | 30.000,00 |           |            |
|    | 0,3000 mandor  | 6.000  | 1.600,00  |           |            |
|    |  |        | 47.000,00 | 46.022,40 | 93.022,40  |
| 6. | Pasangan batu bata dengan 1 Pa : 4 Pa per m <sup>2</sup> V   |        |           |           |            |
|    | 320 475,0000 m <sup>3</sup> batu bata  | 80     | 40.500    | 28.500,00 | 21.000     |
|    | 2,7900 zak PC  | 9.500  | 26.900    | 28.220,00 |            |
|    | 0,4050 m <sup>3</sup> pasir pasang   | 12.500 | 20.000    | 5.075,00  |            |
|    | 1,2000 tukang batu   | 7.000  | 8.400,00  |           |            |
|    | 0,1200 kep.tukang batu   | 7.500  | 900,00    |           |            |
|    | 2,6000 pekerja   | 6.000  | 18.000,00 |           |            |
|    | 0,1800 mandor  | 6.000  | 800,00    |           |            |
|    |  |        | 28.200,00 | 59.795,00 | 80.995,00  |
| 7. | Pasangan batu bata dengan 1 Pa : 2 Pa per m <sup>2</sup> (G.33.1/m <sup>3</sup> )                                  |        |           |           |            |
|    | 475,0000 m <sup>3</sup> batu bata  | 80     |           | 28.500,00 |            |
|    | 1,1800 zak PC  | 9.500  |           | 12.580,00 |            |
|    | 0,3300 m <sup>3</sup> pasir pasang   | 12.500 |           | 4.125,00  |            |
|    | 2,0000 tukang batu   | 7.000  | 14.000,00 |           |            |
|    | 0,2000 kep.tukang batu   | 7.500  | 1.500,00  |           |            |
|    | 6,0000 pekerja   | 6.000  | 30.000,00 |           |            |
|    | 0,3000 mandor  | 6.000  | 1.500,00  |           |            |
|    |  |        | 47.000,00 | 66.185,00 | 122.185,00 |

| 1                      | 2  | 3      | 4         | 5          | 6          |
|------------------------|--|--------|-----------|------------|------------|
| 9.                     | Lantai tegel 20 X 20 dengan 1 Pc : 1/2 Kp : 5 Ps per m <sup>2</sup>          |        |           |            |            |
|                        | 25,0000 bh tegel   | 5,000  |           | 125,000,00 |            |
|                        | 0,1544 zak PC  | 3,500  |           | 1,468,80   |            |
|                        | 0,0020 m <sup>3</sup> kapur  | 25,000 |           | 75,00      |            |
|                        | 0,0280 m <sup>3</sup> pasir pasang   | 12,500 |           | 350,00     |            |
|                        | 0,3000 tukang batu   | 7,000  | 2,100,00  |            |            |
|                        | 0,0300 kop.tukang batu   | 7,500  | 225,00    |            |            |
|                        | 0,9000 pekerja   | 5,000  | 4,500,00  |            |            |
|                        | 0,0450 mandor  | 5,000  | 225,00    |            |            |
|                        |  |        | 7,050,00  | 128,091,80 | 133,941,80 |
| 10.                    | Lantai tegel 20 X 20 dengan 1 Kp : 3 Ps per m <sup>2</sup>                   |        |           |            |            |
|                        | 25,0000 bh tegel   | 5,000  |           | 125,000,00 |            |
|                        | 0,0007 m <sup>3</sup> kapur  | 25,000 |           | 242,50     |            |
|                        | 0,0200 m <sup>3</sup> pasir pasang   | 12,500 |           | 352,50     |            |
|                        | 0,0200 tukang batu   | 7,000  | 210,00    |            |            |
|                        | 0,0080 kop.tukang batu   | 7,500  | 60,00     |            |            |
|                        | 0,2400 pekerja   | 5,000  | 1,200,00  |            |            |
|                        | 0,0120 mandor  | 5,000  | 80,00     |            |            |
|                        |  |        | 1,050,00  | 125,605,00 | 127,405,00 |
| 11.                    | Pasang tegel pليت 15 x 20 atau 10 x 20 dengan 1 Pc : 2 Ps per m <sup>2</sup> |        |           |            |            |
|                        | 5,0000 bh tegel pليت   | 200    |           | 1,000,00   |            |
|                        | 0,0200 zak PC  | 9,500  |           | 190,00     |            |
|                        | 0,0020 m <sup>3</sup> pasir pasang   | 12,500 |           | 25,00      |            |
|                        | 0,0500 tukang batu   | 7,000  | 350,00    |            |            |
|                        | 0,0100 kop. tukang batu  | 7,500  | 75,00     |            |            |
|                        | 1,0000 pekerja   | 5,000  | 5,000,00  |            |            |
|                        | 0,0100 mandor  | 5,000  | 50,00     |            |            |
|                        |  |        | 6,475,00  | 1,215,00   | 8,890,00   |
| 12.                    | Lantai tegel 20 X 20 dengan 1 Kp : 2 Ps per m <sup>2</sup>                   |        |           |            |            |
|                        | 25,0000 bh tegel   | 200    |           | 5,000,00   |            |
|                        | 0,0130 m <sup>3</sup> kapur  | 25,000 |           | 325,00     |            |
|                        | 0,0260 m <sup>3</sup> pasir pasang   | 12,500 |           | 325,00     |            |
|                        | 0,3000 tukang batu   | 7,000  | 2,100,00  |            |            |
|                        | 0,0300 kop.tukang batu   | 7,500  | 225,00    |            |            |
|                        | 0,9000 pekerja   | 5,000  | 4,500,00  |            |            |
|                        | 0,0450 mandor  | 5,000  | 225,00    |            |            |
|                        |  |        | 7,050,00  | 5,850,00   | 12,700,00  |
| 13.                    | Pasang tegel dinding 20 X 20 dengan 1 Pc : 2 Ps per m <sup>2</sup>           |        |           |            |            |
|                        | 25,0000 bh tegel   | 5,000  |           | 125,000,00 |            |
|                        | 0,2000 zak PC  | 9,500  |           | 1,000,00   |            |
|                        | 0,0170 m <sup>3</sup> pasir pasang   | 12,500 |           | 212,50     |            |
|                        | 0,4000 tukang batu   | 7,000  | 2,800,00  |            |            |
|                        | 0,0400 kop.tukang batu   | 7,500  | 300,00    |            |            |
|                        | 1,2000 pekerja   | 5,000  | 8,000,00  |            |            |
|                        | 0,0600 mandor  | 5,000  | 225,00    |            |            |
|                        |  |        | 8,400,00  | 127,112,50 | 130,612,50 |
| <b>PEKERJAAN BETON</b> |  |        |           |            |            |
| 1.                     | Pekerjaan beton dengan 1 Pc : 1 1/2 Ps : 2 1/2 Kr per m <sup>3</sup>         |        |           |            |            |
|                        | 8,8640 zak PC  | 8,500  |           | 84,208,00  |            |
|                        | 0,8200 m <sup>3</sup> kerikil  | 17,500 |           | 14,950,00  |            |
|                        | 0,4800 m <sup>3</sup> pasir beton  | 22,500 |           | 11,025,00  |            |
|                        | 1,0000 tukang batu   | 7,000  | 7,000,00  |            |            |
|                        | 0,1000 kop.tukang batu   | 7,500  | 750,00    |            |            |
|                        | 0,0000 pekerja   | 5,000  | 30,000,00 |            |            |
|                        | 0,3000 mandor  | 5,000  | 1,500,00  |            |            |
|                        |  |        | 39,250,00 | 105,583,00 | 148,833,00 |

| 1  | 2   | 3       | 4                     | 5                 | 6                 |
|----|---|---------|-----------------------|-------------------|-------------------|
| 2. | Pekerjaan beton dengan 1 Pc : 2 Ps : 4 Kr per m <sup>3</sup>              |         |                       |                   |                   |
|    | 0,4800 zak PC   | 2.500   |                       | 61.712,00         |                   |
|    | 0,8500 m <sup>3</sup> kerikil   | 17.500  |                       | 18.800,00         |                   |
|    | 0,4800 m <sup>3</sup> pasir beton   | 22.500  |                       | 10.800,00         |                   |
|    | 1,0000 tukang batu  | 7.000   | 7.000,00              |                   |                   |
|    | 0,1000 kep.tukang batu  | 7.500   | 750,00                |                   |                   |
|    | 0,0000 pekerja  | 5.000   | 30.000,00             |                   |                   |
|    | 0,3000 mandor   | 5.000   | 1.500,00              |                   |                   |
|    |   |         | <b>38.250,00</b>      | <b>88.312,00</b>  | <b>128.562,00</b> |
| 3. | Pekerjaan beton dengan 1 Pc : 2 Ps : 3 Kr per m <sup>3</sup>              |         |                       |                   |                   |
|    | 7,3920 zak PC   | 9.500   |                       | 70.224,00         |                   |
|    | 0,8200 m <sup>3</sup> batu pecah  | 12.000  | 15.000                | 8.840,00          | 72.072            |
|    | 0,5400 m <sup>3</sup> pasir beton   | 22.600  | 25.000                | 12.150,00         | 12.500            |
|    | 1,0000 tukang batu  | 7.000   | 7.000,00              |                   | 13.500            |
|    | 0,1000 kep.tukang batu  | 7.500   | 750,00                |                   | 12.500            |
|    | 0,0000 pekerja  | 5.000   | 30.000,00             |                   | 139.500           |
|    | 0,3000 mandor   | 5.000   | 1.500,00              |                   |                   |
|    |   |         | <b>39.250,00</b>      | <b>92.214,00</b>  | <b>131.484,00</b> |
| 4. | Pekerjaan beton dengan 1 Pc : 3 Ps : 6 Kr per m <sup>3</sup>              |         |                       |                   |                   |
|    | 1,8080 zak PC   | 9.500   |                       | 13.778,00         |                   |
|    | 1,0000 m <sup>3</sup> batu pecah  | 12.000  |                       | 12.000,00         |                   |
|    | 0,5000 m <sup>3</sup> pasir beton   | 22.600  |                       | 11.260,00         |                   |
|    | 0,6000 tukang batu  | 7.000   | 3.500,00              |                   |                   |
|    | 0,0500 kep.tukang batu  | 7.500   | 375,00                |                   |                   |
|    | 0,0000 pekerja  | 5.000   | 30.000,00             |                   |                   |
|    | 0,3000 mandor   | 5.000   | 1.500,00              |                   |                   |
|    |   |         | <b>35.376,00</b>      | <b>07.028,00</b>  | <b>102.401,00</b> |
| 4. | Pekerjaan tulangan besi (3/4 1,2/125) kg besi                             |         |                       |                   |                   |
|    | 126,0000 kg besi  | 1.450   |                       | 181.260,00        |                   |
|    | 2,0000 kg kawat besi  | 1.500   |                       | 3.000,00          |                   |
|    | 9,0000 tukang besi  | 7.000   | 93.000,00             |                   |                   |
|    | 3,0000 kep.tukang besi  | 7.500   | 22.500,00             |                   |                   |
|    | 8,0000 pekerja  | 5.000   | 45.000,00             |                   |                   |
|    |   |         | <b>A = 130.600,00</b> | <b>184.260,00</b> | <b>314.760,00</b> |
|    | Tulangan 100 kg = 4/5 x A   |         |                       | <b>104.400,00</b> | <b>147.400,00</b> |
|    | Tulangan 110 kg = 1,10 (4/5 x A)  |         |                       | <b>114.840,00</b> | <b>162.110,00</b> |
| 5. | 1 m <sup>2</sup> Tulangan Jaring-jaring baja diameter 4 - 15              |         |                       |                   |                   |
|    | 1,4000 kg Jaring 2 Baja   | 1.200   |                       | 1.680,00          |                   |
|    | 0,1000 m <sup>2</sup> Pekerja   | 5.000   | 500,00                |                   |                   |
|    |   |         | <b>500,00</b>         | <b>1.680,00</b>   | <b>2.180,00</b>   |
| 6. | Pekerjaan pasang (F.8/10 m <sup>2</sup> )                                 |         |                       |                   |                   |
|    | 0,4000 m <sup>3</sup> ky Lanan  | 195.000 |                       | 78.000,00         |                   |
|    | 4,0000 kg paku  | 1.500   |                       | 6.000,00          |                   |
|    | 5,0000 tukang kayu  | 7.000   | 35.000,00             |                   |                   |
|    | 0,5000 kep.tukang kayu  | 3.000   | 4.000,00              |                   |                   |
|    | 2,0000 pekerja  | 5.000   | 10.000,00             |                   |                   |
|    | 0,1000 mandor   | 5.000   | 500,00                |                   |                   |
|    |   |         | <b>49.500,00</b>      | <b>84.000,00</b>  | <b>133.500,00</b> |
| 7. | 1 m <sup>2</sup> kayu cetakan untuk saluran                               |         |                       |                   |                   |
|    | Bahan = 1/8 x 1/10 x  | 84.000  |                       | 1.400,00          |                   |
|    | lupah = 1/3 x 1/10 x  | 40.500  | 1.850,00              |                   |                   |
|    |   |         | <b>1.850,00</b>       | <b>1.400,00</b>   | <b>3.050,00</b>   |
| 8. | 1 m <sup>2</sup> bongkar begasting 1/5 x 1/3 x 1/10 x                     | 40.500  | 330,00                |                   |                   |
| 9. | Beton bertulang dengan 1 Pc : 1 1/2 Ps : 2 1/2 Kr (C.sup/m <sup>3</sup> ) |         |                       |                   |                   |
|    | Ralon 1 : 1 1/2 : 2 1/2   |         | <b>39.250,00</b>      | <b>108.552,00</b> |                   |
|    | 3/4 1,2 dengan tulangan 110 kg  |         | <b>114.840,00</b>     | <b>162.140,00</b> |                   |
|    | F.8/10 m <sup>2</sup>   |         | <b>18.500</b>         | <b>84.000</b>     |                   |
|    |   |         | <b>203.590,00</b>     | <b>366.723,00</b> | <b>660.313,00</b> |

im<sup>3</sup> Cora Slof : 1:2:3

im<sup>3</sup> Cora :

| 1   | 2  | 3 | 4          | 5          | 6          |
|-----|--|---|------------|------------|------------|
| 10. | Beton bertulang dengan 1 Po : 2 Pa : 4 Kr per m3 |   |            |            |            |
|     | Beton 1 : 2 : 4                                  | = | 39.250,00  | 89.912,00  |            |
|     | 3/4 1.2 dengan tulangan 125 kg                   | = | 130.500,00 | 184.250,00 |            |
|     | F.8/10 m2  | = | 40.500     | 84.000     |            |
|     |  |   | 210.250,00 | 357.982,00 | 570.812,00 |
| 11  | Beton bertulang dengan 1 Po : 2 Pa : 3 Kr per m3 |   |            |            |            |
|     | Beton 1 : 2 : 3                                  | = | 39.250,00  | 82.214,00  |            |
|     | 3/4 1.2 dengan tulangan 110 kg                   | = | 114.840,00 | 182.140,00 |            |
|     | F.8/10 m2  | = | 40.500     | 84.000     |            |
|     |  |   | 203.590,00 | 348.354,00 | 641.844,00 |

**PERKIRAAN PLESTERAN**

|    |   |        |          |          |          |
|----|---|--------|----------|----------|----------|
| 1. | Plesteran tebal 10 mm dengan 1 Po : 2 Pa per m2 |        |          |          |          |
|    | 0,2500 zak PC                                   | 8.500  |          | 2.432,00 |          |
|    | 0,0180 m3 pasir pasang                          | 12.600 |          | 237,50   |          |
|    | 0,1500 tukang batu                              | 7.000  | 1.050,00 |          |          |
|    | 0,0150 kep.tukang batu                          | 7.500  | 112,50   |          |          |
|    | 0,3500 pekerja                                  | 5.000  | 1.750,00 |          |          |
|    | 0,0200 mandor                                   | 5.000  | 100,00   |          |          |
|    |   |        | 3.012,50 | 2.698,50 | 5.682,00 |

|    |   |        |          |        |          |
|----|---|--------|----------|--------|----------|
| 2. | Plesteran tebal 10 mm dengan 1 Po : 3 Kp : 10 Pa per m2 |        |          |        |          |
|    | 0,0350 zak PC   | 8.500  |          | 338,20 |          |
|    | 0,0040 m3 kapur   | 25.000 |          | 100,00 |          |
|    | 0,0130 m3 pasir pasang                                  | 12.600 |          | 182,50 |          |
|    | 0,1500 tukang batu                                      | 7.000  | 1.050,00 |        |          |
|    | 0,0150 kep.tukang batu                                  | 7.500  | 112,50   |        |          |
|    | 0,3500 pekerja  | 5.000  | 1.750,00 |        |          |
|    | 0,0200 mandor   | 5.000  | 100,00   |        |          |
|    |   |        | 3.012,50 | 600,70 | 3.613,20 |

|    |                                    |        |          |          |          |
|----|------------------------------------|--------|----------|----------|----------|
| 3. | Plesteran tebal 15 mm 1 : 4 per m2 |        |          |          |          |
|    | 0,1000 zak PC                      | 8.500  |          | 1.255,00 |          |
|    | 0,0200 m3 pasir pasang             | 12.500 |          | 1.041,20 |          |
|    | 0,1500 tukang batu                 | 7.000  | 1.050,00 | 261,25   |          |
|    | 0,0150 kep.tukang batu             | 7.500  | 112,50   |          |          |
|    | 0,3500 pekerja                     | 5.000  | 1.750,00 |          |          |
|    | 0,0200 mandor                      | 5.000  | 100,00   |          |          |
|    |                                    |        | 3.012,50 | 1.302,45 | 4.314,95 |

|    |   |        |          |          |          |
|----|---|--------|----------|----------|----------|
| 4. | Plesteran tebal 15 mm dengan 1 Po : 3 Pa per m2 |        |          |          |          |
|    | 0,1800 zak PC                                   | 8.500  |          | 1.882,00 | 1.911    |
|    | 0,0216 m3 pasir pasang                          | 12.500 |          | 270,00   | 540      |
|    | 0,2000 tukang batu                              | 7.000  | 1.400,00 |          |          |
|    | 0,0200 kep.tukang batu                          | 7.500  | 150,00   |          | 2.500    |
|    | 0,4000 pekerja                                  | 5.000  | 2.000,00 |          |          |
|    | 0,0200 mandor                                   | 5.000  | 100,00   |          |          |
|    |   |        | 3.850,00 | 2.182,00 | 5.782,00 |

|    |  |        |          |          |          |
|----|--|--------|----------|----------|----------|
| 5. | Pekerjaan star pada pasangan batu bata dengan 1 Po : 3 Pa per m2 |        |          |          |          |
|    | 0,0876 zak PC  | 8.500  |          | 827,20   | 4.701    |
|    | 0,0110 m3 pasir pasang   | 12.500 |          | 137,50   |          |
|    | 0,1200 tukang batu   | 7.000  | 840,00   |          |          |
|    | 0,0120 kep.tukang batu   | 7.500  | 90,00    |          |          |
|    | 0,3800 pekerja   | 5.000  | 1.800,00 |          |          |
|    | 0,0180 mandor  | 5.000  | 80,00    |          |          |
|    |  |        | 2.820,00 | 1.064,70 | 3.884,70 |



| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
|---|---|---|---|---|---|

**PEKERJAAN KAYU**

1 Rangka atap/kuda-kuda dengan bentang maksimum 7 m per m<sup>3</sup>

|                                   |           |            |              |              |              |
|-----------------------------------|-----------|------------|--------------|--------------|--------------|
| 1,2000 m <sup>3</sup> kayu kamper | 1.000,000 |            | 1.200.000,00 |              |              |
| 8,0000 kg baut / paku             | 1.500     |            | 12.000,00    |              |              |
| 24,0000 tukang kayu               | 7.000     | 168.000,00 |              |              |              |
| 2,4000 kep. tukang kayu           | 8.000     | 19.200,00  |              |              |              |
| 8,0000 pekerja                    | 5.000     | 40.000,00  |              |              |              |
| 0,4000 mandor                     | 5.000     | 2.000,00   |              |              |              |
|                                   | 3/4 X     |            | 228.200,00   | 1.212.000,00 | 1.441.200,00 |
|                                   |           |            | 171.800,00   | 808.000,00   | 1.080.000,00 |

2 Rangka atap/kuda-kuda dengan bentang maksimum 7 m per m<sup>3</sup>

|                                 |           |            |              |              |              |
|---------------------------------|-----------|------------|--------------|--------------|--------------|
| 1,2000 m <sup>3</sup> kayu jati | 1.900,000 |            | 2.280.000,00 |              |              |
| 8,0000 kg baut / paku           | 1.500     |            | 12.000,00    |              |              |
| 38,0000 tukang kayu             | 7.000     | 252.000,00 |              |              |              |
| 3,8000 kep. tukang kayu         | 8.000     | 20.000,00  |              |              |              |
| 12,0000 pekerja                 | 5.000     | 60.000,00  |              |              |              |
| 0,6000 mandor                   | 5.000     | 2.000,00   |              |              |              |
|                                 | 3/4 X     |            | 343.800,00   | 2.292.000,00 | 2.636.000,00 |
|                                 |           |            | 267.850,00   | 1.718.000,00 | 1.986.050,00 |

3 Rangka atap untuk seng per m<sup>2</sup>

|                                 |           |        |           |           |           |
|---------------------------------|-----------|--------|-----------|-----------|-----------|
| 0,0110 m <sup>3</sup> kayu jati | 1.900,000 |        | 20.900,00 |           |           |
| 0,1000 kg baut / paku           | 1.500     |        | 180,00    |           |           |
| 0,1000 tukang kayu              | 7.000     | 700,00 |           |           |           |
| 0,0100 kep. tukang kayu         | 8.000     | 80,00  |           |           |           |
| 0,1500 pekerja                  | 5.000     | 750,00 |           |           |           |
| 0,0075 mandor                   | 5.000     | 37,50  |           |           |           |
|                                 |           |        | 1.667,50  | 21.050,00 | 22.817,50 |

4. Pekerjaan laso dan reng per m<sup>2</sup>

|                                   |           |        |           |           |           |
|-----------------------------------|-----------|--------|-----------|-----------|-----------|
| 0,0180 m <sup>3</sup> kayu kamper | 1.000,000 |        | 18.000,00 |           |           |
| 0,2500 kg baut / paku             | 1.500     |        | 375,00    |           |           |
| 0,1000 tukang kayu                | 7.000     | 700,00 |           |           |           |
| 0,0100 kep. tukang kayu           | 8.000     | 80,00  |           |           |           |
| 0,1000 pekerja                    | 5.000     | 500,00 |           |           |           |
| 0,0050 mandor                     | 5.000     | 25,00  |           |           |           |
|                                   |           |        | 1.305,00  | 18.375,00 | 17.800,00 |

5. Pekerjaan atap sirap (tidak bertingkat) per m<sup>2</sup>

|                         |        |          |              |              |              |
|-------------------------|--------|----------|--------------|--------------|--------------|
| 100,0000 potong sirap   | 20.000 |          | 2.000.000,00 |              |              |
| 0,1500 kg paku          | 1.500  |          | 225,00       |              |              |
| 0,1500 tukang kayu      | 7.000  | 1.050,00 |              |              |              |
| 0,0150 kep. tukang kayu | 8.000  | 120,00   |              |              |              |
| 0,2000 pekerja          | 5.000  | 1.500,00 |              |              |              |
| 0,0150 mandor           | 5.000  | 75,00    |              |              |              |
|                         |        |          | 2.745,00     | 2.000.225,00 | 2.002.970,00 |

6. Pekerjaan atap sirap (bangunan bertingkat) per m<sup>2</sup>

|                         |        |          |              |              |              |
|-------------------------|--------|----------|--------------|--------------|--------------|
| 100,0000 potong sirap   | 20.000 |          | 2.000.000,00 |              |              |
| 0,1500 kg paku          | 1.500  |          | 225,00       |              |              |
| 0,1500 tukang kayu      | 7.000  | 1.050,00 |              |              |              |
| 0,0150 kep. tukang kayu | 8.000  | 120,00   |              |              |              |
| 0,5000 pekerja          | 5.000  | 2.500,00 |              |              |              |
| 0,0250 mandor           | 5.000  | 125,00   |              |              |              |
|                         |        |          | 3.785,00     | 2.000.225,00 | 2.004.020,00 |

7. Menutupi atap dengan genteng blasa/kodok per m<sup>2</sup>

|                         |       |          |          |          |          |
|-------------------------|-------|----------|----------|----------|----------|
| 25,0000 bh genteng      | 300   |          | 7.500,00 |          |          |
| 0,1000 tukang batu      | 7.000 | 700,00   |          |          |          |
| 0,0100 kep. tukang batu | 7.500 | 75,00    |          |          |          |
| 0,2000 pekerja          | 5.000 | 1.000,00 |          |          |          |
| 0,0100 mandor           | 5.000 | 50,00    |          |          |          |
|                         |       |          | 1.825,00 | 7.500,00 | 9.325,00 |

| 1   | 2   | 3         | 4                 | 5                   | 6                             |
|-----|---|-----------|-------------------|---------------------|-------------------------------|
| 9.  | <b>Menutup bubungan dan jurai luar dengan 1 : 1 : 1 Pa : 2 : 10 per m<sup>2</sup></b> |           |                   |                     |                               |
|     | 5,0000 bh korpas  | 400       |                   | 2.000,00            |                               |
|     | 0,1840 zak PC   | 9.500     |                   | 1.740,00            |                               |
|     | 0,0278 m <sup>3</sup> kapur   | 25.000    |                   | 885,00              |                               |
|     | 0,1390 m <sup>3</sup> pasir berpasir  | 17.500    |                   | 1.737,50            |                               |
|     | 0,2000 tukang batu  | 7.000     | 1.400,00          |                     |                               |
|     | 0,0200 kep. tukang batu   | 7.500     | 150,00            |                     |                               |
|     | 0,4000 pekerja  | 5.000     | 3.000,00          |                     |                               |
|     | 0,0200 mandor   | 5.000     | 100,00            |                     |                               |
|     |   |           | <b>3.850,00</b>   | <b>6.180,50</b>     | <b>9.990,50</b>               |
|     | <b>Pak. keron-koson pintu/jendela dari kayu jati</b>                                  |           |                   |                     | <b>(F.26.a/m<sup>3</sup>)</b> |
|     | 1,2000 m <sup>3</sup> kayu jati   | 1.900.000 |                   | 2.280.000,00        |                               |
|     | 30,0000 tukang kayu   | 7.000     | 210.000,00        |                     |                               |
|     | 3,0000 kep. tukang kayu   | 3.000     | 24.000,00         |                     |                               |
|     | 10,0000 pekerja   | 5.000     | 50.000,00         |                     |                               |
|     | 0,5000 mandor   | 3.000     | 2.500,00          |                     |                               |
|     |   |           | <b>289.500,00</b> | <b>2.280.000,00</b> | <b>2.569.500,00</b>           |
| 10. | <b>Pak. keron-koson pintu/jendela dari kayu Kumpang</b>                               |           |                   |                     | <b>(F.26.b/m<sup>3</sup>)</b> |
|     | <b>3/4 x upah F.26.a</b>  | 200.000   | 214.875,00        |                     |                               |
|     | 1,2000 m <sup>3</sup> kayu kumpang  | 1.000.000 |                   | 1.200.000,00        |                               |
|     |   |           | <b>214.875,00</b> | <b>1.200.000,00</b> | <b>1.414.875,00</b>           |
| 11. | <b>Pak. daun pintu/jendela (dilapis tripleks dan aluminium) per m<sup>2</sup></b>     |           |                   |                     |                               |
|     | 0,0450 m <sup>3</sup> kayu jati   | 1.800.000 |                   | 85.500,00           |                               |
|     | 7,5000 tukang kayu  | 7.000     | 52.500,00         |                     |                               |
|     | 0,7500 kep. tukang kayu   | 8.000     | 8.000,00          |                     |                               |
|     | 2,5000 pekerja  | 5.000     | 12.500,00         |                     |                               |
|     | 0,1250 mandor   | 5.000     | 225,00            |                     |                               |
|     | upah 3/4  |           | <b>71.825,00</b>  | <b>85.500,00</b>    | <b>157.125,00</b>             |
|     |   |           | <b>52.718,75</b>  | <b>85.500,00</b>    | <b>138.218,75</b>             |
| 12. | <b>Pak. daun pintu/jendela jilusi per m<sup>2</sup></b>                               |           |                   |                     |                               |
|     | 0,0040 m <sup>3</sup> kayu jati   | 2.500.000 |                   | 100.000,00          |                               |
|     | 0,1000 kg paku sirip  | 1.500     |                   | 150,00              |                               |
|     | 2,0000 tukang kayu  | 7.000     | 53.000,00         |                     |                               |
|     | 0,5000 kep. tukang kayu   | 8.000     | 7.200,00          |                     |                               |
|     | 3,0000 pekerja  | 5.000     | 15.000,00         |                     |                               |
|     | 0,1500 mandor   | 5.000     | 750,00            |                     |                               |
|     | upah 3/4  |           | <b>22.550,00</b>  | <b>160.150,00</b>   | <b>183.100,00</b>             |
|     |   |           | <b>17.212,50</b>  | <b>160.150,00</b>   | <b>177.362,50</b>             |
| 13. | <b>Pak. daun pintu/jendela kaca per m<sup>2</sup></b>                                 |           |                   |                     |                               |
|     | 0,0350 m <sup>3</sup> kayu jati   | 1.500.000 |                   | 88.500,00           |                               |
|     | 0,7500 m <sup>2</sup> kaca 3 mm   | 11.000    |                   | 8.250,00            |                               |
|     | 0,0500 kg paku  | 1.500     |                   | 75,00               |                               |
|     | 6,0000 tukang kayu  | 7.000     | 42.000,00         |                     |                               |
|     | 0,6000 kep. tukang kayu   | 8.000     | 4.800,00          |                     |                               |
|     | 2,0000 pekerja  | 5.000     | 10.000,00         |                     |                               |
|     | 0,1000 mandor   | 5.000     | 500,00            |                     |                               |
|     | upah 3/4  |           | <b>57.000,00</b>  | <b>74.825,00</b>    | <b>132.125,00</b>             |
|     |   |           | <b>42.975,00</b>  | <b>74.825,00</b>    | <b>117.800,00</b>             |
| 14. | <b>Pintu Jendela Klam dengan bingkai per m<sup>2</sup></b>                            |           |                   |                     |                               |
|     | 0,0260 m <sup>3</sup> kayu jati   | 1.300.000 |                   | 80.400,00           |                               |
|     | 0,0500 kg paku  | 1.500     |                   | 75,00               |                               |
|     | 4,0000 tukang kayu  | 7.000     | 26.000,00         |                     |                               |
|     | 0,4000 kep. tukang kayu   | 8.000     | 3.200,00          |                     |                               |
|     | 1,3000 pekerja  | 5.000     | 8.600,00          |                     |                               |
|     | 0,0650 mandor   | 5.000     | 225,00            |                     |                               |
|     |   |           | <b>38.025,00</b>  | <b>68.475,00</b>    | <b>106.600,00</b>             |

| 1                           | 2   | 3         | 4               | 5                | 6                |
|-----------------------------|---|-----------|-----------------|------------------|------------------|
| 15                          | <b>Pak. papan lla dari kayu jati per m<sup>2</sup></b>  |           |                 |                  |                  |
|                             | 0,0300 m <sup>3</sup> kayu jati                         | 1.300.000 |                 | 57.000,00        |                  |
|                             | 0,2600 kg paku  | 1.500     |                 | 375,00           |                  |
|                             | 0,8000 tukang kayu                                      | 7.000     | 5.600,00        |                  |                  |
|                             | 0,0800 kep.tukang kayu                                  | 8.000     | 840,00          |                  |                  |
|                             | 0,2800 pekerja  | 5.000     | 1.400,00        |                  |                  |
|                             | 0,0140 mandor   | 5.000     | 70,00           |                  |                  |
|                             |   |           | <b>7.710,00</b> | <b>67.375,00</b> | <b>65.085,00</b> |
| 16                          | <b>Pak. plafond/langit-langit per m<sup>2</sup></b>     |           |                 |                  |                  |
|                             | 0,0100 m <sup>3</sup> kayu kamper                       | 1.000.000 |                 | 10.000,00        |                  |
|                             | 0,1000 kg paku  | 1.500     |                 | 150,00           |                  |
|                             | 1,0000 m <sup>2</sup> steroit                           | 3.500     |                 | 3.500,00         |                  |
|                             | 0,8000 tukang kayu                                      | 7.000     | 5.600,00        |                  |                  |
|                             | 0,0800 kep.tukang kayu                                  | 8.000     | 840,00          |                  |                  |
|                             | 0,2800 pekerja  | 5.000     | 1.400,00        |                  |                  |
|                             | 0,0140 mandor   | 5.000     | 70,00           |                  |                  |
|                             | upah 3/4  | x         | 7.710,00        | 13.650,00        | 21.360,00        |
|                             |   |           | <b>6.782,50</b> | <b>13.850,00</b> | <b>18.432,50</b> |
| <b>VI PERKERJAAN TALANG</b> |   |           |                 |                  |                  |
| 0                           | <b>Memasang talang patahan atap per m<sup>2</sup></b>   |           |                 |                  |                  |
|                             | 3,5000 lbr seng B.J.L.S.0,3                             | 13.800    |                 | 48.300,00        |                  |
|                             | 350,0000 bh paku sumbat                                 | 200       |                 | 70.000,00        |                  |
|                             | 0,0000 tukang besi                                      | 7.000     | 42.000,00       |                  |                  |
|                             | 0,6000 kep.tukang besi                                  | 7.500     | 4.500,00        |                  |                  |
|                             | 2,5000 pekerja  | 5.000     | 17.500,00       |                  |                  |
|                             | 0,1700 mandor   | 6.000     | 870,00          |                  |                  |
|                             | 1/10  | x         | 64.075,00       | 113.300,00       | 180.175,00       |
|                             |   |           | <b>6.187,00</b> | <b>11.830,00</b> | <b>18.317,00</b> |
| 2                           | <b>Memasang talang kantong per m<sup>2</sup></b>        |           |                 |                  |                  |
|                             | 5,5000 lbr seng B.J.L.S.0,3                             | 13.800    |                 | 75.900,00        |                  |
|                             | 600,0000 bh paku sumbat                                 | 200       |                 | 100.000,00       |                  |
|                             | 8,0000 tukang besi                                      | 7.000     | 56.000,00       |                  |                  |
|                             | 0,8000 kep.tukang besi                                  | 7.500     | 8.000,00        |                  |                  |
|                             | 6,0000 pekerja  | 5.000     | 25.000,00       |                  |                  |
|                             | 0,2500 mandor   | 6.000     | 1.250,00        |                  |                  |
|                             | 1/10  | x         | 80.250,00       | 175.900,00       | 284.150,00       |
|                             |   |           | <b>8.025,00</b> | <b>17.580,00</b> | <b>28.415,00</b> |
| 3                           | <b>Atap seng galombang B.J.S 0,30 per m<sup>2</sup></b> |           |                 |                  |                  |
|                             | 0,7500 lbr seng glb                                     | 11.000    |                 | 8.250,00         |                  |
|                             | 1,0000 bh sokrup kayu                                   | 200       |                 | 200,00           |                  |
|                             | 0,2000 tukang besi                                      | 7.000     | 1.400,00        |                  |                  |
|                             | 0,0200 kep.tukang besi                                  | 7.500     | 150,00          |                  |                  |
|                             | 0,1500 pekerja  | 5.000     | 750,00          |                  |                  |
|                             | 0,0050 mandor   | 5.000     | 25,00           |                  |                  |
|                             |   |           | <b>2.325,00</b> | <b>6.050,00</b>  | <b>11.975,00</b> |
| 4                           | <b>Memasang talang bilikan per m<sup>2</sup></b>        |           |                 |                  |                  |
|                             | 3,0000 lbr seng B.J.L.S.0,3                             | 13.800    |                 | 41.400,00        |                  |
|                             | 300,0000 bh paku sumbat                                 | 200       |                 | 60.000,00        |                  |
|                             | 5,0000 tukang besi                                      | 7.000     | 35.000,00       |                  |                  |
|                             | 0,5000 kep.tukang besi                                  | 7.500     | 3.750,00        |                  |                  |
|                             | 2,0000 pekerja  | 5.000     | 15.000,00       |                  |                  |
|                             | 0,1500 mandor   | 5.000     | 750,00          |                  |                  |
|                             | 1/10  | x         | 54.500,00       | 101.400,00       | 155.900,00       |
|                             |   |           | <b>5.450,00</b> | <b>10.140,00</b> | <b>15.590,00</b> |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

5. Memasang tiang pembuang air per 10 m<sup>2</sup>

|                         |               |        |                  |                   |
|-------------------------|---------------|--------|------------------|-------------------|
| 2,5000 lbr              | seang BULSO,3 | 13.800 |                  | 34.500,00         |
| 225.0000 bh             | peku sumbat   | 230    |                  | 45.000,00         |
| 3.7500 tukang besi      |               | 7.000  | 28.250,00        |                   |
| 0,3750 kep. tukang besi |               | 7.500  | 2.012,50         |                   |
| 2.2500 pekerja          |               | 5.000  | 11.250,00        |                   |
| 0,1100 mandor           |               | 5.000  | 550,00           |                   |
|                         |               |        | <b>40.892,50</b> | <b>78.500,00</b>  |
|                         |               |        |                  | <b>129.392,50</b> |

6. Mendempul, sekal cat dasar (baru) - (1 1/2.K.2 + K.30 + K.23/m<sup>2</sup>)

|                        |            |       |                  |                  |
|------------------------|------------|-------|------------------|------------------|
| 2,2500 kg              | cat dasar  | 3.000 |                  | 6.750,00         |
| 0,8000 kg              | dempul     | 2.500 |                  | 2.000,00         |
| 0,5000 ltr             | minyak cat | 1.750 |                  | 875,00           |
| 2.0000 lbr             | ampias     | 350   |                  | 700,00           |
| 0,7500 tukang cat      |            | 7.000 | 6.250,00         |                  |
| 0,0750 kep. tukang cat |            | 7.500 | 592,50           |                  |
| 0,6000 pekerja         |            | 5.000 | 3.600,00         |                  |
| 0,0250 mandor          |            | 5.000 | 125,00           |                  |
|                        |            |       | <b>1/10</b>      | <b>x</b>         |
|                        |            |       | <b>0.407,50</b>  | <b>10.025,00</b> |
|                        |            |       | <b>1 1/2, k2</b> | <b>x</b>         |
|                        |            |       | <b>648,75</b>    | <b>1.032,50</b>  |
|                        |            |       |                  | <b>1.876,25</b>  |

2. Dua kali mengecat kilat

|                        |            |       |                 |                  |
|------------------------|------------|-------|-----------------|------------------|
| 2,8000 kg              | cat kilat  | 8.500 |                 | 18.900,00        |
| 0,5000 ltr             | minyak cat | 1.750 |                 | 875,00           |
| 1.0000 lbr             | ampias     | 350   |                 | 350,00           |
| 0,7000 tukang cat      |            | 7.000 | 4.900,00        |                  |
| 0,0700 kep. tukang cat |            | 7.500 | 525,00          |                  |
| 0,5000 pekerja         |            | 5.000 | 2.600,00        |                  |
| 0,0250 mandor          |            | 5.000 | 125,00          |                  |
|                        |            |       | <b>1/10</b>     | <b>x</b>         |
|                        |            |       | <b>8.050,00</b> | <b>18.125,00</b> |
|                        |            |       | <b>2 k8</b>     | <b>x</b>         |
|                        |            |       | <b>805,00</b>   | <b>1.812,50</b>  |
|                        |            |       |                 | <b>28.175,00</b> |

3. Mendasar, menggosok dan 2 kali mengecat kilat per m<sup>2</sup> (K.23 + K.30/m<sup>2</sup>)

|                  |   |                 |                 |
|------------------|---|-----------------|-----------------|
| (1 1/2.K.2)      | = | 040,75          | 1.002,50        |
| ( 2.K.0)         | = | 606,00          | 1.812,60        |
| 2 kali cat kilat | = | 1.448,75        | 2.845,00        |
| K.8              | = | 402,50          | 1.422,50        |
|                  |   | <b>2.057,25</b> | <b>4.282,50</b> |

4. Pak. pilur eodrhana per m<sup>2</sup>

|                     |            |        |                 |                 |
|---------------------|------------|--------|-----------------|-----------------|
| 0,0100 kg           | elrak      | 10.000 |                 | 318,40          |
| 0,3300 ltr          | spiritus   | 1.200  |                 | 390,00          |
| 0,2000 kg           | batu apung | 250    |                 | 50,00           |
| 0,5000 tukang pilur |            | 7.000  | 3.500,00        |                 |
|                     |            |        | <b>3.500,00</b> | <b>761,40</b>   |
|                     |            |        |                 | <b>4.281,40</b> |

6. Untuk piluran yang baik

|          |   |          |          |          |
|----------|---|----------|----------|----------|
| 2 x K.15 | = | 7.000,00 | 1.522,80 | 8.522,80 |
|----------|---|----------|----------|----------|

6. Pak. Cat Tembok per m<sup>2</sup>

|                        |            |       |                 |                 |
|------------------------|------------|-------|-----------------|-----------------|
| 0,2500 kg              | Cat Tembok | 7.800 |                 | 1.900,00        |
| 0,0700 kg              | Plamur     | 2.000 |                 | 140,00          |
| 0,0500 lbr             | Ampias     | 350   |                 | 17,50           |
| 0,1500 Tukang Cat      |            | 7.000 | 1.050,00        |                 |
| 0,0150 Kep. Tukang Cat |            | 7.500 | 112,50          |                 |
| 0,2500 Pekerja         |            | 5.000 | 1.250,00        |                 |
| 0,0125 Mandor          |            | 5.000 | 82,60           |                 |
|                        |            |       | <b>2.475,00</b> | <b>2.057,50</b> |
|                        |            |       |                 | <b>4.532,50</b> |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
|---|---|---|---|---|---|---|

7. Pak. Cat Tembok per 10 m<sup>2</sup> (K.23 /10 m<sup>2</sup>)

|                        |            |       |           |                  |                  |                  |
|------------------------|------------|-------|-----------|------------------|------------------|------------------|
| 2,5000 kg              | Cat Tembok | 7.000 |           | 19.000,00        |                  |                  |
| 1,5000 kg              | Pleamur    | 2.500 |           | 2.000,00         |                  |                  |
| 2,0000 ltr             | Amplas     | 350   |           | 700,00           |                  |                  |
| 2,0000                 | Tukang Cat | 7.000 | 14.000,00 |                  |                  |                  |
| 0,2000 Kap.            | Tukang Cat | 7.500 | 1.500,00  |                  |                  |                  |
| 1,5000                 | Pekerja    | 5.000 | 7.500,00  |                  |                  |                  |
| 0,0750                 | Mander     | 5.000 | 375,00    |                  |                  |                  |
|                        |            |       |           | <b>23.375,00</b> | <b>22.700,00</b> | <b>49.075,00</b> |
| Untuk 1 m <sup>2</sup> |            |       |           | <b>2.337,50</b>  | <b>2.270,00</b>  | <b>4.607,50</b>  |

8. Pak. Cat Kayu/Beal per 10 m<sup>2</sup> (K.18 + K.30 + K.23)

|                        |            |       |           |                 |                 |                 |
|------------------------|------------|-------|-----------|-----------------|-----------------|-----------------|
| 1,2500 kg              | Cat Meri   | 3.000 |           | 3.750,00        |                 |                 |
| 0,8000 kg              | Pleamur    | 2.500 |           | 2.000,00        |                 |                 |
| 4,2500 kg              | Cat Warna  | 8.500 |           | 27.625,00       |                 |                 |
| 0,7500 ltr             | Minyak Cat | 1.750 |           | 1.312,50        |                 |                 |
| 2,0000 ltr             | Amplas     | 350   |           | 700,00          |                 |                 |
| 3,4000                 | Tukang Cat | 7.000 | 20.000,00 |                 |                 |                 |
| 0,0340 Kap.            | Tukang Cat | 7.500 | 255,00    |                 |                 |                 |
| 2,0000                 | Pekerja    | 5.000 | 10.000,00 |                 |                 |                 |
| 0,1000                 | Mander     | 5.000 | 500,00    |                 |                 |                 |
| Untuk 1 m <sup>2</sup> |            |       |           | <b>3.455,50</b> | <b>3.538,75</b> | <b>8.894,25</b> |

**VI. BIAYA PERAKSIAN DAN PERALATAN**

1. Pemasangan alas jalan tebal 15 cm per m<sup>2</sup> (pakang batu kali) (W.2)

|                       |            |        |          |                 |                 |                 |
|-----------------------|------------|--------|----------|-----------------|-----------------|-----------------|
| 0,2000 m <sup>3</sup> | batu kali  | 10.000 |          | 2.000,00        |                 |                 |
| 0,0500 m <sup>3</sup> | pasir urug | 3.500  |          | 425,00          |                 |                 |
| 0,3750                | Pekerja    | 5.000  | 1.875,00 |                 |                 |                 |
| 0,0150                | Mander     | 5.000  | 95,00    |                 |                 |                 |
| A =                   |            |        |          | <b>1.070,00</b> | <b>2.425,00</b> | <b>4.395,00</b> |
| B = 1/7500 x W.4      |            |        |          |                 |                 |                 |
| D =                   |            |        |          | <b>121,80</b>   | <b>85,00</b>    | <b>207,43</b>   |
| C =                   |            |        |          | <b>4.081,80</b> | <b>2.510,63</b> | <b>6.572,43</b> |

Biaya pengglas (An.W.4)

2. Pemasangan lapisan walk porsihan tebal 0 cm per 100 m<sup>2</sup> setelah diglas (silytasq) (W.3)

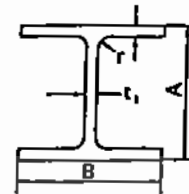
|                                   |              |        |           |                   |                   |                   |
|-----------------------------------|--------------|--------|-----------|-------------------|-------------------|-------------------|
| 10,0000 m <sup>3</sup>            | bt pecah 5/7 | 12.000 |           | 228.000,00        |                   |                   |
| 2,0000 m <sup>3</sup>             | pasir urug   | 8.500  |           | 17.000,00         |                   |                   |
| 7,5000                            | Pekerja      | 5.000  | 27.500,00 |                   |                   |                   |
| 0,38                              | Mander       | 5.000  | 1.875,00  |                   |                   |                   |
| A =                               |              |        |           | <b>38.375,00</b>  | <b>245.000,00</b> | <b>284.075,00</b> |
| B =                               |              |        |           | <b>24.380,00</b>  | <b>17.128,87</b>  | <b>41.408,87</b>  |
| C = (B = 2/75 x W.4)              |              |        |           | <b>103.110,00</b> | <b>282.128,87</b> | <b>385.238,87</b> |
| Untuk 1 m <sup>2</sup> = C/100 -> |              |        |           | <b>1.031,10</b>   | <b>2.821,27</b>   | <b>3.852,37</b>   |
| Untuk tebal 0 cm = 0/8 x D        |              |        |           | <b>773,33</b>     | <b>1.085,85</b>   | <b>2.738,28</b>   |

3. Biaya glas selama 1 bulan (30 hari) pakai wals (W.4)

|                             |                |       |            |                   |                   |                     |
|-----------------------------|----------------|-------|------------|-------------------|-------------------|---------------------|
| 1,0000                      | Mesin          | 7.000 | 7.000,00   |                   |                   |                     |
| 1,0000                      | Pembantu mesin | 8.500 | 8.500,00   |                   |                   |                     |
| 30,0000                     | Penjaga        | 5.000 | 150.000,00 |                   |                   |                     |
| 150,0000                    | Pekerja        | 5.000 | 750.000,00 |                   |                   |                     |
| 10,0000 ltr                 | SAE 20         | 2.400 | 24.000,00  |                   |                   |                     |
| 625,0000 ltr                | Solar          | 380   | 237.500,00 |                   |                   |                     |
| 50,0000 ltr                 | SAE 40         | 3.000 | 150.000,00 |                   |                   |                     |
| 10,0000 ltr                 | SAE 140        | 4.000 | 40.000,00  |                   |                   |                     |
| 10,0000 ltr                 | SAE 80         | 3.000 | 30.000,00  |                   |                   |                     |
| 0,2500 kg                   | Vaseline       | 3.000 | 750,00     |                   |                   |                     |
| 30,0000 ltr                 | Benzin         | 700   | 21.000,00  |                   |                   |                     |
|                             |                |       |            | <b>913.500,00</b> | <b>505.250,00</b> | <b>1.418.750,00</b> |
| Untuk servis tiap bulan 2 x |                |       |            |                   |                   |                     |
| 20,0000 ltr                 | SAE 40         | 3.000 | 60.000,00  |                   |                   |                     |
| 10,0000 ltr                 | SAE 20         | 2.400 | 24.000,00  |                   |                   |                     |
|                             |                |       |            | <b>913.500,00</b> | <b>611.250,00</b> | <b>1.524.750,00</b> |



| 1   | 2  | 3       | 4         | 5            | 6            |
|-----|--|---------|-----------|--------------|--------------|
|     | Biaya manggila 1/7500 x W.1  |         | 285,00    | 0,00         | 285,00       |
|     |  |         | 1.385,00  | 524.050,00   | 525.435,00   |
| 10. | Sosotan aspal 100 m2   |         |           |              |              |
|     | 80,0000 kg Aspal   | 87,000  |           | 8.980.000,00 |              |
|     | 0,5300 m3 Kayu bakar   | 8,000   |           | 4.240,00     |              |
|     | 0,0500 m3 Pa muntlan   | 22,500  |           | 1.125,00     |              |
|     | 10,0000 Pekerja  | 5,000   | 50.000,00 |              |              |
|     | 0,5000 Mandor  | 5,000   | 2.500,00  |              |              |
|     | Peralatan  |         |           | 2.500,00     |              |
|     |  | lakor   |           |              |              |
|     |  |         | 52.500,00 | 8.887.885,00 | 7.020.885,00 |
|     | 1 m2 =   |         | 525,00    | 89.879,85    | 70.200,85    |
| 11. | 1 m3 Beton bertulang 1 : 2 : 3 untuk plat dukker type A/B (dengan besi penulangan = 110 kg/m2) |         |           |              |              |
|     | 1,0000 m3 beton cor  | 131,184 |           | 131.184,00   |              |
|     | 1,0000 m3 pembealan  | 182,140 |           | 182.140,00   |              |
|     | 0,4000 m3 ky catukan   | 84,000  |           | 33.600,00    |              |
|     |  |         |           |              | 327.204,00   |
| 12. | 1 m3 Pasangan cor beton kanstin  |         |           |              |              |
|     | 0,8200 m3 pasir split  | 17,500  |           | 14.350,00    |              |
|     | 0,5400 m3 pasir beton  | 22,500  |           | 12.150,00    |              |
|     | 6,4480 zak semen PC  | 9,500   |           | 51.750,00    |              |
|     | 8,0000 pekerja   | 5,000   | 30.000,00 |              |              |
|     | 0,3000 mandor  | 5,000   | 1.500,00  |              |              |
|     | 1,0000 tukang batu   | 7,000   | 7.000,00  |              |              |
|     | 0,1000 kap.tk.batu   | 7,500   | 750,00    |              |              |
|     |  |         |           |              | 117.500,00   |
| 13. | 1 m' Pasangan cor beton kanstin 1 : 2 : 3  |         |           |              |              |
|     | 0,0200 m2 galian tanah   | 3,875   |           | 77,50        |              |
|     | 0,0050 m3 pasir urug   | 8,500   |           | 42,50        |              |
|     | 0,0033 m3 begaling   | 84,000  |           | 277,20       |              |
|     | 0,0200 m3 beton 1:2:3  | 131,184 |           | 2.828,28     |              |
|     |  |         |           |              | 3.028,48     |
| 14. | 1 m' Pasangan kanstin batu bata 1 : 2  |         |           |              |              |
|     | 0,0200 m2 galian tanah   | 3,875   |           | 118,25       |              |
|     | 0,0075 m3 pasir urug   | 8,500   |           | 83,75        |              |
|     | 0,0270 m3 pas.bata   | 122,165 |           | 3.288,00     |              |
|     | 0,1000 m3 plesteran  | 6,582   |           | 688,20       |              |
|     |  |         |           |              | 4.047,20     |
| 15. | 1 m' Pasangan kanstin batu bata 1 : 1  |         |           |              |              |
|     | 0,0400 m2 galian tanah   | 3,875   |           | 155,00       |              |
|     | 0,0075 m3 pasir urug   | 8,500   |           | 83,75        |              |
|     | 0,0270 m3 pas.bata   | 82,885  |           | 2.240,87     |              |
|     | 0,1000 m3 plesteran  | 4,315   |           | 431,50       |              |
|     |  |         |           |              | 2.891,11     |
| 16. | 1 m' Pasang got U - 20   |         |           |              |              |
|     | 0,0080 m3 Pas.Bata 1:4   | 82,885  |           | 487,87       |              |
|     | 1,0000 m' Got U. 20  | 4,500   |           | 4.500,00     |              |
|     | 1,0000 Upah  | 5,000   | 5.000,00  |              |              |
|     |  |         |           |              | 9.987,87     |
| 17. | 1 m' Pasang got U - 30   |         |           |              |              |
|     | 0,0080 m3 Pas.Bata 1:4   | 82,885  |           | 487,87       |              |
|     | 1,0000 m' Got U. 30  | 5,750   |           | 5.750,00     |              |
|     | 1,0000 Upah  | 5,000   | 5.000,00  |              |              |
|     |  |         |           |              | 11.247,87    |
| 18. | 1 m2 Pasang paving block   |         |           |              |              |
|     | 50,0000 bh paving block  | 175     |           | 2.750,00     |              |
|     | 0,2000 m3 pasir pasang   | 12,500  |           | 2.500,00     |              |
|     | 0,2000 tukang batu   | 7,000   | 1.400,00  |              |              |
|     | 0,0200 kap.tk.batu   | 7,500   | 150,00    |              |              |
|     | 0,4000 pekerja   | 5,000   | 2.000,00  |              |              |
|     | 0,0200 mandor  | 5,000   | 100,00    |              |              |
|     |  |         |           |              | 14.800,00    |

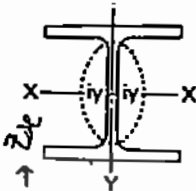


## Wide Flange Shapes

(Metric Series)

| Section Index | Weight | Depth of Section (A) | Flange Width (B) | Thickness             |                          | Corner Radius (r) | Sectional Area  | Moment of Inertia |                 | Radius of Gyration |                | Modulus of Section |                 |
|---------------|--------|----------------------|------------------|-----------------------|--------------------------|-------------------|-----------------|-------------------|-----------------|--------------------|----------------|--------------------|-----------------|
|               |        |                      |                  | Web (t <sub>w</sub> ) | Flange (t <sub>f</sub> ) |                   |                 | J <sub>x</sub>    | J <sub>y</sub>  | i <sub>x</sub>     | i <sub>y</sub> | Z <sub>x</sub>     | Z <sub>y</sub>  |
| mm            | kg/m   | mm                   | mm               | mm                    | mm                       | mm                | cm <sup>2</sup> | cm <sup>4</sup>   | cm <sup>4</sup> | cm                 | cm             | cm <sup>3</sup>    | cm <sup>3</sup> |
| 900 × 300     | 286    | 912                  | 302              | 18                    | 34                       | 28                | 384.0           | 498,000           | 15,700          | 37.0               | 8.58           | 10,900             | 1,040           |
|               | 243    | 900                  | 300              | 18                    | 28                       | 28                | 309.8           | 411,000           | 12,600          | 38.4               | 6.39           | 9,140              | 843             |
|               | 213    | 890                  | 299              | 15                    | 23                       | 28                | 270.9           | 345,000           | 10,300          | 35.7               | 6.18           | 7,760              | 888             |
| 800 × 300     | 241    | 808                  | 302              | 18                    | 30                       | 28                | 307.6           | 339,000           | 13,800          | 33.2               | 8.70           | 8,400              | 916             |
|               | 210    | 800                  | 300              | 14                    | 26                       | 28                | 287.4           | 292,000           | 11,700          | 33.0               | 6.62           | 7,290              | 782             |
|               | 191    | 792                  | 300              | 14                    | 22                       | 28                | 243.4           | 254,000           | 9,930           | 32.3               | 6.39           | 6,410              | 682             |
| 700 × 300     | 215    | 708                  | 302              | 15                    | 28                       | 28                | 273.6           | 237,000           | 12,900          | 29.4               | 8.88           | 6,700              | 853             |
|               | 185    | 700                  | 300              | 13                    | 24                       | 28                | 235.5           | 201,000           | 10,800          | 29.3               | 8.78           | 5,760              | 722             |
|               | 168    | 692                  | 300              | 13                    | 20                       | 28                | 211.5           | 172,000           | 9,020           | 28.6               | 6.53           | 4,980              | 602             |
| 600 × 300     | 175    | 594                  | 302              | 14                    | 23                       | 28                | 222.4           | 137,000           | 10,600          | 24.9               | 8.90           | 4,620              | 701             |
|               | 151    | 588                  | 300              | 12                    | 20                       | 28                | 192.5           | 118,000           | 9,020           | 24.8               | 6.85           | 4,020              | 601             |
|               | 137    | 582                  | 300              | 12                    | 17                       | 28                | 174.5           | 103,000           | 7,870           | 24.3               | 6.63           | 3,530              | 511             |
| 600 × 200     | 134    | 612                  | 202              | 13                    | 23                       | 22                | 107.7           | 103,000           | 3,180           | 24.6               | 4.31           | 3,380              | 314             |
|               | 120    | 606                  | 201              | 12                    | 20                       | 22                | 152.5           | 90,400            | 2,720           | 24.3               | 4.22           | 2,980              | 271             |
|               | 106    | 600                  | 200              | 11                    | 17                       | 22                | 134.4           | 77,600            | 2,280           | 24.0               | 4.12           | 2,590              | 228             |
|               | 94.6   | 596                  | 199              | 10                    | 15                       | 22                | 120.5           | 68,700            | 1,980           | 23.9               | 4.05           | 2,310              | 199             |
| 500 × 300     | 128    | 488                  | 300              | 11                    | 18                       | 26                | 163.5           | 71,000            | 8,110           | 20.8               | 7.04           | 2,910              | 541             |
|               | 114    | 482                  | 300              | 11                    | 15                       | 26                | 145.5           | 60,400            | 6,760           | 20.4               | 6.82           | 2,500              | 451             |
| 500 × 200     | 103    | 506                  | 201              | 11                    | 19                       | 20                | 131.3           | 56,500            | 2,580           | 20.7               | 4.43           | 2,230              | 257             |
|               | 89.7   | 500                  | 200              | 10                    | 16                       | 20                | 114.2           | 47,800            | 2,140           | 20.5               | 4.33           | 1,910              | 214             |
|               | 79.5   | 496                  | 199              | 9                     | 14                       | 20                | 101.3           | 41,900            | 1,840           | 20.3               | 4.27           | 1,690              | 185             |
| 450 × 300     | 124    | 440                  | 300              | 11                    | 18                       | 24                | 157.4           | 56,100            | 8,110           | 18.9               | 7.18           | 2,550              | 541             |
|               | 106    | 434                  | 299              | 10                    | 15                       | 24                | 135.0           | 46,800            | 6,690           | 18.8               | 7.04           | 2,160              | 448             |
| 450 × 200     | 76.0   | 450                  | 200              | 9                     | 14                       | 18                | 96.76           | 33,500            | 1,870           | 18.6               | 4.40           | 1,490              | 187             |
|               | 65.2   | 446                  | 199              | 8                     | 12                       | 18                | 84.30           | 28,700            | 1,580           | 18.5               | 4.33           | 1,290              | 159             |
| 400 × 400     | 605    | 498                  | 432              | 45                    | 70                       | 22                | 770.1           | 298,000           | 94,400          | 19.7               | 11.1           | 12,000             | 4,370           |
|               | 415    | 458                  | 417              | 30                    | 50                       | 22                | 528.6           | 187,000           | 60,500          | 18.8               | 10.7           | 8,170              | 2,900           |
|               | 283    | 428                  | 407              | 20                    | 35                       | 22                | 360.7           | 119,000           | 39,400          | 18.2               | 10.4           | 5,570              | 1,930           |
|               | 232    | 414                  | 405              | 18                    | 28                       | 22                | 295.4           | 92,800            | 31,000          | 17.7               | 10.2           | 4,480              | 1,530           |



*erat*  
*total lebar*  
*total sayap*  
*luas penampang*  
*I<sub>x</sub>*  


| Section Index | Weight | Depth of Section (A) | Flange Width (B) | Thickness             |                          | Corner Radius (r) | Sectional Area  | Moment of Inertia |                 | Radius of Gyration |                | Modulus of Section |                 |
|---------------|--------|----------------------|------------------|-----------------------|--------------------------|-------------------|-----------------|-------------------|-----------------|--------------------|----------------|--------------------|-----------------|
|               |        |                      |                  | Web (t <sub>w</sub> ) | Flange (t <sub>f</sub> ) |                   |                 | J <sub>x</sub>    | J <sub>y</sub>  | I <sub>x</sub>     | I <sub>y</sub> | Z <sub>x</sub>     | Z <sub>y</sub>  |
| mm            | kg/m   | mm                   | mm               | mm                    | mm                       | mm                | cm <sup>2</sup> | cm <sup>4</sup>   | cm <sup>4</sup> | cm                 | cm             | cm <sup>3</sup>    | cm <sup>3</sup> |
| 400 x 400     | 200    | 408                  | 403              | 16                    | 24                       | 22                | 254.9           | 78,000            | 28,200          | 17.5               | 10.1           | 3,840              | 1,300           |
|               | 197    | 400                  | 408              | 21                    | 21                       | 22                | 250.7           | 70,900            | 23,800          | 18.8               | 9.75           | 3,540              | 1,170           |
|               | 172    | 400                  | 400              | 13                    | 21                       | 22                | 218.7           | 66,600            | 22,400          | 17.5               | 10.1           | 3,330              | 1,120           |
|               | 168    | 394                  | 405              | 18                    | 18                       | 22                | 214.4           | 69,700            | 20,000          | 16.7               | 9.65           | 3,030              | 985             |
|               | 147    | 394                  | 398              | 11                    | 18                       | 22                | 188.8           | 56,100            | 18,900          | 17.3               | 10.1           | 2,850              | 951             |
|               | 140    | 388                  | 402              | 15                    | 15                       | 22                | 178.5           | 49,000            | 16,300          | 16.6               | 9.54           | 2,520              | 809             |
| 400 x 300     | 107    | 390                  | 300              | 10                    | 16                       | 22                | 138.0           | 38,700            | 7,210           | 16.9               | 7.28           | 1,980              | 481             |
|               | 94.3   | 386                  | 299              | 9                     | 14                       | 22                | 120.1           | 33,700            | 6,240           | 16.7               | 7.21           | 1,740              | 418             |
| 400 x 200     | 66.0   | 400                  | 200              | 8                     | 13                       | 18                | 84.12           | 23,700            | 1,740           | 16.8               | 4.54           | 1,190              | 174             |
|               | 56.6   | 396                  | 199              | 7                     | 11                       | 18                | 72.18           | 20,000            | 1,450           | 16.7               | 4.48           | 1,010              | 145             |
| 350 x 350     | 159    | 356                  | 352              | 14                    | 22                       | 20                | 202.0           | 47,600            | 16,000          | 15.3               | 8.90           | 2,670              | 909             |
|               | 158    | 350                  | 357              | 19                    | 19                       | 20                | 198.4           | 42,800            | 14,400          | 14.7               | 8.53           | 2,450              | 809             |
|               | 136    | 350                  | 350              | 12                    | 19                       | 20                | 173.9           | 40,300            | 13,600          | 15.2               | 8.84           | 2,300              | 776             |
|               | 131    | 344                  | 354              | 16                    | 18                       | 20                | 166.6           | 35,300            | 11,800          | 14.6               | 8.43           | 2,050              | 669             |
|               | 115    | 344                  | 348              | 10                    | 16                       | 20                | 148.0           | 33,300            | 11,200          | 15.1               | 8.78           | 1,940              | 646             |
|               | 106    | 338                  | 351              | 13                    | 13                       | 20                | 135.3           | 28,200            | 9,380           | 14.4               | 8.33           | 1,670              | 534             |
| 350 x 250     | 79.7   | 340                  | 250              | 9                     | 14                       | 20                | 101.5           | 21,700            | 3,650           | 14.8               | 6.00           | 1,280              | 292             |
|               | 69.2   | 338                  | 249              | 8                     | 12                       | 20                | 88.15           | 18,500            | 3,090           | 14.5               | 5.92           | 1,100              | 248             |
| 350 x 175     | 49.8   | 350                  | 175              | 7                     | 11                       | 14                | 63.14           | 13,800            | 984             | 14.7               | 3.95           | 775                | 112             |
|               | 41.4   | 348                  | 174              | 6                     | 9                        | 14                | 52.68           | 11,100            | 792             | 14.5               | 3.88           | 641                | 91.0            |
| 300 x 300     | 108    | 304                  | 301              | 11                    | 17                       | 18                | 134.8           | 23,400            | 7,730           | 13.2               | 7.57           | 1,540              | 514             |
|               | 108    | 300                  | 305              | 15                    | 15                       | 18                | 134.8           | 21,500            | 7,100           | 12.6               | 7.28           | 1,440              | 466             |
|               | 94.0   | 300                  | 300              | 10                    | 15                       | 18                | 119.8           | 20,400            | 6,750           | 13.1               | 7.51           | 1,360              | 450             |
|               | 87.0   | 298                  | 299              | 9                     | 14                       | 18                | 110.8           | 18,800            | 6,240           | 13.0               | 7.51           | 1,270              | 417             |
|               | 84.5   | 294                  | 302              | 12                    | 12                       | 18                | 107.7           | 16,900            | 5,520           | 12.5               | 7.18           | 1,150              | 365             |
| 300 x 200     | 65.4   | 298                  | 201              | 9                     | 14                       | 18                | 83.36           | 13,300            | 1,900           | 12.6               | 4.77           | 693                | 189             |
|               | 58.8   | 294                  | 200              | 8                     | 12                       | 18                | 72.38           | 11,300            | 1,600           | 12.5               | 4.71           | 771                | 160             |
| 300 x 150     | 38.7   | 300                  | 150              | 6.5                   | 9                        | 13                | 46.78           | 7,210             | 508             | 12.4               | 3.29           | 481                | 67.7            |
|               | 32.0   | 298                  | 149              | 5.5                   | 8                        | 13                | 40.80           | 6,320             | 442             | 12.4               | 3.29           | 424                | 59.3            |



**LABORATORIUM MEKANIKA TANAH  
UNIVERSITAS KATOLIK SOEGIJAPRANATA**

Jl. Pawiyatan Luhur IV/1 Bendan Duwur Semarang - 50234  
Telp. (024) 316142 - 441555 (hunting)  
Fax. (024) 415429 E-Mail : soepra14@rad.net.id Po. Box. 8033/SM  
Badan Hukum : Yayasan Sandjojo

**LAPORAN PENELITIAN TANAH**

**JL. RAYA KALIGAWA**

**SEMARANG**

Pendahuluan :

Sesuai dengan persetujuan / surat perintah kerja, maka team Lab. Fak. Teknik melakukan penelitian tanah di lokasi

Jl. Kaligawe Semarang.

Adapun skope penelitian meliputi :

- 3 buah Sondir 2,5 ton
- 1 buah bor tangan dengan pengambilan sample
- Penelitian Laboratorium meliputi Index Property, Grain Size dan direct shear.

Penelitian di Lapangan

Digunakan alat Sondir (CPT) kapasitas 2,5 ton sebanyak 3 titik dan 1 bor tangan.

Dari hasil grafik sondir tersebut didapat hasil yang hampir seragam :

- Bagian atas (0 - 2m) terdapat lapisan tanah dengan  $q_c$  diantara 10 - 60 Kg/cm<sup>2</sup> biasanya merupakan tanah urukan yang telah dipadatkan.
- Lapisan tanah 2 - 5 m merupakan lapisan tanah lempung coklat abu-abu dengan nilai  $q_c < 10$  Kg/cm<sup>2</sup>.
- Lapisan diantara 5 - 7 m biasanya merupakan lapisan tanah Lanau yang memadat, terlihat nilai  $q_c$  naik diantara 10 - 30 Kg/cm<sup>2</sup>.
- Lapisan 7 - 20 m merupakan lapisan tanah yang sangat Kompressible, terlihat nilai  $q_c$  kembali mengecil dibawah 10 Kg/cm<sup>2</sup>.

Muka air tanah terlihat pada - 1 m dibawah muka tanah.



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Penelitian di Laboratorium

Meliputi sifat-sifat phisik tanah :

- Index property
- Grain size analysis

Dari hasil penelitian di Laboratorium mengenai index property didapat :

- Water Content           diantara 40 - 45 %
- Spesific Gravity       diantara 2,46 - 2,51
- Berat jenis kering   diantara 1,1 - 1,22
- Void ratio               diantara 1 - 1,15

Dari data Grain Size Accumulation curve didapat gambaran sebagai berikut :

- Pada kedalaman 1 m terdapat banyak butiran pasir
- Pada kedalaman 2 m terdapat lapisan tanah lempung
- Pada kedalaman 3 & 4 m terdapat lapisan tanah silt.

Dari shear test dengan direct shear test :  
didapat harga  $\phi$  diantara 5 - 12°

C diantara 0,12 - 0,135 Kg/cm<sup>2</sup>

Diskusi

Dari hasil penelitian tersebut dapat kami berikan gambaran umum sebagai berikut :

- Lapisan tanah dibagian atas merupakan lapisan tanah urug dengan ketebalan 1 - 2 m
- Pada lapisan diantara 5 - 7 m juga terdapat lapisan lanau yang sudah lebih padat daripada tanah diatas/dibawahnya.
- Lapisan tanah yang lebih baik lagi kemungkinan terdapat pada kedalaman > 25 m.



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Badan Hukum : Yayasan Sandjojo

Dari kondisi seperti ini maka ada beberapa hal yang perlu disampaikan :

- Lapisan tanah sampai dengan 20 m masih belum layak untuk memikul beban-beban yang cukup berat ( lebih besar  $20 \text{ ton/m}^2$  ) dengan konsekwensi akan timbul penurunan yang cukup besar.
- Untuk lapisan atas sebaiknya beban yang dipakai tidak lebih dari  $0,3 \text{ Kg/cm}^2$  ( pondasi pada kedalaman - 1 m ).
- Untuk beban yang lebih besar ada baiknya dibuat pondasi sumuran sampai kedalam 4 - 5 m, sampai mencapai lapisan pasir lanau, atau dengan tiang pancang mini sedalam 6 m.

Daya dukung sebaiknya diambil :

- 7,5 ton untuk pondasi mini pile dengan panjang 6 m
- 10 ton untuk pondasi sumuran  $\phi$  80 cm sampai kedalaman 5 m.

Penutup

Demikian laporan kami buat, atas kerjasamanya kami ucapkan terima kasih.

Semarang, 2 Oktober 1996

Kepala Laboratorium

Mekanika Tanah,



LABORATORIUM  
MEKANIKA TANAH

David Widiyanto, MT



LABORATORIUM MEKANIKA TANPA...  
**UNIVERSITAS KATOLIK SOEGIJAPRANATA**

Jl. Pawiyatan Luhur IV/1 Bendan Dhuwur Semarang 50234  
 Telp. (024) 316167 - 316142 - 441705 - 441762  
 Fax. (024) 415429 Po. Box. 8033/SM  
 Badan Hukum : Yayasan Sandjojo

**SONDEERING**

Project : \_\_\_\_\_ (S.H.)  
 Location of Project : Jl. BAYA KOLIGAWI  
 Date of Test : SEPTEMBER 96  
 Test Performed By : [Signature]

| DEPT (M) | CONUS | CONUS & CLEEF | DEPT (M) | CONUS | CONUS & CLEEF |
|----------|-------|---------------|----------|-------|---------------|
| 0        |       |               |          |       |               |
| 0,20     |       |               | 10,20    | 7     | 11            |
| 0,40     | 22    | 30            | 10,40    | 7     | 11            |
| 0,60     | 62    | 70            | 10,60    | 7     | 11            |
| 0,80     | 42    | 93            | 10,80    | 7     | 11            |
| 1,00     | 82    | 95            | 11,00    | 7     | 10            |
| 1,20     | 70    | 80            | 11,20    | 8     | 11            |
| 1,40     | 27    | 25            | 11,40    | 8     | 11            |
| 1,60     | 17    | 30            | 11,60    | 8     | 11            |
| 1,80     | 7     | 11            | 11,80    | 7     | 11            |
| 2,00     | 7     | 11            | 12,00    | 7     | 10            |
| 2,20     | 7     | 11            | 12,20    | 7     | 10            |
| 2,40     | 5     | 11            | 12,40    | 8     | 10            |
| 2,60     | 5     | 8             | 12,60    | 8     | 13            |
| 2,80     | 5     | 8             | 12,80    | 8     | 13            |
| 3,00     | 7     | 11            | 13,00    | 8     | 13            |
| 3,20     | 7     | 11            | 13,20    | 8     | 13            |
| 3,40     | 7     | 11            | 13,40    | 7     | 11            |
| 3,60     | 7     | 11            | 13,60    | 8     | 17            |
| 3,80     | 6     | 11            | 13,80    | 8     | 17            |
| 4,00     | 7     | 11            | 14,00    | 8     | 17            |
| 4,20     | 7     | 11            | 14,20    | 8     | 17            |
| 4,40     | 12    | 17            | 14,40    | 8     | 16            |
| 4,60     | 7     | 11            | 14,60    | 7     | 12            |
| 4,80     | 8     | 13            | 14,80    | 7     | 12            |
| 5,00     | 32    | 40            | 15,00    | 7     | 12            |
| 5,20     | 32    | 40            | 15,20    | 8     | 15            |
| 5,40     | 22    | 27            | 15,40    | 7     | 11            |
| 5,60     | 27    | 25            | 15,60    | 7     | 11            |
| 5,80     | 27    | 31            | 15,80    | 8     | 13            |
| 6,00     | 27    | 33            | 16,00    | 8     | 13            |
| 6,20     | 27    | 33            | 16,20    | 9     | 13            |
| 6,40     | 27    | 33            | 16,40    | 9     | 16            |
| 6,60     | 27    | 33            | 16,60    | 9     | 15            |
| 6,80     | 12    | 20            | 16,80    | 9     | 16            |
| 7,00     | 12    | 19            | 17,00    | 7     | 15            |
| 7,20     | 8     | 15            | 17,20    | 8     | 16            |
| 7,40     | 8     | 15            | 17,40    | 6     | 15            |
| 7,60     | 7     | 11            | 17,60    | 9     | 15            |
| 7,80     | 7     | 11            | 17,80    | 9     | 15            |
| 8,00     | 9     | 13            | 18,00    | 7     | 13            |
| 8,20     | 7     | 11            | 18,20    | 8     | 17            |
| 8,40     | 7     | 11            | 18,40    | 9     | 17            |
| 8,60     | 4     | 11            | 18,60    | 10    | 15            |
| 8,80     | 7     | 11            | 18,80    | 10    | 15            |
| 9,00     | 7     | 11            | 19,00    | 9     | 17            |
| 9,20     | 7     | 10            | 19,20    | 11    | 17            |
| 9,40     | 7     | 11            | 19,40    | 10    | 17            |

# GRAPH OF SOUNDING

2,5 ton

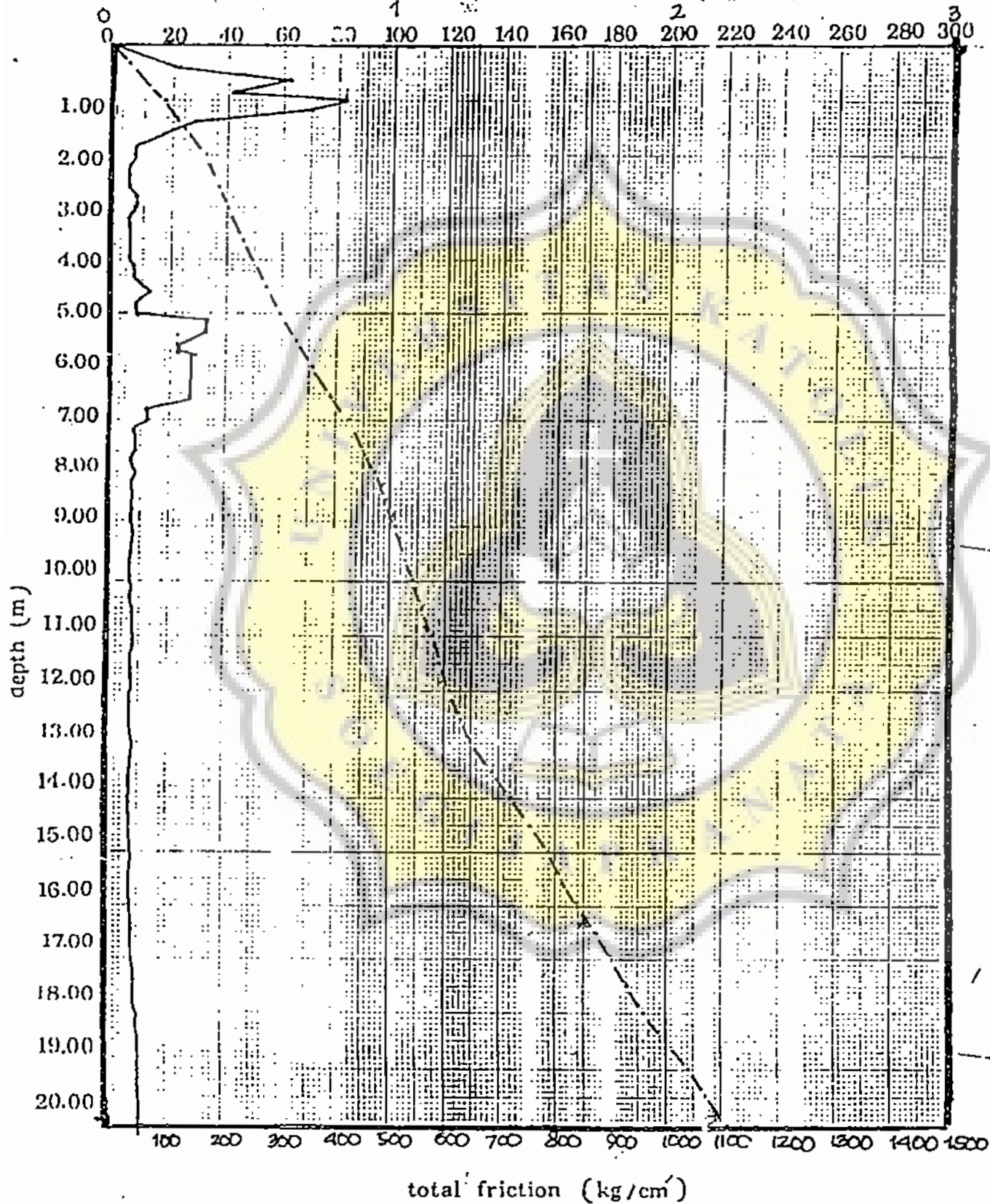
Sounding No: 51.

Location :

Date : SEPT 1946

5-

conus resistance & local friction (kg/cm<sup>2</sup>)





LABORATORIUM MEKANIKA TANAH  
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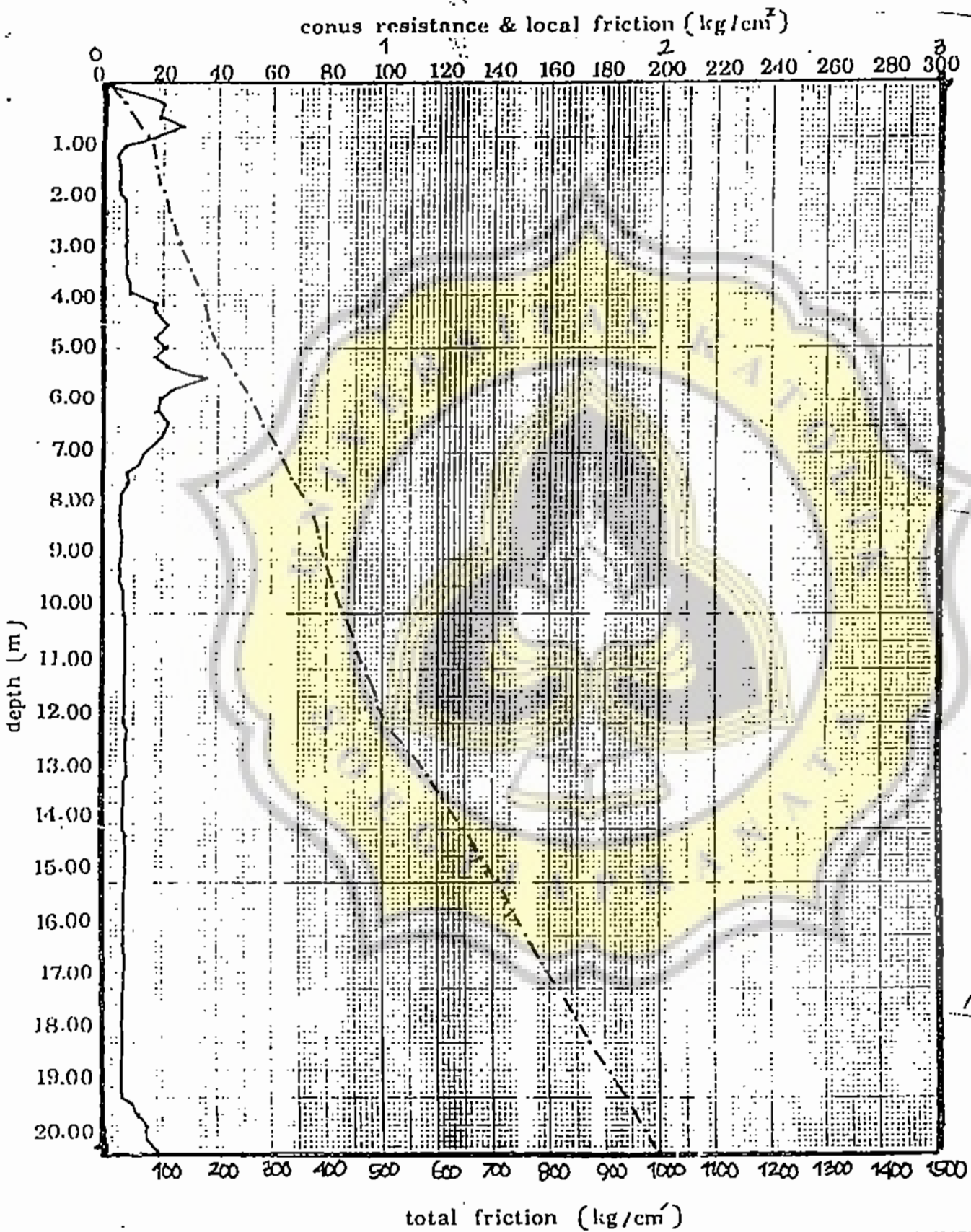
Fax. (024) 415429 Po. Box. 8033/SM

Badan Hukum : Yayasan Sandjojo

**SONDEERING**

Project : \_\_\_\_\_ (52).  
 Location of Project : JL. RAYA KALIGANE  
 Date of Test : SEPTEMBER 96  
 Test Performed By : ASR

| DEPT (M) | CONUS | CONUS & CLEEF | DEPT (M) | CONUS | CONUS & CLEEF |
|----------|-------|---------------|----------|-------|---------------|
| 0        |       |               |          |       |               |
| 0,20     |       |               | 10,20    | 7     | 11            |
| 0,40     | 20    | 27            | 10,40    | 7     | 11            |
| 0,60     | 19    | 27            | 10,80    | 7     | 10            |
| 0,80     | 27    | 42            | 10,80    | 7     | 10            |
| 1,00     | 17    | 23            | 11,00    | 7     | 11            |
| 1,20     | 6     | 8             | 11,20    | 7     | 11            |
| 1,40     | 4     | 7             | 11,40    | 7     | 11            |
| 1,80     | 4     | 7             | 11,60    | 7     | 11            |
| 1,80     | 4     | 7             | 11,80    | 7     | 11            |
| 2,00     | 4     | 7             | 12,00    | 7     | 11            |
| 2,20     | 4     | 9             | 12,20    | 9     | 16            |
| 2,40     | 6     | 9             | 12,40    | 9     | 16            |
| 2,60     | 6     | 8             | 12,80    | 9     | 17            |
| 2,80     | 6     | 8             | 12,80    | 9     | 15            |
| 3,00     | 6     | 8             | 13,00    | 9     | 17            |
| 3,20     | 7     | 11            | 13,20    | 7     | 17            |
| 3,40     | 7     | 11            | 13,40    | 7     | 17            |
| 3,60     | 9     | 11            | 13,60    | 7     | 13            |
| 3,80     | 9     | 14            | 13,80    | 8     | 12            |
| 4,00     | 9     | 14            | 14,00    | 8     | 12            |
| 4,20     | 17    | 21            | 14,20    | 7     | 13            |
| 4,40     | 17    | 19            | 14,40    | 7     | 13            |
| 4,60     | 21    | 24            | 14,60    | 7     | 13            |
| 4,80     | 17    | 19            | 14,80    | 8     | 13            |
| 5,00     | 21    | 24            | 15,00    | 8     | 13            |
| 5,20     | 17    | 21            | 15,20    | 7     | 14            |
| 5,40     | 27    | 24            | 15,40    | 7     | 14            |
| 5,60     | 24    | 42            | 15,60    | 8     | 13            |
| 5,80     | 22    | 29            | 15,80    | 8     | 13            |
| 6,00     | 19    | 24            | 16,00    | 8     | 14            |
| 6,20     | 17    | 32            | 16,20    | 8     | 14            |
| 6,40     | 21    | 27            | 16,40    | 9     | 15            |
| 6,60     | 20    | 27            | 16,80    | 7     | 13            |
| 6,80     | 17    | 22            | 16,80    | 9     | 14            |
| 7,00     | 13    | 18            | 17,00    | 9     | 14            |
| 7,20     | 11    | 17            | 17,20    | 8     | 13            |
| 7,40     | 7     | 13            | 17,40    | 8     | 13            |
| 7,60     | 7     | 13            | 17,60    | 8     | 13            |
| 7,80     | 6     | 11            | 17,80    | 8     | 14            |
| 8,00     | 5     | 9             | 18,00    | 7     | 14            |
| 8,20     | 4     | 9             | 18,20    | 9     | 15            |
| 8,40     | 4     | 7             | 18,40    | 9     | 15            |
| 8,60     | 4     | 8             | 18,80    | 9     | 15            |
| 8,80     | 6     | 8             | 18,80    | 9     | 15            |
| 9,00     | 6     | 8             | 19,00    | 9     | 17            |
| 9,20     | 6     | 17            | 19,20    | 10    | 17            |
| 9,40     | 6     | 8             | 19,40    | 11    | 17            |







LABORATORIUM MEKANIKA TANAH  
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Fax. (024) 415429 Po. Box. 8033/SM

Badan Hukum : Yayasan Sandjojo

8

SONDEERING

Project : \_\_\_\_\_ (53)  
 Location of Project : JL. PAKSA KALIGAWI  
 Date of Test : SEPTEMBER 1996  
 Test Performed By : [Signature]

| DEPT (M) | CONUS | CONUS & CLEEF | DEPT (M) | CONUS | CONUS & CLEEF |
|----------|-------|---------------|----------|-------|---------------|
| 0        |       |               |          |       |               |
| 0,20     |       |               | 10,20    | 7     | 11            |
| 0,40     |       |               | 10,40    | 7     | 11            |
| 0,60     | 17    | 25            | 10,60    | 7     | 11            |
| 0,80     | 15    | 17            | 10,80    | 7     | 11            |
| 1,00     | 40    | 50            | 11,00    | 7     | 11            |
| 1,20     | 40    | 50            | 11,20    | 7     | 11            |
| 1,40     | 12    | 20            | 11,40    | 7     | 11            |
| 1,60     | 7     | 13            | 11,60    | 8     | 13            |
| 1,80     | 7     | 13            | 11,80    | 8     | 13            |
| 2,00     | 7     | 11            | 12,00    | 7     | 11            |
| 2,20     | 9     | 13            | 12,20    | 7     | 11            |
| 2,40     | 9     | 15            | 12,40    | 8     | 14            |
| 2,60     | 12    | 15            | 12,60    | 8     | 14            |
| 2,80     | 12    | 15            | 12,80    | 7     | 13            |
| 3,00     | 11    | 15            | 13,00    | 7     | 13            |
| 3,20     | 11    | 15            | 13,20    | 7     | 11            |
| 3,40     | 7     | 11            | 13,40    | 7     | 11            |
| 3,60     | 7     | 11            | 13,60    | 9     | 15            |
| 3,80     | 7     | 11            | 13,80    | 9     | 15            |
| 4,00     | 8     | 13            | 14,00    | 8     | 15            |
| 4,20     | 8     | 13            | 14,20    | 8     | 15            |
| 4,40     | 9     | 15            | 14,40    | 9     | 17            |
| 4,60     | 12    | 15            | 14,60    | 9     | 17            |
| 4,80     | 15    | 19            | 14,80    | 8     | 17            |
| 5,00     | 15    | 20            | 15,00    | 8     | 17            |
| 5,20     | 17    | 20            | 15,20    | 10    | 17            |
| 5,40     | 22    | 27            | 15,40    | 10    | 17            |
| 5,60     | 22    | 27            | 15,60    | 10    | 17            |
| 5,80     | 25    | 30            | 15,80    | 9     | 17            |
| 6,00     | 25    | 30            | 16,00    | 9     | 15            |
| 6,20     | 27    | 31            | 16,20    | 9     | 15            |
| 6,40     | 27    | 31            | 16,40    | 10    | 17            |
| 6,60     | 19    | 20            | 16,60    | 11    | 17            |
| 6,80     | 17    | 20            | 16,80    | 11    | 17            |
| 7,00     | 12    | 17            | 17,00    | 11    | 17            |
| 7,20     | 7     | 11            | 17,20    | 9     | 17            |
| 7,40     | 7     | 11            | 17,40    | 10    | 17            |
| 7,60     | 7     | 11            | 17,60    | 9     | 17            |
| 7,80     | 8     | 11            | 17,80    | 10    | 20            |
| 8,00     | 8     | 11            | 18,00    | 8     | 19            |
| 8,20     | 8     | 11            | 18,20    | 10    | 20            |
| 8,40     | 9     | 13            | 18,40    | 10    | 20            |
| 8,60     | 9     | 13            | 18,60    | 10    | 20            |
| 8,80     | 9     | 13            | 18,80    | 11    | 19            |
| 9,00     | 9     | 15            | 19,00    | 11    | 19            |
| 9,20     | 7     | 11            | 19,20    | 11    | 20            |
| 9,40     | 8     | 11            | 19,40    | 11    | 20            |

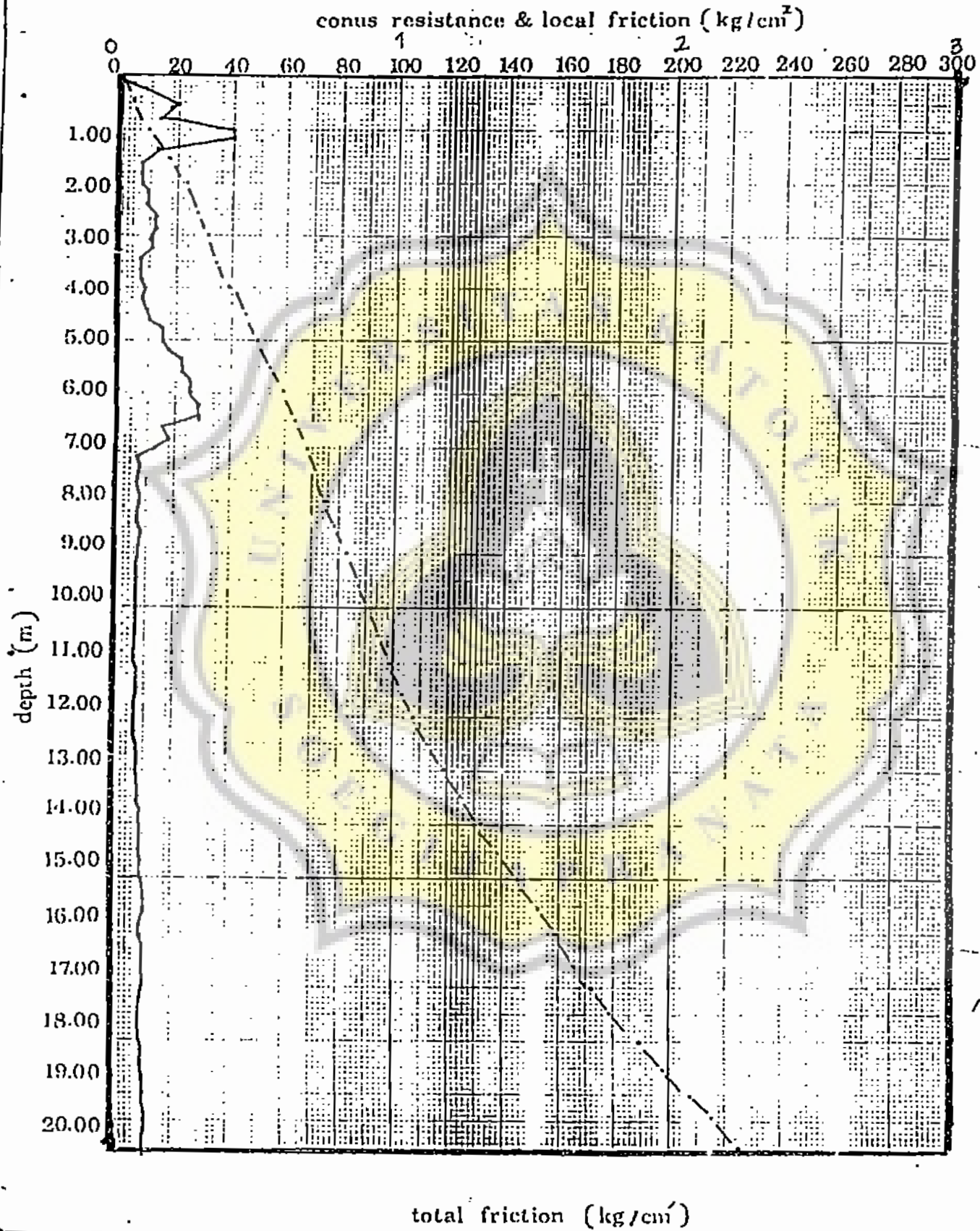
# GRAPH OF SOUNDING

2,5ton

Sounding No: 53

Location : JL. PABO KAWANAN

Date : SEPT 1969



# SOIL PROFIL

Project : \_\_\_\_\_  
Location : JL. RAYA KALIGAWA 4 SMG  
Sample Codo : BI Date : SEPTEMBER 96

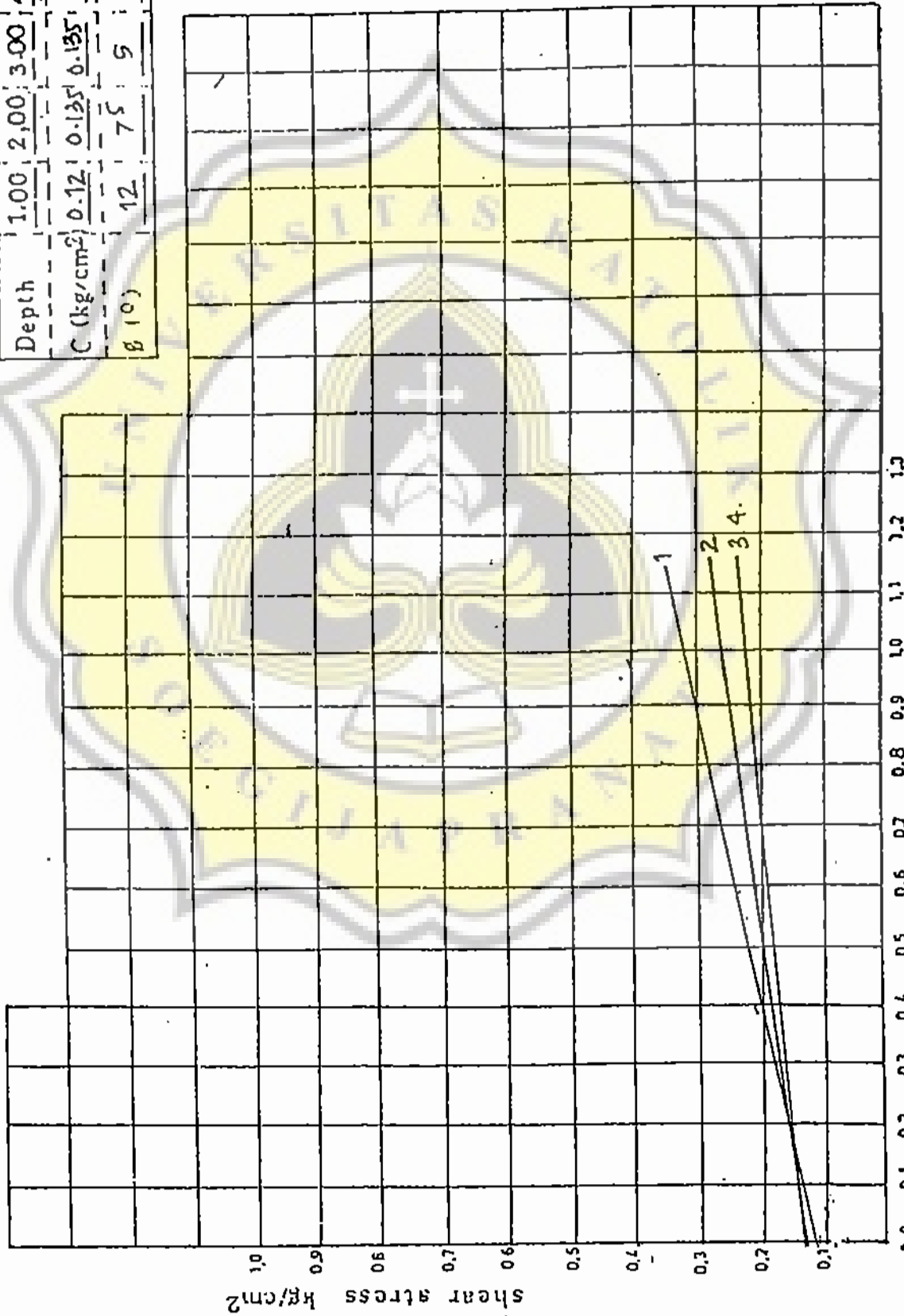
| Depth ( m ) | GWL | Soil Description                             |
|-------------|-----|--|
| + 0.00      |     | Urugan padas warna coklat.                   |
| - 1.00      |     | Lempung dengan padas warna coklat abu - abu. |
| - 2.00      |     | Lanau kepasiran warna abu-abu.               |
| - 3.00      |     | Lanau kepasiran warna abu-abu.               |
| - 4.00      |     | Lanau kepasiran warna abu-abu.               |
| - 5.00      |     | Lanau kepasiran warna abu-abu.               |





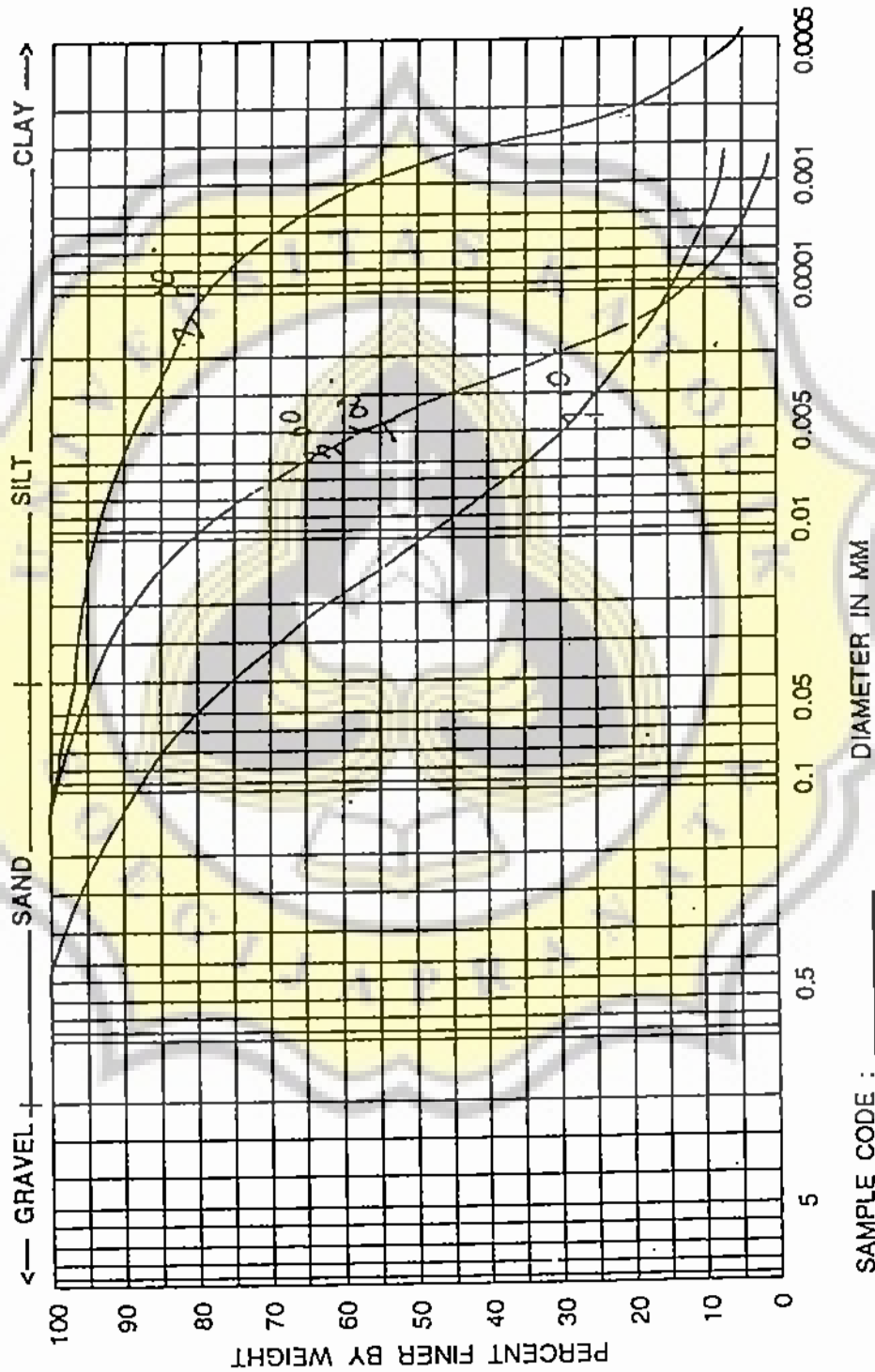
DIRECT SHEAR TESTS

|                         |      |       |       |       |      |
|-------------------------|------|-------|-------|-------|------|
| Depth                   | 1.00 | 2.00  | 3.00  | 4.00  | 5.00 |
| C (kg/cm <sup>2</sup> ) | 0.12 | 0.135 | 0.135 | 0.135 |      |
| φ (°)                   | 12   | 7.5   | 5     | 9     |      |



→ normal stress kg/cm<sup>2</sup>

# GRAIN SIZE ACCUMULATION CURVE



SAMPLE CODE : \_\_\_\_\_

LABORATORIUM MEKANIKA TANAH  
FAKULTAS TEKNIK JURUSAN SIPIL  
UNIKA SOEGLJAPRANATA SEMARANG



**UNIVERSITAS KATOLIK SOEGIJAPRANATA**

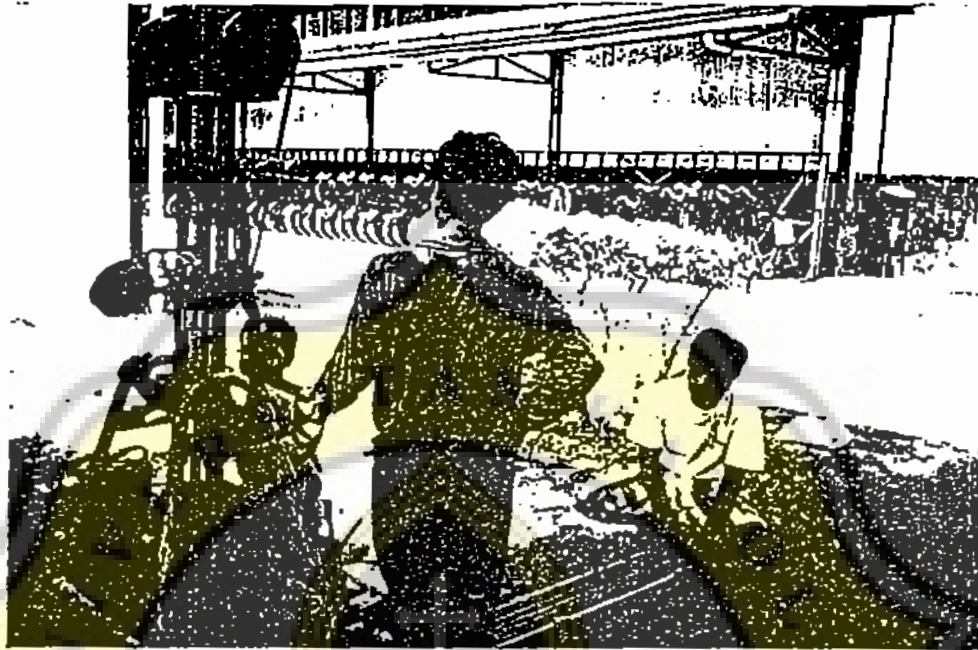
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Telp. (024) 316142 - 441555 (hunting)

Fax. (024) 415429 E-Mail : soepra14@rad.net.id Po. Box. 8033/SM

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14



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