

LAMPIRAN

PERATURAN MENTERI PERHUBUNGAN
NOMOR PM. 83 TAHUN 2011

TENTANG

STANDAR BIAYA KEMENTERIAN PERHUBUNGAN
TAHUN ANGGARAN 2012

**TABEL KOEFISIEN KEMAHALAN STANDAR BIAYA KEMENTERIAN PERHUBUNGAN
TAHUN 2012 BERDASARKAN INDEKS KEMAHALAN KONSTRUKSI**

| NO | P/K | PROVINSI | IKK | Koefisien Kemahalan | Keterangan |
|--------------|----------|----------------------|---------------|------------------------|--|
| I | P | N A D | 92,45 | 1,03 | Khusus Simeulue = 1,29; Aceh Singkil, Aceh Utara, Gayo Lues, Bener Meriah, Sabang dan Lhoksumawe = 1,12 |
| II | P | SUMATERA UTARA | 86,20 | 0,96 | Khusus Nias Selatan = 1,22; Nias, Nias Utata, Nias Barat = 1,10; dan Gunung Sitoli = 1,00 |
| III | P | SUMATERA BARAT | 85,24 | 0,95 | Khusus Kepulauan Mentawai = 1,24; Pesisir Selatan dan Pasaman Barat = 1,02 |
| IV | P | R I A U | 96,93 | 1,08 | Khusus Pelalawan, PekanBaru = 1,04; Bengkalis = 1,15; Kepulauan Meranti = 1,21 |
| V | P | J A M B I | 89,31 | 0,99 | Khusus Jabung Timur, Jabung Barat = 1,07 |
| VI | P | SUMATERA SELATAN | 87,13 | 0,97 | Khusus Musi Banyu Asin, Banyu Asin = 1,10 |
| VII | P | BENGKULU | 87,83 | 0,98 | |
| VIII | P | LAMPUNG | 83,93 | 0,93 | |
| IX | P | KEP. BANGKA BELITUNG | 95,33 | 1,06 | |
| X | P | KEPULAUAN RIAU | 101,61 | 1,13 | Khusus Natuna, Kep. Anambas = 1,23 |
| XI | P | DKI JAKARTA | 90,02 | 1,00 | |
| XII | P | JAWA BARAT | 85,04 | 0,94 | Khusus Bogor, Kuningan, Indramayu, Bekasi dan Kota Cimahi = 0,98 |
| XIII | P | JAWA TENGAH | 83,44 | 0,93 | Khusus Grobogan, Blora dan Kendal = 0,98 |
| XIV | P | DI YOGYAKARTA | 83,67 | 0,93 | |
| XV | P | JAWA TIMUR | 83,36 | 0,93 | Khusus Trenggalek = 0,97; Bangkalan, Sampang, Pamekasan dan Sumenep = 1,03 |
| XVI | P | B A N T E N | 84,00 | 0,93 | Khusus Pandeglang, Lebak dan Tangerang Selatan = 0,98 |
| XVII | P | B A L I | 85,53 | 0,95 | Khusus Jembrana dan Buleleng = 1,00 |
| XVIII | P | NUSA TENGGARA BARAT | 87,20 | 0,97 | |
| XIX | P | NUSA TENGGARA TIMUR | 97,38 | 1,08 | Khusus Alor dan Lembata = 1,17 |
| XX | P | KALIMANTAN BARAT | 96,61 | 1,07 | Khusus Sintang, Melawi = 1,15; Kapuas Hulu = 1,21 |
| XXI | P | KALIMANTAN TENGAH | 100,83 | 1,12 | Khusus Barito Selatan, Sukamara, Lamandau, Seruyan, Gunung Mas dan Murung Raya = 1,20 |
| XXII | P | KALIMANTAN SELATAN | 90,46 | 1,00 | Khusus Barito, Tabalong dan Tanah Bumbu = 1,07 |
| XXIII | P | KALIMANTAN TIMUR | 100,00 | 1,11 | Khusus Malinau, Nunukan = 1,20; Kutai Barat, Kutai Timur, Bulongan, Tana Tidung, dan Tarakan = 1,15 |
| XXIV | P | SULAWESI UTARA | 98,63 | 1,10 | Khusus Kep. Talaud = 1,49; Kep. Sangihe, Kep. Siau Tagolandang Biaro = 1,43 |
| XXV | P | SULAWESI TENGAH | 90,81 | 1,01 | Khusus Morowali dan Buol = 1,08 |
| XXVI | P | SULAWESI SELATAN | 85,99 | 0,96 | Khusus Selayar = 1,15; Luwu Timur = 1,08 |
| XXVII | P | SULAWESI TENGGARA | 92,17 | 1,02 | Khusus Wakatobi dan Buton Utara = 1,11 |
| XXVIII | P | GORONTALO | 90,74 | 1,01 | Khusus Bualemo = 1,09 |
| XXVIX | P | SULAWESI BARAT | 89,90 | 1,00 | Khusus Mamasa dan Mamuju Utara = 1,10 |
| XXX | P | M A L U K U | 110,00 | 1,22 | Khusus Maluku Tenggara Barat, Kep. Aru, dan Maluku Barat Daya = 1,30 |
| XXXI | P | MALUKU UTARA | 110,43 | 1,23 | Khusus Halmahera Timur = 1,34; Halmahera Tengah, Kep. Morotai = 1,30 |
| XXXII | P | PAPUA BARAT | 142,98 | 1,59 | |
| | K | FAK-FAK | 146,23 | 1,62 | |
| | K | KAIMANA | 144,64 | 1,61 | |
| | K | TELUK WONDAMA | 144,37 | 1,60 | |
| | K | TELUK BINTUNI | 147,14 | 1,63 | |
| | K | MANOKWARI | 138,24 | 1,54 | |

| NO | P/K | PROVINSI | IKK | Koefisien Kemahalan | Keterangan |
|---------------|----------|--------------------|---------------|------------------------|------------|
| | K | SORONG SELATAN | 145,58 | 1,62 | |
| | K | SORONG | 135,47 | 1,50 | |
| | K | RAJA AMPAT | 156,54 | 1,74 | |
| | K | TAMBRAW | 150,33 | 1,67 | |
| | K | MAYBRAT | 187,87 | 2,09 | |
| | K | SORONG | 120,38 | 1,34 | |
| XXXIII | P | PAPUA | 210,10 | 2,33 | |
| | K | MERAUKE | 175,69 | 1,95 | |
| | K | JAYAWIJAYA | 226,33 | 2,51 | |
| | K | JAYAPURA | 137,2 | 1,52 | |
| | K | NABIRE | 139,7 | 1,55 | |
| | K | YAPEN WAROPEN | 139,27 | 1,55 | |
| | K | BIAK NUMFOR | 151,54 | 1,68 | |
| | K | PANIAI | 242,1 | 2,69 | |
| | K | PUNCAK JAYA | 337,3 | 3,75 | |
| | K | MIMIKA | 170,69 | 1,90 | |
| | K | BOVEN DIGOEL | 175,81 | 1,95 | |
| | K | MAPPI | 210,17 | 2,33 | |
| | K | ASMAT | 205,24 | 2,28 | |
| | K | YAHUKIMO | 209,42 | 2,33 | |
| | K | PEGUNUNGAN BINTANG | 302,33 | 3,36 | |
| | K | TOLIKARA | 273,4 | 3,04 | |
| | K | SARMI | 170,85 | 1,90 | |
| | K | KEEROM | 148,2 | 1,65 | |
| | K | WAROPEN | 152,84 | 1,70 | |
| | K | SUPIORI | 154,17 | 1,71 | |
| | K | MEMBERAMO RAYA | 176,71 | 1,96 | |
| | K | NDUGA | 310,5 | 3,45 | |
| | K | LANNY JAYA | 248,14 | 2,76 | |
| | K | MEMBERAMO TENGAH | 254,42 | 2,83 | |
| | K | YALIMO | 251,61 | 2,80 | |
| | K | PUNCAK | 362,43 | 4,03 | |
| | K | DOGIYAI | 172,25 | 1,91 | |
| | K | INTAN JAYA | 355,69 | 3,95 | |
| | K | DEIYAI | 240,94 | 2,68 | |
| | K | JAYAPURA | 134,62 | 1,50 | |

Catatan :

DKI Jakarta menjadi acuan dalam menentukan Koefisien Kemahalan Standar Biaya Kementerian Perhubungan
(IKK DKI Jakarta = 90,02)

(Sumber data : Indeks Kemahalan Konstruksi (IKK) Tahun 2010 dari BPS)

| NO. | URAIAN KEGIATAN | JUMLAH |
|---|---|----------------|
| REKAPITULASI PEKERJAAN FASILITAS LALU LINTAS JALAN | | HPS |
| 1 | PENG & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 60 x 60 CM | 850.000,00 |
| 2 | PENG & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 75 x 75 CM | 1.100.000,00 |
| 3 | PENG & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 90 x 90 CM | 1.850.000,00 |
| 4 | PENG & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN UK. 120 x 160 CM | 3.350.000,00 |
| 5 | PENG & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN UK. 105 x 140 CM | 2.900.000,00 |
| 6 | PENG & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN UK. 120 x 240 CM | 11.000.000,00 |
| 7 | PENG & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN TIANG PORTAL BENTANG 18 M | 115.000.000,00 |
| 8 | PENG & PEMASANGAN PAGAR PENGAMAN JALAN (4M TERMINAL END MASUK TANAH) | 8.200.000,00 |
| 9 | PENG & PEMASANGAN PAGAR PENGAMAN JALAN (4M TERMINAL END LENGKUNG) | 5.606.000,00 |
| 10 | PENG & PEMASANGAN PAGAR PENGAMAN JALAN (DENGAN RAMBU CHEVRON) | 10.500.000,00 |
| 11 | PENG & PEMASANGAN MARKA JALAN THERMOPLASTIK (UK. 3 x 120 mm) per M' | 30.000,00 |
| 12 | PENG & PEMASANGAN MARKA JALAN COLDPLASTIK (UK. 2 x 120 mm) per M' | 32.000,00 |
| 13 | PENG & PEMASANGAN PAKU MARKA (UK. 10 x 10 x 2 cm) | 251.500,00 |
| 14 | PENG & PEMASANGAN PAKU MARKA (UK. 10 x 12 x 2 cm) | 259.000,00 |
| 15 | PENG & PEMASANGAN PAKU MARKA BULAT | 272.000,00 |
| 16 | PENG & PEMASANGAN PAKU MARKA TENAGA SURYA (SOLAR CELL) | 540.000,00 |
| 17 | PENG & PEMASANGAN LAMPU PERINGATAN (WARNING LIGHT) | 50.000.000,00 |
| 18 | PENG & PEMASANGAN LAMPU PERINGATAN TENAGA SURYA (WARNING LIGHT SOLAR CELL) TIANG LURUS | 33.000.000,00 |
| 19 | PENG & PEMASANGAN LAMPU PERINGATAN TENAGA SURYA (WARNING LIGHT SOLAR CELL) TIANG LENGKUNG | 39.000.000,00 |
| 20 | PENG & PEMASANGAN ALAT PENGENDALI ISYARAT LALU LINTAS 3 (TIGA) PERSIMPANGAN | 148.000.000,00 |
| 21 | PENG & PEMASANGAN ALAT PENGENDALI ISYARAT LALU LINTAS 4 (EMPAT) PERSIMPANGAN | 168.000.000,00 |
| 22 | PENG & PEMASANGAN PATOK TIKUNGAN PIPA PLASTIK | 645.000,00 |
| 23 | PENG & PEMASANGAN PATOK TIKUNGAN PIPA BESI | 450.000,00 |
| 24 | PENG & PEMASANGAN CERMIN TIKUNGAN | 4.750.000,00 |
| 25 | PENG & PEMASANGAN ALAT PENGENDALI ISYARAT LALU LINTAS TENAGA SURYA | 340.300.000,00 |
| 26 | PENGADAAN & PEMASANGAN LPJU KONVENSIONAL | 16.000.000,00 |
| 27 | PENGADAAN & PEMASANGAN LPJU SOLAR CELL | 34.500.000,00 |
| 28 | PENGADAAN KERUCUT LALU LINTAS (UK. 90 cm) | 304.500,00 |
| 29 | PENGADAAN KERUCUT LALU LINTAS (UK. 75 cm) | 277.200,00 |
| 30 | PENGADAAN KERUCUT LALU LINTAS (UK.60 cm) | 267.750,00 |

ANALISA HARGA SATUAN PEKERJAAN

| NO. | URAIAN KEGIATAN | VOLUME | HARGA SATUAN | JUMLAH |
|---|------------------------------------|------------|---------------|---------------------|
| 1 M3 GALIAN TANAH | | | | |
| 1. | Pekerja | 0,625 oh | 70.587,00 | 44.116,88 |
| 2. | Mandor | 0,062 oh | 95.296,00 | 5.908,35 |
| | | | Jumlah | 50.025,23 |
| 1 M3 URUGAN TANAH KEMBALI | | | | |
| 1. | Pekerja | 0,156 oh | 70.587,00 | 11.011,57 |
| 2. | Mandor | 0,016 oh | 95.296,00 | 1.524,74 |
| | | | Jumlah | 12.536,31 |
| 1 M3 URUGAN PASIR BAWAH PONDASI | | | | |
| 1. | Pasir Urug | 1,3 m3 | 135.000,00 | 175.500,00 |
| 2. | Pekerja | 0,6 oh | 70.587,00 | 42.352,20 |
| 3. | Mandor | 0,06 oh | 95.296,00 | 5.717,76 |
| 4. | Kepala tukang | 0,3 oh | 95.726,00 | 28.717,80 |
| 5. | Tukang Besi | 0,3 oh | 83.145,00 | 24.943,50 |
| | | | Jumlah | 277.231,26 |
| 1 M3 BETON COR CAMPURAN 1:2:3 | | | | |
| 1. | Kerikil | 0,82 m3 | 136.106,25 | 111.607,13 |
| 2. | Semen PC (50kg/zak) | 7,392 zak | 54.000,00 | 399.168,00 |
| 3. | Pasir Beton | 0,54 m3 | 153.615,00 | 82.952,10 |
| 4. | Tukang | 1 oh | 83.145,00 | 83.145,00 |
| 5. | Kepala Tukang | 0,1 oh | 95.726,00 | 9.572,60 |
| 6. | Pekerja | 6 oh | 70.587,00 | 423.522,00 |
| 7. | Mandor | 0,3 oh | 95.296,00 | 28.588,80 |
| | | | Jumlah | 1.138.555,63 |
| Cor Tiang overhead/buah | | | | |
| 1. | Beton cor | 0,4676 m3 | 1.138.555,63 | 532.388,61 |
| Cor Tiang lurus/buah | | | | |
| 1. | Beton cor | 0,2746 m3 | 1.138.555,63 | 312.647,37 |
| Cor patok pengaman/buah | | | | |
| 1. | Beton cor | 0,102 m3 | 1.138.555,63 | 116.132,67 |
| 1 M2 PEKERJAAN CAT BESI | | | | |
| 1. | Cat besi | 0,425 kg | 45.000,00 | 19.125,00 |
| 2. | Cat menie besi | 0,125 kg | 35.000,00 | 4.375,00 |
| 3. | Minyak cat | 0,75 liter | 15.000,00 | 11.250,00 |
| 4. | Kwas tangan | 0,1 buah | 15.000,00 | 1.500,00 |
| 5. | Kertas amplas | 0,2 lembar | 7.500,00 | 1.500,00 |
| 6. | Tukang cat | 0,34 oh | 83.145,00 | 28.269,30 |
| 7. | Kepala tukang cat | 0,0034 oh | 95.726,00 | 325,47 |
| 8. | Pekerja | 0,2 oh | 70.587,00 | 14.117,40 |
| 9. | Mandor | 0,01 oh | 95.296,00 | 952,96 |
| | | | Jumlah | 81.415,13 |
| 1 UNIT PEMOTONGAN DAN PENGEBORAN | | | | |
| 1. | Gergaji besi | 0,001 buah | 31.500,00 | 31,50 |
| 2. | Mata bor besi | 0,001 buah | 50.000,00 | 50,00 |
| 3. | Kepala tukang besi | 0,0225 oh | 95.726,00 | 2.153,84 |
| 4. | Pekerja | 0,0675 oh | 70.587,00 | 4.764,62 |
| 5. | Mandor | 0,0068 oh | 95.296,00 | 648,01 |
| | | | Jumlah | 7.647,97 |
| 100 CM PENGELASAN | | | | |
| 1. | Kawat las | 0,8 kg | 17.010,00 | 13.608,00 |
| 2. | Mesin las listrik dan perlengkapan | 0,1 hari | 612.281,25 | 61.228,13 |
| 3. | Alat bantu pengelasan/pemotongan | 0,1 ls | 20.000,00 | 2.000,00 |
| 4. | Spare part | 0,1 ls | 48.247,50 | 4.824,75 |
| 5. | Kepala tukang besi | 0,1 oh | 95.726,00 | 9.572,60 |
| 6. | Tukang las | 0,05 oh | 65.734,00 | 3.286,70 |
| 7. | Pekerja | 0,2 oh | 70.587,00 | 14.117,40 |
| | | | Jumlah | 108.637,58 |

PENGELASAN PER 1 CM =

1.086,38

1 UNIT PERAKITAN DAN PENYETELAN

| | | | |
|--------------------------|---------------|-----------|------------------|
| 1. Pekerja | 0,375 oh | 70.587,00 | 26.470,13 |
| 2. Mandor | 0,075 oh | 95.296,00 | 7.147,20 |
| 3. Alat bantu penyetulan | 0,25 ls | 7.087,50 | 1.771,88 |
| | Jumlah | | 35.389,20 |

1 M2 PEKERJAAN PENGECATAN ZEBRA CROSS/MARKA JALAN

| | | | |
|--------------------------|---------------|-----------|------------------|
| 1. Pekerja | 0,5 oh | 70.587,00 | 35.293,50 |
| 2. Tukang cat | 0,225 oh | 83.145,00 | 18.707,63 |
| 3. Kepala tukang cat | 0,0025 oh | 95.726,00 | 239,32 |
| 4. Mandor | 0,0075 oh | 95.296,00 | 714,72 |
| 5. Alat bantu pengecatan | 1 ls | 9.000,00 | 9.000,00 |
| | Jumlah | | 63.955,16 |

1 M' MARKA JALAN UK (3 x 120 MM) = 7.674,62

1 M2 BEKESTING PONDASI

| | | | |
|----------------------------------|---------------|--------------|------------------|
| 1. Papan kayu klas III (Meranti) | 0,0067 m3 | 3.800.000,00 | 25.460,00 |
| 2. Paku | 0,0667 kg | 18.000,00 | 1.200,60 |
| 3. Mandor | 0,0033 oh | 95.296,00 | 314,48 |
| 4. Kepala tukang kayu | 0,0167 oh | 95.726,00 | 1.598,62 |
| 5. Tukang kayu | 0,1667 oh | 83.145,00 | 13.860,27 |
| 6. Pekerja | 0,0667 oh | 70.587,00 | 4.708,15 |
| | Jumlah | | 47.142,13 |

1 M2 BONGKARAN BEKESTING

1/5 dari Upah Bekisting

| | | | |
|------------------------|------|----------|-----------|
| 1. Bongkaran bekesting | 1 ls | 9.428,43 | 9.428,43 |
| 2. Bekisting | 1 m3 | | 56.570,55 |

1 M2 PEKERJAAN GALI TUTUP ASPAL KERAS

| | | | |
|----------------------------------|---------------|------------|-------------------|
| 1. Pekerja | 2 oh | 70.587,00 | 141.174,00 |
| 2. Mandor | 1 oh | 95.296,00 | 95.296,00 |
| 3. Sewa drill berikut operator | 1 hari | 401.835,00 | 401.835,00 |
| 4. Sewa stamper berikut operator | 1 hari | 199.500,00 | 199.500,00 |
| | Jumlah | | 837.805,00 |

BAHAN DAN UPAH ASPAL TIAP 6 M2

| | | | |
|--------------------------------------|---------------|------------|-------------------|
| 1. Aspal AC 60-70 | 15 kg | 4.882,50 | 73.237,50 |
| 2. Batu pecah 0,5/1 | 0,072 m3 | 131.250,00 | 9.450,00 |
| 3. Solar | 3 liter | 4.515,00 | 13.545,00 |
| 4. Alat bantu pengaspalan per 100 m2 | 1 ls | 274.312,50 | 274.312,50 |
| 5. Tukang | 0,03 oh | 83.145,00 | 2.494,35 |
| 6. Pekerja | 0,6 oh | 70.587,00 | 42.352,20 |
| 7. Mandor | 0,03 oh | 95.296,00 | 2.858,88 |
| | Jumlah | | 418.250,43 |

GALI DAN TUTUP LUBANG PER M = 209.342,57

1. UNIT PEKERJA PEMBUATAN DUDUKAN BOX KONTROL

| | | | |
|--------------|---------------|--------------|-------------------|
| 1. Beton cor | 0,3800 m3 | 1.138.555,63 | 432.651,14 |
| 2. Angkur | 4 buah | 6.562,50 | 26.250,00 |
| | Jumlah | | 458.901,14 |

1. UNIT ONGKOS ANGKUT KE LOKASI

| | | | |
|-------------------|---------------|------------|---------------------|
| 1. Sewa kendaraan | 1 hari | 400.000,00 | 400.000,00 |
| 2. Solar | 70 liter | 4.515,00 | 316.050,00 |
| 3. Sopir | 1 oh | 83.145,00 | 83.145,00 |
| 4. Pekerja | 4 oh | 70.587,00 | 282.348,00 |
| | Jumlah | | 1.081.543,00 |

A. RAMBU, DELINEATOR, RPPJ

| | | | |
|--|---|--|-----------|
| 1 hari = 3 rit. Per rit dapat mengangkut = 35 buah, sehingga 3 rit = 105 buah ongkos angkut/unit = ongkos angkut ke lokasi : jumlah rambu yang dapat diangkut sehari | = | | 14.420,57 |
|--|---|--|-----------|

B. PAGAR PENGAMAN JALAN

| | | | |
|--|---|--|-----------|
| 1 hari = 3 rit. Per rit dapat mengangkut = 10 buah, sehingga 3 rit = 30 buah ongkos angkut/unit = ongkos angkut ke lokasi : jumlah pagar pengaman jalan yang dapat diangkut sehari | = | | 36.051,43 |
|--|---|--|-----------|

C. WARNING LIGHT, ALAT PEMBERI ISYARAT LALU LINTAS, MARKA

| | | |
|---|--|------------|
| = | | 841.000,00 |
|---|--|------------|

D. PAKU JALAN

| | | | |
|--|---|--|----------|
| 1 hari = 3 rit. Per rit dapat mengangkut = 200 buah, sehingga 3 rit = 600 buah ongkos angkut/unit = ongkos angkut ke lokasi : jumlah paku jalanan yang dapat diangkut sehari | = | | 1.802,57 |
|--|---|--|----------|

1 M PEKERJAAN PEMASANGAN REFLEKTOR / MATA KUCING

| | | | |
|-------------------------------|---------------|-----------|-----------------|
| 1. Pekerja | 0,01 oh | 70.587,00 | 705,87 |
| 2. Tukang | 0,005 oh | 83.145,00 | 415,73 |
| 3. Alat bantu pemasangan pipa | 1 ls | 4.987,50 | 4.987,50 |
| | Jumlah | | 6.109,10 |

1 M PEKERJAAN PENGEBORAN DAN PEMASANGAN

| | | | |
|---------------|---------------|-----------|------------------|
| 1. Pekerja | 0,32 oh | 70.587,00 | 22.587,84 |
| 2. Mandor | 0,062 oh | 95.296,00 | 5.908,35 |
| 3. Alat bantu | 0,2 ls | 3.858,75 | 771,75 |
| | Jumlah | | 29.267,94 |

1 M PENGGELARAN KABEL

| | | | |
|---------------|---------------|-----------|-----------------|
| 1. Alat bantu | 0,1 ls | 3.858,75 | 385,88 |
| 2. Pekerja | 0,03 oh | 70.587,00 | 2.117,61 |
| 3. Mandor | 0,015 oh | 95.296,00 | 1.429,44 |
| | Jumlah | | 3.932,93 |

1 M PEMASANGAN PIPA PVC

| | | | |
|---------------|---------------|-----------|-----------------|
| 1. Alat bantu | 0,085 ls | 3.858,75 | 327,99 |
| 2. Pekerja | 0,03 oh | 70.587,00 | 2.117,61 |
| 3. Mandor | 0,005 Oh | 95.296,00 | 476,48 |
| | Jumlah | | 2.922,08 |

PEKERJAAN PENGEBORAN DAN PEMASANGAN PAKU MARKA BULAT

| | | | |
|---------------|---------------|-----------|------------------|
| 1. Pekerja | 0,14 oh | 70.587,00 | 9.882,18 |
| 2. Mandor | 0,02 oh | 95.296,00 | 1.905,92 |
| 3. Alat bantu | 1 ls | 29.000,00 | 29.000,00 |
| | Jumlah | | 40.788,10 |

Harga Satuan Bahan

| No. | Uraian/kegiatan | Volume | Harga Satuan |
|-----|---|----------|--------------|
| 1 | Aluminium alloy 10x10x2 cm | 1 buah | 57.750 |
| 2 | Aluminium alloy 10x12x2 cm | 1 buah | 65.100 |
| 3 | Angkur diameter 25 mm | 1 buah | 6.563 |
| 4 | Angkur besi siku ukuran 30x30x3 mm | 1 m | 30.000 |
| 5 | Angkur besi siku ukuran 50x50x4 mm | 1 m | 29.925 |
| 6 | Armatour box lampu | 1 buah | 115.500 |
| 7 | Aspal AC 60-70 | 1 kg | 4.883 |
| 8 | Batu pecah 0,5/1 | 1 m3 | 131.250 |
| 9 | Battery MF 12 Volt/42 AH | 1 Buah | 2.425.500 |
| 10 | Besi angkur 30x30x3 mm | 1 m | 30.000 |
| 11 | Besi bulat 1" | 1 batang | 81.795 |
| 12 | Besi bulat 1,25" | 1 batang | 142.958 |
| 13 | Besi pengikat baja profil desain (blocking) | 1 buah | 81.900 |
| 14 | Besi pengikat galvanis | 1 buah | 13.309 |
| 15 | Biaya programming pesawat | 1 ls | 1.995.000 |
| 16 | Box lampu 2 aspek | 1 buah | 2.297.125 |
| 17 | Box lampu 2 aspek diameter 30 cm | 1 buah | 3.231.375 |
| 18 | Box lampu 3 aspek | 1 buah | 2.800.000 |
| 19 | Cat | 1 kg | 45.000 |
| 20 | Cat menie besi | 1 kg | 35.000 |
| 21 | Cat priemer (marka) | 1 kg | 186.218 |
| 22 | Cermin arcylic cembung 3 mm | 1 unit | 3.908.625 |
| 23 | Coldplastic | 1 kg | 25.000 |
| 24 | Control WL dengan konfigurasi (doubel Flasher) | 1 buah | 6.747.563 |
| 25 | Controller Induk | 1 Unit | 17.000.000 |
| 26 | Controller Pembantu | 1 Unit | 9.095.625 |
| 27 | Daun rambu aluminium 1,8 mm gd. Reflektive sheeting | 1 m2 | 780.675 |
| 28 | Daun rambu aluminium 2mm gd. Reflektive sheeting | 1 m2 | 872.550 |
| 29 | Delineator pipa pelastik | 1 buah | 283.763 |
| 30 | Delineator pipa besi | 1 buah | 184.000 |
| 31 | Display Hitung Mundur Model Matrix | 1 buah | 15.500.000 |
| 32 | Gergaji besi | 1 buah | 31.500 |
| 33 | Glassbeads | 1 kg | 20.000 |
| 34 | Kabel 4x3 NYY4x3 mm | 1 m | 25.331 |
| 35 | Kabel NYY 4X2,5 | 1 M | 9.188 |
| 36 | Kawat las | 1 kg | 17.010 |
| 37 | Kertas amplas | 1 lembar | 7.500 |
| 38 | Kerikil | 1 m3 | 136.106 |
| 39 | Kerucut lalu lintas ukuran 60 cm | 1 buah | 267.750 |
| 40 | Kerucut lalu lintas ukuran 75 cm | 1 buah | 277.200 |
| 41 | Kerucut lalu lintas ukuran 90 cm | 1 buah | 304.500 |
| 42 | Kontroler 4 phase 2 pedestrian dan box luar | 1 set | 34.888.125 |
| 43 | Kwas tangan | 1 buah | 15.000 |
| 44 | Lampu Isyarat 3 Asp Ø 30 cm LED Lokal | 1 Set | 8.000.000 |
| 45 | Lem mixed epoxy adhesive | 1 kg | 82.000 |
| 46 | Lempengan besi baja profil desain galvanis (beam) | 1 batang | 847.350 |
| 47 | Mata bor besi | 1 buah | 50.000 |
| 48 | Minyak cat | 1 liter | 15.000 |
| 49 | Baut/mur | 1 buah | 3.150 |
| 50 | Mur baut 10 cm | 1 buah | 4.000 |
| 51 | Mur baut beam 12x25 mm | 1 buah | 6.500 |
| 52 | Mur baut blocking 16x30 mm | 1 buah | 8.200 |
| 53 | Mur baut pengaman | 1 buah | 3.150 |
| 54 | Mur baut post 16x48 mm | 1 buah | 7.875 |
| 55 | Paku | 1 kg | 18.000 |
| 56 | Papan kayu klas III (meranti) | 1 m3 | 3.800.000 |
| 57 | Pasang dan set box lampu | 1 buah | 44.625 |
| 58 | Pasir beton | 1 m3 | 153.615 |

| No. | Uraian/kegiatan | Volume | Harga Satuan |
|-----|-----------------|--------|--------------|
| 59 | Pasir urug | 1 m3 | 135.000 |

| No. | Uraian/kegiatan | Volume | Harga Satuan |
|-----|--|----------|---------------|
| 60 | Pasang dan stel 1 pesawat dan sekering | 1 set | 214.629 |
| 61 | Pasang dan stel terminal kabel | 1 set | 14.273 |
| 62 | Patok pengaman (delineator) | 1 buah | 310.678 |
| 63 | Pembatas arus listrik | 1 buah | 43.181 |
| 64 | Pembuatan dudukan box control | 1 buah | 333.375 |
| 65 | Panel Solarcell 50 Watt/12 Volt | 1 Buah | 6.063.750 |
| 66 | Pengecatan tiang dan patok pengaman | 1 buah | 30.975 |
| 67 | Penyambung listrik (PLN) | 1 unit | 2.200.000 |
| 68 | Pipa galvanis 1,5" | 1 m' | 57.750 |
| 69 | Pipa galvanis 2" medium | 1 m' | 75.000 |
| 70 | Pipa galvanis 6" medium | 1 m' | 320.500 |
| 71 | Pipa galvanis 3" medium | 1 m' | 158.000 |
| 72 | Pipa pengaman PVC | 1 batang | 50.033 |
| 73 | Plat strip ukuran 4x30 mm | 1 m | 25.000 |
| 74 | Rambu Tab I No.15 Uk. 60x60 cm beserta panel | 1 set | 708.750 |
| 75 | Reflektor (mata kucing) | 1 buah | 75.863 |
| 76 | Reflektor hight intensity grade uk. 10x20 cm | 1 buah | 73.605 |
| 77 | Semen PC (50kg/zak) | 1 zax | 54.000 |
| 78 | Set terminal kabel | 1 buah | 16.800 |
| 79 | Solar | 1 liter | 4.515 |
| 80 | Spare part | 1 ls | 48.248 |
| 81 | Split | 1 m3 | 147.000 |
| 82 | Terminal end (sleeve beam) | 1 buah | 334.845 |
| 83 | Terminal kabel | 1 buah | 19.268 |
| 84 | Thermoplastik | 1 kg | 22.275 |
| 85 | Tiang lengkung | 1 buah | 3.415.573 |
| 86 | Tiang lurus | 1 batang | 1.900.000 |
| 87 | Tiang overhead | 1 batang | 2.547.563 |
| 88 | Tiang penyangga besi st. 32 glavanis (post) 1800x320x6 | 1 batang | 521.325 |
| 89 | Tiang penyangga besi st. 32 glavanis (post) 1800x320x4,5 | 1 batang | 343.875 |
| 90 | Tutup pipa diameter 1,5" | 1 buah | 3.500 |
| 91 | Tutup pipa diameter 2" | 1 buah | 8.500 |
| 92 | Timbang portable 20 ton | 1 unit | 235.725.000 |
| 93 | Timbang portable 15 ton | 1 unit | 200.550.000 |
| 94 | Peralatan otomatis | 1 unit | 4.649.935.920 |
| 95 | Peralatan semi otomatis | 1 unit | 2.954.213.640 |
| 96 | Peralatan uji pemeriksaan dan pengawasan di jalan | 1 unit | 3.087.787.500 |
| 97 | Paku Jalan berbentuk bulat | 1 unit | 210.000 |
| 98 | Lampu Jalan Mercury 250 W | 1 buah | 3.800.000 |
| 99 | Tiang Lampu Jalan Oktagonal t=9 M Single Arm | 1 buah | 8.500.000 |
| 100 | Lampu Jalan LED Ceramic 40 Watt 32 Volt, kabel NYAF 2 x 1,5 mm2 | 1 buah | 7.000.000 |
| 101 | Solar cell daya 150 Wp 36 V DC, kabel NYAF 2 x 6 mm2 | 1 set | 9.800.000 |
| 102 | Pengisi Baterai (Baterai Charger) 10 Amp 36 V DC, berikut Sun Switch | 1 buah | 3.000.000 |
| 103 | Baterai Jenis VRLA Deep Cycle PV kapasitas 50 Ah 12V, kabel NYAF 2 x 6 mm2 | 1 set | 2.500.000 |
| 104 | Lampu Isyarat 2 Asp Ø 30 cm | 1 unit | 5.500.000 |
| 105 | Lampu Isyarat 3 Asp Ø 30 cm | 1 buah | 8.000.000 |

Harga Satuan Upah

| No. | Uraian/kegiatan | Volume | | Harga Satuan |
|-----|-----------------------------|--------|----|--------------|
| 1 | Kepala tukang | 1 | oh | 95.726 |
| 2 | Kepala tukang besi | 1 | oh | 95.726 |
| 3 | Kepala Tukang cat | 1 | oh | 95.726 |
| 4 | Kepala Tukang kayu | 1 | oh | 95.726 |
| 5 | Mandor | 1 | oh | 95.296 |
| 6 | Operator | 1 | oh | 83.145 |
| 7 | Pekerja | 1 | oh | 70.587 |
| 8 | Pembantu operator | 1 | oh | 83.145 |
| 9 | Programer lampu lalu lintas | 1 | oh | 95.726 |
| 10 | sopir | 1 | oh | 83.145 |
| 11 | Tukang | 1 | oh | 83.145 |
| 12 | Tukang batu | 1 | oh | 83.145 |
| 13 | Tukang besi | 1 | oh | 83.145 |
| 14 | Tukang cat | 1 | oh | 83.145 |
| 15 | Tukang las | 1 | oh | 65.734 |
| 16 | Tukang kayu | 1 | oh | 83.145 |

Harga Satuan Alat

| No. | Uraian/kegiatan | Volume | Harga Satuan |
|-----|------------------------------------|--------|--------------|
| 1 | Alat bantu pengelasan/pemotongan | 1 ls | 20.000 |
| 2 | Alat bantu pengecatan | 1 ls | 9.000 |
| 3 | Sewa drill berikut opertor | 1 hari | 401.835 |
| 4 | Sewa stamper berikut operator | 1 hari | 199.500 |
| 5 | Mesin las listrik dan perlengkapan | 1 hari | 612.281 |
| 6 | Alat bantu penyetelan | 1 ls | 7.088 |
| 7 | Alat bantu pengaspalan per 100 m2 | 1 ls | 274.313 |
| 8 | Sewa kendaraan | 1 hari | 400.000 |
| 9 | Alat bantu pemasangan pipa | 1 ls | 4.988 |
| 10 | Sewa Crane | 1 ls | 1.500.000 |
| 11 | Alat bantu | 1 ls | 3.859 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 60 X 60 CM

| | | | | |
|-----|---|----------|-------------------|-------------------|
| 1. | Daun rambu alumunium 1,8 mm dg, reflektive sheeting | 0,36 m2 | 780.675,00 | 281.043,00 |
| 2. | Pipa galvanis 1,5" | 3 m | 57.750,00 | 173.250,00 |
| 3. | Plat strip ukuran 4X30 mm | 0,6 m | 25.000,00 | 15.000,00 |
| 4. | Angkur besi siku ukuran 30X30X3 mm | 0,6 m | 30.000,00 | 18.000,00 |
| 5. | Baut/mur | 4 buah | 3.150,00 | 12.600,00 |
| 6. | Cat belakang daun rambu | 0,36 m2 | 81.415,13 | 29.309,45 |
| 7. | Tutup pipa diameter 1,5" | 1 buah | 3.500,00 | 3.500,00 |
| 8. | Pemotongan dan pengeboran | 1 unit | 7.647,97 | 7.647,97 |
| 9. | Pengelasan | 14,31 cm | 1.086,38 | 15.546,04 |
| 10. | Perakitan dan penyetelan | 1 unit | 35.389,20 | 35.389,20 |
| 11. | Cor pondasi beton | 0,11 m3 | 1.138.555,63 | 125.241,12 |
| 12. | Galian tanah dan urug kembali | 0,25 m3 | 62.561,54 | 15.640,38 |
| 13. | Urugan pasir di bawah pondasi | 0,04 m3 | 277.231,26 | 11.089,25 |
| 14. | Bekesting pondasi | 1,12 m3 | 56.570,55 | 63.359,02 |
| 15. | Ongkos angkut ke lokasi | 1 buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 821.036,00 |
| | | | Dibulatkan | 850.000,00 |

PENGADAAN & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 75 X 75 CM

| | | | | |
|-----|---|----------|-------------------|---------------------|
| 1. | Daun rambu alumunium 1,8 mm dg, reflektive sheeting | 0,56 m2 | 780.675,00 | 437.178,00 |
| 2. | Pipa galvanis 2" medium | 3 m | 75.000,00 | 225.000,00 |
| 3. | Plat strip ukuran 4X30 mm | 0,6 m | 25.000,00 | 15.000,00 |
| 4. | Angkur besi siku ukuran 30X30X3 mm | 0,6 m | 30.000,00 | 18.000,00 |
| 5. | Baut/mur | 4 buah | 3.150,00 | 12.600,00 |
| 6. | Cat belakang daun rambu | 0,56 m2 | 81.415,13 | 45.592,47 |
| 7. | Tutup pipa diameter 2" | 1 buah | 8.500,00 | 8.500,00 |
| 8. | Pemotongan dan pengeboran | 1 unit | 7.647,97 | 7.647,97 |
| 9. | Pengelasan | 14,31 cm | 1.086,38 | 15.546,04 |
| 10. | Perakitan dan penyetelan | 1 unit | 35.389,20 | 35.389,20 |
| 11. | Cor pondasi beton | 0,11 m3 | 1.138.555,63 | 125.241,12 |
| 12. | Galian tanah dan urug kembali | 0,25 m3 | 62.561,54 | 15.640,38 |
| 13. | Urugan pasir di bawah pondasi | 0,04 m3 | 277.231,26 | 11.089,25 |
| 14. | Bekesting pondasi | 0,91 m2 | 56.570,55 | 51.479,20 |
| 15. | Ongkos angkut ke lokasi | 1 buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 1.038.324,21 |
| | | | Dibulatkan | 1.100.000,00 |

PENGADAAN & PEMASANGAN RAMBU LALU LINTAS DI JALAN UK. 90 X 90 CM

| | | | | |
|-----|---|----------|-------------------|---------------------|
| 1. | Daun rambu alumunium 2 mm dg, reflektive sheeting | 0,81 m2 | 1.020.000,00 | 826.200,00 |
| 2. | Pipa galvanis 2" medium | 4 m | 75.000,00 | 300.000,00 |
| 3. | Plat strip ukuran 4X40 mm | 1,6 m | 25.500,00 | 40.800,00 |
| 4. | Angkur besi siku ukuran 40X40 mm | 0,8 m | 30.000,00 | 24.000,00 |
| 5. | Baut/mur | 8 buah | 35.050,00 | 280.400,00 |
| 6. | Cat belakang daun rambu | 0,56 m2 | 81.545,13 | 45.665,27 |
| 7. | Tutup pipa diameter 2" | 1 buah | 8.500,00 | 8.500,00 |
| 8. | Pemotongan dan pengeboran | 1 unit | 21.040,50 | 21.040,50 |
| 9. | Pengelasan | 14,31 cm | 1.086,38 | 15.546,04 |
| 10. | Perakitan dan penyetelan | 1 unit | 47.625,00 | 47.625,00 |
| 11. | Cor pondasi beton | 0,11 m3 | 1.131.367,63 | 124.450,44 |
| 12. | Galian tanah dan urug kembali | 0,25 m3 | 62.561,54 | 15.640,38 |
| 13. | Urugan pasir di bawah pondasi | 0,04 m3 | 239.011,26 | 9.560,45 |
| 14. | Bekesting pondasi | 1,12 m3 | 48.513,52 | 54.335,15 |
| 15. | Ongkos angkut ke lokasi | 1 buah | 10.300,41 | 10.300,41 |
| | | | JUMLAH | 1.824.063,64 |
| | | | Dibulatkan | 1.850.000,00 |

RENCANA ANGGARAN BIAYA**PENGADAAN & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN
UK. 105 X 140 CM**

| | | | | |
|-----|---|---------|-------------------|---------------------|
| 1. | Daun rambu alumunium 2 mm dg, reflektive sheeting | 1,47 m2 | 872.550,00 | 1.282.648,50 |
| 2. | Pipa galvanis 2" medium | 8 m | 75.000,00 | 600.000,00 |
| 3. | Plat strip ukuran 4X30 mm | 1,2 m | 25.000,00 | 30.000,00 |
| 4. | Angkur besi siku ukuran 30X30X3 mm | 6,8 m | 30.000,00 | 204.000,00 |
| 5. | Baut/mur | 14 buah | 3.150,00 | 44.100,00 |
| 6. | Cat belakang daun rambu | 1,47 m2 | 81.415,13 | 119.680,24 |
| 7. | Tutup pipa diameter2" | 2 buah | 3.500,00 | 7.000,00 |
| 8. | Pemotongan dan pengeboran | 1 unit | 7.647,97 | 7.647,97 |
| 9. | Pengelasan | 100 cm | 1.086,38 | 108.637,58 |
| 10. | Perakitan dan penyetelan | 1 unit | 35.389,20 | 35.389,20 |
| 11. | Cor pondasi beton | 0,22 m3 | 1.138.555,63 | 250.482,24 |
| 12. | Galian tanah dan urug kembali | 0,5 m3 | 62.561,54 | 31.280,77 |
| 13. | Urugan pasir di bawah pondasi | 0,08 m3 | 277.231,26 | 22.178,50 |
| 14. | Bekesting pondasi | 2,24 m3 | 56.570,55 | 126.718,03 |
| 15. | Ongkos angkut ke lokasi | 1 buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 2.884.183,60 |
| | | | Dibulatkan | 2.900.000,00 |

**PENGADAAN & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN
UK. 120 X 160 CM**

| | | | | |
|-----|---|---------|-------------------|---------------------|
| 1. | Daun rambu alumunium 2 mm dg, reflektive sheeting | 1,92 m2 | 872.550,00 | 1.675.296,00 |
| 2. | Pipa galvanis 2" medium | 8 m | 75.000,00 | 600.000,00 |
| 3. | Plat strip ukuran 4X40 mm | 1,2 m | 25.000,00 | 30.000,00 |
| 4. | Angkur besi siku ukuran 30X30X3 mm | 6,8 m | 30.000,00 | 204.000,00 |
| 5. | Baut/mur | 14 buah | 3.150,00 | 44.100,00 |
| 6. | Cat belakang daun rambu | 1,92 m2 | 81.415,13 | 156.317,05 |
| 7. | Tutup pipa diameter2" | 2 buah | 3.500,00 | 7.000,00 |
| 8. | Pemotongan dan pengeboran | 1 unit | 7.647,97 | 7.647,97 |
| 9. | Pengelasan | 100 cm | 1.086,38 | 108.637,58 |
| 10. | Perakitan dan penyetelan | 1 unit | 35.389,20 | 35.389,20 |
| 11. | Cor pondasi beton | 0,22 m3 | 1.138.555,63 | 250.482,24 |
| 12. | Galian tanah dan urug kembali | 0,5 m3 | 62.561,54 | 31.280,77 |
| 13. | Urugan pasir di bawah pondasi | 0,08 m3 | 277.231,26 | 22.178,50 |
| 14. | Bekesting pondasi | 2,24 m3 | 56.570,55 | 126.718,03 |
| 15. | Ongkos angkut ke lokasi | 1 buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 3.313.467,90 |
| | | | Dibulatkan | 3.350.000,00 |

**PENGADAAN & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN
UK. 120 X 240 CM**

| | | | | |
|-----|--|-----------|-------------------|----------------------|
| 1. | Pipa Galvanis Diameter 6" | 6 m' | 320.500,00 | 1.923.000,00 |
| 2. | Pipa Galvanis Diameter 3" | 6 m' | 158.000,00 | 948.000,00 |
| 3. | Pipa Hitam 1,5 " | 1,6 m' | 70.000,00 | 112.000,00 |
| 4. | Flange Pipa dia 3" - t 10 mm | 4 buah | 73.000,00 | 292.000,00 |
| 5. | Rib Plate Flange Pipa dia 3" - t 10 mm | 24 buah | 15.000,00 | 360.000,00 |
| 6. | Plat Dasar Tiang 400 x 400 x 12 mm | 1 buah | 415.000,00 | 415.000,00 |
| 7. | Rib Plate Dasar tebal 10 mm | 4 buah | 80.000,00 | 320.000,00 |
| 8. | Tutup Pipa dia 6" | 1 buah | 15.000,00 | 15.000,00 |
| 9. | Tutup Pipa dia 3" | 4 buah | 10.500,00 | 42.000,00 |
| 10. | Maur / Baud dia 14 mm untuk Flange | 8 buah | 7.500,00 | 60.000,00 |
| 11. | Angkur dia 19 mm panjang 60 cm | 4 buah | 75.500,00 | 302.000,00 |
| 12. | Tutup baut Angkur | 4 buah | 17.500,00 | 70.000,00 |
| 13. | Galian Tanah | 0,56 m3 | 50.025,23 | 28.014,13 |
| 14. | Cor Beton Pondasi (60 x 60 x 120 cm) | 0,43 m3 | 1.138.555,63 | 489.578,92 |
| 15. | Besi Beton Dia 12 mm | 36 m' | 17.000,00 | 612.000,00 |
| 16. | Urugan Pasir Bawah Pondasi | 0,05 m3 | 277.231,26 | 13.861,56 |
| 17. | Begisting | 2,88 m2 | 47.142,13 | 135.769,32 |
| 18. | Daun Rambu Plat Alm Composite t = 3 | 2,88 m2 | 80.000,00 | 230.400,00 |
| 19. | Logo Departemen Perhubungan | 1 buah | 17.000,00 | 17.000,00 |
| 20. | Besi Siku 40 x 40 x 3 mm | 13,2 m' | 30.000,00 | 396.000,00 |
| 21. | Klem 3 x 40 x 450 mm | 4 buah | 11.000,00 | 44.000,00 |
| 22. | Mur Baud Klem dia 12 mm | 16 buah | 6.500,00 | 104.000,00 |
| 23. | Mur dan Baud dia 6 mm / Panel | 16 buah | 3.000,00 | 48.000,00 |
| 24. | Rivet / Panel | 22 buah | 1.100,00 | 24.200,00 |
| 25. | Biaya Pembuatan / Pengelasan | 293,4 kg | 8.000,00 | 2.347.200,00 |
| 26. | Sewa Crane Kapasitas 5 ton | 0,5 shift | 2.700.000,00 | 1.350.000,00 |
| | | | JUMLAH | 10.699.023,93 |
| | | | Dibulatkan | 11.000.000,00 |

RENCANA ANGGARAN BIAYA**PENGADAAN & PEMASANGAN RAMBU PENDAHULUAN PENUNJUK JURUSAN PORTAL BENTANG 18 METER**

| | | | | |
|-----|--|------------|-------------------|-----------------------|
| 1. | Pipa Galvanis Diameter 12" | 14 m' | 1.270.000,00 | 17.780.000,00 |
| 2. | Pipa Galvanis Diameter 8" | 19 m' | 750.000,00 | 14.250.000,00 |
| 3. | Pipa Galvanis Diameter 6" | 19 m' | 320.500,00 | 6.089.500,00 |
| 4. | Pipa Galvanis Diameter 4" | 39,5 m' | 240.000,00 | 9.480.000,00 |
| 5. | Flange Pipa dia 8" - t 12 mm | 8 buah | 248.000,00 | 1.984.000,00 |
| 6. | Flange Pipa dia 6" - t 10 mm | 8 buah | 130.700,00 | 1.045.600,00 |
| 7. | Rib Plate Flange Pipa dia 8" - t 6 mm | 54 buah | 36.000,00 | 1.944.000,00 |
| 8. | Rib Plate Flange Pipa dia 6" - t 6 mm | 54 buah | 27.000,00 | 1.458.000,00 |
| 9. | Plat Dasar Tiang 550 x 550 x 22 mm | 2 buah | 955.000,00 | 1.910.000,00 |
| 10. | Rib Plate Dasar tebal 10 mm | 12 buah | 250.000,00 | 3.000.000,00 |
| 11. | Tutup Pipa dia 12" | 2 buah | 32.000,00 | 64.000,00 |
| 12. | Tutup Pipa dia 8" | 2 buah | 22.000,00 | 44.000,00 |
| 13. | Tutup Pipa dia 6" | 2 buah | 15.000,00 | 30.000,00 |
| 14. | Mur / Baud dia 22 mm untuk Flange | 96 buah | 10.500,00 | 1.008.000,00 |
| 15. | Angkur dia 22 mm panjang 70 cm | 12 buah | 87.000,00 | 1.044.000,00 |
| 16. | Tutup baut Angkur | 12 buah | 19.500,00 | 234.000,00 |
| 17. | Galian Tanah | 3,6 m3 | 39.645,00 | 142.722,00 |
| 18. | Cor Beton Pondasi (80 x 80 x 200 cm) | 2,56 m3 | 951.700,00 | 2.436.352,00 |
| 19. | Cor Tiang Pancang Beton dia. 20 mm | 0,24 m4 | 951.700,00 | 228.408,00 |
| 20. | Besi Beton Dia 12 mm | 141,6 m' | 19.000,00 | 2.690.400,00 |
| 21. | Urugan Pasir Bawah Pondasi | 0,19 m3 | 277.231,26 | 52.673,94 |
| 22. | Begisting | 12,8 m2 | 47.142,13 | 603.419,21 |
| 23. | Daun Rambu Plat Alm Composite t = 3 | 14,4 m2 | 759.780,50 | 10.940.839,20 |
| 24. | Logo Departemen Perhubungan | 4 buah | 17.000,00 | 68.000,00 |
| 25. | Besi Siku 40 x 40 x 3 mm | 60,8 m' | 30.000,00 | 1.824.000,00 |
| 26. | Klem 3 x 40 x 450 mm | 6 buah | 11.000,00 | 66.000,00 |
| 27. | Klem 3 x 40 x 600 mm | 6 buah | 11.000,00 | 66.000,00 |
| 28. | Mur Baud Klem dia 16 mm | 8 buah | 8.500,00 | 68.000,00 |
| 29. | Mur dan Baud dia 6 mm / Panel | 36 buah | 3.000,00 | 108.000,00 |
| 30. | Rivet / Panel | 18 buah | 1.100,00 | 19.800,00 |
| 32. | Biaya Pembuatan / Pengelasan | 3602,78 kg | 8.000,00 | 28.822.240,00 |
| 33. | Sewa Crane Kapasitas 15 ton | 1 shift | 2.700.000,00 | 2.700.000,00 |
| 34. | Patok Pengaman dia. 4' - 120 cm | 6 buah | 310.677,61 | 1.864.065,66 |
| | | | JUMLAH | 114.066.020,00 |
| | | | Dibulatkan | 115.000.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN PAGAR PENGAMAN JALAN

| | | | | |
|-----|--|----------|-------------------|---------------------|
| 1. | Lempengan besi baja profil desain galvanis (Beam) | 1 batang | 847.350,00 | 847.350,00 |
| 2. | Tiang penyangga besi st. 32 galvanis (post) 1800x320x6 | 3 batang | 521.325,00 | 1.563.975,00 |
| 3. | Besi pengikat baja profil desain (blocking) | 3 buah | 81.900,00 | 245.700,00 |
| 4. | Mur baut beam 12 x 25 mm | 10 buah | 6.500,00 | 65.000,00 |
| 5. | Mur baut blocking 16 x 30 mm | 14 buah | 8.200,00 | 114.800,00 |
| 6. | Mur baut post 16 x 48 mm | 3 buah | 7.875,00 | 23.625,00 |
| 7. | Besi angkur 30x30x3 mm | 5,25 m | 30.000,00 | 157.500,00 |
| 8. | Terminal end (Sleeve Beam) | 2 buah | 847.350,00 | 1.694.700,00 |
| 9. | Galian tanah dan urug kembali | 3,92 m3 | 62.561,54 | 245.241,22 |
| 10. | Urugan pasir di bawah pondasi | 0,46 m3 | 277.231,26 | 127.526,38 |
| 11. | Bekesting pondasi | 13,63 m3 | 47.142,13 | 642.547,17 |
| 12. | Cor pondasi beton | 1,19 m3 | 1.138.555,63 | 1.354.881,19 |
| 13. | Ongkos angkut ke lokasi | 1 buah | 1.081.543,00 | 1.081.543,00 |
| | | | JUMLAH | 8.164.388,96 |
| | | | Dibulatkan | 8.200.000,00 |

PENGADAAN & PEMASANGAN PAGAR PENGAMAN JALAN (DENGAN RAMBU CHEVRON)

| | | | | |
|-----|--|----------|-------------------|----------------------|
| 1. | Lempengan besi baja profil desain galvanis (Beam) | 1 batang | 847.350,00 | 847.350,00 |
| 2. | Tiang penyangga besi st. 32 galvanis (post) 1800x320x6 | 3 batang | 521.325,00 | 1.563.975,00 |
| 3. | Besi pengikat baja profil desain (blocking) | 3 buah | 81.900,00 | 245.700,00 |
| 4. | Mur baut beam 12 x 25 mm | 10 buah | 6.500,00 | 65.000,00 |
| 5. | Mur baut blocking 16 x 30 mm | 14 buah | 8.200,00 | 114.800,00 |
| 6. | Mur baut post 16 x 48 mm | 3 buah | 7.875,00 | 23.625,00 |
| 7. | Besi angkur 30x30x3 mm | 5,25 m | 30.000,00 | 157.500,00 |
| 8. | Terminal end (Sleeve Beam) | 2 buah | 847.350,00 | 1.694.700,00 |
| 9. | Galian tanah dan urug kembali | 3,92 m3 | 62.561,54 | 245.241,22 |
| 10. | Urugan pasir di bawah pondasi | 0,46 m3 | 277.231,26 | 127.526,38 |
| 11. | Bekesting pondasi | 13,63 m3 | 47.142,13 | 642.547,17 |
| 12. | Cor pondasi beton | 1,19 m3 | 1.138.555,63 | 1.354.881,19 |
| 13. | Ongkos angkut ke lokasi (guardrail) | 1 buah | 1.081.543,00 | 1.081.543,00 |
| 14. | Panel rambu 60 - 75 cm | 1 buah | 780.675,00 | 780.675,00 |
| 15. | Tiang pipa dia. 2,5" - tinggi 3 mtr | 1 buah | 521.325,00 | 521.325,00 |
| 16. | Pekerjaan Pemasangan Rambu pada Guardrail | 1 buah | 29.267,94 | 29.267,94 |
| 17. | Ongkos angkut ke lokasi (rambu) | 1 buah | 841.000,00 | 841.000,00 |
| | | | JUMLAH | 10.336.656,90 |
| | | | Dibulatkan | 10.500.000,00 |

PENGADAAN & PEMASANGAN PAGAR PENGAMAN JALAN (4M)

| | | | | |
|-----|--|----------|-------------------|---------------------|
| 1. | Lempengan besi baja profil desain galvanis (Beam) | 1 batang | 847.350,00 | 847.350,00 |
| 2. | Tiang penyangga besi st. 32 galvanis (post) 1800x320x6 | 3 batang | 521.325,00 | 1.563.975,00 |
| 3. | Besi pengikat baja profil desain (blocking) | 3 buah | 81.900,00 | 245.700,00 |
| 4. | Mur baut beam 12 x 25 mm | 10 buah | 6.500,00 | 65.000,00 |
| 5. | Mur baut blocking 16 x 30 mm | 3 buah | 8.200,00 | 24.600,00 |
| 6. | Mur baut post 16 x 48 mm | 3 buah | 7.875,00 | 23.625,00 |
| 7. | Besi angkur 30x30x3 mm | 2,25 m | 30.000,00 | 67.500,00 |
| 8. | Terminal end (Sleeve Beam) | 2 buah | 334.845,00 | 669.690,00 |
| 9. | Galian tanah dan urug kembali | 1,68 m3 | 62.561,54 | 105.103,38 |
| 10. | Urugan pasir di bawah pondasi | 0,2 m3 | 277.231,26 | 55.446,25 |
| 11. | Bekesting pondasi | 5,84 m3 | 47.142,13 | 275.310,01 |
| 12. | Cor pondasi beton | 0,51 m3 | 1.138.555,63 | 580.663,37 |
| 13. | Ongkos angkut ke lokasi | 1 buah | 1.081.543,00 | 1.081.543,00 |
| | | | JUMLAH | 5.605.506,01 |
| | | | Dibulatkan | 5.606.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN MARKA JALAN (UK. 3x120 mm) per M'

| | | | |
|----------------------|--------|-------------------|------------------|
| 1. Thermoplastic | 0,9 kg | 22.275,00 | 20.047,50 |
| 2. Glassbeads | 0,1 kg | 20.000,00 | 2.000,00 |
| 3. Ongkos pengecatan | 1 m | 7.674,62 | 7.674,62 |
| | | JUMLAH | 29.722,12 |
| | | Dibulatkan | 30.000,00 |

PENGADAAN & PEMASANGAN MARKA JALAN (UK. 2x120 mm) per M'

| | | | |
|----------------------|--------|-------------------|------------------|
| 1. Coldplastic | 0,9 kg | 25.000,00 | 22.500,00 |
| 2. Glassbeads | 0,1 kg | 20.000,00 | 2.000,00 |
| 3. Ongkos pengecatan | 1 m | 7.674,62 | 7.674,62 |
| | | JUMLAH | 32.174,62 |
| | | Dibulatkan | 32.000,00 |

3000 27.000,00

3200 28.800,00

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN PAKU MARKA (UK. 10x10x2 cm)

| | | | |
|---|---------|-------------------|-------------------|
| 1. Aluminium alloy 10x10x2 cm | 1 buah | 57.750,00 | 57.750,00 |
| 2. Reflektor | 2 buah | 75.862,50 | 151.725,00 |
| 3. Lem mixed epoxy adhesive | 0,13 kg | 82.000,00 | 10.660,00 |
| 4. Pengeboran dan pemasangan paku jalan | 1 ls | 29.267,94 | 29.267,94 |
| 5. Ongkos angkut ke lokasi | 1 ls | 1.802,57 | 1.802,57 |
| | | JUMLAH | 251.205,51 |
| | | Dibulatkan | 251.500,00 |

PENGADAAN & PEMASANGAN PAKU MARKA (UK. 10x12x2 cm)

| | | | |
|---|---------|-------------------|-------------------|
| 1. Aluminium alloy 10x12x2 cm | 1 buah | 65.100,00 | 65.100,00 |
| 2. Reflektor | 2 buah | 75.862,50 | 151.725,00 |
| 3. Lem mixed epoxy adhesive | 0,13 kg | 82.000,00 | 10.660,00 |
| 4. Pengeboran dan pemasangan paku jalan | 1 ls | 29.267,94 | 29.267,94 |
| 5. Ongkos angkut ke lokasi | 1 ls | 1.802,57 | 1.802,57 |
| | | JUMLAH | 258.555,51 |
| | | Dibulatkan | 259.000,00 |

PENGADAAN & PEMASANGAN PAKU MARKA (BULAT)

| | | | |
|---|---------|-------------------|-------------------|
| 1. Paku Jalan | 1 buah | 210.000,00 | 210.000,00 |
| 2. Lem mixed epoxy adhesive | 0,23 kg | 82.000,00 | 18.860,00 |
| 3. Pengeboran dan pemasangan paku jalan | 1 ls | 40.788,10 | 40.788,10 |
| 4. Ongkos angkut ke lokasi | 1 ls | 1.802,57 | 1.802,57 |
| | | JUMLAH | 271.450,67 |
| | | Dibulatkan | 272.000,00 |

PENGADAAN & PEMASANGAN PAKU MARKA TENAGA SURYA (SOLAR CELL)

| | | | |
|---|---------|-------------------|-------------------|
| 1. Paku Marka Tenaga Surya | 1 buah | 487.000,00 | 487.000,00 |
| - . Uk. 10 x 10 cm | | | |
| - . 2 x 3 LED | | | |
| - . Capacitor Storage | | | |
| - . 30 Ton Impact Durability | | | |
| 2. Baut dia. 8 mm x 10 cm | 2 buah | 4.000,00 | 8.000,00 |
| 3. Lem mixed epoxy adhesive | 0,13 kg | 82.000,00 | 10.660,00 |
| 4. Pengeboran dan pemasangan paku jalan | 1 ls | 29.267,94 | 29.267,94 |
| 5. Ongkos angkut ke lokasi | 1 ls | 1.802,57 | 1.802,57 |
| | | JUMLAH | 536.730,51 |
| | | Dibulatkan | 540.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN LAMPU PERINGATAN (WARNING LIGHT)

| | | | |
|---|-----------|-------------------|----------------------|
| 1. Control WL dengan konfigurasi (double flasher) | 1 buah | 6.747.562,50 | 6.747.562,50 |
| 2. Box Lampu 2 aspek diameter 30 cm | 4 buah | 3.231.375,00 | 12.925.500,00 |
| 3. Tiang lengkung | 2 buah | 3.415.572,56 | 6.831.145,12 |
| 4. Armatour box lampu | 8 buah | 115.500,00 | 924.000,00 |
| 5. Patok pengaman (deliniator) | 3 buah | 310.677,61 | 932.032,83 |
| 6. Kabel NYY 4x2,5 | 300 m | 9.187,50 | 2.756.250,00 |
| 7. Terminal kabel | 3 buah | 19.267,50 | 57.802,50 |
| 8. Pipa pengaman PVC | 40 batang | 50.032,50 | 2.001.300,00 |
| 9. Penggelaran kabel | 460 m | 3.932,93 | 1.809.145,50 |
| 10. Penanaman pipa pelindung | 160 m | 2.922,08 | 467.533,40 |
| 11. Gali tutup aspal | 2,5 m3 | 209.342,57 | 523.356,43 |
| 12. Gali dan tutup tanah keras | 100 m3 | 62.561,54 | 6.256.153,50 |
| 13. Pengecoran tiang lengkung | 4 buah | 532.388,61 | 2.129.554,44 |
| 14. Pengecoran patok pengaman | 3 buah | 116.132,67 | 348.398,02 |
| 15. Set terminal kabel | 3 buah | 16.800,00 | 50.400,00 |
| 16. Pasang dan set box lampu | 22 buah | 44.625,00 | 981.750,00 |
| 17. Pembuatan dudukan box control | 1 buah | 458.901,14 | 458.901,14 |
| 18. Pengecatan tiang dan patok pengaman | 15 buah | 30.975,00 | 464.625,00 |
| 19. Penyambungan listrik (PLN) | 1 unit | 2.200.000,00 | 2.200.000,00 |
| 20. Ongkos angkut lampu peringatan ke lokasi | 1 set | 841.000,00 | 841.000,00 |
| | | JUMLAH | 49.706.410,38 |
| | | Dibulatkan | 50.000.000,00 |

RENCANA ANGGARAN BIAYA**PENGADAAN & PEMASANGAN LAMPU PERINGATAN TENAGA SURYA****(WARNING LIGHT SOLAR CELL) TIANG LENGKUNG**

| | | | |
|-------------------------------|--------|-------------------|----------------------|
| 1. Lampu 2 Aspek Ø 30 Cm | 2 Unit | 5.500.000 | 11.000.000,00 |
| 2. Solar Cell 50 WP | 1 Unit | 6.063.750 | 6.063.750,00 |
| 3. Tiang Overhead | 1 Unit | 4.500.000 | 4.500.000,00 |
| 4. Controller | 1 Unit | 6.747.563 | 6.747.562,50 |
| 5. Baterai VRLA Deep Cycle PV | 1 Pcs | 2.500.000 | 2.500.000,00 |
| 6. Patok Pengaman | 3 Pcs | 500.000 | 1.500.000,00 |
| 7. Galian Tanah | 2,4 m3 | 50.025 | 120.060,54 |
| 8. Pengecoran | 0,6 m3 | 1.138.556 | 683.133,38 |
| 9. Pemasangan & Akomodasi | 1 Ls | 5.500.000 | 5.500.000,00 |
| | | JUMLAH | 38.614.506,42 |
| | | Dibulatkan | 39.000.000,00 |

PENGADAAN & PEMASANGAN LAMPU PERINGATAN TENAGA SURYA**(WARNING LIGHT SOLAR CELL) TIANG LURUS**

| | | | |
|-------------------------------|--------|-------------------|----------------------|
| 1. Lampu 2 Aspek Ø 30 Cm | 1 Unit | 5.500.000 | 5.500.000,00 |
| 2. Solar Cell 50 WP | 1 Unit | 6.063.750 | 6.063.750,00 |
| 3. Tiang Lurus 3' | 1 Unit | 3.800.000 | 3.800.000,00 |
| 4. Controller | 1 Unit | 6.747.563 | 6.747.562,50 |
| 5. Baterai VRLA Deep Cycle PV | 1 Pcs | 2.500.000 | 2.500.000,00 |
| 6. Patok Pengaman | 3 Pcs | 500.000 | 1.500.000,00 |
| 7. Galian Tanah | 2,4 m3 | 50.025 | 120.060,54 |
| 8. Pengecoran | 0,6 m3 | 1.138.556 | 683.133,38 |
| 9. Pemasangan & Akomodasi | 1 Ls | 5.500.000 | 5.500.000,00 |
| | | JUMLAH | 32.414.506,42 |
| | | Dibulatkan | 33.000.000,00 |

RENCANA ANGGARAN BIAYA**PENGADAAN & PEMASANGAN ALAT PENGENDALI ISYARAT LALU LINTAS
PERSIMPANGAN 3 KAKI (SIMPANG 3)**

| | | | | | |
|-----|---|-----|--------|-------------------|-----------------------|
| 1. | Kontroller 4 phase 2 pedestrian dan box luar | 1 | set | 34.888.125,00 | 34.888.125,00 |
| 2. | Box Lampu 3 aspek | 9 | buah | 2.800.000,00 | 25.200.000,00 |
| 3. | Box Lampu 2 aspek | 8 | buah | 2.297.125,00 | 18.377.000,00 |
| 4. | Pembatas arus listrik | 1 | buah | 43.181,25 | 43.181,25 |
| 5. | Tiang overhead | 3 | batang | 2.547.562,50 | 7.642.687,50 |
| 6. | Tiang lurus | 3 | batang | 1.900.000,00 | 5.700.000,00 |
| 7. | Armaturnya box lampu | 15 | buah | 115.500,00 | 1.732.500,00 |
| 8. | Patok pengaman (deliniator) | 9 | buah | 310.677,61 | 2.796.098,49 |
| 9. | Terminal kabel | 8 | buah | 19.267,50 | 154.140,00 |
| 10. | Kabel NYY 4x2,5 | 400 | m | 9.187,50 | 3.675.000,00 |
| 11. | Kabel 4x3, NYY 4x3 | 60 | m | 25.331,25 | 1.519.875,00 |
| 12. | Besi bulat 1" | 2 | batang | 81.795,00 | 163.590,00 |
| 13. | Besi bulat 1,25" | 2 | batang | 142.957,50 | 285.915,00 |
| 14. | Pipa pengaman PVC | 40 | batang | 50.032,50 | 2.001.300,00 |
| 15. | Penggelaran kabel | 460 | m | 3.932,93 | 1.809.145,50 |
| 16. | Pemasangan pipa PVC | 160 | m | 2.922,08 | 467.533,40 |
| 17. | Pasir urug | 2,5 | m3 | 135.000,00 | 337.500,00 |
| 18. | Gali tutup aspal | 100 | m | 209.342,57 | 20.934.257,17 |
| 19. | Gali dan tutup tanah keras | 100 | m | 62.561,54 | 6.256.153,50 |
| 20. | Pengecoran tiang over head | 3 | buah | 532.388,61 | 1.597.165,83 |
| 21. | Pengecoran tiang lurus | 3 | buah | 312.647,37 | 937.942,12 |
| 22. | Pengecoran patok pengaman | 22 | buah | 116.132,67 | 2.554.918,82 |
| 23. | Pasang dan stel terminal kabel | 8 | set | 14.272,65 | 114.181,20 |
| 24. | Pasang dan set box lampu | 15 | buah | 44.625,00 | 669.375,00 |
| 25. | Pasang dan stel 1 pesawat dan sekering | 1 | set | 214.629,45 | 214.629,45 |
| 26. | Pembuatan dudukan box control | 1 | buah | 333.375,00 | 333.375,00 |
| 27. | Pengecatan tiang dan patok pengaman | 1 | buah | 30.975,00 | 30.975,00 |
| 28. | Pengecatan zebra cross | 100 | m | 7.674,62 | 767.461,92 |
| 29. | Penyambungan listrik (PLN) | 1 | unit | 2.200.000,00 | 2.200.000,00 |
| 30. | Biaya programming pesawat | 1 | ls | 1.995.000,00 | 1.995.000,00 |
| 31. | Rambu Tab I No. 15 UK. 60x60 cm beserta panel | 3 | set | 708.750,00 | 2.126.250,00 |
| | | | | JUMLAH | 147.525.276,15 |
| | | | | Dibulatkan | 148.000.000,00 |

**PENGADAAN & PEMASANGAN ALAT PENGENDALI ISYARAT LALU LINTAS
PERSIMPANGAN 4 KAKI (SIMPANG 4)**

| | | | | | |
|-----|---|-----|--------|-------------------|-----------------------|
| 1. | Kontroller 4 phase 2 pedestrian dan box luar | 1 | set | 34.888.125,00 | 34.888.125,00 |
| 2. | Box Lampu 3 aspek | 12 | buah | 2.800.000,00 | 33.600.000,00 |
| 3. | Box Lampu 2 aspek | 8 | buah | 2.297.125,00 | 18.377.000,00 |
| 4. | Pembatas arus listrik | 1 | buah | 43.181,25 | 43.181,25 |
| 5. | Tiang overhead | 4 | batang | 2.547.562,50 | 10.190.250,00 |
| 6. | Tiang lurus | 4 | batang | 1.900.000,00 | 7.600.000,00 |
| 7. | Armaturnya box lampu | 20 | buah | 115.500,00 | 2.310.000,00 |
| 8. | Patok pengaman (deliniator) | 12 | buah | 310.677,61 | 3.728.131,32 |
| 9. | Terminal kabel | 10 | buah | 19.267,50 | 192.675,00 |
| 10. | Kabel NYY 4x2,5 | 500 | m | 9.187,50 | 4.593.750,00 |
| 11. | Kabel 4x3, NYY 4x3 | 60 | m | 25.331,25 | 1.519.875,00 |
| 12. | Besi bulat 1" | 2 | batang | 81.795,00 | 163.590,00 |
| 13. | Besi bulat 1,25" | 2 | batang | 142.957,50 | 285.915,00 |
| 14. | Pipa pengaman PVC | 50 | batang | 50.032,50 | 2.501.625,00 |
| 15. | Penggelaran kabel | 560 | m | 3.932,93 | 2.202.438,00 |
| 16. | Pemasangan pipa PVC | 200 | m | 2.922,08 | 584.416,75 |
| 17. | Pasir urug | 3 | m3 | 135.000,00 | 405.000,00 |
| 18. | Gali tutup aspal | 100 | m | 209.342,57 | 20.934.257,17 |
| 19. | Gali dan tutup tanah keras | 120 | m | 62.561,54 | 7.507.384,20 |
| 20. | Pengecoran tiang over head | 4 | buah | 532.388,61 | 2.129.554,44 |
| 21. | Pengecoran tiang lurus | 4 | buah | 312.647,37 | 1.250.589,50 |
| 22. | Pengecoran patok pengaman | 27 | buah | 116.132,67 | 3.135.582,19 |
| 23. | Pasang dan stel terminal kabel | 10 | set | 14.272,65 | 142.726,50 |
| 24. | Pasang dan set box lampu | 20 | buah | 44.625,00 | 892.500,00 |
| 25. | Pasang dan stel 1 pesawat dan sekering | 1 | set | 214.629,45 | 214.629,45 |
| 26. | Pembuatan dudukan box control | 1 | buah | 458.901,14 | 458.901,14 |
| 27. | Pengecatan tiang dan patok pengaman | 1 | buah | 30.975,00 | 30.975,00 |
| 28. | Pengecatan zebra cross | 100 | m | 7.674,62 | 767.461,92 |
| 29. | Penyambungan listrik (PLN) | 1 | unit | 2.200.000,00 | 2.200.000,00 |
| 30. | Biaya programming pesawat | 1 | ls | 1.995.000,00 | 1.995.000,00 |
| 31. | Rambu Tab I No. 15 UK. 60x60 cm beserta panel | 4 | set | 708.750,00 | 2.835.000,00 |
| | | | | JUMLAH | 167.680.533,82 |
| | | | | Dibulatkan | 168.000.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN PATOK TIKUNGAN PIPA PLASTIK

| | | | | |
|---|------|------|-------------------|-------------------|
| 1. Deliniator pipa plastik | 1 | buah | 283.762,50 | 283.762,50 |
| 2. Reflektor high intensity grade uk. 10x20 | 2 | buah | 73.605,00 | 147.210,00 |
| 3. Cat | 0,34 | kg | 45.000,00 | 15.300,00 |
| 4. Cor pondasi beton | 0,1 | m3 | 1.138.555,63 | 113.855,56 |
| 5. Galian tanah dan urug kembali | 0,18 | m3 | 62.561,54 | 11.261,08 |
| 6. Urugan pasir di bawah pondasi | 0,04 | m3 | 277.231,26 | 11.089,25 |
| 7. Bekesting beton patok tikungan | 0,8 | m3 | 56.570,55 | 45.256,44 |
| 8. Ongkos angkut ke lokasi | 1 | buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 642.155,40 |
| | | | Dibulatkan | 645.000,00 |

PENGADAAN & PEMASANGAN PATOK TIKUNGAN PIPA BESI

| | | | | |
|---|------|------|-------------------|-------------------|
| 1. Deliniator pipa besi | 1 | buah | 184.000,00 | 184.000,00 |
| 2. Reflektor high intensity grade uk. 10x20 | 2 | buah | 73.605,00 | 147.210,00 |
| 3. Cat | 0,34 | kg | 45.000,00 | 15.300,00 |
| 4. Cor pondasi beton | 0,1 | m3 | 1.138.555,63 | 113.855,56 |
| 5. Galian tanah dan urug kembali | 0,18 | m3 | 62.561,54 | 11.261,08 |
| 6. Urugan pasir di bawah pondasi | 0,04 | m3 | 277.231,26 | 11.089,25 |
| 7. Bekesting beton patok tikungan | 0,8 | m3 | 56.570,55 | 45.256,44 |
| 8. Ongkos angkut ke lokasi | 1 | buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 542.392,90 |
| | | | Dibulatkan | 450.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN CERMIN TIKUNGAN

| | | | | |
|---------------------------------------|------|--------|-------------------|---------------------|
| 1. Cermin arcylic cembung 3 mm | 1 | unit | 3.908.625,00 | 3.908.625,00 |
| 2. pipa galvanis 2" medium | 4,4 | m3 | 75.000,00 | 330.000,00 |
| 3. Angkur besi siku ukuran 30x30x3 mm | 0,6 | m3 | 30.000,00 | 18.000,00 |
| 4. Tutup pipa diameter 2" | 1 | buah | 8.500,00 | 8.500,00 |
| 5. Besi pengikat galvanis | 1 | buah | 13.308,75 | 13.308,75 |
| 6. Mur baut 10 cm | 4 | buah | 4.000,00 | 16.000,00 |
| 7. Pemotongan | 1 | batang | 7.647,97 | 7.647,97 |
| 8. Pengelasan | 4 | cm | 1.086,38 | 4.345,50 |
| 9. Perakitan dan penyetelan | 1 | unit | 35.389,20 | 35.389,20 |
| 10. Cor pondasi beton | 0,24 | m3 | 1.138.555,63 | 273.253,35 |
| 11. Galian tanah dan urug kembali | 0,3 | m3 | 62.561,54 | 18.768,46 |
| 12. Urugan pasir di bawah pondasi | 0,03 | m3 | 277.231,26 | 8.316,94 |
| 13. Bekesting pondasi | 1,15 | m3 | 56.570,55 | 65.056,13 |
| 14. Ongkos angkut ke lokasi | 1 | buah | 14.420,57 | 14.420,57 |
| | | | JUMLAH | 4.721.631,88 |
| | | | Dibulatkan | 4.750.000,00 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN APILL TENAGA SURYA

(TERMASUK COUNTER, SISTEM WIRELESS, RAMBU, & MARKA)

Pengadaan Bahan

| | | | | | |
|-----|---------------------------------------|----|--------|------------|------------|
| 1. | Controller Induk | 1 | Unit | 17.000.000 | 17.000.000 |
| 2. | Controller Pembantu | 8 | Unit | 9.095.625 | 72.765.000 |
| 3. | Panel Solarcell 50 Watt/12 Volt | 12 | Buah | 6.063.750 | 72.765.000 |
| 4. | Battery MF 12 Volt/42 AH | 12 | Buah | 2.425.500 | 29.106.000 |
| 5. | Lampu Isyarat 3 Asp Ø 20 cm LED Lokal | 10 | Set | 8.000.000 | 80.000.000 |
| 6. | Tiang Lengkung | 2 | Batang | 3.415.573 | 6.831.145 |
| 7. | Tiang Lurus | 6 | Batang | 1.900.000 | 11.400.000 |
| 8. | Patok Pengaman | 12 | Buah | 310.678 | 3.728.131 |
| 9. | Rambu dengan tiang | 4 | Buah | 1.100.000 | 4.400.000 |
| 10. | Display Hitung Mundur | 2 | Unit | 15.500.000 | 31.000.000 |

Pemasangan

| | | | | | |
|----|---|------|----|-------------------|--------------------|
| 1. | Galian | 8 | M' | 62.562 | 500.492 |
| 2. | Pengecoran Tiang Lengkung 0,3 M ³ | 0,6 | M3 | 1.138.556 | 683.133 |
| 3. | Pengecoran Tiang lurus 0,15 M ³ | 0,9 | M3 | 1.138.556 | 1.024.700 |
| 4. | Pengecoran Patok Pengaman 0,06 M ³ | 1,44 | M3 | 1.138.556 | 1.639.520 |
| 5. | Pengecatan Tiang Lengkung 2,2 M ² | 4,4 | M2 | 81.415 | 358.227 |
| 6. | Pengecatan Tiang Lurus 1 M ² | 6 | M2 | 81.415 | 488.491 |
| 7. | Pengecatan Patok Pengaman 0,3 M ² | 7,2 | M2 | 81.415 | 586.189 |
| 8. | Pengecatan marka jalan | 50 | M2 | 63.955 | 3.197.758 |
| | | | | JUMLAH | 337.473.787 |
| | | | | Dibulatkan | 340.300.000 |

PENGADAAN & PEMASANGAN APILL TENAGA SURYA SIMPANG 3

(TERMASUK COUNTER, SISTEM WIRELESS, RAMBU, & MARKA)

Pengadaan Bahan

| | | | | | |
|-----|---------------------------------------|----|--------|------------|------------|
| 1. | Controller Induk | 1 | Unit | 17.000.000 | 17.000.000 |
| 2. | Controller Pembantu | 6 | Unit | 9.095.625 | 54.573.750 |
| 3. | Panel Solarcell 50 Watt/12 Volt | 12 | Buah | 6.063.750 | 72.765.000 |
| 4. | Battery MF 12 Volt/42 AH | 12 | Buah | 2.425.500 | 29.106.000 |
| 5. | Lampu Isyarat 3 Asp Ø 20 cm LED Lokal | 9 | Set | 8.000.000 | 72.000.000 |
| 6. | Tiang Lengkung | 3 | Batang | 3.415.573 | 10.246.718 |
| 7. | Tiang Lurus | 3 | Batang | 1.900.000 | 5.700.000 |
| 8. | Patok Pengaman | 9 | Buah | 310.678 | 2.796.098 |
| 9. | Rambu dengan tiang | 3 | Buah | 1.100.000 | 3.300.000 |
| 10. | Display Hitung Mundur | 3 | Unit | 15.500.000 | 46.500.000 |

Pemasangan

| | | | | | |
|----|---|------|----|-------------------|--------------------|
| 1. | Galian | 8 | M' | 62.562 | 500.492 |
| 2. | Pengecoran Tiang Lengkung 0,3 M ³ | 0,6 | M3 | 1.138.556 | 683.133 |
| 3. | Pengecoran Tiang lurus 0,15 M ³ | 0,9 | M3 | 1.138.556 | 1.024.700 |
| 4. | Pengecoran Patok Pengaman 0,06 M ³ | 1,44 | M3 | 1.138.556 | 1.639.520 |
| 5. | Pengecatan Tiang Lengkung 2,2 M ² | 4,4 | M2 | 81.415 | 358.227 |
| 6. | Pengecatan Tiang Lurus 1 M ² | 6 | M2 | 81.415 | 488.491 |
| 7. | Pengecatan Patok Pengaman 0,3 M ² | 7,2 | M2 | 81.415 | 586.189 |
| 8. | Pengecatan marka jalan | 50 | M2 | 63.955 | 3.197.758 |
| | | | | JUMLAH | 322.466.076 |
| | | | | Dibulatkan | 325.300.000 |

RENCANA ANGGARAN BIAYA

PENGADAAN & PEMASANGAN LPJU KONVENSIONAL

Pengadaan Bahan

| | | | | |
|--|---|------|-----------|-----------|
| 1. Lampu Jalan Mercury 250 W | 1 | Unit | 3.800.000 | 3.800.000 |
| 2. Tiang lampu jalan Oktagonal tinggi 9 mtr Single Arm | 1 | Unit | 8.500.000 | 8.500.000 |
| 3. Sambungan PLN | 1 | Buah | 2.200.000 | 2.200.000 |

Pemasangan

| | | | | |
|----------------------------|---|------|-------------------|-------------------|
| 1. Pengecoran Tiang | 1 | Buah | 312.647 | 312.647 |
| 2. Pasang dan stel lampu | 1 | Set | 30.000 | 30.000 |
| 3. Ongkos angkut ke Lokasi | 1 | Buah | 36.051 | 36.051 |
| | | | JUMLAH | 14.878.699 |
| | | | Dibulatkan | 16.000.000 |

PENGADAAN & PEMASANGAN LPJU SOLAR CELL

PEKERJAAN PENGADAAN

| | | | | |
|---|------|-----|--|-----------|
| 1. Lampu Jalan LED Ceramic 40 Watt 32 Volt, berikut Kabel NYAF 2 x 1,5 mm ² | 1,00 | set | | 7.000.000 |
| 2. Tiang lampu jalan Oktagonal tinggi 9 mtr Single Arm + dudukan solar panel | 1,00 | set | | 8.500.000 |
| 3. Box Baterai | 1,00 | set | | 2.300.000 |
| 4. Solar Cell daya 150 Wp 36 V DC, berikut Kabel NYAF 2 x 6 mm ² | 1,00 | Set | | 9.800.000 |
| 5. Pengisi Baterai (Battery Charger) 10 Amp 36 V DC, berikut Sun Switch | 1,00 | set | | 3.000.000 |
| 6. Baterai jenis VRLA Deep Cycle PV kap 50 Ah 12V, berikut Kabel NYAF 2 x 6 mm ² | 3,00 | Set | | 2.500.000 |
| 7. Patok pengaman (deliniator) + pemasangan | 3,00 | Set | | 932.033 |

KONSTRUKSI PEMASANGAN

| | | | | |
|---|------|------|-------------------|-------------------|
| 1. Pengecoran tiang | 1,00 | buah | | 312.647 |
| 2. Pasang dan stel lampu LED | 1,00 | set | | 30.000 |
| 3. Pemasangan Solar Cell daya 100 Wp 36 V DC, berikut Kabel NYAF 2 x 6 mm ² | 1,00 | set | | 35.000 |
| 4. Pemasangan Baterai VRLA Deep Cycle PV Kap 50 Ah 12 V beserta Kabel NYAF 2 x 6 mm ² dan rumah baterai | 1,00 | set | | 35.000 |
| 5. Ongkos angkut ke Lokasi | 1,00 | buah | | 36.051 |
| | | | JUMLAH | 34.480.732 |
| | | | Dibulatkan | 34.500.000 |

REKAP KEGIATAN

| NO. | URAIAN KEGIATAN | JUMLAH |
|---|---|------------------|
| REKAPITULASI RENCANA ANGGARAN BIAYA PEMBANGUNAN DERMAGA PENYEBERANGAN | | |
| I. | PEKERJAAN PERSIAPAN | 1.539.529.752,05 |
| II. | KONSTRUKSI CAUSEWAY (1 M2, BETON K-175) | 4.777.687,83 |
| III. | KONSTRUKSI TRESTLE (1 M2, BETON BERTULANG K-225) | 8.297.652,99 |
| IV. | DUDUKAN TRESTLE / ABUTMENT (1 BUAH, BETON BERTULANG K-225) | 520.866.039,41 |
| V. | DUDUKAN MOVABLE BRIDGE (1 BUAH, BETON BERTULANG K-225) | 2.843.363.925,39 |
| VI. | MOORING DOLPHIN (1 BUAH, BETON BERTULANG K-225) | 1.003.807.342,51 |
| VII. | BREASTING DOLPHIN (1 BUAH, BETON BERTULANG K-225) | 2.786.377.225,40 |
| VIII. | KONSTRUKSI DUDUKAN HIDROLIK (1 BUAH, BETON BERTULANG K-225) | 1.250.253.106,21 |
| IX. | KONSTRUKSI PELINDUNG MB (1 BUAH, BETON BERTULANG K-225) | 639.887.041,35 |
| X. | CATWALK (1 M2, BETON BERTULANG K-225) | 3.812.319,11 |
| XI. | KONSTRUKSI DUDUKAN & RUANG KONTROL (1 BUAH, BETON BERTULANG K-225) | 456.930.562,04 |
| XII. | RUMAH KONTROL (1 M2, BETON BERTULANG K-225) | 8.075.401,23 |
| XIII. | PEMBUATAN JALAN & LAPANGAN PENETRASI DENGAN KOLAKAN (1M3, UNTUK TEBAL 7 CM) | 9.289.767,77 |
| XIV. | PEMBANGUNAN MOVALBE BRIDGE (1 M2) | 31.936.136,75 |
| XV. | HYDRAULIK | 5.739.491.389,88 |
| XVI. | LAMPU PENERANGAN | 303.688.795,62 |
| REKAPITULASI RENCANA ANGGARAN BIAYA PEMBANGUNAN DERMAGA SUNGAI DAN DANAU | | |
| I. | PEMBUATAN DERMAGA KAYU ULIN TIANG PANCANG 15 M (1 M2) | 13.776.135,47 |
| II. | PEMBUATAN BAJA PONTON (1 M2) | 6.141.847,45 |
| III. | PEMBUATAN JEMBATAN DERMAGA KAYU KAMPER (1 M2) | 9.196.763,93 |
| IV. | PEKERJAAN TURAP KAYU (TINGGI 4 M) / SIRING 80 M (1 M2) | 10.601.127,49 |
| V. | PEMBUATAN FENDER SUNGAI (FABRICATION) | 4.559.698,00 |
| VI. | PEMBUATAN DERMAGA DAN TRESTEL KAYU BESI (1 M2) | 13.776.135,47 |
| VII. | PEMBUATAN RUANG TUNGGU (1 M2) | 1.805.020,45 |
| VIII. | PEMBUATAN DERMAGA PENDARATAN SUNGAI/DANAU | 122.314.049,72 |
| IX. | PEMBUATAN DERMAGA BETON (1 BUAH, UNTUK d = 2 M) | 8.153.111,10 |
| X. | PEKERJAAN TALUD KAYU/PENAHAN (1 M2) | 13.247.900,99 |
| REKAPITULASI RENCANA ANGGARAN BIAYA PENGAMANAN ALUR PELAYARAN | | |
| Alternatif 1 | | |
| I. | UKURAN 100 x 140 CM | 4.281.091,95 |
| II. | UKURAN 100 x 100 CM | 3.641.091,95 |
| Alternatif 2 | | |
| I. | UKURAN 100 x 140 CM | 4.247.948,21 |
| II. | UKURAN 100 x 100 CM | 3.585.975,59 |

Harga Satuan Alat

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---------------------------------------|--------|------|-------------|
| 1 | Alat bantu pembesian, bekisting | 1 | ls | 26.750 |
| 2 | Alat bantu cor beton | 1 | ls | 58.850 |
| 3 | Alat bantu beton di laut | 1 | ls | 77.040 |
| 4 | Alat bantu pemotongan tiang pancang | 1 | ls | 19.795 |
| 5 | Alat bantu penutup tiang pancang | 1 | ls | 64.200 |
| 6 | Alat bantu sepatu tiang pancang | 1 | ls | 16.050 |
| 7 | Alat bantu pengecatan tiang pancang | 1 | ls | 30.388 |
| 8 | Alat bantu pemasangan geotextile | 1 | ls | 58.850 |
| 9 | Alat bantu penyambungan tiang pancang | 1 | ls | 64.200 |
| 10 | Alat bantu timbunan | 1 | ls | 3.638 |
| 11 | Alat bantu pengaspalan per 100 m2 | 1 | ls | 323.568 |
| 12 | Alat bantu galian tanah | 1 | buah | 11.235 |
| 13 | Alat bantu pengelasan/pemotongan | 1 | ls | 18.725 |
| 14 | Crane 25 ton | 1 | hari | 3.210.000 |
| 15 | Crane 30 ton | 1 | hari | 4.280.000 |
| 17 | Concrete mixer | 1 | jam | 58.850 |
| 18 | Concrete thriller | 1 | jam | 58.850 |
| 19 | Concrete pump | 1 | hari | 3.210.000 |
| 20 | Dumptruck | 1 | hari | 1.835.799 |
| 21 | Generator set | 1 | hari | 2.182.800 |
| 22 | Kamera | 1 | hari | 2.140.000 |
| 23 | Konstruksi penyangga begisting | 1 | ls | 1.951.413 |
| 24 | Loader | 1 | hari | 8.132.000 |
| 25 | Mesin las karbit | 1 | hari | 656.766 |
| 26 | Mesin las listrik dan perlengkapan | 1 | hari | 749.000 |
| 27 | Mesin gilas | 1 | hari | 10.700.000 |
| 28 | Mesin las listrik dan perlengkapan | 1 | hari | 722.250 |
| 29 | Motor Grader | 1 | jam | 21.614 |
| 30 | Motor Johnson 40 PK | 1 | hari | 214.268 |
| 31 | Mobilisasi dan demobilisasi | 1 | ls | 401.785.000 |
| 32 | Mobilisasi/demobilisasi rambu | 1 | ls | 46.010 |
| 33 | Meja & mesin gambar + peralatannya | 1 | unit | 3.210.000 |
| 34 | Ponton pancang | 1 | hari | 7.704.000 |
| 35 | Ponton transport | 1 | hari | 5.350.000 |
| 36 | Pompa air | 1 | unit | 66.340 |
| 37 | Panel control | 1 | unit | 18.394.049 |
| 38 | Pembersihan lokasi | 1 | ls | 34.668 |
| 39 | Sewa diesel hammer | 1 | hari | 2.773.440 |
| 40 | Sewa Bulldozer | 1 | jam | 749.000 |
| 41 | Sewa compressor | 1 | jam | 107.000 |
| 42 | Sewa crawel crane | 1 | hari | 2.889.000 |
| 43 | Sewa grader | 1 | hari | 1.617.733 |
| 44 | Sewa stamper | 1 | hari | 210.897 |
| 45 | Sewa beton molen | 1 | hari | 154.080 |
| 46 | Sewa Asphalt Sprayer | 1 | jam | 50.025 |
| 47 | Sewa tandem roller | 1 | hari | 367.866 |
| 48 | Sewa Echosounder | 1 | hari | 267.500 |
| 49 | Sewa Vibrator Roller | 1 | jam | 160.500 |
| 50 | Sewa Stamper berikut operator | 1 | hari | 822.563 |
| 51 | Sewa hidrolis hammer | 1 | hari | 4.622.400 |
| 52 | Theodolite | 1 | hari | 298.102 |
| 53 | Tug boat | 1 | jam | 3.852.000 |
| 54 | Waterpass | 1 | hari | 208.222 |

Harga Satuan Upah

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---------------------------------------|--------|-----|-----------|
| | | | | |
| 1 | Juru Gambar | 1 | oh | 73.563 |
| 2 | Juru ukur | 1 | oh | 80.250 |
| 3 | Kepala tukang | 1 | oh | 102.427 |
| 4 | Mandor | 1 | oh | 115.877 |
| 5 | Mekanik | 1 | oh | 80.250 |
| 6 | Operator | 1 | oh | 88.965 |
| 7 | Pekerja | 1 | oh | 75.528 |
| 8 | Pembantu operator | 1 | oh | 88.965 |
| 9 | Pembantu surveyor | 1 | oh | 88.965 |
| 10 | Pembantu tukang | 1 | oh | 53.500 |
| 11 | Pengawas | 1 | oh | 115.877 |
| 12 | Satpam | 1 | oh | 53.500 |
| 13 | Surveyor | 1 | oh | 102.427 |
| 14 | Tukang | 1 | oh | 88.953 |
| 15 | Tukang batu | 1 | oh | 88.965 |
| 16 | Tukang besi | 1 | oh | 88.965 |
| 17 | Tukang cat | 1 | oh | 88.965 |
| 18 | Tukang kayu | 1 | oh | 88.965 |
| 19 | Tukang las | 1 | oh | 88.965 |
| 20 | Tukang las penyambungan tiang pancang | 1 | oh | 73.563 |
| 21 | Tukang pancang | 1 | oh | 71.262 |
| 22 | Operator pancang | 1 | oh | 160.500 |
| 23 | Operator alat berat | 1 | oh | 107.000 |
| 24 | Trial erection | 1 | kg | 1.011 |
| 25 | Erection | 1 | kg | 2.140 |
| 26 | Erection | 1 | ton | 2.140.000 |
| 27 | Galvanisasi baja | 1 | kg | 8.828 |
| 28 | Sandblasting Sa 2,5 | 1 | m2 | 96.300 |
| 29 | Penyelam | 1 | oh | 187.250 |
| 30 | Tukang Aspal | 1 | oh | 88.953 |
| 31 | Tukang Bongkar cetakan beton / siram | 1 | oh | 69.550 |
| 32 | Tukang jaga | 1 | oh | 69.550 |
| 33 | Masinis | 1 | oh | 69.550 |
| 34 | Penjaga api | 1 | oh | 69.550 |
| 35 | Pembantu tukang las | 1 | oh | 69.550 |
| 36 | Kepala Tukang Las | 1 | oh | 102.427 |
| 37 | Upah pemasangan pagar BRC | 1 | oh | 69.550 |
| 38 | Tukang Gali | 1 | oh | 88.965 |
| 39 | Kepala Tukang Batu | 1 | oh | 102.427 |
| 40 | Kepala Tukang Kayu | 1 | oh | 102.427 |
| 41 | Kepala Tukang Besi | 1 | oh | 102.427 |
| 42 | Kepala Tukang Cat | 1 | oh | 102.427 |
| 43 | Instalator | 1 | oh | 102.427 |
| 44 | Pembantu Instalator | 1 | oh | 88.953 |
| 45 | Tukang Babat Rumput | 1 | oh | 75.528 |
| 46 | Kepala Tukang Pasang Pipa/Leding | 1 | oh | 88.965 |
| 47 | Tukang Pasang Pipa/Leding | 1 | oh | 75.528 |

Harga Satuan Bahan

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---|--------|--------|------------|
| | | | | |
| 1 | Additive | 1 | Ltr | 46.438 |
| 2 | Admixture | 1 | Ltr | 20.416 |
| 3 | Acetelin | 1 | tabung | 143.969 |
| 4 | Air | 1 | m3 | 4.494 |
| 5 | Album | 1 | set | 64.200 |
| 6 | Angkur | 1 | buah | 8.239 |
| 7 | Angkur diameter 25 mm | 1 | buah | 37.450 |
| 8 | Angkur diameter 32 mm | 1 | buah | 47.936 |
| 9 | Angkur diameter 50 mm (stainless) | 1 | buah | 2.522.055 |
| 10 | Angkur dudukan engsel MB | 1 | unit | 2.491.816 |
| 11 | Angkur dudukan tiang listrik | 1 | buah | 311.584 |
| 12 | Angkur plat landasan catwalk | 1 | buah | 242.997 |
| 13 | Angkur portal baja penggantung hidrolik | 1 | buah | 17.170.825 |
| 14 | Aspal AC 60-70 | 1 | kg | 6.297 |
| 15 | Baja profil/plat | 1 | kg | 12.316 |
| 16 | Bak air fibreglass uk. 60x60x70 | 1 | buah | 968.457 |
| 17 | Balok jangkar 5/10 cm | 1 | m3 | 2.477.264 |
| 18 | Balok kayu klas I | 1 | m3 | 7.490.000 |
| 19 | Balok kayu klas II | 1 | m3 | 5.650.082 |
| 20 | Balok kayu Lanan | 1 | m3 | 5.761.950 |
| 21 | Balok kayu Ulin | 1 | m3 | 6.976.935 |
| 22 | Balok pengaman 10 x 10 cm | 1 | m3 | 12.560.516 |
| 23 | Balok pengaman 20 x 20 cm | 1 | m3 | 12.560.516 |
| 24 | Bambu 5-10cm Pjg. 6m | 1 | batang | 15.943 |
| 25 | Batang Kelapa | 1 | m | 21.400 |
| 26 | Batu pecah 3/5 | 1 | m3 | 142.043 |
| 27 | Besi Siku penahan tulangan (pengelasan dlm air) | 1 | set | 166.278 |
| 28 | Beton isi tiang | 1 | m3 | 7.321.176 |
| 29 | Ban bekas | 1 | buah | 156.969 |
| 30 | Batu belah | 1 | m3 | 68.052 |
| 31 | Batu Gunung/kali | 1 | m3 | 187.250 |
| 32 | Batu pecah/split 1/2 | 1 | m3 | 235.935 |
| 33 | Batu pecah/split 2/3 | 1 | m3 | 203.033 |
| 34 | Batu bata merah press mesin | 1 | buah | 455 |
| 35 | Batu bata merah 20x9.5x4 cm uk. Kecil (proses tangan) | 1 | buah | 348 |
| 36 | Batu tela/batako/batu pres | 1 | buah | 2.648 |
| 37 | Baut 3/8" Panjang 20 cm | 1 | buah | 13.803 |
| 38 | Baut 3/8" Panjang 35 cm | 1 | buah | 16.692 |
| 39 | Baut 5/8" Panjang 20 cm | 1 | buah | 17.762 |
| 40 | Baut 5/8" Panjang 30 cm | 1 | buah | 23.112 |
| 41 | Baut 5/8" Panjang 35 cm | 1 | buah | 30.816 |
| 42 | Baut 5/8" Panjang 40 cm | 1 | buah | 35.524 |
| 43 | Baut 5/8" Panjang 45 cm | 1 | buah | 41.516 |
| 44 | Baut dia 10 mm | 1 | buah | 6.313 |
| 45 | Baut dia 5 mm | 1 | buah | 3.959 |
| 46 | Besi beton | 1 | kg | 9.363 |
| 47 | Besi beton ulir | 1 | kg | 9.416 |
| 48 | Besi plat | 1 | kg | 11.877 |
| 49 | Profil Besi | 1 | kg | 13.375 |
| 50 | Besi strip | 1 | kg | 11.877 |
| 51 | Beton bertulang untuk sloof | 1 | m3 | 7.578.917 |
| 52 | Beton bertulang untuk kolom praktis | 1 | m3 | 7.578.917 |
| 53 | Beton bertulang untuk ring balok | 1 | m3 | 7.578.917 |
| 54 | Beton bertulang untuk meja loket | 1 | m3 | 7.578.917 |
| 55 | Bollard/Bolder kapasitas 25 ton | 1 | buah | 24.824.000 |

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---|--------|--------|-------------|
| 56 | Bollard/Bolder kapasitas 15 ton | 1 | buah | 15.408.000 |
| 57 | Bollard/Bolder kapasitas 30 ton | 1 | buah | 30.281.000 |
| 58 | Bollard/Bolder kapasitas 35 ton | 1 | buah | 34.804.960 |
| 59 | Bollard/Bolder kapasitas 70 ton | 1 | buah | 59.385.000 |
| 60 | Bondex | 1 | m2 | 430.782 |
| 61 | Bubungan seng | 1 | buah | 48.364 |
| 62 | Cat anti karat | 1 | kg | 99.457 |
| 63 | Cat kilap | 1 | kg | 46.759 |
| 64 | Cat menie besi | 1 | kg | 12.800 |
| 65 | Cat menie kayu | 1 | kg | 12.428 |
| 66 | Cat preimer (marka) | 1 | kg | 219.671 |
| 67 | Cat tembok | 1 | kg | 50.290 |
| 68 | Conblock/ Paving Block | 1 | bh | 2.675 |
| 69 | Cat besi | 1 | Kg | 19.871 |
| 70 | Cable trench | 1 | m | 69.550 |
| 71 | Closet jongkok | 1 | buah | 766.655 |
| 72 | Cetakan beton | 1 | m2 | 224.189 |
| 73 | Cleat | 1 | buah | 252.253 |
| 74 | Daun rambu aluminium 2 mm dg. Reflektive sheeting | 1 | m2 | 1.605.000 |
| 75 | Dempul | 1 | kg | 35.230 |
| 76 | Dokumentasi rambu | 1 | ls | 13.696 |
| 77 | Densopole | 1 | rol | 221.758 |
| 78 | Densopaste | 1 | tube | 150.442 |
| 79 | Densotape | 1 | rol | 180.349 |
| 80 | Dolken dia.8 cm, pjg. 4m | 1 | batang | 20.116 |
| 81 | Engsel moveable bridge | 1 | unit | 28.960.834 |
| 82 | Engsel pintu dan jendela | 1 | buah | 30.495 |
| 83 | Fender karet type SM800, L 1500 | 1 | buah | 34.240.000 |
| 84 | Fender karet type Cell-400 | 1 | buah | 27.897.682 |
| 85 | Fender karet type Cell-500 | 1 | buah | 30.687.386 |
| 86 | Fender karet type Cell-600 | 1 | buah | 32.547.260 |
| 87 | Fender karet type Cell-800 | 1 | buah | 37.196.838 |
| 88 | Fender karet type V.250 - 1000L | 1 | buah | 25.814.419 |
| 89 | Fender karet type V.250 - 1500L | 1 | buah | 27.706.313 |
| 90 | Fender karet type V.250 - 2000L | 1 | buah | 30.859.469 |
| 91 | Fender karet type V.500 - L1500 | 1 | buah | 30.687.386 |
| 92 | Fender karet type V.500 - L2000 | 1 | buah | 35.337.071 |
| 93 | Fender karet type V.500 - L2500 | 1 | buah | 39.800.683 |
| 94 | Fender karet type V.600 - L1500 | 1 | buah | 34.240.000 |
| 95 | Film | 1 | rol | 38.520 |
| 96 | Fibre mesh | 1 | Kg | 126.126 |
| 97 | Galian tanah biasa | 1 | ls | 33.799 |
| 98 | Gelagar kayu kamper klas I 10 x 10 cm | 1 | m3 | 12.560.516 |
| 99 | Gelagar kayu ulin 20 x 20 cm | 1 | m3 | 12.560.516 |
| 100 | Gapit/kalang 10 x 10 cm | 1 | m3 | 12.560.516 |
| 101 | Gapit/kalang 20 x 20 cm | 1 | m3 | 12.560.516 |
| 102 | Gapit kayu galam D. 6-4 m | 1 | batang | 107.107 |
| 103 | Gapit kayu ulin d. 10 - 6 m | 1 | batang | 601.126 |
| 104 | Generator set kapasitas 25 kVA | 1 | unit | 250.610.906 |
| 105 | Geotextile/filter cloth | 1 | m2 | 41.730 |
| 106 | Grease | 1 | kg | 25.616 |
| 107 | Grendel | 1 | buah | 17.655 |
| 108 | Hak angin | 1 | buah | 31.137 |
| 109 | Ijuk | 1 | kg | 10.379 |
| 110 | IWF | 1 | kg | 15.836 |
| 111 | Kamera | 1 | bh | 1.926.000 |
| 112 | Kabel dan lampu | 1 | ls | 1.284.000 |

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---|--------|--------|------------|
| 113 | Kaca bening tebal 5 mm | 1 | m2 | 95.273 |
| 114 | Kaca reyban tebal 5 mm | 1 | m2 | 141.301 |
| 115 | Karbit | 1 | kg | 17.174 |
| 116 | Kawat baja / Binraad | 1 | kg | 12.840 |
| 117 | Kawat las / Electrode | 1 | kg | 30.046 |
| 118 | Kawat las | 1 | Kg | 25.680 |
| 119 | Karung Plastik | 1 | lembar | 1.846 |
| 120 | Karet seal | 1 | kg | 57.780 |
| 121 | Kayu bakar | 1 | m3 | 44.405 |
| 122 | Kayu bulat dia. 10-15 cm Panjang 4 m | 1 | batang | 1.947.400 |
| 123 | Kayu galam d. 10 cm x 6 m | 1 | batang | 142.203 |
| 124 | Kayu lanan klas II (Perancah/bekesting) | 1 | batang | 2.942.500 |
| 125 | Kayu lanan klas III (Perancah/bekisting) | 1 | m3 | 1.832.696 |
| 126 | Kayu Kls. III | 1 | m3 | 2.942.500 |
| 127 | Kayu ulin d. 10 - 6 m | 1 | batang | 70.620 |
| 128 | Kerikil | 1 | m3 | 197.950 |
| 129 | Kertas amplas | 1 | lembar | 7.330 |
| 130 | Kertas A3 | 1 | rim | 83.460 |
| 131 | Kertas A4 | 1 | rim | 44.940 |
| 132 | Kertas kalkir | 1 | rol | 224.700 |
| 133 | Kuas | 1 | bh | 17.842 |
| 134 | Kunci ACE untuk KM/WC | 1 | buah | 43.656 |
| 135 | Kunci tanam | 1 | buah | 57.245 |
| 136 | Lantai precast | 1 | m3 | 5.205.098 |
| 137 | Multiplex 18 mm | 1 | lembar | 305.388 |
| 138 | Minyak Aspal | 1 | liter | 2.274 |
| 139 | L Bars/Stek tiang pancang/Tulangan steak untuk tiang pancang dia.16 | 1 | buah | 1.069.672 |
| 140 | Non shrink grout (25 kg) | 1 | Kg | 160.500 |
| 141 | Lampu sorot 1000 watt | 1 | unit | 4.280.000 |
| 412 | Lampu TL 20 watt | 1 | unit | 122.194 |
| 143 | Lem kayu | 1 | kg | 51.146 |
| 144 | List profil | 1 | m | 7.704 |
| 145 | Minyak cat | 1 | liter | 20.063 |
| 146 | Oksigen | 1 | tabung | 291.789 |
| 147 | Oli | 1 | liter | 37.942 |
| 148 | Pagar BRC t=1,8 m + aksesoris | 1 | m | 445.388 |
| 149 | Paku | 1 | kg | 24.075 |
| 150 | Paku kayu | 1 | kg | 12.840 |
| 151 | Paku plywood | 1 | kg | 12.840 |
| 152 | Paku sirap | 1 | kg | 12.840 |
| 153 | Paku ulin | 1 | kg | 22.363 |
| 154 | Papan kayu klas I (Kamper Samarinda) | 1 | m3 | 6.120.989 |
| 155 | Papan kayu klas II (Kamper Singkil) | 1 | m3 | 6.273.410 |
| 156 | Papan kayu klas III (Meranti) | 1 | m3 | 3.698.134 |
| 157 | Papan kayu meranti | 1 | m3 | 4.329.220 |
| 158 | Papan kayu ulin | 1 | m3 | 11.348.474 |
| 159 | Papan kayu ulin 4 x 20 cm | 1 | m3 | 11.071.675 |
| 160 | Papan lanan | 1 | m3 | 5.939.356 |
| 161 | Papan untuk alas | 1 | buah | 2.354 |
| 162 | Pasir aspal/abu batu/screning | 1 | m3 | 207.580 |
| 163 | Pasir beton | 1 | m3 | 189.390 |
| 164 | Pasir pasang | 1 | m3 | 197.950 |
| 165 | Pasir untuk trotoir | 1 | m3 | 208.008 |
| 166 | Pasir urug | 1 | zak | 144.450 |
| 167 | Pembangunan ruang tunggu | 1 | m2 | 1.805.020 |
| 168 | Pembuatan fendeer (Fabrication) | 1 | buah | 4.559.698 |

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|---|--------|--------|-------------|
| 169 | Pengadaan plat rambu | 1 | m2 | 442.766 |
| 170 | Pipa baja | 1 | Kg | 18.725 |
| 171 | Pipa GSP D = 2,5", t = 3 mm | 1 | m' | 308.802 |
| 172 | Pipa PVC dia. 3/4" | 1 | buah | 44.512 |
| 173 | Pipa PVC dia. 4" | 1 | buah | 104.004 |
| 174 | Pipa railing dia. 2,5". Tebal 3 mm | 1 | m | 266.831 |
| 175 | Pipa paralon dia. 2" | 1 | batang | 60.321 |
| 176 | Plat baja | 1 | kg | 14.445 |
| 177 | Plat Baja strip | 1 | Kg | 14.445 |
| 178 | Plat baja landasan guide roller MB | 1 | kg | 14.445 |
| 179 | Plat baja penghubung MB keudukan MB | 1 | kg | 14.445 |
| 180 | Plat beugel Tebal 5 mm | 1 | buah | 14.445 |
| 181 | Plat ponton T. 12 mm Marine Plat | 1 | kg | 14.445 |
| 182 | Profil baja | 1 | kg | 14.445 |
| 183 | Plamur tembok (5 kg) | 1 | kg | 12.639 |
| 184 | Plamur kayu | 1 | kg | 22.497 |
| 185 | Plywood Tebal 3 mm | 1 | lembar | 90.415 |
| 186 | Plywood Tebal 5 mm | 1 | lembar | 123.585 |
| 187 | Portal penggantung hidrolik | 1 | buah | 161.386.281 |
| 188 | PPPK | 1 | ls | 642.000 |
| 189 | Profil baja dan plat penutup trench, angker | 1 | kg | 188.909 |
| 190 | Profil dan plat baja penutup cable trench | 1 | kg | 14.445 |
| 191 | Rabat beton 7 cm keliling bangunan dermaga | 1 | m3 | 55.747 |
| 192 | Rangka plat rambu | 1 | m3 | 2.410.924 |
| 193 | Rangka ponton L. 70.70.7 | 1 | kg | 13.589 |
| 194 | Rantai penahan | 1 | buah | 565.599 |
| 195 | Ring untuk sepatu tiang pancang | 1 | set | 258.191 |
| 196 | Saklar ganda | 1 | buah | 78.217 |
| 197 | Saklar tunggal | 1 | buah | 49.541 |
| 198 | Sekat ponton T. 10 mm | 1 | kg | 13.589 |
| 199 | Sekring kast 1 group | 1 | buah | 206.831 |
| 200 | Semen PC (50kg/zak) | 1 | zak | 69.550 |
| 201 | Seng bubungan BJLS 20" | 1 | lembar | 57.031 |
| 202 | Serat PolyProphyene | 1 | Kg | 117.352 |
| 203 | Sirap ulin | 1 | lembar | 1.284 |
| 204 | Sirtu | 1 | m3 | 173.340 |
| 205 | Sloof kayu kamper klas I 15 x 15 cm | 1 | m3 | 12.560.516 |
| 206 | Sloof kayu galam d. 10 - 6 m | 1 | batang | 601.340 |
| 207 | Sloof kayu ulin d. 10 - 6 m | 1 | batang | 601.340 |
| 208 | Sloof kayu ulin 20x 20 cm | 1 | m3 | 12.560.516 |
| 209 | Solar | 1 | liter | 7.180 |
| 210 | Spare part | 1 | ls | 56.817 |
| 211 | Split | 1 | m3 | 197.950 |
| 212 | Soda Api | 1 | kg | 42.136 |
| 213 | Tackle electric kapasitas 35 ton/unit | 1 | unit | 349.948.422 |
| 214 | Tanah urug | 1 | m3 | 34.775 |
| 215 | Tanah Timbunan | 1 | m3 | 34.775 |
| 216 | Tarikan jendela | 1 | buah | 6.313 |
| 217 | Ter | 1 | kg | 6.099 |
| 218 | Terpal untuk blokir air | 1 | set | 34.561 |
| 220 | Tiang kayu ulin 20/20 Panjang 15 M (induk) | 1 | batang | 6.538.342 |
| 221 | Tiang kayu ulin 20/20 Panjang 15 M (gapit) | 1 | batang | 6.777.722 |
| 222 | Tiang kayu ulin 20/20 Panjang 10 M (induk) | 1 | batang | 4.543.338 |
| 223 | Tiang kayu ulin 20/20 Panjang 12 M (gapit) | 1 | batang | 5.338.808 |
| 224 | Tiang kayu ulin 20/20 Panjang 5 M | 1 | batang | 2.259.198 |
| 225 | Tiang kayu ulin 15/15 Panjang 10 M | 1 | batang | 2.533.172 |
| 226 | Tiang kayu kamper 15/15 Panjang 8 M (gapit) | 1 | batang | 867.727 |

| No. | Uraian/kegiatan | Volume | | NILAI |
|-----|--|--------|--------|---------------|
| 227 | Tiang kayu kamper 15/15 Panjang 6 M (induk) | 1 | batang | 645.338 |
| 228 | Tiang rambu dan jangkar 10/10 cm | 1 | m3 | 5.629.163 |
| 229 | Tiang pancang pipa beton Pressters dia.50cm | 1 | m | 806.780 |
| 230 | Tiang pancang pipa baja | 1 | kg | 14.980 |
| 231 | Thinner | 1 | liter | 30.522 |
| 232 | Transpor material baja dari workshop ke site | 1 | ton | 1.605.000 |
| 233 | Triplek 6mm | 1 | lembar | 52.855 |
| 234 | Trench cover | 1 | kg | 17.470 |
| 235 | Pemadatan lapangan subgrade | 1 | m2 | 72.974 |
| 236 | Lap. Prime Coat AC 60/70 2,5 kg/m2 | 1 | m2 | 31.137 |
| 237 | Pembangunan Ruang Tunggu | 1 | m2 | 2.089.496 |
| 238 | Rumah kontrol | 1 | m2 | 2.410.924 |
| 239 | Polypropilene pad (tebal 5 cm) | 1 | m2 | 2.675.000 |
| 240 | Hydraulik Cylinder Type Celvis Mounting Ø = 180 mm | 2 | buah | 2.147.515.359 |
| 241 | Hydraulik power unit Type Foot Mounted 25 KW | 1 | buah | 869.450.135 |
| 242 | Panel listrik | 1 | buah | 48.685.000 |
| 243 | Pipa hydraulik Type Van Pump operation pressure max 140 kg/cm2 | 1 | set | 397.925.536 |
| 244 | Alarm Balancer | 1 | set | 21.400.000 |
| 245 | Pemasangan hydraulik cylinder, instalasi, pembersihan | 1 | ls | 107.000.000 |
| 246 | pipa dan oli untuk operasional, testing dan training | 1 | set | 397.925.536 |
| 247 | Instalasi penerangan | 300 | m' | 31.463 |
| 248 | Pengadaan pemasangan LPJU (solar cell) | 1 | bh | 37.450.000 |
| 249 | Pengadaan pemasangan LPJU (non solar cell) | 2 | bh | 16.050.000 |
| 250 | Box Panel penerangan | 1 | bh | 32.100.000 |

ANALISA HARGA SATUAN PEKERJAAN

| NO. | URAIAN KEGIATAN | VOLUME | HARGA SAT. | JUMLAH |
|--|---------------------------------|---------------|-------------------|---------------------|
| 1 M3 BETON K-175 TANPA TULANGAN | | | | |
| 1 | Semen PC (50 kg/zak) | 8,0000 zak | 69.550,00 | 556.400,00 |
| 2 | Batu Pecah 2/3 | 0,8000 m3 | 203.032,50 | 162.426,00 |
| 3 | Pasir beton | 0,4500 m3 | 189.390,00 | 85.225,50 |
| 4 | Air | 0,2000 m3 | 4.494,00 | 898,80 |
| 5 | Pekerja | 6,0000 oh | 75.528,09 | 453.168,54 |
| 6 | Mandor | 0,1000 oh | 115.876,72 | 11.587,67 |
| 7 | Tukang | 1,0000 oh | 88.953,38 | 88.953,38 |
| 8 | Kepala Tukang | 0,3000 oh | 102.426,82 | 30.728,05 |
| 9 | Concrete mixer | 1,2500 jam | 58.850,00 | 73.562,50 |
| 10 | Concrete thriller | 1,2500 jam | 58.850,00 | 73.562,50 |
| 11 | Sewa Compressor | 1,2500 jam | 107.000,00 | 133.750,00 |
| | | | Jumlah | 1.670.262,94 |
| 1 M3 K-225 TANPA TULANGAN | | | | |
| 1 | Semen PC (50 kg/zak) | 10,0000 zak | 69.550,00 | 695.500,00 |
| 2 | Batu Pecah 2/3 | 0,8000 m3 | 203.032,50 | 162.426,00 |
| 3 | Pasir beton | 0,4500 m3 | 189.390,00 | 85.225,50 |
| 4 | Air | 0,2150 m3 | 4.494,00 | 966,21 |
| 5 | Pekerja | 6,0000 oh | 75.528,09 | 453.168,54 |
| 6 | Mandor | 0,1000 oh | 115.876,72 | 11.587,67 |
| 7 | Tukang | 1,0000 oh | 88.953,38 | 88.953,38 |
| 8 | Kepala Tukang | 0,3000 oh | 102.426,82 | 30.728,05 |
| 9 | Concrete mixer | 1,2500 jam | 58.850,00 | 73.562,50 |
| 10 | Concrete thriller | 1,2500 jam | 58.850,00 | 73.562,50 |
| 11 | Sewa Compressor | 1,2500 jam | 107.000,00 | 133.750,00 |
| | | | Jumlah | 1.809.430,35 |
| 100 KG PEMBESIAN | | | | |
| 1 | Besi beton | 110,0000 kg | 9.362,50 | 1.029.875,00 |
| 2 | Kawat baja/Bindraad | 2,0000 kg | 12.840,00 | 25.680,00 |
| 3 | Pekerja | 6,0000 oh | 75.528,09 | 453.168,54 |
| 4 | Tukang besi | 3,0000 oh | 88.965,15 | 266.895,45 |
| 5 | Kepala tukang | 1,0000 oh | 102.426,82 | 102.426,82 |
| 6 | Mandor | 0,1000 oh | 115.876,72 | 11.587,67 |
| 7 | Alat bantu pembesian, bekisting | 1,0000 ls | 25.000,00 | 25.000,00 |
| | | | Jumlah | 1.914.633,48 |
| | | | Jumlah/kg | 19.146,33 |
| 10 M2 BEKISTING | | | | |
| 1 | Multiplex 18 mm | 4,0000 lembar | 305.387,63 | 1.221.550,52 |
| 2 | Paku | 4,0000 kg | 24.075,00 | 96.300,00 |
| 3 | Angkur plat landasan catwalk | 0,3000 buah | 242.997,00 | 72.899,10 |
| 4 | Pekerja | 6,0000 oh | 75.528,09 | 453.168,54 |
| 5 | Mandor | 0,1000 oh | 115.876,72 | 11.587,67 |
| 6 | Tukang | 5,0000 oh | 88.965,15 | 444.825,75 |
| 7 | Kepala tukang | 0,5000 oh | 102.426,82 | 51.213,41 |
| 8 | Konstruksi penyangga begisting | 1,0000 ls | 1.823.750,00 | 1.823.750,00 |
| 9 | Kayu Klas II | 0,2820 m3 | 2.750.000,00 | 775.500,00 |
| 10 | Alat bantu pembesian, bekisting | 1,0000 ls | 25.000,00 | 25.000,00 |
| | | | Jumlah | 4.975.794,99 |
| | | | Jumlah/m2 | 497.579,50 |

1 M3 PELAT BETON BERTULANG K-225 CATWALK

| | | | | | |
|---|----------------------|----------|----|---------------|---------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 3,3330 | m2 | 497.579,50 | 1.658.432,47 |
| 3 | Pembesian | 190,0000 | kg | 19.146,33 | 3.637.803,62 |
| 4 | Mandor | 0,0300 | oh | 115.876,72 | 3.476,30 |
| 5 | Tukang | 0,7500 | oh | 88.965,15 | 66.723,86 |
| 6 | Pekerja | 4,0000 | oh | 75.528,09 | 302.112,36 |
| 7 | Alat bantu cor beton | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 7.532.978,96 |

1 M3 BETON PENGISI TIANG PANCANG

| | | | | | |
|---|------------------------------|----------|------|---------------|---------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Pembesian | 260,8000 | kg | 19.146,33 | 4.993.364,12 |
| 3 | Mandor | 0,0250 | oh | 115.876,72 | 2.896,92 |
| 4 | Tukang | 0,0500 | oh | 88.965,15 | 4.448,26 |
| 5 | Tenaga kerja | 0,1250 | oh | 75.528,09 | 9.441,01 |
| 6 | Ponton Transport | 0,0250 | hari | 5.000.000,00 | 125.000,00 |
| 7 | Biaya Crawler Crane per Hari | 0,0250 | hari | 2.700.000,00 | 67.500,00 |
| 8 | Alat bantu beton di laut | 1,0000 | ls | 72.000,00 | 72.000,00 |
| | | | | Jumlah | 7.084.080,66 |

1 M3 BETON SELIMUT TIANG

| | | | | | |
|---|----------------------|----------|----|---------------|----------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 11,0000 | m2 | 497.579,50 | 5.473.374,49 |
| 3 | Pembesian | 200,0000 | kg | 19.146,33 | 3.829.266,96 |
| 4 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| 5 | Mandor | 0,0300 | oh | 115.876,72 | 3.476,30 |
| 6 | Tukang | 0,7500 | oh | 88.965,15 | 66.723,86 |
| 7 | Alat bantu cor beton | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 11.312.800,06 |

1 M3 BETON BERTULANG K-225 BALOK, TIANG RAILLING, CANSTEENS

| | | | | | |
|---|----------------------|----------|----|---------------|----------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 12,4000 | m2 | 497.579,50 | 6.169.985,79 |
| 3 | Pembesian | 220,0000 | kg | 19.146,33 | 4.212.193,66 |
| 4 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| 5 | Mandor | 0,0300 | oh | 115.876,72 | 3.476,30 |
| 6 | Tukang | 0,7500 | oh | 88.965,15 | 66.723,86 |
| 7 | Alat bantu cor beton | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 12.392.338,05 |

1 M3 BETON BERTULANG K-225 UNTUK BALOK DAN PILE CAP TRESTLE

| | | | | | |
|---|----------------------|----------|------|---------------|---------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 4,0000 | m2 | 497.579,50 | 1.990.318,00 |
| 3 | Pembesian | 230,0000 | kg | 19.146,33 | 4.403.657,01 |
| 4 | Angkur plat landasan | 0,2500 | buah | 227.100,00 | 56.775,00 |
| 5 | Mandor | 0,0250 | | 115.876,72 | 2.896,92 |
| 6 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| 7 | Alat bantu cor beton | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 8.393.605,36 |

1 M3 BETON BERTULANG K-225 UNTUK PELAT STRES

| | | | | | |
|---|----------------------|----------|------|---------------|---------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 4,0000 | m2 | 497.579,50 | 1.990.318,00 |
| 3 | Pembesian | 200,0000 | kg | 19.146,33 | 3.829.266,96 |
| 4 | Angkur plat landasan | 0,2500 | buah | 227.100,00 | 56.775,00 |
| 5 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| 6 | Alat bantu cor beton | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 7.816.318,40 |

**1 M3 BETON BERTULANG K-225 UNTUK DOLPHIN, DUDUKAN MB,
DUDUKAN TRESTLE, DUDUKAN HIDROLIK, PELINDUNG MB**

| | | | | | |
|---|--------------------------|----------|------|---------------|---------------------|
| 1 | Beton K-225 | 1,0000 | m3 | 1.809.430,35 | 1.809.430,35 |
| 2 | Bekisting | 5,0000 | m2 | 497.579,50 | 2.487.897,50 |
| 3 | Pembesian | 190,0000 | kg | 19.146,33 | 3.637.803,62 |
| 4 | Angkur plat landasan | 0,4000 | buah | 227.100,00 | 90.840,00 |
| 5 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| 6 | Mandor | 0,0300 | oh | 115.876,72 | 3.476,30 |
| 7 | Tukang | 0,7500 | oh | 88.965,15 | 66.723,86 |
| 8 | Alat bantu beton di laut | 1,0000 | ls | 72.000,00 | 72.000,00 |
| | | | | Jumlah | 8.243.699,71 |

PENGANGKUTAN 1 M TIANG PANCANG KE TITIK TIANG PANCANG

A. Biaya Crawl Crane per hari

| | | | | | |
|---|---------------------|----------|-------|---------------|---------------------|
| 1 | Operator alat berat | 1,0000 | oh | 100.000,00 | 100.000,00 |
| 2 | Pembantu operator | 2,0000 | oh | 83.145,00 | 166.290,00 |
| 3 | Oli | 5,0000 | liter | 35.460,00 | 177.300,00 |
| 4 | Solar | 250,0000 | liter | 6.710,00 | 1.677.500,00 |
| 5 | Grease | 2,0000 | kg | 23.940,00 | 47.880,00 |
| 6 | Crane | 1,0000 | hari | 3.000.000,00 | 3.000.000,00 |
| | | | | Jumlah | 5.168.970,00 |

B. Biaya ponton Transport per hari

| | | | | | |
|---|---------------------|----------|-------|---------------|---------------------|
| 1 | Operator alat berat | 1,0000 | oh | 100.000,00 | 100.000,00 |
| 2 | Pembantu operator | 2,0000 | oh | 83.145,00 | 166.290,00 |
| 3 | Pekerja | 10,0000 | oh | 75.528,09 | 755.280,90 |
| 4 | Oli | 5,0000 | liter | 35.460,00 | 177.300,00 |
| 5 | Solar | 200,0000 | liter | 6.710,00 | 1.342.000,00 |
| 6 | Grease | 2,0000 | kg | 23.940,00 | 47.880,00 |
| 7 | Ponton transport | 1,0000 | hari | 5.000.000,00 | 5.000.000,00 |
| 8 | Motor Johnson 40 PK | 0,0080 | hari | 200.250,00 | 1.602,00 |
| | | | | Jumlah | 7.590.352,90 |

Dalam sehari dapat diangkut tiang pancang sepanjang (L1) :

10 batang x panjang (12 m) = 120,0000 m

Biaya transport tiang pancang per meter = (A+B)/L1 106.327,69

PEMANCANGAN 1 TITIK TIANG PANCANG

C. Biaya Diesel Hammer

| | | | | | |
|---|---------------------|----------|-------|---------------|---------------------|
| 1 | Operator alat berat | 1,0000 | oh | 100.000,00 | 100.000,00 |
| 2 | Pembantu operator | 2,0000 | oh | 83.145,00 | 166.290,00 |
| 3 | Pekerja | 3,0000 | oh | 75.528,09 | 226.584,27 |
| 4 | Oli | 4,0000 | liter | 35.460,00 | 141.840,00 |
| 5 | Solar | 200,0000 | liter | 6.710,00 | 1.342.000,00 |
| 6 | Grease | 2,0000 | kg | 23.940,00 | 47.880,00 |
| 7 | Sewa diesel hammer | 1,0000 | hari | 2.592.000,00 | 2.592.000,00 |
| | | | | Jumlah | 4.616.594,27 |

D. Biaya Ponton Pancang

| | | | | | |
|----|-------------------|----------|-------|---------------|---------------------|
| 1. | Operator pancang | 1,0000 | oh | 150.000,00 | 150.000,00 |
| 2. | Pembantu operator | 2,0000 | oh | 83.145,00 | 166.290,00 |
| 3. | Tukang pancang | 10,0000 | oh | 66.600,00 | 666.000,00 |
| 4. | Oli | 4,0000 | liter | 35.460,00 | 141.840,00 |
| 5. | Solar | 100,0000 | liter | 6.710,00 | 671.000,00 |
| 6. | Grease | 2,0000 | kg | 23.940,00 | 47.880,00 |
| 7. | Ponton pancang | 1,0000 | hari | 7.200.000,00 | 7.200.000,00 |
| | | | | Jumlah | 9.043.010,00 |

- TIANG TEGAK

Sehari dapat dipancang tiang tegak sepanjang (L2) :

2,5 batang x panjang (12 m) = 30,0000 m

Harga pemancangan tiang tegak per meter = (C+D)/L2 + (A+B)/L1 561.647,83

- TIANG MIRING

Sehari dapat dipancang tiang miring sepanjang (L3) :

2 batang x panjang (12 m) = 24,0000 m

Harga pemancangan tiang tegak per meter = (C+D)/L2 + (A+B)/L1 675.477,87

PEMOTONGAN TIANG PANCANG

| | | | | |
|---|------------------------------------|---------------|---------------|-------------------|
| 1 | Oxygen | 0,5000 tabung | 272.700,00 | 136.350,00 |
| 2 | Acetelin | 0,3000 kg | 134.550,00 | 40.365,00 |
| 3 | Karbit | 1,0000 kg | 16.050,00 | 16.050,00 |
| 4 | Tukang las | 0,4500 oh | 83.145,00 | 37.415,25 |
| 5 | Mandor | 0,1000 oh | 108.296,00 | 10.829,60 |
| 6 | Pekerja | 0,7500 oh | 70.587,00 | 52.940,25 |
| 7 | Mesin las listrik dan perlengkapan | 0,2500 hari | 675.000,00 | 168.750,00 |
| 8 | Biaya ponton | 0,0250 hari | 7.590.352,90 | 189.758,82 |
| 9 | Alat bantu cor beton | 1,0000 ls | 55.000,00 | 55.000,00 |
| | | | Jumlah | 707.458,92 |

PENYAMBUNGAN TIANG PANCANG

| | | | | |
|---|-------------------------------------|-------------|---------------|-------------------|
| 1 | Kawat las/Electrode | 10,0000 kg | 30.045,60 | 300.456,00 |
| 2 | Plat baja | 6,0000 kg | 14.445,00 | 86.670,00 |
| 3 | Tukang las | 0,3000 oh | 83.145,00 | 24.943,50 |
| 4 | Mandor | 0,0500 oh | 108.296,00 | 5.414,80 |
| 5 | Pekerja | 0,6000 oh | 70.587,00 | 42.352,20 |
| 6 | Mesin las listrik dan perlengkapan | 0,0625 hari | 675.000,00 | 42.187,50 |
| 7 | Generator set | 0,0625 hari | 2.040.000,00 | 127.500,00 |
| 8 | Alat bantu pemotongan tiang pancang | 1,0000 ls | 18.500,00 | 18.500,00 |
| | | | Jumlah | 648.024,00 |

PENUTUP TIANG PANCANG

| | | | | |
|---|------------------------------------|---------------|---------------|-------------------|
| 1 | Kawat las/Electrode | 3,0000 kg | 30.045,60 | 90.136,80 |
| 2 | Besi plat | 25,0000 kg | 11.877,00 | 296.925,00 |
| 3 | Oxigen | 0,2000 tabung | 272.700,00 | 54.540,00 |
| 4 | Tukang las | 0,2500 oh | 83.145,00 | 20.786,25 |
| 5 | Mandor | 0,0300 oh | 108.296,00 | 3.248,88 |
| 6 | Pekerja | 0,5000 oh | 70.587,00 | 35.293,50 |
| 7 | Mesin las listrik dan perlengkapan | 0,0625 hari | 675.000,00 | 42.187,50 |
| 8 | Generator set | 0,0625 hari | 2.040.000,00 | 127.500,00 |
| 9 | Alat bantu penutup tiang pancang | 1,0000 ls | 18.500,00 | 18.500,00 |
| | | | Jumlah | 689.117,93 |

SEPATU TIANG PANCANG

| | | | | |
|---|------------------------------------|-------------|---------------|---------------------|
| 1 | Kawat las/Electrode | 6,0000 kg | 30.045,60 | 180.273,60 |
| 2 | Besi plat | 40,0000 kg | 11.877,00 | 475.080,00 |
| 3 | Tukang las | 0,5000 oh | 83.145,00 | 41.572,50 |
| 4 | Mandor | 0,2000 oh | 108.296,00 | 21.659,20 |
| 5 | Pekerja | 1,0000 oh | 70.587,00 | 70.587,00 |
| 6 | Mesin las listrik dan perlengkapan | 0,2500 hari | 675.000,00 | 168.750,00 |
| 7 | Generator set | 0,2500 hari | 2.040.000,00 | 510.000,00 |
| 8 | Alat bantu sepatu tiang pancang | 1,0000 ls | 15.000,00 | 15.000,00 |
| | | | Jumlah | 1.482.922,30 |

PENGECATAN TIANG PANCANG PER M2

| | | | | |
|---|-------------------------------------|-----------|---------------|-------------------|
| 1 | Cat anti karat | 0,6200 kg | 92.950,00 | 57.629,00 |
| 2 | Mandor | 0,0050 oh | 108.296,00 | 541,48 |
| 3 | Tukang | 0,0300 oh | 83.134,00 | 2.494,02 |
| 4 | Pekerja | 0,3000 oh | 70.587,00 | 21.176,10 |
| 5 | Compressor | 0,5000 ls | 100.000,00 | 50.000,00 |
| 6 | Alat bantu pengecatan tiang pancang | 1,0000 ls | 28.400,00 | 28.400,00 |
| | | | Jumlah | 160.240,60 |

ERECTION

| | | | | |
|---|----------|------------|--------------|--------------|
| 1 | Erection | 1,0000 ton | 2.000.000,00 | 2.000.000,00 |
| 2 | Erection | 1,0000 kg | 2.000,00 | 2.000,00 |

GALVANISASI BAJA

| | | | | |
|---|-------------|-----------|----------|----------|
| 1 | Galvanisasi | 1,0000 kg | 8.250,00 | 8.250,00 |
|---|-------------|-----------|----------|----------|

TRIAL ERECTION

| | | | | |
|---|----------------|-----------|--------|--------|
| 1 | Trial Erection | 1,0000 kg | 945,00 | 945,00 |
|---|----------------|-----------|--------|--------|

KONSTRUKSI BAJA UNTUK MB / 100KG

| | | | | |
|---|------------------------------------|-------------|----------------|----------------------|
| 1 | Baja profil / plat | 110,0000 kg | 14.445,00 | 1.588.950,00 |
| 2 | Kawat las / Electrode | 5,0000 kg | 28.080,00 | 140.400,00 |
| 3 | Tukang las | 1,0000 oh | 83.145,00 | 83.145,00 |
| 4 | Mandor | 0,5000 oh | 108.296,00 | 54.148,00 |
| 5 | Pekerja | 2,0000 oh | 70.587,00 | 141.174,00 |
| 6 | Mesin las listrik dan perlengkapan | 3,0000 hari | 675.000,00 | 2.025.000,00 |
| 7 | Galvanisasi baja | 110,0000 kg | 8.250,00 | 907.500,00 |
| 8 | Trial Erection | 110,0000 kg | 945,00 | 103.950,00 |
| | | | Jumlah | 5.044.267,00 |
| | | | Per kg | 50.442,67 |
| | | | Per ton | 50.442.670,00 |

KONSTRUKSI BAJA UNTUK FRONTAL FRAME, DOLPHIN / KG

| | | | | |
|---|------------------------------------|-------------|---------------|------------------|
| 1 | Baja profil / plat | 1,1000 kg | 14.445,00 | 15.889,50 |
| 2 | Kawat las / Electrode | 0,1000 kg | 28.080,00 | 2.808,00 |
| 3 | Tukang las | 0,0200 oh | 83.145,00 | 1.662,90 |
| 4 | Mandor | 0,0100 oh | 108.296,00 | 1.082,96 |
| 5 | Pekerja | 0,0800 oh | 70.587,00 | 5.646,96 |
| 6 | Galvanisasi baja | 1,0000 kg | 8.250,00 | 8.250,00 |
| 7 | Mesin las listrik dan perlengkapan | 0,0200 hari | 675.000,00 | 13.500,00 |
| 8 | Pengecatan anti karat | 0,0100 m2 | 160.240,60 | 1.602,41 |
| | | | Jumlah | 50.442,73 |

PEMBUATAN DAN PEMASANGAN FRONTAL FRAME PELINDUNG MB

| | | | | |
|---|--------------------------------------|---------------|---------------|-----------------------|
| 1 | Baja untuk frontal frame | 2.200,0000 kg | 50.442,73 | 110.973.997,20 |
| 2 | Rantai penahan | 4,0000 buah | 528.596,98 | 2.114.387,91 |
| 3 | Angkur diameter 25 mm | 6,0000 buah | 35.000,00 | 210.000,00 |
| 4 | Papan kayu klas I (Kamper Samarinda) | 0,3000 m3 | 5.720.550,00 | 1.716.165,00 |
| 5 | Mandor | 1,0000 oh | 108.296,00 | 108.296,00 |
| 6 | Pekerja | 3,0000 oh | 70.587,00 | 211.761,00 |
| 7 | Crane | 3,0000 hari | 3.210.000,00 | 9.630.000,00 |
| 8 | Ponton Pancang | 3,0000 hari | 7.200.000,00 | 21.600.000,00 |
| 9 | Pembantu surveyor | 22,0000 oh | 83.145,00 | 1.829.190,00 |
| | | | Jumlah | 148.393.797,11 |

PEMBUATAN DAN PEMASANGAN FRONTAL FRAME BREASTING DOLPHIN

| | | | | | |
|---|--------------------------------------|------------|------|---------------|-----------------------|
| 1 | Baja untuk frontal frame | 1.700,0000 | kg | 50.442,73 | 85.752.634,20 |
| 2 | Rantai penahan | 4,0000 | buah | 528.596,98 | 2.114.387,91 |
| 3 | Angkur diameter 25 mm | 4,0000 | buah | 35.000,00 | 140.000,00 |
| 4 | Papan kayu klas I (Kamper Samarinda) | 0,3000 | m3 | 5.720.550,00 | 1.716.165,00 |
| 5 | Mandor | 1,0000 | oh | 108.296,00 | 108.296,00 |
| 6 | Pekerja | 3,0000 | oh | 70.587,00 | 211.761,00 |
| 7 | Crane | 5,0000 | hari | 3.210.000,00 | 16.050.000,00 |
| 8 | Pembantu surveyor | 17,0000 | oh | 83.145,00 | 1.413.465,00 |
| | | | | Jumlah | 107.506.709,11 |

PENGADAAN DAN PEMASANGAN FENDER TIPE CELL 400

| | | | | | |
|---|----------------------------|--------|------|---------------|----------------------|
| 1 | Fender karet type Cell-400 | 1,0000 | buah | 26.072.600,00 | 26.072.600,00 |
| 2 | Mandor | 1,0000 | oh | 108.296,00 | 108.296,00 |
| 3 | Pekerja | 3,0000 | oh | 70.587,00 | 211.761,00 |
| 4 | Crane | 1,0000 | hari | 3.210.000,00 | 3.210.000,00 |
| | | | | Jumlah | 29.602.657,00 |

PENGADAAN DAN PEMASANGAN FENDER TIPE CELL 500

| | | | | | |
|---|----------------------------|--------|------|---------------|----------------------|
| 1 | Fender karet type Cell-500 | 1,0000 | buah | 28.679.800,00 | 28.679.800,00 |
| 2 | Mandor | 1,0000 | oh | 108.296,00 | 108.296,00 |
| 3 | Pekerja | 3,0000 | oh | 70.587,00 | 211.761,00 |
| 4 | Crane | 1,0000 | hari | 3.210.000,00 | 3.210.000,00 |
| | | | | Jumlah | 32.209.857,00 |

PENGADAAN DAN PEMASANGAN FENDER TIPE CELL 600

| | | | | | |
|---|----------------------------|--------|------|---------------|----------------------|
| 1 | Fender karet type Cell-600 | 1,0000 | buah | 30.418.000,00 | 30.418.000,00 |
| 2 | Mandor | 1,0000 | oh | 108.296,00 | 108.296,00 |
| 3 | Pekerja | 3,0000 | oh | 70.587,00 | 211.761,00 |
| 4 | Crane | 1,0000 | hari | 3.210.000,00 | 3.210.000,00 |
| | | | | Jumlah | 33.948.057,00 |

PENGADAAN DAN PEMASANGAN FENDER TIPE CELL 800

| | | | | | |
|---|----------------------------|--------|------|---------------|----------------------|
| 1 | Fender karet type Cell-800 | 1,0000 | buah | 34.763.400,00 | 34.763.400,00 |
| 2 | Mandor | 1,0000 | oh | 108.296,00 | 108.296,00 |
| 3 | Pekerja | 4,0000 | oh | 70.587,00 | 282.348,00 |
| 4 | Crane | 1,0000 | hari | 3.210.000,00 | 3.210.000,00 |
| | | | | Jumlah | 38.364.044,00 |

TIMBUNAN BATU UNTUK TALUD

| | | | | | |
|---|---------------------|--------|----|---------------|-------------------|
| 1 | Batu gunung/kali | 1,1000 | m3 | 175.000,00 | 192.500,00 |
| 2 | Mandor | 0,1000 | oh | 108.296,00 | 10.829,60 |
| 3 | Pekerja | 0,5000 | oh | 70.587,00 | 35.293,50 |
| 4 | Alat bantu timbunan | 1,0000 | ls | 3.400,00 | 3.400,00 |
| | | | | Jumlah | 242.023,10 |

PEMASANGAN GEOTEXTILE

| | | | | | |
|---|----------------------------------|--------|----|---------------|-------------------|
| 1 | Geotextile/filter cloth | 1,0000 | m2 | 39.000,00 | 39.000,00 |
| 2 | Mandor | 0,0200 | oh | 108.296,00 | 2.165,92 |
| 3 | Pekerja | 0,1800 | oh | 70.587,00 | 12.705,66 |
| 4 | Alat bantu pemasangan geotextile | 1,0000 | ls | 55.000,00 | 55.000,00 |
| | | | | Jumlah | 108.871,58 |

1 M3 URUGAN TANAH

| | | | | | |
|---|----------------|--------|------|---------------|-------------------|
| 1 | Tanah urug | 1,2000 | m3 | 32.500,00 | 39.000,00 |
| 2 | Mandor | 0,0100 | oh | 108.296,00 | 1.082,96 |
| 3 | Pekerja | 0,3000 | oh | 70.587,00 | 21.176,10 |
| 4 | Sewa bulldozer | 0,0500 | jam | 700.000,00 | 35.000,00 |
| 5 | Mesin gilas | 0,0500 | hari | 1.084.800,00 | 54.240,00 |
| | | | | Jumlah | 150.499,06 |

1 M3 PEMBUATAN BLOCK BETON UNTUK BREAKWATER

| | | | | | |
|----|-------------------------------------|----------|-------|---------------|---------------------|
| 1 | Semen PC (50 kg/zak) | 10,0000 | zak | 65.000,00 | 650.000,00 |
| 2 | Pasir beton | 0,4000 | m3 | 177.000,00 | 70.800,00 |
| 3 | Batu pecah 2/3 | 0,7500 | m3 | 189.750,00 | 142.312,50 |
| 4 | Admixture | 3,0000 | liter | 19.080,00 | 57.240,00 |
| 5 | Besi beton | 100,0000 | kg | 9.362,50 | 936.250,00 |
| 6 | Kawat baja/Bindraad | 2,0000 | kg | 12.000,00 | 24.000,00 |
| 7 | Papan kayu klas II (Kamper Singkil) | 0,0500 | m3 | 5.863.000,00 | 293.150,00 |
| 8 | Balok kayu klas II | 0,0500 | m3 | 5.280.450,00 | 264.022,50 |
| 9 | Paku | 0,8000 | kg | 22.500,00 | 18.000,00 |
| 10 | Pekerja | 6,0000 | oh | 70.587,00 | 423.522,00 |
| 11 | Tukang | 2,0000 | oh | 83.134,00 | 166.268,00 |
| 12 | Juru Gambar | 0,3000 | oh | 68.750,00 | 20.625,00 |
| 13 | Concrete mixer | 0,5000 | jam | 55.000,00 | 27.500,00 |
| 14 | Concrete thriller | 0,5000 | jam | 55.000,00 | 27.500,00 |
| 15 | Sewa Compresor | 0,2000 | jam | 100.000,00 | 20.000,00 |
| | | | | Jumlah | 3.141.190,00 |

1 M3 LAPISAN SUBBASE DAN BASE UNTUK PERKERASAN JALAN / LAP. PARKIR

| | | | | | |
|---|----------------|--------|------|---------------|-------------------|
| 1 | Batu pecah 2/3 | 1,1000 | m3 | 189.750,00 | 208.725,00 |
| 2 | Pasir Urug | 0,4000 | m3 | 135.000,00 | 54.000,00 |
| 3 | Pekerja | 0,1000 | oh | 70.587,00 | 7.058,70 |
| 4 | Mandor | 0,0200 | oh | 108.296,00 | 2.165,92 |
| 5 | Dumptruck | 0,3000 | hari | 1.715.700,00 | 514.710,00 |
| 6 | Sewa bulldozer | 0,1000 | jam | 700.000,00 | 70.000,00 |
| 7 | Mesin gilas | 0,1250 | hari | 1.084.800,00 | 135.600,00 |
| | | | | Jumlah | 992.259,62 |

1 M2 PEKERJAAN ASPAL PENETRASI TEBAL 7,5 CM PADAT

| | | | | | |
|---|--------------------|---------|------|---------------|-------------------|
| 1 | Aspal AC 60-70 | 20,0000 | kg | 5.885,00 | 117.700,00 |
| 2 | Batu pecah 2/3 | 0,1000 | m3 | 189.750,00 | 18.975,00 |
| 3 | Pasir beton | 0,0200 | m3 | 177.000,00 | 3.540,00 |
| 4 | Kayu bakar | 0,0200 | m3 | 41.500,00 | 830,00 |
| 5 | Sewa tandem roller | 0,0030 | hari | 343.800,00 | 1.031,40 |
| 6 | Sewa grader | 0,0030 | hari | 1.511.900,00 | 4.535,70 |
| 7 | Mandor | 0,0030 | oh | 108.296,00 | 324,89 |
| 8 | Pekerja | 0,0360 | oh | 70.587,00 | 2.541,13 |
| | | | | Jumlah | 149.478,12 |

PEMBUATAN SHOP DRAWING DAN DOKUMENTASI

| | | | | | |
|----|------------------------------------|----------|------|---------------|----------------------|
| 1 | Mesin & meja gambar + peralatannya | 1,0000 | unit | 3.000.000,00 | 3.000.000,00 |
| 2 | Kamera | 1,0000 | hari | 38.200,00 | 38.200,00 |
| 3 | Komputer dan Printer | 2,0000 | unit | 15.000.000,00 | 30.000.000,00 |
| 4 | Alat tulis | 1,0000 | Ls | 2.000.000,00 | 2.000.000,00 |
| 5 | Bahan Habis | 1,0000 | Ls | 1.000.000,00 | 1.000.000,00 |
| 6 | Kertas A3 | 4,0000 | Rim | 78.000,00 | 312.000,00 |
| 7 | Kertas A4 | 12,0000 | Rim | 42.000,00 | 504.000,00 |
| 8 | Kertas kalkir | 3,0000 | rol | 210.000,00 | 630.000,00 |
| 9 | Film | 10,0000 | rol | 36.000,00 | 360.000,00 |
| 10 | Album | 10,0000 | set | 60.000,00 | 600.000,00 |
| 11 | Juru gambar | 380,0000 | oh | 68.750,00 | 26.125.000,00 |
| | | | | Jumlah | 64.569.200,00 |

PENGUKURAN POSITIONING

| | | | | | |
|---|-------------------|----------|------|--------------------|-----------------------|
| 1 | Waterpass | 180,0000 | hari | 194.600,00 | 35.028.000,00 |
| 2 | Theodolite | 180,0000 | hari | 278.600,00 | 50.148.000,00 |
| 3 | Bahan habis pakai | 1,0000 | ls | 1.000.000,00 | 1.000.000,00 |
| 4 | Pekerja | 180,0000 | oh | 70.587,00 | 12.705.660,00 |
| 5 | Juru ukur | 180,0000 | oh | 75.000,00 | 13.500.000,00 |
| | | | | Jumlah | 112.381.660,00 |
| | | | | Jumlah/hari | 624.342,56 |

PENERANGAN DAN KESELAMATAN KERJA

| | | | | | |
|---|-----------------|----------|-------|---------------|-----------------------|
| 1 | Generator set | 384,0000 | hari | 2.040.000,00 | 783.360.000,00 |
| 2 | Kabel dan lampu | 1,0000 | ls | 1.200.000,00 | 1.200.000,00 |
| 3 | Mekanik | 160,0000 | oh | 75.000,00 | 12.000.000,00 |
| 4 | Satpam | 320,0000 | oh | 50.000,00 | 16.000.000,00 |
| 5 | Oli | 1,0000 | liter | 35.460,00 | 35.460,00 |
| 6 | Solar | 800,0000 | liter | 6.710,00 | 5.368.000,00 |
| 7 | PPPK | 1,0000 | ls | 600.000,00 | 600.000,00 |
| | | | | Jumlah | 818.563.460,00 |

1 M2 ASPHALT BETON T = 10 CM

| | | | | | |
|---|--------------------------------|---------|------|---------------|-------------------|
| 1 | Batu pecah 2/3 | 0,0500 | m3 | 189.750,00 | 9.487,50 |
| 2 | Pasir aspal/abu batu/screening | 0,0600 | m3 | 194.000,00 | 11.640,00 |
| 3 | Aspal AC 60-70 | 20,0000 | kg | 5.885,00 | 117.700,00 |
| 4 | Mandor | 0,0500 | oh | 108.296,00 | 5.414,80 |
| 5 | Pekerja | 0,3000 | oh | 70.587,00 | 21.176,10 |
| 6 | Mesin gilasp | 0,2000 | hari | 1.084.800,00 | 216.960,00 |
| | | | | Jumlah | 382.378,40 |

1 M3 PEKERJAAN SALURAN TERBUKA PASANGAN BATU KALI

| | | | | | |
|---|------------------|--------|------|---------------|-------------------|
| 1 | Batu belah | 1,2600 | m3 | 63.600,00 | 80.136,00 |
| 2 | Semen PC | 3,1520 | m3 | 65.000,00 | 204.880,00 |
| 3 | Pasir pasang | 0,3200 | m3 | 185.000,00 | 59.200,00 |
| 4 | Pasir urug | 0,2100 | zak | 135.000,00 | 28.350,00 |
| 5 | Sewa Beton Molen | 0,2000 | hari | 144.000,00 | 28.800,00 |
| 6 | Sewa stamper | 0,1500 | hari | 197.100,00 | 29.565,00 |
| 7 | Mandor | 0,3000 | oh | 108.296,00 | 32.488,80 |
| 8 | Tukang batu | 0,6000 | oh | 83.145,00 | 49.887,00 |
| 9 | Pekerja | 1,8000 | oh | 70.587,00 | 127.056,60 |
| | | | | Jumlah | 640.363,40 |

1 M2 PEMBERSIHAN LAPANGAN

| | | | | | |
|---|-----------------|--------|------|---------------|------------------|
| 1 | Sewa bulldozer | 0,0050 | hari | 700.000,00 | 3.500,00 |
| 2 | Mandor | 0,0050 | oh | 108.296,00 | 541,48 |
| 3 | Kepala tukang | 0,0500 | oh | 95.726,00 | 4.786,30 |
| 4 | Tukang | 0,0500 | oh | 83.134,00 | 4.156,70 |
| 5 | Pembantu tukang | 0,0500 | oh | 50.000,00 | 2.500,00 |
| | | | | Jumlah | 11.984,48 |

1 M PENGUKURAN DAN PEMASANGAN BOWPLANK

| | | | | | |
|---|-------------------------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0050 | oh | 108.296,00 | 541,48 |
| 2 | Kepala tukang | 1,0000 | oh | 95.726,00 | 95.726,00 |
| 3 | Tukang kayu | 0,0100 | oh | 83.145,00 | 831,45 |
| 4 | Pembantu tukang | 0,1000 | oh | 50.000,00 | 5.000,00 |
| 5 | Balok kayu lanang | 0,0040 | m3 | 5.385.000,00 | 21.540,00 |
| 6 | Papan kayu klas III (Meranti) | 0,0200 | m3 | 3.456.200,00 | 69.124,00 |
| 7 | Paku kayu | 0,0200 | kg | 12.000,00 | 240,00 |
| | | | | Jumlah | 193.002,93 |

1 M3 KUDA-KUDA BENTANG SAMPAI DENGAN 6 M BAHAN KAYU LANAN

| | | | | | |
|---|------------------|---------|----|---------------|---------------------|
| 1 | Mandor | 0,3000 | oh | 108.296,00 | 32.488,80 |
| 2 | Kepala tukang | 2,0000 | oh | 95.726,00 | 191.452,00 |
| 3 | Tukang kayu | 20,0000 | oh | 83.145,00 | 1.662.900,00 |
| 4 | Pembantu tukang | 6,0000 | oh | 50.000,00 | 300.000,00 |
| 5 | Balok kayu lanan | 1,2000 | m3 | 5.385.000,00 | 6.462.000,00 |
| 6 | Paku kayu | 5,6000 | kg | 12.000,00 | 67.200,00 |
| 7 | Besi strip | 15,0000 | kg | 11.877,00 | 178.155,00 |
| | | | | Jumlah | 8.894.195,80 |

1 M2 RANGKA ATAP KASO 5/7 DAN RENG 2/3 UNTUK SIRAP BAHAN KAYU LANAN

| | | | | | |
|---|------------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0050 | oh | 108.296,00 | 541,48 |
| 2 | Kepala tukang | 0,0100 | oh | 95.726,00 | 957,26 |
| 3 | Tukang kayu | 0,1000 | oh | 83.145,00 | 8.314,50 |
| 4 | Pembantu tukang | 0,1000 | oh | 50.000,00 | 5.000,00 |
| 5 | Balok kayu lanan | 0,0240 | m3 | 5.385.000,00 | 129.240,00 |
| 6 | Paku kayu | 0,2500 | kg | 12.000,00 | 3.000,00 |
| | | | | Jumlah | 147.053,24 |

1 M BUBUNGAN PADA ATAP SIRAP ULIN

| | | | | | |
|---|-----------------|--------|------|---------------|------------------|
| 1 | Mandor | 0,0060 | oh | 108.296,00 | 649,78 |
| 2 | Kepala tukang | 0,0250 | oh | 95.726,00 | 2.393,15 |
| 3 | Tukang kayu | 0,2500 | oh | 83.145,00 | 20.786,25 |
| 4 | Pembantu tukang | 0,1250 | oh | 50.000,00 | 6.250,00 |
| 5 | Bubungan seng | 0,4000 | buah | 45.200,00 | 18.080,00 |
| 6 | Paku kayu | 0,0600 | kg | 12.000,00 | 720,00 |
| 7 | Papan lanan | 0,0040 | m3 | 5.550.800,00 | 22.203,20 |
| | | | | Jumlah | 71.082,38 |

1 M2 PENUTUP ATAP SIRAP 7 SM X 55 CM DENGAN JARAK RENG 11 SM AS

| | | | | | |
|---|-----------------|----------|--------|---------------|-------------------|
| 1 | Mandor | 0,0080 | oh | 108.296,00 | 866,37 |
| 2 | Kepala tukang | 0,0250 | oh | 95.726,00 | 2.393,15 |
| 3 | Tukang kayu | 0,2500 | oh | 83.145,00 | 20.786,25 |
| 4 | Pembantu tukang | 0,1660 | oh | 50.000,00 | 8.300,00 |
| 5 | Sirap ulin | 120,0000 | lembar | 1.200,00 | 144.000,00 |
| 6 | Paku sirap | 0,2500 | kg | 12.000,00 | 3.000,00 |
| | | | | Jumlah | 179.345,77 |

1 M LISTPLANK 2 CM X 20 CM BAHAN KAYU ULIN

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0050 | oh | 108.296,00 | 541,48 |
| 2 | Kepala tukang | 0,0250 | oh | 95.726,00 | 2.393,15 |
| 3 | Tukang kayu | 0,2000 | oh | 83.145,00 | 16.629,00 |
| 4 | Pembantu tukang | 0,1000 | oh | 50.000,00 | 5.000,00 |
| 5 | Papan kayu ulin | 0,0108 | m3 | 10.606.050,00 | 114.545,34 |
| 6 | Paku ulin | 0,5000 | kg | 20.900,00 | 10.450,00 |
| | | | | Jumlah | 149.558,97 |

1 M3 KUSEN PINTU/JENDELA

| | | | | | |
|---|-------------------|---------|------|---------------|---------------------|
| 1 | Mandor | 0,3000 | oh | 108.296,00 | 32.488,80 |
| 2 | Kepala tukang | 2,0000 | oh | 95.726,00 | 191.452,00 |
| 3 | Tukang kayu | 20,0000 | oh | 83.145,00 | 1.662.900,00 |
| 4 | Pembantu tukang | 6,0000 | oh | 50.000,00 | 300.000,00 |
| 5 | Papan kayu klas I | 1,2000 | m3 | 6.120.988,50 | 7.345.186,20 |
| 6 | Paku | 1,2500 | kg | 24.075,00 | 30.093,75 |
| 7 | Angkur | 56,0000 | buah | 7.700,00 | 431.200,00 |
| | | | | Jumlah | 9.993.320,75 |

1 M2 DAUN PINTU/JENDELA PANIL KAYU ULIN

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 1,3500 | oh | 108.296 | 146.199,60 |
| 2 | Kepala Tukang | 0,0170 | oh | 95.726 | 1.627,34 |
| 3 | Tukang Kayu | 2,7000 | oh | 83.145 | 224.491,50 |
| 4 | Pembantu Tukang | 0,7500 | oh | 50.000 | 37.500,00 |
| 5 | Papan Kayu Ulin | 0,0440 | m3 | 11.348.474 | 499.332,83 |
| 6 | Lem Kayu | 0,1000 | kg | 47.800 | 4.780,00 |
| | | | | Jumlah | 913.931,28 |

1 M2 PINTU/JENDELA PANIL KAYU LANAN

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0500 | oh | 108.296 | 5.414,80 |
| 2 | Kepala Tukang | 0,2500 | oh | 95.726 | 23.931,50 |
| 3 | Tukang Kayu | 2,5000 | oh | 83.145 | 207.862,50 |
| 4 | Pembantu Tukang | 1,0000 | oh | 50.000 | 50.000,00 |
| 5 | Papan Kayu Ulin | 0,0400 | m3 | 11.348.474 | 453.938,94 |
| 6 | Lem Kayu | 0,0500 | kg | 47.800 | 2.390,00 |
| | | | | Jumlah | 743.537,74 |

1 M2 PEKERJAAN DINDING PAPAN ULIN 2 CM

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,4000 | oh | 108.296 | 43.318,40 |
| 2 | Kepala Tukang | 0,0020 | oh | 95.726 | 191,45 |
| 3 | Tukang Kayu | 1,2500 | oh | 83.145 | 103.931,25 |
| 4 | Pembantu Tukang | 0,1250 | oh | 50.000 | 6.250,00 |
| 5 | Papan Kayu Ulin | 0,0250 | m3 | 11.348.474 | 283.711,84 |
| 6 | Paku Ulin | 0,2500 | kg | 24.075 | 6.018,75 |
| | | | | Jumlah | 443.421,69 |

1 M2 PEKERJAAN DINDING SIRING PAPAN ULIN 3 CM

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,4000 | oh | 108.296 | 43.318,40 |
| 2 | Kepala Tukang | 0,0020 | oh | 95.726 | 191,45 |
| 3 | Tukang Kayu | 1,2500 | oh | 83.145 | 103.931,25 |
| 4 | Pembantu Tukang | 0,1250 | oh | 50.000 | 6.250,00 |
| 5 | Papan Kayu Ulin | 0,0250 | m3 | 11.348.474 | 283.711,84 |
| 6 | Paku Ulin | 0,2500 | kg | 24.075 | 6.018,75 |
| | | | | Jumlah | 443.421,69 |

1 M2 PEKERJAAN DINDING SIRING PAPAN LANAN 2 CM

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,4000 | oh | 108.296 | 43.318,40 |
| 2 | Kepala Tukang | 0,0020 | oh | 95.726 | 191,45 |
| 3 | Tukang Kayu | 1,2500 | oh | 83.145 | 103.931,25 |
| 4 | Pembantu Tukang | 0,1250 | oh | 50.000 | 6.250,00 |
| 5 | Papan lanan | 0,0250 | m3 | 5.550.800 | 138.770,00 |
| 6 | Paku Ulin | 0,2500 | kg | 24.075 | 6.018,75 |
| | | | | Jumlah | 298.479,85 |

1 M2 JALUSI PAPAN KAYU ULIN

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0250 | oh | 108.296 | 2.707,40 |
| 2 | Kepala Tukang | 0,2000 | oh | 95.726 | 19.145,20 |
| 3 | Tukang Kayu | 2,0000 | oh | 83.145 | 166.290,00 |
| 4 | Pembantu Tukang | 0,5000 | oh | 50.000 | 25.000,00 |
| 5 | Papan Kayu Ulin | 0,0600 | m3 | 10.606.050 | 636.363,00 |
| 6 | Paku Ulin | 0,1500 | kg | 24.075 | 3.611,25 |
| | | | | Jumlah | 853.116,85 |

1 M2 LANTAI PAPAN ULIN TEBAL 3 CM

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0200 | oh | 108.296 | 2.165,92 |
| 2 | Kepala Tukang | 0,1250 | oh | 95.726 | 11.965,75 |
| 3 | Tukang Kayu | 1,2500 | oh | 83.145 | 103.931,25 |
| 4 | Pembantu Tukang | 0,4000 | oh | 50.000 | 20.000,00 |
| 5 | Papan Kayu Ulin | 0,0350 | m3 | 10.606.050 | 371.211,75 |
| 6 | Paku Ulin | 0,2000 | kg | 24.075 | 4.815,00 |
| | | | | Jumlah | 514.089,67 |

1 M2 LANTAI PAPAN ULINTEBAL 5 CM

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Mandor | 0,0200 | oh | 108.296 | 2.165,92 |
| 2 | Kepala Tukang | 0,1250 | oh | 95.726 | 11.965,75 |
| 3 | Tukang Kayu | 1,2500 | oh | 83.145 | 103.931,25 |
| 4 | Pembantu Tukang | 0,4000 | oh | 50.000 | 20.000,00 |
| 5 | Papan Kayu Ulin | 0,0570 | m3 | 10.606.050 | 604.544,85 |
| 6 | Paku Ulin | 0,2000 | kg | 24.075 | 4.815,00 |
| | | | | Jumlah | 747.422,77 |

1 BUAH TIANG PANCANG DILANCIPKAN

| | | | | | |
|---|-----------------|--------|----|---------------|------------------|
| 1 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 2 | Kepala Tukang | 0,0250 | oh | 95.726 | 2.393,15 |
| 3 | Tukang Kayu | 0,2500 | oh | 83.145 | 20.786,25 |
| 4 | Pembantu Tukang | 0,1000 | oh | 50.000 | 5.000,00 |
| | | | | Jumlah | 28.720,88 |

MEMBUAT PEN DAN LOBANG

| | | | | | |
|---|---------------|--------|----|---------------|------------------|
| 1 | Kepala Tukang | 0,0600 | oh | 95.726 | 5.743,56 |
| 2 | Tukang Kayu | 0,6000 | oh | 83.145 | 49.887,00 |
| | | | | Jumlah | 55.630,56 |

PEMANCANGAN 1 M TIANG 15/15 KE DALAM TANAH

| | | | | | |
|---|---------------------------|--------|------|---------------|---------------------|
| 1 | Tukang | 0,0400 | oh | 83.134 | 3.325,36 |
| 2 | Kepala Tukang | 0,0040 | oh | 95.726 | 382,90 |
| 3 | Pembantu Tukang | 1,8000 | oh | 50.000 | 90.000,00 |
| 4 | Mandor | 0,0430 | oh | 108.296 | 4.656,73 |
| 5 | Operator | 0,5000 | oh | 83.145 | 41.572,50 |
| 6 | Tiang pancang | 1,0000 | kg | 14.980,00 | 14.980,00 |
| 7 | sewa crane | 0,2180 | hari | 3.210.000 | 699.780,00 |
| 8 | sewa hammer tiang pancang | 0,2180 | hari | 2.592.000 | 565.056,00 |
| | | | | Jumlah | 1.419.753,49 |

1 M TIANG 10/10

| | | | | | |
|---|-----------------|--------|----|---------------|------------------|
| 1 | Tukang | 0,0400 | oh | 83.134 | 3.325,36 |
| 2 | Kepala Tukang | 0,0040 | oh | 95.726 | 382,90 |
| 3 | Pembantu Tukang | 1,8000 | oh | 50.000 | 90.000,00 |
| 4 | Mandor | 0,0430 | oh | 108.296 | 4.656,73 |
| | | | | Jumlah | 98.364,99 |

1 M3 RANGKA BAWAH KAYU ULIN

| | | | | | |
|---|-----------------|--------|----|---------------|---------------------|
| 1 | Tukang | 7,5000 | oh | 83.134 | 623.505,00 |
| 2 | Kepala Tukang | 0,7500 | oh | 95.726 | 71.794,50 |
| 3 | Pembantu Tukang | 5,0000 | oh | 50.000 | 250.000,00 |
| 4 | Mandor | 0,2500 | oh | 108.296 | 27.074,00 |
| 5 | Balok Kayu Ulin | 1,1000 | m3 | 6.520.500 | 7.172.550,00 |
| | | | | Jumlah | 8.144.923,50 |

1 M2 PEKERJAAN PERANCAH

| | | | | | |
|---|--------------------------------------|---------|-----|---------------|----------------------|
| 1 | Tukang | 1,5000 | oh | 83.134 | 124.701,00 |
| 2 | Kepala Tukang | 0,1500 | oh | 95.726 | 14.358,90 |
| 3 | Pembantu Tukang | 0,5000 | oh | 50.000 | 25.000,00 |
| 4 | Mandor | 0,0250 | oh | 108.296 | 2.707,40 |
| 5 | Kayu bulat dia. 10-15 cm Panjang 4 m | 48,0000 | btg | 1.820.000 | 87.360.000,00 |
| 6 | Papan untuk alas | 0,0100 | bh | 2.200 | 22,00 |
| 7 | Balok kayu lanan | 0,0060 | m3 | 5.385.000 | 32.310,00 |
| 8 | Paku kayu | 1,0000 | kg | 12.000 | 12.000,00 |
| | | | | Jumlah | 87.571.099,30 |

1 M3 RANGKA BAWAH KAYU ULIN

| | | | | | |
|---|-----------------|--------|----|---------------|---------------------|
| 1 | Tukang | 7,5000 | oh | 83.134 | 623.505,00 |
| 2 | Kepala Tukang | 0,7500 | oh | 95.726 | 71.794,50 |
| 3 | Pembantu Tukang | 5,0000 | oh | 50.000 | 250.000,00 |
| 4 | Mandor | 0,2500 | oh | 108.296 | 27.074,00 |
| 5 | Balok Kayu Ulin | 1,1000 | m3 | 6.520.500 | 7.172.550,00 |
| 6 | Paku Ulin | 6,0000 | kg | 20.900 | 125.400,00 |
| | | | | Jumlah | 8.270.323,50 |

1 M3 PEKERJAAN TIANG DAN KUSEN KAYU ULIN

| | | | | | |
|---|-----------------|---------|----|---------------|----------------------|
| 1 | Tukang | 30,0000 | oh | 83.134 | 2.494.020,00 |
| 2 | Kepala Tukang | 3,0000 | oh | 95.726 | 287.178,00 |
| 3 | Pembantu Tukang | 10,0000 | oh | 50.000 | 500.000,00 |
| 4 | Mandor | 0,5000 | oh | 108.296 | 54.148,00 |
| 5 | Balok Kayu Ulin | 1,2500 | m3 | 6.520.500 | 8.150.625,00 |
| 6 | Paku Ulin | 6,0000 | kg | 20.900 | 125.400,00 |
| | | | | Jumlah | 11.611.371,00 |

1 M2 PENUTUP LANGIT-LANGIT PLYWOOD 60 CM X 120 CM

| | | | | | |
|---|--------------------|--------|----|---------------|------------------|
| 1 | Tukang | 0,1500 | oh | 83.134 | 12.470,10 |
| 2 | Kepala Tukang | 0,0150 | oh | 95.726 | 1.435,89 |
| 3 | Pembantu Tukang | 0,1050 | oh | 50.000 | 5.250,00 |
| 4 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 5 | Paku plywood | 0,0300 | kg | 12.000 | 360,00 |
| 6 | Plywood tebal 5 mm | 0,3750 | kg | 115.500 | 43.312,50 |
| | | | | Jumlah | 63.369,97 |

1 M2 RANGKA PLAFOND LANGIT-LANGIT 60 CM X 120 CM

| | | | | | |
|---|------------------|--------|----|---------------|-------------------|
| 1 | Tukang | 0,3000 | oh | 83.134 | 24.940,20 |
| 2 | Kepala Tukang | 0,0300 | oh | 95.726 | 2.871,78 |
| 3 | Pembantu Tukang | 0,2000 | oh | 50.000 | 10.000,00 |
| 4 | Mandor | 0,0100 | oh | 108.296 | 1.082,96 |
| 5 | Paku kayu | 0,2500 | kg | 12.000 | 3.000,00 |
| 6 | Balok kayu lanan | 0,0163 | kg | 5.385.000 | 87.775,50 |
| | | | | Jumlah | 129.670,44 |

1 M2 MENGECAT KILAT MENIE

| | | | | | |
|---|-----------------|--------|-------|---------------|------------------|
| 1 | Tukang cat | 0,3400 | oh | 83.145 | 28.269,30 |
| 2 | Kepala Tukang | 0,0075 | oh | 95.726 | 717,95 |
| 3 | Pembantu Tukang | 0,2000 | oh | 50.000 | 10.000,00 |
| 4 | Mandor | 0,0100 | oh | 108.296 | 1.082,96 |
| 5 | Minyak cat | 0,7500 | liter | 18.750 | 14.062,50 |
| 6 | Cat menie besi | 0,1250 | kg | 11.962 | 1.495,28 |
| | | | | Jumlah | 55.627,98 |

1 M2 MENGECAT TEMBOK 2 KALI/PLAFOND

| | | | | | |
|---|-----------------|--------|----|---------------|------------------|
| 1 | Tukang cat | 0,0200 | oh | 83.145 | 1.662,90 |
| 2 | Kepala Tukang | 0,0020 | oh | 95.726 | 191,45 |
| 3 | Pembantu Tukang | 0,1200 | oh | 50.000 | 6.000,00 |
| 4 | Cat tembok | 0,4000 | kg | 47.000 | 18.800,00 |
| | | | | Jumlah | 26.654,35 |

1 M2 MENGGOSOK DAN MENDEMPUL

| | | | | | |
|---|---------------|--------|-----|---------------|-----------------|
| 1 | Tukang cat | 0,0400 | oh | 83.145 | 3.325,80 |
| 2 | Kepala Tukang | 0,0040 | oh | 95.726 | 382,90 |
| 3 | Dempul | 0,0800 | kg | 32.925 | 2.634,00 |
| 4 | Kertas amplas | 0,5000 | lbr | 6.850 | 3.425,00 |
| | | | | Jumlah | 9.767,70 |

1 M2 MENGECAT KILAP 2 KALI

| | | | | | |
|---|-----------------|--------|-------|---------------|------------------|
| 1 | Tukang cat | 0,1500 | oh | 83.145 | 12.471,75 |
| 2 | Kepala Tukang | 0,0150 | oh | 95.726 | 1.435,89 |
| 3 | Pembantu Tukang | 0,1000 | oh | 50.000 | 5.000,00 |
| 4 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 5 | Cat kilap | 0,2500 | kg | 43.700 | 10.925,00 |
| 6 | Minyak cat | 0,1920 | liter | 18.750 | 3.600,00 |
| | | | | Jumlah | 33.974,12 |

1 M2 MENGETER KAYU 2 KALI

| | | | | | |
|---|-----------------|--------|----|---------------|-----------------|
| 1 | Pembantu Tukang | 0,1000 | oh | 50.000 | 5.000,00 |
| 2 | Mandor | 0,0060 | oh | 108.296 | 649,78 |
| 3 | Ter | 0,3500 | oh | 5.700 | 1.995,00 |
| | | | | Jumlah | 7.644,78 |

1 M2 DAUN PINTU/JENDELA KACA MATI 5 MM

| | | | | | |
|---|------------------------|--------|----|---------------|-------------------|
| 1 | Pembantu Tukang | 2,0000 | oh | 50.000 | 100.000,00 |
| 2 | Mandor | 0,1000 | oh | 108.296 | 10.829,60 |
| 3 | Tukang kayu | 6,0000 | oh | 83.145 | 498.870,00 |
| 4 | Kepala Tukang | 0,6000 | oh | 95.726 | 57.435,60 |
| 5 | Papan lanan | 0,0280 | m3 | 5.550.800 | 155.422,40 |
| 6 | Paku kayu | 0,0500 | kg | 12.000 | 600,00 |
| 7 | Kaca bening Tebal 5 mm | 0,7500 | m2 | 89.040 | 66.780,00 |
| | | | | Jumlah | 889.937,60 |

1 M3 PEKERJAAN RANGKA BADAN KAYU LANAN

| | | | | | |
|---|------------------|---------|----|---------------|---------------------|
| 1 | Pembantu Tukang | 6,0000 | oh | 50.000 | 300.000,00 |
| 2 | Mandor | 0,3000 | oh | 108.296 | 32.488,80 |
| 3 | Tukang kayu | 18,0000 | oh | 83.145 | 1.496.610,00 |
| 4 | Kepala Tukang | 1,8000 | oh | 95.726 | 172.306,80 |
| 5 | Balok kayu lanan | 1,1000 | m3 | 5.385.000 | 5.923.500,00 |
| 6 | Paku kayu | 3,0000 | kg | 12.000 | 36.000,00 |
| | | | | Jumlah | 7.960.905,60 |

1 M3 PEKERJAAN RANGKA BADAN KAYU ULIN

| | | | | | |
|---|------------------|---------|----|---------------|---------------------|
| 1 | Pembantu Tukang | 6,0000 | oh | 50.000 | 300.000,00 |
| 2 | Mandor | 0,3000 | oh | 108.296 | 32.488,80 |
| 3 | Tukang kayu | 18,0000 | oh | 83.145 | 1.496.610,00 |
| 4 | Kepala Tukang | 1,8000 | oh | 95.726 | 172.306,80 |
| 5 | Balok kayu lanan | 1,1000 | m3 | 5.385.000 | 5.923.500,00 |
| 6 | Paku ulin | 3,0000 | kg | 20.900 | 62.700,00 |
| | | | | Jumlah | 7.987.605,60 |

DELATASI PER M'

| | | | | | |
|---|------------------------------------|--------|------|---------------|-------------------|
| 1 | Besi siku L. 100.100.10 | 7,3800 | kg | 13.375 | 98.707,50 |
| 2 | Besi beton | 5,0000 | kg | 9.363 | 46.812,50 |
| 3 | Kawat las | 0,2500 | kg | 25.680 | 6.420,00 |
| 4 | Mesin las listrik dan perlengkapan | 0,3500 | hari | 675.000 | 236.250,00 |
| 5 | Tukang | 0,0100 | oh | 83.134 | 831,34 |
| 6 | Pekerja | 1,0000 | oh | 70.587 | 70.587,00 |
| 7 | Mandor | 0,0100 | oh | 108.296 | 1.082,96 |
| | | | | Jumlah | 460.691,30 |

1 M3 PEKERJAAN SPESI 1:2:3

| | | | | | |
|---|----------------------|--------|-----|---------------|---------------------|
| 1 | Pembantu Tukang | 6,0000 | oh | 50.000 | 300.000,00 |
| 2 | Mandor | 0,3000 | oh | 108.296 | 32.488,80 |
| 3 | Tukang batu | 1,0000 | oh | 83.145 | 83.145,00 |
| 4 | Kepala Tukang | 0,1000 | oh | 95.726 | 9.572,60 |
| 5 | Kerikil | 0,8200 | m3 | 185.000 | 151.700,00 |
| 6 | Semen PC (50 kg/zak) | 8,5000 | zak | 65.000 | 552.500,00 |
| 7 | Pasir pasang | 0,5400 | m3 | 185.000 | 99.900,00 |
| | | | | Jumlah | 1.229.306,40 |

1 M3 BETON CAMPUR 1:3:6

| | | | | | |
|---|----------------------|--------|-----|---------------|---------------------|
| 1 | Pembantu Tukang | 6,0000 | oh | 50.000 | 300.000,00 |
| 2 | Mandor | 0,3000 | oh | 108.296 | 32.488,80 |
| 3 | Tukang batu | 1,0000 | oh | 83.145 | 83.145,00 |
| 4 | Kepala Tukang | 0,1000 | oh | 95.726 | 9.572,60 |
| 5 | Kerikil | 1,0160 | m3 | 185.000 | 187.960,00 |
| 6 | Semen PC (50 kg/zak) | 5,0000 | zak | 65.000 | 325.000,00 |
| 7 | Pasir pasang | 0,5080 | m3 | 185.000 | 93.980,00 |
| | | | | Jumlah | 1.032.146,40 |

PEKERJAAN MEMBONGKAR DAN MENYIAM BEGESTING

| | | | | | |
|---|-----------------|--------|----|---------------|-------------------|
| 1 | Pembantu tukang | 4,0000 | oh | 50.000 | 200.000,00 |
| | | | | Jumlah | 200.000,00 |

1 M3 BETON K-225 BESI 300 KG

| | | | | | |
|---|---|--------|----|---------------|----------------------|
| 1 | Pekerjaan Bekesting | 1,0000 | m2 | 4.975.794,99 | 4.975.795 |
| 2 | Pekerjaan Besi Beton | 3,0000 | kg | 1.914.633,48 | 5.743.900 |
| 3 | Pekerjaan spesi | 1,0000 | m3 | 1.229.306,40 | 1.229.306 |
| 4 | Pekerjaan membongkar dan menyiram begesting | 1,0000 | ls | 200.000,00 | 200.000 |
| | | | | Jumlah | 12.149.001,84 |

1 M3 BETON K-225 BESI 180 KG

| | | | | | |
|---|---|--------|----|---------------|---------------------|
| 1 | Pekerjaan Begesting | 1,0000 | m2 | 4.975.794,99 | 4.975.795 |
| 2 | Pekerjaan Besi Beton | 1,8000 | kg | 1.914.633,48 | 3.446.340 |
| 3 | Pekerjaan spesi | 1,0000 | m3 | 1.229.306,40 | 1.229.306 |
| 4 | Pekerjaan membongkar dan menyiram begesting | 1,0000 | ls | 200.000,00 | 200.000 |
| | | | | Jumlah | 9.851.441,66 |

KANSTEN

| | | | | | |
|---|-------------------------------|--------|----|---------------|-------------------|
| 1 | Besi beton K-225, besi 180 kg | 0,0200 | m3 | 9.851.442 | 197.028,83 |
| | | | | Jumlah | 197.028,83 |

MERUNCING TIANG RAMBU

| | | | | | |
|---|---------------|--------|----|---------------|------------------|
| 1 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 2 | Kepala Tukang | 0,0250 | oh | 95.726 | 2.393,15 |
| 3 | Tukang kayu | 0,2500 | oh | 83.145 | 20.786,25 |
| 4 | Pekerja | 0,1000 | oh | 70.587 | 7.058,70 |
| | | | | Jumlah | 30.779,58 |

MENANCAPKAN TIANG RAMBU/M1

| | | | | | |
|---|---------------|--------|----|---------------|------------------|
| 1 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 2 | Kepala Tukang | 0,0250 | oh | 95.726 | 2.393,15 |
| 3 | Tukang kayu | 0,2500 | oh | 83.145 | 20.786,25 |
| 4 | Pekerja | 0,6000 | oh | 70.587 | 42.352,20 |
| | | | | Jumlah | 66.073,08 |

1 M3 UPAH GALIAN TANAH

| | | | | | |
|---|-------------------------|--------|----|---------------|------------------|
| 1 | Pekerja | 0,7500 | oh | 70.587 | 52.940,25 |
| 2 | Mandor | 0,0250 | oh | 108.296 | 2.707,40 |
| 3 | Alat bantu galian tanah | 1,0000 | bh | 10.500 | 10.500,00 |
| | | | | Jumlah | 66.147,65 |

1 M3 URUGAN TANAH KEMBALI

| | | | | | |
|---|---------|--------|----|---------------|------------------|
| 1 | Mandor | 0,0250 | oh | 108.296 | 2.707,40 |
| 2 | Pekerja | 0,7500 | bh | 70.587 | 52.940,25 |
| | | | | Jumlah | 55.647,65 |

PEMASANGAN PLAT RAMBU/LS

| | | | | | |
|---|---------------|--------|----|---------------|------------------|
| 1 | Mandor | 0,0050 | oh | 108.296 | 541,48 |
| 2 | Kepala Tukang | 0,0250 | oh | 95.726 | 2.393,15 |
| 3 | Tukang kayu | 0,5000 | oh | 83.145 | 41.572,50 |
| 4 | Pekerja | 0,2500 | oh | 70.587 | 17.646,75 |
| | | | | Jumlah | 62.153,88 |

DIREKSI KEET BESERTA PERLENGKAPANNYA (2010)

| | | | | | |
|---|----------------------|---------|--|---------------|----------------------|
| 1 | Kantor Konsultan | 40,0000 | | 750.000,00 | 30.000.000,00 |
| 2 | Kantor Kontraktor | 32,0000 | | 750.000,00 | 24.000.000,00 |
| 3 | Gudang | 36,0000 | | 600.000,00 | 21.600.000,00 |
| 4 | AC 1 1/2 PK | 4,0000 | | 3.500.000,00 | 14.000.000,00 |
| 5 | Meja kerja + kursi | 8,0000 | | 375.000,00 | 3.000.000,00 |
| 6 | Meja rapat + 8 kursi | 1,0000 | | 1.800.000,00 | 1.800.000,00 |
| 7 | MCK | 2,0000 | | 2.500.000,00 | 5.000.000,00 |
| | | | | Jumlah | 45.400.000,00 |

ASURANSI

| | | | | | |
|---|------------------------|--------|--|-------------------|-----------------------|
| 1 | Construction all risks | 0,0028 | | 34.545.454.545,45 | 95.000.000,00 |
| 2 | Asuransi tenaga kerja | 0,0010 | | 34.545.454.545,45 | 34.545.454,55 |
| | | | | Jumlah | 129.545.454,55 |

INSTALASI LISTRIK, PENERANGAN DAN AIR KERJA

| | | | | | |
|---|----------------------|--------|----|---------------|----------------------|
| 1 | Instalasi listrik | 1,0000 | ls | 10.000.000,00 | 10.000.000,00 |
| 2 | Instalasi air bersih | 1,0000 | ls | 5.000.000,00 | 5.000.000,00 |
| | | | | Jumlah | 15.000.000,00 |

PENGANGKUTAN 1Kg TIANG PANCANG KE TITIK TIANG PANCANG (2010)

| | | | | | |
|---|---------------------------------|--------|------|------------------|-------------------|
| 1 | Biaya crawl crane per hari | 0,0208 | hari | 2.889.000,00 | 60.187,50 |
| 2 | Biaya ponton transport per hari | 0,0208 | hari | 5.350.000,00 | 111.458,33 |
| | | | | Jumlah | 171.645,83 |
| | | | | HARGA/1KG | 171,65 |

1 M3 COR PONDASI RAMBU CAPURAN 1:2:3

| | | | | | |
|---|---------------|--------|-----|---------------|---------------------|
| 1 | Pekerja | 6,0000 | oh | 75.528,09 | 453.168,54 |
| 2 | Mandor | 0,3000 | oh | 115.876,72 | 34.763,02 |
| 3 | Tukang Batu | 1,0000 | oh | 88.965,15 | 88.965,15 |
| 4 | Kepala Tukang | 0,1000 | oh | 102.426,82 | 10.242,68 |
| 5 | Batu Kerikil | 0,8300 | m3 | 235.935,00 | 195.826,05 |
| 6 | Pasir Pasang | 0,5400 | m3 | 197.950,00 | 106.893,00 |
| 7 | Zak Semen | 8,5000 | zak | 69.550,00 | 591.175,00 |
| | | | | Jumlah | 1.481.033,44 |

PASANGAN BATA DIPLESTER DAN ACIAN

| | | | | | |
|---|------------|---------|------|---------------|-------------------|
| 1 | Bata merah | 65,0000 | buah | 1.000,00 | 65.000,00 |
| 2 | Pasir | 0,0600 | ls | 197.950,00 | 11.877,00 |
| 3 | Semen | 1,0000 | m2 | 69.550,00 | 69.550,00 |
| 4 | Mandor | 0,0250 | m3 | 115.876,72 | 2.896,92 |
| 5 | Tukang | 0,2500 | oh | 88.953,38 | 22.238,35 |
| 6 | Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| | | | | Jumlah | 247.090,35 |

PASANGAN BATA EXPOSED (2010)

| | | | | |
|---------------|---------|------|------------|-------------------|
| 1 Bata merah | 65,0000 | buah | 1.500,00 | 97.500,00 |
| 2 Pasir | 0,0500 | ls | 197.950,00 | 9.897,50 |
| 3 Semen | 0,5000 | m2 | 69.550,00 | 34.775,00 |
| 4 Mandor | 0,0250 | m3 | 115.876,72 | 2.896,92 |
| 5 Tukang | 0,2500 | oh | 88.953,38 | 22.238,35 |
| 6 Pekerja | 1,0000 | oh | 75.528,09 | 75.528,09 |
| Jumlah | | | | 242.835,85 |

PEKERJAAN KAYU KONSTRUKSI ATAP (2010)

| | | | | |
|---------------|---------|----|--------------|---------------------|
| 1 Kayu kls. I | 1,1000 | m3 | 6.120.988,50 | 6.733.087,35 |
| 2 Paku | 5,0000 | ls | 12.840,00 | 64.200,00 |
| 3 Mandor | 1,0000 | oh | 115.876,72 | 115.876,72 |
| 4 Tukang | 10,0000 | oh | 88.953,38 | 889.533,80 |
| 5 Pekerja | 20,0000 | oh | 75.528,09 | 1.510.561,80 |
| 6 Alat bantu | 1,0000 | ls | 50.000,00 | 50.000,00 |
| Jumlah | | | | 9.363.259,67 |

PEKERJAAN KAYU KONSTRUKSI ATAP (2010)

| | | | | |
|----------------|--------|----|---------------|-------------------|
| 1 Kayu kls. II | 0,0072 | m3 | 11.071.675,20 | 79.716,06 |
| 2 Paku | 0,5000 | ls | 12.840,00 | 6.420,00 |
| 3 Mandor | 0,2000 | m3 | 115.876,72 | 23.175,34 |
| 4 Tukang | 1,0000 | oh | 88.953,38 | 88.953,38 |
| 5 Pekerja | 2,0000 | oh | 75.528,09 | 151.056,18 |
| 6 Alat bantu | 1,0000 | ls | 50.000,00 | 50.000,00 |
| Jumlah | | | | 399.320,97 |

1M3 BETON B0 TANPA TULANGAN

| | | | | |
|------------------------|--------|-----|------------|-------------------|
| 1 Air | 0,2000 | ton | 4.494,00 | 898,80 |
| 2 Batu Pecah 2/3 | 0,8000 | m3 | 203.032,50 | 162.426,00 |
| 3 Concrete mixer | 1,2500 | jam | 58.850,00 | 73.562,50 |
| 4 Kepala tukang | 0,0300 | oh | 102.426,82 | 3.072,80 |
| 5 Mandor | 0,0250 | oh | 115.876,72 | 2.896,92 |
| 6 Pasir beton | 0,4500 | m3 | 189.390,00 | 85.225,50 |
| 7 Pekerja | 4,0000 | oh | 75.528,09 | 302.112,36 |
| 8 Semen PC (50 kg/zak) | 4,0000 | zak | 69.550,00 | 278.200,00 |
| 9 Tukang | 0,2500 | oh | 88.953,38 | 22.238,35 |
| Jumlah | | | | 930.633,23 |

1 M3 URUGAN PASIR DAN PEMADATAN

| | | | | |
|---------------------------|--------|------|--------------|-------------------|
| 1 Alat bantu galian tanah | 0,0200 | oh | 11.235,00 | 224,70 |
| 2 Damtruck | 0,0200 | hari | 1.835.799,00 | 36.715,98 |
| 3 Mandor | 0,0500 | oh | 115.876,72 | 5.793,84 |
| 4 Pekerja | 0,3000 | oh | 75.528,09 | 22.658,43 |
| 5 Pasir urug | 1,2000 | m3 | 144.450,00 | 173.340,00 |
| Jumlah | | | | 238.732,94 |

PEKERJAAN URUGAN DAN PEMADATAN SIRTU

| | | | | |
|------------------------|--------|------|------------|-------------------|
| 1 Mandor | 0,1420 | oh | 115.876,72 | 16.454,49 |
| 2 Motor Grader | 0,0248 | hari | 21.614,00 | 536,03 |
| 3 Sewa Bulldozer | 0,0640 | hari | 749.000,00 | 47.936,00 |
| 4 Sewa Tandem Roller | 0,0800 | hari | 367.866,00 | 29.429,28 |
| 5 Sewa Vibrator Roller | 0,1040 | jam | 160.500,00 | 16.692,00 |
| 6 Sirtu | 1,2000 | m3 | 173.340,00 | 208.008,00 |
| Jumlah | | | | 319.055,80 |

RENCANA ANGGARAN BIAYA PEMBANGUNAN DERMAGA PENYEBERANGAN

| Uraian/Kegiatan | Volume | Harga Satuan | Jumlah |
|--|---------------|---------------------|-------------------------|
| I PEKERJAAN PERSIAPAN | | | |
| 1 Pengukuran | 1,000 ls | 112.381.660,00 | 112.381.660,00 |
| 2 Penerangan/keselamatan kerja | 1,000 ls | 818.563.460,00 | 818.563.460,00 |
| 3 Mobilisasi dan demobilisasi | 1,000 ls | 401.785.000,00 | 401.785.000,00 |
| 4 Direksi Keet beserta perlengkapannya | 1,000 ls | 45.400.000,00 | 45.400.000,00 |
| 5 Pagar Pengaman Proyek | 1,000 m | 200.000,00 | 200.000,00 |
| 6 Asuransi | 1,000 ls | 96.630.432,05 | 96.630.432,05 |
| 7 Dokumentasi/Administrasi/As Built Drawing | 1,000 ls | 64.569.200,00 | 64.569.200,00 |
| Jumlah | | | 1.539.529.752,05 |
| II. KONSTRUKSI CAUSEWAY (108.72 M2) | | | |
| 1 Urugan Sirtu | 119,810 m3 | 319.055,80 | 38.226.075,57 |
| 2 Urugan dan pemadatan tanah | 303,900 m3 | 238.732,94 | 72.550.941,38 |
| 3 Timbunan batu kosong untuk talud | | | |
| - Pasangan batu kosong 40 - 60 kg/unit | 104,140 m3 | 187.250,00 | 19.500.215,00 |
| - Pasangan batu kosong 80 - 120 kg/unit | 280,690 m3 | 187.250,00 | 52.559.202,50 |
| 4 Geotextile | 289,500 m2 | 41.730,00 | 12.080.835,00 |
| 5 Perkerasan t= 40 cm | | | |
| - Batu 5/7 t=30 cm | 10,500 m3 | 142.042,50 | 1.491.446,25 |
| - Batu 3/5 t=10 cm | 31,500 m3 | 142.042,50 | 4.474.338,75 |
| 6 Pekerjaan Beton K-225 | | | |
| - Beton lantai t= 25 cm | 31,500 m3 | 7.816.318,40 | 246.214.029,56 |
| - Beton cansteen | 1,477 m3 | 12.392.338,05 | 18.298.061,66 |
| - Beton railling post | 0,490 m3 | 12.392.338,05 | 6.067.660,48 |
| 7 Pekerjaan Beton K-175 | | | |
| - Lantai kerja dibawah lantai | 5,361 m3 | 1.670.262,94 | 8.953.444,48 |
| - Beton tumbuk untuk trotoar | 1,440 m3 | 1.670.262,94 | 2.405.178,63 |
| 8 Lapisan pasir | | | |
| - Lapisan pasir t= 10cm dibawah lantai kerja | 10,872 m3 | 238.732,94 | 2.595.504,56 |
| - Lapisan pasir dibawah trotoar | 1,260 m3 | 238.732,94 | 300.803,51 |
| 9 Railing GSP 2.5", t= 3mm | 61,800 m' | 266.831,25 | 16.490.171,25 |
| 10 Lapisan permukaan dari asfalt pasir t=7cm | 79,500 m2 | 149.478,12 | 11.883.510,54 |
| 11 Besi siku L 100.100.8 (Hot Dip Galvanized) untuk Deletasi | 11,000 m' | 485.345,58 | 5.338.801,38 |
| Jumlah | | | 519.430.220,49 |
| III. KONSTRUKSI TRESTLE (432,25 M2) | | | |
| 1 Beton bertulang K-225 untuk plat lantai | 126,650 m3 | 7.816.318,40 | 989.936.725,21 |
| 2 Beton bertulang K-225 untuk balok | 56,210 m3 | 8.393.605,36 | 471.804.557,36 |
| 3 Beton bertulang K-225 untuk tiang railing | 1,620 m3 | 12.392.338,05 | 20.075.587,65 |
| 4 Beton bertulang K-225 untuk cansteen | 4,200 m3 | 12.392.338,05 | 52.047.819,82 |
| 5 Beton bertulang K-225 untuk pile cap | 34,580 m3 | 8.393.605,36 | 290.250.873,40 |
| 6 Beton bertulang K-225 untuk pengisi tiang | 8,480 m3 | 7.084.080,66 | 60.073.003,96 |
| 7 Beton bertulang K-225 untuk selimut tiang pancang | 3,010 m3 | 11.312.800,06 | 34.051.528,17 |
| 8 Beton tumbuk K-175 untuk trotoir t=5 cm | 4,550 m3 | 1.670.262,94 | 7.599.696,37 |
| 9 Pasir untuk trotoir | 9,090 m3 | 208.008,00 | 1.890.792,72 |
| 10 Lapisan aspal pasir | 403,000 m3 | 149.478,12 | 60.239.682,36 |
| 11 Pipa GSP D=2,5", t=3 mm | 240,000 m2 | 308.802,00 | 74.112.480,00 |
| 12 Tiang Baja D=711 mm, t=14,0 mm | 106,040 ton | 14.980.000,00 | 1.588.479.200,00 |
| 13 Pemancangan tiang pancang | 388,000 m' | 561.647,83 | 217.919.359,27 |
| 14 Pengecatan tiang pancang | 535,810 m2 | 160.240,60 | 85.858.515,89 |
| 15 Penyambungan tiang (setiap 12 m) | 40,000 bh | 648.024,00 | 25.920.960,00 |
| 16 Pemotongan tiang | 20,000 bh | 707.458,92 | 14.149.178,45 |
| 17 Plat penutup tiang | 20,000 bh | 689.117,93 | 13.782.358,60 |
| 18 Sepatu tiang pancang | 20,000 bh | 1.482.922,30 | 29.658.446,00 |
| 20 Delatasi | 7,000 m | 460.691,30 | 3.224.839,10 |
| 21 Conbloc | 154,870 m2 | 173.875,00 | 26.928.021,25 |
| 22 PVC buangan air @ 6m, 2 sisi | 7,200 m' | 104.004,00 | 748.828,80 |
| 23 Angkur dudukan tiang listrik | 4,000 bh | 311.584,00 | 1.246.336,00 |
| Jumlah | | | 4.069.998.790,37 |
| Per m2 | | | 8.297.652,99 |

IV. DUDUKAN TRESTLE / ABUTMENT (1 BUAH)

| | | | | |
|----|---------------------------------------|------------|---------------|-----------------------|
| 1 | Beton bertulang K-225 untuk pile cap | 19,950 m3 | 8.393.605,36 | 167.452.426,96 |
| 2 | Beton bertulang K-225 plat injak | 7,420 m3 | 7.816.318,40 | 57.997.082,52 |
| 3 | Beton bertulang K-225 plat sayap | 1,360 m3 | 7.816.318,40 | 10.630.193,02 |
| 4 | Beton bertulang K-225 pengisian tiang | 1,270 m3 | 7.084.080,66 | 8.996.782,43 |
| 5 | Beton bertulang K-225 selimut tiang | 0,450 m3 | 11.312.800,06 | 5.090.760,03 |
| 6 | Tiang baja D=711 mm, t=14,0 mm | 13,010 ton | 14.980.000,00 | 194.889.800,00 |
| 7 | Pemancangan tiang pancang | 36,000 m' | 561.647,83 | 20.219.321,99 |
| 8 | Pengecatan tiang pancang | 80,370 m2 | 160.240,60 | 12.878.537,02 |
| 9 | Penyambungan tiang (setiap 6 m) | 6,000 bh | 648.024,00 | 3.888.144,00 |
| 10 | Pemotongan tiang | 3,000 bh | 707.458,92 | 2.122.376,77 |
| 11 | Plat penutup tiang | 3,000 bh | 689.117,93 | 2.067.353,79 |
| 12 | Sepatu tiang | 3,000 bh | 1.482.922,30 | 4.448.766,90 |
| 13 | Delatasi | 65,520 kg | 460.691,30 | 30.184.493,98 |
| | | | Jumlah | 520.866.039,41 |

V. DUDUKAN MOVABLE BRIDGE (1 BUAH)

| | | | | |
|----|---|-------------|---------------|-------------------------|
| 1 | Beton bertulang K-225 untuk pile cap | 83,500 m3 | 8.393.605,36 | 700.866.047,68 |
| 2 | Beton bertulang K-225 pengisian tiang | 2,430 m3 | 7.084.080,66 | 17.214.315,99 |
| 3 | Beton bertulang K-225 selimut tiang | 3,780 m3 | 11.312.800,06 | 42.762.384,22 |
| 4 | Tiang baja D=711 mm, t=14,0 mm | 86,760 ton | 14.980.000,00 | 1.299.664.800,00 |
| 5 | Pemancangan tiang pancang | 360,000 m' | 561.647,83 | 202.193.219,94 |
| 6 | Pengecatan tiang pancang | 267,900 m2 | 160.240,60 | 42.928.456,74 |
| 7 | Penyambungan tiang (setiap 6 m) | 20,000 bh | 648.024,00 | 12.960.480,00 |
| 8 | Pemotongan tiang | 10,000 bh | 707.458,92 | 7.074.589,23 |
| 9 | Plat penutup tiang | 10,000 bh | 689.117,93 | 6.891.179,30 |
| 10 | Sepatu tiang pancang | 10,000 bh | 1.482.922,30 | 14.829.223,00 |
| 11 | Plat baja penghubung MB ke dudukan MB | 710,000 kg | 14.445,00 | 10.255.950,00 |
| 12 | Baja untuk trench | 1356,000 kg | 14.445,00 | 19.587.420,00 |
| 13 | Bracing baja pengikat tiang WF.200.200.8.12 | 1147,700 kg | 14.445,00 | 16.578.526,50 |
| 14 | Angker plat landas catwalk dia.25 mm | 16,000 buah | 242.997,00 | 3.887.952,00 |
| 15 | Baja Trench | 2332,800 kg | 188.908,50 | 440.685.748,80 |
| 16 | Angkur dudukan engsel MB | 2,000 unit | 2.491.816,00 | 4.983.632,00 |
| | | | Jumlah | 2.843.363.925,39 |

VI. MOORING DOLPHIN (3 BUAH)

| | | | | |
|----|--|---------------|-----------------|-------------------------|
| 1 | Beton bertulang K-225 untuk pile cap | 159,130 m3 | 8.393.605,36 | 1.335.674.421,16 |
| 2 | Beton bertulang K-225 pengisian tiang | 14,590 m3 | 7.084.080,66 | 103.356.736,77 |
| 3 | Beton bertulang K-225 selimut tiang | 13,380 m3 | 11.312.800,06 | 151.365.264,77 |
| 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 52,950 ton | 14.980.000,00 | 793.191.000,00 |
| 5 | Pengangkutan 1 kg tiang pancang ketitik pancang | 145390,080 kg | 171,65 | 24.955.601,44 |
| 6 | Pemancangan tiang pancang | 576,000 m' | 561.648 | 323.509.151,90 |
| 7 | Pengecatan tiang pancang | 505,590 m2 | 160.240,60 | 81.016.044,95 |
| 8 | Penyambungan tiang (setiap 6 m) | 36,000 bh | 648.024,00 | 23.328.864,00 |
| 9 | Pemotongan tiang | 18,000 bh | 707.458,92 | 12.734.260,61 |
| 10 | Plat penutup tiang | 18,000 bh | 689.117,93 | 12.404.122,74 |
| 11 | Sepatu tiang | 18,000 bh | 1.482.922,30 | 26.692.601,40 |
| 12 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 3173,640 kg | 14.445,00 | 45.843.229,80 |
| 13 | Bollard/bolder kapasitas 70 ton | 3,000 bh | 24.824.000,00 | 74.472.000,00 |
| 14 | Angkur dudukan tiang listrik | 3,000 bh | 311.584,00 | 934.752,00 |
| 15 | Angkur plat landasan catwalk | 8,000 bh | 242.997,00 | 1.943.976,00 |
| | | | Jumlah | 3.011.422.027,54 |
| | | | Per buah | 1.003.807.342,51 |

VII. BREASTING DOLPHIN (5 BUAH)

| | | | | |
|----|--|---------------|---------------|------------------|
| 1 | Beton bertulang K-225 untuk pile cap | 479,050 m3 | 8.393.605,36 | 4.020.956.648,38 |
| 2 | Beton bertulang K-225 untuk pengisi tiang pancang | 60,340 m2 | 7.084.080,66 | 427.453.426,77 |
| 3 | Beton bertulang K-225 selimut tiang | 40,110 m3 | 11.312.800,06 | 682.614.355,46 |
| 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 405,980 ton | 14.980.000,00 | 6.081.580.400,00 |
| 5 | Pengangkutan 1 kg tiang pancang ketitik tiang | 441280,000 kg | 171,65 | 75.743.873,33 |
| 6 | Pemancangan tiang pancang | 1600,000 m' | 561.647,83 | 898.636.533,07 |
| 7 | Pengecatan tiang pancang | 1530,580 m2 | 160.240,60 | 245.261.057,55 |
| 8 | Penyambungan tiang (setiap 6 m) | 100,000 bh | 648.024,00 | 64.802.400,00 |
| 9 | Pemotongan tiang | 50,000 bh | 707.458,92 | 35.372.946,13 |
| 10 | Plat penutup tiang | 50,000 bh | 689.117,93 | 34.455.896,50 |
| 11 | Sepatu tiang pancang | 50,000 bh | 171.645,83 | 8.582.291,67 |
| 12 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 4154,180 kg | 14.445,00 | 60.007.130,10 |
| 13 | Bollard/bolder kapasitas 25 ton | 10,000 bh | 24.824.000,00 | 248.240.000,00 |
| 14 | Angkur plat landasan catwalk | 20,000 bh | 242.997,00 | 4.859.940,00 |

| | | | | |
|----|---|-----------------|--------------------------|----------------|
| 15 | Angkur dudukan tiang listrik | 5,000 bh | 311.584,00 | 1.557.920,00 |
| 16 | Frontal frame | 5,000 bh | 107.506.709,11 | 537.533.545,54 |
| 17 | U Anchor Stainles Stile ϕ 50 mm (for supporting chaine) | 45,000 set | 1.468.767,60 | 66.094.542,00 |
| 18 | Supporting chaine ϕ 32 mm inc. ADJ Shackle ϕ 42 mm (S 25 C) (Hot Dip Galvanized) | 45,000 set | 2.000.000,00 | 90.000.000,00 |
| 19 | Plate landas # 700 x 300 x 12 inc. angkur ϕ 16 mm (Hot Dip Galvanized) | 15,000 set | 382.214,70 | 5.733.220,50 |
| 20 | Fender ukuran SM800 L= 1.5 m | 10,000 bh | 34.240.000,00 | 342.400.000,00 |
| | | Jumlah | 13.931.886.126,98 | |
| | | Per buah | 2.786.377.225,40 | |

VIII. KONSTRUKSI DUDUKAN HIDROLIK (2 BUAH)

| | | | | |
|----|--|-----------------|-------------------------|------------------|
| 1 | Beton bertulang K-225 untuk pile cap | 114,540 m3 | 8.393.605,36 | 961.403.558,09 |
| 2 | Beton bertulang K-225 pengisian tiang | 3,650 m3 | 7.084.080,66 | 25.856.894,39 |
| 3 | Beton bertulang K-225 selimut tiang | 0,530 m3 | 11.312.800,06 | 5.995.784,03 |
| 4 | Tiang baja D=711 mm, t=14,0 mm | 69,410 ton | 14.980.000,00 | 1.039.761.800,00 |
| 6 | Pemancangan tiang pancang | 288,000 m' | 561.647,83 | 161.754.575,95 |
| 7 | Pengecatan tiang pancang | 1071,620 m2 | 160.240,60 | 171.717.031,77 |
| 8 | Penyambungan tiang (setiap 6 m) | 16,000 bh | 648.024,00 | 10.368.384,00 |
| 9 | Pemotongan tiang | 8,000 bh | 707.458,92 | 5.659.671,38 |
| 10 | Plat penutup tiang | 8,000 bh | 689.117,93 | 5.512.943,44 |
| 11 | Sepatu tiang | 8,000 bh | 1.482.922,30 | 11.863.378,40 |
| 12 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 558,880 kg | 14.445,00 | 8.073.021,60 |
| 13 | Angkur Portal baja penggantung hidrolik | 4,000 bh | 17.170.825,00 | 68.683.300,00 |
| 14 | Anker plat landas catwalk dia.25 mm | 48,000 bh | 242.997,00 | 11.663.856,00 |
| 15 | plat baja landasan guide roller MB | 844,030 bh | 14.445,00 | 12.192.013,35 |
| | | Jumlah | 2.500.506.212,41 | |
| | | Per buah | 1.250.253.106,21 | |

IX. KONSTRUKSI PELINDUNG MB (2 BUAH)

| | | | | |
|----|--|-----------------|-------------------------|----------------|
| 1 | Beton bertulang K-225 untuk pile cap | 17,360 m3 | 8.393.605,36 | 145.712.989,07 |
| 2 | Beton bertulang K-225 pengisian tiang | 4,840 m3 | 7.084.080,66 | 34.286.950,37 |
| 3 | Beton bertulang K-225 selimut tiang | 2,150 m3 | 11.312.800,06 | 24.322.520,12 |
| 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 23,700 ton | 14.980.000,00 | 355.026.000,00 |
| 5 | Pengangkutan 1 kg tiang pancang ketitik pancang | 49644,000 kg | 171,65 | 8.521.185,75 |
| 6 | Pemancangan tiang pancang | 180,000 m' | 561.647,83 | 101.096.609,97 |
| 7 | Pengecatan tiang pancang | 1530,580 m2 | 160.240,60 | 245.261.057,55 |
| 8 | Penyambungan tiang (setiap 6 m) | 40,000 bh | 648.024,00 | 25.920.960,00 |
| 9 | Pemotongan tiang | 5,000 bh | 707.458,92 | 3.537.294,61 |
| 10 | Plat penutup tiang | 5,000 bh | 689.117,93 | 3.445.589,65 |
| 11 | Sepatu tiang pancang | 5,000 bh | 1.482.922,30 | 7.414.611,50 |
| 12 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 300,000 kg | 14.445,00 | 4.333.500,00 |
| 13 | Frontal frame | 1,000 bh | 148.393.797,11 | 148.393.797,11 |
| 14 | Fender ukuran CELL 400 | 3,000 bh | 27.897.682,00 | 83.693.046,00 |
| 15 | Pemasangan fender CELL 400 | 3,000 | 29.602.657,00 | 88.807.971,00 |
| 16 | Pemasangan frontal frame | 1,000 | 148.393.797,11 | 148.393.797,11 |
| | | Jumlah | 1.279.774.082,71 | |
| | | Per buah | 639.887.041,35 | |

X. CATWALK 18 M2

| | | | | |
|----|--|---------------|----------------------|----------------|
| 1 | Beton bertulang K-225 untuk pile cap | 6,480 m3 | 8.393.605,36 | 54.390.562,74 |
| 2 | Beton bertulang K-225 pengisian tiang | 1,760 m3 | 7.084.080,66 | 12.467.981,95 |
| 3 | Beton bertulang K-225 selimut tiang | 1,640 m3 | 11.312.800,06 | 18.552.992,09 |
| 4 | Beton bertulang pelat lantai | 8,520 m3 | 7.532.978,96 | 64.180.980,73 |
| 5 | Tiang baja D=711.2 mm, t = 14,0 mm | 11,568 ton | 14.980.000,00 | 173.288.640,00 |
| 6 | Pengangkutan 1 kg tiang pancang ke titik tiang | 18,487 kg | 171,65 | 3.173,22 |
| 7 | Pemancangan tiang pancang | 76,800 m' | 561.647,83 | 43.134.553,59 |
| 8 | Pengecatan tiang pancang | 42,900 m2 | 160.240,60 | 6.874.321,74 |
| 9 | Penyambungan tiang (setiap 6 m) | 12,000 bh | 648.024,00 | 7.776.288,00 |
| 10 | Pemotongan tiang | 6,000 bh | 707.458,92 | 4.244.753,54 |
| 11 | Plat penutup tiang | 6,000 bh | 689.117,93 | 4.134.707,58 |
| 12 | Sepatu tiang pancang | 6,000 bh | 1.482.922,30 | 8.897.533,80 |
| 13 | Profil baja WF 100.50.5.7 | 2128,000 kg | 14.445,00 | 30.738.960,00 |
| 14 | Profil baja WF 200.100.8.12 | 299,500 kg | 14.445,00 | 4.326.277,50 |
| 15 | Profil baja WF 450.250.9.12 | 102,600 kg | 14.445,00 | 1.482.057,00 |
| 16 | Plat baja t=12 mm | 100,000 kg | 14.445,00 | 1.444.500,00 |
| 17 | Plat baja t=8 mm | 20,000 kg | 14.445,00 | 288.900,00 |
| 18 | Bondex | 16,800 m2 | 430.782,00 | 7.237.137,60 |
| 19 | Beton bertulang K-225 plat di atas bondex | 2,000 m3 | 7.816.318,40 | 15.632.636,80 |
| 20 | Pipa railing dia. 2,5", tebal 3 mm | 28,000 m2 | 266.831,25 | 7.471.275,00 |
| | | Jumlah | 68.621.743,90 | |

XI. KONSTRUKSI DUDUKAN & RUANG KONTROL (1 BUAH)

| | | | | |
|----|---|------------|---------------|-----------------------|
| 1 | Beton bertulang K-225 untuk plat lantai | 3,610 m3 | 7.816.318,40 | 28.216.909,42 |
| 2 | Beton bertulang K-225 untuk balok | 2,090 m3 | 12.392.338,05 | 25.899.986,53 |
| 3 | Beton bertulang K-225 pile cap | 3,380 m3 | 8.393.605,36 | 28.370.386,12 |
| 4 | Beton bertulang K-225 pengisi tiang | 1,500 m3 | 7.084.080,66 | 10.626.120,98 |
| 5 | Beton bertulang K-225 selimut tiang | 0,800 m3 | 11.312.800,06 | 9.050.240,05 |
| 6 | Tiang baja D=711 mm, t=14,0 mm | 6,270 ton | 14.980.000,00 | 93.924.600,00 |
| 7 | Pemancangan tiang pancang | 26,000 m' | 561.647,83 | 14.602.843,66 |
| 8 | Pengecatan tiang pancang | 26,000 m2 | 160.240,60 | 4.166.255,60 |
| 9 | Penyambungan tiang | 26,790 bh | 648.024,00 | 17.360.562,96 |
| 10 | Pemotongan tiang | 1,000 bh | 707.458,92 | 707.458,92 |
| 11 | Sepatu tiang | 1,000 bh | 1.482.922,30 | 1.482.922,30 |
| 12 | Plat penutup tiang | 1,000 bh | 689.117,93 | 689.117,93 |
| 13 | Baja untuk trench | 990,000 kg | 188.908,50 | 187.019.415,00 |
| 14 | Rumah kontrol | 14,440 m2 | 2.410.924,00 | 34.813.742,56 |
| | | | Jumlah | 456.930.562,04 |

XII. RUMAH KONTROL 14 m2

| | | | | |
|---|------------------------------------|------------|---------------|-----------------------|
| 1 | Beton K-225 | | | |
| | - Beton bertulang sloop | 0,415 m3 | 7.578.917,00 | 3.145.061,08 |
| | - Beton bertulang kolom | 0,617 m3 | 7.578.917,00 | 4.676.949,68 |
| | - Beton bertulang ring balok | 0,540 m3 | 7.578.917,00 | 4.090.909,92 |
| 2 | Pekerjaan dinding | | | |
| | - Pasangan bata dipleser dan acian | 4,250 m2 | 247.090,35 | 1.050.134,00 |
| | - Pasangan bata exposed | 12,331 m2 | 242.835,85 | 2.994.408,90 |
| | - Bata kerawang | 1,000 m2 | 296.508,42 | 296.508,42 |
| 3 | Pekerjaan atap | | | |
| | - Konstruksi atap kayu kls. II | 2,000 m3 | 9.363.259,67 | 18.726.519,34 |
| | - Lisplank 30/200 | 4,720 m2 | 149.558,97 | 705.918,34 |
| | - Penutup atap zinalume t= 0.40 mm | 55,176 m2 | 108.700,00 | 5.997.631,20 |
| | - Bubungan zinalume | 18,480 m' | 88.400,00 | 1.633.632,00 |
| 4 | Pekerjaan kusen | | | |
| | - Kusen pintu | 1,000 unit | 9.993.320,75 | 9.993.320,75 |
| | - Kusen jendela | 5,000 unit | 9.993.320,75 | 49.966.603,75 |
| | - Daun pintu panil kayu ulin | 1,000 unit | 913.931,28 | 913.931,28 |
| | - Daun jendela panil kayu lanan | 4,000 unit | 743.537,74 | 2.974.150,96 |
| | - Daun jendela kaca mati 5 mm | 1,000 unit | 889.937,60 | 889.937,60 |
| 5 | Pekerjaan penggantung | 1,000 ls | 5.000.000,00 | 5.000.000,00 |
| | | | Jumlah | 113.055.617,23 |

XIII. PEMBUATAN JALAN & LAPANGAN PENETRASI DENGAN KOLAKAN (L=2.150 M2, TEBAL = 7 CM)

| | | | | |
|---|--|-------------|---------------|-------------------------|
| 1 | Lap. Penetrasi asphalt beton t=7 cm | 2149,400 m2 | 149.478,12 | 321.288.271,13 |
| 2 | Lap. Base course dari batu pecah 3/5 cm, t=10 cm | 214,900 m3 | 992.259,62 | 213.236.592,34 |
| 3 | Lap. Base course dari batu pecah 5/7 cm, t=30 cm | 644,800 m3 | 992.259,62 | 639.809.002,98 |
| 4 | Pemadatan lapangan subgrade | 2149,400 m2 | 72.974,00 | 156.850.315,60 |
| 5 | Lap. Prime coat AC 60/70 2,5 kg/m2 | 2149,400 m2 | 31.137,00 | 66.925.867,80 |
| | | | Jumlah | 1.398.110.049,84 |

XIV. PEMBANGUNAN MOVALBE BRIDGE (185.6 M2)

| | | | | |
|---|--|--------------|-----------|----------------|
| 1 | Konstruksi baja untuk moveable bridge | | | |
| | - Penggantung hidraulik silinder termasuk angkurnya, handrailing dan tangga (Hoisting Frame) (±6000 kg/unit) | 12000,000 kg | 35.000,00 | 420.000.000,00 |
| | - Gelagar utama (main beam) jembatan termasuk cantilever balok pengangkat, bushing (±8500 kg/unit) | 17000,000 kg | 35.000,00 | 595.000.000,00 |
| | - Balok melintang (Cross beam) H 800x300x16x30, termasuk pelat pengaku t= 12 mm (± 2600 kg/unit) | 23400,000 kg | 35.000,00 | 819.000.000,00 |
| | - Balok melintang bagian depan (Front beam) ± 2000 kg/unit) | 2000,000 kg | 35.000,00 | 70.000.000,00 |
| | - Balok melintang bagian belakang (End beam) ± 3500 kg/unit) | 3500,000 kg | 35.000,00 | 122.500.000,00 |
| | - Balok memanjang (Longitudinal beam) H 300x200x12x16 (± 1200 kg/unit) | 15600,000 kg | 35.000,00 | 546.000.000,00 |
| | - Balok pengangkat (Lifting beam) H 856x550x20x40 (± 5000 kg/unit) | 5000,000 kg | 35.000,00 | 175.000.000,00 |
| | - Grating lantai MB, tebal grating 150mm (6 m x 10 m) ± 150 kg/unit (Hot Dip. Galvanized) | 24000,000 kg | 35.000,00 | 840.000.000,00 |
| | - Chekered plate t= 12 mm, Hot Dip Galvanized (6 m x 10 m) (± 95 kg/m2) | 5700,000 kg | 35.000,00 | 199.500.000,00 |
| | - Dudukan engsel Movable Bridge (± 1000 kg/unit) | 2000,000 kg | 35.000,00 | 70.000.000,00 |
| | - Roda penuntun (guide roller) lengkap dengan shaftnya, grease nipple dan konduit tembaga (± 230 kg/unit) | 460,000 kg | 35.000,00 | 16.100.000,00 |
| | - Landasan roda penuntun pelat 600 x 4800 mm, t= 12 mm termasuk angkurnya (± 300 kg/unit) | 600,000 kg | 35.000,00 | 21.000.000,00 |

| | | | |
|--|---------------|----------------|-------------------------|
| - Guard rail t= 3 mm, accessories dan post-nya dia. 6" H= 900 mm pipa schd. 40 di galvanis, 2 @12 m (± 30 kg/m) | 720,000 kg | 35.000,00 | 25.200.000,00 |
| - Sackle dia. 145 mm dan shaft-nya komplit (± 320 kg/unit) | 1280,000 kg | 35.000,00 | 44.800.000,00 |
| - Joint plate penghubung hidraulik silinder dan lifting bracket termasuk shaft-nya (± 550 kg/unit) | 1100,000 kg | 35.000,00 | 38.500.000,00 |
| - Hook penggantung MB t= 70 mm termasuk shaft dan accessories (± 450 kg/unit) | 900,000 kg | 35.000,00 | 31.500.000,00 |
| - Joint plate penghubung lifting beam dengan hook penggantung, pelat = 40 mm termasuk shaft-nya (± 800 kg/unit) | 1600,000 kg | 35.000,00 | 56.000.000,00 |
| - Joint plate penghubung lifting beam dengan hidraulik silinder, pelat t= 50 mm termasuk shaft-nya (± 750 kg/unit) | 1500,000 kg | 35.000,00 | 52.500.000,00 |
| - Shaft engsel MB, dia. 220 mm, panjang ± 320 mm dilapisi hardcor material S45C dilengkapi greas nipple (± 100 kg/unit) | 200,000 kg | 50.000,00 | 10.000.000,00 |
| - Pekerjaan pemasangan struktur baja MB (Total ± 120000 Kg) | 120000,000 kg | 1.000,00 | 120.000.000,00 |
| 2 Engsel movable bridge | 2 unit | 28.960.834,00 | 57.921.668,00 |
| 3 Transpor material baja dari workshop ke site | 85 ton | 1.605.000,00 | 136.425.000,00 |
| 4 Portal penggantung hidrolik | 2 bh | 161.386.281,00 | 322.772.562,00 |
| 5 Erection | 85 ton | 2.000.000,00 | 170.000.000,00 |
| 6 Tackle electric kapasitas 35 ton/unit | 2 unit | 349.948.422,00 | 699.896.844,00 |
| 7 Generator set kapasitas 25 KVA | 1 unit | 250.610.906,00 | 250.610.906,00 |
| 8 Lampu sorot 100 watt | 4 unit | 4.280.000,00 | 17.120.000,00 |
| | Jumlah | | 5.927.346.980,00 |

XV. HYDRAULIK

| | | | |
|---|---------------|------------------|-------------------------|
| 1 Hidraulik Cylinder Type Celvis Mounting Ø = 180 mm | 2,000 buah | 2.147.515.359,00 | 4.295.030.718,00 |
| 2 Hidraulik power unit Type Foot Mounted 25 KW | 1,000 buah | 869.450.135,40 | 869.450.135,40 |
| 3 Panel listrik | 1,000 buah | 48.685.000,00 | 48.685.000,00 |
| 4 Pipa hidraulik Type Van Pump operation pressure max 140 kg/cm ² | 1,000 set | 397.925.536,48 | 397.925.536,48 |
| 5 Alarm Balancer | 1,000 set | 21.400.000,00 | 21.400.000,00 |
| 6 Pemasangan hidraulik cylinder, instalasi, pembersihan pipa dan oli untuk operasional, testing dan training | 1,000 ls | 107.000.000,00 | 107.000.000,00 |
| | Jumlah | | 5.739.491.389,88 |

XVI. LAMPU PENERANGAN

| | | | |
|--|---------------|---------------|-----------------------|
| 1 Instalasi penerangan | 300,000 m' | 31.462,65 | 9.438.795,62 |
| 2 Pengadaan pemasangan LPJU (solar cell) | 7,000 bh | 37.450.000,00 | 262.150.000,00 |
| 3 Box Panel penerangan | 1,000 bh | 32.100.000,00 | 32.100.000,00 |
| | Jumlah | | 303.688.795,62 |

RENCANA ANGGARAN BIAYA PEMBANGUNAN DERMAGA SUNGAI DAN DANAU

| No. | Uraian/Kegiatan | Volume | Harga Satuan | Jumlah |
|--|--|--------------|---------------|-----------------------|
| I. PEMBUATAN DERMAGA KAYU ULIN TIANG PANCANG 15 M (21 M2) | | | | |
| 1 | Tiang kayu ulin 20/20 panjang 15 M (induk) | 9,00 m3 | 6.538.342,00 | 58.845.078,00 |
| 2 | Tiang kayu ulin 20/20 panjang 15 M (gapit) | 9,00 m3 | 6.777.722,40 | 60.999.501,60 |
| 3 | Melancarkan tiang pancang | 18,00 m3 | 28.720,88 | 516.975,84 |
| 4 | Pemancangan tiang | 72,00 m3 | 1.419.753,49 | 102.222.251,42 |
| 5 | Membuat pen dan lobang | 12,00 m3 | 55.630,56 | 667.566,72 |
| 6 | Sloof kayu ulin 20x 20 cm | 0,97 ton | 12.560.516,00 | 12.208.821,55 |
| 7 | Gelagar kayu ulin 20 x 20 cm | 0,81 m' | 12.560.516,00 | 10.174.017,96 |
| 8 | Gapit/Kalang 20 x 20 cm | 1,70 m2 | 12.560.516,00 | 21.352.877,20 |
| 9 | Lantai kayu ulin 5/20 cm | 20,00 bh | 747.422,77 | 14.948.455,40 |
| 10 | Baut 5/8" Panjang 40 cm | 50,00 bh | 35.524,00 | 1.776.200,00 |
| 11 | Baut 5/8" Panjang 45 cm | 50,00 bh | 41.516,00 | 2.075.800,00 |
| 12 | Plat beugel Tebal 5 mm | 17,00 kg | 14.445,00 | 245.565,00 |
| 13 | Balok pengaman 20 x 20 | 0,26 kg | 12.560.516,00 | 3.265.734,16 |
| Total | | | | 289.298.844,86 |
| Per M2 | | | | 13.776.135,47 |
| II PEMBUATAN BAJA PONTON 115 M2 | | | | |
| 1 | Rangka ponton L. 70.70.7 | 4.251,00 kg | 13.589,00 | 57.766.839,00 |
| 2 | Sekat ponton T.10 mm | 3.700,00 kg | 13.589,00 | 50.279.300,00 |
| 3 | Plat ponton T.12 mm Marine Plat | 27.321,00 kg | 14.445,00 | 394.651.845,00 |
| 4 | Plat Profil baja U ponton | 12.185,00 kg | 14.445,00 | 176.012.325,00 |
| 5 | IWF | 1.743,00 kg | 15.836,00 | 27.602.148,00 |
| Total | | | | 706.312.457,00 |
| Per M2 | | | | 6.141.847,45 |
| III PEMBUATAN JEMBATAN DERMAGA KAYU KAMPER (21 M2) | | | | |
| 1 | Tiang kayu ulin 20/20 panjang 15 M (induk) | 6,00 btg | 6.538.342,00 | 39.230.052,00 |
| 2 | Tiang kayu ulin 20/20 panjang 15 M (gapit) | 6,00 btg | 6.777.722,40 | 40.666.334,40 |
| 3 | Melancarkan tiang pancang | 12,00 bh | 28.720,88 | 344.650,56 |
| 4 | Pemancangan tiang | 48,00 MI | 1.419.753,49 | 68.148.167,62 |
| 5 | Membuat pen dan lobang | 12,00 bh | 55.630,56 | 667.566,72 |
| 6 | Sloof kayu kamper klas I 15 x 15 cm | 0,73 m3 | 12.560.516,00 | 9.156.616,16 |
| 7 | Gelagar kayu kamper klas I 10 x 10 cm | 0,41 m3 | 12.560.516,00 | 5.087.008,98 |
| 8 | Gapit/Kalang 10 x 10 cm | 0,85 m3 | 12.560.516,00 | 10.676.438,60 |
| 9 | Lantai kayu kamper klas I 5/20 cm | 20,00 m2 | 747.422,77 | 14.948.455,40 |
| 10 | Baut 3/8" Panjang 20 cm | 40,00 bh | 13.803,00 | 552.120,00 |
| 11 | Baut 5/8" Panjang 40 cm | 50,00 bh | 35.524,00 | 1.776.200,00 |
| 12 | Plat beugel Tebal 5 mm | 17,00 bh | 14.445,00 | 245.565,00 |
| 13 | Balok pengaman 10 x 10 per m3 | 0,13 m3 | 12.560.516,00 | 1.632.867,08 |
| Total | | | | 193.132.042,52 |
| Per M2 | | | | 9.196.763,93 |

IV PEKERJAAN TURAP KAYU (TINGGI 4 M) / SIRING 80 M

| | | | | | |
|---|------------------------------|--------|-----|---------------|-----------------------|
| 1 | Kayu galam dia. 10 cm x 6 m | 42,00 | btg | 142.203,00 | 5.972.526,00 |
| 2 | Melancarkan tiang pancang | 42,00 | bh | 28.720,88 | 1.206.276,96 |
| 3 | Pemancangan kayu galam | 504,00 | MI | 1.419.753,49 | 715.555.759,97 |
| 4 | Sloof kayu galam dia. 10-6 m | 70,00 | btg | 601.340,00 | 42.093.800,00 |
| 5 | Gapit kayu galam dia. 6-4 m | 260,00 | btg | 107.107,00 | 27.847.820,00 |
| 6 | Papan kayu meranti | 12,80 | m3 | 4.329.220,00 | 55.414.016,00 |
| | | | | Total | 848.090.198,93 |
| | | | | Per M2 | 10.601.127,49 |

V PEMBUATAN FENDER SUNGAI (FABRICATION)

(dibuat di pabrik dengan spec teknis)

| | | | | |
|---------------------------------|------|----|--------------|--------------|
| Pembuatan fendeer (Fabrication) | 1,00 | bh | 4.559.698,00 | 4.559.698,00 |
|---------------------------------|------|----|--------------|--------------|

VI PEMBUATAN DERMAGA DAN TRESTEL KAYU BESI (21 M2)

| | | | | | |
|----|---|-------|-----|---------------|-----------------------|
| 1 | Pengadaan tiang pancang 20 x 20, p=15 m (induk) | 9,00 | btg | 6.538.342,00 | 58.845.078,00 |
| 2 | Pengadaan tiang pancang 20 x 20, p=15 m (gapit) | 9,00 | btg | 6.777.722,40 | 60.999.501,60 |
| 3 | Melancarkan tiang pancang | 18,00 | bh | 28.720,88 | 516.975,84 |
| 4 | Pemancangan tiang | 72,00 | MI | 1.419.753,49 | 102.222.251,42 |
| 5 | Membuat pen dan lobang | 12,00 | bh | 55.630,56 | 667.566,72 |
| 6 | Sloof kayu ulin 20 x 20 cm | 0,97 | m3 | 12.560.516,00 | 12.208.821,55 |
| 7 | Gelagar kayu ulin 20 x 20 cm | 0,81 | m3 | 12.560.516,00 | 10.174.017,96 |
| 8 | Gapit/Kalang 20 x 20 cm | 1,70 | m3 | 12.560.516,00 | 21.352.877,20 |
| 9 | Lantai kayu ulin 5/20 cm | 20,00 | m2 | 747.422,77 | 14.948.455,40 |
| 10 | Baut 5/8" Panjang 40 cm | 50,00 | bh | 35.524,00 | 1.776.200,00 |
| 11 | Baut 5/8" Panjang 45 cm | 50,00 | bh | 41.516,00 | 2.075.800,00 |
| 12 | Plat beugel Tebal 5 mm | 17,00 | bh | 14.445,00 | 245.565,00 |
| 13 | Balok pengaman 20 x 20 per m3 | 0,26 | m3 | 12.560.516,00 | 3.265.734,16 |
| | | | | Total | 289.298.844,86 |
| | | | | Per M2 | 13.776.135,47 |

VII PEMBUATAN RUANG TUNGGU

| | | | | | |
|---|--------------------------|--------|----|--------------|-----------------------|
| 1 | Pembangunan ruang tunggu | 200,00 | m2 | 1.805.020,45 | 361.004.090,00 |
| | | | | Total | 361.004.090,00 |

VIII PEMBUATAN DERMAGA Pendaratan SUNGAI/DANAU

| | | | | | |
|----|--|-------|-----|---------------|-----------------------|
| 1 | Pengadaan tiang pancang 15 x 15, p=6 m (induk) | 6,00 | btg | 645.338,40 | 3.872.030,40 |
| 2 | Pengadaan tiang pancang 15 x 15, p=8 m (gapit) | 6,00 | btg | 867.727,20 | 5.206.363,20 |
| 3 | Melancarkan tiang pancang | 12,00 | bh | 28.720,88 | 344.650,56 |
| 4 | Pemancangan tiang | 48,00 | MI | 1.419.753,49 | 68.148.167,62 |
| 5 | Membuat pen dan lobang | 12,00 | bh | 55.630,56 | 667.566,72 |
| 6 | Sloof kayu ulin 15 x 15 cm | 0,73 | m3 | 12.560.516,00 | 9.156.616,16 |
| 7 | Gelagar kayu ulin 10 x 10 cm | 0,41 | m3 | 12.560.516,00 | 5.087.008,98 |
| 8 | Gapit/Kalang 10 x 10 cm | 0,85 | m3 | 12.560.516,00 | 10.676.438,60 |
| 9 | Lantai kayu ulin 5/20 cm | 20,00 | m2 | 747.422,77 | 14.948.455,40 |
| 10 | Baut 3/8" Panjang 20 cm | 40,00 | bh | 13.803,00 | 552.120,00 |
| 11 | Baut 5/8" Panjang 40 cm | 50,00 | bh | 35.524,00 | 1.776.200,00 |
| 12 | Plat beugel Tebal 5 mm | 17,00 | bh | 14.445,00 | 245.565,00 |
| 13 | Balok pengaman 10 x 10 per m3 | 0,13 | m3 | 12.560.516,00 | 1.632.867,08 |
| | | | | Total | 122.314.049,72 |

IX PEMBUATAN DERMAGA BETON (d = 2 M)

| | | | | | |
|---|--|-------|----|-----------------|----------------------|
| 1 | Beton bertulang untuk sloof | 0,59 | m3 | 7.578.917,00 | 4.471.561,03 |
| 2 | Beton bertulang untuk kolom praktis | 0,75 | m3 | 7.578.917,00 | 5.684.187,75 |
| 3 | Beton bertulang untuk ring balok | 0,59 | m3 | 7.578.917,00 | 4.471.561,03 |
| 4 | Beton bertulang meja loket | 0,07 | m3 | 7.578.917,00 | 530.524,19 |
| 5 | Rabat beton 7 cm keliling bangunan dermaga | 20,60 | m3 | 55.747,00 | 1.148.388,20 |
| | | | | Total | 16.306.222,20 |
| | | | | Per buah | 8.153.111,10 |

X PEKERJAAN TALUD KAYU/PENAHAN (80 M)

| | | | | | |
|---|-------------------------------|--------|-----|---------------|-------------------------|
| 1 | Kayu ulin dia. 10 - 6 m | 42,00 | btg | 70.620,00 | 2.966.040,00 |
| 2 | Lancipkan tiang pancang | 42,00 | bh | 28.720,88 | 1.206.276,96 |
| 3 | Pemancangan kayu ulin | 504,00 | MI | 1.419.753,49 | 715.555.759,97 |
| 4 | Sloof ulin dia. 10 - 6 m | 70,00 | btg | 601.340,00 | 42.093.800,00 |
| 5 | Gapit kayu ulin dia. 10 - 6 m | 260,00 | btg | 601.126,00 | 156.292.760,00 |
| 6 | Papan kayu ulin 4 x 20 cm | 12,80 | m3 | 11.071.675,20 | 141.717.442,56 |
| | | | | Total | 1.059.832.079,49 |
| | | | | Per M2 | 13.247.900,99 |

RENCANA ANGGARAN BIAYA PENGAMANAN ALUR PELAYARAN

PENGADAAN DAN PEMASANGAN RAMBU SUNGAI

Alternatif 1

| A UKURAN 100 x 140 cm | Volume | | Harga sat. | Jumlah |
|---|--------|----|--------------|---------------------|
| 1 Pembersihan lokasi | 1,000 | ls | 34.668,00 | 34.668,00 |
| 2 Mobilisasi/demobilisasi | 1,000 | ls | 46.010,00 | 46.010,00 |
| 3 Galian tanah | 0,380 | m3 | 66.147,65 | 25.136,11 |
| 4 Urugan tanah | 0,480 | m3 | 55.647,65 | 26.710,87 |
| 5 Cor pondasi rambu camp 1:2:3 | 0,480 | m3 | 1.481.033,44 | 710.896,05 |
| 6 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,400 | m2 | 1.500.000,00 | 2.100.000,00 |
| 7 Rangka rambu | 4,800 | m | 50.000,00 | 240.000,00 |
| 8 Tiang rambu pipa besi galvanis d = 75 mm (3") | 3,500 | m | 50.000,00 | 175.000,00 |
| 9 Pondasi rambu dan tiang penyokong | 1,750 | m | 50.000,00 | 87.500,00 |
| 10 Baut dia. 6 mm | 11,000 | bh | 5.900,00 | 64.900,00 |
| 11 Pemasangan plat rambu | 1,000 | ls | 62.153,88 | 62.153,88 |
| 12 Pengecatan | 3,700 | m2 | 160.240,60 | 592.890,22 |
| 13 Pekerjaan las-lasan pipa | 1,000 | ls | 102.426,82 | 102.426,82 |
| 14 Dokumentasi | 1,000 | ls | 12.800,00 | 12.800,00 |
| JUMLAH | | | | 4.281.091,95 |

| B UKURAN 100 x 100 cm | Volume | | Harga sat. | Jumlah |
|---|--------|----|--------------|---------------------|
| 1 Pembersihan lokasi | 1,000 | ls | 34.668,00 | 34.668,00 |
| 2 Mobilisasi/demobilisasi | 1,000 | ls | 46.010,00 | 46.010,00 |
| 3 Galian tanah | 0,380 | m3 | 66.147,65 | 25.136,11 |
| 4 Urugan tanah | 0,480 | m3 | 55.647,65 | 26.710,87 |
| 5 Cor pondasi rambu camp 1:2:3 | 0,480 | m3 | 1.481.033,44 | 710.896,05 |
| 6 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,000 | m2 | 1.500.000,00 | 1.500.000,00 |
| 7 Rangka rambu | 4,000 | m | 50.000,00 | 200.000,00 |
| 8 Tiang rambu pipa besi galvanis d = 75 mm (3") | 3,500 | m | 50.000,00 | 175.000,00 |
| 9 Pondasi rambu dan tiang penyokong | 1,750 | m | 50.000,00 | 87.500,00 |
| 10 Baut dia. 6 mm | 11,000 | bh | 5.900,00 | 64.900,00 |
| 11 Pemasangan plat rambu | 1,000 | ls | 62.153,88 | 62.153,88 |
| 12 Pengecatan | 3,700 | m2 | 160.240,60 | 592.890,22 |
| 13 Pekerjaan las-lasan pipa | 1,000 | ls | 102.426,82 | 102.426,82 |
| 14 Dokumentasi | 1,000 | ls | 12.800,00 | 12.800,00 |
| JUMLAH | | | | 3.641.091,95 |

Alternatif 2

| A UKURAN 100 x 140 cm | Volume | Harga sat. | Jumlah |
|--|---------------|-------------------|---------------------|
| 1 Pembersihan lokasi | 1,000 ls | 34.668,00 | 34.668,00 |
| 2 Mobilisasi/demobilisasi | 1,000 ls | 46.010,00 | 46.010,00 |
| 3 Meruncing tiang bambu | 2,000 bh | 30.779,58 | 61.559,16 |
| 4 Menancapkan tiang rambu | 2,500 m3 | 66.073,08 | 165.182,70 |
| 5 Galian tanah | 0,320 m3 | 66.147,65 | 21.167,25 |
| 6 Urugan tanah | 0,480 m3 | 55.647,65 | 26.710,87 |
| 7 Rangka plat rambu 3/8 cm | 0,019 m3 | 2.410.924,00 | 45.807,56 |
| 8 Tiang rambu dan jangkar 10/10 cm | 0,125 m3 | 5.629.163,00 | 703.645,38 |
| 9 Balok jangkar 5/10 cm | 0,050 m3 | 2.477.264,00 | 123.863,20 |
| 10 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,400 m2 | 1.605.000,00 | 2.247.000,00 |
| 11 Pemasangan plat rambu | 1,000 ls | 62.153,88 | 62.153,88 |
| 12 Baut dia. 10 mm | 11,000 bh | 5.900,00 | 64.900,00 |
| 13 Baut dia. 5 mm | 10,000 bh | 3.959,00 | 39.590,00 |
| 14 Pengecetan | 3,700 m2 | 160.240,60 | 592.890,22 |
| 15 Dokumentasi | 1,000 ls | 12.800,00 | 12.800,00 |
| 16 Cor pondasi rambu camp 1:2:3 | 0,480 m3 | 1.481.033,44 | 710.896,05 |
| | | JUMLAH | 4.247.948,21 |

B UKURAN 100 x 100 cm

| | | | |
|--|-----------|---------------|---------------------|
| 1 Pembersihan lokasi | 1,000 ls | 34.668,00 | 34.668,00 |
| 2 Mobilisasi/demobilisasi | 1,000 ls | 46.010,00 | 46.010,00 |
| 3 Meruncing tiang bambu | 2,000 bh | 30.779,58 | 61.559,16 |
| 4 Menancapkan tiang rambu | 2,500 m3 | 66.073,08 | 165.182,70 |
| 5 Galian tanah | 0,320 m3 | 66.147,65 | 21.167,25 |
| 6 Urugan tanah | 0,480 m3 | 55.647,65 | 26.710,87 |
| 7 Rangka plat rambu 3/8 cm | 0,014 m3 | 2.410.924,00 | 33.752,94 |
| 8 Tiang rambu dan jangkar 10/10 cm | 0,125 m3 | 5.629.163,00 | 703.645,38 |
| 9 Balok jangkar 5/10 cm | 0,050 m3 | 2.477.264,00 | 123.863,20 |
| 10 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,000 m2 | 1.605.000,00 | 1.605.000,00 |
| 11 Pemasangan plat rambu | 1,000 ls | 62.153,88 | 62.153,88 |
| 12 Baut dia. 10 mm | 11,000 bh | 5.900,00 | 64.900,00 |
| 13 Baut dia. 5 mm | 8,000 bh | 3.959,00 | 31.672,00 |
| 14 Pengecetan | 3,700 m2 | 160.240,60 | 592.890,22 |
| 15 Dokumentasi | 1,000 ls | 12.800,00 | 12.800,00 |
| 16 Cor pondasi rambu camp 1:2:3 | 0,480 m3 | 1.481.033,44 | 710.896,05 |
| | | JUMLAH | 3.585.975,59 |

ANALISA HARGA SATUAN PEKERJAAN

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|---------|-----------------------|---|--------------|-----------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 1 | 100 KG PEMBESIAN | | | 100 KG PEMBESIAN | | |
| | a Besi beton | 110,000 | kg | a Besi beton | 110,000 | kg |
| | b Kawat baja/Bindraad | 2,000 | kg | b Kawat baja/Bindraad | 2,000 | kg |
| | c Pekerja | 5,000 | oh | c Pekerja | 6,000 | oh |
| | d Tukang besi | 3,000 | oh | d Tukang besi | 3,000 | oh |
| | e Kepala tukang | 1,000 | oh | e Kepala tukang | 1,000 | oh |
| | f Alat bantu pembesian, bekisting | 1,000 | ls | f Alat bantu pembesian, bekisting | 1,000 | ls |
| | | | g Mandor | 0,100 | oh | |
| 2 | 10 M2 BEKISTING | | | 10 M2 BEKISTING | | |
| | a Multiplex 18 mm | 4,000 | unit | a Multiplex 18 mm | 4,000 | lembar |
| | b Paku | 4,000 | kg | b Paku | 4,000 | kg |
| | c Angkur plat landasan catwalk | 0,300 | buah | c Angkur plat landasan catwalk | 0,300 | buah |
| | d Pekerja | 6,000 | oh | d Pekerja | 6,000 | oh |
| | e Mandor | 0,100 | oh | e Mandor | 0,100 | oh |
| | f Tukang | 5,000 | oh | f Tukang | 5,000 | oh |
| | g Kepala tukang | 0,500 | oh | g Kepala tukang | 0,500 | oh |
| | h Alat bantu pembesian, bekisting | 1,000 | ls | h Alat bantu pembesian, bekisting | 1,000 | ls |
| | | | | i Konstruksi penyangga begisting | 1,000 | ls |
| | | | j Kayu Klas II | 0,282 | m3 | |
| 3 | 1 M3 PELAT BETON BERTULANG K-225 CATWALK | | | 1 M3 PELAT BETON BERTULANG K-225 CATWALK | | |
| | a Beton K-225 | 1,000 | m3 | a Beton K-225 | 1,000 | m3 |
| | b Bekisting | 0,100 | m2 | b Bekisting | 3,333 | m2 |
| | c Pembesian | 190,000 | kg | c Pembesian | 190,000 | kg |
| | d Alat bantu cor beton | 1,000 | ls | d Alat bantu cor beton | 1,000 | ls |
| | | | e Mandor | 0,030 | oh | |
| | | | f Tukang | 0,750 | oh | |
| | | | g Pekerja | 4,000 | oh | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|---------|-------------------------------------|--|----------------|-----------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 4 | 1 M3 BETON PENGISI TIANG PANCANG | | | 1 M3 BETON PENGISI TIANG PANCANG | | |
| | a Beton K-225 | 1,000 | m3 | a Beton K-225 | 1,000 | m3 |
| | b Pembesian | 235,000 | kg | b Pembesian | 260,800 | kg |
| | c Alat bantu beton di laut | 1,000 | ls | c Alat bantu beton di laut | 1,000 | ls |
| | | | d Mandor | 0,025 | oh | |
| | | | e Tukang | 0,050 | oh | |
| | | | f Tenaga kerja | 0,125 | oh | |
| | | | g Ponton Transport | 0,025 | hari | |
| | | | Biaya Crawler Crane per Hari | 0,025 | hari | |
| 5 | 1 M3 BETON SELIMUT TIANG | | | 1 M3 BETON SELIMUT TIANG | | |
| | a Beton K-225 | 1,000 | m3 | a Beton K-225 | 1,000 | m3 |
| | b Bekisting | 11,000 | m2 | b Bekisting | 11,000 | m2 |
| | c Pembesian | 200,000 | kg | c Pembesian | 200,000 | kg |
| | d Pekerja | 1,000 | oh | d Pekerja | 1,000 | oh |
| | e Alat bantu cor beton | 1,000 | ls | e Alat bantu cor beton | 1,000 | ls |
| | | | f Mandor | 0,030 | oh | |
| | | | g Tukang | 0,750 | oh | |
| 6 | 1 M3 BETON BERTULANG K-225 BALOK, TIANG RAILLING, CANSTEENS | | | 1 M3 BETON BERTULANG K-225 BALOK, TIANG RAILLING, CANSTEENS | | |
| | a Beton K-225 | 1,000 | m3 | a Beton K-225 | 1,000 | m3 |
| | b Bekisting | 5,500 | m2 | b Bekisting | 12,400 | m2 |
| | c Pembesian | 220,000 | kg | c Pembesian | 220,000 | kg |
| | d Pekerja | 1,000 | oh | d Pekerja | 1,000 | oh |
| | e Alat bantu cor beton | 1,000 | ls | e Alat bantu cor beton | 1,000 | ls |
| | | | f Mandor | 0,030 | oh | |
| | | | g Tukang | 0,750 | oh | |
| 7 | 1 M3 BETON BERTULANG K-225 UNTUK BALOK DAN PILE CAP TRESTLE | | | 1 M3 BETON BERTULANG K-225 UNTUK BALOK DAN PILE CAP TRESTLE | | |
| | a Beton K-225 | 1,000 | m3 | a Beton K-225 | 1,000 | m3 |
| | b Bekisting | 4,000 | m2 | b Bekisting | 4,000 | m2 |
| | c Pembesian | 230,000 | kg | c Pembesian | 230,000 | kg |
| | d Angkur plat landasan | 0,250 | buah | d Angkur plat landasan | 0,250 | buah |
| | e Pekerja | 1,000 | oh | e Pekerja | 1,000 | oh |
| | f Alat bantu cor beton | 1,000 | ls | f Alat bantu cor beton | 1,000 | ls |
| | | | g Mandor | 0,025 | oh | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|--|--|--|--|--|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 8 | 1 M3 BETON BERTULANG K-225 UNTUK DOLPHIN, DUDUKAN MB, DUDUKAN TRESTLE, DUDUKAN HIDROLIK, PELINDUNG MB a Beton K-225 b Bekisting c Pembesian d Angkur plat landasan e Pekerja f Alat bantu beton di laut | 1,000 5,000 190,000 0,400 1,000 1,000 | m3 m2 kg buah oh ls | 1 M3 BETON BERTULANG K-225 UNTUK DOLPHIN, DUDUKAN MB, DUDUKAN TRESTLE, DUDUKAN HIDROLIK, PELINDUNG MB a Beton K-225 b Bekisting c Pembesian d Angkur plat landasan e Pekerja f Alat bantu beton di laut g Mandor h Tukang | 1,000 5,000 190,000 0,400 1,000 1,000 0,030 0,750 | m3 m2 kg buah oh ls oh oh |
| 9 | PEMOTONGAN TIANG PANCANG a Oxygen b Karbit c Tukang las d Mandor e Pekerja f Mesin las listrik dan perlengkapan g Alat bantu cor beton PENYAMBUNGAN TIANG PANCANG a Kawat las/Electrode b Plat baja c Tukang las d Mandor e Pekerja f Mesin las listrik dan perlengkapan g Generator set h Alat bantu pemotongan tiang pancang | 0,500 1,000 0,450 0,100 0,750 0,250 1,000 3,000 25,000 0,300 0,050 0,600 0,063 0,063 1 | tabung kg oh oh oh hari ls | PEMOTONGAN TIANG PANCANG a Oxygen b Karbit c Tukang las d Mandor e Pekerja f Mesin las listrik dan perlengkapan g Alat bantu cor beton h Biaya ponton i Acetelin PENYAMBUNGAN TIANG PANCANG a Kawat las/Electrode b Plat baja c Tukang las d Mandor e Pekerja f Mesin las listrik dan perlengkapan g Generator set h Alat bantu pemotongan tiang pancang | 0,500 1,000 0,450 0,100 0,750 0,250 1,000 0,025 0,300 10,000 6,000 0,3000 0,0500 0,6000 0,0625 0,0625 1,0000 | tabung kg oh oh oh hari ls hari kg kg kg oh oh oh hari hari ls |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|--------|--------|--|--------------|---------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 10 | PENUTUP TIANG PANCANG | | | PENUTUP TIANG PANCANG | | |
| | a Kawat las/Electrode | 3,000 | kg | a Kawat las/Electrode | 3,000 | kg |
| | b Besi plat | 25,000 | kg | b Besi plat | 25,000 | kg |
| | c Tukang las | 0,250 | oh | c Tukang las | 0,250 | oh |
| | d Mandor | 0,030 | oh | d Mandor | 0,030 | oh |
| | e Pekerja | 0,500 | oh | e Pekerja | 0,500 | oh |
| | f Mesin las listrik dan perlengkapan | 0,063 | hari | f Mesin las listrik dan perlengkapan | 0,063 | hari |
| | g Generator set | 0,063 | hari | g Generator set | 0,063 | hari |
| | h Alat bantu penutup tiang pancang | 1,000 | ls | h Alat bantu penutup tiang pancang | 1,000 | ls |
| | | | | i Oxigen | 0,200 | tabung |
| 11 | PENGECATAN TIANG PANCANG PER M2 | | | PENGECATAN TIANG PANCANG PER M2 | | |
| | a Cat anti karat | 0,620 | kg | a Cat anti karat | 0,620 | kg |
| | b Mandor | 0,030 | oh | b Mandor | 0,005 | oh |
| | c Pekerja | 0,300 | oh | c Tukang | 0,030 | oh |
| | d Alat bantu pengecatan tiang pancang | 1,000 | ls | d Pekerja | 0,300 | oh |
| | | | | e Alat bantu pengecatan tiang pancang | 1,000 | ls |
| | | | | f Compressor | 0,500 | ls |
| 12 | KONSTRUKSI BAJA UNTUK FRONTAL FRAME, DOLPHIN / KG | | | KONSTRUKSI BAJA UNTUK FRONTAL FRAME, DOLPHIN / KG | | |
| | a Baja profil / plat | 1,100 | kg | a Baja profil / plat | 1,100 | kg |
| | b Kawat las / Electrode | 0,100 | kg | b Kawat las / Electrode | 0,100 | kg |
| | c Tukang las | 0,020 | oh | c Tukang las | 0,020 | oh |
| | d Mandor | 0,010 | oh | d Mandor | 0,010 | oh |
| | e Pekerja | 0,080 | oh | e Pekerja | 0,080 | oh |
| | f Mesin las listrik dan perlengkapan | 0,020 | hari | f Mesin las listrik dan perlengkapan | 0,020 | hari |
| | g Pengecatan anti karat | 0,010 | m2 | g Pengecatan anti karat | 0,010 | m2 |
| | | | | h Galvanisasi baja | 1,000 | kg |
| 13 | 1 M3 URUGAN TANAH | | | 1 M3 URUGAN TANAH | | |
| | a Tanah urug | 1,100 | m3 | a Tanah urug | 1,200 | m3 |
| | b Mandor | 0,020 | oh | b Mandor | 0,010 | oh |
| | c Pekerja | 0,100 | oh | c Pekerja | 0,300 | oh |
| | d Sewa bulldozer | 0,050 | jam | d Sewa bulldozer | 0,050 | jam |
| | e Mesin gilas | 0,050 | hari | e Mesin gilas | 0,050 | hari |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|---------|--------|---|---------------|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 14 | 1 M3 LAPISAN SUBBASE DAN BASE UNTUK PERKERASAN JALAN / LAP. PARKIR | | | 1 M3 LAPISAN SUBBASE DAN BASE UNTUK PERKERASAN JALAN / LAP. PARKIR | | |
| | a Batu pecah 2/3 | 1,100 | m3 | a Batu pecah 2/3 | 1,100 | m3 |
| | b Pekerja | 0,100 | oh | b Pekerja | 0,100 | oh |
| | c Mandor | 0,020 | oh | c Mandor | 0,020 | oh |
| | d Dumptruck | 0,300 | hari | d Dumptruck | 0,300 | hari |
| | e Sewa bulldozer | 0,100 | jam | e Sewa bulldozer | 0,100 | jam |
| | f Mesin gilas | 0,050 | hari | f Mesin gilas | 0,125 | hari |
| | | | | g Pasir Urug | 0,400 | m3 |
| 15 | 1 M2 PEKERJAAN ASPAL PENETRASI TEBAL 7,5 CM PADAT | | | 1 M2 PEKERJAAN ASPAL PENETRASI TEBAL 7,5 CM PADAT | | |
| | a Aspal AC 60-70 | 7,500 | kg | a Aspal AC 60-70 | 20,000 | kg |
| | b Batu pecah 2/3 | 0,100 | m3 | b Batu pecah 2/3 | 0,100 | m3 |
| | c Pasir beton | 0,020 | m3 | c Pasir beton | 0,020 | m3 |
| | d Kayu bakar | 0,020 | m3 | d Kayu bakar | 0,020 | m3 |
| | e Sewa tandem roller | 0,003 | hari | e Sewa tandem roller | 0,003 | hari |
| | f Sewa grader | 0,003 | hari | f Sewa grader | 0,003 | hari |
| | g Mandor | 0,003 | oh | g Mandor | 0,003 | oh |
| | h Pekerja | 0,036 | oh | h Pekerja | 0,036 | oh |
| 16 | PEMBUATAN SHOP DRAWING DAN DOKUMENTASI | | | PEMBUATAN SHOP DRAWING DAN DOKUMENTASI | | |
| | a Mesin & meja gambar + peralatannya | 1,000 | unit | a Mesin & meja gambar + peralatannya | 1,000 | unit |
| | b Kamera | 1,000 | hari | b Kamera | 1,000 | hari |
| | c Kertas kalkir | 3,000 | rol | c Kertas kalkir | 3,000 | rol |
| | d Film | 18,000 | rol | d Film | 10,000 | rol |
| | e Album | 10,000 | set | e Album | 10,000 | set |
| | f Juru gambar | 380,000 | oh | f Juru gambar | 380,000 | oh |
| | | | | g Komputer dan Printer | 2,000 | unit |
| | | | | h Alat tulis | 1,000 | Ls |
| | | | | i Bahan Habis | 1,000 | Ls |
| | | | | j Kertas A3 | 4,000 | Rim |
| | | | | k Kertas A4 | 12,000 | Rim |
| 17 | PENGUKURAN POSITIONING | | | PENGUKURAN POSITIONING | | |
| | a Waterpass | 180,000 | hari | a Waterpass | 180,000 | hari |
| | b Theodolite | 180,000 | hari | b Theodolite | 180,000 | hari |
| | c Pekerja | 180,000 | oh | c Pekerja | 180,000 | oh |
| | d Juru ukur | 180,000 | oh | d Juru ukur | 180,000 | oh |
| | | | | e Bahan habis pakai | 1,000 | Is |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|---------|--------|---|---------------|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 18 | 1 M2 PEMBERSIHAN LAPANGAN | | | 1 M2 PEMBERSIHAN LAPANGAN | | |
| | a Mandor | 0,005 | oh | a Mandor | 0,005 | oh |
| | b Kepala tukang | 0,050 | oh | b Kepala tukang | 0,050 | oh |
| | c Tukang | 0,050 | oh | c Tukang | 0,050 | oh |
| | d Pembantu tukang | 0,050 | oh | d Pembantu tukang | 0,050 | oh |
| | | | | e Sewa bulldozer | 0,005 | hari |
| 19 | 1 M PENGUKURAN DAN PEMASANGAN BOWPLANK | | | 1 M PENGUKURAN DAN PEMASANGAN BOWPLANK | | |
| | a Mandor | 0,005 | oh | a Mandor | 0,005 | oh |
| | b Kepala tukang | 0,005 | oh | b Kepala tukang | 1,000 | oh |
| | c Tukang kayu | 0,050 | oh | c Tukang kayu | 0,010 | oh |
| | d Pembantu tukang | 0,050 | oh | d Pembantu tukang | 0,100 | oh |
| | e Balok kayu lanan | 0,004 | m3 | e Balok kayu lanan | 0,004 | m3 |
| | f Papan kayu klas III (Meranti) | 0,020 | m3 | f Papan kayu klas III (Meranti) | 0,020 | m3 |
| | g Paku kayu | 0,020 | kg | g Paku kayu | 0,020 | kg |
| 20 | 1 M3 KUDA-KUDA BENTANG SAMPAI DENGAN 6 M BAHAN KAYU LANAN | | | 1 M3 KUDA-KUDA BENTANG SAMPAI DENGAN 6 M BAHAN KAYU LANAN | | |
| | a Mandor | 0,250 | oh | a Mandor | 0,300 | oh |
| | b Kepala tukang | 1,500 | oh | b Kepala tukang | 2,000 | oh |
| | c Tukang kayu | 15,000 | oh | c Tukang kayu | 20,000 | oh |
| | d Pembantu tukang | 5,000 | oh | d Pembantu tukang | 6,000 | oh |
| | e Balok kayu lanan | 1,100 | m3 | e Balok kayu lanan | 1,200 | m3 |
| | f Paku kayu | 3,000 | kg | f Paku kayu | 5,600 | kg |
| | g Besi strip | 15,000 | kg | g Besi strip | 15,000 | kg |
| 21 | 1 M2 PENUTUP ATAP SIRAP 7 SMX5 CM DENGAN JARAK RENG 11 SM AS | | | 1 M2 PENUTUP ATAP SIRAP 7SM X5 CM DENGAN JARAK RENG 11 SM AS | | |
| | a Mandor | 0,008 | oh | a Mandor | 0,008 | oh |
| | b Kepala tukang | 0,025 | oh | b Kepala tukang | 0,025 | oh |
| | c Tukang kayu | 0,250 | oh | c Tukang kayu | 0,250 | oh |
| | d Pembantu tukang | 0,166 | oh | d Pembantu tukang | 0,166 | oh |
| | e Sirap ulin | 120,000 | lembar | e Sirap ulin | 120,000 | lembar |
| | f Paku sirap | 0,200 | kg | f Paku sirap | 0,250 | kg |
| 22 | 1 M LISTPLANK 2 CM X 20 CM BAHAN KAYU ULIN | | | 1 M LISTPLANK 2 CM X 20 CM BAHAN KAYU ULIN | | |
| | a Mandor | 0,005 | oh | a Mandor | 0,005 | oh |
| | b Kepala tukang | 0,020 | oh | b Kepala tukang | 0,025 | oh |
| | c Tukang kayu | 0,200 | oh | c Tukang kayu | 0,200 | oh |
| | d Pembantu tukang | 0,100 | oh | d Pembantu tukang | 0,100 | oh |
| | e Papan kayu ulin | 0,007 | m3 | e Papan kayu ulin | 0,011 | m3 |
| | f Paku ulin | 0,500 | kg | f Paku ulin | 0,500 | kg |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|--|----------------------------------|--|--|---|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 23 | 1 M3 KUSEN PINTU/JENDELA Semula tidak ada | | | 1 M3 KUSEN PINTU/JENDELA a Mandor b Kepala tukang c Tukang kayu d Pembantu tukang e Papan kayu klas I f Paku g Angkur | 0,300 2,000 20,000 6,000 1,200 1,250 56,000 | oh oh oh oh m3 kg buah |
| 24 | 1 M2 PINTU/JENDELA PANIL KAYU LANAN a Mandor b Kepala Tukang c Tukang Kayu d Pembantu Tukang e Papan Kayu Ulin f Lem Kayu | 0,005 0,200 2,000 1,000 0,044 0,100 | oh oh oh oh m3 kg | 1 M2 PINTU/JENDELA PANIL KAYU LANAN a Mandor b Kepala Tukang c Tukang Kayu d Pembantu Tukang e Papan Kayu Ulin f Lem Kayu | 0,050 0,250 2,500 1,000 0,040 0,050 | oh oh oh oh m3 kg |
| 25 | 1 M2 JALUSI PAPAN KAYU ULIN a Mandor b Kepala Tukang c Tukang Kayu d Pembantu Tukang e Papan Kayu Ulin f Paku Ulin | 0,027 0,216 2,160 0,540 0,053 0,200 | oh oh oh oh m3 kg | 1 M2 JALUSI PAPAN KAYU ULIN a Mandor b Kepala Tukang c Tukang Kayu d Pembantu Tukang e Papan Kayu Ulin f Paku Ulin | 0,025 0,200 2,000 0,500 0,060 0,150 | oh oh oh oh m3 kg |
| 26 | PEMANCANGAN 1 M TIANG 15/15 KE DALAM TANAH a Tukang b Kepala Tukang c Pembantu Tukang d Mandor e Operator | 0,040 0,004 1,800 0,043 0,500 | oh oh oh oh oh | PEMANCANGAN 1 M TIANG 15/15 KE DALAM TANAH a Tukang b Kepala Tukang c Pembantu Tukang d Mandor e Operator f Tiang pancang g sewa crane h sewa hammer tiang pancang | 0,040 0,004 1,800 0,043 0,500 1,000 0,218 0,218 | oh oh oh oh oh kg hari hari |
| 27 | 1 M2 RANGKA PLAFOND LANGIT-LANGIT 60 CM X 120 CM a Tukang b Kepala Tukang c Pembantu Tukang d Mandor e Paku kayu f Balok kayu lanan | 0,350 0,035 0,210 0,011 0,115 0,017 | oh oh oh oh kg kg | 1 M2 RANGKA PLAFOND LANGIT-LANGIT 60 CM X 120 CM a Tukang b Kepala Tukang c Pembantu Tukang d Mandor e Paku kayu f Balok kayu lanan | 0,300 0,030 0,200 0,010 0,250 0,016 | oh oh oh oh kg kg |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|--------|--------|---|---------------|--------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 28 | 1 M2 MENGECAT KILAT MENIE | | | 1 M2 MENGECAT KILAT MENIE | | |
| | a Tukang cat | 0,075 | oh | a Tukang cat | 0,340 | oh |
| | b Kepala Tukang | 0,008 | oh | b Kepala Tukang | 0,008 | oh |
| | c Pembantu Tukang | 0,050 | oh | c Pembantu Tukang | 0,200 | oh |
| | d Mandor | 0,003 | oh | d Mandor | 0,010 | oh |
| | e Minyak cat | 0,022 | liter | e Minyak cat | 0,750 | liter |
| | f Cat menie besi | 0,084 | kg | f Cat menie besi | 0,125 | kg |
| 29 | 1 M2 MENGETER KAYU 2 KALI | | | 1 M2 MENGETER KAYU 2 KALI | | |
| | a Pembantu Tukang | 0,100 | oh | a Pembantu Tukang | 0,100 | oh |
| | b Mandor | 0,005 | oh | b Mandor | 0,006 | oh |
| | c Ter | 0,350 | oh | c Ter | 0,350 | oh |
| 30 | 1 M3 BETON CAMPUR 1:3:6 | | | 1 M3 BETON CAMPUR 1:3:6 | | |
| | a Pembantu Tukang | 6,000 | oh | a Pembantu Tukang | 6,000 | oh |
| | b Mandor | 0,300 | oh | b Mandor | 0,300 | oh |
| | c Tukang batu | 0,500 | oh | c Tukang batu | 1,000 | oh |
| | d Kepala Tukang | 0,050 | oh | d Kepala Tukang | 0,100 | oh |
| | e Kerikil | 1,016 | m3 | e Kerikil | 1,016 | m3 |
| | f Semen PC (50 kg/zak) | 4,240 | zak | f Semen PC (50 kg/zak) | 5,000 | zak |
| | g Pasir pasang | 0,508 | m3 | g Pasir pasang | 0,508 | m3 |
| 31 | 1 M3 URUGAN TANAH KEMBALI | | | 1 M3 URUGAN TANAH KEMBALI | | |
| | a Mandor | 0,025 | oh | a Mandor | 0,025 | oh |
| | b Pekerja | 0,600 | bh | b Pekerja | 0,750 | bh |
| 32 | DIREKSI KEET BESERTA PERLENGKAPANNYA Semula tidak ada | | | DIREKSI KEET BESERTA PERLENGKAPANNYA | | |
| | | | | a Kantor Konsultan | 40,000 | |
| | | | | b Kantor Kontraktor | 32,000 | |
| | | | | c Gudang | 36,000 | |
| | | | | d AC 1 1/2 PK | 4,000 | |
| | | | | e Meja kerja + kursi | 8,000 | |
| | | | | f Meja rapat + 8 kursi | 1,000 | |
| | | | | g MCK | 2,000 | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|--------|--------|--|--|--|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 33 | ASURANSI Semula tidak ada | | | ASURANSI a Construction all risks b Asuransi tenaga kerja | 0,003 0,001 | |
| 34 | PENGANGKUTAN 1Kg TIANG PANCANG KE TITIK TIANG PANCANG Semula tidak ada | | | PENGANGKUTAN 1Kg TIANG PANCANG KE TITIK TIANG PANCANG a Biaya crawl crane per hari b Biaya ponton transport per hari | 0,021 0,021 | hari hari |
| 35 | 1 M3 COR PONDASI RAMBU CAPURAN 1:2:3 Semula tidak ada | | | 1 M3 COR PONDASI RAMBU CAPURAN 1:2:3 a Pekerja b Mandor c Tukang Batu d Kepala Tukang e Batu Kerikil f Pasir Pasang g Zak Semen | 6,000 0,300 1,000 0,100 0,830 0,540 8,500 | oh oh oh oh m3 m3 zak |
| 36 | PASANGAN BATA DIPLESTER DAN ACIAN Semula tidak ada | | | PASANGAN BATA DIPLESTER DAN ACIAN a Bata merah b Pasir c Semen d Mandor e Tukang f Pekerja | 65,000 0,060 1,000 0,025 0,250 1,000 | buah ls m2 m3 oh oh |
| 37 | PASANGAN BATA EXPOSED Semula tidak ada | | | PASANGAN BATA EXPOSED a Bata merah b Pasir c Semen d Mandor e Tukang f Pekerja | 65,000 0,050 0,500 0,025 0,250 1,000 | buah ls m2 m3 oh oh |
| 38 | PEKERJAAN KAYU KONSTRUKSI ATAP Semula tidak ada | | | PEKERJAAN KAYU KONSTRUKSI ATAP a Kayu kls. I b Paku c Mandor d Tukang e Pekerja f Alat bantu | 1,100 5,000 1,000 10,000 20,000 1,000 | m3 ls oh oh oh ls |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|--------|--------|--|---|---|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| 39 | PEKERJAAN KAYU KONSTRUKSI ATAP Semula tidak ada | | | PEKERJAAN KAYU KONSTRUKSI ATAP a Kayu kls. II b Paku c Mandor d Tukang e Pekerja f Alat bantu | 0,007 0,500 0,200 1,000 2,000 1,000 | m3 ls m3 oh oh ls |
| 40 | 1M3 BETON B0 TANPA TULANGAN Semula tidak ada | | | 1M3 BETON B0 TANPA TULANGAN a Air b Batu Pecah 2/3 c Concrete mixer d Kepala tukang e Mandor f Pasir beton g Pekerja h Semen PC (50 kg/zak) i Tukang | 0,200 0,800 1,250 0,030 0,025 0,450 4,000 4,000 0,250 | ton m3 jam oh oh m3 oh zak oh |
| 41 | 1 M3 URUGAN PASIR DAN PEMADATAN Semula tidak ada | | | 1 M3 URUGAN PASIR DAN PEMADATAN a Alat bantu galian tanah b Damtruck c Mandor d Pekerja e Pasir urug | 0,020 0,020 0,050 0,300 1,200 | oh hari oh oh m3 |
| 42 | PEKERJAAN URUGAN DAN PEMADATAN SIRTU Semula tidak ada | | | PEKERJAAN URUGAN DAN PEMADATAN SIRTU a Mandor b Motor Grader c Sewa Bulldozer d Sewa Tandem Roller e Sewa Vibrator Roller f Sirtu | 0,142 0,025 0,064 0,080 0,104 1,200 | oh hari hari hari jam m3 |

RENCANA ANGGARAN BIAYA PEMBANGUNAN DERMAGA PENYEBERANGAN

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|--------|--|---|---------|--------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| I | PEKERJAAN PERSIAPAN | | | PEKERJAAN PERSIAPAN | | |
| | 1 Pengukuran | 1,000 | ls | 1 Pengukuran | 1,000 | ls |
| | 2 Penerangan/keselamatan kerja | 1,000 | ls | 2 Penerangan/keselamatan kerja | 1,000 | ls |
| | 3 Mobilisasi dan demobilisasi | 1,000 | ls | 3 Mobilisasi dan demobilisasi | 1,000 | ls |
| | 4 Dokumentasi/Administrasi/As Built Drawing | 1,000 | ls | 4 Dokumentasi/Administrasi/As Built Drawing | 1,000 | ls |
| | | | 5 Direksi Keet beserta perlengkapannya | 1,000 | ls | |
| | | | 6 Pagar Pengaman Proyek | 1,000 | m | |
| | | | 7 Asuransi | 1,000 | ls | |
| II. | KONSTRUKSI CAUSEWAY (108.72 M2) | | | KONSTRUKSI CAUSEWAY (108.72 M2) | | |
| | Semula tidak ada | | | 1 Urugan Sirtu | 119,810 | m3 |
| | | | | 2 Urugan dan pemadatan tanah | 303,900 | m3 |
| | | | | 3 Timbunan batu kosong untuk talud | | |
| | | | | - Pasangan batu kosong 40 - 60 kg/unit | 104,140 | m3 |
| | | | | - Pasangan batu kosong 80 - 120 kg/unit | 280,690 | m3 |
| | | | | 4 Geotextile | 289,500 | m2 |
| | | | | 5 Perkerasan t= 40 cm | | |
| | | | | - Batu 5/7 t=30 cm | 10,500 | m3 |
| | | | | - Batu 3/5 t=10 cm | 31,500 | m3 |
| | | | | 6 Pekerjaan Beton K-225 | | |
| | | | - Beton lantai t= 25 cm | 31,500 | m3 | |
| | | | - Beton cansteen | 1,477 | m3 | |
| | | | - Beton railing post | 0,490 | m3 | |
| | | | 7 Pekerjaan Beton K-175 | | | |
| | | | - Lantai kerja dibawah lantai | 5,361 | m3 | |
| | | | - Beton tumbuk untuk trotoar | 1,440 | m3 | |
| | | | 8 Lapisan pasir | | | |
| | | | - Lapisan pasir t= 10cm dibawah lantai kerja | 10,872 | m3 | |
| | | | - Lapisan pasir dibawah trotoar | 1,260 | m3 | |
| | | | 9 Railing GSP 2.5", t= 3mm | 61,800 | m' | |
| | | | 10 Lapisan permukaan dari asfalt pasir t=7cm | 79,500 | m2 | |
| | | | 11 Besi siku L 100.100.8 (Hot Dip Galvanized) untuk Deletasi | 11,000 | m' | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|------|--|--|-------------|--|---|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| III. | KONSTRUKSI TRESTLE (490,5 M2) | | | KONSTRUKSI TRESTLE (432,25 M2) | | |
| | 1 | Beton bertulang K-225 untuk plat lantai | 98,100 m3 | 1 | Beton bertulang K-225 untuk plat lantai | 126,650 m3 |
| | 2 | Beton bertulang K-225 untuk balok | 56,800 m3 | 2 | Beton bertulang K-225 untuk balok | 56,210 m3 |
| | 3 | Beton bertulang K-225 untuk tiang railling | 1,000 m3 | 3 | Beton bertulang K-225 untuk tiang railling | 1,620 m3 |
| | 4 | Beton bertulang K-225 untuk cansteen | 2,300 m3 | 4 | Beton bertulang K-225 untuk cansteen | 4,200 m3 |
| | 5 | Beton bertulang K-225 untuk pile cap | 38,300 m3 | 5 | Beton bertulang K-225 untuk pile cap | 34,580 m3 |
| | 6 | Beton bertulang K-225 untuk pengisi tiang | 4,800 m3 | 6 | Beton bertulang K-225 untuk pengisi tiang | 8,480 m3 |
| | 7 | Beton bertulang K-225 untuk pengisi tiang | 11,400 m3 | 7 | Beton bertulang K-225 untuk selimut tiang pancang | 3,010 m3 |
| | 8 | Beton tumbuk K-175 untuk trotoir t=5 cm | 5,900 m3 | 8 | Beton tumbuk K-175 untuk trotoir t=5 cm | 4,550 m3 |
| | 9 | Pasir untuk trotoir | 8,300 m3 | 9 | Pasir untuk trotoir | 9,090 m3 |
| | 10 | Lapisan aspal pasir | 372,300 m3 | 10 | Lapisan aspal pasir | 403,000 m3 |
| | 11 | Pipa GSP D=2,5", t=3 mm | 100,500 m2 | 11 | Pipa GSP D=2,5", t=3 mm | 240,000 m2 |
| | 12 | Tiang Baja D=457,2 mm, t=12 mm | 132,800 m3 | 12 | Tiang Baja D=711 mm, t=14,0 mm | 106,040 ton |
| | 13 | Pemancangan tiang pancang | 1008,000 m' | 13 | Pemancangan tiang pancang | 388,000 m' |
| | 14 | Pengecatan tiang pancang | 482,600 m2 | 14 | Pengecatan tiang pancang | 535,810 m2 |
| | 15 | Penyambungan tiang (setiap 12 m) | 84,000 bh | 15 | Penyambungan tiang (setiap 12 m) | 40,000 bh |
| | 16 | Pemotongan tiang | 28,000 bh | 16 | Pemotongan tiang | 20,000 bh |
| | 17 | Plat penutup tiang | 28,000 bh | 17 | Plat penutup tiang | 20,000 bh |
| | 18 | Ring untuk sepatu tiang pancang | 30,000 set | 18 | Sepatu tiang pancang | 20,000 bh |
| | 19 | Profil baja siku 100 x 100 x 10 | 75,500 kg | 20 | Delatasi | 7,000 m |
| 20 | Angkur dudukan tiang listrik | 5,000 bh | 21 | Conbloc | 154,870 m2 | |
| | | | 22 | PVC buangan air @ 6m, 2 sisi | 7,200 m' | |
| | | | 23 | Angkur dudukan tiang listrik | 4,000 bh | |
| IV. | DUDUKAN TRESTLE / ABUTMENT (1 BUAH) | | | DUDUKAN TRESTLE / ABUTMENT (1 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 10,600 m3 | 1 | Beton bertulang K-225 untuk pile cap | 19,950 m3 |
| | 2 | Beton bertulang K-225 plat injak | 3,000 m3 | 2 | Beton bertulang K-225 plat injak | 7,420 m3 |
| | 3 | Beton bertulang K-225 plat sayap | 2,400 m3 | 3 | Beton bertulang K-225 plat sayap | 1,360 m3 |
| | 4 | Beton bertulang K-225 pengisian tiang | 0,500 m3 | 4 | Beton bertulang K-225 pengisian tiang | 1,270 m3 |
| | 5 | Beton bertulang K-225 selimut tiang | 0,900 m3 | 5 | Beton bertulang K-225 selimut tiang | 0,450 m3 |
| | 6 | Tiang baja D=457,2 mm, t=12 mm | 14,200 ton | 6 | Tiang baja D=711 mm, t=14,0 mm | 13,010 ton |
| | 7 | Pemancangan tiang pancang | 108,000 m' | 7 | Pemancangan tiang pancang | 36,000 m' |
| | 8 | Pengecatan tiang pancang | 51,700 m2 | 8 | Pengecatan tiang pancang | 80,370 m2 |
| | 9 | Penyambungan tiang (setiap 6 m) | 15,000 bh | 9 | Penyambungan tiang (setiap 6 m) | 6,000 bh |
| | 10 | Pemotongan tiang | 3,000 bh | 10 | Pemotongan tiang | 3,000 bh |
| | 11 | Plat penutup tiang | 3,000 bh | 11 | Plat penutup tiang | 3,000 bh |
| | 12 | Delatasi | 75,000 kg | 12 | Sepatu tiang | 3,000 bh |
| 13 | Profil baja siku 100 x 100 x 10 | 3,000 kg | 13 | Delatasi | 65,520 kg | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|--|---|-------------|---|---|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| V. | DUDUKAN MOVABLE BRIDGE (1 BUAH) | | | DUDUKAN MOVABLE BRIDGE (1 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 80,400 m3 | 1 | Beton bertulang K-225 untuk pile cap | 83,500 m3 |
| | 2 | Beton bertulang K-225 pengisian tiang | 1,300 m3 | 2 | Beton bertulang K-225 pengisian tiang | 2,430 m3 |
| | 3 | Beton bertulang K-225 selimut tiang | 1,700 m3 | 3 | Beton bertulang K-225 selimut tiang | 3,780 m3 |
| | 4 | Tiang baja D=457,2 mm, t=12 mm | 37,900 ton | 4 | Tiang baja D=711 mm, t=14,0 mm | 86,760 ton |
| | 5 | Pemancangan tiang pancang | 288,000 m' | 5 | Pemancangan tiang pancang | 360,000 m' |
| | 6 | Pengecatan tiang pancang | 137,000 m2 | 6 | Pengecatan tiang pancang | 267,900 m2 |
| | 7 | Penyambungan tiang (setiap 6 m) | 40,000 bh | 7 | Penyambungan tiang (setiap 6 m) | 20,000 bh |
| | 8 | Pemotongan tiang | 8,000 bh | 8 | Pemotongan tiang | 10,000 bh |
| | 9 | Plat penutup tiang | 8,000 bh | 9 | Plat penutup tiang | 10,000 bh |
| | 10 | Ring untuk sepatu tiang pancang | 6,000 set | 10 | Sepatu tiang pancang | 10,000 bh |
| | 11 | Profil baja dan plat penutup trench, angker | 3100,000 kg | 11 | Baja untuk trench | 1356,000 kg |
| | 12 | Plat baja penghubung MB ke dudukan MB | 650,000 kg | 12 | Plat baja penghubung MB ke dudukan MB | 710,000 kg |
| | 13 | Angkur dudukan engsel MB | 2,000 unit | 13 | Angkur dudukan engsel MB | 2,000 unit |
| | | | 14 | Bracing baja pengikat tiang WF.200.200.8.12 | 1147,700 kg | |
| | | | 15 | Angker plat landas catwalk dia.25 mm | 16,000 buah | |
| | | | 16 | Baja Trench | 2332,800 kg | |
| VI | MOORING DOLPHIN (3 BUAH) | | | MOORING DOLPHIN (3 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 74,400 m3 | 1 | Beton bertulang K-225 untuk pile cap | 159,130 m3 |
| | 2 | Beton bertulang K-225 pengisian tiang | 4,400 m3 | 2 | Beton bertulang K-225 pengisian tiang | 14,590 m3 |
| | 3 | Beton bertulang K-225 selimut tiang | 6,800 m3 | 3 | Beton bertulang K-225 selimut tiang | 13,380 m3 |
| | 4 | Tiang baja D=457,2 mm, t=12 mm | 85,400 ton | 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 52,950 ton |
| | 5 | Pemancangan tiang pancang | 648,000 m' | 5 | Pemancangan tiang pancang | 576,000 m' |
| | 6 | Pengecatan tiang pancang | 310,200 m2 | 6 | Pengecatan tiang pancang | 505,590 m2 |
| | 7 | Penyambungan tiang (setiap 6 m) | 90,000 bh | 7 | Penyambungan tiang (setiap 6 m) | 36,000 bh |
| | 8 | Pemotongan tiang | 18,000 bh | 8 | Pemotongan tiang | 18,000 bh |
| | 9 | Plat penutup tiang | 18,000 bh | 9 | Plat penutup tiang | 18,000 bh |
| | 10 | Bracing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 952,300 kg | 10 | Bracing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 3173,640 kg |
| | 11 | Bollard/bolder kapasitas 25 ton | 3,000 bh | 11 | Bollard/bolder kapasitas 70 ton | 3,000 bh |
| | 12 | Angkur dudukan tiang listrik | 3,000 bh | 12 | Angkur dudukan tiang listrik | 3,000 bh |
| | 13 | Angkur plat landasan catwalk | 8,000 bh | 13 | Angkur plat landasan catwalk | 8,000 bh |
| | | | 14 | Pengangkutan 1 kg tiang pancang ketitik pancang | 145390,080 kg | |
| | | | 15 | Sepatu tiang | 18,000 bh | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|------|---|--|-------------|---|--|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| VII | BREASTING DOLPHIN (3 BUAH) | | | BREASTING DOLPHIN (5 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 151,900 m3 | 1 | Beton bertulang K-225 untuk pile cap | 479,050 m3 |
| | 2 | Beton bertulang K-225 pengisian tiang | 3,900 m3 | 2 | Beton bertulang K-225 untuk pengisi tiang pancang | 60,340 m2 |
| | 3 | Beton bertulang K-225 selimut tiang | 5,900 m3 | 3 | Beton bertulang K-225 selimut tiang | 40,110 m3 |
| | 4 | Tiang baja D=457,2 mm, t=12 mm | 113,800 ton | 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 405,980 ton |
| | 5 | Pemancangan tiang pancang | 864,000 m' | 5 | Pemancangan tiang pancang | 1600,000 m' |
| | 6 | Pengecatan tiang pancang | 413,700 m2 | 6 | Pengecatan tiang pancang | 1530,580 m2 |
| | 7 | Penyambungan tiang (setiap 6 m) | 120,000 bh | 7 | Penyambungan tiang (setiap 6 m) | 100,000 bh |
| | 8 | Pemotongan tiang | 24,000 bh | 8 | Pemotongan tiang | 50,000 bh |
| | 9 | Plat penutup tiang | 24,000 bh | 9 | Plat penutup tiang | 50,000 bh |
| | 10 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 1162,500 kg | 10 | Sepatu tiang pancang | 50,000 bh |
| | 11 | Bollard/bolder kapasitas 25 ton | 3,000 bh | 11 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 4154,180 kg |
| | 12 | Angkur plat landasan catwalk | 12,000 bh | 12 | Bollard/bolder kapasitas 25 ton | 10,000 bh |
| | 13 | Angkur dudukan tiang listrik | 3,000 bh | 13 | Angkur plat landasan catwalk | 20,000 bh |
| | 14 | Frontal frame | 3,000 bh | 14 | Angkur dudukan tiang listrik | 5,000 bh |
| 15 | Fender ukuran CELL 600 | 6,000 bh | 15 | Frontal frame | 5,000 bh | |
| | | | 16 | Fender ukuran SM800 L= 2.00 m | 10,000 bh | |
| | | | 17 | U Anchor Stainles Stile ϕ 50 mm (for supporting chaine) | 45,000 set | |
| | | | 18 | Supporting chaine ϕ 32 mm inc. ADJ Shackle ϕ 42 mm (S 25 C) (Hot Dip Galvanized) | 45,000 set | |
| | | | 19 | Plate landas # 700 x 300 x 12 inc. angkur ϕ 16 mm (Hot Dip Galvanized) | 15,000 set | |
| | | | 20 | Pengangkutan 1 kg tiang pancang ketitik tiang | 441280,000 kg | |
| VIII | KONSTRUKSI DUDUKAN HIDROLIK (2 BUAH) | | | KONSTRUKSI DUDUKAN HIDROLIK (2 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 87,800 m3 | 1 | Beton bertulang K-225 untuk pile cap | 114,540 m3 |
| | 2 | Beton bertulang K-225 pengisian tiang | 1,600 m3 | 2 | Beton bertulang K-225 pengisian tiang | 3,650 m3 |
| | 3 | Beton bertulang K-225 selimut tiang | 0,700 m3 | 3 | Beton bertulang K-225 selimut tiang | 0,530 m3 |
| | 4 | Tiang baja D=457,2 mm, t=12 mm | 47,400 ton | 4 | Tiang baja D=711 mm, t=14,0 mm | 69,410 ton |
| | 5 | Pemancangan tiang pancang | 360,000 m' | 6 | Pemancangan tiang pancang | 288,000 m' |
| | 6 | Pengecatan tiang pancang | 172,400 m2 | 7 | Pengecatan tiang pancang | 1071,620 m2 |
| | 7 | Penyambungan tiang (setiap 6 m) | 40,000 bh | 8 | Penyambungan tiang (setiap 6 m) | 16,000 bh |
| | 8 | Pemotongan tiang | 10,000 bh | 9 | Pemotongan tiang | 8,000 bh |
| | 9 | Plat penutup tiang | 10,000 bh | 10 | Plat penutup tiang | 8,000 bh |
| | 10 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 600,000 kg | 11 | Brancing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 558,880 kg |
| | 12 | Angkur Portal baja penggantung hidrolik | 4,000 bh | 12 | Angkur Portal baja penggantung hidrolik | 4,000 bh |
| | 13 | plat baja landasan guide roller MB | 600,000 bh | 13 | plat baja landasan guide roller MB | 844,030 bh |
| | | | 14 | Anker plat landas catwalk dia.25 mm | 48,000 bh | |
| | | | 15 | Sepatu tiang | 8,000 bh | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-----|---|---|-------------|---|---|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| IX. | KONSTRUKSI PELINDUNG MB (2 BUAH) | | | KONSTRUKSI PELINDUNG MB (2 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk pile cap | 14,900 m3 | 1 | Beton bertulang K-225 untuk pile cap | 17,360 m3 |
| | 2 | Beton bertulang K-225 pengisian tiang | 0,800 m3 | 2 | Beton bertulang K-225 pengisian tiang | 4,840 m3 |
| | 3 | Beton bertulang K-225 selimut tiang | 0,300 m3 | 3 | Beton bertulang K-225 selimut tiang | 2,150 m3 |
| | 4 | Tiang baja D=457,2 mm, t=12 mm | 23,700 ton | 4 | Tiang baja D=812.8 mm, t = 14,0 mm | 23,700 ton |
| | 5 | Pemancangan tiang pancang | 180,000 m' | 5 | Pemancangan tiang pancang | |
| | 6 | Pengecatan tiang pancang | 86,200 m2 | 6 | Pengecatan tiang pancang | 180,000 m' |
| | 7 | Penyambungan tiang (setiap 6 m) | 40,000 bh | 7 | Penyambungan tiang (setiap 6 m) | 1530,580 m2 |
| | 8 | Pemotongan tiang | 5,000 bh | 8 | Pemotongan tiang | 40,000 bh |
| | 9 | Plat penutup tiang | 5,000 bh | 9 | Plat penutup tiang | 5,000 bh |
| | 10 | Bracing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 300,000 kg | 10 | Bracing antar tiang pancang WF 150.100.7.10(23,65 kg/m) | 300,000 kg |
| | 11 | Frontal frame | 1,000 bh | 11 | Frontal frame | 1,000 bh |
| | 12 | Fender ukuran CELL 400 | 3,000 bh | 12 | Fender ukuran CELL 400 | 3,000 bh |
| | | | 13 | Pemasangan fender CELL 400 | 3,000 | |
| | | | 14 | Pemasangan frontal frame | 1,000 | |
| | | | 15 | Pengangkutan 1 kg tiang pancang ketitik pancang | 49644,000 kg | |
| | | | 16 | Sepatu tiang pancang | 5,000 bh | |
| X. | CATWALK 18 M2 | | | CATWALK 18 M2 | | |
| | 1 | Profil baja WF 100.50.5.7 | 2128,000 kg | 1 | Profil baja WF 100.50.5.7 | 2128,000 kg |
| | 2 | Profil baja WF 200.100.8.12 | 299,500 kg | 2 | Profil baja WF 200.100.8.12 | 299,500 kg |
| | 3 | Profil baja WF 450.250.9.12 | 102,600 kg | 3 | Profil baja WF 450.250.9.12 | 102,600 kg |
| | 4 | Plat baja t=12 mm | 100,000 kg | 4 | Plat baja t=12 mm | 100,000 kg |
| | 5 | Plat baja t=8 mm | 20,000 kg | 5 | Plat baja t=8 mm | 20,000 kg |
| | 6 | Bondex | 16,800 m2 | 6 | Bondex | 16,800 m2 |
| | 7 | Beton bertulang K-225 plat di atas bondex | 2,000 m3 | 7 | Beton bertulang K-225 plat di atas bondex | 2,000 m3 |
| | 8 | Pipa railing dia. 2,5", tebal 3 mm | 28,000 m2 | 8 | Pipa railing dia. 2,5", tebal 3 mm | 28,000 m2 |
| | | | 9 | Beton bertulang K-225 untuk pile cap | 6,480 m3 | |
| | | | 10 | Beton bertulang K-225 pengisian tiang | 1,760 m3 | |
| | | | 11 | Beton bertulang K-225 selimut tiang | 1,640 m3 | |
| | | | 12 | Beton bertulang pelat lantai | 8,520 m3 | |
| | | | 13 | Tiang baja D=711.2 mm, t = 14,0 mm | 11,568 ton | |
| | | | 14 | Pengangkutan 1 kg tiang pancang ke titik tiang | 18,487 kg | |
| | | | 15 | Pemancangan tiang pancang | 76,800 m' | |
| | | | 16 | Pengecatan tiang pancang | 42,900 m2 | |
| | | | 17 | Penyambungan tiang (setiap 6 m) | 12,000 bh | |
| | | | 18 | Pemotongan tiang | 6,000 bh | |
| | | | 19 | Plat penutup tiang | 6,000 bh | |
| | | | 20 | Sepatu tiang pancang | 6,000 bh | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|------|--|---|------------|--|---|------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| XI. | KONSTRUKSI DUDUKAN & RUANG KONTROL (1 BUAH) | | | KONSTRUKSI DUDUKAN & RUANG KONTROL (1 BUAH) | | |
| | 1 | Beton bertulang K-225 untuk plat lantai | 2,100 m3 | 1 | Beton bertulang K-225 untuk plat lantai | 3,610 m3 |
| | 2 | Beton bertulang K-225 untuk balok | 3,400 m3 | 2 | Beton bertulang K-225 untuk balok | 2,090 m3 |
| | 3 | Beton bertulang K-225 pile cap | 1,000 m3 | 3 | Beton bertulang K-225 pile cap | 3,380 m3 |
| | 4 | Beton bertulang K-225 pengisi tiang | 0,200 m3 | 4 | Beton bertulang K-225 pengisi tiang | 1,500 m3 |
| | 5 | Beton bertulang K-225 selimut tiang | 0,600 m3 | 5 | Beton bertulang K-225 selimut tiang | 0,800 m3 |
| | 6 | Tiang baja D=457,2 mm, t=12 mm | 4,700 ton | 6 | Tiang baja D=711 mm, t=14,0 mm | 6,270 ton |
| | 7 | Pemancangan tiang pancang | 36,000 m' | 7 | Pemancangan tiang pancang | 26,000 m' |
| | 8 | Pengecatan tiang pancang | 17,200 m2 | 8 | Pengecatan tiang pancang | 26,000 m2 |
| | 9 | Penyambungan tiang (setiap 6 m) | 5,000 bh | 9 | Penyambungan tiang | 26,790 bh |
| | 10 | Pemotongan tiang | 1,000 bh | 10 | Pemotongan tiang | 1,000 bh |
| | 11 | Plat penutup tiang | 1,000 bh | 11 | Plat penutup tiang | 1,000 bh |
| | 12 | Profil dan plat baja penutup cable trench | 300,000 kg | 12 | Baja untuk trench | 990,000 kg |
| | 13 | Rumah kontrol | 13,700 m2 | 13 | Rumah kontrol | 14,440 m2 |
| XII. | RUMAH KONTROL 14 m2 Semula tidak ada | | | RUMAH KONTROL 14 m2 | | |
| | | | | 1 | Beton K-225 | |
| | | | | | - Beton bertulang sloop | 0,415 m3 |
| | | | | | - Beton bertulang kolom | 0,617 m3 |
| | | | | | - Beton bertulang ring balok | 0,540 m3 |
| | | | | 2 | Pekerjaan dinding | |
| | | | | | - Pasangan bata diplexer dan acian | 4,250 m2 |
| | | | | | - Pasangan bata exposed | 12,331 m2 |
| | | | | | - Bata kerawang | 1,000 m2 |
| | | | | 3 | Pekerjaan atap | |
| | | | | | - Konstruksi atap kayu kls. II | 2,000 m3 |
| | | | | | - Lisplank 30/200 | 4,720 m2 |
| | | | | | - Penutup atap zinalume t= 0.40 mm | 55,176 m2 |
| | | | | | - Bubungan zinalume | 18,480 m' |
| | | | 4 | Pekerjaan kusen | | |
| | | | | - Kusen pintu | 1,000 unit | |
| | | | | - Kusen jendela | 5,000 unit | |
| | | | | - Daun pintu panil kayu ulin | 1,000 unit | |
| | | | | - Daun jendela panil kayu lanan | 4,000 unit | |
| | | | | - Daun jendela kaca mati 5 mm | 1,000 unit | |
| | | | 5 | Pekerjaan penggantung | 1,000 ls | |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|-------|--|--|------------|--|--|----------------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| XIII. | PEMBANGUNAN MOVALBE BRIDGE (148 M2) | | | PEMBANGUNAN MOVALBE BRIDGE (185.6 M2) | | |
| | 1 | Konstruksi baja untuk moveable bridge | 85,000 ton | 1 | Konstruksi baja untuk moveable bridge | |
| | 2 | Engsel movable bridge | 2,000 unit | - | Penggantung hidraulik silinder termasuk angkurnya, handrailing dan tangga (Hoisting Frame) (±6000 kg/unit) | 12000,000 kg |
| | 3 | Transpor material baja dari workshop ke site | 85,000 ton | - | Gelagar utama (main beam) jembatan termasuk cantilever balok pengangkat, bushing (±8500 kg/unit) | 17000,000 kg |
| | 4 | Portal penggantung hidrolis | 2,000 bh | - | Balok melintang (Cross beam) H 800x300x16x30, termasuk pelat pengaku t= 12 mm (± 2600 kg/unit) | 23400,000 kg |
| | 5 | Erection | 85,000 ton | - | Balok melintang bagian depan (Front beam) ± 2000 kg/unit) | 2000,000 kg |
| | 6 | Tackle electric kapasitas 35 ton/unit | 2,000 unit | - | Balok melintang bagian belakang (End beam) ± 3500 kg/unit) | 3500,000 kg |
| | 7 | Generator set kapasitas 25 KVA | 1,000 unit | - | Balok memanjang (Longitudinal beam) H 300x200x12x16 (± 1200 kg/unit) | 15600,000 kg |
| | 8 | Lampu sorot 100 watt | 4,000 unit | - | Balok pengangkat (Lifting beam) H 856x550x20x40 (± 5000 kg/unit) | 5000,000 kg |
| | | | | - | Grating lantai MB, tebal grating 150mm (6 m x 10 m) ± 150 kg/unit (Hot Dip. Galvanized) | 24000,000 kg |
| | | | | - | Chekered plate t= 12 mm, Hot Dip Galvanized (6 m x 10 m) (± 95 kg/m2) | 5700,000 kg |
| | | | | - | Dudukan engsel Movable Bridge (± 1000 kg/unit) | 2000,000 kg |
| | | | | - | Roda penuntun (guide roller) lengkap dengan shaftnya, grease nipple dan konduit tembaga (± 230 kg/unit) | 460,000 kg |
| | | | | - | Landasan roda penuntun pelat 600 x 4800 mm, t= 12 mm termasuk angkurnya (± 300 kg/unit) | 600,000 kg |
| | | | | - | Guard rail t= 3 mm, accessories dan post-nya dia. 6" H= 900 mm pipa schd. 40 di galvanis, 2 @12 m (± 30 kg/m) | 720,000 kg |
| | | | | - | Sackle dia. 145 mm dan shaft-nya komplit (± 320 kg/unit) | 1280,000 kg |
| | | | | - | Joint plate penghubung hidraulik silinder dan lifting bracket term shaft-nya (± 550 kg/unit) | 1100,000 kg |
| | | | | - | Hook penggantung MB t= 70 mm termasuk shaft dan accessories (± 450 kg/unit) | 900,000 kg |
| | | | | - | Joint plate penghubung lifting beam dengan hook penggantung, pelat = 40 mm termasuk shaft-nya (± 800 kg/unit) | 1600,000 kg |
| | | | | - | Joint plate penghubung lifting beam dengan hidraulik silinder, pelat t= 50 mm termasuk shaft-nya (± 750 kg/unit) | 1500,000 kg |
| | | | | - | Shaft engsel MB, dia. 220 mm, panjang ± 320 mm dilapisi hardcro material S45C dilengkapi greas nipple (± 100 kg/unit) | 200,000 kg |
| | | | | - | Pekerjaan pemasangan struktur baja MB (Total ± 120000 Kg) | 120000,000 kg |

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|------|---|--------|--------|---|----------------|-------------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| | | | | 2 Engsel movable bridge | 2,000 | unit |
| | | | | 3 Transpor material baja dari workshop ke site | 85,000 | ton |
| | | | | 4 Portal penggantung hidrolik | 2,000 | bh |
| | | | | 5 Erection | 85,000 | ton |
| | | | | 6 Tackle electric kapasitas 35 ton/unit | 2,000 | unit |
| | | | | 7 Generator set kapasitas 25 KVA | 1,000 | unit |
| | | | | 8 Lampu sorot 100 watt | 4,000 | unit |
| XIV. | HYDRAULIK Semula tidak ada | | | HYDRAULIK | | |
| | | | | 1 Hydraulik Cylinder Type Celvis Mounting Ø = 180 mm | 2,000 | buah |
| | | | | 2 Hydraulik power unit Type Foot Mounted 25 KW | 1,000 | buah |
| | | | | 3 Panel listrik | 1,000 | buah |
| | | | | 4 Pipa hydraulik Type Van Pump operation pressure max 140 kg/cm | 1,000 | set |
| | | | | 5 Alarm Balancer | 1,000 | set |
| | | | | 6 Pemasangan hydraulik cylinder, instalasi, pembersihan pipa dan oli untuk operasional, testing dan training | 1,000 | ls |
| XV. | LAMPU PENERANGAN Semula tidak ada | | | LAMPU PENERANGAN | | |
| | | | | 1 Instalasi penerangan | 300,000 | m' |
| | | | | 2 Pengadaan pemasangan LPJU (solar cell) | 7,000 | bh |
| | | | | 3 Box Panel penerangan | 1,000 | bh |

RENCANA ANGGARAN BIAYA PENGAMANAN ALUR PELAYARAN

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|----------------|--|--------|------------------------------------|--|---------------|-----------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| A | UKURAN 100 x 140 cm | | | UKURAN 100 x 140 cm | Volume | |
| | 1 Pembersihan lokasi | 1,000 | ls | 1 Pembersihan lokasi | 1,000 | ls |
| | 2 Mobilisasi/demobilisasi | 1,000 | ls | 2 Mobilisasi/demobilisasi | 1,000 | ls |
| | 3 Meruncing tiang bambu | 2,000 | bh | 3 Galian tanah | 0,380 | m3 |
| | 4 Menancapkan tiang rambu | 2,500 | m3 | 4 Urugan tanah | 0,480 | m3 |
| | 5 Galian tanah | 0,320 | m3 | 5 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,400 | m2 |
| | 6 Urugan tanah | 0,480 | m3 | 6 Rangka rambu | 0,008 | m3 |
| | 7 Rangka plat rambu 3/8 cm | 0,019 | m3 | 7 Tiang rambu pipa besi galvanis d = 75 mm (3") | 3,500 | m |
| | 8 Tiang rambu dan jangkar 10/10 cm | 0,125 | m3 | 8 Pondasi rambu dan tiang penyokong | 1,750 | m |
| | 9 Balok jangkar 5/10 cm | 0,050 | m3 | 9 Baut dia. 10 mm | 11,000 | bh |
| | 10 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,400 | m2 | 10 Baut dia. 6 mm | 10,000 | bh |
| | 11 Pemasangan plat rambu | 1,000 | ls | 11 Pemasangan plat rambu | 1,000 | ls |
| | 12 Baut dia. 10 mm | 11,000 | bh | 12 Pengecetan | 3,700 | m2 |
| | 13 Baut dia. 5 mm | 10,000 | bh | 13 Dokumentasi | 1,000 | ls |
| | 14 Pengecetan | 3,700 | m2 | 14 Cor pondasi rambu camp 1:2:3 | 0,480 | m3 |
| 15 Dokumentasi | 1,000 | ls | 15 Pekerjaan las-lasan pipa | 1,000 | ls | |
| B | UKURAN 100 x 100 cm | | | UKURAN 100 x 100 cm | | |
| | 1 Pembersihan lokasi | 1,000 | ls | 1 Pembersihan lokasi | 1,000 | ls |
| | 2 Mobilisasi/demobilisasi | 1,000 | ls | 2 Mobilisasi/demobilisasi | 1,000 | ls |
| | 3 Meruncing tiang bambu | 2,000 | bh | 3 Galian tanah | 0,380 | m3 |
| | 4 Menancapkan tiang rambu | 2,500 | m3 | 4 Urugan tanah | 0,480 | m3 |
| | 5 Galian tanah | 0,320 | m3 | 5 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,000 | m2 |
| | 6 Urugan tanah | 0,480 | m3 | 6 Rangka rambu | 0,006 | m3 |
| | 7 Rangka plat rambu 3/8 cm | 0,014 | m3 | 7 Tiang rambu pipa besi galvanis d = 75 mm (3") | 3,500 | m |
| | 8 Tiang rambu dan jangkar 10/10 cm | 0,125 | m3 | 8 Pondasi rambu dan tiang penyokong | 1,750 | m |
| | 9 Balok jangkar 5/10 cm | 0,050 | m3 | 9 Baut dia. 10 mm | 11,000 | bh |
| | 10 Daun rambu aluminium 2 mm dgn reflektive sheeting | 1,000 | m2 | 10 Baut dia. 6 mm | 10,000 | bh |
| | 11 Pemasangan plat rambu | 1,000 | ls | 11 Pemasangan plat rambu | 1,000 | ls |
| | 12 Baut dia. 10 mm | 11,000 | bh | 12 Pengecetan | 3,700 | m2 |
| | 13 Baut dia. 5 mm | 8,000 | bh | 13 Dokumentasi | 1,000 | ls |
| | 14 Pengecetan | 3,700 | m2 | 14 Cor pondasi rambu camp 1:2:3 | 0,480 | m3 |
| 15 Dokumentasi | 1,000 | ls | 15 Pekerjaan las-lasan pipa | 1,000 | ls | |

RENCANA ANGGARAN BIAYA PENGAMANAN ALUR PELAYARAN

| No. | Sebelum mengalami perubahan | | | Setelah mengalami perubahan | | |
|----------|-----------------------------|--------|-----------|-----------------------------|-----------|--------|
| | Uraian Kegiatan | Volume | Satuan | Uraian Kegiatan | Volume | Satuan |
| A | UKURAN 100 x 140 cm | | | UKURAN 100 x 140 cm | | |
| | 1 | 1,000 | ls | 1 | 1,000 | ls |
| | 2 | 1,000 | ls | 2 | 1,000 | ls |
| | 3 | 2,000 | bh | 3 | 2,000 | bh |
| | 4 | 2,500 | m3 | 4 | 2,500 | m3 |
| | 5 | 0,320 | m3 | 5 | 0,320 | m3 |
| | 6 | 0,480 | m3 | 6 | 0,480 | m3 |
| | 7 | 0,019 | m3 | 7 | 0,019 | m3 |
| | 8 | 0,125 | m3 | 8 | 0,125 | m3 |
| | 9 | 0,050 | m3 | 9 | 0,050 | m3 |
| | 10 | 1,400 | m2 | 10 | 1,400 | m2 |
| | 11 | 1,000 | ls | 11 | 1,000 | ls |
| | 12 | 11,000 | bh | 12 | 11,000 | bh |
| | 13 | 10,000 | bh | 13 | 10,000 | bh |
| | 14 | 3,700 | m2 | 14 | 3,700 | m2 |
| | 15 | 1,000 | ls | 15 | 1,000 | ls |
| | | | 16 | 0,480 | m3 | |
| B | UKURAN 100 x 100 cm | | | UKURAN 100 x 100 cm | | |
| | 1 | 1,000 | ls | 1 | 1,000 | ls |
| | 2 | 1,000 | ls | 2 | 1,000 | ls |
| | 3 | 2,000 | bh | 3 | 2,000 | bh |
| | 4 | 2,500 | m3 | 4 | 2,500 | m3 |
| | 5 | 0,320 | m3 | 5 | 0,320 | m3 |
| | 6 | 0,480 | m3 | 6 | 0,480 | m3 |
| | 7 | 0,014 | m3 | 7 | 0,014 | m3 |
| | 8 | 0,125 | m3 | 8 | 0,125 | m3 |
| | 9 | 0,050 | m3 | 9 | 0,050 | m3 |
| | 10 | 1,000 | m2 | 10 | 1,000 | m2 |
| | 11 | 1,000 | ls | 11 | 1,000 | ls |
| | 12 | 11,000 | bh | 12 | 11,000 | bh |
| | 13 | 8,000 | bh | 13 | 8,000 | bh |
| | 14 | 3,700 | m2 | 14 | 3,700 | m2 |
| | 15 | 1,000 | ls | 15 | 1,000 | ls |
| | | | 16 | 0,480 | m3 | |

**RENCANA ANGGARAN BIAYA
MONITORING DAN PENGENDALIAN PROYEK-PROYEK PERKERETAAPIAN 2012
(BELANJA BAHAN)**

| NO | URAIAN | VOLUME | HARGA SATUAN | JUMLAH |
|-----------|---------------------------------------|---------------|---------------------|-------------------|
| 1 | Kertas HVS Folio | 90 rim | 49.220 | 4.429.800 |
| 2 | Kertas HVS A4 | 100 rim | 44.940 | 4.494.000 |
| 3 | Kertas HVS A3 | 20 rim | 85.600 | 1.712.000 |
| 4 | Kertas HVS Warna | 10 rim | 64.200 | 642.000 |
| 5 | Buku Kwitansi | 5 buah | 4.280 | 21.400 |
| 6 | Stop Map Folio | 150 buah | 4.280 | 642.000 |
| 7 | Cover Plastik | 10 pak | 51.360 | 513.600 |
| 8 | Cover Buffalo | 10 pak | 40.660 | 406.600 |
| 9 | Ordner | 30 buah | 28.890 | 866.700 |
| 10 | Box File | 15 buah | 16.050 | 240.750 |
| 11 | Document Keeper / Clear Holder | 15 buah | 19.260 | 288.900 |
| 12 | Binder Klip Sedang | 19 dos | 10.700 | 203.300 |
| 13 | Binder Klip Besar | 20 dos | 21.400 | 428.000 |
| 14 | Paper Clip | 25 dos | 16.050 | 401.250 |
| 15 | Ballpoint | 9 pak | 85.600 | 770.400 |
| 16 | Pensil | 8 pak | 32.100 | 256.800 |
| 17 | Stabilo | 3 buah | 8.560 | 25.680 |
| 18 | Tipe Ex | 5 buah | 17.120 | 85.600 |
| 19 | Lakban 1 " | 5 rol | 9.630 | 48.150 |
| 20 | Lakban 2 " | 5 rol | 12.840 | 64.200 |
| 21 | Isi Staples Kecil | 10 pak | 34.240 | 342.400 |
| 22 | Isi Staples Besar | 10 pak | 64.200 | 642.000 |
| 23 | Isi Head Machine No. 3 | 15 dos | 53.500 | 802.500 |
| 24 | Isi Head Machine No. 10 | 15 dos | 77.040 | 1.155.600 |
| 25 | Toner Printer HP Laser Jet 1020 | 5 buah | 1.979.500 | 9.897.500 |
| 26 | Toner Printer Color HP Laser Jet 2605 | 5 buah | 2.086.500 | 10.432.500 |
| 27 | Toner Printer Canon IP 4200 | 10 buah | 449.400 | 4.494.000 |
| 28 | Tinta Stempel | 6 buah | 8.560 | 51.360 |
| 29 | CD-R | 4 pak | 51.360 | 205.440 |
| 30 | CD Writer | 3 pak | 77.040 | 231.120 |
| 31 | DVD-R | 3 pak | 96.300 | 288.900 |
| 32 | Flash Disk 8 GB | 5 buah | 267.500 | 1.337.500 |
| | | | JUMLAH | 46.421.950 |
| | | | PEMBULATAN | 46.450.000 |

**RENCANA ANGGARAN BIAYA
MONITORING DAN PENGENDALIAN PROYEK-PROYEK PERKERETAAPIAN 2012
(BELANJA BARANG NON OPERASIONAL LAINNYA)**

| NO | URAIAN | VOLUME | HARGA SATUAN | JUMLAH |
|-----------|---|---------------|---------------------|-------------------|
| 1 | Biaya Cetak | | | |
| | Blangko SPPD Lembar 1 | 25 rim | 77.040 | 1.926.000 |
| | Blangko SPPD Lembar II | 25 rim | 77.040 | 1.926.000 |
| | Blangko Kwitansi SPPD | 25 rim | 77.040 | 1.926.000 |
| | Blangko Rincian SPPD | 25 rim | 77.040 | 1.926.000 |
| | Amplop Satker Cokelat | 100 buah | 4.280 | 428.000 |
| | Amplop Satker Putih | 20 dos | 42.800 | 856.000 |
| | Stop Map Kop Satker | 200 buah | 5.350 | 1.070.000 |
| 2 | Penggandaan/fotocopy | 12 bulan | 1.712.000 | 20.544.000 |
| 3 | Surat menyurat, biaya rapat dan operasional lainnya | 12 bulan | 963.000 | 11.556.000 |
| | | | JUMLAH | 42.158.000 |

**RENCANA ANGGARAN BIAYA
MONITORING DAN PENGENDALIAN PROYEK-PROYEK PERKERETAAPIAN 2012
(BELANJA PERJALANAN)**

| NO | RINCIAN PERJALANAN | VOLUME | UNIT | BIAYA | JUMLAH | LOKASI |
|-----------------------|-------------------------|-------------------------|-----------|------------|----------------------|---|
| 1 | UANG HARIAN | 816 | OH | | 306.720.000 | |
| | NAD | 3 hr x 4 org x 3 kali = | 36 OH | 345.000 | 12.420.000 | Satker Pengembangan Perkeretaapian NAD |
| | Medan | 3 hr x 4 org x 5 kali = | 60 OH | 355.000 | 21.300.000 | Satker Pengembangan Perkeretaapian Sumut |
| | Padang | 3 hr x 4 org x 3 kali = | 36 OH | 345.000 | 12.420.000 | Satker Pengembangan Perkeretaapian Sumbar |
| | Palembang | 3 hr x 4 org x 5 kali = | 60 OH | 345.000 | 20.700.000 | Satker Pengembangan Perkeretaapian Sumsel |
| | Lampung | 3 hr x 4 org x 4 kali = | 48 OH | 365.000 | 17.520.000 | Satker Pengembangan Perkeretaapian Lampung |
| | Bandung | 3 hr x 4 org x 6 kali = | 72 OH | 415.000 | 29.880.000 | Satker Pengembangan Perkeretaapian Jabar & UPT Gedebage Bandung |
| | Cirebon | 3 hr x 4 org x 6 kali = | 72 OH | 415.000 | 29.880.000 | Satker Peningkatan Jalan KA Lintas Utara Jawa |
| | Pekalongan | 3 hr x 4 org x 6 kali = | 72 OH | 355.000 | 25.560.000 | Satker Pembangunan Jalur Ganda Tegal - Pekalongan - Semarang |
| | Semarang | 3 hr x 4 org x 6 kali = | 72 OH | 355.000 | 25.560.000 | Satker Pengembangan Perkeretaapian Jateng |
| | Purwokerto | 3 hr x 4 org x 6 kali = | 72 OH | 355.000 | 25.560.000 | Satker Pembangunan Jalur Ganda Cirebon - Kroya |
| | Yogyakarta | 3 hr x 4 org x 5 kali = | 60 OH | 405.000 | 24.300.000 | Satker Peningkatan Jalan KA Lintas Selatan Jawa |
| | Madiun | 3 hr x 4 org x 3 kali = | 36 OH | 395.000 | 14.220.000 | UPT Solo Jebres |
| | Surabaya | 3 hr x 4 org x 6 kali = | 72 OH | 395.000 | 28.440.000 | Satker Pengembangan Perkeretaapian Jatim |
| Jember | 3 hr x 4 org x 4 kali = | 48 OH | 395.000 | 18.960.000 | UPT Rambipuji Jember | |
| 2 | HOTEL | | | | 236.880.000 | |
| | NAD | 2 hr x 4 org x 3 kali = | 24 OH | 410.000 | 9.840.000 | Satker Pengembangan Perkeretaapian NAD |
| | Medan | 2 hr x 4 org x 5 kali = | 40 OH | 470.000 | 18.800.000 | Satker Pengembangan Perkeretaapian Sumut |
| | Padang | 2 hr x 4 org x 3 kali = | 24 OH | 460.000 | 11.040.000 | Satker Pengembangan Perkeretaapian Sumbar |
| | Palembang | 2 hr x 4 org x 5 kali = | 40 OH | 400.000 | 16.000.000 | Satker Pengembangan Perkeretaapian Sumsel |
| | Lampung | 2 hr x 4 org x 4 kali = | 32 OH | 340.000 | 10.880.000 | Satker Pengembangan Perkeretaapian Lampung |
| | Bandung | 2 hr x 4 org x 6 kali = | 48 OH | 460.000 | 22.080.000 | Satker Pengembangan Perkeretaapian Jabar & UPT Gedebage Bandung |
| | Cirebon | 2 hr x 4 org x 6 kali = | 48 OH | 460.000 | 22.080.000 | Satker Peningkatan Jalan KA Lintas Utara Jawa |
| | Pekalongan | 2 hr x 4 org x 6 kali = | 48 OH | 450.000 | 21.600.000 | Satker Pembangunan Jalur Ganda Tegal - Pekalongan - Semarang |
| | Semarang | 2 hr x 4 org x 6 kali = | 48 OH | 450.000 | 21.600.000 | Satker Pengembangan Perkeretaapian Jateng |
| | Purwokerto | 2 hr x 4 org x 6 kali = | 48 OH | 450.000 | 21.600.000 | Satker Pembangunan Jalur Ganda Cirebon - Kroya |
| | Yogyakarta | 2 hr x 4 org x 5 kali = | 40 OH | 520.000 | 20.800.000 | Satker Peningkatan Jalan KA Lintas Selatan Jawa |
| | Madiun | 2 hr x 4 org x 3 kali = | 24 OH | 390.000 | 9.360.000 | UPT Solo Jebres |
| | Surabaya | 2 hr x 4 org x 6 kali = | 48 OH | 390.000 | 18.720.000 | Satker Pengembangan Perkeretaapian Jatim |
| Jember | 2 hr x 4 org x 4 kali = | 32 OH | 390.000 | 12.480.000 | UPT Rambipuji Jember | |
| 3 | TIKET | | | | 470.360.000 | |
| | NAD | 4 org x 3 kali = | 12 OT | 4.200.000 | 50.400.000 | Satker Pengembangan Perkeretaapian NAD |
| | Medan | 4 org x 5 kali = | 20 OT | 3.560.000 | 71.200.000 | Satker Pengembangan Perkeretaapian Sumut |
| | Padang | 4 org x 3 kali = | 12 OT | 2.760.000 | 33.120.000 | Satker Pengembangan Perkeretaapian Sumbar |
| | Palembang | 4 org x 5 kali = | 20 OT | 2.120.000 | 42.400.000 | Satker Pengembangan Perkeretaapian Sumsel |
| | Lampung | 4 org x 4 kali = | 16 OT | 1.480.000 | 23.680.000 | Satker Pengembangan Perkeretaapian Lampung |
| | Bandung | 4 org x 6 kali = | 24 OT | 110.000 | 2.640.000 | Satker Pengembangan Perkeretaapian Jabar & UPT Gedebage Bandung |
| | Cirebon | 4 org x 6 kali = | 24 OT | 220.000 | 5.280.000 | Satker Peningkatan Jalan KA Lintas Utara Jawa |
| | Pekalongan | 4 org x 6 kali = | 24 OT | 500.000 | 12.000.000 | Satker Pembangunan Jalur Ganda Tegal - Pekalongan - Semarang |
| | Semarang | 4 org x 6 kali = | 24 OT | 2.040.000 | 48.960.000 | Satker Pengembangan Perkeretaapian Jateng |
| | Purwokerto | 4 org x 6 kali = | 24 OT | 500.000 | 12.000.000 | Satker Pembangunan Jalur Ganda Cirebon - Kroya |
| | Yogyakarta | 4 org x 5 kali = | 20 OT | 2.120.000 | 42.400.000 | Satker Peningkatan Jalan KA Lintas Selatan Jawa |
| | Madiun (Via Solo) | 4 org x 3 kali = | 12 OT | 2.190.000 | 26.280.000 | UPT Solo Jebres |
| | Surabaya | 4 org x 6 kali = | 24 OT | 2.500.000 | 60.000.000 | Satker Pengembangan Perkeretaapian Jatim |
| Jember (Via Surabaya) | 4 org x 4 kali = | 16 OT | 2.500.000 | 40.000.000 | UPT Rambipuji Jember | |
| 4 | TAKSI | | | | 127.840.000 | |
| | NAD | 4 org x 3 kali = | 12 OT | 500.000 | 6.000.000 | Satker Pengembangan Perkeretaapian NAD |
| | Medan | 4 org x 5 kali = | 20 OT | 460.000 | 9.200.000 | Satker Pengembangan Perkeretaapian Sumut |
| | Padang | 4 org x 3 kali = | 12 OT | 560.000 | 6.720.000 | Satker Pengembangan Perkeretaapian Sumbar |
| | Palembang | 4 org x 5 kali = | 20 OT | 500.000 | 10.000.000 | Satker Pengembangan Perkeretaapian Sumsel |
| | Lampung | 4 org x 4 kali = | 16 OT | 520.000 | 8.320.000 | Satker Pengembangan Perkeretaapian Lampung |
| | Bandung | 4 org x 6 kali = | 24 OT | 440.000 | 10.560.000 | Satker Pengembangan Perkeretaapian Jabar & UPT Gedebage Bandung |
| | Cirebon | 4 org x 6 kali = | 24 OT | 440.000 | 10.560.000 | Satker Peningkatan Jalan KA Lintas Utara Jawa |
| | Pekalongan | 4 org x 6 kali = | 24 OT | 420.000 | 10.080.000 | Satker Pembangunan Jalur Ganda Tegal - Pekalongan - Semarang |
| | Semarang | 4 org x 6 kali = | 24 OT | 420.000 | 10.080.000 | Satker Pengembangan Perkeretaapian Jateng |
| | Purwokerto | 4 org x 6 kali = | 24 OT | 420.000 | 10.080.000 | Satker Pembangunan Jalur Ganda Cirebon - Kroya |
| | Yogyakarta | 4 org x 5 kali = | 20 OT | 440.000 | 8.800.000 | Satker Peningkatan Jalan KA Lintas Selatan Jawa |
| | Madiun (Via Solo) | 4 org x 3 kali = | 12 OT | 420.000 | 5.040.000 | UPT Solo Jebres |
| | Surabaya | 4 org x 6 kali = | 24 OT | 560.000 | 13.440.000 | Satker Pengembangan Perkeretaapian Jatim |
| Jember (Via Surabaya) | 4 org x 4 kali = | 16 OT | 560.000 | 8.960.000 | UPT Rambipuji Jember | |
| | TOTAL | | | | 1.141.800.000 | |

**RENCANA ANGGARAN BIAYA
MONITORING DAN PENGENDALIAN PROYEK-PROYEK PERKERETAAPIAN 2012**

| NO | RINCIAN | VOLUME | UNIT | BIAYA | JUMLAH |
|-----------|-----------------------------------|---------------|-------------|--------------|----------------------|
| 1 | BELANJA BAHAN | 1 | THN | | 46.450.000 |
| 2 | BELANJA BARANG NON OPERASIONAL | 1 | THN | | 42.158.000 |
| 3 | BELANJA PERJALANAN | 1 | THN | | 1.141.800.000 |
| | JUMLAH | | | | 1.230.408.000 |

Jakarta, Agustus 2011

**SEKRETARIS DIREKTORAT JENDERAL
PERKERETAAPIAN**

NUGROHO INDRIO

Pembina Utama Madya (IV/d)
NIP. 19561222 198303 1 001

DAFTAR ANALISA PEKERJAAN
PENINGKATAN JALAN REL KERETA API PENGGANTIAN R.33 / 38
BANTALAN KAYU MENJADI R.42 BANTALAN BETON

Menghitung satuan orang hari (OH) untuk pekerjaan track

| | | | | | |
|-------------------------------|---------|-------|------------|-----|------------------|
| 6,00 | Pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 1,00 | Mandor | @ Rp. | 91.599,49 | Rp. | 91.599,49 |
| | | | Jumlah | Rp. | 449.822,65 |
| 1 orang hari (OH) Pelaksana = | | x Rp. | 449.822,65 | Rp. | 64.260,38 |
| | | | Dibulatkan | Rp. | 64.200,00 |

A. PENGADAAN BAHAN

1 Balas batu pecah uk. 2x6 cm ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|-------|------------|-----|-------------------|
| a. | Harga balas batu pecah 2/6 di Quarry | | | Rp. | 232.002,75 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,4 pekerja | @ Rp. | 59.703,86 | Rp. | 23.881,54 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,009 mandor | @ Rp. | 91.599,49 | Rp. | 824,40 |
| | 0,35 pekerja | @ Rp. | 59.703,86 | Rp. | 20.896,35 |
| | Biaya Administrasi angkutan balas dengan KA / m3 | | | Rp. | 7.500,00 |
| | | | Jumlah | Rp. | 309.805,04 |
| | | | Dibulatkan | Rp. | 309.800,00 |

2 Sub Balas batu pecah uk. 2x6 cm ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|-------|------------|-----|-------------------|
| a. | Harga sub balas di Quarry | | | Rp. | 110.000,00 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo sub balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,13333 pekerja | @ Rp. | 59.703,86 | Rp. | 7.960,32 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,003 mandor | @ Rp. | 91.599,49 | Rp. | 274,80 |
| | 0,117 pekerja | @ Rp. | 59.703,86 | Rp. | 6.985,35 |
| | Harga sub balas di tempat pekerjaan | | Jumlah | Rp. | 149.920,47 |
| f. | memasukkan sub balas baru | | | | |
| | memasukkan sub balas baru | | | | |
| | mendandang/memecok sub balas | | | | |
| | untuk setiap 1 m3 | | | | |
| | 0,033 Mandor | @ Rp. | 91.599,49 | Rp. | 3.022,78 |
| | 1 Pekerja | @ Rp. | 59.703,86 | Rp. | 59.703,86 |
| | | | Jumlah | Rp. | 62.726,64 |
| | | | Dibulatkan | Rp. | 212.647,11 |

B. PEKERJAAN PERSIAPAN

Pekerjaan lantai 1 Pc : 3 Ps : 5 Kr per m3

Upah tiap 1 m3

UPAH :

| | | | | | | |
|------|----|---------------|--------|-----------|------------|------------|
| 6,00 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| 0,50 | oh | Tukang batu | @ Rp. | 70.335,38 | Rp. | 35.167,69 |
| 0,05 | oh | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 4.048,40 |
| | | | Jumlah | Rp. | 424.919,10 | |

BAHAN :

| | | | | | | |
|-------|-----|--------------------|---------------------|------------|---------------------|------------|
| 0,928 | m3 | Batu split uk. 2/3 | @ Rp. | 217.397,25 | Rp. | 201.744,65 |
| 0,557 | m3 | pasir beton | @ Rp. | 408.238,33 | Rp. | 227.388,75 |
| 4,640 | zak | Semen | @ Rp. | 61.792,50 | Rp. | 286.717,20 |
| | | | Jumlah | Rp. | 715.850,60 | |
| | | | Jumlah Upah + Bahan | Rp. | 1.140.769,69 | |

1 1 m2 pengaspalan jalan dengan aspal hotmix tebal 5 cm

| | | | | | | |
|-------|-----|---------------------|-------|------------|-----|-------------------|
| 0,05 | m3 | split ukuran 1/2 cm | @ Rp. | 245.630,00 | Rp. | 12.527,13 |
| 14,29 | kg | aspal | @ Rp. | 16.610,00 | Rp. | 237.290,46 |
| 2,86 | ltr | residu | @ Rp. | 990,00 | Rp. | 2.828,43 |
| 0,06 | pk1 | kayu bakar | @ Rp. | 55.000,00 | Rp. | 3.135,00 |
| 1,43 | m2 | biaya menggilas | @ Rp. | 15.000,00 | Rp. | 21.435,00 |
| 0,36 | | pekerja | @ Rp. | 59.703,86 | Rp. | 21.314,28 |
| 0,03 | | tukang masak aspal | @ Rp. | 70.335,38 | Rp. | 2.039,73 |
| 0,01 | | mandor | @ Rp. | 91.599,49 | Rp. | 1.282,39 |
| | | | | | Rp. | 301.900,00 |

1 Pembuatan direksi keet dan Gudang Kerja, luas 18 m² :

Dihitung berdasarkan pembuatan bangunan sementara uk. 18 m2, dengan lantai beton tebal 5 cm

UPAH :

| | | | | | | |
|------|----|-------------|--------|-----------|------------|------------|
| 2,00 | oh | Tukang kayu | @ Rp. | 70.335,38 | Rp. | 140.670,76 |
| 8,00 | oh | Pekerja | @ Rp. | 59.703,86 | Rp. | 477.630,88 |
| | | | Jumlah | Rp. | 618.301,64 | |

BAHAN :

| | | | | | | | |
|----|--------|-----|-----------------------------------|-------|--------------|-----|--------------|
| a. | 0,79 | m3 | Kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 2.896.568,38 |
| b. | 20,00 | lbr | seng BJLS 0.30 | @ Rp. | 67.634,70 | Rp. | 1.352.694,00 |
| c. | 20,000 | lbr | tripleks tebal 4 mm | @ Rp. | 106.769,58 | Rp. | 2.135.391,51 |
| d. | 3,00 | kg | paku | @ Rp. | 15.167,25 | Rp. | 45.501,75 |
| e. | 0,75 | kg | paku seng | @ Rp. | 17.976,00 | Rp. | 13.482,00 |
| f. | 0,90 | m3 | beton campuran 1 Pc : 3 Ps : 5 Kr | @ Rp. | 1.140.769,69 | Rp. | 1.026.692,72 |
| | | | Jumlah | Rp. | 7.470.330,36 | | |
| | | | Jumlah Upah + Bahan | Rp. | 8.088.632,00 | | |

Tiap m² = $\frac{8.088.632,00}{18,00}$ Rp. 112.342,11

Tiap km (asumsi panjang project 4 km) Dibulatkan Rp. **112.300,00**

| | | | | |
|--------------------------------|--|--------------|------------------|---------------------|
| 2 | Perengkapan direksi keet dan penerangan | LS | Rp. | 217.800,00 |
| 3 | Pembuatan semboyan terdiri dari rambu-rambu, semboyan bendera, lengkap dengan lampu per unit | | | |
| | 1,00 lbr tripleks tebal 4 mm | @ Rp. | 106.769,58 Rp. | 106.769,58 |
| | 3,00 btg bambu | @ Rp. | 47.389,23 Rp. | 142.167,69 |
| | 1,00 kg cat besi | @ Rp. | 82.789,59 Rp. | 82.789,59 |
| | 1,50 m2 kain bendera | @ Rp. | 51.814,70 Rp. | 77.722,04 |
| | 2,00 bh Lampu semboyan | @ Rp. | 278.343,75 Rp. | 556.687,51 |
| | 2,00 pekerja | @ Rp. | 59.703,86 Rp. | 119.407,72 |
| | | Jumlah | Rp. | 1.085.544,13 |
| | | Dibulatkan | Rp. | 1.085.500,00 |
| 4 | Pengukuran dan pemasangan patok / m'sp | | | |
| a. | 0,009 m3 Kayu kelas III | @ Rp. | 3.666.542,25 Rp. | 32.998,88 |
| b. | 0,040 kg paku | @ Rp. | 15.167,25 Rp. | 606,69 |
| c. | 0,125 tukang kayu | @ Rp. | 70.335,38 Rp. | 8.791,92 |
| d. | 0,012 Kepala Tukang | @ Rp. | 80.967,97 Rp. | 971,62 |
| e. | 0,042 pekerja | @ Rp. | 59.703,86 Rp. | 2.507,56 |
| f. | 0,002 mandor | @ Rp. | 91.599,49 Rp. | 183,20 |
| g. | 0,020 juru ukur | @ Rp. | 80.967,97 Rp. | 1.619,36 |
| h. | 0,030 Tenaga ahli menggambar dan menghitung Alat bantu patok dan cat | @ Rp. | 85.000,00 Rp. | 2.550,00 |
| | | Jumlah | Rp. | 52.979,23 |
| | | Dibulatkan | Rp. | 52.900,00 |
| 5 | Penjagaan semboyan | | | |
| | terdiri dari penjagaan semboyan, gudang dan material | | | |
| | 3 shift x 30 hari x 5 bulan | | Rp. | 59.703,86 |
| 6 | Bongkar direksi keet dan gudang kerja | | | |
| | Untuk tiap 1 m2 | | | |
| | UPAH : | | | |
| | 0,60 oh pelaksana per m2/4 km | @ Rp. | 64.200,00 Rp. | 38.520,00 |
| | | Jumlah | Rp. | 9.630,00 |
| | | Dibulatkan | Rp. | 9.600,00 |
| C. KONSTRUKSI JALAN REL | | | | |
| 1 | Bongkar spoor bantalan kayu R.33/ R.38 tiap m'sp | | | |
| | 0,01 mandor | @ Rp. | 91.599,49 Rp. | 915,99 |
| | 0,12 pekerja | @ Rp. | 59.703,86 Rp. | 7.164,46 |
| | | Jumlah | Rp. | 8.080,46 |
| | | Dibulatkan | Rp. | 8.000,00 |
| 2 | Menyetel spoor dengan bantalan beton R.42 / m'sp | | | |
| | 0,044 mandor | @ Rp. | 91.599,49 Rp. | 4.030,38 |
| | 0,616 pekerja | @ Rp. | 59.703,86 Rp. | 36.777,58 |
| | | Jumlah | Rp. | 40.807,96 |
| | | Dibulatkan | Rp. | 40.800,00 |
| 3 | Muat bongkar rel R.33 / R.38 dan alat penambat bekas / ton | | | |
| a. | Muat dan bongkar alat kecil bangunan atas untuk 1 kg bangunan atas | | | |
| | 0,0093 pekerja alat bantu | @ Rp. | 59.703,86 Rp. | 555,25 |
| | | Jumlah a | Rp. | 110,00 |
| | 15,00 kg alat penambat | @ Rp. | 665,25 Rp. | 9.978,69 |
| b. | Muat dan bongkar rel R.42 untuk tiap 1 m, panjang rel | | | |
| | 0,026 mandor | @ Rp. | 91.599,49 Rp. | 2.381,59 |
| | 0,0418 pekerja | @ Rp. | 59.703,86 Rp. | 2.495,62 |
| | 0,0500 kg kawat dia 5 mm (pengikat) alat bantu | @ Rp. | 14.043,75 Rp. | 702,19 |
| | | Jumlah b | Rp. | 2.200,00 |
| | | Dibulatkan | Rp. | 7.779,40 |
| c. | Biaya angkut | | Rp. | 11.000,00 |
| | 92,00 kg alat penambat bangunan atas + rel R.42 bekas | Jumlah a+b+c | Rp. | 28.758,08 |
| | untuk 1 ton = $\frac{1000}{92}$ x | Rp. | 28.758,08 Rp. | 312.587,87 |
| | | Dibulatkan | Rp. | 312.500,00 |
| 4 | Muat dan bongkar bantalan bekas tiap btg | | | |
| a. | untuk tiap 1 batang bantalan | | | |
| | 0,0925 pekerja | @ Rp. | 59.703,86 Rp. | 5.522,61 |
| | | Jumlah a | Rp. | 5.522,61 |
| b. | Biaya angkut | | Rp. | 28.100,00 |
| | | Jumlah b | Rp. | 28.100,00 |
| | | Jumlah a+b | Rp. | 33.622,61 |
| | | Dibulatkan | Rp. | 33.600,00 |
| 5 | Ongkos angkut dan ngecer bantalan beton lengkap dengan alat penambat di lokasi untuk tiap 1 batang | | | |
| | Upah : | | | |
| a. | Ongkos angkut dari penimbunan ke lokasi pekerjaan termasuk muat, bongkar dan mengecer bantalan beton lengkap alat penambat elastis | | | |
| | 0,37 pekerja | @ Rp. | 59.703,86 Rp. | 22.090,43 |
| | 0,03 mandor | @ Rp. | 91.599,49 Rp. | 2.747,98 |
| b. | Alat bantu | | | |
| | Pikulan, balok angkut rel, tali, pengki | Is | Rp. | 3.300,00 |
| | | Jumlah Upah | Rp. | 28.138,41 |
| | | Dibulatkan | Rp. | 28.100,00 |

6 Mengelas sambungan rel dengan elektroda / titik

| | | | | |
|--|---------------------------------|--------|--------------|----------------|
| a. Bahan pendukung | | | | |
| 7,00 | liter solar | @ Rp. | 5.308,54 | Rp. 37.159,76 |
| 0,15 | tabung oksigen | @ Rp. | 101.115,00 | Rp. 15.167,25 |
| 0,07 | tabung acetylin | @ Rp. | 366.557,60 | Rp. 25.659,03 |
| 1,50 | liter bensin campur | @ Rp. | 6.488,21 | Rp. 9.732,32 |
| 0,05 | liter olie SAE 40 | @ Rp. | 28.087,50 | Rp. 1.404,38 |
| 0,05 | lembar kain lap | @ Rp. | 6.460,13 | Rp. 323,01 |
| 0,01 | buah tenda plastik | @ Rp. | 205.260,08 | Rp. 2.052,60 |
| 0,005 | buah regulator oksigen | @ Rp. | 134.820,00 | Rp. 674,10 |
| 0,005 | buah regulator acetylin | @ Rp. | 746.105,12 | Rp. 3.730,53 |
| 0,30 | buah batu gerinda tangan | @ Rp. | 33.705,00 | Rp. 10.111,50 |
| 0,02 | buah batu gerinda profil | @ Rp. | 393.225,00 | Rp. 7.864,50 |
| 1,20 | kg elektroda untuk layer | @ Rp. | 121.329,01 | Rp. 145.594,81 |
| 0,30 | kg elektroda untuk pengelasan | @ Rp. | 135.603,08 | Rp. 40.680,92 |
| | | Jumlah | Rp. | 300.154,71 |
| b. Perlengkapan / alat kerja | | | | |
| 0,01 | buah palu konde 1 kg | @ Rp. | 37.075,50 | Rp. 370,76 |
| 0,004 | buah palu / martil 4 kg | @ Rp. | 55.613,25 | Rp. 222,45 |
| 0,01 | buah pahat ganjal | @ Rp. | 8.650,95 | Rp. 86,51 |
| 0,05 | buah sikat baja | @ Rp. | 11.122,65 | Rp. 556,13 |
| 0,01 | buah kacamata las | @ Rp. | 34.603,80 | Rp. 346,04 |
| 0,01 | set sarung tangan panjang | @ Rp. | 23.481,15 | Rp. 234,81 |
| 0,01 | set sarung tangan pendek | @ Rp. | 2.282,95 | Rp. 22,83 |
| 0,01 | kg mold tembaga | @ Rp. | 707.785,90 | Rp. 7.077,86 |
| 0,002 | set kunci pas / ring | @ Rp. | 104.485,50 | Rp. 208,97 |
| 0,006 | buah Linggis Bengkok | @ Rp. | 157.290,00 | Rp. 943,74 |
| 0,001 | buah mistar pelurus rel 1 m | @ Rp. | 494.340,00 | Rp. 494,34 |
| 0,001 | buah kunci tirepond | @ Rp. | 117.047,35 | Rp. 117,05 |
| 0,002 | buah kunci baut lasplat | @ Rp. | 78.645,00 | Rp. 157,29 |
| 0,002 | buah pandpuler | @ Rp. | 111.226,50 | Rp. 222,45 |
| 0,009 | set blender pemanas | @ Rp. | 2.853.690,00 | Rp. 25.683,21 |
| 0,001 | set sepatu las | @ Rp. | 146.055,00 | Rp. 146,06 |
| | | Jumlah | Rp. | 36.890,49 |
| c. Sewa Mesin | | | | |
| 0,20 | hari sewa mesin las 40 AMP | @ Rp. | 259.073,48 | Rp. 51.814,70 |
| 0,20 | hari sewa mesin gerinda profil | @ Rp. | 155.444,09 | Rp. 31.088,82 |
| | | Jumlah | Rp. | 82.903,51 |
| d. Upah kerja siang hari | | | | |
| 0,20 | oh pengawas | @ Rp. | 80.967,97 | Rp. 16.193,59 |
| 0,40 | oh tukang las | @ Rp. | 59.703,86 | Rp. 23.881,54 |
| 0,40 | oh tukang gerinda | @ Rp. | 70.335,38 | Rp. 28.134,15 |
| 0,20 | oh pekerja | @ Rp. | 59.703,86 | Rp. 11.940,77 |
| | | Jumlah | Rp. | 80.150,06 |
| e. Upah kerja malam hari | | | | |
| 0,30 | oh pengawas | @ Rp. | 80.967,97 | Rp. 24.290,39 |
| 0,60 | oh tukang las | @ Rp. | 59.703,86 | Rp. 35.822,32 |
| 0,60 | oh tukang gerinda | @ Rp. | 70.335,38 | Rp. 42.201,23 |
| 0,30 | oh pekerja | @ Rp. | 59.703,86 | Rp. 17.911,16 |
| 0,25 | oh sewa genset untuk penerangan | @ Rp. | 124.326,51 | Rp. 31.081,63 |
| | | Jumlah | Rp. | 151.306,72 |
| f. Lain-lain | | | | |
| 0,20 | unit transportasi | @ Rp. | 54.450,00 | Rp. 10.890,00 |
| 0,60 | unit pengamananan operasi | @ Rp. | 36.300,00 | Rp. 21.780,00 |
| | | Jumlah | Rp. | 32.670,00 |
| g. Pengetesan dengan ultra sonik Akomodasi | | | | |
| | | | Rp. | 8.250,00 |
| | | Jumlah | Rp. | 8.250,00 |
| | | Jumlah | Rp. | 16.500,00 |
| Jumlah biaya pengelasan untuk 1 titik : | | | | |
| a. Malam hari : a+b+c+e+f | | | | Rp. 603.925,44 |
| b. Siang hari : a+b+c+d+f +g | | | | Rp. 549.268,78 |
| | | | | Dibulatkan |
| | | | | Rp. 549.200,00 |

7 Pemasangan plat sambung permanen / titik

| | | | | |
|--|-----------------------|----------------|-----------|----------------|
| a. Angkutan plat sambung R 42 / ton | | | | |
| a) Muat dan bongkar alat kecil bangunan atas untuk tiap 1 kg bangunan atas | | | | |
| 0,0093 | oh pekerja alat bantu | @ Rp. | 59.703,86 | Rp. 555,25 |
| | | | | Rp. 165,00 |
| | | Jumlah | Rp. | 720,25 |
| | Untuk tiap 1 ton = | 1000 x Rp. | 720,25 | Rp. 720.245,90 |
| | | Jumlah a) | Rp. | 720.245,90 |
| b) Biaya angkut untuk 1 ton jarak 70 km | | | | |
| 5,00 | oh pekerja | @ Rp. | 59.703,86 | Rp. 298.519,30 |
| 0,50 | oh mandor | @ Rp. | 91.599,49 | Rp. 45.799,75 |
| 0,50 | kg kawat pral | @ Rp. | 38.150,69 | Rp. 19.075,34 |
| 70,00 | km ongkos angkut | @ Rp. | 3.300,00 | Rp. 231.000,00 |
| | | Jumlah b) | Rp. | 594.394,39 |
| | | Jumlah a) + b) | Rp. | 1.314.640,29 |
| | Untuk = | 0,04 ton | x Rp. | 1.314.640,29 |
| | | | Rp. | 52.585,61 |
| c) Pengadaan plat sambung | | | | |
| | | | Rp. | 1.760.000,00 |
| | Untuk = | 1 set | x Rp. | 1.760.000,00 |
| | | | Rp. | 1.760.000,00 |
| b) Pengadaan baut las plat | | | | |
| | | | Rp. | 66.550,00 |
| | Untuk = | 6 buah | x Rp. | 66.550,00 |
| | | | Rp. | 399.300,00 |

| | | | | | | | |
|---|---|---|---|------------|------------|-----|---------------------|
| c | Mengebor rel tiap 1 titik potongan | | | | | | |
| | 0,0220 oh | mandor | @ | Rp. | 91.599,49 | Rp. | 2.015,19 |
| | 0,1250 oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| | | Sewa mesin bor dan bahan bakat / lubang | | | | Rp. | 72.100,00 |
| | | | | | Jumlah | Rp. | 81.578,17 |
| | Untuk = | 6 titik | x | Rp. | 81.578,17 | Rp. | 489.469,03 |
| d | Memotong rel tiap titik | | | | | | |
| | 0,0370 oh | mandor | @ | Rp. | 91.599,49 | Rp. | 3.389,18 |
| | 0,1250 oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| | 0,5000 bh | Gergaji besi standar | @ | Rp. | 12.583,20 | Rp. | 6.291,60 |
| | | | | | Jumlah | Rp. | 17.143,76 |
| | Untuk = | 1 titik | x | Rp. | 17.143,76 | Rp. | 17.143,76 |
| e | Pemasangan plat sambung permanen | | | Ls | | Rp. | 385.000,00 |
| | Untuk = | 1 unit | x | Rp. | 385.000,00 | Rp. | 385.000,00 |
| | Untuk pemasangan plat sambung permanen tiap titik = | | | | | Rp. | 3.103.498,40 |
| | | | | Dibulatkan | | Rp. | 3.103.400,00 |

8 Memotong rel tiap titik

| | | | | | | | |
|--|---------------------------|---------------------|---|-----|------------|-----|------------------|
| | untuk tiap 1 titik potong | | | | | | |
| | 0,0037 oh | mandor | @ | Rp. | 91.599,49 | Rp. | 338,92 |
| | 0,086 oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 5.134,53 |
| | 0,040 hari | sewa blender potong | @ | Rp. | 18.000,00 | Rp. | 720,00 |
| | 0,040 tb | LPG 12 kg | @ | Rp. | 171.333,75 | Rp. | 6.853,35 |
| | 0,040 tb | Oksigen | @ | Rp. | 101.115,00 | Rp. | 4.044,60 |
| | | | | | Jumlah | Rp. | 17.091,40 |
| | | | | | Dibulatkan | Rp. | 17.000,00 |

9 Angkutan rel untuk tiap 1 ton

Menggunakan Kereta Api per ton

a. Muat

Upah

| | | | | | | |
|----------|-------------------------|---|-----|-------------|-----|------------|
| 5,00 | pekerja | @ | Rp. | 59.703,86 | Rp. | 298.519,30 |
| 0,50 | mandor | @ | Rp. | 91.599,49 | Rp. | 45.799,75 |
| 1,00 ton | Ongkos angkut dengan KA | @ | Rp. | 8.250,00 | Rp. | 8.250,00 |
| | | | | Jumlah upah | Rp. | 352.569,05 |

Bahan

| | | | | | | |
|-----------|---------------------------------|---|-----|--------------|-----|------------|
| 1,50 kg | Kawat pral | @ | Rp. | 38.150,69 | Rp. | 57.226,03 |
| 1,00 unit | Sewa Crane | @ | Rp. | 312.004,00 | Rp. | 312.004,00 |
| 0,02 m3 | Stappling bantalan kayu klas II | @ | Rp. | 7.356.854,39 | Rp. | 147.137,09 |
| | | | | Jumlah bahan | Rp. | 516.367,12 |
| | | | | Jumlah a | Rp. | 868.936,17 |

b. Bongkar & ecer di lokasi per ton

Upah

| | | | | | | |
|------|------------|---|-----|--------------|-----|---------------------|
| 5,00 | pekerja | @ | Rp. | 59.703,86 | Rp. | 298.519,30 |
| 0,50 | mandor | @ | Rp. | 91.599,49 | Rp. | 45.799,75 |
| | Alat bantu | | | | Rp. | 11.000,00 |
| | | | | Jumlah b | Rp. | 355.319,05 |
| | | | | Jumlah a + b | Rp. | 1.224.255,21 |
| | | | | Dibulatkan | Rp. | 1.224.200,00 |

10 Membuat kompromis R.42 / R.54 untuk tiap 1 unit

a. Sortir

| | | | | | | |
|---------|---------|---|-----|-----------|-----|-----------|
| 0,07 oh | mandor | @ | Rp. | 91.599,49 | Rp. | 6.411,96 |
| 0,40 oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 23.881,54 |
| | | | | Jumlah a | Rp. | 30.293,51 |

b. Muat Bongkar kompromis rel R.42 / R.54 / m'

| | | | | | | |
|---------|----------------------------|---|-----|-----------|-----|-----------|
| 0,026 | mandor | @ | Rp. | 91.599,49 | Rp. | 2.381,59 |
| 0,055 | pekerja | @ | Rp. | 59.703,86 | Rp. | 3.283,71 |
| 0,05 kg | Kawat dia. 5 mm alat bantu | @ | Rp. | 14.043,75 | Rp. | 702,19 |
| | | | | | Rp. | 4.400,00 |
| | | | | Jumlah b | Rp. | 10.767,49 |

| | | | | | | |
|------------------|-------------------|---|-----|--------------|-----|------------|
| Untuk tiap ton = | $\frac{1000}{48}$ | x | Rp. | 10.767,49 | Rp. | 224.322,64 |
| | | | | Jumlah a + b | Rp. | 254.616,14 |

Angkutan kompromis rel R.42 / R.54 ke atas gerbong di lokasi penimbunan, diangkut dan dibongkar di lokasi

| | | | | | | |
|------|---------------------------------------|---|-----|------------|-----|-------------------|
| 0,5 | mandor | @ | Rp. | 91.599,49 | Rp. | 45.799,75 |
| 5,00 | pekerja | @ | Rp. | 59.703,86 | Rp. | 298.519,30 |
| 5,00 | biaya pengawalan | @ | Rp. | 64.200,00 | Rp. | 321.000,00 |
| 5,00 | kayu ganjal dan kawat ikat pengamanan | @ | Rp. | 13.931,40 | Rp. | 69.657,00 |
| 0,05 | muat / bongkar | @ | Rp. | 254.616,14 | Rp. | 12.730,81 |
| | | | | Jumlah | Rp. | 747.706,85 |
| | | | | Dibulatkan | Rp. | 747.700,00 |

c. Memotong rel tiap titik

| | | | | | | | |
|--|---------------------------|----------------------|---|-----|------------|-----|------------------|
| | untuk tiap 1 titik potong | | | | | | |
| | 0,037 oh | mandor | @ | Rp. | 91.599,49 | Rp. | 3.389,18 |
| | 0,125 oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| | 0,5 bh | Gergaji besi standar | @ | Rp. | 12.583,20 | Rp. | 6.291,60 |
| | | | | | Jumlah c | Rp. | 17.143,76 |
| | | | | | Dibulatkan | Rp. | 17.100,00 |
| | untuk 2 titik potong | 2 | x | Rp. | 17.100,00 | Rp. | 34.200,00 |

d. Mengebor rel tiap titik potongan

| | | | | | | | |
|-------|----|--|---|-----|-----------|-----|-----------|
| 0,022 | oh | mandor | @ | Rp. | 91.599,49 | Rp. | 2.015,19 |
| 0,13 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| | | sewa mesin termasuk bor dan bahan bakar per lobang | | | Ls | Rp. | 79.310,00 |
| | | | | | Jumlah d | Rp. | 88.788,17 |

e. Mengelas sambungan rel

| | | | |
|--------------------------------------|--------|------------------|------------|
| 1 Bahan pendukung | | | |
| 7,00 liter solar | @ Rp. | 5.308,54 Rp. | 37.159,76 |
| 0,15 tabung oksigen | @ Rp. | 101.115,00 Rp. | 15.167,25 |
| 0,07 tabung Acetylin @ 45 kg | @ Rp. | 366.557,60 Rp. | 25.659,03 |
| 1,50 liter bensin campur | @ Rp. | 6.488,21 Rp. | 9.732,32 |
| 0,05 liter Olie SAE 30-40 | @ Rp. | 28.087,50 Rp. | 1.404,38 |
| 0,05 lembar kain lap | @ Rp. | 6.460,13 Rp. | 323,01 |
| 0,01 buah Tenda plastik 3 x 4 | @ Rp. | 205.260,08 Rp. | 2.052,60 |
| 0,005 buah regulator oksigen | @ Rp. | 134.820,00 Rp. | 674,10 |
| 0,005 buah regulator acetylin | @ Rp. | 746.105,12 Rp. | 3.730,53 |
| 0,30 buah batu gerinda tangan | @ Rp. | 33.705,00 Rp. | 10.111,50 |
| 0,02 buah batu gerinda profil | @ Rp. | 393.225,00 Rp. | 7.864,50 |
| 1,20 kg elektroda untuk layer | @ Rp. | 121.329,01 Rp. | 145.594,81 |
| 0,30 kg Elektroda untuk pengeras | @ Rp. | 135.603,08 Rp. | 40.680,92 |
| | Jumlah | Rp. | 300.154,71 |
| 2 Perlengkapan / alat kerja | | | |
| 0,01 buah palu konde 1 kg | @ Rp. | 37.075,50 Rp. | 370,76 |
| 0,004 buah Palu/ martil 4 kg | @ Rp. | 55.613,25 Rp. | 222,45 |
| 0,01 buah pahat ganjal | @ Rp. | 8.650,95 Rp. | 86,51 |
| 0,05 buah sikat baja | @ Rp. | 11.122,65 Rp. | 556,13 |
| 0,01 buah kacamata las | @ Rp. | 34.603,80 Rp. | 346,04 |
| 0,01 set sarung tangan panjang | @ Rp. | 23.481,15 Rp. | 234,81 |
| 0,01 set sarung tangan pendek | @ Rp. | 2.282,95 Rp. | 22,83 |
| 0,01 kg mold tembaga | @ Rp. | 707.785,90 Rp. | 7.077,86 |
| 0,002 set kunci pas / ring | @ Rp. | 104.485,50 Rp. | 208,97 |
| 0,006 buah Linggis | @ Rp. | 157.290,00 Rp. | 943,74 |
| 0,001 buah mistar pelurus rel 1 m | @ Rp. | 494.340,00 Rp. | 494,34 |
| 0,001 buah kunci tirepon | @ Rp. | 117.047,35 Rp. | 117,05 |
| 0,002 buah kunci baut lasplat | @ Rp. | 78.645,00 Rp. | 157,29 |
| 0,002 buah Pandipuller | @ Rp. | 111.226,50 Rp. | 222,45 |
| 0,009 set blender pemanas | @ Rp. | 2.853.690,00 Rp. | 25.683,21 |
| 0,001 set sepatu las | @ Rp. | 146.055,00 Rp. | 146,06 |
| | Jumlah | Rp. | 36.890,49 |
| 3 Sewa Mesin | | | |
| 0,20 hari mesin las 40 AMP | @ Rp. | 259.073,48 Rp. | 51.814,70 |
| 0,20 hari mesin gerinda profil | @ Rp. | 155.444,09 Rp. | 31.088,82 |
| | Jumlah | Rp. | 82.903,51 |
| 4 Upah kerja siang hari | | | |
| 0,20 oh pengawas | @ Rp. | 80.967,97 Rp. | 16.193,59 |
| 0,40 oh tukang las | @ Rp. | 59.703,86 Rp. | 23.881,54 |
| 0,40 oh tukang gerinda | @ Rp. | 70.335,38 Rp. | 28.134,15 |
| 0,20 oh pekerja | @ Rp. | 59.703,86 Rp. | 11.940,77 |
| | Jumlah | Rp. | 80.150,06 |
| 5 Upah kerja malam hari | | | |
| 0,30 oh pengawas | @ Rp. | 80.967,97 Rp. | 24.290,39 |
| 0,60 oh tukang las | @ Rp. | 59.703,86 Rp. | 35.822,32 |
| 0,60 oh tukang gerinda | @ Rp. | 70.335,38 Rp. | 42.201,23 |
| 0,30 oh pekerja jalan KA | @ Rp. | 59.703,86 Rp. | 17.911,16 |
| 0,25 oh sewa genset untuk penerangan | @ Rp. | 124.326,51 Rp. | 31.081,63 |
| | Jumlah | Rp. | 151.306,72 |
| 6 Lain-lain | | | |
| 0,20 unit transportasi | @ Rp. | 79.200,00 Rp. | 15.840,00 |
| 0,60 unit pengamananan operasi | @ Rp. | 11.000,00 Rp. | 6.600,00 |
| | Jumlah | Rp. | 22.440,00 |

Jumlah biaya pengelasan untuk 1 titik :

| | | |
|---------------------------|-----|------------|
| a. Malam hari : 1+2+3+5+6 | Rp. | 593.695,44 |
| b. Siang hari : 1+2+3+4+6 | Rp. | 522.538,78 |

Membuat / angkut kompromis R.42 / R.54

| | | |
|--|----------------|---------------------|
| tiap 1 unit | | |
| a. Angkutan kompromis rel R.42 / R.54 ke atas gerbong dilokasi penimbunan, diangkat dan dibongkar di lokasi tiap 1 ton | Rp. | 747.700,00 |
| b. Memotong rel tiap titik potong | Rp. | 34.200,00 |
| c. Mengebor rel tiap titik potong | Rp. | 88.788,17 |
| d. Mengelas sambungan rel tiap 1 unit | Rp. | 522.538,78 |
| | Jumlah a+b+c+d | 1.393.226,95 |
| | Dibulatkan | 1.393.200,00 |

Pasangan Bant. Kayu Sambungan 18x22x200 + Bahan dan Alat Penambat

| | | | |
|---------------------------------|------------|------------------|--------------|
| 1,00 Bantalan Kayu 18x22x200 cm | @ Rp. | 1.000.518,75 Rp. | 1.000.518,75 |
| 4,00 Spring Clip | @ Rp. | 30.000,00 Rp. | 120.000,00 |
| 2,00 Base Plate | @ Rp. | 375.000,00 Rp. | 750.000,00 |
| 8,00 Paku TN | @ Rp. | 30.000,00 Rp. | 240.000,00 |
| 0,10 Bor Kayu | @ Rp. | 50.000,00 Rp. | 5.000,00 |
| 0,01 Ter | @ Rp. | 105.000,00 Rp. | 945,00 |
| 0,25 Mandor | @ Rp. | 91.599,49 Rp. | 22.899,87 |
| 2,00 Pekerja | @ Rp. | 65.734,00 Rp. | 131.468,00 |
| | Jumlah | Rp. | 2.270.831,62 |
| | Dibulatkan | Rp. | 2.270.800,00 |

D. PEKERJAAN BALAS

1 Meratakan balas lama untuk memasang spoor baru / m'sp

| | | | |
|---------------|------------|---------------|------------------|
| 0,210 pekerja | @ Rp. | 59.703,86 Rp. | 12.537,81 |
| | Dibulatkan | Rp. | 12.500,00 |

2 Memasukkan balas kricak baru / m3

| | | | |
|---------------|------------|---------------|------------------|
| 0,0270 mandor | @ Rp. | 91.599,49 Rp. | 2.473,19 |
| 0,826 pekerja | @ Rp. | 59.703,86 Rp. | 49.315,39 |
| | Jumlah | Rp. | 51.788,57 |
| | Dibulatkan | Rp. | 51.700,00 |

3 Angkat listring 3 x HTT kec.60 km/jam dilanjutkan MTT, PBR per m'sp

| | | | |
|--|-----------|---------------|-----------|
| a. s.d kecepatan 20 km/jam dari 5 km/jam | | | |
| 0,038 mandor | @ Rp. | 91.599,49 Rp. | 3.480,78 |
| 0,38 pekerja | @ Rp. | 59.703,86 Rp. | 22.687,47 |
| | Jumlah a. | Rp. | 26.168,25 |

| | | | | | | | |
|----|---|---------------------------------------|---|--------------|-----------|-----|-------------------|
| b. | s.d kecepatan 40 km/jam dari 20 km/jam | | | | | | |
| | 0,075 | mandor | @ | Rp. | 91.599,49 | Rp. | 6.869,96 |
| | 0,68 | pekerja | @ | Rp. | 59.703,86 | Rp. | 40.598,62 |
| | | | | Jumlah b. | | Rp. | 47.468,59 |
| c. | s.d kecepatan 60 km/jam dari 40 km/jam | | | | | | |
| | 0,075 | mandor | @ | Rp. | 91.599,49 | Rp. | 6.869,96 |
| | 0,75 | pekerja | @ | Rp. | 59.703,86 | Rp. | 44.777,90 |
| | | | | Jumlah c. | | Rp. | 51.647,86 |
| | | | | Jumlah a+b+c | | Rp. | 125.284,69 |
| d. | > dari kecepatan 60 km/jam | | | | | | |
| | dikerjakan dengan alat berat (MTT, PBR, dsb) per m'sp | | | | | | |
| | 0,035 | Juru ukur (optik) | @ | Rp. | 80.967,97 | Rp. | 2.833,88 |
| | 0,350 | pekerja jalan KA / pembantu juru ukur | @ | Rp. | 64.200,00 | Rp. | 22.470,00 |
| | 3,00 | kali biaya operasi MTT | @ | Rp. | 10.285,00 | Rp. | 30.855,00 |
| | 1,00 | kali biaya operasi PBR | @ | Rp. | 10.285,00 | Rp. | 10.285,00 |
| | | | | Jumlah d. | | Rp. | 66.443,88 |
| | | Jumlah seluruhnya (a + b + c + d) | | | | Rp. | 191.728,57 |
| | | Dibulatkan | | | | Rp. | 191.700,00 |

E. PEKERJAAN LAIN-LAIN

1 Pembuatan dan pengecatan tanda-tanda lintas (patok Km / HM, dll) per buah

Pekerjaan beton K-175 / M3

a. 1 m3 pasangan beton camp 1 PC: 2 PS : 3 KR :

Bahan :

| | | | | | | | |
|------|-----|--------------------|---|--------------|------------|-----|-------------------|
| 0,82 | m3 | Batu split uk. 2/3 | @ | Rp. | 217.397,25 | Rp. | 178.265,75 |
| 0,55 | m3 | pasir beton | @ | Rp. | 408.238,33 | Rp. | 224.531,08 |
| 6,80 | zak | semen | @ | Rp. | 61.792,50 | Rp. | 420.189,00 |
| | | | | Jumlah Bahan | | Rp. | 822.985,83 |

Upah kerja :

| | | | | | | | |
|------|--|---------------|---|-------------|-----------|-----|---------------------|
| 1,00 | | tukang batu | @ | Rp. | 70.335,38 | Rp. | 70.335,38 |
| 0,10 | | Kepala Tukang | @ | Rp. | 80.967,97 | Rp. | 8.096,80 |
| 6,00 | | pekerja | @ | Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | | mandor | @ | Rp. | 91.599,49 | Rp. | 27.479,85 |
| | | | | Jumlah Upah | | Rp. | 464.135,18 |
| | | | | Jumlah a | | Rp. | 1.287.121,01 |

b. Membuat bekisting tiap m² tiap cetakan

Bahan :

| | | | | | | | |
|-------|-----|-----------------|---|----------|--------------|-----|-------------------|
| 1,70 | lbr | Multiplex 12 mm | @ | Rp. | 281.483,94 | Rp. | 478.522,69 |
| 0,004 | m3 | Kayu kelas III | @ | Rp. | 3.666.542,25 | Rp. | 14.666,17 |
| 2,00 | kg | paku | @ | Rp. | 15.167,25 | Rp. | 30.334,50 |
| | | | | Jumlah b | | Rp. | 523.523,36 |

c. Upah membuat bekisting dari multiplex untuk tiap 1 m3 cetakan :

| | | | | | | | |
|------|----|----------------|---|-----------|-----------|-----|------------|
| 2,75 | oh | tukang kayu | @ | Rp. | 70.335,38 | Rp. | 193.422,30 |
| 1,00 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 59.703,86 |
| 0,30 | oh | mandor | @ | Rp. | 91.599,49 | Rp. | 27.479,85 |
| 2,00 | oh | Tukang Bongkar | @ | Rp. | 59.703,86 | Rp. | 119.407,72 |
| | | | | Jumlah c. | | Rp. | 400.013,72 |

d. Pembesian

Bahan :

| | | | | | | | |
|--------|----|-----------------------|---|----------|-----------|-----|---------------------|
| 110,00 | kg | besi beton | @ | Rp. | 16.713,19 | Rp. | 1.838.450,46 |
| 2,60 | kg | kawat beton / bendrat | @ | Rp. | 32.518,58 | Rp. | 84.548,32 |
| | | | | Jumlah d | | Rp. | 1.922.998,78 |

e. Upah mengerjakan besi beton

untuk tiap 100 kg besi beton

| | | | | | | | |
|-------|--|---------------|---|----------|-----------|-----|--------------|
| 2,250 | | Kepala Tukang | @ | Rp. | 80.967,97 | Rp. | 182.177,93 |
| 6,750 | | tukang besi | @ | Rp. | 70.335,38 | Rp. | 474.763,82 |
| 6,750 | | pekerja | @ | Rp. | 59.703,86 | Rp. | 403.001,06 |
| | | | | Jumlah e | | Rp. | 1.059.942,80 |

| | | | | | |
|--|--------------------|--|--|-----|---------------------|
| 1 m3 beton K.175 + bekisting + pembesian | (Jumlah a+b+c+d+e) | | | Rp. | 5.193.599,68 |
| | Dibulatkan | | | Rp. | 5.193.500,00 |

Untuk pembuatan patok piket

Ukuran : 0.1 x 0.2 x 0.8

| | | | | | | | |
|-------|----|---|---|-----|--------------|-----|-----------|
| 0,016 | m3 | beton bertulang K-125 + bekisting + pembesian | @ | Rp. | 5.193.500,00 | Rp. | 83.096,00 |
|-------|----|---|---|-----|--------------|-----|-----------|

Pasang patok

| | | | | | | | |
|------|--|---------|---|--------|-----------|-----|------------|
| 1,00 | | pekerja | @ | Rp. | 59.703,86 | Rp. | 59.703,86 |
| | | | | Jumlah | | Rp. | 142.799,86 |

Pengecatan 3 x ulas untuk per m² bidang

| | | | | | | | |
|--------|----|-------------------|---|--------|-----------|-----|-----------|
| 0,0042 | kg | dempul | @ | Rp. | 19.839,89 | Rp. | 83,33 |
| 0,0119 | kg | cat dasar | @ | Rp. | 82.789,59 | Rp. | 985,20 |
| 0,250 | lb | amplas | @ | Rp. | 7.695,98 | Rp. | 1.923,99 |
| 0,132 | kg | cat | @ | Rp. | 82.789,59 | Rp. | 10.928,23 |
| 0,02 | bh | kuas | @ | Rp. | 15.711,02 | Rp. | 314,22 |
| 0,30 | | tukang cat | @ | Rp. | 58.850,00 | Rp. | 17.655,00 |
| 0,03 | | kepala tukang cat | @ | Rp. | 80.967,97 | Rp. | 2.429,04 |
| 0,20 | | pekerja | @ | Rp. | 59.703,86 | Rp. | 11.940,77 |
| 0,01 | | mandor | @ | Rp. | 91.599,49 | Rp. | 915,99 |
| | | | | Jumlah | | Rp. | 47.175,77 |

| | | | | |
|---|-----|-----------|-----|-----------|
| Biaya pengecatan 1 patok piket = ((2x0.1x0.8)+(2 x 0.2x0.8)+(0.1x0.2))x | Rp. | 47.175,77 | Rp. | 23.587,88 |
|---|-----|-----------|-----|-----------|

| | | | | |
|--|------------|--|-----|-------------------|
| Jumlah Pembuatan patok dan pengecatan tanda-tanda di lintas (patok KM / HM, dll) | | | Rp. | 166.387,74 |
| | Dibulatkan | | Rp. | 166.300,00 |

2 Pembuatan saluran pembuangan air disisi tubuh baanMengerjakan galian tanah biasa, angkut sejauh 10-30 m'
tiap-tiap 1 M30,03 oh mandor
0,86 oh pekerja

| | | | |
|--------|-----------|-----|-----------|
| @ Rp. | 91.599,49 | Rp. | 2.747,98 |
| @ Rp. | 59.703,86 | Rp. | 51.345,32 |
| Jumlah | | Rp. | 54.093,30 |

1 M' saluran = 0,35 M3 = 0,35xRp. 54.093,30
Alat-alat dilokasi

| | | | |
|-------------------|--|------------|------------------|
| | | Rp. | 18.932,66 |
| | | Rp. | 4.950,00 |
| Jumlah | | Rp. | 23.882,66 |
| Dibulatkan | | Rp. | 23.000,00 |

3 Normalisasi tubuh baan per m31,20 m3 Tanah
0,0616 oh mandor
0,616 oh pekerja
pemadatan

| | | | |
|-------------------|-----------|------------|-------------------|
| @ Rp. | 77.858,55 | Rp. | 93.430,26 |
| @ Rp. | 91.599,49 | Rp. | 5.642,53 |
| @ Rp. | 59.703,86 | Rp. | 36.777,58 |
| @ Rp. | 6.000,00 | Rp. | 6.000,00 |
| Jumlah | | Rp. | 141.850,37 |
| Dibulatkan | | Rp. | 141.800,00 |

4 Menanam gembalan rumput1,00 m2 gebalan rumput
0,02 btg bambu
0,17 oh pekerja

| | | | |
|-------------------|-----------|------------|------------------|
| @ Rp. | 15.571,71 | Rp. | 15.571,71 |
| @ Rp. | 47.389,23 | Rp. | 947,78 |
| @ Rp. | 59.703,86 | Rp. | 10.149,66 |
| Jumlah | | Rp. | 26.669,15 |
| Dibulatkan | | Rp. | 26.000,00 |

5 Pasangan Batu belah 1 Pc : 3 Ps / m31,200 m3 Batu belah
4,000 zak Semen
0,460 m3 Pasir
1,200 oh Tukang Batu
0,120 oh Kep. Tukang
3,600 oh Pekerja
0,180 oh Mandor

| | | | |
|-------------------|------------|------------|-------------------|
| @ Rp. | 196.865,29 | Rp. | 236.238,35 |
| @ Rp. | 61.792,50 | Rp. | 247.170,00 |
| @ Rp. | 320.517,70 | Rp. | 147.438,14 |
| @ Rp. | 70.335,38 | Rp. | 84.402,46 |
| @ Rp. | 80.967,97 | Rp. | 9.716,16 |
| @ Rp. | 59.703,86 | Rp. | 214.933,90 |
| @ Rp. | 91.599,49 | Rp. | 16.487,91 |
| Jumlah | | Rp. | 956.386,90 |
| Dibulatkan | | Rp. | 956.300,00 |

6 Membersihkan balas lama kotor campur tanah/m3Mengeluarkan balas kotor dari baan
Mengayak balas kotor

Balas yang bersih dimasukkan kembali ke tubuh baan

0,075 Mandor
2,25 Pekerja

| | | | |
|-------------------|-----------|------------|-------------------|
| @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| @ Rp. | 59.703,86 | Rp. | 134.333,69 |
| Dibulatkan | | Rp. | 141.200,00 |

RENCANA ANGGARAN BIAYA

**PEKERJAAN : PENINGKATAN JALAN KERETA API PENGGANTIAN BANTALAN KAYU REL R.33/38
MENJADI BANTALAN BETON REL R.42**

VOLUME : 1000 M'SP

LOKASI : WILAYAH JAWA

| NO | URAIAN PEKERJAAN | SATUAN | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) |
|--|---|--------|----------|--------------------|-------------------------|
| A. PENGADAAN BAHAN | | | | | |
| 1 | Balas kricak uk. 2x6 cm ecer dilokasi | m3 | 1.600,00 | 309.800,00 | 495.680.000,00 |
| 2 | Bantalan beton lengkap dengan penambat elastis | btg | 1.667,00 | 617.925,00 | 1.030.080.975,00 |
| J U M L A H A + | | | | | 1.525.760.975,00 |
| B. PEKERJAAN PERSIAPAN | | | | | |
| 1 | Membuat Direksi Keet dan gudang kerja | m2 | 18,00 | 112.300,00 | 2.021.400,00 |
| 2 | Perlengkapan direksi keet dan penerangan | ls | 1,00 | 217.800,00 | 217.800,00 |
| 3 | Membuat alat semboyan | unit | 2,00 | 1.085.500,00 | 2.171.000,00 |
| 4 | Pengukuran dan pasang patok | m'sp | 1.000,00 | 52.900,00 | 52.900.000,00 |
| 5 | Penjagaan semboyan | oh | 900,00 | 59.703,86 | 53.733.474,00 |
| 6 | Bongkaran Direksi Keet dan Gudang Kerja | m2 | 18,00 | 9.600,00 | 172.800,00 |
| J U M L A H B + | | | | | 111.216.474,00 |
| C. KONSTRUKSI JALAN REL | | | | | |
| 1 | Bongkar spoor bantalan kayu R.33/38 | m'sp | 1.000,00 | 8.000,00 | 8.000.000,00 |
| 2 | Menyetel spoor bantalan beton R.42 | m'sp | 1.000,00 | 40.800,00 | 40.800.000,00 |
| 3 | Muat/bongkar, angkut alat penambat bekas + rel R.33/38 | ton | 117,67 | 312.500,00 | 36.771.875,00 |
| 4 | Muat/bongkar, angkut bantalan bekas | batang | 1.667,00 | 33.600,00 | 56.011.200,00 |
| 5 | Ongkos angkut dan ngecer bantalan beton + alat penambat dilokasi pekerjaan | batang | 1.667,00 | 28.100,00 | 46.842.700,00 |
| 6 | Mengelas rel dengan elektroda | titik | 200,00 | 549.200,00 | 109.840.000,00 |
| 7 | Pengadaan dan pemasangan plat sambung permanen | titik | 3,00 | 3.103.400,00 | 9.310.200,00 |
| 8 | Memotong rel cacat / ujung rel | titik | 236,00 | 17.000,00 | 4.012.000,00 |
| 9 | Angkutan termasuk muat bongkar rel R.42 | ton | 84,00 | 1.224.200,00 | 102.832.800,00 |
| 9 | Pas. Bant. kayu sambungan 18x22x200 + Bahan dan alat penambat | btg | 6,00 | 2.248.600,00 | 13.491.600,00 |
| 10 | Membuat kompromis R.33/38 - R.42 | unit | 4,00 | 1.393.200,00 | 5.572.800,00 |
| J U M L A H C + | | | | | 433.485.175,00 |
| D. PEKERJAAN BALAS | | | | | |
| 1 | Membersihkan balas lama kotor campur tanah | m3 | 770,00 | 141.200,00 | 108.724.000,00 |
| 2 | Mengerjakan balas baru | m3 | 1.600,00 | 51.700,00 | 82.720.000,00 |
| 3 | Angkat/listring dengan MTT, didahului dengan HTT s.d kec. 60 km/jam berikut pekerjaan PBR | m'sp | 1.000,00 | 191.700,00 | 191.700.000,00 |
| J U M L A H D + | | | | | 383.144.000,00 |
| E. PEKERJAAN LAIN-LAIN | | | | | |
| 1 | Pengecatan tanda-tanda lintas (patok KM / HM, dll) | buah | 10,00 | 166.300,00 | 1.663.000,00 |
| 2 | Normalisasi saluran pembuangan di kanan/kiri jalan KA | m' | 1.000,00 | 23.000,00 | 23.000.000,00 |
| 3 | Pekerjaan perlintasan | m2 | | | |
| 4 | Pasangan batu kali camp 1 : 3 untuk tembok penahan balas | m3 | | | |
| J U M L A H E + | | | | | 24.663.000,00 |
| J U M L A H A S/D E = | | | | | 2.478.269.624,00 |
| P P N 10 % = | | | | | 247.826.962,40 |
| JUMLAH FISIK = | | | | | 2.726.096.586,40 |
| BIAYA SUPERVISI = | | | | | 109.043.863,46 |
| JUMLAH SEMUA = | | | | | 2.835.140.449,86 |
| PEMBULATAN = | | | | | 2.835.140.000,00 |
| Terbilang : Dua Milyar Delapan Ratus Tiga Puluh Lima Juta Seratus Empat Puluh Ribu Rupiah | | | | | |

**DAFTAR HARGA SATUAN UPAH, BAHAN DAN ALAT
PEKERJAAN TRACK**

2011+7%

| NO | JENIS | PER SATUAN | HARGA |
|---------------------------|--|------------|------------------|
| I. UPAH | | | |
| 1 | Pengawas pekerjaan las | OH | Rp. 80.967,97 |
| 2 | Mandor | OH | Rp. 91.599,49 |
| 3 | Kepala Tukang | OH | Rp. 80.967,97 |
| 4 | Tukang Batu | OH | Rp. 70.335,38 |
| 5 | Tukang Kayu | OH | Rp. 70.335,38 |
| 6 | Tukang cat / plitur | OH | Rp. 58.850,00 |
| 7 | Tukang Las | OH | Rp. 59.703,86 |
| 8 | Tukang Besi | OH | Rp. 70.335,38 |
| 9 | Tukang Bongkar | OH | Rp. 59.703,86 |
| 10 | Tukang Gerinda | OH | Rp. 70.335,38 |
| 11 | Teknisi | OH | Rp. 58.850,00 |
| 12 | Tukang anyaman | OH | Rp. 58.850,00 |
| 13 | Tukang masak aspal | OH | Rp. 59.703,86 |
| 14 | Pembantu tukang las | OH | Rp. 56.710,00 |
| 15 | Juru ukur | OH | Rp. 80.967,97 |
| 16 | Pekerja | OH | Rp. 59.703,86 |
| 17 | Operator mesin | OH | Rp. 64.200,00 |
| II. BAHAN DAN ALAT | | | |
| 1 | Acetylin @ 45 kg | | Rp. 366.557,60 |
| 2 | Aspal hotmix | m2 | Rp. 186.276,30 |
| 3 | Aspal | kg | Rp. 9.277,86 |
| 4 | Amplas | lembar | Rp. 7.695,98 |
| 5 | Balas kricak uk. 2x6 | m3 | Rp. 232.002,75 |
| 6 | Balas split uk. 2x3 | m3 | Rp. 306.178,47 |
| 7 | Balas split uk. 1x2 | m3 | Rp. 306.178,47 |
| 8 | Balas sirtu | m3 | Rp. 306.178,47 |
| 9 | Bantalan kayu | buah | Rp. 1.070.555,06 |
| 10 | Bantalan beton lengkap dengan penambat elastis | batang | Rp. 617.925,00 |
| 11 | Bambu | batang | Rp. 47.389,23 |
| 12 | Batu belah | m3 | Rp. 196.865,29 |
| 13 | Batu pecah 5/7 | m3 | Rp. 232.290,37 |
| 14 | Batu pecah 3/5 | m3 | Rp. 285.766,72 |
| 15 | Batu gerinda profil | buah | Rp. 393.225,00 |
| 16 | Batu gerinda tangan | buah | Rp. 33.705,00 |
| 17 | Batu split uk. 2/3 | buah | Rp. 217.397,25 |
| 18 | baut kopel dia. 19 mm p = 800 mm | buah | Rp. 59.224,18 |
| 19 | Baut isol | buah | Rp. 109.909,76 |
| 20 | Baut lasplat | buah | Rp. 109.909,76 |
| 21 | Baut IRJ | buah | Rp. 109.909,76 |
| 22 | Begel rel bendel dia. 19 mm | Set | Rp. 65.946,08 |
| 23 | Bendrat | kg | Rp. 32.518,58 |
| 24 | Bensin | liter | Rp. 5.617,50 |
| 25 | Bensin campur | liter | Rp. 6.488,21 |
| 26 | Besi beton | kg | Rp. 16.713,19 |
| 27 | Blender pemanas | set | Rp. 2.853.690,00 |
| 28 | Baut sindik bantalan jembatan | buah | Rp. 103.005,85 |
| 29 | Baut bantalan dia. 19, p = 270 mm | buah | Rp. 47.234,19 |
| 30 | Bor kayu | buah | Rp. 72.485,97 |
| 31 | Cat dasar | kg | Rp. 82.789,59 |
| 32 | Cat kayu | kg | Rp. 82.789,59 |
| 33 | Cat Besi | kg | Rp. 82.789,59 |
| 34 | Conector galvanis 4 mm | buah | Rp. 17.271,57 |
| 35 | Dempul | kg | Rp. 19.839,89 |
| 36 | Dongkrak alignment beam | buah | Rp. 4.758.022,50 |
| 37 | Elektroda untuk layer | kg | Rp. 121.329,01 |
| 38 | Elektroda untuk pengeras | kg | Rp. 135.603,08 |
| 39 | LPG 12 kg | tabung | Rp. 171.333,75 |
| 40 | Gergaji besi standar | bh | Rp. 12.583,20 |
| 41 | Gemuk | kg | Rp. 68.943,58 |
| 42 | Geotextile | m2 | Rp. 41.394,23 |
| 43 | Gebalan rumput | m2 | Rp. 15.571,71 |
| 44 | Kain bendera | m2 | Rp. 51.814,70 |
| 45 | Kain lap | lembar | Rp. 6.460,13 |
| 46 | Kacamata Las | buah | Rp. 34.603,80 |
| 47 | Kacamata gerinda | buah | Rp. 83.645,70 |
| 48 | Kawat dia. 5 mm | kg | Rp. 14.043,75 |
| 49 | Kawat pral | kg | Rp. 38.150,69 |
| 50 | Kawat las elektroda | kg | Rp. 44.508,58 |

| NO | JENIS | PER SATUAN | HARGA |
|-----|--------------------------------------|------------|------------------|
| 51 | Kawat bendrat | kg | Rp. 27.068,49 |
| 52 | Kayu Kalimantan Lanan Balok | m3 | Rp. 5.906.894,50 |
| 53 | Kayu kelas III | m3 | Rp. 3.666.542,25 |
| 54 | Kayu kelas II | m3 | Rp. 7.356.854,39 |
| 55 | Kayu ganjal | bh | Rp. 13.931,40 |
| 56 | Kayu papan rentang | m3 | Rp. 2.903.180,18 |
| 57 | Kerikil | m3 | Rp. 267.378,39 |
| 58 | Kerikil halus | m3 | Rp. 202.432,23 |
| 59 | Kikir segi empat uk. 1.5" | buah | Rp. 72.511,81 |
| 60 | Kunci baut lasplat | buah | Rp. 78.645,00 |
| 61 | Kunci Inggris 12" | buah | Rp. 112.350,00 |
| 62 | Kunci ring / pas | set | Rp. 104.485,50 |
| 63 | Kunci tirepond | buah | Rp. 117.047,35 |
| 64 | Kuas uk. 3" | buah | Rp. 15.711,02 |
| 65 | Lasplat sambung R.54 | buah | Rp. 6.089.030,70 |
| 66 | Lasplat isol | buah | Rp. 5.994.562,33 |
| 67 | Linggis bengkok | buah | Rp. 157.290,00 |
| 68 | Lampu semboyan | buah | Rp. 278.343,75 |
| 69 | Mistar Pelurus rel 1 m | buah | Rp. 494.340,00 |
| 70 | Mold Tembaga | kg | Rp. 707.785,90 |
| 71 | Multipleks 12 mm | lembar | Rp. 281.483,94 |
| 72 | Masker Las | buah | Rp. 92.638,19 |
| 73 | Oksigen | tabung | Rp. 101.115,00 |
| 74 | Olie SAE 30-40 | liter | Rp. 28.087,50 |
| 75 | Olie Meditrain 40 | liter | Rp. 57.809,69 |
| 76 | Pahat Ganjal | buah | Rp. 8.650,95 |
| 77 | Paku | kg | Rp. 15.167,25 |
| 78 | Paku maskrum | kg | Rp. 21.436,38 |
| 79 | Paku seng | kg | Rp. 17.976,00 |
| 80 | Palu 4 kg | buah | Rp. 103.629,39 |
| 81 | Palu/ martil 4 kg | buah | Rp. 55.613,25 |
| 82 | Palu Konde 1 kg | buah | Rp. 37.075,50 |
| 83 | Palu ketrek | buah | Rp. 34.543,13 |
| 84 | Papan Kalimantan | buah | Rp. 6.084.749,04 |
| 85 | Pasak 6 mm | buah | Rp. 70.851,28 |
| 86 | Pasir | m3 | Rp. 320.517,70 |
| 87 | Pasir pasang | m3 | Rp. 190.995,00 |
| 88 | Pasir beton | m3 | Rp. 408.238,33 |
| 89 | Plat landas | bh | Rp. 439.641,28 |
| 90 | Pandrol R.54 | bh | Rp. 53.229,18 |
| 91 | Pasir urug | m3 | Rp. 151.672,50 |
| 92 | Pasir sirtu | m3 | Rp. 151.672,50 |
| 93 | Pandpuller | buah | Rp. 111.226,50 |
| 94 | P3K | set | Rp. 252.935,80 |
| 95 | Penetran cleaner 400 ml | botol | Rp. 195.411,48 |
| 96 | Penetran revolver 400 ml | botol | Rp. 195.411,48 |
| 97 | Penetran developer 400 ml | botol | Rp. 114.905,96 |
| 98 | Pipa galvanis dia. 5" | btg | Rp. 1.623.674,34 |
| 99 | Pipa PVC dia. 6" | btg | Rp. 561.750,00 |
| 100 | Regulator acetylin | set | Rp. 746.105,12 |
| 101 | Regulator elpiji | buah | Rp. 84.262,50 |
| 102 | Regulator oksigen | buah | Rp. 134.820,00 |
| 103 | Sarung tangan panjang | set | Rp. 23.481,15 |
| 104 | Sarung tangan pendek | set | Rp. 2.282,95 |
| 105 | Sekop | buah | Rp. 44.940,00 |
| 106 | Semen | zak | Rp. 61.792,50 |
| 107 | seng BJLS 0.30 | buah | Rp. 67.634,70 |
| 108 | Sepatu las | set | Rp. 146.055,00 |
| 109 | Sewa genset untuk penerangan | hari | Rp. 124.326,51 |
| 110 | Sewa Mesin gerinda MP 12 | hari | Rp. 123.585,00 |
| 111 | Sewa mesin gerinda profil | hari | Rp. 155.444,09 |
| 112 | Sewa Mesin gerinda tangan | hari | Rp. 112.350,00 |
| 113 | Sewa mesin las 40 Amp | hari | Rp. 259.073,48 |
| 114 | Sewa mesin Weld Sher (manual) | hari | Rp. 108.080,70 |
| 115 | Sewa mesin gilas | hari | Rp. 1.034.583,96 |
| 116 | Senteleng bambu | buah | Rp. 93.351,62 |
| 117 | Sikat baja | buah | Rp. 11.122,65 |
| 118 | Solar | liter | Rp. 5.308,54 |
| 119 | Stop watch | buah | Rp. 269.640,00 |
| 120 | Tambang manila dia 19 mm | kg | Rp. 72.083,76 |
| 121 | Tenda plastik 3 x 4 | lembar | Rp. 205.260,08 |
| 122 | Tanah | m3 | Rp. 77.858,55 |
| 123 | tripleks tebal 4 mm | lembar | Rp. 106.769,58 |
| 124 | Ter | kg | Rp. 10.392,38 |
| 125 | Paku tirefond | buah | Rp. 89.926,06 |
| 126 | Penambat elastis untuk bantalan kayu | set | Rp. 405.383,52 |

| NO | JENIS | PER SATUAN | HARGA |
|----|-------|------------|-------|
|----|-------|------------|-------|

DAFTAR ANALISA PEKERJAAN
PENINGKATAN JALAN REL KERETA API PENGGANTIAN R.42/54
BANTALAN KAYU MENJADI R.42/54 BANTALAN BETON

Menghitung satuan orang hari (OH) untuk pekerjaan track

| | | | | | |
|-------------------------------|---------------|------------|------------|-----|------------------|
| 6,00 | Pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 1,00 | Mandor | @ Rp. | 91.599,49 | Rp. | 91.599,49 |
| | | | Jumlah | Rp. | 449.822,65 |
| 1 orang hari (OH) Pelaksana = | $\frac{1}{7}$ | x Rp. | 449.822,65 | Rp. | 64.260,38 |
| | | Dibulatkan | | Rp. | 64.200,00 |

A. PENGADAAN BAHAN

1 Balas batu pecah uk. 2x6 cm ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|------------|-----------|-----|-------------------|
| a. | Harga balas batu pecah 2/6 di Quarry | | | Rp. | 232.002,75 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,4 pekerja | @ Rp. | 59.703,86 | Rp. | 23.881,54 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,009 mandor | @ Rp. | 91.599,49 | Rp. | 824,40 |
| | 0,35 pekerja | @ Rp. | 59.703,86 | Rp. | 20.896,35 |
| | Biaya Administrasi angkutan balas dengan KA / m3 | | | Rp. | 7.500,00 |
| | | Jumlah | | Rp. | 309.805,04 |
| | | Dibulatkan | | Rp. | 309.800,00 |

2 Sub Balas batu pecah uk. 2x6 cm ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|------------|-----------|--------|-----------------------|
| a. | Harga sub balas di Quarry | | | Rp. | 110.000,00 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo sub balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,13333 pekerja | @ Rp. | 59.703,86 | Rp. | 7.960,32 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,003 mandor | @ Rp. | 91.599,49 | Rp. | 274,80 |
| | 0,117 pekerja | @ Rp. | 59.703,86 | Rp. | 6.985,35 |
| | Harga sub balas di tempat pekerjaan | | | Jumlah | Rp. 149.920,47 |
| f. | memasukkan sub balas baru | | | | |
| | memasukkan sub balas baru | | | | |
| | mendandang/memecok sub balas | | | | |
| | untuk setiap 1 m3 | | | | |
| | 0,033 Mandor | @ Rp. | 91.599,49 | Rp. | 3.022,78 |
| | 1 Pekerja | @ Rp. | 59.703,86 | Rp. | 59.703,86 |
| | | Jumlah | | Rp. | 62.726,64 |
| | | Dibulatkan | | Rp. | 212.647,11 |

B. PEKERJAAN PERSIAPAN

Pekerjaan lantai 1 Pc : 3 Ps : 5 Kr per m3

Upah tiap 1 m3

UPAH :

| | | | | | | |
|------|----|---------------|--------|-----------|-----|------------|
| 6,00 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| 0,50 | oh | Tukang batu | @ Rp. | 70.335,38 | Rp. | 35.167,69 |
| 0,05 | oh | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 4.048,40 |
| | | | Jumlah | | Rp. | 424.919,10 |

BAHAN :

| | | | | | | |
|-------|-----|---------------------|--------|------------|-----|---------------------|
| 0,928 | m3 | Batu split uk. 2/3 | @ Rp. | 217.397,25 | Rp. | 201.744,65 |
| 0,557 | m3 | pasir beton | @ Rp. | 408.238,33 | Rp. | 227.388,75 |
| 4,640 | zak | Semen | @ Rp. | 61.792,50 | Rp. | 286.717,20 |
| | | | Jumlah | | Rp. | 715.850,60 |
| | | Jumlah Upah + Bahan | | | Rp. | 1.140.769,69 |

1 1 m2 pengaspalan jalan dengan aspal hotmix tebal 5 cm

| | | | | | | |
|-------|-----|---------------------|-------|------------|-----|-------------------|
| 0,05 | m3 | split ukuran 1/2 cm | @ Rp. | 245.630,00 | Rp. | 12.527,13 |
| 14,29 | kg | aspal | @ Rp. | 16.610,00 | Rp. | 237.290,46 |
| 2,86 | ltr | residu | @ Rp. | 990,00 | Rp. | 2.828,43 |
| 0,06 | pkl | kayu bakar | @ Rp. | 55.000,00 | Rp. | 3.135,00 |
| 1,43 | m2 | biaya menggilas | @ Rp. | 15.000,00 | Rp. | 21.435,00 |
| 0,36 | | pekerja | @ Rp. | 59.703,86 | Rp. | 21.314,28 |
| 0,03 | | tukang masak aspal | @ Rp. | 70.335,38 | Rp. | 2.039,73 |
| 0,01 | | mandor | @ Rp. | 91.599,49 | Rp. | 1.282,39 |
| | | | | | Rp. | 301.852,42 |

1 Pembuatan direksi keet dan Gudang Kerja, luas 18 m² :

Dihitung berdasarkan pembuatan bangunan sementara uk. 18 m2, dengan lantai beton tebal 5 cm

UPAH :

| | | | | | | |
|------|----|-------------|--------|-----------|-----|------------|
| 2,00 | oh | Tukang kayu | @ Rp. | 70.335,38 | Rp. | 140.670,76 |
| 8,00 | oh | Pekerja | @ Rp. | 59.703,86 | Rp. | 477.630,88 |
| | | | Jumlah | | Rp. | 618.301,64 |

BAHAN :

| | | | | | | | |
|----|--------|-----|-----------------------------------|-------|--------------|--------------|--------------|
| a. | 0,79 | m3 | Kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 2.896.568,38 |
| b. | 20,00 | lbr | seng BJLS 0.30 | @ Rp. | 67.634,70 | Rp. | 1.352.694,00 |
| c. | 20,000 | lbr | tripleks tebal 4 mm | @ Rp. | 106.769,58 | Rp. | 2.135.391,51 |
| d. | 3,00 | kg | paku | @ Rp. | 15.167,25 | Rp. | 45.501,75 |
| e. | 0,75 | kg | paku seng | @ Rp. | 17.976,00 | Rp. | 13.482,00 |
| f. | 0,90 | m3 | beton campuran 1 Pc : 3 Ps : 5 Kr | @ Rp. | 1.140.769,69 | Rp. | 1.026.692,72 |
| | | | Jumlah | | Rp. | 7.470.330,36 | |
| | | | Jumlah Upah + Bahan | | Rp. | 8.088.632,00 | |

Tiap m² = $\frac{8.088.632,00}{18,00}$ Rp. 112.342,11

Tiap m2 (asumsi panjang project 4 km) Dibulatkan Rp. **112.300,00**

2 Perlengkapan direksi keet dan penerangan /4 km LS Rp. **217.800,00**

3 Pembuatan semboyan terdiri dari rambu-rambu, semboyan bendera, lengkap dengan lampu per unit

| | | | | | | |
|------|-----|---------------------|------------|------------|-----|---------------------|
| 1,00 | lbr | tripleks tebal 4 mm | @ Rp. | 106.769,58 | Rp. | 106.769,58 |
| 3,00 | btg | bambu | @ Rp. | 47.389,23 | Rp. | 142.167,69 |
| 1,00 | kg | cat besi | @ Rp. | 82.789,59 | Rp. | 82.789,59 |
| 1,50 | m2 | kain bendera | @ Rp. | 51.814,70 | Rp. | 77.722,04 |
| 2,00 | bh | Lampu semboyan | @ Rp. | 278.343,75 | Rp. | 556.687,51 |
| 2,00 | | pekerja | @ Rp. | 59.703,86 | Rp. | 119.407,72 |
| | | | Jumlah | | Rp. | 1.085.544,13 |
| | | | Dibulatkan | | Rp. | 1.085.500,00 |

4 Pengukuran dan pemasangan patok / m'sp

| | | | | | | | |
|----|-------|----|---------------------------------------|-------|--------------|------------------|-----------|
| a. | 0,009 | m3 | Kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 32.998,88 |
| b. | 0,040 | kg | paku | @ Rp. | 15.167,25 | Rp. | 606,69 |
| c. | 0,125 | | tukang kayu | @ Rp. | 70.335,38 | Rp. | 8.791,92 |
| d. | 0,012 | | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 971,62 |
| e. | 0,042 | | pekerja | @ Rp. | 59.703,86 | Rp. | 2.507,56 |
| f. | 0,002 | | mandor | @ Rp. | 91.599,49 | Rp. | 183,20 |
| g. | 0,020 | | juru ukur | @ Rp. | 80.967,97 | Rp. | 1.619,36 |
| h. | 0,030 | | Tenaga ahli menggambar dan menghitung | @ Rp. | 85.000,00 | Rp. | 2.550,00 |
| | | | Alat bantu patok dan cat | | | Rp. | 2.750,00 |
| | | | Jumlah | | Rp. | 52.979,23 | |
| | | | Dibulatkan | | Rp. | 52.900,00 | |

5 Penjagaan semboyan

terdiri dari penjagaan semboyan, gudang dan material
3 shift x 30 hari x 5 bulan

Rp. **59.703,86**

6 Bongkar direksi keet dan gudang kerja

Untuk tiap 1 m2

UPAH :

| | | | | | | |
|------|----|--------------|------------|-----------|-----|-----------------|
| 0,60 | oh | pelaksana | @ Rp. | 64.200,00 | Rp. | 38.520,00 |
| | | | Jumlah | | Rp. | 9.630,00 |
| | | per m2/ 4 km | Dibulatkan | | Rp. | 9.600,00 |

C. KONSTRUKSI JALAN REL

1 Bongkar spoor bantalan kayu R.42 tiap m'sp

| | | | | | | |
|------|--|---------|------------|-----------|-----|-----------------|
| 0,01 | | mandor | @ Rp. | 91.599,49 | Rp. | 915,99 |
| 0,14 | | pekerja | @ Rp. | 59.703,86 | Rp. | 8.358,54 |
| | | | Jumlah | | Rp. | 9.274,54 |
| | | | Dibulatkan | | Rp. | 9.200,00 |

2 Menyetel spoor dengan bantalan beton R.42 / m'sp

| | | | | | | |
|-------|--|---------|------------|-----------|-----|------------------|
| 0,044 | | mandor | @ Rp. | 91.599,49 | Rp. | 4.030,38 |
| 0,616 | | pekerja | @ Rp. | 59.703,86 | Rp. | 36.777,58 |
| | | | Jumlah | | Rp. | 40.807,96 |
| | | | Dibulatkan | | Rp. | 40.800,00 |

3 Muat bongkar rel R.42/R.54 dan alat penambat bekas / ton

a. Muat dan bongkar alat kecil bangunan atas
untuk 1 kg bangunan atas

| | | | | | | |
|--------|----|---------------|----------|-----------|-----|----------|
| 0,0093 | | pekerja | @ Rp. | 59.703,86 | Rp. | 555,25 |
| | | alat bantu | | | Rp. | 110,00 |
| | | | Jumlah a | | Rp. | 665,25 |
| 15,00 | kg | alat penambat | @ Rp. | 665,25 | Rp. | 9.978,69 |

b. Muat dan bongkar rel R.42
untuk tiap 1 m, panjang rel

| | | | | | | |
|--------|----|---------------------------|----------|-----------|-----|----------|
| 0,026 | | mandor | @ Rp. | 91.599,49 | Rp. | 2.381,59 |
| 0,0418 | | pekerja | @ Rp. | 59.703,86 | Rp. | 2.495,62 |
| 0,0500 | kg | kawat dia 5 mm (pengikat) | @ Rp. | 14.043,75 | Rp. | 702,19 |
| | | alat bantu | | | Rp. | 2.200,00 |
| | | | Jumlah b | | Rp. | 7.779,40 |

| | | | | |
|-----------------|--|---|--------------|----------------|
| c. Biaya angkut | | | Rp. | 11.000,00 |
| | | | Jumlah a+b+c | Rp. 28.758,08 |
| 92,00 kg | alat penambat bangunan atas + rel R.42 bekas | | | Rp. 28.758,08 |
| untuk 1 ton = | $\frac{1000}{92}$ | x | Rp. | 28.758,08 |
| | | | Dibulatkan | Rp. 312.500,00 |

4 Muat dan bongkar bantalan bekas tiap btg

| | | | | | | |
|---------------------------------|---------|--|------------|-----------|-----|-----------|
| a. untuk tiap 1 batang bantalan | | | @ Rp. | 59.703,86 | Rp. | 5.522,61 |
| 0,0925 | pekerja | | Jumlah a | | Rp. | 5.522,61 |
| b. Biaya angkut | | | | | Rp. | 28.100,00 |
| | | | Jumlah b | | Rp. | 28.100,00 |
| | | | Jumlah a+b | | Rp. | 33.622,61 |
| | | | Dibulatkan | | Rp. | 33.600,00 |

5 Ongkos angkut dan ngecer bantalan beton lengkap dengan alat penambat di lokasi untuk tiap 1 batang

| | | | | | | |
|---|---------|--|-------------|-----------|-----|-----------|
| Upah : | | | | | | |
| a. Ongkos angkut dari penimbunan ke lokasi pekerjaan termasuk muat, bongkar dan mengecer bantalan beton lengkap alat penambat elastis | | | @ Rp. | 59.703,86 | Rp. | 22.090,43 |
| 0,37 | pekerja | | @ Rp. | 91.599,49 | Rp. | 2.747,98 |
| 0,03 | mandor | | | | | |
| b. Alat bantu | | | | | Rp. | 3.300,00 |
| Pikulan, balok angkut rel, tali, pengki | | | Jumlah Upah | | Rp. | 28.138,41 |
| | | | Dibulatkan | | Rp. | 28.100,00 |

D. PEKERJAAN BALAS

1 Mengisi / meratakan balas lama untuk memasang spoor baru / m'sp

| | | | | | | |
|-------|---------|--|------------|-----------|-----|-----------|
| 0,210 | pekerja | | @ Rp. | 59.703,86 | Rp. | 12.537,81 |
| | | | Dibulatkan | | Rp. | 12.500,00 |

2 Memasukkan balas kricak baru / m3

| | | | | | | |
|--------|---------|--|------------|-----------|-----|-----------|
| 0,0270 | mandor | | @ Rp. | 91.599,49 | Rp. | 2.473,19 |
| 0,826 | pekerja | | @ Rp. | 59.703,86 | Rp. | 49.315,39 |
| | | | Jumlah | | Rp. | 51.788,57 |
| | | | Dibulatkan | | Rp. | 51.700,00 |

3 Angkat listring 3 x HTT kec.60 km/jam dilanjutkan MTT, PBR per m'sp

| | | | | | | |
|---|---------------------------------------|--|-------------------------------------|-----------|-----|------------|
| a. s.d kecepatan 20 km/jam dari 5 km/jam | | | @ Rp. | 91.599,49 | Rp. | 3.480,78 |
| 0,038 | mandor | | @ Rp. | 59.703,86 | Rp. | 22.687,47 |
| 0,38 | pekerja | | Jumlah a. | | Rp. | 26.168,25 |
| b. s.d kecepatan 40 km/jam dari 20 km/jam | | | @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| 0,075 | mandor | | @ Rp. | 59.703,86 | Rp. | 40.598,62 |
| 0,68 | pekerja | | Jumlah b. | | Rp. | 47.468,59 |
| c. s.d kecepatan 60 km/jam dari 40 km/jam | | | @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| 0,075 | mandor | | @ Rp. | 59.703,86 | Rp. | 44.777,90 |
| 0,75 | pekerja | | Jumlah c. | | Rp. | 51.647,86 |
| | | | Jumlah a+b+c | | Rp. | 125.284,69 |
| d. > dari kecepatan 60 km/jam | | | | | | |
| dikerjakan dengan alat berat (MTT, PBR, dsb) per m'sp | | | @ Rp. | 80.967,97 | Rp. | 2.833,88 |
| 0,035 | Juru ukur (optik) | | @ Rp. | 64.200,00 | Rp. | 22.470,00 |
| 0,350 | pekerja jalan KA / pembantu juru ukur | | @ Rp. | 10.285,00 | Rp. | 30.855,00 |
| 3,00 kali | biaya operasi MTT | | @ Rp. | 10.285,00 | Rp. | 10.285,00 |
| 1,00 kali | biaya operasi PBR | | Jumlah d. | | Rp. | 66.443,88 |
| | | | Jumlah seluruhnya (a + b + c + d) | | Rp. | 191.728,57 |
| | | | Dibulatkan | | Rp. | 191.700,00 |

E. PEKERJAAN LAIN-LAIN

1 Normalisasi tubuh baan per m3

| | | | | | | |
|--------|----|-----------|------------|-----------|-----|------------|
| 1,20 | m3 | Tanah | @ Rp. | 77.858,55 | Rp. | 93.430,26 |
| 0,0616 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 5.642,53 |
| 0,616 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 36.777,58 |
| | | pemadatan | @ Rp. | 6.000,00 | Rp. | 6.000,00 |
| | | | Jumlah | | Rp. | 141.850,37 |
| | | | Dibulatkan | | Rp. | 141.800,00 |

2 Pembuatan dan pengecatan tanda-tanda lintas (patok Km / HM,dll) per buah

Pekerjaan beton K-175 / M3

a. 1 m3 pasangan beton camp 1 PC: 2 PS : 3 KR :

Bahan :

| | | | | | | |
|------|-----|--------------------|-------|------------|--------------|-----------------------|
| 0,82 | m3 | Batu split uk. 2/3 | @ Rp. | 217.397,25 | Rp. | 178.265,75 |
| 0,55 | m3 | pasir beton | @ Rp. | 408.238,33 | Rp. | 224.531,08 |
| 6,80 | zak | semen | @ Rp. | 61.792,50 | Rp. | 420.189,00 |
| | | | | | Jumlah Bahan | Rp. 822.985,83 |

Upah kerja :

| | | | | | | |
|------|--|---------------|-------|-----------|-------------|-------------------------|
| 1,00 | | tukang batu | @ Rp. | 70.335,38 | Rp. | 70.335,38 |
| 0,10 | | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 8.096,80 |
| 6,00 | | pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| | | | | | Jumlah Upah | Rp. 464.135,18 |
| | | | | | Jumlah a | Rp. 1.287.121,01 |

b. Membuat bekisting tiap m² tiap cetakan

Bahan :

| | | | | | | |
|-------|-----|-----------------|-------|--------------|----------|-----------------------|
| 1,70 | lbr | Multiplex 12 mm | @ Rp. | 281.483,94 | Rp. | 478.522,69 |
| 0,004 | m3 | Kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 14.666,17 |
| 2,00 | kg | paku | @ Rp. | 15.167,25 | Rp. | 30.334,50 |
| | | | | | Jumlah b | Rp. 523.523,36 |

c. Upah membuat bekisting dari multiplex

untuk tiap 1 m3 cetakan :

| | | | | | | |
|------|----|----------------|-------|-----------|-----------|----------------|
| 2,75 | oh | tukang kayu | @ Rp. | 70.335,38 | Rp. | 193.422,30 |
| 1,00 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 59.703,86 |
| 0,30 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| 2,00 | oh | Tukang Bongkar | @ Rp. | 59.703,86 | Rp. | 119.407,72 |
| | | | | | Jumlah c. | Rp. 400.013,72 |

d. Pembesian

Bahan :

| | | | | | | |
|--------|----|-----------------------|-------|-----------|----------|-------------------------|
| 110,00 | kg | besi beton | @ Rp. | 16.713,19 | Rp. | 1.838.450,46 |
| 2,60 | kg | kawat beton / bendrat | @ Rp. | 32.518,58 | Rp. | 84.548,32 |
| | | | | | Jumlah d | Rp. 1.922.998,78 |

e. Upah mengerjakan besi beton

untuk tiap 100 kg besi beton

| | | | | | | |
|-------|--|---------------|-------|-----------|----------|------------------|
| 2,250 | | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 182.177,93 |
| 6,750 | | tukang besi | @ Rp. | 70.335,38 | Rp. | 474.763,82 |
| 6,750 | | pekerja | @ Rp. | 59.703,86 | Rp. | 403.001,06 |
| | | | | | Jumlah e | Rp. 1.059.942,80 |

1 m3 beton K.175 + bekisting + pembesian (Jumlah a+b+c+d+e)
Dibulatkan

Rp. 5.193.599,68
Rp. **5.193.500,00**

Untuk pembuatan patok piket

Ukuran : 0,1 x 0,2 x 0,8

0,016 m3 beton bertulang K-125 + bekisting + pembesian @ Rp. 5.193.500,00 Rp. 83.096,00

Pasang patok

1,00 pekerja @ Rp. 59.703,86 Rp. 59.703,86
Jumlah Rp. 142.799,86

Pengecatan 3 x ulas untuk per m² bidang

| | | | | | | |
|--------|----|-------------------|-------|-----------|--------|---------------|
| 0,0042 | kg | dempul | @ Rp. | 19.839,89 | Rp. | 83,33 |
| 0,0119 | kg | cat dasar | @ Rp. | 82.789,59 | Rp. | 985,20 |
| 0,250 | lb | amplas | @ Rp. | 7.695,98 | Rp. | 1.923,99 |
| 0,132 | kg | cat | @ Rp. | 82.789,59 | Rp. | 10.928,23 |
| 0,02 | bh | kuas | @ Rp. | 15.711,02 | Rp. | 314,22 |
| 0,30 | | tukang cat | @ Rp. | 58.850,00 | Rp. | 17.655,00 |
| 0,03 | | kepala tukang cat | @ Rp. | 80.967,97 | Rp. | 2.429,04 |
| 0,20 | | pekerja | @ Rp. | 59.703,86 | Rp. | 11.940,77 |
| 0,01 | | mandor | @ Rp. | 91.599,49 | Rp. | 915,99 |
| | | | | | Jumlah | Rp. 47.175,77 |

Biaya pengecatan 1 patok piket = ((2x0.1x0.8)+(2 x 0.2x0.8)+(0.1x0.2))x Rp. 47.175,77 Rp. 23.587,88

Jumlah Pembuatan patok dan pengecatan tanda-tanda di lintas (patok KM / HM, dll) Rp. 166.387,74

Dibulatkan Rp. **166.300,00**

3 Pasangan Batu belah 1 Pc : 3 Ps / m3

| | | | | | | |
|-------|-----|---------------|-------|------------|------------|-----------------------|
| 1,200 | m3 | Batu belah | @ Rp. | 196.865,29 | Rp. | 236.238,35 |
| 4,000 | zak | Semen | @ Rp. | 61.792,50 | Rp. | 247.170,00 |
| 0,460 | m3 | Pasir | @ Rp. | 320.517,70 | Rp. | 147.438,14 |
| 1,200 | oh | Tukang Batu | @ Rp. | 70.335,38 | Rp. | 84.402,46 |
| 0,120 | oh | Kepala Tukang | @ Rp. | 80.967,97 | Rp. | 9.716,16 |
| 3,600 | oh | Pekerja | @ Rp. | 59.703,86 | Rp. | 214.933,90 |
| 0,180 | oh | Mandor | @ Rp. | 91.599,49 | Rp. | 16.487,91 |
| | | | | | Jumlah | Rp. 956.386,90 |
| | | | | | Dibulatkan | Rp. 956.300,00 |

4 Pembuatan saluran pembuangan air disisi tubuh baan

Mengerjakan galian tanah biasa, angkut sejauh 10-30 m'
 tiap-tiap 1 M3

0,03 oh mandor
 0,86 oh pekerja

| | | | |
|--------|-----------|-----|-----------|
| @ Rp. | 91.599,49 | Rp. | 2.747,98 |
| @ Rp. | 59.703,86 | Rp. | 51.345,32 |
| Jumlah | | Rp. | 54.093,30 |

1 M' saluran = 0,35 M3 = 0,35xRp. 54.093,30
 Alat-alat dilokasi

| | | |
|-------------------|------------|------------------|
| | Rp. | 18.932,66 |
| | Rp. | 4.950,00 |
| Jumlah | Rp. | 23.882,66 |
| Dibulatkan | Rp. | 23.000,00 |

5 Menanam gembalan rumput

1,00 m2 gebalan rumput
 0,02 btg bambu
 0,17 oh pekerja

| | | | |
|-------------------|------------|------------------|-----------|
| @ Rp. | 15.571,71 | Rp. | 15.571,71 |
| @ Rp. | 47.389,23 | Rp. | 947,78 |
| @ Rp. | 59.703,86 | Rp. | 10.149,66 |
| Jumlah | | Rp. | 26.669,15 |
| Dibulatkan | Rp. | 26.000,00 | |

6 Membersihkan balas lama kotor campur tanah/m3

Mengeluarkan balas kotor dari baan
 Mengayak balas kotor
 Balas yang bersih dimasukkan kembali ke tubuh baan

0,075 Mandor
 2,25 Pekerja

| | | | |
|-------------------|------------|-------------------|------------|
| @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| @ Rp. | 59.703,86 | Rp. | 134.333,69 |
| Jumlah | | Rp. | 141.203,65 |
| Dibulatkan | Rp. | 141.200,00 | |

RENCANA ANGGARAN BIAYA

**PEKERJAAN : PENINGKATAN JALAN KERETA API PENGGANTIAN BANTALAN KAYU REL R.42/54
MENJADI BANTALAN BETON REL R.42/54**

VOLUME : 1000 M'SP

LOKASI : WILAYAH JAWA

| NO | URAIAN PEKERJAAN | SATUAN | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) |
|---|---|--------|----------|--------------------|-------------------------|
| A. PENGADAAN BAHAN | | | | | |
| 1 | Balas kricak uk. 2x6 cm ecer dilokasi | m3 | 1.600,00 | 309.800,00 | 495.680.000,00 |
| 2 | Bantalan beton lengkap dengan penambat elastis | btg | 1.667,00 | 617.925,00 | 1.030.080.975,00 |
| J U M L A H A + | | | | | 1.525.760.975,00 |
| B. PEKERJAAN PERSIAPAN | | | | | |
| 1 | Membuat Direksi Keet dan gudang kerja | m2 | 18,00 | 112.300,00 | 2.021.400,00 |
| 2 | Perlengkapan direksi keet dan penerangan | ls | 1,00 | 217.800,00 | 217.800,00 |
| 3 | Membuat alat semboyan | unit | 2,00 | 1.085.500,00 | 2.171.000,00 |
| 4 | Pengukuran dan pasang patok | m'sp | 1.000,00 | 52.900,00 | 52.900.000,00 |
| 5 | Penjagaan semboyan | oh | 900,00 | 59.703,86 | 53.733.474,00 |
| 6 | Bongkaran Direksi Keet dan Gudang Kerja | m2 | 18,00 | 9.600,00 | 172.800,00 |
| J U M L A H B + | | | | | 111.216.474,00 |
| C. KONSTRUKSI JALAN REL | | | | | |
| 1 | Bongkar spoor bantalan kayu R.42/54 | m'sp | 1.000,00 | 9.200,00 | 9.200.000,00 |
| 2 | Menyetel spoor bantalan beton R.42/54 | m'sp | 1.000,00 | 40.800,00 | 40.800.000,00 |
| 3 | Muat/bongkar, angkut alat penambat bekas + rel R.42/54 | ton | 41,67 | 312.500,00 | 13.021.875,00 |
| 4 | Muat/bongkar, angkut bantalan kayu bekas | batang | 1.667,00 | 33.600,00 | 56.011.200,00 |
| 9 | Pas. Bant. kayu sambungan 18x22x200 + Bahan dan alat pena | btg | 6,00 | 750.000,00 | 4.500.000,00 |
| 5 | Ongkos angkut dan ngecer bantalan beton + alat penambat dilokasi pekerjaan | batang | 1.667,00 | 28.100,00 | 46.842.700,00 |
| J U M L A H C + | | | | | 170.375.775,00 |
| D. PEKERJAAN BALAS | | | | | |
| 1 | Membersihkan balas lama kotor campur tanah | m3 | 770,00 | 141.200,00 | 108.724.000,00 |
| 2 | Mengerjakan balas baru | m3 | 1.600,00 | 51.700,00 | 82.720.000,00 |
| 3 | Angkat/listring dengan MTT, didahului dengan HTT s.d kec. 60 km/jam berikut pekerjaan PBR | m'sp | 1.000,00 | 191.700,00 | 191.700.000,00 |
| J U M L A H D + | | | | | 383.144.000,00 |
| E. PEKERJAAN LAIN-LAIN | | | | | |
| 1 | Pengecatan tanda-tanda lintas (patok KM / HM, dll) | buah | 10,00 | 166.300,00 | 1.663.000,00 |
| 2 | Normalisasi saluran pembuangan di kanan/kiri jalan KA | m' | 1.000,00 | 23.000,00 | 23.000.000,00 |
| 3 | Pekerjaan perlintasan | m2 | | | |
| 4 | Pasangan batu kali camp 1 : 3 untuk tembok penahan balas | m3 | | | |
| J U M L A H E + | | | | | 24.663.000,00 |
| J U M L A H A S/D E = | | | | | 2.215.160.224,00 |
| P P N 10 % = | | | | | 221.516.022,40 |
| JUMLAH FISIK = | | | | | 2.436.676.246,40 |
| BIAYA SUPERVISI = | | | | | 97.467.049,86 |
| JUMLAH SEMUA = | | | | | 2.534.143.296,26 |
| PEMBULATAN = | | | | | 2.534.143.000,00 |
| Terbilang : Dua Milyar Lima Ratus Tiga Puluh Empat Juta Seratus Empat Puluh Tiga Ribu Rupiah | | | | | |

**DAFTAR HARGA SATUAN UPAH, BAHAN DAN ALAT
PEKERJAAN TRACK**

2011+7%

| NO | JENIS | PER SATUAN | HARGA |
|---------------------------|--|------------|------------------|
| I. UPAH | | | |
| 1 | Pengawas pekerjaan las | OH | Rp. 80.967,97 |
| 2 | Mandor | OH | Rp. 91.599,49 |
| 3 | Kepala Tukang | OH | Rp. 80.967,97 |
| 4 | Tukang Batu | OH | Rp. 70.335,38 |
| 5 | Tukang Kayu | OH | Rp. 70.335,38 |
| 6 | Tukang cat / plitur | OH | Rp. 58.850,00 |
| 7 | Tukang Las | OH | Rp. 59.703,86 |
| 8 | Tukang Besi | OH | Rp. 70.335,38 |
| 9 | Tukang Bongkar | OH | Rp. 59.703,86 |
| 10 | Tukang Gerinda | OH | Rp. 70.335,38 |
| 11 | Teknisi | OH | Rp. 58.850,00 |
| 12 | Tukang anyaman | OH | Rp. 58.850,00 |
| 13 | Tukang masak aspal | OH | Rp. 59.703,86 |
| 14 | Pembantu tukang las | OH | Rp. 56.710,00 |
| 15 | Juru ukur | OH | Rp. 80.967,97 |
| 16 | Pekerja | OH | Rp. 59.703,86 |
| 17 | Operator mesin | OH | Rp. 64.200,00 |
| II. BAHAN DAN ALAT | | | |
| 1 | Acetylin @ 45 kg | | Rp. 366.557,60 |
| 2 | Aspal hotmix | m2 | Rp. 186.276,30 |
| 3 | Aspal | kg | Rp. 9.277,86 |
| 4 | Amplas | lembar | Rp. 7.695,98 |
| 5 | Balas kricak uk. 2x6 | m3 | Rp. 232.002,75 |
| 6 | Balas split uk. 2x3 | m3 | Rp. 306.178,47 |
| 7 | Balas split uk. 1x2 | m3 | Rp. 306.178,47 |
| 8 | Balas sirtu | m3 | Rp. 306.178,47 |
| 9 | Bantalan kayu | buah | Rp. 1.070.555,06 |
| 10 | Bantalan beton lengkap dengan penambat elastis | batang | Rp. 617.925,00 |
| 11 | Bambu | batang | Rp. 47.389,23 |
| 12 | Batu belah | m3 | Rp. 196.865,29 |
| 13 | Batu pecah 5/7 | m3 | Rp. 232.290,37 |
| 14 | Batu pecah 3/5 | m3 | Rp. 285.766,72 |
| 15 | Batu gerinda profil | buah | Rp. 393.225,00 |
| 16 | Batu gerinda tangan | buah | Rp. 33.705,00 |
| 17 | Batu split uk. 2/3 | buah | Rp. 217.397,25 |
| 18 | baut kopel dia. 19 mm p = 800 mm | buah | Rp. 59.224,18 |
| 19 | Baut isol | buah | Rp. 109.909,76 |
| 20 | Baut lasplat | buah | Rp. 109.909,76 |
| 21 | Baut IRJ | buah | Rp. 109.909,76 |
| 22 | Begel rel bendel dia. 19 mm | Set | Rp. 65.946,08 |
| 23 | Bendrat | kg | Rp. 32.518,58 |
| 24 | Bensin | liter | Rp. 5.617,50 |
| 25 | Bensin campur | liter | Rp. 6.488,21 |
| 26 | Besi beton | kg | Rp. 16.713,19 |
| 27 | Blender pemanas | set | Rp. 2.853.690,00 |
| 28 | Baut sindik bantalan jembatan | buah | Rp. 103.005,85 |
| 29 | Baut bantalan dia. 19, p = 270 mm | buah | Rp. 47.234,19 |
| 30 | Bor kayu | buah | Rp. 72.485,97 |
| 31 | Cat dasar | kg | Rp. 82.789,59 |
| 32 | Cat kayu | kg | Rp. 82.789,59 |
| 33 | Cat Besi | kg | Rp. 82.789,59 |
| 34 | Conector galvanis 4 mm | buah | Rp. 17.271,57 |
| 35 | Dempul | kg | Rp. 19.839,89 |
| 36 | Dongkrak alignment beam | buah | Rp. 4.758.022,50 |
| 37 | Elektroda untuk layer | kg | Rp. 121.329,01 |
| 38 | Elektroda untuk pengeras | kg | Rp. 135.603,08 |
| 39 | LPG 12 kg | tabung | Rp. 171.333,75 |
| 40 | Gergaji besi standar | bh | Rp. 12.583,20 |
| 41 | Gemuk | kg | Rp. 68.943,58 |
| 42 | Geotextile | m2 | Rp. 41.394,23 |
| 43 | Gebalan rumput | m2 | Rp. 15.571,71 |
| 44 | Kain bendera | m2 | Rp. 51.814,70 |
| 45 | Kain lap | lembar | Rp. 6.460,13 |
| 46 | Kacamata Las | buah | Rp. 34.603,80 |
| 47 | Kacamata gerinda | buah | Rp. 83.645,70 |
| 48 | Kawat dia. 5 mm | kg | Rp. 14.043,75 |
| 49 | Kawat pral | kg | Rp. 38.150,69 |
| 50 | Kawat las elektroda | kg | Rp. 44.508,58 |

| NO | JENIS | PER SATUAN | HARGA |
|-----|--------------------------------------|------------|------------------|
| 51 | Kawat bendrat | kg | Rp. 27.068,49 |
| 52 | Kayu Kalimantan Lanan Balok | m3 | Rp. 5.906.894,50 |
| 53 | Kayu kelas III | m3 | Rp. 3.666.542,25 |
| 54 | Kayu kelas II | m3 | Rp. 7.356.854,39 |
| 55 | Kayu ganjal | bh | Rp. 13.931,40 |
| 56 | Kayu papan rentang | m3 | Rp. 2.903.180,18 |
| 57 | Kerikil | m3 | Rp. 267.378,39 |
| 58 | Kerikil halus | m3 | Rp. 202.432,23 |
| 59 | Kikir segi empat uk. 1.5" | buah | Rp. 72.511,81 |
| 60 | Kunci baut lasplat | buah | Rp. 78.645,00 |
| 61 | Kunci Inggris 12" | buah | Rp. 112.350,00 |
| 62 | Kunci ring / pas | set | Rp. 104.485,50 |
| 63 | Kunci tirepond | buah | Rp. 117.047,35 |
| 64 | Kuas uk. 3" | buah | Rp. 15.711,02 |
| 65 | Lasplat sambung R.54 | buah | Rp. 6.089.030,70 |
| 66 | Lasplat isol | buah | Rp. 5.994.562,33 |
| 67 | Linggis bengkok | buah | Rp. 157.290,00 |
| 68 | Lampu semboyan | buah | Rp. 278.343,75 |
| 69 | Mistar Pelurus rel 1 m | buah | Rp. 494.340,00 |
| 70 | Mold Tembaga | kg | Rp. 707.785,90 |
| 71 | Multipleks 12 mm | lembar | Rp. 281.483,94 |
| 72 | Masker Las | buah | Rp. 92.638,19 |
| 73 | Oksigen | tabung | Rp. 101.115,00 |
| 74 | Olie SAE 30-40 | liter | Rp. 28.087,50 |
| 75 | Olie Meditrain 40 | liter | Rp. 57.809,69 |
| 76 | Pahat Ganjal | buah | Rp. 8.650,95 |
| 77 | Paku | kg | Rp. 15.167,25 |
| 78 | Paku maskrum | kg | Rp. 21.436,38 |
| 79 | Paku seng | kg | Rp. 17.976,00 |
| 80 | Palu 4 kg | buah | Rp. 103.629,39 |
| 81 | Palu/ martil 4 kg | buah | Rp. 55.613,25 |
| 82 | Palu Konde 1 kg | buah | Rp. 37.075,50 |
| 83 | Palu ketrek | buah | Rp. 34.543,13 |
| 84 | Papan Kalimantan | buah | Rp. 6.084.749,04 |
| 85 | Pasak 6 mm | buah | Rp. 70.851,28 |
| 86 | Pasir | m3 | Rp. 320.517,70 |
| 87 | Pasir pasang | m3 | Rp. 190.995,00 |
| 88 | Pasir beton | m3 | Rp. 408.238,33 |
| 89 | Plat landas | bh | Rp. 439.641,28 |
| 90 | Pandrol R.54 | bh | Rp. 53.229,18 |
| 91 | Pasir urug | m3 | Rp. 151.672,50 |
| 92 | Pasir sirtu | m3 | Rp. 151.672,50 |
| 93 | Pandpuller | buah | Rp. 111.226,50 |
| 94 | P3K | set | Rp. 252.935,80 |
| 95 | Penetran cleaner 400 ml | botol | Rp. 195.411,48 |
| 96 | Penetran revolver 400 ml | botol | Rp. 195.411,48 |
| 97 | Penetran developer 400 ml | botol | Rp. 114.905,96 |
| 98 | Pipa galvanis dia. 5" | btg | Rp. 1.623.674,34 |
| 99 | Pipa PVC dia. 6" | btg | Rp. 561.750,00 |
| 100 | Regulator acetylin | set | Rp. 746.105,12 |
| 101 | Regulator elpiji | buah | Rp. 84.262,50 |
| 102 | Regulator oksigen | buah | Rp. 134.820,00 |
| 103 | Sarung tangan panjang | set | Rp. 23.481,15 |
| 104 | Sarung tangan pendek | set | Rp. 2.282,95 |
| 105 | Sekop | buah | Rp. 44.940,00 |
| 106 | Semen | zak | Rp. 61.792,50 |
| 107 | seng BJLS 0.30 | buah | Rp. 67.634,70 |
| 108 | Sepatu las | set | Rp. 146.055,00 |
| 109 | Sewa genset untuk penerangan | hari | Rp. 124.326,51 |
| 110 | Sewa Mesin gerinda MP 12 | hari | Rp. 123.585,00 |
| 111 | Sewa mesin gerinda profil | hari | Rp. 155.444,09 |
| 112 | Sewa Mesin gerinda tangan | hari | Rp. 112.350,00 |
| 113 | Sewa mesin las 40 Amp | hari | Rp. 259.073,48 |
| 114 | Sewa mesin Weld Sher (manual) | hari | Rp. 108.080,70 |
| 115 | Sewa mesin gilas | hari | Rp. 1.034.583,96 |
| 116 | Senteleng bambu | buah | Rp. 93.351,62 |
| 117 | Sikat baja | buah | Rp. 11.122,65 |
| 118 | Solar | liter | Rp. 5.308,54 |
| 119 | Stop watch | buah | Rp. 269.640,00 |
| 120 | Tambang manila dia 19 mm | kg | Rp. 72.083,76 |
| 121 | Tenda plastik 3 x 4 | lembar | Rp. 205.260,08 |
| 122 | Tanah | m3 | Rp. 77.858,55 |
| 123 | tripleks tebal 4 mm | lembar | Rp. 106.769,58 |
| 124 | Ter | kg | Rp. 10.392,38 |
| 125 | Paku tirefond | buah | Rp. 89.926,06 |
| 126 | Penambat elastis untuk bantalan kayu | set | Rp. 405.383,52 |

| NO | JENIS | PER SATUAN | HARGA |
|----|-------|------------|-------|
|----|-------|------------|-------|

**DAFTAR ANALISA PEKERJAAN
PENINGKATAN JALAN REL KERETA API PENGGANTIAN
BANTALAN KAYU REL R.42 MENJADI BANTALAN BETON REL R.54**

Menghitung satuan orang hari (OH) untuk pekerjaan track

| | | | | | |
|-------------------------------|---------------|-------|------------|-----|------------------|
| 6,00 | Pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 1,00 | Mandor | @ Rp. | 91.599,49 | Rp. | 91.599,49 |
| | | | Jumlah | Rp. | 449.822,65 |
| 1 orang hari (OH) Pelaksana = | $\frac{1}{7}$ | x Rp. | 449.822,65 | Rp. | 64.260,38 |
| | | | Dibulatkan | Rp. | 64.200,00 |

A. PENGADAAN BAHAN

1 Balas batu pecah uk. 2x6 cm ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|-------|------------|-----|-------------------|
| a. | Harga balas batu pecah 2/6 di Quarry | | | Rp. | 232.002,75 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,4 pekerja | @ Rp. | 59.703,86 | Rp. | 23.881,54 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,009 mandor | @ Rp. | 91.599,49 | Rp. | 824,40 |
| | 0,35 pekerja | @ Rp. | 59.703,86 | Rp. | 20.896,35 |
| f. | Biaya Administrasi angkutan balas dengan KA / m3 | | | Rp. | 7.500,00 |
| | | | Jumlah | Rp. | 309.805,04 |
| | | | Dibulatkan | Rp. | 309.800,00 |

2 Sub Balas ecer di lokasi untuk 1 m3

| | | | | | |
|----|--|-------|------------|-----|-------------------|
| a. | Harga sub balas di Quarry | | | Rp. | 110.000,00 |
| b. | Ongkos angkut maksimum dari Quarry ke Depo sub balas tempat muat | | | Rp. | 24.700,00 |
| c. | Ongkos muat ke gerbong dengan loeder | | | Rp. | - |
| d. | Ongkos muat ke gerbong dengan orang | | | | |
| | 0,13333 pekerja | @ Rp. | 59.703,86 | Rp. | 7.960,32 |
| e. | Ongkos bongkar dan ecer di lokasi | | | | |
| | 0,003 mandor | @ Rp. | 91.599,49 | Rp. | 274,80 |
| | 0,117 pekerja | @ Rp. | 59.703,86 | Rp. | 6.985,35 |
| | Harga sub balas di tempat pekerjaan | | Jumlah | Rp. | 149.920,47 |
| f. | memasukkan sub balas baru | | | | |
| | memasukkan sub balas baru | | | | |
| | mendandang/memecok sub balas | | | | |
| | untuk setiap 1 m3 | | | | |
| | 0,033 Mandor | @ Rp. | 91.599,49 | Rp. | 3.022,78 |
| | 1 Pekerja | @ Rp. | 59.703,86 | Rp. | 59.703,86 |
| | | | Jumlah | Rp. | 62.726,64 |
| | | | Dibulatkan | Rp. | 212.647,11 |

B. PEKERJAAN PERSIAPAN

Pekerjaan lantai 1 Pc : 3 Ps : 5 Kr per m3

Upah tiap 1 m3

UPAH :

| | | | | | | |
|------|----|--------------------|-------|-----------|-----|------------|
| 6,00 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| 0,50 | oh | Tukang batu | @ Rp. | 70.335,38 | Rp. | 35.167,69 |
| 0,05 | oh | kepala tukang batu | @ Rp. | 80.967,97 | Rp. | 4.048,40 |
| | | | | Jumlah | Rp. | 424.919,10 |

BAHAN :

| | | | | | | |
|-------|-----|----------------|-------|---------------------|-----|---------------------|
| 0,928 | m3 | batu split | @ Rp. | 217.397,25 | Rp. | 201.744,65 |
| 0,557 | m3 | pasir beton | @ Rp. | 408.238,33 | Rp. | 227.388,75 |
| 4,640 | zak | portland semen | @ Rp. | 61.792,50 | Rp. | 286.717,20 |
| | | | | Jumlah | Rp. | 715.850,60 |
| | | | | Jumlah Upah + Bahan | Rp. | 1.140.769,69 |

1 Pembuatan direksi keet dan Gudang Kerja, luas 18 m² :

Dihitung berdasarkan pembuatan bangunan sementara uk. 18 m2, dengan lantai beton tebal 5 cm

UPAH :

| | | | | | | |
|------|----|---------|-------|-----------|-----|------------|
| 2,00 | oh | Tukang | @ Rp. | 70.335,38 | Rp. | 140.670,76 |
| 8,00 | oh | Pekerja | @ Rp. | 59.703,86 | Rp. | 477.630,88 |
| | | | | Jumlah | Rp. | 618.301,64 |

BAHAN :

| | | | | | | | |
|----|--------|-----|-----------------------------------|---------------------|--------------|--------------|--------------|
| a. | 0,79 | m3 | kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 2.896.568,38 |
| b. | 20,00 | lbr | seng BJLS 0.30 | @ Rp. | 67.634,70 | Rp. | 1.352.694,00 |
| c. | 20,000 | lbr | tripleks tebal 4 mm | @ Rp. | 106.769,58 | Rp. | 2.135.391,51 |
| d. | 3,00 | kg | paku | @ Rp. | 15.167,25 | Rp. | 45.501,75 |
| e. | 0,75 | kg | paku seng | @ Rp. | 17.976,00 | Rp. | 13.482,00 |
| f. | 0,90 | m3 | beton campuran 1 Pc : 3 Ps : 5 Kr | @ Rp. | 1.140.769,69 | Rp. | 1.026.692,72 |
| | | | | Jumlah | Rp. | 7.470.330,36 | |
| | | | | Jumlah Upah + Bahan | Rp. | 8.088.632,00 | |

Tiap m² = $\frac{8.088.632,00}{72,00}$ Rp. 112.342,11

Tiap m2 (asumsi panjang project 4 km) Dibulatkan Rp. **112.300,00**

| | | | |
|---|--------------|--------------|-------------------------|
| 2 Perlengkapan direksi keet dan penerangan | LS | Rp. | 217.800,00 |
| 3 Pembuatan semboyan terdiri dari rambu-rambu, semboyan bendera, lengkap dengan lampu per unit | | | |
| 1,00 lbr triplex tebal 4 mm | @ Rp. | 106.769,58 | Rp. 106.769,58 |
| 3,00 btg batang bambu | @ Rp. | 47.389,23 | Rp. 142.167,69 |
| 1,00 kg cat besi | @ Rp. | 82.789,59 | Rp. 82.789,59 |
| 1,50 m2 kain bendera | @ Rp. | 51.814,70 | Rp. 77.722,04 |
| 2,00 bh lampu semboyan | @ Rp. | 278.343,75 | Rp. 556.687,51 |
| 2,00 pekerja | @ Rp. | 59.703,86 | Rp. 119.407,72 |
| | Jumlah | | Rp. 1.085.544,13 |
| | Dibulatkan | | Rp. 1.085.500,00 |
| 4 Pengukuran dan pemasangan patok / m'sp | | | |
| a. 0,009 m3 kayu kelas III | @ Rp. | 3.666.542,25 | Rp. 32.998,88 |
| b. 0,040 kg paku | @ Rp. | 15.167,25 | Rp. 606,69 |
| c. 0,125 tukang kayu | @ Rp. | 70.335,38 | Rp. 8.791,92 |
| d. 0,012 kepala tukang | @ Rp. | 80.967,97 | Rp. 971,62 |
| e. 0,042 pekerja | @ Rp. | 59.703,86 | Rp. 2.507,56 |
| f. 0,002 mandor | @ Rp. | 91.599,49 | Rp. 183,20 |
| g. 0,020 juru ukur | @ Rp. | 80.967,97 | Rp. 1.619,36 |
| h. 0,030 Tenaga ahli menggambar dan menghitung | @ Rp. | 85.000,00 | Rp. 2.550,00 |
| Alat bantu patok dan cat | | | Rp. 2.750,00 |
| | Jumlah | | Rp. 52.979,23 |
| | Dibulatkan | | Rp. 52.900,00 |
| 5 Penjagaan semboyan | | | |
| terdiri dari penjagaan semboyan, gudang dan material | | | |
| 3 shift x 30 hari x 5 bulan | | | Rp. 59.703,86 |
| 6 Bongkar direksi keet dan gudang kerja | | | |
| Untuk tiap 1 m2 | | | |
| UPAH : | | | |
| 0,60 oh pelaksana | @ Rp. | 64.200,00 | Rp. 38.520,00 |
| | Jumlah | | Rp. 9.630,00 |
| per m2 (asumsi per paket 4 km) | Dibulatkan | | Rp. 9.600,00 |
| C. KONSTRUKSI JALAN REL | | | |
| 1 Bongkar spoor bantalan kayu R.42 tiap m'sp | | | |
| 0,01 mandor | @ Rp. | 91.599,49 | Rp. 915,99 |
| 0,14 pekerja | @ Rp. | 59.703,86 | Rp. 8.358,54 |
| | Jumlah | | Rp. 9.274,54 |
| | Dibulatkan | | Rp. 9.200,00 |
| 2 Menyetel spoor dengan bantalan beton R.54 / m'sp | | | |
| 0,0836 mandor | @ Rp. | 91.599,49 | Rp. 7.657,72 |
| 2,262 pekerja | @ Rp. | 59.703,86 | Rp. 135.050,13 |
| | Jumlah | | Rp. 142.707,85 |
| | Dibulatkan | | Rp. 142.700,00 |
| 3 Muat bongkar rel R.42 dan alat penambat bekas / ton | | | |
| a. Muat dan bongkar alat kecil bangunan atas untuk 1 kg bangunan atas | | | |
| 0,0093 pekerja | @ Rp. | 59.703,86 | Rp. 555,25 |
| alat bantu | | | Rp. 110,00 |
| | Jumlah a | | Rp. 665,25 |
| 15,00 kg alat penambat | @ Rp. | 665,25 | Rp. 9.978,69 |
| b. Muat dan bongkar rel R.42 untuk tiap 1 m, panjang rel | | | |
| 0,026 mandor | @ Rp. | 91.599,49 | Rp. 2.381,59 |
| 0,0418 pekerja | @ Rp. | 59.703,86 | Rp. 2.495,62 |
| 0,0500 kg kawat dia 5 mm (pengikat) | @ Rp. | 14.043,75 | Rp. 702,19 |
| alat bantu | | | Rp. 2.200,00 |
| | Jumlah b | | Rp. 7.779,40 |
| c. Biaya angkut | | | Rp. 11.000,00 |
| | Jumlah a+b+c | | Rp. 28.758,08 |
| 92,00 kg alat penambat bangunan atas + rel R.42 bekas | | | Rp. 28.758,08 |
| untuk 1 ton = $\frac{1000}{92}$ x | Rp. | 28.758,08 | Rp. 312.587,87 |
| | Dibulatkan | | Rp. 312.500,00 |
| 4 Muat dan bongkar bantalan bekas tiap btg | | | |
| a. untuk tiap 1 batang bantalan | | | |
| 0,0925 pekerja | @ Rp. | 59.703,86 | Rp. 5.522,61 |
| | Jumlah a | | Rp. 5.522,61 |
| b. Biaya angkut | | | Rp. 28.100,00 |
| | Jumlah b | | Rp. 28.100,00 |
| | Jumlah a+b | | Rp. 33.622,61 |
| | Dibulatkan | | Rp. 33.600,00 |

5 Ongkos angkut dan ngecer bantalan beton lengkap dengan alat penambat di lokasi untuk tiap 1 batang

Upah :

| | | | | | |
|----|--|---------|-------------|-----------|----------------------|
| a. | Ongkos angkut dari penimbunan ke lokasi pekerjaan termasuk muat, bongkar dan mengecer bantalan beton lengkap alat penambat elastis | | | | |
| | 0,37 | pekerja | @ Rp. | 59.703,86 | Rp. 22.090,43 |
| | 0,03 | mandor | @ Rp. | 91.599,49 | Rp. 2.747,98 |
| b. | Alat bantu | | | | |
| | Pikulan, balok angkut rel, tali, pengki | | Is | | Rp. 3.300,00 |
| | | | Jumlah Upah | | Rp. 28.138,41 |
| | | | Dibulatkan | | Rp. 28.100,00 |

6 Mengelas rel R.54 dengan thermit / titik

a. Bahan pendukung

| | | | | | |
|--------|----------------------------|-------|------------|-----|---------------|
| 0,1500 | tabung oksigen | @ Rp. | 101.115,00 | Rp. | 15.167,25 |
| 0,0300 | tabung LPG 12 kg | @ Rp. | 171.333,75 | Rp. | 5.140,01 |
| 1,5000 | liter bensin | @ Rp. | 5.617,50 | Rp. | 8.426,25 |
| 0,0600 | liter Olie SAE 30-40 | @ Rp. | 28.087,50 | Rp. | 1.685,25 |
| 0,0200 | lembar kain lap | @ Rp. | 6.460,13 | Rp. | 129,20 |
| 0,0100 | lembar tenda plastik 3 x 4 | @ Rp. | 205.260,08 | Rp. | 2.052,60 |
| 0,1500 | buah batu gerinda tangan | @ Rp. | 33.705,00 | Rp. | 5.055,75 |
| 0,0050 | buah regulator oksigen | @ Rp. | 134.820,00 | Rp. | 674,10 |
| 0,0050 | buah regulator elpiji | @ Rp. | 84.262,50 | Rp. | 421,31 |
| | | | Jumlah | | Rp. 38.751,73 |

b. 1 set bahan Las

Rp. 1.160.000,00

c. Perlengkapan / alat kerja

| | | | | | |
|--------|--------------------------------|-------|--------------|-----|---------------|
| 0,0100 | buah palu konde 1 kg | @ Rp. | 37.075,50 | Rp. | 370,76 |
| 0,0040 | buah Palu/ martil 4 kg | @ Rp. | 55.613,25 | Rp. | 222,45 |
| 0,0150 | buah pahat ganjal | @ Rp. | 8.650,95 | Rp. | 129,76 |
| 0,0500 | buah sikat baja | @ Rp. | 11.122,65 | Rp. | 556,13 |
| 0,0100 | buah kacamata las | @ Rp. | 34.603,80 | Rp. | 346,04 |
| 0,0300 | buah sarung tangan panjang | @ Rp. | 23.481,15 | Rp. | 704,43 |
| 0,0300 | set sarung tangan pendek | @ Rp. | 2.282,95 | Rp. | 68,49 |
| 0,0150 | set apron | @ Rp. | 146.055,00 | Rp. | 2.190,83 |
| 0,1000 | buah sekop | @ Rp. | 44.940,00 | Rp. | 4.494,00 |
| 0,0020 | buah kunci Inggris 12" | @ Rp. | 112.350,00 | Rp. | 224,70 |
| 0,0020 | set kunci ring / pas | @ Rp. | 104.485,50 | Rp. | 208,97 |
| 0,0060 | buah linggis bengkok | @ Rp. | 157.290,00 | Rp. | 943,74 |
| 0,0100 | buah mistar pelurus rel 1 m | @ Rp. | 494.340,00 | Rp. | 4.943,40 |
| 0,0200 | buah Kikir segi empat uk. 1.5" | @ Rp. | 72.511,81 | Rp. | 1.450,24 |
| 0,0010 | buah kunci tirepond | @ Rp. | 117.047,35 | Rp. | 117,05 |
| 0,0010 | buah kunci baut lasplat | @ Rp. | 78.645,00 | Rp. | 78,65 |
| 0,0010 | buah Stop watch | @ Rp. | 269.640,00 | Rp. | 269,64 |
| 0,0010 | set Sepatu las | @ Rp. | 146.055,00 | Rp. | 146,06 |
| 0,0090 | set blender pemanas | @ Rp. | 2.853.690,00 | Rp. | 25.683,21 |
| 0,0050 | buah Dongkrak alignment beam | @ Rp. | 4.758.022,50 | Rp. | 23.790,11 |
| 0,0010 | buah Pandpuller | @ Rp. | 111.226,50 | Rp. | 111,23 |
| | | | Jumlah | | Rp. 67.049,87 |

d. Sewa mesin

| | | | | | |
|--------|--------------------------------------|-------|------------|-----|---------------|
| 0,2500 | hari Sewa Mesin gerinda MP 12 | @ Rp. | 123.585,00 | Rp. | 30.896,25 |
| 0,2500 | hari Sewa Mesin gerinda tangan | @ Rp. | 112.350,00 | Rp. | 28.087,50 |
| 0,2500 | hari Sewa mesin Weld Sher (manual) | @ Rp. | 108.080,70 | Rp. | 27.020,18 |
| | | | Jumlah | | Rp. 86.003,93 |

e. Upah kerja

| | | | | | |
|--------|---------------------------|-------|-----------|-----|----------------|
| 0,2500 | oh pengawas pekerjaan las | @ Rp. | 80.967,97 | Rp. | 20.241,99 |
| 0,5000 | oh tukang las | @ Rp. | 59.703,86 | Rp. | 29.851,93 |
| 0,5000 | oh tukang gerinda | @ Rp. | 70.335,38 | Rp. | 35.167,69 |
| 0,7500 | oh pembantu tukang las | @ Rp. | 56.710,00 | Rp. | 42.532,50 |
| | | | Jumlah | | Rp. 127.794,11 |

f. Lain-Lain

| | | | | | |
|--------------|------|-------|-----------|-----|-----------|
| Transportasi | | | | | |
| 0,2000 | unit | @ Rp. | 79.200,00 | Rp. | 15.840,00 |

Pengamanan operasional

| | | | | | |
|--------|------|-------|-----------|-----|----------|
| 0,6000 | unit | @ Rp. | 11.000,00 | Rp. | 6.600,00 |
|--------|------|-------|-----------|-----|----------|

g. Pengetesan dengan ultra sonik

| | | | | | |
|-----------|--|--|--------|-----|------------------|
| Akomodasi | | | | Rp. | 16.500,00 |
| | | | | Rp. | 16.500,00 |
| | | | Jumlah | Rp. | 33.000,00 |

Jumlah biaya pengelasan 1 titik las (a+b+c+d+e+f+g) Rp. 1.535.039,64
Dibulatkan Rp. **1.535.000,00**

e. Mengelas sambungan rel

| | | | | |
|--|---------------------------------|----------------|--------------|------------------|
| 1 Bahan pendukung | | | | |
| 7,00 | liter solar | @ Rp. | 5.308,54 | Rp. 37.159,76 |
| 0,15 | tabung oksigen | @ Rp. | 101.115,00 | Rp. 15.167,25 |
| 0,07 | tabung Acetylin @ 45 kg | @ Rp. | 366.557,60 | Rp. 25.659,03 |
| 1,50 | liter bensin campur | @ Rp. | 6.488,21 | Rp. 9.732,32 |
| 0,05 | liter Olie SAE 30-40 | @ Rp. | 28.087,50 | Rp. 1.404,38 |
| 0,05 | lembar kain lap | @ Rp. | 6.460,13 | Rp. 323,01 |
| 0,01 | buah Tenda plastik 3 x 4 | @ Rp. | 205.260,08 | Rp. 2.052,60 |
| 0,005 | buah regulator oksigen | @ Rp. | 134.820,00 | Rp. 674,10 |
| 0,005 | buah regulator acetylin | @ Rp. | 746.105,12 | Rp. 3.730,53 |
| 0,30 | buah batu gerinda tangan | @ Rp. | 33.705,00 | Rp. 10.111,50 |
| 0,02 | buah batu gerinda profil | @ Rp. | 393.225,00 | Rp. 7.864,50 |
| 1,20 | kg elektroda untuk layer | @ Rp. | 121.329,01 | Rp. 145.594,81 |
| 0,30 | kg Elektroda untuk pengeras | @ Rp. | 135.603,08 | Rp. 40.680,92 |
| | | Jumlah | | Rp. 300.154,71 |
| 2 Perlengkapan / alat kerja | | | | |
| 0,01 | buah palu konde 1 kg | @ Rp. | 37.075,50 | Rp. 370,76 |
| 0,004 | buah Palu/ martil 4 kg | @ Rp. | 55.613,25 | Rp. 222,45 |
| 0,01 | buah pahat ganjal | @ Rp. | 8.650,95 | Rp. 86,51 |
| 0,05 | buah sikat baja | @ Rp. | 11.122,65 | Rp. 556,13 |
| 0,01 | buah kaca mata las | @ Rp. | 34.603,80 | Rp. 346,04 |
| 0,01 | set sarung tangan panjang | @ Rp. | 23.481,15 | Rp. 234,81 |
| 0,01 | set sarung tangan pendek | @ Rp. | 2.282,95 | Rp. 22,83 |
| 0,01 | kg mold tembaga | @ Rp. | 707.785,90 | Rp. 7.077,86 |
| 0,002 | set kunci pas / ring | @ Rp. | 104.485,50 | Rp. 208,97 |
| 0,006 | buah Linggis | @ Rp. | 157.290,00 | Rp. 943,74 |
| 0,001 | buah mistar pelurus rel 1 m | @ Rp. | 494.340,00 | Rp. 494,34 |
| 0,001 | buah kunci tirepon | @ Rp. | 117.047,35 | Rp. 117,05 |
| 0,002 | buah kunci baut lasplat | @ Rp. | 78.645,00 | Rp. 157,29 |
| 0,002 | buah Pandpuller | @ Rp. | 111.226,50 | Rp. 222,45 |
| 0,009 | set blender pemanas | @ Rp. | 2.853.690,00 | Rp. 25.683,21 |
| 0,001 | set sepatu las | @ Rp. | 146.055,00 | Rp. 146,06 |
| | | Jumlah | | Rp. 36.890,49 |
| 3 Sewa Mesin | | | | |
| 0,20 | hari mesin las 40 AMP | @ Rp. | 259.073,48 | Rp. 51.814,70 |
| 0,20 | hari mesin gerinda profil | @ Rp. | 155.444,09 | Rp. 31.088,82 |
| | | Jumlah | | Rp. 82.903,51 |
| 4 Upah kerja siang hari | | | | |
| 0,20 | oh pengawas | @ Rp. | 80.967,97 | Rp. 16.193,59 |
| 0,40 | oh tukang las | @ Rp. | 59.703,86 | Rp. 23.881,54 |
| 0,40 | oh tukang gerinda | @ Rp. | 70.335,38 | Rp. 28.134,15 |
| 0,20 | oh pekerja | @ Rp. | 59.703,86 | Rp. 11.940,77 |
| | | Jumlah | | Rp. 80.150,06 |
| 5 Upah kerja malam hari | | | | |
| 0,30 | oh pengawas | @ Rp. | 80.967,97 | Rp. 24.290,39 |
| 0,60 | oh tukang las | @ Rp. | 59.703,86 | Rp. 35.822,32 |
| 0,60 | oh tukang gerinda | @ Rp. | 70.335,38 | Rp. 42.201,23 |
| 0,30 | oh pekerja jalan KA | @ Rp. | 59.703,86 | Rp. 17.911,16 |
| 0,25 | oh sewa genset untuk penerangan | @ Rp. | 124.326,51 | Rp. 31.081,63 |
| | | Jumlah | | Rp. 151.306,72 |
| 6 Lain-lain | | | | |
| 0,20 | unit transportasi | @ Rp. | 79.200,00 | Rp. 15.840,00 |
| 0,60 | unit pengamanan operasi | @ Rp. | 11.000,00 | Rp. 6.600,00 |
| | | Jumlah | | Rp. 22.440,00 |
| Jumlah biaya pengelasan untuk 1 titik : | | | | |
| a. Malam hari : 1+2+3+5+6 | | | | Rp. 593.695,44 |
| b. Siang hari : 1+2+3+4+6 | | | | Rp. 522.538,78 |
| Membuat / angkut kompromis R.42 / R.54 | | | | |
| tiap 1 unit | | | | |
| a. Angkutan kompromis rel R.42 / R.54 ke atas gerbong dilokasi penimbunan, diangkat dan dibongkar di lokasi tiap 1 ton | | | | Rp. 747.700,00 |
| b. Memotong rel tiap titik potong | | | | Rp. 34.200,00 |
| c. Mengebor rel tiap titik potong | | | | Rp. 88.788,17 |
| d. Mengelas sambungan rel tiap 1 unit | | | | Rp. 522.538,78 |
| | | Jumlah a+b+c+d | | Rp. 1.393.226,95 |
| | | Dibulatkan | | Rp. 1.393.200,00 |
| Pasangan Bant. Kayu Sambungan 18x22x200 + Bahan dan Alat Penambat | | | | |
| 1,00 | Bantalan Kayu 18x22x200 cm | @ Rp. | 1.070.555,06 | Rp. 1.070.555,06 |
| 4,00 | Spring Clip | @ Rp. | 30.000,00 | Rp. 120.000,00 |
| 2,00 | Base Plate | @ Rp. | 375.000,00 | Rp. 750.000,00 |
| 8,00 | Paku TN | @ Rp. | 30.000,00 | Rp. 240.000,00 |
| 0,10 | Bor Kayu | @ Rp. | 50.000,00 | Rp. 5.000,00 |
| 0,01 | Ter | @ Rp. | 10.392,38 | Rp. 93,53 |
| 0,25 | Mandor | @ Rp. | 91.599,49 | Rp. 22.899,87 |
| 2,00 | Pekerja | @ Rp. | 59.703,86 | Rp. 119.407,72 |
| | | Jumlah | | Rp. 2.327.956,19 |
| | | Dibulatkan | | Rp. 2.327.900,00 |

D. PEKERJAAN BALAS

1 Meratakan balas lama untuk memasang spoor baru / m'sp

| | | | | | |
|-------|---------|-------|------------|-----|------------------|
| 0,210 | pekerja | @ Rp. | 59.703,86 | Rp. | 12.537,81 |
| | | | Dibulatkan | Rp. | 12.500,00 |

2 Memasukkan balas kricak baru / m3

| | | | | | |
|--------|---------|-------|------------|-----|------------------|
| 0,0270 | mandor | @ Rp. | 91.599,49 | Rp. | 2.473,19 |
| 0,826 | pekerja | @ Rp. | 59.703,86 | Rp. | 49.315,39 |
| | | | Jumlah | Rp. | 51.788,57 |
| | | | Dibulatkan | Rp. | 51.700,00 |

3 Angkat listring 3 x HTT kec.60 km/jam dilanjutkan MTT, PBR per m'sp

a. s.d kecepatan 20 km/jam dari 5 km/jam

| | | | | | |
|-------|---------|-------|-----------|-----|-----------|
| 0,038 | mandor | @ Rp. | 91.599,49 | Rp. | 3.480,78 |
| 0,38 | pekerja | @ Rp. | 59.703,86 | Rp. | 22.687,47 |
| | | | Jumlah a. | Rp. | 26.168,25 |

b. s.d kecepatan 40 km/jam dari 20 km/jam

| | | | | | |
|-------|---------|-------|-----------|-----|-----------|
| 0,075 | mandor | @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| 0,68 | pekerja | @ Rp. | 59.703,86 | Rp. | 40.598,62 |
| | | | Jumlah b. | Rp. | 47.468,59 |

c. s.d kecepatan 60 km/jam dari 40 km/jam

| | | | | | |
|-------|---------|-------|--------------|-----|------------|
| 0,075 | mandor | @ Rp. | 91.599,49 | Rp. | 6.869,96 |
| 0,75 | pekerja | @ Rp. | 59.703,86 | Rp. | 44.777,90 |
| | | | Jumlah c. | Rp. | 51.647,86 |
| | | | Jumlah a+b+c | Rp. | 125.284,69 |

d. > dari kecepatan 60 km/jam

dikerjakan dengan alat berat (MTT, PBR, dsb) per m'sp

| | | | | | |
|-------|---------------------------------------|-------|-----------|-----|-------------------|
| 0,035 | Juru ukur (optik) | @ Rp. | 80.967,97 | Rp. | 2.833,88 |
| 0,350 | pekerja jalan KA / pembantu juru ukur | @ Rp. | 64.200,00 | Rp. | 22.470,00 |
| 3,00 | kali biaya operasi MTT | @ Rp. | 10.285,00 | Rp. | 30.855,00 |
| 1,00 | kali biaya operasi PBR | @ Rp. | 10.285,00 | Rp. | 10.285,00 |
| | | | Jumlah d. | Rp. | 66.443,88 |
| | Jumlah seluruhnya (a + b + c + d) | | | Rp. | 191.728,57 |
| | Dibulatkan | | | Rp. | 191.700,00 |

E. PEKERJAAN LAIN-LAIN

1 Normalisasi tubuh baan per m3

| | | | | | | |
|--------|----|-----------|-------|------------|-----|------------------|
| 1,20 | m3 | Tanah | @ Rp. | 10.392,38 | Rp. | 12.470,85 |
| 0,0616 | oh | mandor | @ Rp. | 91.599,49 | Rp. | 5.642,53 |
| 0,616 | oh | pekerja | @ Rp. | 59.703,86 | Rp. | 36.777,58 |
| | | pemadatan | @ Rp. | 6.000,00 | Rp. | 6.000,00 |
| | | | | Jumlah | Rp. | 60.890,96 |
| | | | | Dibulatkan | Rp. | 60.800,00 |

2 Pembuatan dan pengecatan tanda-tanda lintas (patok Km / HM,dll) per buah

Pekerjaan beton K-175 / M3

a. 1 m3 pasangan beton camp 1 PC: 2 PS : 3 KR :

Bahan :

| | | | | | | |
|------|-----|-------------|-------|--------------|-----|-------------------|
| 0,82 | m3 | split | @ Rp. | 306.178,47 | Rp. | 251.066,34 |
| 0,55 | m3 | pasir beton | @ Rp. | 408.238,33 | Rp. | 224.531,08 |
| 6,80 | zak | semen | @ Rp. | 61.792,50 | Rp. | 420.189,00 |
| | | | | Jumlah Bahan | Rp. | 895.786,42 |

Upah kerja :

| | | | | | |
|------|--------------------|-------|-------------|-----|---------------------|
| 1,00 | tukang batu | @ Rp. | 70.335,38 | Rp. | 70.335,38 |
| 0,10 | kepala tukang batu | @ Rp. | 80.967,97 | Rp. | 8.096,80 |
| 6,00 | pekerja | @ Rp. | 59.703,86 | Rp. | 358.223,16 |
| 0,30 | mandor | @ Rp. | 91.599,49 | Rp. | 27.479,85 |
| | | | Jumlah Upah | Rp. | 464.135,18 |
| | | | Jumlah a | Rp. | 1.359.921,61 |

b. Membuat bekisting tiap m² tiap cetakan

Bahan :

| | | | | | | |
|-------|-----|------------------|-------|--------------|-----|-------------------|
| 1,70 | lbr | Multipleks 12 mm | @ Rp. | 281.483,94 | Rp. | 478.522,69 |
| 0,004 | m3 | Kayu kelas III | @ Rp. | 3.666.542,25 | Rp. | 14.666,17 |
| 2,00 | kg | paku | @ Rp. | 15.167,25 | Rp. | 30.334,50 |
| | | | | Jumlah b | Rp. | 523.523,36 |

| | | | |
|--|-----|---|----------------------------------|
| c. Upah membuat bekisting dari multiplex | | | |
| untuk tiap 1 m3 cetakan : | | | |
| 2,75 | oh | tukang kayu | @ Rp. 70.335,38 Rp. 193.422,30 |
| 1,00 | oh | pekerja | @ Rp. 59.703,86 Rp. 59.703,86 |
| 0,30 | oh | mandor | @ Rp. 91.599,49 Rp. 27.479,85 |
| 2,00 | oh | tukang bongkar | @ Rp. 59.703,86 Rp. 119.407,72 |
| | | | Jumlah c. Rp. 400.013,72 |
| d. Pembesian | | | |
| Bahan : | | | |
| 110,00 | kg | besi beton | @ Rp. 16.713,19 Rp. 1.838.450,46 |
| 2,60 | kg | kawat beton / bendrat | @ Rp. 32.518,58 Rp. 84.548,32 |
| | | | Jumlah d Rp. 1.922.998,78 |
| e. Upah mengerjakan besi beton | | | |
| untuk tiap 100 kg besi beton | | | |
| 2,250 | | kepala tukang | @ Rp. 80.967,97 Rp. 182.177,93 |
| 6,750 | | tukang besi | @ Rp. 70.335,38 Rp. 474.763,82 |
| 6,750 | | pekerja | @ Rp. 59.703,86 Rp. 403.001,06 |
| | | | Jumlah e Rp. 1.059.942,80 |
| 1 m3 beton K.175 + bekisting + pembesian | | (Jumlah a+b+c+d+e) | Rp. 5.266.400,27 |
| | | Dibulatkan | Rp. 5.266.400,00 |
| Untuk pembuatan patok piket | | | |
| Ukuran : 0.1 x 0.2 x 0.8 | | | |
| 0,016 | m3 | beton bertulang K-125 + bekisting + pembesian | @ Rp. 5.266.400,00 Rp. 84.262,40 |
| Pasang patok | | | |
| 1,00 | | pekerja | @ Rp. 59.703,86 Rp. 59.703,86 |
| | | | Jumlah Rp. 143.966,26 |
| Pengecatan 3 x ulas untuk per m ² bidang | | | |
| 0,0042 | kg | dempul | @ Rp. 19.839,89 Rp. 83,33 |
| 0,0119 | kg | cat dasar | @ Rp. 82.789,59 Rp. 985,20 |
| 0,250 | lb | amplas | @ Rp. 7.695,98 Rp. 1.923,99 |
| 0,132 | kg | cat | @ Rp. 82.789,59 Rp. 10.928,23 |
| 0,02 | bh | kuas | @ Rp. 15.711,02 Rp. 314,22 |
| 0,30 | | tukang cat | @ Rp. 58.850,00 Rp. 17.655,00 |
| 0,03 | | kepala tukang cat | @ Rp. 80.967,97 Rp. 2.429,04 |
| 0,20 | | pekerja | @ Rp. 59.703,86 Rp. 11.940,77 |
| 0,01 | | mandor | @ Rp. 91.599,49 Rp. 915,99 |
| | | | Jumlah Rp. 47.175,77 |
| Biaya pengecatan 1 patok piket = ((2x0.1x0.8)+(2 x 0.2x0.8)+(0.1x0.2))x | | Rp. | 47.175,77 Rp. 23.587,88 |
| Jumlah Pembuatan patok dan pengecatan tanda-tanda di lintas (patok KM / HM, dll) | | | Rp. 167.554,14 |
| | | | Dibulatkan Rp. 167.500,00 |
| 3 Pasangan Batu belah 1 Pc : 3 Ps / m3 | | | |
| 1,200 | m3 | Batu belah | @ Rp. 196.865,29 Rp. 236.238,35 |
| 4,000 | zak | Semen | @ Rp. 61.792,50 Rp. 247.170,00 |
| 0,460 | m3 | Pasir | @ Rp. 320.517,70 Rp. 147.438,14 |
| 1,200 | oh | Tukang Batu | @ Rp. 70.335,38 Rp. 84.402,46 |
| 0,120 | oh | Kep. Tukang | @ Rp. 80.967,97 Rp. 9.716,16 |
| 3,600 | oh | Pekerja | @ Rp. 59.703,86 Rp. 214.933,90 |
| 0,180 | oh | Mandor | @ Rp. 91.599,49 Rp. 16.487,91 |
| | | | Jumlah Rp. 956.386,90 |
| | | | Dibulatkan Rp. 956.300,00 |
| 4 Pembuatan saluran pembuangan air disisi tubuh baan | | | |
| Mengerjakan galian tanah biasa, angkut sejauh 10-30 m' tiap-tiap 1 M3 | | | |
| 0,03 | oh | mandor | @ Rp. 91.599,49 Rp. 2.747,98 |
| 0,86 | oh | pekerja | @ Rp. 59.703,86 Rp. 51.345,32 |
| | | | Jumlah Rp. 54.093,30 |
| 1 M' saluran = 0,35 M3 = 0,35xRp. 54.093,30 | | | Rp. 18.932,66 |
| Alat-alat dilokasi | | | Rp. 4.950,00 |
| | | | Jumlah Rp. 23.882,66 |
| | | | Dibulatkan Rp. 23.000,00 |
| 5 Menanam gembalan rumput | | | |
| 1,00 | m2 | gembalan rumput | @ Rp. 15.571,71 Rp. 15.571,71 |
| 0,02 | btg | bambu | @ Rp. 47.389,23 Rp. 947,78 |
| 0,17 | oh | pekerja | @ Rp. 59.703,86 Rp. 10.149,66 |
| | | | Jumlah Rp. 26.669,15 |
| | | | Dibulatkan Rp. 26.000,00 |

6 Pemasangan plat sambung permanen / titik

a. Angkutan plat sambung R 42 / ton

a) Muat dan bongkar alat kecil bangunan atas untuk tiap 1 kg bangunan atas

| | | | | | | | |
|--------|----|--------------------|------|-----|-----------|--------|----------------|
| 0,0093 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 555,25 |
| | | alat bantu | | | | Rp. | 165,00 |
| | | | | | Jumlah | Rp. | 720,25 |
| | | Untuk tiap 1 ton = | 1000 | x | Rp. | 720,25 | Rp. 720.245,90 |
| | | | | | Jumlah a) | Rp. | 720.245,90 |

b) Biaya angkut untuk 1 ton jarak 70 km

| | | | | | | | |
|-------|----|---------------|---|-----|----------------|-----|--------------|
| 5,00 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 298.519,30 |
| 0,50 | oh | mandor | @ | Rp. | 91.599,49 | Rp. | 45.799,75 |
| 0,50 | kg | kawat pral | @ | Rp. | 38.150,69 | Rp. | 19.075,34 |
| 70,00 | km | ongkos angkut | @ | Rp. | 3.300,00 | Rp. | 231.000,00 |
| | | | | | Jumlah b) | Rp. | 594.394,39 |
| | | | | | Jumlah a) + b) | Rp. | 1.314.640,29 |

Untuk = 0,04 ton x Rp. 1.314.640,29 Rp. **52.585,61**

c) Pengadaan plat sambung

Untuk = 1 set x Rp. 1.680.000,00 Rp. **1.680.000,00**

b) Pengadaan baut las plat

Untuk = 6 buah x Rp. 66.550,00 Rp. **399.300,00**

c) Mengebor rel tiap 1 titik potongan

| | | | | | | | |
|--------|----|---|---|-----|-----------|-----|-----------|
| 0,0220 | oh | mandor | @ | Rp. | 91.599,49 | Rp. | 2.015,19 |
| 0,1250 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| | | Sewa mesin bor dan bahan bakat / lubang | | | | Rp. | 72.100,00 |
| | | | | | Jumlah | Rp. | 81.578,17 |

Untuk = 6 titik x Rp. 81.578,17 Rp. **489.469,03**

d) Memotong rel tiap titik

| | | | | | | | |
|--------|----|----------------------|---|-----|-----------|-----|-----------|
| 0,0370 | oh | mandor | @ | Rp. | 91.599,49 | Rp. | 3.389,18 |
| 0,1250 | oh | pekerja | @ | Rp. | 59.703,86 | Rp. | 7.462,98 |
| 0,5000 | bh | Gergaji besi standar | @ | Rp. | 12.583,20 | Rp. | 6.291,60 |
| | | | | | Jumlah | Rp. | 17.143,76 |

Untuk = 1 titik x Rp. 17.143,76 Rp. **17.143,76**

e) Pemasangan plat sambung permanen

Untuk = 1 unit x Rp. 385.000,00 Rp. **385.000,00**

Untuk pemasangan plat sambung permanen tiap titik =
Dibulatkan Rp. **3.023.498,40**
Rp. **3.023.400,00**

7 Membersihkan balas lama kotor campur tanah/m3

Mengeluarkan balas kotor dari baan

Mengayak balas kotor

Balas yang bersih dimasukkan kembali ke tubuh baan

| | | | | | | | |
|-------|--|---------|---|-----|------------|-----|------------|
| 0,075 | | Mandor | @ | Rp. | 91.599,49 | Rp. | 6.869,96 |
| 2,25 | | Pekerja | @ | Rp. | 59.703,86 | Rp. | 134.333,69 |
| | | | | | Dibulatkan | Rp. | 141.200,00 |

**DAFTAR HARGA SATUAN UPAH, BAHAN DAN ALAT
PEKERJAAN TRACK**

2011+7%

| NO | JENIS | PER SATUAN | HARGA |
|---------------------------|--|----------------|------------------|
| I. UPAH | | | |
| 1 | Pengawas pekerjaan las | OH | Rp. 80.967,97 |
| 2 | Mandor | OH | Rp. 91.599,49 |
| 3 | Kepala Tukang | OH | Rp. 80.967,97 |
| 4 | Tukang Batu | OH | Rp. 70.335,38 |
| 5 | Tukang Kayu | OH | Rp. 70.335,38 |
| 6 | Tukang cat / plitur | OH | Rp. 58.850,00 |
| 7 | Tukang Las | OH | Rp. 59.703,86 |
| 8 | Tukang Besi | OH | Rp. 70.335,38 |
| 9 | Tukang bongkar | OH | Rp. 59.703,86 |
| 10 | Tukang Gerinda | OH | Rp. 70.335,38 |
| 11 | Teknisi | OH | Rp. 58.850,00 |
| 12 | Tukang anyaman | OH | Rp. 58.850,00 |
| 13 | Tukang masak aspal | OH | Rp. 59.703,86 |
| 14 | Pembantu tukang las | OH | Rp. 56.710,00 |
| 15 | Juru ukur | OH | Rp. 80.967,97 |
| 16 | Pekerja | OH | Rp. 59.703,86 |
| 17 | Pembantu operator | OH | Rp. 56.710,00 |
| 18 | Operator mesin | OH | Rp. 64.200,00 |
| 19 | Tenaga Pengawalan | OH | Rp. 42.404,10 |
| II. BAHAN DAN ALAT | | | |
| 1 | Acetylin @ 45 kg | tabung | Rp. 366.557,60 |
| 2 | Aspal | kg | Rp. 8.650,95 |
| 3 | Apron | buah | Rp. 146.055,00 |
| 4 | Aspal hotmix | kg | Rp. 186.276,30 |
| 5 | Amplas | lembar | Rp. 7.695,98 |
| 6 | Balas kricak uk. 2x6 | m3 | Rp. 232.002,75 |
| 7 | Balas split uk. 2x3 | m3 | Rp. 306.178,47 |
| 8 | Balas split uk. 1x2 | m3 | Rp. 306.178,47 |
| 9 | Balas sirtu | m3 | Rp. 306.178,47 |
| 10 | Bantalan kayu | buah | Rp. 1.070.555,06 |
| 11 | Bantalan beton lengkap dengan penambat elastis | batang | Rp. 617.925,00 |
| 12 | Bambu | batang | Rp. 47.389,23 |
| 13 | Batu belah | m3 | Rp. 196.865,29 |
| 14 | Batu pecah 5/7 | m3 | Rp. 232.290,37 |
| 15 | Batu pecah 3/5 | m3 | Rp. 285.766,72 |
| 16 | Batu gerinda profil | buah | Rp. 393.225,00 |
| 17 | Batu gerinda tangan | buah | Rp. 33.705,00 |
| 18 | Batu split uk. 2/3 | buah | Rp. 217.397,25 |
| 19 | Batu pecah 2/3 | m3 | Rp. 304.659,50 |
| 20 | baut kopel dia. 19 mm p = 800 mm | buah | Rp. 59.224,18 |
| 21 | Baut isol | buah | Rp. 109.909,76 |
| 22 | Baut lasplat | buah | Rp. 109.909,76 |
| 23 | Baut IRJ | buah | Rp. 109.909,76 |
| 24 | Begel rel bendel dia. 19 mm | Set | Rp. 65.946,08 |
| 25 | Bendrat | kg | Rp. 32.518,58 |
| 26 | Bensin | liter | Rp. 5.617,50 |
| 27 | Bensin campur | liter | Rp. 6.488,21 |
| 28 | Besi beton | kg | Rp. 16.713,19 |
| 29 | Blender pemanas | set | Rp. 2.853.690,00 |
| 30 | Baut sindik bantalan jembatan | buah | Rp. 103.005,85 |
| 31 | Baut bantalan dia. 19, p = 270 mm | buah | Rp. 47.234,19 |
| 32 | Bor kayu | buah | Rp. 56.175,00 |
| 33 | Cat dasar | kg | Rp. 82.789,59 |
| 34 | Cat kayu | kg | Rp. 82.789,59 |
| 35 | Cat Besi | kg | Rp. 82.789,59 |
| 36 | Conector galvanis 4 mm | buah | Rp. 17.271,57 |
| 37 | Dempul | kg | Rp. 19.839,89 |
| 38 | Dongkrak alignment beam | buah | Rp. 4.758.022,50 |
| 39 | Elektroda untuk layer | kg | Rp. 121.329,01 |
| 40 | Elektroda untuk pengeras | kg | Rp. 135.603,08 |
| 41 | LPG 12 kg | tabung | Rp. 171.333,75 |
| 42 | Gergaji besi standar | bh | Rp. 12.583,20 |
| 43 | Gemuk | kg | Rp. 68.943,58 |
| 44 | Geotextile | m2 | Rp. 41.394,23 |
| 45 | Gebalan rumput | m2 | Rp. 15.571,71 |
| 46 | Kain bendera | m ² | Rp. 51.814,70 |
| 47 | Kain lap | lembar | Rp. 6.460,13 |
| 48 | Kacamata Las | buah | Rp. 34.603,80 |
| 49 | Kacamata gerinda | buah | Rp. 83.645,70 |
| 50 | Kawat dia. 5 mm | kg | Rp. 14.043,75 |
| 51 | Kawat pral | kg | Rp. 38.150,69 |
| 52 | Kawat las elektroda | kg | Rp. 44.508,58 |

| NO | JENIS | PER SATUAN | HARGA |
|-----|--------------------------------------|------------|------------------|
| 53 | Kawat bendrat | kg | Rp. 27.068,49 |
| 54 | Kayu Kalimantan Lanan Balok | m3 | Rp. 5.906.894,50 |
| 55 | Kayu kelas III | m3 | Rp. 3.666.542,25 |
| 56 | Kayu kelas II | m3 | Rp. 7.356.854,39 |
| 57 | Kayu ganjal | bh | Rp. 13.931,40 |
| 58 | Kayu bakar | m3 | Rp. 14.605,50 |
| 59 | Kayu papan terentang | m3 | Rp. 2.903.180,18 |
| 60 | Kerikil | m3 | Rp. 267.378,39 |
| 61 | Kerikil halus | m3 | Rp. 202.432,23 |
| 62 | Kikir segi empat uk. 1.5" | buah | Rp. 72.511,81 |
| 63 | Kunci baut lasplat | buah | Rp. 78.645,00 |
| 64 | Kunci Inggris 12" | buah | Rp. 112.350,00 |
| 65 | Kunci ring / pas | set | Rp. 104.485,50 |
| 66 | Kunci tirepond | buah | Rp. 117.047,35 |
| 67 | Kuas uk. 3" | buah | Rp. 15.711,02 |
| 68 | Lasplat sambung R.54 | buah | Rp. 6.089.030,70 |
| 69 | Lasplat isol | buah | Rp. 5.994.562,33 |
| 70 | Linggis bengkok | buah | Rp. 157.290,00 |
| 71 | Lampu semboyan | buah | Rp. 278.343,75 |
| 72 | Mistar Pelurus rel 1 m | buah | Rp. 494.340,00 |
| 73 | Mold Tembaga | kg | Rp. 707.785,90 |
| 74 | Multipleks 12 mm | lembar | Rp. 281.483,94 |
| 75 | Masker Las | buah | Rp. 92.638,19 |
| 76 | Oksigen | tabung | Rp. 101.115,00 |
| 77 | Olie SAE 30-40 | liter | Rp. 28.087,50 |
| 78 | Olie Meditrain 40 | liter | Rp. 57.809,69 |
| 79 | Pahat Ganjal | buah | Rp. 8.650,95 |
| 80 | Paku tirefond | buah | Rp. 89.926,06 |
| 81 | Paku | kg | Rp. 15.167,25 |
| 82 | Paku maskrum | kg | Rp. 21.436,38 |
| 83 | Paku seng | kg | Rp. 17.976,00 |
| 84 | Palu 4 kg | buah | Rp. 103.629,39 |
| 85 | Palu/ martil 4 kg | buah | Rp. 55.613,25 |
| 86 | Palu Konde 1 kg | buah | Rp. 37.075,50 |
| 87 | Palu ketrek | buah | Rp. 34.543,13 |
| 88 | Papan Kalimantan | buah | Rp. 6.084.749,04 |
| 89 | Pasak 6 mm | buah | Rp. 70.851,28 |
| 90 | Pasir | m3 | Rp. 320.517,70 |
| 91 | Pasir pasang | m3 | Rp. 190.995,00 |
| 92 | Pasir beton | m3 | Rp. 408.238,33 |
| 93 | Pipa PVC dia. 6" | batang | Rp. 561.750,00 |
| 94 | Pipa galvanis dia. 5" | batang | Rp. 1.623.674,34 |
| 95 | Plat landas | bh | Rp. 439.641,28 |
| 96 | Pandrol R.54 | bh | Rp. 53.229,18 |
| 97 | Pasir urug | m3 | Rp. 151.672,50 |
| 98 | Pasir sirtu | m3 | Rp. 151.672,50 |
| 99 | Pandpuller | buah | Rp. 111.226,50 |
| 100 | P3K | set | Rp. 252.935,80 |
| 101 | Penetran cleaner 400 ml | botol | Rp. 195.411,48 |
| 102 | Penetran revolver 400 ml | botol | Rp. 195.411,48 |
| 103 | Penetran developer 400 ml | botol | Rp. 114.905,96 |
| 104 | Regulator acetylin | set | Rp. 746.105,12 |
| 105 | Regulator elpiji | buah | Rp. 84.262,50 |
| 106 | Regulator oksigen | buah | Rp. 134.820,00 |
| 107 | Sarung tangan panjang | set | Rp. 23.481,15 |
| 108 | Sarung tangan pendek | set | Rp. 2.282,95 |
| 109 | Sekop | buah | Rp. 44.940,00 |
| 110 | Semen | zak | Rp. 61.792,50 |
| 111 | seng BJLS 0.30 | buah | Rp. 67.634,70 |
| 112 | Sepatu las | set | Rp. 146.055,00 |
| 113 | Sewa genset untuk penerangan | hari | Rp. 124.326,51 |
| 114 | Sewa Mesin gerinda MP 12 | hari | Rp. 123.585,00 |
| 115 | Sewa mesin gerinda profil | hari | Rp. 155.444,09 |
| 116 | Sewa Mesin gerinda tangan | hari | Rp. 112.350,00 |
| 117 | Sewa mesin las 40 Amp | hari | Rp. 259.073,48 |
| 118 | Sewa mesin Weld Sher (manual) | hari | Rp. 108.080,70 |
| 119 | Sewa mesin gilas | hari | Rp. 1.034.583,96 |
| 120 | Senteleng bambu | buah | Rp. 93.351,62 |
| 121 | Sikat baja | buah | Rp. 11.122,65 |
| 122 | Solar | liter | Rp. 5.308,54 |
| 123 | Stop watch | buah | Rp. 269.640,00 |
| 124 | Tambang manila dia 19 mm | kg | Rp. 72.083,76 |
| 125 | Tenda plastik 3 x 4 | lembar | Rp. 205.260,08 |
| 126 | tripleks tebal 4 mm | lembar | Rp. 106.769,58 |
| 127 | Ter | kg | Rp. 10.392,38 |
| 128 | Tanah | m3 | Rp. 10.392,38 |
| 129 | Penambat elastis untuk bantalan kayu | set | Rp. 405.383,52 |

RENCANA ANGGARAN BIAYA

**PEKERJAAN : PENINGKATAN JALAN KERETA API PENGGANTIAN BANTALAN KAYU REL R.42
MENJADI BANTALAN BETON REL R.54**

VOLUME : 1000 M'SP

LOKASI : WILAYAH JAWA

| NO | URAIAN PEKERJAAN | SATUAN | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) |
|--|---|--------|----------|--------------------|-------------------------|
| A. PENGADAAN BAHAN | | | | | |
| 1 | Balas kricak uk. 2x6 cm ecer dilokasi | m3 | 1.600,00 | 309.800,00 | 495.680.000,00 |
| 2 | Bantalan beton lengkap dengan penambat elastis | btg | 1.667,00 | 617.925,00 | 1.030.080.975,00 |
| J U M L A H A + | | | | | 1.525.760.975,00 |
| B. PEKERJAAN PERSIAPAN | | | | | |
| 1 | Membuat Direksi Keet dan gudang kerja | m2 | 18,00 | 112.300,00 | 2.021.400,00 |
| 2 | Perlengkapan direksi keet dan penerangan | ls | 1,00 | 217.800,00 | 217.800,00 |
| 3 | Membuat alat semboyan | unit | 2,00 | 1.085.500,00 | 2.171.000,00 |
| 4 | Pengukuran dan pasang patok | m'sp | 1.000,00 | 52.900,00 | 52.900.000,00 |
| 5 | Penjagaan semboyan | oh | 900,00 | 59.703,86 | 53.733.474,00 |
| 6 | Bongkaran Direksi Keet dan Gudang Kerja | m2 | 18,00 | 9.600,00 | 172.800,00 |
| J U M L A H B + | | | | | 111.216.474,00 |
| C. KONSTRUKSI JALAN REL | | | | | |
| 1 | Bongkar spoor bantalan kayu R.42 | m'sp | 1.000,00 | 9.200,00 | 9.200.000,00 |
| 2 | Menyetel spoor bantalan beton R.54 | m'sp | 1.000,00 | 142.700,00 | 142.700.000,00 |
| 3 | Muat/bongkar, angkut alat penambat bekas + R.42 | ton | 125,67 | 312.500,00 | 39.271.875,00 |
| 4 | Muat/bongkar, angkut bantalan bekas | batang | 1.667,00 | 33.600,00 | 56.011.200,00 |
| 5 | Ongkos angkut dan ngecer bantalan beton + alat penambat dilokasi pekerjaan | batang | 1.667,00 | 28.100,00 | 46.842.700,00 |
| 6 | Mengelas rel R.54 dengan thermit | titik | 75,00 | 1.535.000,00 | 115.125.000,00 |
| 7 | Pengadaan dan pemasangan plat sambung permanen | titik | 3,00 | 3.023.400,00 | 9.070.200,00 |
| 8 | Angkutan termasuk muat bongkar rel R.54 | ton | 108,86 | 1.139.000,00 | 123.991.540,00 |
| 9 | Pas. Bant. kayu sambungan 18x22x200 + Bahan dan alat penambat | btg | 6,00 | 2.327.900,00 | 13.967.400,00 |
| 10 | Membuat kompromis R.42 / R.54 | unit | 4,00 | 1.393.200,00 | 5.572.800,00 |
| J U M L A H C + | | | | | 561.752.715,00 |
| D. PEKERJAAN BALAS | | | | | |
| 1 | Membersihkan balas lama kotor campur tanah | m3 | 770,00 | 141.200,00 | 108.724.000,00 |
| 2 | Mengerjakan balas baru | m3 | 1.600,00 | 51.700,00 | 82.720.000,00 |
| 3 | Angkat/listring dengan MTT, didahului dengan HTT s.d kec. 60 km/jam berikut pekerjaan PBR | m'sp | 1.000,00 | 191.700,00 | 191.700.000,00 |
| J U M L A H D + | | | | | 383.144.000,00 |
| E. PEKERJAAN LAIN-LAIN | | | | | |
| 1 | Pembuatan tanda-tanda lintas (patok KM / HM, dll) | buah | 11,00 | 167.500,00 | 1.842.500,00 |
| 2 | Normalisasi saluran pembuangan di kanan/kiri jalan KA | m' | 1.000,00 | 23.000,00 | 23.000.000,00 |
| 3 | Pekerjaan perlintasan | m2 | | | |
| 4 | Pasangan batu kali camp 1 : 3 untuk tembok penahan balas | m3 | | | |
| J U M L A H E + | | | | | 24.842.500,00 |
| J U M L A H A S/D E = | | | | | 2.606.716.664,00 |
| P P N 10 % = | | | | | 260.671.666,40 |
| JUMLAH FISIK = | | | | | 2.867.388.330,40 |
| JUMLAH SUPERVISI = | | | | | 114.695.533,22 |
| JUMLAH SEMUA = | | | | | 2.982.083.863,62 |
| PEMBULATAN = | | | | | 2.982.083.000,00 |
| Terbilang : Dua Milyar Sembilan Ratus Delapan Puluh Dua Juta Delapan Puluh Tiga Ribu Rupiah | | | | | |

**ESTIMASI HARGA SATUAN TAHUN 2012
SUB SEKTOR TRANSPORTASI LAUT**

REKAPITULASI PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN

| | | | |
|----|---|-------|---------------|
| 1 | PEKERJAAN PEMBANGUNAN MENARA SUAR 40 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 4.524.300.000 |
| 2 | PEKERJAAN PEMBANGUNAN MENARA SUAR 40 M DI DARAT (KONSTRUKSI BETON) | = Rp. | 6.461.950.000 |
| 3 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 30 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 1.715.340.000 |
| 4 | PEKERJAAN PEMBANGUNAN MENARA SUAR 30 M DI DARAT (KONSTRUKSI BETON) | = Rp. | 3.794.670.000 |
| 5 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 20 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 1.319.340.000 |
| 6 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 20 M DI DARAT (KONSTRUKSI BETON) | = Rp. | 2.032.800.000 |
| 7 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 1.039.170.000 |
| 8 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 887.260.000 |
| 9 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI DARAT (KONSTRUKSI BETON) | = Rp. | 854.920.000 |
| 10 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI LAUT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 1.137.840.000 |
| 11 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI LAUT (KONSTRUKSI BAJA GALVANIS) | = Rp. | 1.062.600.000 |
| 12 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI LAUT (KONSTRUKSI BETON) | = Rp. | 998.140.000 |
| 13 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI DARAT (MODULAR PIPE BEACON) | = Rp. | 885.500.000 |
| 14 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI DARAT (MODULAR PIPE BEACON) | = Rp. | 788.370.000 |
| 15 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 7,5 M DI DARAT (MODULAR PIPE BEACON) | = Rp. | 668.690.000 |
| 16 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI LAUT (MODULAR PIPE BEACON) | = Rp. | 1.050.500.000 |
| 17 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI LAUT (MODULAR PIPE BEACON) | = Rp. | 982.190.000 |
| 18 | PEKERJAAN PEMBANGUNAN RAMBU SUAR 7,5 M DI LAUT (MODULAR PIPE BEACON) | = Rp. | 954.250.000 |

Jakarta, Oktober 2010
DIREKTUR KENAVIGASIAN

BOEDHI SETIAJID, SH, MM
Pembina Utama Muda (IV/c)
NIP. 19580722 198303 1 001

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|--------|--------|-------------------|----------------------|
| 1. | PEKERJAAN PEMBANGUNAN MENARA SUAR 40 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 418.107.400 | 418.107.400 |
| | Pembersihan Lokasi | 5000 | LS | 9.290 | 46.450.000 |
| | Pemasangan Bowplank | 300 | m' | 20.474 | 6.142.158 |
| | Direksi keet dan Bangsal Kerja | 72 | m2 | 176.550 | 12.711.600 |
| | | | | | 525.234.458 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 265 | m3 | 78.750 | 20.868.750 |
| | Urugan Kembali | 192 | m3 | 25.988 | 4.989.600 |
| | Urugan Pasir Padat | 24 | m3 | 177.763 | 4.266.300 |
| | Urugan Sirtu Padat | 24 | m3 | 209.063 | 5.017.500 |
| | Turap Sementara | 160 | m2 | 72.736 | 11.637.799 |
| | Lantai Kerja Mortar Beton | 10 | m3 | 317.790 | 3.177.900 |
| | Pondasi Beton Bertulang | 70 | m3 | 6.285.569 | 439.989.853 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 497.266.502 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 15000 | kg | 35.310 | 529.650.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 29.425.000 | 29.425.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 23.540.000 | 23.540.000 |
| | Perancah dan Alat bantu | 1 | LS | 17.655.000 | 17.655.000 |
| | | | | | 600.270.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern House | 1 | unit | 59.125.000 | 59.125.000 |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar Revolving Lantern | 1 | unit | 354.750.000 | 354.750.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 159.637.500 | 159.637.500 |
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 46.310.000 | 46.310.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 59.125.000 | 59.125.000 |
| | Diesel generator 10 KVA | 3 | unit | 105.930.000 | 317.790.000 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | | | | | 1.088.381.250 |
| E. FASILITAS PENUNJANG | | | | | |
| | Rumah PMS & TMS (T.50) | 5 | unit | 135.890.000 | 679.450.000 |
| | Rumah Diesel (T.60) | 1 | unit | 163.710.000 | 163.710.000 |
| | Pondasi Diesel Generator | 3 | unit | 1.765.500 | 5.296.500 |
| | Gudang Material | 1 | unit | 163.710.000 | 163.710.000 |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 300 | m' | 706.200 | 211.860.000 |
| | Jalan Lokasi | 300 | m' | 63.558 | 19.067.400 |
| | Pintu Gerbang | 2 | unit | 1.765.500 | 3.531.000 |
| | Bak Penampung Air | 5 | unit | 5.649.600 | 28.248.000 |
| | Pembuatan Sumur Arthesis | 1 | paket | 23.540.000 | 23.540.000 |
| | Pompa Air dan Sistem Perpipaan Distribusi Air | 1 | paket | 8.827.500 | 8.827.500 |
| | Pesawat SSB 100 watt dan Sistem Antena | 1 | paket | 35.310.000 | 35.310.000 |
| | Peralatan Kerja Operasional & Pemeliharaan Menara Suar | 1 | paket | 17.655.000 | 17.655.000 |
| | Alat Keselamatan Kerja Menara Suar | 1 | paket | 5.885.000 | 5.885.000 |
| | Perlengkapan & Inventaris Rumah Jaga | 1 | paket | 35.310.000 | 35.310.000 |
| | | | | | 1.401.400.400 |
| | | | | SUB JUMLAH | 4.112.552.611 |
| | | | | DIBULATKAN | 4.113.000.000 |
| | | | | PPN 10% | 411.300.000 |
| | | | | JUMLAH | 4.524.300.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----------|---|----------|----------------|--------------|----------------------|
| 2. | PEKERJAAN PEMBANGUNAN MENARA SUAR 40 M DI DARAT (KONSTRUKSI BETON) | | | | |
| A. | PEKERJAAN PERSIAPAN | | | | |
| | Mobilisasi dan demobilisasi | 1 | LS | 418.107.400 | 418.107.400 |
| | Test Tanah | 1 | LS | 2.675.000 | 2.675.000 |
| | Test PDA | 1 | Titik | 16.050.000 | 16.050.000 |
| | Shop drawing / as built drawing | 1 | LS | 5.000.000 | 5.000.000 |
| | | | | | <u>441.832.400</u> |
| B. | PEKERJAAN STRUKTUR BAWAH | | | | |
| | Pekerjaan Bore pile | 540 | m' | 1.081.144 | 583.817.701 |
| | Pile Cap, 12X12 m2, t=1.40 m | 172,8 | m ³ | 2.717.906 | 469.654.103 |
| | Lantai Kerja, t=5 cm | 144 | m ² | 36.118 | 5.200.976 |
| | | | | | <u>1.058.672.781</u> |
| C. | PEKERJAAN STRUKTUR ATAS | | | | |
| | Kolom beton Type K1 Lantai 1 s/d 2 | 25,6 | m ³ | 8.028.331 | 205.525.271 |
| | Kolom beton Type K2 Lantai 3 s/d 4 | 23,52 | m ³ | 6.684.875 | 157.228.256 |
| | Kolom beton Type K3 Lantai 5 | 9,6 | m ³ | 3.292.489 | 31.607.895 |
| | Kolom beton Type K4 Lantai 6 | 8 | m ³ | 8.070.333 | 64.562.661 |
| | Kolom beton Type K5 Lantai 7 s/d 8 | 15,36 | m ³ | 6.651.557 | 102.167.909 |
| | Kolom beton Type K6 Penutup Atap | 2,16 | m ³ | 7.586.101 | 16.385.978 |
| | Balok beton Type B1 Lantai 1 s/d Lantai 4 | 18,89 | m ³ | 5.543.435 | 104.715.488 |
| | Balok beton Type B2 Lantai 1 s/d Lantai 4 | 5,29 | m ³ | 6.575.680 | 34.785.348 |
| | Balok beton Type B3 Lantai 1 s/d Lantai 4 | 5,17 | m ³ | 6.342.727 | 32.791.898 |
| | Balok beton Type B4 Lantai 5 s/d Lantai 8 | 15,68 | m ³ | 6.372.252 | 99.916.908 |
| | Balok beton Type B5 Lantai 5 s/d Penutup Atap | 8,54 | m ³ | 6.801.065 | 58.081.092 |
| | Balok beton Type B6 Lantai 5 s/d Penutup Atap | 6,63 | m ³ | 6.827.686 | 45.267.560 |
| | Plat Lantai Beton Lantai 1 s/d Penutup Atap | 20,27 | m ³ | 2.724.529 | 55.226.194 |
| | | | | | <u>1.008.262.457</u> |
| D. | PEKERJAAN ATAP DINDING DAN TANGGA | | | | |
| | Pekerjaan Atap | | | | |
| | Pipa besi diameter 41 mm | 38,77 | m' | 80.250 | 3.111.293 |
| | Gording CNP 150x65x20x2.3 | 51,84 | Kg | 13.375 | 693.360 |
| | Angkur bolt M16 | 32 | BH | 6.955 | 222.560 |
| | Base Plat 20x30 cm tebal 12 mm | 30,144 | Kg | 13.375 | 403.176 |
| | Atap FRP, T= 3 mm Ex. Fibrealum / Setara | 13,20 | M ² | 338.853 | 4.472.865 |
| | Nok Paten FRP, Ex. Fibrealum/Setara | 18,64 | M ¹ | 416.589 | 7.765.217 |
| | Plafon Gypsum (Area R. Lampu), | 7,71 | M ² | 63.984 | 493.315 |
| | waterproofing Coating (Overhang, atap beton) | 13,20 | M ² | 149.703 | 1.976.080 |
| | Pekerjaan Dinding | | | | |
| | Profil CNP 150x65x20x2.3 L=5 m | 4922,5 | Kg | 13.375 | 65.838.438 |
| | Profil CNP 150x65x20x2.3 L=2.5 m | 178,75 | Kg | 13.375 | 2.390.781 |
| | Profil Pengaku CNP 150x65x20x2.3 L=2.5 m | 1055,73 | Kg | 13.375 | 14.120.389 |
| | Base Plat 20x30 cm tebal 12 mm | 1348,944 | Kg | 13.375 | 18.042.126 |
| | Baut HTM M16 | 716 | BH | 6.955 | 4.979.780 |
| | Grouting | 175 | kg | 8.560 | 1.498.000 |
| | Cor beton untuk cantilever | 5,76 | m ³ | 2.724.529 | 15.693.284 |
| | Pasangan Bata1/2 adukan 1 : 4 | 148,50 | M ² | 96.497 | 14.329.804 |
| | Plesteran 1 : 4, t = 20mm termasuk acian | 297,00 | M ² | 33.000 | 9.801.000 |
| | Dinding FRP T=3 mm Type Flat, Ex. Fibrealum / Setara | 711,52 | M ² | 348.853 | 248.216.153 |
| | Pintu P1 (1600x2160) | 1,00 | BH | 19.260.000 | 19.260.000 |
| | Pintu P2 (900x2160) | 1,00 | BH | 9.630.000 | 9.630.000 |
| | BV(600x400) | 16,00 | BH | 1.712.000 | 27.392.000 |
| | JendelaJ1 (600x800) | 35,00 | BH | 2.996.000 | 104.860.000 |
| | Pekerjaan Lantai | | | | |
| | Pekerjaan Lantai Fin. Screet | 471,02 | M ² | 72.578 | 34.185.612 |
| | Pekerjaan Lantai Keramik | 210,12 | M ² | 138.626 | 29.128.167 |
| | Pekerjaan Finish Cat Dnding | | | | |
| | Pengecatan Dinding Bata Exterior, ex. Dulux / Setara (luar) | 100,50 | M ² | 54.279 | 5.455.024 |
| | Pengecatan Dinding Bata Interior, ex. Dulux / Setara Dalam | 100,50 | M ² | 43.718 | 4.393.654 |
| | Pengecatan Plafon expose concrete ex. Dulux / Setara | 375,02 | M ² | 43.718 | 16.395.106 |
| | Pekerjaan Tangga Beton Bertulang | | | | |
| | Balok Beton Tangga Type BT1 | 8,16 | m3 | 8.242.547 | 67.259.182 |
| | Balok Beton Tangga Type BT2 | 3,05 | m3 | 8.277.832 | 25.247.386 |
| | Plat Beton untuk Tangga | 15,36 | m3 | 5.670.793 | 87.103.384 |
| | Pipa Galvanise Ø 2", | 190,37 | M ¹ | 80.250,00 | 15.277.193 |
| | Pipa Galvanis Ø 1" | 360,00 | M ¹ | 69.550,00 | 25.038.000 |
| | Pipa Galvanis Ø 2" (railing elev. 40 & 43) | 70,40 | M ¹ | 80.250,00 | 5.649.600 |
| | Galvanize Plat Strip t=3 mm (railing elev. 40 & 43) | 163,20 | M ¹ | 13.375,00 | 2.182.800 |
| | Galvanize Pipe Ø 2" (mongkey ladder) | 6,00 | M ¹ | 80.250,00 | 481.500 |
| | Galvanize Pipe Ø 1" (mongkey ladder) | 7,80 | M ¹ | 69.550,00 | 542.490 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----|--|--------|----------------|--------------|------------------------------|
| | Galvanize Plat Strip t=3 mm (mongkey ladder) | 6,75 | M ¹ | 13.375,00 | <u>90.281</u> 893.618.998 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------------|---------------|---------------------|----------------------|
| E. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern House | 1 | unit | 59.125.000 | 59.125.000 |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar Revolving Lantern | 1 | unit | 354.750.000 | 354.750.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 141.900.000 | 141.900.000 |
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 46.310.000 | 46.310.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 59.125.000 | 59.125.000 |
| | Diesel generator 10 KVA | 3 | unit | 105.930.000 | 317.790.000 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | | | | | <u>1.070.643.750</u> |
| F. FASILITAS PENUNJANG | | | | | |
| | Rumah PMS & TMS (T.50) | 5 | unit | 135.890.000 | 679.450.000 |
| | Rumah Diesel (T.60) | 1 | unit | 163.710.000 | 163.710.000 |
| | Pondasi Diesel Generator | 3 | unit | 1.765.500 | 5.296.500 |
| | Gudang Material | 1 | unit | 163.710.000 | 163.710.000 |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 300 | m' | 706.200 | 211.860.000 |
| | Jalan Lokasi | 300 | m' | 63.558 | 19.067.400 |
| | Pintu Gerbang | 2 | unit | 1.765.500 | 3.531.000 |
| | Bak Penampung Air | 5 | unit | 5.649.600 | 28.248.000 |
| | Pembuatan Sumur Arthesis | 1 | paket | 23.540.000 | 23.540.000 |
| | Pompa Air dan Sistem Perpipaan Distribusi Air | 1 | paket | 8.827.500 | 8.827.500 |
| | Pesawat SSB 100 watt dan Sistem Antena | 1 | paket | 35.310.000 | 35.310.000 |
| | Peralatan Kerja Operasional & Pemeliharaan Menara Suar | 1 | paket | 17.655.000 | 17.655.000 |
| | Alat Keselamatan Kerja Menara Suar | 1 | paket | 5.885.000 | 5.885.000 |
| | Perlengkapan & Inventaris Rumah Jaga | 1 | paket | 35.310.000 | 35.310.000 |
| | | | | | <u>1.401.400.400</u> |
| | | | | SUB JUMLAH | 5.874.430.786 |
| | | | | DIBULATKAN | 5.874.500.000 |
| | | | | PPN 10% | 587.450.000 |
| | | | | JUMLAH | 6.461.950.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|--------|--------|-------------------|----------------------|
| 3. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 30 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 243.185.855 | 243.185.855 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 72 | m2 | 176.550 | 12.711.600 |
| | | | | | 303.074.664 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 184 | m3 | 78.750 | 14.490.000 |
| | Urugan Kembali | 101 | m3 | 25.988 | 2.624.738 |
| | Urugan Pasir Padat | 13 | m3 | 177.763 | 2.310.913 |
| | Urugan Sirtu Padat | 13 | m3 | 209.063 | 2.717.813 |
| | Turap Sementara | 92 | m2 | 72.736 | 6.691.735 |
| | Lantai Kerja Mortar Beton | 7 | m3 | 317.790 | 2.224.530 |
| | Pondasi Beton Bertulang | 50 | m3 | 6.285.569 | 314.278.466 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 352.656.994 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 10800 | kg | 35.310 | 381.348.000 |
| | Pendirian Konstruksi Menara | 1 | unit | 23.540.000 | 23.540.000 |
| | Pengecatan Konstruksi Menara | 1 | LS | 20.597.500 | 20.597.500 |
| | Perancah dan Alat bantu | 1 | LS | 14.124.000 | 14.124.000 |
| | | | | | 439.609.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 141.900.000 | 141.900.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 46.310.000 | 46.310.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 402.242.500 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 1.559.376.158 |
| | | | | DIBULATKAN | 1.559.400.000 |
| | | | | PPN 10% | 155.940.000 |
| | | | | JUMLAH | 1.715.340.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----------|---|----------|----------------|--------------|--------------------|
| 4. | PEKERJAAN PEMBANGUNAN MENARA SUAR 30 M DI DARAT (KONSTRUKSI BETON) | | | | |
| A. | PEKERJAAN PERSIAPAN | | | | |
| | Mobilisasi dan demobilisasi | 1 | LS | 243.185.855 | 243.185.855 |
| | Test Tanah | 1 | LS | 2.675.000 | 2.675.000 |
| | Test PDA | 1 | Titik | 16.050.000 | 16.050.000 |
| | Shop drawing / as built drawing | 1 | LS | 3.000.000 | 3.000.000 |
| | | | | | <u>264.910.855</u> |
| B. | PEKERJAAN STRUKTUR BAWAH | | | | |
| | Pekerjaan Bore pile | 360 | m' | 1.081.144 | 389.211.801 |
| | Pile Cap, 12X12 m2, t=1.40 m | 60,96 | m ³ | 2.717.906 | 165.683.531 |
| | Lantai Kerja, t=5 cm | 76,2 | m ² | 36.118 | 2.752.183 |
| | | | | | <u>557.647.515</u> |
| C. | PEKERJAAN STRUKTUR ATAS | | | | |
| | Kolom beton Type K1 Lantai 1 s/d 2 | 25,6 | m ³ | 8.028.331 | 205.525.271 |
| | Kolom beton Type K2 Lantai 3 s/d 4 | 22,4 | m ³ | 6.684.875 | 149.741.196 |
| | Kolom beton Type K3 Lantai 5 s/d 6 | 19,4 | m ³ | 3.292.489 | 63.874.287 |
| | Kolom beton Type K4 Lantai 7 | 8 | m ³ | 8.070.333 | 64.562.661 |
| | Kolom beton Type K5 Penutup Atap | 6,4 | m ³ | 6.651.557 | 42.569.962 |
| | Balok beton Type B1 Lantai 1 s/d Lantai 4 | 12,4 | m ³ | 5.543.435 | 68.738.595 |
| | Balok beton Type B2 Lantai 1 s/d Lantai 4 | 3,36 | m ³ | 6.575.680 | 22.094.285 |
| | Balok beton Type B3 Lantai 1 s/d Lantai 4 | 2,851 | m ³ | 6.342.727 | 18.083.114 |
| | Balok beton Type B4 Lantai 5 s/d lantai 7 | 15,73 | m ³ | 6.372.252 | 100.235.520 |
| | Balok beton Type B5 Lantai 5 s/d Penutup Atap | 9,19 | m ³ | 6.801.065 | 62.501.784 |
| | Balok beton Type B6 Lantai 5 s/d lantai 7 | 2,72 | m ³ | 6.827.686 | 18.571.307 |
| | Plat Lantai Beton Lantai 1 s/d Penutup Atap | 23,73 | m ³ | 2.724.529 | 64.653.062 |
| | | | | | <u>881.151.045</u> |
| D. | PEKERJAAN ATAP DINDING DAN TANGGA | | | | |
| | Pekerjaan Atap | | | | |
| | Pipa besi diameter 41 mm | 38,77 | m' | 80.250 | 3.111.293 |
| | Gording CNP 150x65x20x2.3 | 51,84 | Kg | 13.375 | 693.360 |
| | Angkur bolt M16 | 32 | BH | 6.955 | 222.560 |
| | Base Plat 20x30 cm tebal 12 mm | 30,144 | Kg | 13.375 | 403.176 |
| | Atap FRP, T= 3 mm Ex. Fibrealum / Setara | 11,70 | M ² | 338.853 | 3.964.584 |
| | Nok Paten FRP, Ex. Fibrealum/Setara | 14,80 | M ¹ | 416.589 | 6.165.515 |
| | Plafon Gypsum (Area R. Lampu), | 10,35 | M ² | 63.984 | 662.232 |
| | waterproofing Coating (Overhang, atap beton) | 21,80 | M ² | 149.703 | 3.263.525 |
| | Pekerjaan Dinding | | | | |
| | Profil CNP 150x65x20x2.3 L=5 m | 3767,5 | Kg | 13.375 | 50.390.313 |
| | Profil CNP 150x65x20x2.3 L=2.5 m | 178,75 | Kg | 13.375 | 2.390.781 |
| | Profil Pengaku CNP 150x65x20x2.3 L=2.5 m | 823,33 | Kg | 13.375 | 11.012.039 |
| | Base Plat 20x30 cm tebal 12 mm | 1032,432 | Kg | 13.375 | 13.808.778 |
| | Baut HTM M16 | 548 | BH | 6.955 | 3.811.340 |
| | Grouting | 137 | kg | 8.560 | 1.172.720 |
| | Cor beton untuk cantilever | 4,49 | m ³ | 2.724.529 | 12.233.133 |
| | Pasangan Bata1/2 adukan 1 : 4 | 136,00 | M ² | 96.497 | 13.123.592 |
| | Plesteran 1 : 4, t = 20mm termasuk acian | 272,00 | M ² | 33.000 | 8.976.000 |
| | Dinding FRP T=3 mm Type Flat, Ex. Fibrealum / Setara | 634,70 | M ² | 348.853 | 221.417.237 |
| | Pintu P1 (1600x2160) | 1,00 | BH | 19.260.000 | 19.260.000 |
| | Pintu P2 (900x2160) | 1,00 | BH | 9.630.000 | 9.630.000 |
| | BV(600x400) | 16,00 | BH | 1.712.000 | 27.392.000 |
| | JendelaJ1 (600x800) | 27,00 | BH | 2.996.000 | 80.892.000 |
| | Pekerjaan Lantai | | | | |
| | Pekerjaan Lantai Fin. Sreet | 196,80 | M ² | 72.578 | 14.283.318 |
| | Pekerjaan Lantai Keramik | 122,65 | M ² | 138.626 | 17.002.521 |
| | Pekerjaan Finish Cat Dnding | | | | |
| | Pengecatan Dinding Bata Exterior, ex. Dulux / Setara (luar) | 136,00 | M ² | 54.279 | 7.381.924 |
| | Pengecatan Dinding Bata Interior, ex. Dulux / Setara Dalam | 136,00 | M ² | 43.718 | 5.945.641 |
| | Pengecatan Plafon expose concrete ex. Dulux / Setara | 213,32 | M ² | 43.718 | 9.325.913 |
| | Pekerjaan Tangga Beton Bertulang | | | | |
| | Balok Beton Tangga Type BT1 | 6,12 | m3 | 8.242.547 | 50.444.387 |
| | Balok Beton Tangga Type BT2 | 2,28 | m3 | 8.277.832 | 18.873.456 |
| | Plat Beton untuk Tangga | 11,52 | m3 | 5.670.793 | 65.327.538 |
| | Pipa sterilis steel Pipe Ø 2", | 190,37 | M ¹ | 147.032,98 | 27.990.668 |
| | Pipa sterilis steel Pipe Ø 1' | 360,00 | M ¹ | 135.262,98 | 48.694.673 |
| | Pipa sterilis steel Pipe Ø 2" (railing elev. 30 & 33) | 70,40 | M ¹ | 147.032,98 | 10.351.122 |
| | Galvanize Plat Strip t=3 mm (railing elev. 30 & 33) | 163,20 | M ¹ | 13.375,00 | 2.182.800 |
| | Galvanize Pipe Ø 2" (mongkey ladder) | 6,00 | M ¹ | 80.250,00 | 481.500 |
| | Galvanize Pipe Ø 1" (mongkey ladder) | 7,80 | M ¹ | 69.550,00 | 542.490 |
| | Galvanize Plat Strip t=3 mm (mongkey ladder) | 6,75 | M ¹ | 13.375,00 | 90.281 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----|-----------------|--------|--------|-----------------|-------------|
| | | | | | 772.914.410 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|---------------|---------------|---------------------|----------------------|
| E. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern House | 1 | unit | 59.125.000 | 59.125.000 |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 132.000.000 | 132.000.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 72.600.000 | 72.600.000 |
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 46.310.000 | 46.310.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 59.125.000 | 59.125.000 |
| | Diesel generator 10 KVA | 3 | unit | 105.930.000 | 317.790.000 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | <u>787.462.500</u> |
| F. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 260 | m' | 706.200 | 183.612.000 |
| | Jalan Lokasi | 12 | m' | 63.558 | 762.696 |
| | Pintu Gerbang | 1 | unit | 1.210.000 | 1.210.000 |
| | | | | | <u>185.584.696</u> |
| | | | | SUB JUMLAH | 3.449.671.020 |
| | | | | DIBULATKAN | 3.449.700.000 |
| | | | | PPN 10% | 344.970.000 |
| | | | | JUMLAH | 3.794.670.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------------|---------------|---------------------|----------------------|
| 5. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 20 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 182.389.391 | 182.389.391 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 60 | m2 | 176.550 | 10.593.000 |
| | | | | | 240.159.600 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 79 | m3 | 78.750 | 6.221.250 |
| | Urugan Kembali | 34 | m3 | 25.988 | 883.575 |
| | Urugan Pasir Padat | 5 | m3 | 177.763 | 888.813 |
| | Urugan Sirtu Padat | 5 | m3 | 209.063 | 1.045.313 |
| | Turap Sementara | 39,5 | m2 | 72.736 | 2.873.082 |
| | Lantai Kerja Mortar Beton | 3 | m3 | 317.790 | 953.370 |
| | Pondasi Beton Bertulang | 32 | m3 | 6.285.569 | 201.138.219 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 221.322.420 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 7500 | kg | 35.310 | 264.825.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 17.655.000 | 17.655.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 17.655.000 | 17.655.000 |
| | Perancah dan Alat bantu | 1 | LS | 10.593.000 | 10.593.000 |
| | | | | | 310.728.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 141.900.000 | 141.900.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 9.460.000 | 9.460.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 365.392.500 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 1.199.395.020 |
| | | | | DIBULATKAN | 1.199.400.000 |
| | | | | PPN 10% | 119.940.000 |
| | | | | JUMLAH | 1.319.340.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----------|--|---------|----------------|--------------|--------------------|
| 6. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 20 M DI DARAT (KONSTRUKSI BETON) | | | | |
| A. | PEKERJAAN PERSIAPAN | | | | |
| | Mobilisasi dan demobilisasi | 1 | LS | 182.389.391 | 182.389.391 |
| | Test Tanah | 1 | LS | 2.675.000 | 2.675.000 |
| | Test PDA | 1 | Titik | 16.050.000 | 16.050.000 |
| | Shop drawing / as built drawing | 1 | LS | 3.000.000 | 3.000.000 |
| | | | | | <u>204.114.391</u> |
| B. | PEKERJAAN STRUKTUR BAWAH | | | | |
| | Pekerjaan Bore pile | 240 | m' | 1.081.144 | 259.474.534 |
| | Pile Cap, 12X12 m2, t=1.40 m | 42,25 | m ³ | 2.717.906 | 114.831.515 |
| | Lantai Kerja, t=5 cm | 52,81 | m ² | 36.118 | 1.907.386 |
| | | | | | <u>376.213.435</u> |
| C. | PEKERJAAN STRUKTUR ATAS | | | | |
| | Kolom beton Type K1b Lantai 1 s/d 2 | 14,4 | m ³ | 8.028.331 | 115.607.965 |
| | Kolom beton Type K2b Lantai 3 s/d 4 | 12 | m ³ | 6.684.875 | 80.218.498 |
| | Kolom beton Type K3b ATAP | 3,6 | m ³ | 3.292.489 | 11.852.960 |
| | Balok beton Type B1 Lantai 1 s/d Lantai 4 | 7,25 | m ³ | 5.543.435 | 40.189.904 |
| | Balok beton Type B2 Lantai 1 s/d Lantai 4 | 4,96 | m ³ | 6.575.680 | 32.615.373 |
| | Balok beton Type B3 Lantai 1 s/d Lantai 4 | 4,88 | m ³ | 6.342.727 | 30.952.507 |
| | Plat Lantai Beton Lantai 1 s/d Penutup Atap | 12,95 | m ³ | 2.724.529 | 35.282.645 |
| | | | | | <u>346.719.853</u> |
| D. | PEKERJAAN ATAP DINDING DAN TANGGA | | | | |
| | Pekerjaan Atap | | | | |
| | Pipa besi diameter 41 mm | 38,77 | m' | 80.250 | 3.111.293 |
| | Gording CNP 150x65x20x2.3 | 51,84 | Kg | 13.375 | 693.360 |
| | Angkur bolt M16 | 32 | BH | 6.955 | 222.560 |
| | Base Plat 20x30 cm tebal 12 mm | 30,144 | Kg | 13.375 | 403.176 |
| | Atap FRP, T= 3 mm Ex. Fibrealum / Setara | 19,20 | M ² | 338.853 | 6.505.985 |
| | Nok Paten FRP, Ex. Fibrealum/Setara | 18,40 | M ¹ | 416.589 | 7.665.235 |
| | Plafon Gypsum (Area R. Lampu), | 14,30 | M ² | 63.984 | 914.968 |
| | waterproofing Coating (Overhang, atap beton) | 35,60 | M ² | 149.703 | 5.329.427 |
| | Pekerjaan Dinding | | | | |
| | Profil CNP 150x65x20x2.3 L=5 m | 2541 | Kg | 13.375 | 33.985.875 |
| | Profil CNP 150x65x20x2.3 L=2.5 m | 280,5 | Kg | 13.375 | 3.751.688 |
| | Profil Pengaku CNP 150x65x20x2.3 L=2.5 m | 553,78 | Kg | 13.375 | 7.406.808 |
| | Base Plat 20x30 cm tebal 12 mm | 761,136 | Kg | 13.375 | 10.180.194 |
| | Baut HTM M16 | 404 | BH | 6.955 | 2.809.820 |
| | Grouting | 202 | kg | 8.560 | 1.729.120 |
| | Cor beton untuk cantilever | 3,02 | m ³ | 2.724.529 | 8.228.076 |
| | Pasangan Bata1/2 adukan 1 : 4 | 109,36 | M ² | 96.497 | 10.552.912 |
| | Plesteran 1 : 4, t = 20mm termasuk acian | 218,72 | M ² | 33.000 | 7.217.760 |
| | Dinding FRP T=3 mm Type Flat, Ex. Fibrealum / Setara | 378,72 | M ² | 348.853 | 132.117.750 |
| | Pintu P1 (1600x2160) | 1,00 | BH | 19.260.000 | 19.260.000 |
| | Pintu P2 (900x2160) | 1,00 | BH | 9.630.000 | 9.630.000 |
| | BV(600x400) | 16,00 | BH | 1.712.000 | 27.392.000 |
| | JendelaJ1 (600x800) | 12,00 | BH | 2.996.000 | 35.952.000 |
| | Pekerjaan Lantai | | | | |
| | Pekerjaan Lantai Fin. Scream | 141,88 | M ² | 72.578 | 10.297.343 |
| | Pekerjaan Lantai Keramik | 98,20 | M ² | 138.626 | 13.613.107 |
| | Pekerjaan Finish Cat Dnding | | | | |
| | Pengecatan Dinding Bata Exterior, ex. Dulux / Setara (luar) | 109,36 | M ² | 54.279 | 5.935.935 |
| | Pengecatan Dinding Bata Interior, ex. Dulux / Setara Dalam | 109,36 | M ² | 43.718 | 4.780.995 |
| | Pengecatan Plafon expose concrete ex. Dulux / Setara | 98,97 | M ² | 43.718 | 4.326.766 |
| | Pekerjaan Tangga Beton Bertulang | | | | |
| | Balok Beton Tangga Type BT1 | 4,08 | m3 | 8.242.547 | 33.629.591 |
| | Balok Beton Tangga Type BT2 | 1,57 | m3 | 8.277.832 | 12.996.196 |
| | Plat Beton untuk Tangga | 7,68 | m3 | 5.670.793 | 43.551.692 |
| | Pipa galvanis steel Pipe Ø 2", | 219,00 | M ¹ | 80.250,00 | 17.574.750 |
| | Pipa galvanis steel Pipe Ø 1' | 90,00 | M ¹ | 69.550,00 | 6.259.500 |
| | Pipa galvanis steel Pipe Ø 2" (railing elev. 30 & 33) | 39,68 | M ¹ | 80.250,00 | 3.184.320 |
| | Galvanize Plat Strip t=3 mm (railing elev. 30 & 33) | 107,20 | M ¹ | 13.375,00 | 1.433.800 |
| | Galvanize Pipe Ø 2" (mongkey ladder) | 6,00 | M ¹ | 80.250,00 | 481.500 |
| | Galvanize Pipe Ø 1" (mongkey ladder) | 7,80 | M ¹ | 69.550,00 | 542.490 |
| | Galvanize Plat Strip t=3 mm (mongkey ladder) | 6,75 | M ¹ | 13.375,00 | 90.281 |
| | | | | | <u>493.758.270</u> |
| E. | PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 18NM | 1 | unit | 141.900.000 | 141.900.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-------------------------------|---|---------------|---------------|---------------------|----------------------|
| | Solar Module 80W | 3 | unit | 11.825.000 | 35.475.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 6 | unit | 4.138.750 | 24.832.500 |
| | Sistem Penangkal Petir | 1 | paket | 9.460.000 | 9.460.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | <u>365.392.500</u> |
| F. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | <u>61.792.500</u> |
| | | | | SUB JUMLAH | 1.847.990.949 |
| | | | | DIBULATKAN | 1.848.000.000 |
| | | | | PPN 10% | 184.800.000 |
| | | | | JUMLAH | 2.032.800.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------------|---------------|---------------------|----------------------|
| 7. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 50 | m2 | 176.550 | 8.827.500 |
| | | | | | 201.916.222 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 50 | m3 | 78.750 | 3.937.500 |
| | Urugan Kembali | 22 | m3 | 25.988 | 571.725 |
| | Urugan Pasir Padat | 3 | m3 | 177.763 | 533.288 |
| | Urugan Sirtu Padat | 3 | m3 | 209.063 | 627.188 |
| | Turap Sementara | 25 | m2 | 72.736 | 1.818.406 |
| | Lantai Kerja Mortar Beton | 2 | m3 | 317.790 | 635.580 |
| | Pondasi Beton Bertulang | 20 | m3 | 6.285.569 | 125.711.387 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 141.153.873 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 6250 | kg | 35.310 | 220.687.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Pengecatan Kontruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Perancah dan Alat bantu | 1 | LS | 8.827.500 | 8.827.500 |
| | | | | | 258.940.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 280.843.750 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 944.646.345 |
| | | | | DIBULATKAN | 944.700.000 |
| | | | | PPN 10% | 94.470.000 |
| | | | | JUMLAH | 1.039.170.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------------|---------------|---------------------|--------------------|
| 8. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI DARAT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 121.592.928 | 121.592.928 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 50 | m2 | 176.550 | 8.827.500 |
| | | | | | 177.597.636 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 41,5 | m3 | 78.750 | 3.268.125 |
| | Urugan Kembali | 20 | m3 | 25.988 | 519.750 |
| | Urugan Pasir Padat | 3 | m3 | 177.763 | 533.288 |
| | Urugan Sirtu Padat | 3 | m3 | 209.063 | 627.188 |
| | Turap Sementara | 20,75 | m2 | 72.736 | 1.509.277 |
| | Lantai Kerja Mortar Beton | 1,5 | m3 | 317.790 | 476.685 |
| | Pondasi Beton Bertulang | 14 | m3 | 6.285.569 | 87.997.971 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 102.251.083 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 5000 | kg | 35.310 | 176.550.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Perancah dan Alat bantu | 1 | LS | 7.062.000 | 7.062.000 |
| | | | | | 207.152.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 7.095.000 | 7.095.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 257.785.000 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 806.578.219 |
| | | | | DIBULATKAN | 806.600.000 |
| | | | | PPN 10% | 80.660.000 |
| | | | | JUMLAH | 887.260.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------|----------------|-------------------|--------------------|
| 9. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI DARAT (KONSTRUKSI BETON) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Mobilisasi dan demobilisasi | 1 | LS | 121.592.928 | 121.592.928 |
| | Test Tanah | 1 | LS | 2.675.000 | 2.675.000 |
| | Test PDA | 1 | Titik | 16.050.000 | 16.050.000 |
| | Shop drawing / as built drawing | 1 | LS | 3.000.000 | 3.000.000 |
| | | | | | <u>143.317.928</u> |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Pekerjaan Bore pile | 120 | m' | 1.081.144 | 129.737.267 |
| | Pile Cap, 12X12 m2, t=1.40 m | 8,66 | m ³ | 2.717.906 | 23.537.063 |
| | Lantai Kerja, t=5 cm | 14,44 | m ² | 36.118 | 521.542 |
| | | | | | <u>153.795.873</u> |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Kolom beton Type KM Lantai 1 s/d Atap | 6,22 | m ³ | 8.927.837 | 55.531.149 |
| | Balok beton Type BM Lantai 1 s/d Atap | 1,28 | m ³ | 8.555.569 | 10.951.128 |
| | Plat Lantai Beton Lantai 1 s/d Penutup Atap | 0,94 | m ³ | 2.724.529 | 2.561.057 |
| | | | | | <u>69.043.334</u> |
| D. PEKERJAAN ATAP DINDING DAN TANGGA | | | | | |
| | Pekerjaan Atap | | | | |
| | waterproofing Coating (Overhang, atap beton) | 47,60 | M ² | 149.703 | 7.125.863 |
| | Pekerjaan Dinding | | | | |
| | Profil CNP 150x65x20x2.3 L=5 m | 385 | Kg | 13.375 | 5.149.375 |
| | Profil Pengaku CNP 150x65x20x2.3 L=2.5 m | 100 | Kg | 13.375 | 1.337.500 |
| | Base Plat 20x30 cm tebal 12 mm | 105,504 | Kg | 13.375 | 1.411.116 |
| | Baut HTM M16 | 112 | BH | 6.955 | 778.960 |
| | Grouting | 28 | kg | 8.560 | 239.680 |
| | Cor beton untuk cantilever | 1,3 | m ³ | 2.724.529 | 3.541.887 |
| | Pasangan Bata1/2 adukan 1 : 4 | 34,00 | M ² | 96.497 | 3.280.898 |
| | Plesteran 1 : 4, t = 20mm termasuk acian | 68,00 | M ² | 33.000 | 2.244.000 |
| | Dinding FRP T=3 mm Type Flat, Ex. Fibrealum / Setara | 44,00 | M ² | 348.853 | 15.349.549 |
| | Pintu PB2 (665x2160) | 1,00 | BH | 8.988.000 | 8.988.000 |
| | JendelaJ1 (500x800) | 8,00 | BH | 2.996.000 | 23.968.000 |
| | Pekerjaan Lantai | | | | |
| | Pekerjaan Lantai Fin. Screet | 81,00 | M ² | 72.578 | 5.878.805 |
| | Pekerjaan Lantai Keramik | 22,70 | M ² | 138.626 | 3.146.818 |
| | Pekerjaan Finish Cat Dnding | | | | |
| | Pengecatan Dinding Bata Exterior, ex. Dulux / Setara (luar) | 34,00 | M ² | 54.279 | 1.845.481 |
| | Pengecatan Dinding Bata Interior, ex. Dulux / Setara Dalam | 34,00 | M ² | 43.718 | 1.486.410 |
| | Pengecatan Plafon expose concrete ex. Dulux / Setara | 33,00 | M ² | 43.718 | 1.442.692 |
| | Pekerjaan Tangga Beton Bertulang | | | | |
| | Pipa galvanis steel Pipe Ø 2" (railing elev. 10) | 16,00 | M ¹ | 80.250,00 | 1.284.000 |
| | Galvanize Plat Strip t=3 mm (railing elev. 10) | 37,52 | M ¹ | 13.375,00 | 501.830 |
| | Galvanize Pipe Ø 2" (mongkey ladder) | 12,00 | M ¹ | 80.250,00 | 963.000 |
| | Galvanize Pipe Ø 1" (mongkey ladder) | 15,60 | M ¹ | 69.550,00 | 1.084.980 |
| | Galvanize Plat Strip t=3 mm (mongkey ladder) | 24,45 | M ¹ | 13.375,00 | 327.019 |
| | | | | | <u>91.375.862</u> |
| E. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 7.095.000 | 7.095.000 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | <u>257.785.000</u> |
| F. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | <u>61.792.500</u> |
| | | | | SUB JUMLAH | 777.110.496 |
| | | | | DIBULATKAN | 777.200.000 |
| | | | | PPN 10% | 77.720.000 |
| | | | | JUMLAH | 854.920.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|--------|--------|-------------------|----------------------|
| 10. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 15 M DI LAUT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Direksi keet dan Bangsal Terapung | 1 | unit | 7.500.000 | 7.500.000 |
| | | | | | 195.234.813 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 96 | m' | 147.125 | 14.124.000 |
| | Pemancangan Pondasi | 64 | m' | 443.677 | 28.395.323 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 12 | m3 | 4.669.824 | 56.037.889 |
| | Poer Beton Bertulang | 1,5 | m3 | 6.285.569 | 9.428.354 |
| | Balok Pemikul Anjungan | 4,8 | m3 | 6.285.569 | 30.170.733 |
| | Lantai Anjungan Beton Bertulang | 7,5 | m3 | 6.285.569 | 47.141.770 |
| | Landasan Kaki Menara | 1,6 | m3 | 4.669.824 | 7.471.719 |
| | Mortal Lining & Cetakan | 5,7 | m3 | 3.872.000 | 22.070.400 |
| | Tombak Pengaman Keliling Anjungan | 22 | m' | 544.500 | 11.979.000 |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | 1 | m' | 786.500 | 786.500 |
| | Pagar Anjungan Baja Galvanis | 20 | m' | 605.000 | 12.100.000 |
| | Pintu Anjungan Baja Galvanis | 1,5 | m' | 1.210.000 | 1.815.000 |
| | | | | | 304.016.007 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 6250 | kg | 35.310 | 220.687.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Pengecatan Kontruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Perancah dan Alat bantu | 1 | LS | 8.827.500 | 8.827.500 |
| | | | | | 258.940.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 276.113.750 |
| | | | | SUB JUMLAH | 1.034.304.570 |
| | | | | DIBULATKAN | 1.034.400.000 |
| | | | | PPN 10% | 103.440.000 |
| | | | | JUMLAH | 1.137.840.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|--------|--------|-------------------|----------------------|
| 11. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI LAUT (KONSTRUKSI BAJA GALVANIS) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Direksi keet dan Bangsal Terapung | 1 | unit | 7.500.000 | 7.500.000 |
| | | | | | 195.234.813 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 96 | m' | 147.125 | 14.124.000 |
| | Pemancangan Pondasi | 64 | m' | 443.677 | 28.395.323 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 12 | m3 | 4.669.824 | 56.037.889 |
| | Poer Beton Bertulang | 1,5 | m3 | 6.285.569 | 9.428.354 |
| | Balok Pemikul Anjungan | 4,8 | m3 | 6.285.569 | 30.170.733 |
| | Lantai Anjungan Beton Bertulang | 7,5 | m3 | 6.285.569 | 47.141.770 |
| | Landasan Kaki Menara | 1,6 | m3 | 4.669.824 | 7.471.719 |
| | Mortal Lining & Cetakan | 5,7 | m3 | 3.872.000 | 22.070.400 |
| | Tombak Pengaman Keliling Anjungan | 22 | m' | 544.500 | 11.979.000 |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | 1 | m' | 786.500 | 786.500 |
| | Pagar Anjungan Baja Galvanis | 20 | m' | 605.000 | 12.100.000 |
| | Pintu Anjungan Baja Galvanis | 1,5 | m' | 1.210.000 | 1.815.000 |
| | | | | | 304.016.007 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | 5000 | kg | 35.310 | 176.550.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Perancah dan Alat bantu | 1 | LS | 7.062.000 | 7.062.000 |
| | | | | | 207.152.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 259.558.750 |
| | | | | SUB JUMLAH | 965.961.570 |
| | | | | DIBULATKAN | 966.000.000 |
| | | | | PPN 10% | 96.600.000 |
| | | | | JUMLAH | 1.062.600.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|---------|----------------|-------------------|--------------------|
| 12. | PEKERJAAN PEMBANGUNAN RAMBU SUAR 10 M DI LAUT (KONSTRUKSI BETON) | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Mobilisasi dan demobilisasi | 1 | LS | 116.729.210 | 116.729.210 |
| | Setting out titik steel pile | 1 | LS | 2.675.000 | 2.675.000 |
| | Test PDA | 1 | Titik | 16.050.000 | 16.050.000 |
| | Shop drawing / as built drawing | 1 | LS | 3.000.000 | 3.000.000 |
| | | | | | <u>138.454.210</u> |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 240 | m' | 147.125 | 35.310.000 |
| | Pemancangan Pondasi | 240 | m' | 443.677 | 106.482.460 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 15,08 | m3 | 4.669.824 | 70.420.947 |
| | Poer Beton Bertulang | 9,07 | m3 | 6.285.569 | 57.010.114 |
| | Mortal Lining & Cetakan | 4,71 | m3 | 3.872.000 | 18.237.120 |
| | | | | | <u>349.955.962</u> |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Kolom beton Type KM Lantai 1 s/d Atap | 5,92 | m ³ | 8.927.837 | 52.852.798 |
| | Balok beton Type BM Lantai 1 s/d Atap | 1,34 | m ³ | 8.555.569 | 11.464.462 |
| | Plat Lantai Beton Lantai 1 s/d Penutup Atap | 1,3 | m ³ | 2.724.529 | 3.541.887 |
| | | | | | <u>67.859.147</u> |
| D. PEKERJAAN ATAP DINDING DAN TANGGA | | | | | |
| Pekerjaan Atap | | | | | |
| | waterproofing Coating (Overhang, atap beton) | 47,60 | M ² | 149.703 | 7.125.863 |
| Pekerjaan Dinding | | | | | |
| | Profil CNP 150x65x20x2.3 L=6 m | 462 | Kg | 13.375 | 6.179.250 |
| | Profil Pengaku CNP 150x65x20x2.3 L=6 m | 33 | Kg | 13.375 | 441.375 |
| | Base Plat 20x30 cm tebal 12 mm | 105,504 | Kg | 13.375 | 1.411.116 |
| | Baut HTM M16 | 112 | BH | 6.955 | 778.960 |
| | Grouting | 28 | kg | 8.560 | 239.680 |
| | Cor beton untuk cantilever | 1,3 | m ³ | 2.724.529 | 3.541.887 |
| | Pasangan Bata1/2 adukan 1 : 4 | 34,00 | M ² | 96.497 | 3.280.898 |
| | Plesteran 1 : 4, t = 20mm termasuk acian | 68,00 | M ² | 33.000 | 2.244.000 |
| | Dinding FRP T=3 mm Type Flat, Ex. Fibrealum / Setara | 44,00 | M ² | 348.853 | 15.349.549 |
| | Pintu PB2 (665x2160) | 1,00 | BH | 8.988.000 | 8.988.000 |
| | JendelaJ1 (500x800) | 8,00 | BH | 2.996.000 | 23.968.000 |
| Pekerjaan Lantai | | | | | |
| | Pekerjaan Lantai Fin. Screenshot | 81,00 | M ² | 72.578 | 5.878.805 |
| | Pekerjaan Lantai Keramik | 22,70 | M ² | 138.626 | 3.146.818 |
| Pekerjaan Finish Cat Dnding | | | | | |
| | Pengecatan Dinding Bata Exterior, ex. Dulux / Setara (luar) | 34,00 | M ² | 54.279 | 1.845.481 |
| | Pengecatan Dinding Bata Interior, ex. Dulux / Setara Dalam | 34,00 | M ² | 43.718 | 1.486.410 |
| | Pengecatan Plafon expose concrete ex. Dulux / Setara | 33,00 | M ² | 43.718 | 1.442.692 |
| Pekerjaan Tangga Beton Bertulang | | | | | |
| | Pipa galvanis steel Pipe Ø 2" (railing elev. 10) | 16,00 | M ¹ | 80.250,00 | 1.284.000 |
| | Galvanize Plat Strip t=3 mm (railing elev. 10) | 37,52 | M ¹ | 13.375,00 | 501.830 |
| | Galvanize Pipe Ø 2" (mongkey ladder) | 12,00 | M ¹ | 80.250,00 | 963.000 |
| | Galvanize Pipe Ø 1" (mongkey ladder) | 15,60 | M ¹ | 69.550,00 | 1.084.980 |
| | Galvanize Plat Strip t=3 mm (mongkey ladder) | 24,45 | M ¹ | 13.375,00 | 327.019 |
| | | | | | <u>91.509.612</u> |
| E. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | <u>259.558.750</u> |
| | | | | SUB JUMLAH | 907.337.681 |
| | | | | DIBULATKAN | 907.400.000 |
| | | | | PPN 10% | 90.740.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|-----|-----------------|--------|--------|-----------------|-------------|
| | | | | JUMLAH | 998.140.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|---------------|---------------|---------------------|--------------------|
| 13. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 15 M DI DARAT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 50 | m2 | 176.550 | 8.827.500 |
| | | | | | 201.916.222 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 24,7 | m3 | 78.750 | 1.945.125 |
| | Urugan Kembali | 10 | m3 | 25.988 | 259.875 |
| | Urugan Pasir Padat | 1,6 | m3 | 177.763 | 284.420 |
| | Urugan Sirtu Padat | 1,6 | m3 | 209.063 | 334.500 |
| | Turap Sementara | 12,35 | m2 | 72.736 | 898.293 |
| | Lantai Kerja Mortar Beton | 1,5 | m3 | 317.790 | 476.685 |
| | Pondasi Beton Bertulang | 10 | m3 | 6.285.569 | 62.855.693 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 74.373.391 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 147.812.500 | 147.812.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Pengecatan Kontruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Perancah dan Alat bantu | 1 | LS | 8.827.500 | 8.827.500 |
| | | | | | 186.065.000 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Large) | 1 | unit | 14.190.000 | 14.190.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 280.843.750 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 804.990.863 |
| | | | | DIBULATKAN | 805.000.000 |
| | | | | PPN 10% | 80.500.000 |
| | | | | JUMLAH | 885.500.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|---------------|---------------|---------------------|--------------------|
| 14. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 10 M DI DARAT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 50 | m2 | 176.550 | 8.827.500 |
| | | | | | 201.916.222 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 17,2 | m3 | 78.750 | 1.354.500 |
| | Urugan Kembali | 6 | m3 | 25.988 | 155.925 |
| | Urugan Pasir Padat | 1 | m3 | 177.763 | 177.763 |
| | Urugan Sirtu Padat | 1 | m3 | 209.063 | 209.063 |
| | Turap Sementara | 8,6 | m2 | 72.736 | 625.532 |
| | Lantai Kerja Mortar Beton | 1,2 | m3 | 317.790 | 381.348 |
| | Pondasi Beton Bertulang | 8 | m3 | 6.285.569 | 50.284.555 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 60.507.484 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 106.425.000 | 106.425.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 8.827.500 | 8.827.500 |
| | Pengecatan Kontruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Perancah dan Alat bantu | 1 | LS | 5.885.000 | 5.885.000 |
| | | | | | 132.907.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 259.558.750 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 716.682.456 |
| | | | | DIBULATKAN | 716.700.000 |
| | | | | PPN 10% | 71.670.000 |
| | | | | JUMLAH | 788.370.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|---------------|---------------|---------------------|--------------------|
| 15. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 7,5 M DI DARAT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 72.955.757 | 72.955.757 |
| | Pembersihan Lokasi | 400 | LS | 9.290 | 3.716.000 |
| | Pemasangan Bowplank | 80 | m' | 20.474 | 1.637.909 |
| | Direksi keet dan Bangsal Kerja | 40 | m2 | 176.550 | 7.062.000 |
| | | | | | 127.194.965 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Galian Pondasi | 12,2 | m3 | 78.750 | 960.750 |
| | Urugan Kembali | 4 | m3 | 25.988 | 103.950 |
| | Urugan Pasir Padat | 0,6 | m3 | 177.763 | 106.658 |
| | Urugan Sirtu Padat | 0,6 | m3 | 209.063 | 125.438 |
| | Turap Sementara | 6,1 | m2 | 72.736 | 443.691 |
| | Lantai Kerja Mortar Beton | 1 | m3 | 317.790 | 317.790 |
| | Pondasi Beton Bertulang | 6 | m3 | 6.285.569 | 37.713.416 |
| | Perataan Tanah | 400 | m2 | 18.297 | 7.318.800 |
| | | | | | 47.090.492 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 88.687.500 | 88.687.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 7.062.000 | 7.062.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 14.712.500 | 14.712.500 |
| | Perancah dan Alat bantu | 1 | LS | 5.296.500 | 5.296.500 |
| | | | | | 115.758.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Small) | 1 | unit | 5.912.500 | 5.912.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 256.011.250 |
| E. FASILITAS PENUNJANG | | | | | |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | 76 | m' | 706.200 | 53.671.200 |
| | Jalan Lokasi | 100 | m' | 63.558 | 6.355.800 |
| | Pintu Gerbang | 1 | unit | 1.765.500 | 1.765.500 |
| | | | | | 61.792.500 |
| | | | | SUB JUMLAH | 607.847.707 |
| | | | | DIBULATKAN | 607.900.000 |
| | | | | PPN 10% | 60.790.000 |
| | | | | JUMLAH | 668.690.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|--------|--------|-------------------|----------------------|
| 16. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 15 M DI LAUT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Direksi keet dan Bangsal Terapung | 1 | unit | 7.500.000 | 7.500.000 |
| | | | | | 195.234.813 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 96 | m' | 147.125 | 14.124.000 |
| | Pemancangan Pondasi | 64 | m' | 443.677 | 28.395.323 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 12 | m3 | 4.669.824 | 56.037.889 |
| | Poer Beton Bertulang | 1,5 | m3 | 6.285.569 | 9.428.354 |
| | Balok Pemikul Anjungan | 4,8 | m3 | 6.285.569 | 30.170.733 |
| | Lantai Anjungan Beton Bertulang | 7,5 | m3 | 6.285.569 | 47.141.770 |
| | Landasan Kaki Menara | 1,6 | m3 | 4.669.824 | 7.471.719 |
| | Mortal Lining & Cetakan | 5,7 | m3 | 3.872.000 | 22.070.400 |
| | Tombak Pengaman Keliling Anjungan | 22 | m' | 544.500 | 11.979.000 |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | 1 | m' | 786.500 | 786.500 |
| | Pagar Anjungan Baja Galvanis | 20 | m' | 605.000 | 12.100.000 |
| | Pintu Anjungan Baja Galvanis | 1,5 | m' | 1.210.000 | 1.815.000 |
| | | | | | 304.016.007 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 147.812.500 | 147.812.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 14.124.000 | 14.124.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 8.827.500 | 8.827.500 |
| | Perancah dan Alat bantu | 1 | LS | 8.827.500 | 8.827.500 |
| | | | | | 179.591.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Sistem Lampu Suar 12NM | 1 | unit | 78.045.000 | 78.045.000 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 276.113.750 |
| | | | | SUB JUMLAH | 954.956.070 |
| | | | | DIBULATKAN | 955.000.000 |
| | | | | PPN 10% | 95.500.000 |
| | | | | JUMLAH | 1.050.500.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--|--------|--------|-------------------|--------------------|
| 17. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 10 M DI LAUT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Direksi keet dan Bangsal Terapung | 1 | unit | 7.500.000 | 7.500.000 |
| | | | | | 195.234.813 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 96 | m' | 147.125 | 14.124.000 |
| | Pemancangan Pondasi | 64 | m' | 443.677 | 28.395.323 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 12 | m3 | 4.669.824 | 56.037.889 |
| | Poer Beton Bertulang | 1,5 | m3 | 6.285.569 | 9.428.354 |
| | Balok Pemikul Anjungan | 4,8 | m3 | 6.285.569 | 30.170.733 |
| | Lantai Anjungan Beton Bertulang | 7,5 | m3 | 6.285.569 | 47.141.770 |
| | Landasan Kaki Menara | 1,6 | m3 | 4.669.824 | 7.471.719 |
| | Mortal Lining & Cetakan | 5,7 | m3 | 3.872.000 | 22.070.400 |
| | Tombak Pengaman Keliling Anjungan | 22 | m' | 544.500 | 11.979.000 |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | 1 | m' | 786.500 | 786.500 |
| | Pagar Anjungan Baja Galvanis | 20 | m' | 605.000 | 12.100.000 |
| | Pintu Anjungan Baja Galvanis | 1,5 | m' | 1.210.000 | 1.815.000 |
| | | | | | 304.016.007 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 106.425.000 | 106.425.000 |
| | Pendirian Konstruksi Menara | 1 | LS | 11.770.000 | 11.770.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 8.827.500 | 8.827.500 |
| | Perancah dan Alat bantu | 1 | LS | 7.062.000 | 7.062.000 |
| | | | | | 134.084.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Medium) | 1 | unit | 9.460.000 | 9.460.000 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 259.558.750 |
| | | | | SUB JUMLAH | 892.894.070 |
| | | | | DIBULATKAN | 892.900.000 |
| | | | | PPN 10% | 89.290.000 |
| | | | | JUMLAH | 982.190.000 |

RENCANA ANGGARAN BIAYA PEKERJAAN SBNP

| NO. | URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---|---------------|---------------|---------------------|--------------------|
| 18. | PEKERJAAN PEMBANGUNAN RAMBU SUAR MODULAR PIPE BEACON 7.5 M DI LAUT | | | | |
| A. PEKERJAAN PERSIAPAN | | | | | |
| | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | 1 | LS | 41.823.300 | 41.823.300 |
| | Mobilisasi dan Demobilisasi | 1 | LS | 145.911.513 | 145.911.513 |
| | Direksi keet dan Bangsal Terapung | 1 | unit | 7.500.000 | 7.500.000 |
| | | | | | 195.234.813 |
| B. PEKERJAAN STRUKTUR BAWAH | | | | | |
| | Tiang Pancang Baja Ø400MM | 96 | m' | 147.125 | 14.124.000 |
| | Pemancangan Pondasi | 64 | m' | 443.677 | 28.395.323 |
| | Sambungan Tiang Pancang | 12 | buah | 544.500 | 6.534.000 |
| | Pengaku / Bracing Pipa Baja Ø200MM | 48 | m' | 475.502 | 22.824.105 |
| | Sambungan Pengaku | 24 | buah | 363.000 | 8.712.000 |
| | Coating Tiang Pancang & Pengaku | 48 | m2 | 90.333 | 4.335.965 |
| | Pekerjaan Aluminium Anode | 100 | kg | 200.893 | 20.089.250 |
| | Beton Bertulang Pengisi Tiang Pancang | 12 | m3 | 4.669.824 | 56.037.889 |
| | Poer Beton Bertulang | 1,5 | m3 | 6.285.569 | 9.428.354 |
| | Balok Pemikul Anjungan | 4,8 | m3 | 6.285.569 | 30.170.733 |
| | Lantai Anjungan Beton Bertulang | 7,5 | m3 | 6.285.569 | 47.141.770 |
| | Landasan Kaki Menara | 1,6 | m3 | 4.669.824 | 7.471.719 |
| | Mortal Lining & Cetakan | 5,7 | m3 | 3.872.000 | 22.070.400 |
| | Tombak Pengaman Keliling Anjungan | 22 | m' | 544.500 | 11.979.000 |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | 1 | m' | 786.500 | 786.500 |
| | Pagar Anjungan Baja Galvanis | 20 | m' | 605.000 | 12.100.000 |
| | Pintu Anjungan Baja Galvanis | 1,5 | m' | 1.210.000 | 1.815.000 |
| | | | | | 304.016.007 |
| C. PEKERJAAN STRUKTUR ATAS | | | | | |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | 1 | unit | 88.687.500 | 88.687.500 |
| | Pendirian Konstruksi Menara | 1 | LS | 9.416.000 | 9.416.000 |
| | Pengecatan Kontruksi Menara | 1 | LS | 7.062.000 | 7.062.000 |
| | Perancah dan Alat bantu | 1 | LS | 7.062.000 | 7.062.000 |
| | | | | | 112.227.500 |
| D. PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | | | | | |
| | Lantern Mast With Secured Battery Box (Small) | 1 | unit | 5.912.500 | 5.912.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Sistem Lampu Suar 6NM | 1 | unit | 69.767.500 | 69.767.500 |
| | Solar Module 80W | 2 | unit | 11.825.000 | 23.650.000 |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | 4 | unit | 4.138.750 | 16.555.000 |
| | Sistem Penangkal Petir | 1 | paket | 8.868.750 | 8.868.750 |
| | Surge Arrester Module | 1 | paket | 2.956.250 | 2.956.250 |
| | Power Supply & AtoN Controller Panel (Standard) | 1 | paket | 29.562.500 | 29.562.500 |
| | Tetrahedral Aluminium Radar Reflector | 8 | unit | 1.773.750 | 14.190.000 |
| | Flourescent Colored Aluminium Top Mark | 1 | unit | 5.912.500 | 5.912.500 |
| | Flourescent Colored Aluminium Daymark | 1 | unit | 8.868.750 | 8.868.750 |
| | | | | | 256.011.250 |
| | | | | SUB JUMLAH | 867.489.570 |
| | | | | DIBULATKAN | 867.500.000 |
| | | | | PPN 10% | 86.750.000 |
| | | | | JUMLAH | 954.250.000 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|---|----------|--------|--------------|-------------------|
| BIAYA MOBILISASI DAN DEMOBILISASI BAHAN BANGUNAN, ALAT KERJA, AIR, PERALATAN SBNP DAN TENAGA KERJA | | | | |
| 1 UNIT PEMBANGUNAN MENARA SUAR 40 M EKS SPANYOL | | | | |
| Sewa Kapal | 5,0000 | hari | 15.364.965 | 76.824.825 |
| Sewa Perahu Motor | 120,0000 | hari | 162.914 | 11.220.000 |
| Muat di pelabuhan | 1,0000 | ls | 3.074.610 | 3.074.610 |
| Bongkar di lokasi | 1,0000 | ls | 3.074.610 | 3.074.610 |
| | | | Jumlah | 94.194.045 |
| 1 UNIT PEMBANGUNAN RAMBU SUAR 30 M EKS PERANCIS | | | | |
| Sewa Kapal | 4,0000 | hari | 15.364.965 | 61.459.860 |
| Sewa Perahu Motor | 90,0000 | hari | 162.914 | 14.662.296 |
| Muat di pelabuhan | 1,0000 | ls | 3.074.610 | 3.074.610 |
| Bongkar di lokasi | 1,0000 | ls | 3.074.610 | 3.074.610 |
| | | | Jumlah | 82.271.376 |
| 1 UNIT PEMBANGUNAN RAMBU SUAR 20 M (DARAT) EKS PERANCIS | | | | |
| Sewa Kapal | 4,0000 | hari | 15.364.965 | 61.459.860 |
| Sewa Perahu Motor | 60,0000 | hari | 162.914 | 9.774.864 |
| Muat di pelabuhan | 1,0000 | ls | 3.074.610 | 3.074.610 |
| Bongkar di lokasi | 1,0000 | ls | 3.074.610 | 3.074.610 |
| | | | Jumlah | 77.383.944 |
| 1 UNIT PEMBANGUNAN RAMBU SUAR 10 M (DARAT) EKS PERANCIS | | | | |
| Sewa Kapal | 4,0000 | hari | 15.364.965 | 61.459.860 |
| Sewa Perahu Motor | 50,0000 | hari | 162.914 | 8.145.720 |
| Muat di pelabuhan | 1,0000 | ls | 3.074.610 | 3.074.610 |
| Bongkar di lokasi | 1,0000 | ls | 3.074.610 | 3.074.610 |
| | | | Jumlah | 75.754.800 |
| 1 M' PEMASANGAN BOWPLANK | | | | |
| Kayu Meranti klas III | 0,0040 | m3 | 2.675.000 | 10.700 |
| Paku | 0,0550 | kg | 18.714 | 1.029 |
| Pekerja | 0,0330 | oh | 66.875 | 2.207 |
| Tukang Kayu | 0,0300 | oh | 81.320 | 2.440 |
| Kepala Tukang | 0,0270 | oh | 96.300 | 2.600 |
| Mandor | 0,0140 | oh | 107.000 | 1.498 |
| | | | Jumlah | 20.474 |
| 1 M3 GALIAN PONDASI UNTUK TANAH BERCAMPUR BATU | | | | |
| Pekerja | 1,5000 | oh | 66.875 | 100.313 |
| Mandor | 0,0500 | oh | 107.000 | 5.350 |
| | | | Jumlah | 105.663 |
| 1 M3 GALIAN PONDASI UNTUK TANAH CADAS | | | | |
| Pekerja | 2,0000 | oh | 66.875 | 133.750 |
| Mandor | 0,0660 | oh | 107.000 | 7.062 |
| | | | Jumlah | 140.812 |
| 1 M3 BETON BERTULANG (K.300 - U.24) | | | | |
| Batu pecah 1/2 | 0,8000 | m3 | 267.500 | 214.000 |
| Pasir beton | 0,5000 | m3 | 254.514 | 127.257 |
| Semen PC (50 kg/zak) | 8,8000 | zak | 69.550 | 612.040 |
| Pekerja | 6,0000 | oh | 66.875 | 401.250 |
| Mandor | 0,3000 | oh | 107.000 | 32.100 |
| Tukang Batu | 1,0000 | oh | 81.320 | 81.320 |
| Kepala tukang | 0,1000 | oh | 96.300 | 9.630 |
| | | | | 1.477.597 |
| 1 KG PEMBESIAN BETON | | | | |
| Besi beton | 1,0000 | kg | 17.655 | 17.655 |
| Kawat baja/bindraad | 0,0200 | kg | 19.260 | 385 |
| Kepala tukang | 0,0050 | oh | 96.300 | 482 |
| Tukang besi | 0,0110 | oh | 81.320 | 895 |
| Pekerja | 0,0190 | oh | 66.875 | 1.271 |
| Mandor | 0,0020 | oh | 107.000 | 214 |
| | | | | 20.687 |
| 1 M2 BEGISTING (1 M3 BETON) | | | | |
| Kayu Kls III | 0,02 | m3 | 2.140.000 | 42.800 |
| Triplek 6 mm | 0,336 | m2 | 88.275 | 29.660 |
| Paku | 0,36 | kg | 18.714 | 6.737 |
| Pekerja | 0,45 | oh | 66.875 | 30.094 |
| Mandor | 0,022 | oh | 107.000 | 2.354 |
| Tukang | 0,15 | oh | 81.320 | 12.198 |
| Kepala Tukang | 0,065 | oh | 96.300 | 6.260 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|----------|--------|--------------|------------------|
| Alat Bantu | 1,0000 | ls | 3.500 | |
| | | | | 130.103 |
| MEMBONGKAR CETAKAN DAN MENYIRAM BETON PER M3 BETON | | | | |
| Pekerja | 4,0000 | oh | 66.875 | 267.500 |
| | | | | 267.500 |
| PERALATAN KERJA | | | | |
| Concrete mixer | 1,0000 | jam | 52.500 | 52.500 |
| Concrete thiller | 1,0000 | jam | 47.250 | 47.250 |
| | | | | 99.750 |
| 1 M' PEKERJAAN BORE PILE | | | | |
| Beton mutu k300 | 0,2826 | m3 | 1.477.597 | 417.569 |
| Besi Beton | 23,8000 | Kg | 20.687 | 492.347 |
| Bore pile | 1,0000 | m' | 171.228 | 171.228 |
| | | | | 1.081.144 |
| 1 M3 PEKERJAAN PILE CAPE | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 57,8600 | Kg | 20.687 | 1.196.941 |
| Bekisting | 0,3333 | m2 | 130.103 | 43.368 |
| | | | | 2.717.906 |
| 1 M3 PEKERJAAN KOLOM K1 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 274,2100 | Kg | 20.687 | 5.672.540 |
| Bekisting | 6,7500 | m2 | 130.103 | 878.194 |
| | | | | 8.028.331 |
| 1 M3 PEKERJAAN KOLOM K2 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 211,2800 | Kg | 20.687 | 4.370.717 |
| Bekisting | 6,4300 | m2 | 130.103 | 836.561 |
| | | | | 6.684.875 |
| 1 M3 PEKERJAAN KOLOM K3 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 74,2100 | Kg | 20.687 | 1.535.171 |
| Bekisting | 2,1500 | m2 | 130.103 | 279.721 |
| | | | | 3.292.489 |
| 1 M3 PEKERJAAN KOLOM K4 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 267,7500 | Kg | 20.687 | 5.538.903 |
| Bekisting | 8,1000 | m2 | 130.103 | 1.053.833 |
| | | | | 8.070.333 |
| 1 M3 PEKERJAAN KOLOM K5 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 202,9400 | Kg | 20.687 | 4.198.188 |
| Bekisting | 7,5000 | m2 | 130.103 | 975.771 |
| | | | | 6.651.557 |
| 1 M3 PEKERJAAN KOLOM K6 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 211,4500 | Kg | 20.687 | 4.374.233 |
| Bekisting | 13,3300 | m2 | 130.103 | 1.734.270 |
| | | | | 7.586.101 |
| 1 M3 PEKERJAAN KOLOM KM | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 290,6990 | Kg | 20.687 | 6.013.645 |
| Bekisting | 11,0420 | m2 | 130.103 | 1.436.595 |
| | | | | 8.927.837 |
| 1 M3 PEKERJAAN BALOK B1 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 164,8700 | Kg | 20.687 | 3.410.640 |
| Bekisting | 5,0360 | m2 | 130.103 | 655.198 |
| | | | | 5.543.435 |
| 1 M3 PEKERJAAN BALOK B2 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 194,1100 | Kg | 20.687 | 4.015.523 |
| Bekisting | 8,3208 | m2 | 130.103 | 1.082.559 |
| | | | | 6.575.680 |
| 1 M3 PEKERJAAN BALOK B3 | | | | |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|----------|--------|--------------|------------------|
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 175,3700 | Kg | 20.687 | 3.627.852 |
| Bekisting | 9,5100 | m2 | 130.103 | 1.237.278 |
| | | | | 6.342.727 |
| 1 M3 PEKERJAAN BALOK B4 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 200,1300 | Kg | 20.687 | 4.140.058 |
| Bekisting | 5,8000 | m2 | 130.103 | 754.596 |
| | | | | 6.372.252 |
| 1 M3 PEKERJAAN BALOK B5 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 206,4000 | Kg | 20.687 | 4.269.765 |
| Bekisting | 8,0990 | m2 | 130.103 | 1.053.703 |
| | | | | 6.801.065 |
| 1 M3 PEKERJAAN BALOK B6 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 198,7500 | Kg | 20.687 | 4.111.510 |
| Bekisting | 9,5200 | m2 | 130.103 | 1.238.579 |
| | | | | 6.827.686 |
| 1 M3 PEKERJAAN BALOK BM | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 274,5400 | Kg | 20.687 | 5.679.366 |
| Bekisting | 10,7500 | m2 | 130.103 | 1.398.605 |
| | | | | 8.555.569 |
| 1 M3 PEKERJAAN PLAT BETON | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 1,0000 | m2 | 163.175 | 163.175 |
| Bekisting | 8,3300 | m2 | 130.103 | 1.083.756 |
| | | | | 2.724.529 |
| 1 M3 PEKERJAAN BALOK TANGGA BT1 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 243,7800 | Kg | 20.687 | 5.043.039 |
| Bekisting | 13,2350 | m2 | 130.103 | 1.721.911 |
| | | | | 8.242.547 |
| 1 M3 PEKERJAAN BALOK TANGGA BT2 | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 245,5800 | Kg | 20.687 | 5.080.275 |
| Bekisting | 13,2200 | m2 | 130.103 | 1.719.959 |
| | | | | 8.277.832 |
| 1 M3 PEKERJAAN PLAT TANGGA | | | | |
| Beton mutu k300 | 1,0000 | m3 | 1.477.597 | 1.477.597 |
| Besi Beton | 155,5300 | Kg | 20.687 | 3.217.425 |
| Bekisting | 7,5000 | m2 | 130.103 | 975.771 |
| | | | | 5.670.793 |
| 1 M3 BETON BERTULANG (K.225 - U.24) | | | | |
| BETON COR (1:2:3) | | | | |
| Batu pecah 1/2 | 0,8200 | m3 | 267.500 | 219.350 |
| Pasir beton | 0,5400 | m3 | 254.514 | 137.438 |
| Semen PC (50 kg/zak) | 8,5000 | zak | 69.550 | 591.175 |
| Pekerja | 6,0000 | oh | 66.875 | 401.250 |
| Mandor | 0,3000 | oh | 107.000 | 32.100 |
| Tukang Batu | 1,0000 | oh | 81.320 | 81.320 |
| Kepala tukang | 0,1000 | oh | 96.300 | 9.630 |
| | | | | 1.472.263 |
| 100 KG PEMBESIAN BETON | | | | |
| Besi beton | 110,0000 | kg | 17.655 | 1.942.050 |
| Kawat baja/bindraad | 2,0000 | kg | 19.260 | 38.520 |
| Kepala tukang | 2,2500 | oh | 96.300 | 216.675 |
| Tukang besi | 6,7500 | oh | 81.320 | 548.910 |
| Pekerja | 6,7500 | oh | 66.875 | 451.406 |
| | | | | 3.197.561 |
| 10 M2 BEGISTING (1 M3 BETON) | | | | |
| Plywood 6 mm | 1,8000 | lembar | 88.275 | 158.895 |
| Paku | 4,0000 | kg | 18.714 | 74.857 |
| Kepala Tukang | 0,5000 | oh | 96.300 | 48.150 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|---|---------|--------|--------------|-------------------|
| Mandor | 0,1000 | oh | 107.000 | 10.700 |
| Tukang Kayu | 5,0000 | oh | 81.320 | 406.600 |
| Pekerja | 2,0000 | oh | 66.875 | 133.750 |
| Kayu klas II | 0,4000 | m3 | 4.012.500 | 1.605.000 |
| | | | | 2.437.952 |
| MEMBONGKAR CETAKAN DAN MENYIRAM BETON PER M3 BETON | | | | |
| Pekerja | 4,0000 | oh | 66.875 | 267.500 |
| | | | | 267.500 |
| PERALATAN KERJA | | | | |
| Concrete mixer | 1,0000 | jam | 52.500 | 52.500 |
| Concrete thiller | 1,0000 | jam | 47.250 | 47.250 |
| | | | | 99.750 |
| 1 M3 PONDASI BETON BERTULANG (K.225-U.24) | | | | |
| Beton cor (1:2:3) | 1,0000 | ls | 1.472.263 | 1.472.263 |
| 100 Kg pembesian beton | 1,0000 | ls | 3.197.561 | 3.197.561 |
| Concrete Admixture | 1,0000 | ls | 29.519 | 29.519 |
| Begisting (1 m3 beton) | 0,5000 | ls | 2.437.952 | 1.218.976 |
| Membongkar cetakan dan menyiram beton | 1,0000 | ls | 267.500 | 267.500 |
| Peralatan kerja | 1,0000 | ls | 99.750 | 99.750 |
| | | | | 6.285.569 |
| 1 M3 BETON BERTULANG SELIMUT TIANG PANCANG | | | | |
| Beton K.225 | 1,0000 | m3 | 1.472.263 | 1.472.263 |
| Begisting (1 m3 beton) | 1,0000 | ls | 2.437.952 | 2.437.952 |
| 100 Kg pembesian beton | 1,3300 | ls | 3.197.561 | 4.252.756 |
| Ponton transport | 1,0000 | hari | 4.950.388 | 4.950.388 |
| | | | | 13.113.360 |
| PEKERJAAN 1M3 BETON BERTULANG K.175 | | | | |
| 1 M3 BETON BERTULANG K.175 (1 : 3 : 5) | | | | |
| Batu pecah 1/2 | 1,0000 | m3 | 132.750 | 132.750 |
| Pasir beton | 0,5000 | m3 | 146.300 | 73.150 |
| Semen PC (50 kg/zak) | 5,3100 | zak | 69.550 | 369.311 |
| Pekerja | 6,0000 | oh | 66.875 | 401.250 |
| Mandor | 0,3000 | oh | 107.000 | 32.100 |
| Tukang Batu | 0,5000 | oh | 81.320 | 40.660 |
| Kepala Tukang | 0,0500 | oh | 96.300 | 4.815 |
| | | | | 1.054.036 |
| 50 KG PEMBESIAN BETON | | | | |
| Besi beton | 55,0000 | kg | 17.655 | 971.025 |
| Kawat baja/bindraad | 1,0000 | kg | 19.260 | 19.260 |
| Kepala tukang | 1,0000 | oh | 96.300 | 96.300 |
| Tukang besi | 1,1250 | oh | 81.320 | 91.485 |
| Pekerja | 3,3750 | oh | 66.875 | 225.703 |
| Mandor | 3,3750 | oh | 107.000 | 361.125 |
| | | | | 1.764.898 |
| 1 M3 BETON BERTULANG K.175 | | | | |
| Beton cor (1:2,5:5) | 1,0000 | ls | 1.054.036 | 1.054.036 |
| 50 Kg pembesian beton | 1,0000 | ls | 1.764.898 | 1.764.898 |
| Membongkar cetakan dan menyiram beton | 1,0000 | ls | 267.500 | 267.500 |
| Peralatan kerja | 1,0000 | ls | 99.750 | 99.750 |
| | | | | 3.186.184 |
| 1 M2 LANTAI KERJA | | | | |
| Semen | 0,218 | kg | 69.550 | 15.162 |
| Pasir Beton | 0,026 | m3 | 254.514 | 6.617 |
| Batu Split | 0,044 | m3 | 240.750 | 10.593 |
| Pekerja | 0,033 | Orang | 66.875 | 2.173 |
| Mandor | 0,001 | Orang | 107.000 | 118 |
| Tukang | 0,013 | Orang | 81.320 | 1.017 |
| Kepala Tukang | 0,003 | Orang | 96.300 | 313 |
| Alat Bantu Cor | 0,050 | LS | 2.500 | 125 |
| | | | | 36.118 |
| 1 UNIT ALUMINIUM ANODA | | | | |
| Aluminium anoda | 1,0000 | kg | 147.125 | 147.125 |
| Tukang | 0,2500 | oh | 81.320 | 20.330 |
| Pekerja | 0,5000 | oh | 66.875 | 33.438 |
| | | | | 200.893 |
| URUGAN KEMBALI ATAS GALIAN TANAH CADAS | | | | |
| 1 m3 galian tanah cadas | ø,5000 | ls | 84.191 | 42.096 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|---|---------|----------------|--------------|------------------|
| | | | | 42.096 |
| 1 M3 BETON COR UNTUK PENGISIAN TIANG PANCANG | | | | |
| Beton cor (1:2:3) | 1,0000 | ls | 1.472.263 | 1.472.263 |
| 100 Kg pembesian beton | 0,8000 | ls | 3.197.561 | 2.558.049 |
| Peralatan kerja | 1,0000 | ls | 99.750 | 99.750 |
| | | | | 4.130.062 |
| 1 M2 PENGECATAN/COATING TIANG PANCANG & PENGAKU | | | | |
| AC Marine Use (Anti Cerosif M.U) | 0,2000 | kg | 212.566 | 42.513 |
| Pekerja | 0,1500 | oh | 66.875 | 10.031 |
| Mandor | 0,0080 | oh | 107.000 | 856 |
| Kepala Tukang | 0,0250 | oh | 96.300 | 2.408 |
| Tukang cat | 0,2500 | oh | 81.320 | 20.330 |
| AF Marine Use (Anti Fouling M.U) | 0,1000 | liter | 141.946 | 14.195 |
| | | | | 90.333 |
| 1 BUAH PEKERJAAN PEMASANGAN PIPA PENGAKU TIANG PANCANG | | | | |
| Tukang las | 1,0000 | oh | 81.320 | 81.320 |
| Mandor | 0,2500 | oh | 107.000 | 26.750 |
| Pekerja | 0,2500 | oh | 66.875 | 16.719 |
| Mesin las listrik dan perlengkapan | 0,1500 | hari | 682.500 | 102.375 |
| Plat sambung (plat strip) 8 cm ¹ | 6,2500 | m ¹ | 22.470 | 140.438 |
| Kawat las / Electrode | 1,1500 | kg | 40.125 | 46.144 |
| oli | 0,7500 | liter | 52.400 | 39.300 |
| Solar | 4,0000 | liter | 5.614 | 22.457 |
| | | | | 475.502 |
| 1 M3 GALIAN TANAH BIASA | | | | |
| Pekerja | 1,0000 | OH | 60.000 | 60.000 |
| Mandor | 0,2500 | OH | 75.000 | 18.750 |
| | | | | 78.750 |
| 1 M3 URUGAN TANAH KEMBALI ATAS GALIAN TANAH BIASA | | | | |
| Pekerja | 0,3300 | OH | 60.000 | 19.800 |
| Mandor | 0,0825 | OH | 75.000 | 6.188 |
| | | | | 25.988 |
| 1 M3 URUGAN PASIR PADAT | | | | |
| Pasir Urug | 1,0000 | M3 | 125.000 | 125.000 |
| Pekerja | 0,6700 | OH | 60.000 | 40.200 |
| Mandor | 0,1675 | OH | 75.000 | 12.563 |
| | | | | 177.763 |
| 1 M3 URUGAN SIRTU PADAT | | | | |
| Sirtu | 1,0000 | M3 | 150.000 | 150.000 |
| Pekerja | 0,7500 | OH | 60.000 | 45.000 |
| Mandor | 0,1875 | OH | 75.000 | 14.063 |
| | | | | 209.063 |
| 1 BUAH PEKERJAAN PENYAMBUNGAN TIANG PANCANG | | | | |
| Tukang las | 1,0000 | oh | 55.000 | 55.000 |
| Mandor | 0,2500 | oh | 63.500 | 15.875 |
| Pekerja | 2,0000 | oh | 40.000 | 80.000 |
| Mesin las listrik dan perlengkapan | 0,1500 | hari | 583.125 | 87.469 |
| Plat sambung (plat strip) 8 cm ¹ | 3,1250 | m ¹ | 8.250 | 25.781 |
| Kawat las /Electrode | 1,1500 | kg | 23.400 | 26.910 |
| Oli | 0,7500 | liter | 29.550 | 22.163 |
| Solar | 4,0000 | liter | 4.300 | 17.200 |
| | | | | 330.398 |
| 1 M3 PERATAAN TANAH | | | | |
| Pekerja | 0,2000 | oh | 66.875 | 13.375 |
| Mandor | 0,0460 | oh | 107.000 | 4.922 |
| | | | | 18.297 |
| 1 M2 PASANGAN BATA MERAH (ADUKAN 1:4) | | | | |
| Bata merah | 65,0000 | buah | 350 | 22.750 |
| Pasir pasang | 0,0492 | m3 | 130.000 | 6.399 |
| Semen PC (50 kg/zak) | 0,2497 | zak | 40.000 | 9.988 |
| Tukang batu | 0,3001 | oh | 55.000 | 16.507 |
| Kepala tukang | 0,0300 | oh | 66.000 | 1.981 |
| Pekerja | 0,9004 | oh | 40.000 | 36.014 |
| Mandor | 0,0450 | oh | 63.500 | 2.859 |
| | | | | 96.497 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|--------|--------|--------------|----------------|
| 1 M3 PASANGAN BATU KALI (ADUKAN 1:2) | | | | |
| Batu kali | 1,2000 | m3 | 214.000 | 256.800 |
| Semen PC (50 kg/zak) | 4,2300 | zak | 40.000 | 169.200 |
| Pasir pasang | 0,9000 | m3 | 130.000 | 117.000 |
| Tukang batu | 1,2000 | oh | 55.000 | 66.000 |
| Kepala Tukang | 0,1200 | oh | 66.000 | 7.920 |
| Pekerja | 3,6000 | oh | 40.000 | 144.000 |
| Mandor | 0,1800 | oh | 63.500 | 11.430 |
| | | | | 772.350 |
| 1 M2 CAT DINIDNG LUAR | | | | |
| - Cat tembok Acrylic Emulsion | 0,175 | Kg | 128.400 | 22.470 |
| - Alkali/cat dasar | 0,090 | bt | 32.100 | 2.889 |
| - Roll cat | 0,010 | ball | 32.100 | 321 |
| - Ampelas | 0,500 | kg | 5.350 | 2.675 |
| - Pekerja | 0,110 | org | 66.875 | 7.356 |
| - Tukang cat | 0,130 | org | 81.320 | 10.572 |
| - Kepala Tukang | 0,020 | org | 96.300 | 1.926 |
| - Mandor | 0,010 | org | 107.000 | 1.070 |
| - Alat bantu (steger) | 1,000 | ls | 5.000 | 5.000 |
| | | | | 54.279 |
| 1 M2 CAT DINIDNG DALAM | | | | |
| - Cat tembok Delux | 0,175 | kg | 66.340 | 11.610 |
| - Alkali/cat dasar | 0,090 | kg | 32.100 | 2.889 |
| - Plamur/wall sealer | 0,016 | kg | 18.725 | 300 |
| - Roll cat | 0,010 | bh | 32.100 | 321 |
| - Ampelas | 0,500 | bh | 5.350 | 2.675 |
| - Pekerja | 0,110 | org | 66.875 | 7.356 |
| - Tukang cat | 0,130 | org | 81.320 | 10.572 |
| - Kepala Tukang | 0,020 | org | 96.300 | 1.926 |
| - Mandor | 0,010 | org | 107.000 | 1.070 |
| - Alat bantu (steger) | 1,000 | ls | 5.000 | 5.000 |
| | | | | 43.718 |
| 1 M2 PENGECATAN MENARA BAJA GALVANIS | | | | |
| Cat besi | 0,3000 | kg | 34.400 | 10.320 |
| Plamur | 0,1100 | kg | 9.400 | 1.034 |
| Kertas amplas | 0,0500 | lembar | 129.625 | 6.481 |
| Tukang | 0,1200 | oh | 81.320 | 9.758 |
| Kepala tukang | 0,0120 | oh | 96.300 | 1.156 |
| Pekerja | 0,1880 | oh | 66.875 | 12.573 |
| Mandor | 0,0094 | oh | 107.000 | 1.006 |
| | | | | 42.328 |
| 1 M3 URUGAN PASIR UNTUK PENANAMAN PONDASI | | | | |
| Pekerja | 0,3000 | oh | 66.875 | 20.063 |
| Mandor | 0,1000 | oh | 107.000 | 10.700 |
| Pasir urug | 1,2000 | oh | 254.514 | 305.417 |
| | | | | 336.180 |

PERHITUNGAN BIAYA PEKERJAAN PANCANG DI LAUT

A. Biaya Crawl Crane / Hari (Untuk Pengangkutan Tiang Pancang ke Titik Pancang)

| | | | | |
|-------------------|----------|-------|-----------|------------------|
| Operator | 1,0000 | OH | 107.000 | 107.000 |
| Pembantu operator | 2,0000 | OH | 80.250 | 160.500 |
| Oli | 5,0000 | liter | 52.400 | 262.000 |
| Solar | 250,0000 | liter | 5.614 | 1.403.573 |
| Grease | 2,0000 | kg | 2.140 | 4.280 |
| Crane | 1,0000 | hari | 1.890.000 | 1.890.000 |
| | | | | 3.827.353 |

B. Biaya Ponton Transport / Hari

| | | | | |
|-------------------|----------|-------|-----------|------------------|
| Operator | 1,0000 | oh | 107.000 | 107.000 |
| Pembantu operator | 2,0000 | oh | 80.250 | 160.500 |
| Pekerja | 10,0000 | oh | 66.875 | 668.750 |
| Oli | 5,0000 | liter | 52.400 | 262.000 |
| Solar | 200,0000 | liter | 5.614 | 1.122.858 |
| Grease | 2,0000 | kg | 2.140 | 4.280 |
| Ponton transport | 1,0000 | hari | 2.625.000 | 2.625.000 |
| | | | | 4.950.388 |

| | | | | |
|--|-----------|---|-------|-----|
| Kapasitas Pengangkutan Tiang Pancang / Hari (L1) | 10 batang | x | 12 m' | 120 |
|--|-----------|---|-------|-----|

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|----------|--------|--------------|------------------|
| Biaya transport tiang pancang per meter = (A + B) / L1 | | | | 73.148 |
| C. Biaya Pengoperasian Diesel Hammer | | | | |
| Operator | 1,0000 | oh | 107.000 | 107.000 |
| Pembantu operator | 2,0000 | oh | 80.250 | 160.500 |
| Pekerja | 3,0000 | oh | 66.875 | 200.625 |
| Oli | 4,0000 | liter | 52.400 | 209.600 |
| Solar | 200,0000 | liter | 5.614 | 1.122.858 |
| Grease | 2,0000 | kg | 2.140 | 4.280 |
| Sewa diesel hammer | 1,0000 | hari | 2.205.000 | 2.205.000 |
| | | | | 4.009.863 |
| D. Biaya Pemakaian Ponton Pancang | | | | |
| Operator | 1,0000 | oh | 107.000 | 107.000 |
| Pembantu operator | 2,0000 | oh | 80.250 | 160.500 |
| Tukang pancang | 10,0000 | oh | 81.320 | 813.200 |
| Oli | 4,0000 | liter | 52.400 | 209.600 |
| Solar | 100,0000 | liter | 5.614 | 561.429 |
| Grease | 2,0000 | kg | 2.140 | 4.280 |
| Ponton pancang | 1,0000 | hari | 5.250.000 | 5.250.000 |
| | | | | 7.106.009 |
| Kapasitas Pemancangan Tiang Tegak / Hari (L2) | 12 m' | x | 2,5 batang | 30 |
| Biaya pemancangan tiang tegak per meter = (C+D) / L2 + (A+B) / L1 | | | | 443.677 |
| 1 M' TANGGA PONDASI (BESI GALVANIS) | | | | |
| Plat baja | 5,0000 | kg | 10.500 | 52.500 |
| Sirtu | 0,7500 | m3 | 180.000 | 135.000 |
| Pekerja | 2,0000 | oh | 50.000 | 100.000 |
| Tukang Las | 1,0000 | oh | 65.000 | 65.000 |
| Kepala Tukang | 1,0000 | oh | 66.000 | 66.000 |
| Mandor | 0,5000 | oh | 55.000 | 27.500 |
| Mesin las listrik dan perlengkapan | 0,2000 | hari | 831.600 | 166.320 |
| | | | | 612.320 |
| 1 M2 PLESTERAN 1:4 TEBAL 1,5 CM | | | | |
| Semen PC (50 kg/zak) | 0,0170 | zak | 40.000 | 680 |
| Pasir pasang | 0,0210 | m3 | 130.000 | 2.730 |
| Tukang batu | 0,2000 | oh | 55.000 | 11.000 |
| Kepala Tukang | 0,0200 | oh | 66.000 | 1.320 |
| Pekerja | 0,4000 | oh | 40.000 | 16.000 |
| Mandor | 0,0200 | hari | 63.500 | 1.270 |
| | | | | 33.000 |
| 1 M2 PLESTERAN 1:2 TEBAL 1 CM | | | | |
| Semen PC (50 kg/zak) | 0,0200 | zak | 40.000 | 800 |
| Pasir pasang | 0,0114 | m3 | 130.000 | 1.482 |
| Tukang batu | 0,1500 | oh | 55.000 | 8.250 |
| Kepala Tukang | 0,0150 | oh | 66.000 | 990 |
| Pekerja | 0,4000 | oh | 40.000 | 16.000 |
| Mandor | 0,0200 | oh | 63.500 | 1.270 |
| | | | | 28.792 |
| 1 M2 SCREED LANTAI | | | | |
| - Pasir Beton | 0,068 | m3 | 254.514 | 17.307 |
| - Semen | 0,252 | Sak | 69.550 | 17.527 |
| - Pekerja | 0,234 | org | 66.875 | 15.649 |
| - Tukang batu | 0,125 | org | 81.320 | 10.165 |
| - Kepala Tukang | 0,085 | org | 96.300 | 8.186 |
| - Mandor | 0,035 | org | 107.000 | 3.745 |
| | | | | 72.578 |
| 1 M2 PAS KERAMIK 30X30 | | | | |
| - Keramik | 1,050 | m2 | 80.250 | 84.263 |
| - Semen PC | 0,152 | zak | 69.550 | 10.572 |
| - Pasir pasang | 0,027 | m3 | 254.514 | 6.872 |
| - Pekerja | 0,250 | org | 66.875 | 16.719 |
| - Tukang batu | 0,180 | org | 81.320 | 14.638 |
| - Kepala Tukang | 0,030 | org | 96.300 | 2.889 |
| - Mandor | 0,025 | org | 107.000 | 2.675 |
| | | | | 138.626 |
| 1 M2 WATERPROFFING | | | | |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|----------|--------|--------------|-------------------|
| - Water proofing membrane | 1,000 | m2 | 90.950 | 90.950 |
| Screed 1 Pc : 5 Ps, tebal 3 cm | | | | |
| - Pasir Beton | 0,06 | m3 | 254.514 | 15.271 |
| - Semen | 0,245 | Sak | 69.550 | 17.040 |
| - Pekerja | 0,225 | org | 66.875 | 15.047 |
| - Kepala Tukang | 0,085 | org | 96.300 | 8.186 |
| - Mandor | 0,03 | org | 107.000 | 3.210 |
| | | | | 149.703 |
| 1 M2 PAS DINDING FIBERLUM | | | | |
| - Fiberalum | 1,100 | m2 | 256.800 | 282.480 |
| - Mor /baut | 0,200 | bh | 21.400 | 4.280 |
| - Pekerja | 0,325 | org | 66.875 | 21.734 |
| - Tukang pasang | 0,250 | org | 81.320 | 20.330 |
| - Kepala Tukang | 0,030 | org | 96.300 | 2.889 |
| - Mandor | 0,020 | org | 107.000 | 2.140 |
| - Alat bantu | 1,000 | ls | 15.000 | 15.000 |
| | | | | 348.853 |
| 1 M2 PAS ATAP FIBERLUM | | | | |
| - Fiberalum | 1,100 | m2 | 256.800 | 282.480 |
| - Mor /baut | 0,200 | bh | 21.400 | 4.280 |
| - Pekerja | 0,325 | org | 66.875 | 21.734 |
| - Tukang pasang | 0,250 | org | 81.320 | 20.330 |
| - Kepala Tukang | 0,030 | org | 96.300 | 2.889 |
| - Mandor | 0,020 | org | 107.000 | 2.140 |
| - Alat bantu | 1,000 | ls | 5.000 | 5.000 |
| | | | | 338.853 |
| 1 M' NOK FIBERLUM | | | | |
| - Nok Fiberalum | 1,100 | m2 | 139.100 | 153.010 |
| - Mor /baut | 10,000 | bh | 21.400 | 214.000 |
| - Pekerja | 0,325 | org | 66.875 | 21.734 |
| - Tukang Atap | 0,250 | org | 81.320 | 20.330 |
| - Kepala Tukang | 0,015 | org | 96.300 | 1.445 |
| - Mandor | 0,010 | org | 107.000 | 1.070 |
| - Alat bantu | 1,000 | ls | 5.000 | 5.000 |
| | | | | 416.589 |
| 1M2 PLAFOND GYPSUMBOARD | | | | |
| - Gypsum | 1,100 | m2 | 149.800 | 164.780 |
| - Rangka metal hollow 30 m x 40 m | 0,890 | bt | 26.750 | 23.808 |
| - Kain kompon | 0,05 | ball | 8.560 | 428 |
| - Kompon | 0,500 | kg | 10.700 | 5.350 |
| - Pekerja | 0,250 | org | 66.875 | 16.719 |
| - Tukang gypsum | 0,350 | org | 81.320 | 28.462 |
| - Kepala Tukang | 0,050 | org | 96.300 | 4.815 |
| - Mandor | 0,030 | org | 107.000 | 3.210 |
| - Alat bantu | 1,000 | ls | 5.000 | 5.000 |
| | | | | 63.984 |
| 100 M' PAGAR LOKASI BRC - TINGGI 1,80 M | | | | |
| Galian tanah biasa | 16,0000 | m3 | 31.588 | 505.400 |
| Urugan pasir bawah pondasi | 5,0000 | m3 | 138.350 | 691.750 |
| Pondasi batu kali 1:2 | 12,0000 | m3 | 661.050 | 7.932.600 |
| Urugan tanah kembali | 2,0000 | m3 | 15.794 | 31.588 |
| Slof beton bertulang 15/20 | 3,0000 | m3 | 3.042.844 | 9.128.532 |
| Plesteran beton 1:2 | 55,0000 | m2 | 28.792 | 1.583.560 |
| Pagar BRC t=1,8 m + assesories | 100,0000 | m | 416.250 | 41.625.000 |
| | | | | 61.498.429 |
| 100 M' PEKERJAAN PEMBANGUNAN PAGAR TEMBOK TINGGI = 1,80 M | | | | |
| Galian tanah pondasi | 16,0000 | m3 | 84.191 | 1.347.056 |
| Urugan pasir bawah pondasi | 2,0000 | m3 | 138.350 | 276.700 |
| Pondasi batu kali 1:2 | 21,0000 | m3 | 661.050 | 13.882.050 |
| Urugan tanah kembali | 5,0000 | m3 | 15.794 | 78.969 |
| Slof beton bertulang 15/20 | 3,0000 | m3 | 3.042.844 | 9.128.532 |
| Slof beton bertulang 15/15 | 1,5000 | m3 | 3.042.844 | 4.564.266 |
| Ring balk beton bertulang 15/20 | 3,0000 | m3 | 3.042.844 | 9.128.532 |
| Dinding batu merah | 18,0000 | m3 | 876.813 | 15.782.625 |
| Plesteran beton 1:2 | 50,0000 | m3 | 28.792 | 1.439.600 |
| Plesteran tembok 1:4 | 380,0000 | m3 | 33.000 | 12.540.000 |
| Pengecatan tembok | 430,0000 | m3 | 24.646 | 10.597.780 |
| | | | | 78.766.109 |
| 1 M' PEMBUATAN PAGAR (HANDRAIL) BESI GALVANIS | | | | |
| Pipa galvanis 1,5" | ꝯ,0000 | m' | 55.000 | 165.000 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|---|------------|--------|--------------|--------------------|
| Kawat las / electrode | 1,0000 | kg | 23.400 | 23.400 |
| Pekerja | 0,5000 | oh | 40.000 | 20.000 |
| Tukang las | 0,2500 | oh | 55.000 | 13.750 |
| Kepala Tukang | 0,2500 | oh | 66.000 | 16.500 |
| Mandor | 0,1000 | oh | 63.500 | 6.350 |
| Mesin las listrik dan perlengkapan | 0,2000 | hari | 682.500 | 136.500 |
| | | | | 381.500 |
| 1 M' TOMBAK KELILING PENGAMANAN BORDER | | | | |
| Besi beton 18 mm | 7,5000 | m' | 23.250 | 174.375 |
| Kawat las / electrode | 0,7500 | kg | 23.400 | 17.550 |
| Pekerja | 0,3000 | oh | 40.000 | 12.000 |
| Tukang las | 0,1500 | oh | 55.000 | 8.250 |
| Mesin las listrik dan perlengkapan | 0,2000 | hari | 583.125 | 116.625 |
| | | | | 328.800 |
| 1 HARI BIAYA PENGOPERASIAN KAPAL | | | | |
| Solar | 2.700,0000 | liter | 4.300 | 11.610.000 |
| Oli | 55,0000 | liter | 32.550 | 1.790.250 |
| Gaji ABK | 13,0000 | oh | 45.000 | 585.000 |
| Gaji KKM | 1,0000 | oh | 85.000 | 85.000 |
| Gaji Nahkoda | 1,0000 | oh | 85.000 | 85.000 |
| Gaji Perwira | 7,0000 | oh | 85.000 | 595.000 |
| Premi awak kapal | 22,0000 | oh | 35.000 | 770.000 |
| Uang makan awak kapal | 22,0000 | oh | 22.500 | 495.000 |
| Air | 4,0000 | ton | 4.500 | 18.000 |
| Sewa kapal 500 DWT | 3,0000 | hari | 22.440.000 | 67.320.000 |
| | | | | 83.353.250 |
| 1 Paket Survei Awal & Penentuan Titik SBNP | | | | |
| Sewa Kapal 30GT | 5 | UH | 1.500.000 | 7.500.000 |
| Sewa Alat Survei (Totalstation, DGPS & Echosounder) | 5 | UH | 2.500.000 | 12.500.000 |
| Permakanan | 40 | OH | 50.290 | 2.011.600 |
| Gaji Nakhoda | 5 | OH | 169.060 | 845.300 |
| Gaji Perwira | 10 | OH | 149.800 | 1.498.000 |
| Gaji KKM | 5 | OH | 156.220 | 781.100 |
| Gaji ABK | 20 | OH | 112.350 | 2.247.000 |
| Premi Awak Kapal | 40 | OH | 81.320 | 3.252.800 |
| Honor Tenaga Surveyor | 25 | OH | 160.500 | 4.012.500 |
| Pembantu Surveyor | 25 | OH | 107.000 | 2.675.000 |
| Transportasi & Tenaga Lokal | 1 | LS | 2.000.000 | 2.000.000 |
| Processing & Ploting | 1 | LS | 2.500.000 | 2.500.000 |
| | | | | 41.823.300 |
| 1 Paket Mobilisasi & Demobilisasi | | | | |
| Sewa Kapal 150GT | 15 | UH | 15.000.000 | 225.000.000 |
| Sewa Tongkang 100FT | 60 | UH | 2.000.000 | 120.000.000 |
| Permakanan | 120 | OH | 50.290 | 6.034.800 |
| Gaji Nakhoda | 15 | OH | 169.060 | 2.535.900 |
| Gaji Perwira | 30 | OH | 149.800 | 4.494.000 |
| Gaji KKM | 15 | OH | 156.220 | 2.343.300 |
| Gaji ABK | 60 | OH | 112.350 | 6.741.000 |
| Premi Awak Kapal | 120 | OH | 81.320 | 9.758.400 |
| Bongkar Muat | 1 | LS | 15.000.000 | 15.000.000 |
| Permakanan | 270 | OH | 60.000 | 16.200.000 |
| Pemilahan dan Pengemasan | 1 | LS | 10.000.000 | 10.000.000 |
| | | | | 418.107.400 |
| 1 m2 Pembersihan Lahan Lokasi SBNP Darat | | | | |
| Mandor | 0,0200 | Orang | 107.000 | 2.140 |
| Pekerja | 0,0800 | Orang | 66.875 | 5.350 |
| Sewa Chain Saw | 0,0080 | LS | 100.000 | 800 |
| Alan Bantu (Sabit, Pengki Cangkul, dll) | 0,0400 | LS | 25.000 | 1.000 |
| | | | | 9.290 |
| 1M2 Pekerjaan Turap Sementara untuk Galian Pondasi | | | | |
| Mandor | 0,0100 | Orang | 107.000 | 1.070 |
| Tukang | 0,0400 | Orang | 81.320 | 3.253 |
| Pekerja | 0,2000 | Orang | 66.875 | 13.375 |
| Papan Kayu Kelas III | 0,0200 | m3 | 2.675.000 | 53.500 |
| Kaso Kayu Kelas III | 0,0150 | m3 | 2.140.000 | 32.100 |
| Paku | 0,2000 | kg | 18.714 | 3.743 |
| | | | | 107.041 |

ANALISA HARGA SATUAN PEKERJAAN

| URAIAN/KEGIATAN | VOLUME | SATUAN | HARGA SATUAN | JUMLAH |
|--|---------------|---------------|---------------------|------------------|
| 1 m' Pendirian Menara Modular Pipe Beacon di Darat | | | | |
| Estimasi Pekerjaan Pendirian Menara Modular Pipe Beacon 10m' di Darat | | | | |
| Mandor | 10 | OH | 107.000 | 1.070.000 |
| Kepala Tukang | 10 | OH | 96.300 | 963.000 |
| Pekerja | 60 | OH | 66.875 | 4.012.500 |
| Ahli Ukur Teodolite | 10 | OH | 100.000 | 1.000.000 |
| Pembantu Ahli Ukur Teodolite | 20 | OH | 50.000 | 1.000.000 |
| Sewa Alat Ukur Teodolite | 10 | UH | 150.000 | 1.500.000 |
| | | | | 9.545.500 |
| 1 m' Pendirian Menara Modular Pipe Beacon di Darat | | | | 954.550 |

| NO | URAIAN BAHAN | SATUAN |
|----|--------------|--------|
|----|--------------|--------|

HARGA SATUAN PERALATAN SBNP

| | |
|--|------|
| Sistem Lampu Suar 24NM (Revolving / Rotating Lantern) | unit |
| Sistem Lampu Suar 20NM (Revolving / Rotating Lantern) | unit |
| Sistem Lampu Suar 18NM (Flashing Lantern) | unit |
| Sistem Lampu Suar 12NM (Flashing Lantern) | unit |
| Sistem Lampu Suar 6NM (Flashing Lantern) | unit |
| | |
| Sistem Lampu Suar 20NM (LED Lantern) | unit |
| Sistem Lampu Suar 18NM (LED Lantern) | unit |
| Sistem Lampu Suar 12NM (LED Lantern) | unit |
| Sistem Lampu Suar 6NM (LED Lantern) | unit |
| Sistem Lampu Suar 5NM (Self Contained LED Lantern) | unit |
| Sistem Lampu Suar 4NM (Self Contained LED Lantern) | unit |
| Sistem Lampu Suar 3NM (Self Contained LED Lantern) | unit |
| | |
| Aluminium Lantern House | unit |
| Galvanized Lantern House | unit |
| GRP Lantern House | unit |
| | |
| Solar Module (Marine Grade) 80W | set |
| Solar Module (Marine Grade) 40W | set |
| Solar Module (Marine Grade) 20W | set |
| | |
| VRLA Sealed Lead Acid GEL Battery 60AH | |
| VRLA Sealed Lead Acid GEL Battery 100AH | |
| VRLA Sealed Lead Acid GEL Battery 200AH | |
| | |
| VRLA Absorbent Glass Mate (AGM) Battery 60AH | |
| VRLA Absorbent Glass Mate (AGM) Battery 100AH | |
| VRLA Absorbent Glass Mate (AGM) Battery 200AH | |
| | |
| Lantern Mast With Secured Battery Box (Small) | |
| Lantern Mast With Secured Battery Box (Medium) | |
| Lantern Mast With Secured Battery Box (Large) | |
| Lantern Mast With Secured Battery Box (Extended) | |
| | |
| Pabrikasi Modular Pipe Beacon 7,5M | |
| Pabrikasi Modular Pipe Beacon 10M | |
| Pabrikasi Modular Pipe Beacon 15M | |
| | |
| Lighthouse Power Supply & AtoN Controller Panel (Standard) | |
| Lighthouse Power Supply & AtoN Controller Panel (with Remote Monitoring Controller) | |
| Light Beacon Power Supply & AtoN Controller Panel (Standard) | |
| Light Beacon Power Supply & AtoN Controller Panel (with Remote Monitoring Controller) | |
| | |
| Lightning Protection Tower 40M | |
| Lightning Protection Tower 30M | |
| Lightning Protection Tower 20M | |
| Lightning Protection Tower 15M | |

Lightning Protection Tower 10M
Lightning Protection Tower 7.5M
Surge Arrester Module

Tetrahedral Aluminium Radar Reflector
Flourescent Colored Aluminium Daymark
Flourescent Colored Aluminium Top Mark

Radar Beacon
Satellite AtoN Communication Device
VHF AtoN Communication Device
Cellular AtoN Communication Device
AIS Communication Device

AtoN Diesel Generator 10 KVA

HARGA SATUAN PEKERJAAN SIPIL

| | |
|---|--------|
| AC Marine Use (Anti Corrosive M U) | kg |
| AF Marine Use (Anti Fouling M.U) | liter |
| Additive | liter |
| Amplas | lembar |
| Angkur baur 16 mm | buah |
| Air | ton |
| Aluminium anoda | kg |
| Angkur diameter 25mm | buah |
| Aspal AC 60-70 | Kg |
| Bahan Packing | m3 |
| Baja Profil / Plat | Kg |
| Besi BRC M6 | m2 |
| Bata merah | buah |
| Batu gunung | m3 |
| Batu kali | m3 |
| Batu pecah 1/2 | m3 |
| Batu pecah 2/3 | m3 |
| Beton K.225 | m3 |
| Baut/mur | buah |
| Baut seng | buah |
| Besi beton polos U24 | Kg |
| Besi beton ulir U24 & U39 | Kg |
| Besi plat | Kg |
| Besi Siku penahan tulangan (pengelasan dlm air) | set |
| CNP 150x65x20x2.3 | Kg |
| Cetakan beton | m3 |
| Concrete Admixture | liter |
| Cat besi | Kg |
| Cat anti karat | Kg |
| Cat dinding dalam | Kg |
| Cat weathershielt /Dinding Luar | Kg |
| Cat Alkali | Kg |
| Elektroda las | kg |
| Fiber Aluminium | m2 |

| | |
|--------------------------------------|----------------|
| Gypsumboard | lembar |
| Geotextile/filter cloth | m ² |
| Grease Alat Berat | Kg |
| Hollow 40 x 40 | btg |
| Ijuk | Kg |
| Jendela BV1 | Unit |
| Jendela J1 | Unit |
| Kayu Kelas I | m ³ |
| Kayu Kelas II | m ³ |
| Kayu Kelas III | m ³ |
| Kerikil beton | m ³ |
| Keramik 30x30 | dos |
| Karbit | Kg |
| Kawat Baja / Bindraad | Kg |
| Kawat duri (40 m') | kg |
| Kawat Las/Electrode | Kg |
| Kawat beton | kg |
| Kayu Bakar | m ³ |
| Kertas Amplas | lembar |
| Kompon | kg |
| Kain Kompon | Roll |
| Main hole besi | Unit |
| Minyak Cat | liter |
| Multiplex 18mm | lembar |
| mur baut | Kg |
| Nok fiber alumunium | m' |
| Oli Alat Berat | liter |
| Oxygen | tabung |
| Pagar BRC t=1,8 m + aksesoris | m |
| Pintu P1 (termasuk Hardware) | Unit |
| Pintu P2 (termasuk Hardware) | Unit |
| Pintu PB2 (termasuk Hardware) | Unit |
| Paku | Kg |
| Papan kayu klas I (Kamper Samarinda) | m ³ |
| Papan kayu klas II (Kamper Singkil) | m ³ |
| Papan kayu klas III (Meranti) | m ³ |
| Pasir aspal/abu batu/screening | m ³ |
| Pasir beton | m ³ |
| Pasir pasang | m ³ |
| Pasir urug | m ³ |
| Pipa galvanis 2" | m' |
| Pipa galvanis 1.5" | m' |
| Pipa Stainless 2' | m' |
| Pipa Stainless 1" | m' |
| Plamur | Kg |
| Plat Baja | Kg |
| Plat sambung (plat strip) 8 cm' | m' |
| Plywood 6mm | lembar |
| Rantai penahan | buah |
| Roll cat | bh |
| Ring untuk sepatu tiang pancang | set |
| Semen Grouting | Kg |

| | |
|---------------------------|--------|
| Semen PC (50kg/sack) | sack |
| Seng BWG 28 | lembar |
| Serat PolyProphyene | Kg |
| Sirtu | m3 |
| Solar | liter |
| Tiang Pancang Baja ø400MM | M' |
| Tanah Urug | m3 |
| Terpal untuk blokir air | set |
| Triplek 3 mm | lembar |
| Tegel 30 x 30 cm | doz |
| Waterprofing | m2 |

HARGA SATUAN UPAH

| | |
|----------------------------|----|
| Kepala Tukang | oh |
| Tukang kayu | oh |
| Tukang besi | oh |
| Tukang pancang | oh |
| Pekerja | oh |
| Mandor | oh |
| Operator Alat | oh |
| Pembantu Operator | oh |
| Mekanik | oh |
| Tukang las | oh |
| Gaji ABK | oh |
| Gaji KKM | oh |
| Gaji Nahkoda | oh |
| Gaji Perwira | oh |
| Premi awak kapal | oh |
| Uang makan awak kapal | oh |
| Honor Tenaga Ahli Surveyor | oh |
| Pembantu Surveyor | oh |
| Tes Tanah | oh |
| Tes PDA | oh |

HARGA SATUAN ALAT

| | |
|-------------------------------------|------|
| Concrete Mixer | jam |
| Concrete Thriller | jam |
| Sewa Compressor | jam |
| Alat bantu pembesian, bekisting | ls |
| Alat bantu cor beton | ls |
| Alat bantu pemotongan tiang pancang | ls |
| Alat bantu penutup tiang pancang | ls |
| Alat bantu sepatu tiang pancang | ls |
| Alat bantu pengecatan tiang pancang | ls |
| Alat bantu pemasangan geotextile | ls |
| Kamera | hari |
| Alat bantu pengaspalan per 100 m2 | ls |
| Pompa air | hari |
| Dump Truck | hari |

| | |
|----------------------------------|------|
| Mesin gilas | hari |
| Loader | hari |
| Sewa Diesel Hammer | hari |
| Sewa Crawl Crane | hari |
| Alat semboyan | unit |
| Mesin gerinda tangan | hari |
| Crane | hari |
| Ponton Transport | hari |
| Mesin las karbit | hari |
| Sewa diesel hammer | hari |
| Panel Control | unit |
| Sewa Ponton Pancang | hari |
| Sewa boat | hari |
| Mesin Las Listrik & Perlengkapan | hari |
| Sewa kapal 500 DWT | hari |
| Forklift | hari |
| Ponton Transport | hari |
| Motor Johnson 40 PK | hari |
| Alat bantu galian tanah | buah |

HARGA SATUAN PEKERJAAN PEMBANGUNAN SBNP

| | |
|---|----|
| Survey awal, penentuan peil dan serah terima laporan | LS |
| Mobilisasi & demobilisasi Menara Suar 40M Darat | LS |
| Mobilisasi & demobilisasi Rambu Suar 30M Darat | LS |
| Mobilisasi & demobilisasi Rambu Suar 20M Darat | LS |
| Mobilisasi & demobilisasi Rambu Suar 15M Darat | LS |
| Mobilisasi & demobilisasi Rambu Suar 10M Darat | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 15M Darat | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 10M Darat | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 7,5M Darat | LS |
| Mobilisasi & demobilisasi Rambu Suar 15M Laut | LS |
| Mobilisasi & demobilisasi Rambu Suar 10M Laut | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 15M Laut | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 10M Laut | LS |
| Mobilisasi & demobilisasi Pekerjaan Modular Pipe Beacon 7,5M Laut | LS |
| Pembersihan lokasi | LS |
| Direksikit & Gudang Pembangunan SBNP Darat | m2 |
| Turap sementara Pembangunan Menara Suar 40M Darat | LS |
| Turap sementara Pembangunan Rambu Suar 30M Darat | |
| Turap sementara Pembangunan Rambu Suar 20M Darat | |
| Turap sementara Pembangunan Rambu Suar 15M Darat | |
| Turap sementara Pembangunan Rambu Suar 10M Darat | |
| Turap sementara Pembangunan Pembangunan Modular Pipe Beacon 15M Darat | |
| Turap sementara Pembangunan Rambu Suar 10M Darat | |
| Turap sementara Pekerjaan Pondasi Pembangunan SBNP | |
| Lantai kerja mortar beton | m3 |
| Pendirian Konstruksi Lattice Tower pada Menara Suar 40M Darat | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 30M Darat | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 20M Darat | |

| | |
|---|-------|
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 15M Darat | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 10M Darat | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 15M Laut | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 10M Laut | |
| Pendirian Konstruksi Lattice Tower pada Rambu Suar 7,5M Laut | |
| Pendirian Konstruksi Modular Pipe Beacon 15M di Darat | |
| Pendirian Konstruksi Modular Pipe Beacon 10M di Darat | |
| Pendirian Konstruksi Modular Pipe Beacon 7,5M di Darat | |
| Pendirian Konstruksi Modular Pipe Beacon 15M di Laut | |
| Pendirian Konstruksi Modular Pipe Beacon 10M di Laut | |
| Pendirian Konstruksi Modular Pipe Beacon 7,5M di Laut | |
| Perancah & Alat Bantu Pekerjaan Tower 40M di Darat | Paket |
| Perancah & Alat Bantu Pekerjaan Tower 30M di Darat | Paket |
| Perancah & Alat Bantu Pekerjaan Tower 20M di Darat | Paket |
| Perancah & Alat Bantu Pekerjaan Tower 15M di Darat | Paket |
| Perancah & Alat Bantu Pekerjaan Tower 10M di Darat | Paket |
| Perancah & Alat Bantu Pekerjaan Pendirian Tower Modular Pipe Beacon 15M di | Paket |
| Perancah & Alat Bantu Pekerjaan Pendirian Tower Modular Pipe Beacon 10M di | Paket |
| Perancah & Alat Bantu Pekerjaan Pendirian Tower Modular Pipe Beacon 7,5M di | Paket |
| Pengecatan Menara Baja Galvanis 40M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Menara Baja Galvanis 30M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Menara Baja Galvanis 20M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Menara Baja Galvanis 15M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Menara Baja Galvanis 10M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Modular Pipe Beacon 15M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Modular Pipe Beacon 10M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Pengecatan Modular Pipe Beacon 7.5M (1x Base Coat & 2x Colored Prime Coat) | Paket |
| Konstruksi Menara Baja Galvanis Sistem Angkur | Kg |
| Biaya Pemancangan Tiang Pancang Laut | M' |
| Sambungan Tiang Pancang | buah |
| Sambungan Pengaku | buah |
| Coating Tiang Pancang & Pengaku | m2 |
| Beton bertulang pengisi tiang pancang | m3 |
| Poer beton bertulang | m3 |
| Balok pengaku | m3 |
| Mortar lining dan cetakan | m3 |
| Tombak pengaman keliling anjungan | m' |
| Tangga anjungan besi galvanis | m' |
| Pagar anjungan baja galvanis | m' |
| Pintu anjungan baja galvanis | m' |
| Konstruksi menara baja galvanis 40 m dan sistem angkur | kg |
| Baut dan mur galvanis | LS |
| Pendirian konstruksi menara | LS |
| Pengecatan menara | LS |
| Rumah PMS & TMS (T.50) | unit |

| | |
|--|-------|
| Rumah diesel (T.60) | unit |
| Pondasi diesel generator | unit |
| Gudang Material | unit |
| Diesel generator 10 KVA | unit |
| Pagar lokasi (Tembok 1 m + BRC 1 m) | m' |
| Jalan lokasi | m' |
| Pintu gerbang | unit |
| Bak Penampung air | unit |
| Pesawat SSB 100 watt dan sistem antena | paket |
| Perlengkapan / inventaris rumah jaga | paket |
| Pembuatan Sumur Arthesis | paket |
| Pompa Air dan Perpipa | paket |
| Peralatan Kerja Operasional & Pemeliharaan Menara Suar | paket |
| Alat Keselamatan Kerja Menara Suar | paket |

SUAR 15 M DI LAUT - KONSTRUKSI BAJA GALVANIS

| | |
|---|-------|
| Site survey dan penentuan lokasi | LS |
| Mobilisasi dan demobilisasi | LS |
| Penandaan titik konstruksi | LS |
| Direksi Keet dan Bangsal terapung | unit |
| Tiang pancang baja, dia. 40 cm | m' |
| Pengaku / branching pipa baja, dia. 20 cm | m' |
| Mortar lining dan cetakan | m3 |
| Pintu anjungan baja Galvanis | m' |
| Konstruksi menara baja Galvanis 15 m & sistem angkur | kg |
| Baut dan mur galvanis | LS |
| Pendirian konstruksi menara | LS |
| Pengecatan menara | LS |
| Perancah dan alat bantu | LS |
| Sistem lampu suar Flashing 12 NM | unit |
| Sistem proteksi petir | paket |
| Sistem tenaga surya | paket |
| Tanda siang | unit |
| Tanda puncak | unit |
| Pengadaan dan pemasangan menara GRP 10 m dan kelengkapannya | paket |
| Sewa kapal | hari |
| Sewa perahu motor | hari |
| Muat di pelabuhan | LS |
| Bongkar di lokasi | LS |
| Site survey dan penentuan lokasi | LS |
| Pengaku pipa baja, dia 40 cm | buah |
| Perancah cetakan beton bertulang lantai anjungan | LS |
| Cetakan beton untuk selimut beton | LS |
| Pemasangan menara GRP 10 m dan kelengkapannya | paket |
| Pemasangan lampu suar dan kelengkapannya | paket |
| Radar reflector jenis trihedral (aluminium) | set |
| Pemasangan di site | LS |
| Pemancangan pondasi | m' |
| Sambungan tiang pancang | buah |

| | |
|---------------------------------------|----------------|
| Sambungan pengaku | buah |
| Coating tiang pancang dan pengaku | m ² |
| Aluminium anoda | kg |
| Beton bertulang pengisi tiang pancang | m ³ |
| Poer beton bertulang | m ³ |
| Balok pengaku | m ³ |
| Beton bertulang lantai anjungan | m ³ |
| Landasan kaki menara | m ³ |
| Mortar lining dan cetakan | m ³ |
| Tembok pengaman keliling anjungan | m' |
| Tangga anjungan besi galvanis | m' |
| Pagar anjungan baja galvanis | m' |
| Pintu anjungan baja galvanis | m' |

SUAR 10 M DI LAUT - KONSTRUKSI BAJA GALVANIS

| | |
|--|----------------|
| Site survey dan penentuan lokasi | LS |
| Mobilisasi dan demobilisasi | LS |
| Penandaan titik konstruksi | LS |
| Direksi Keet dan Bangsal terapung | unit |
| Tiang pancang baja, dia. 40 cm | m' |
| Pengaku / branching pipa baja, dia. 20 cm | m' |
| Mortar lining dan cetakan | m ³ |
| Pintu anjungan baja Galvanis | m' |
| Konstruksi menara baja Galvanis 10 m & sistem angkur | kg |
| Baut dan mur galvanis | LS |
| Pendirian konstruksi menara | LS |
| Pengecatan menara | LS |
| Perancah dan alat bantu | LS |
| Sistem lampu suar Flashing 12 NM | unit |
| Sistem proteksi petir | paket |
| Sistem tenaga surya | paket |
| Tanda siang | unit |
| Tanda puncak | unit |
| Pemancangan pondasi | m' |
| Sambungan tiang pancang | buah |
| Sambungan pengaku | buah |
| Coating tiang pancang dan pengaku | m ² |
| Aluminium anoda | kg |
| Beton bertulang pengisi tiang pancang | m ³ |
| Poer beton bertulang | m ³ |
| Balok pengaku | m ³ |
| Beton bertulang lantai anjungan | m ³ |
| Landasan kaki menara | m ³ |
| Mortar lining dan cetakan | m ³ |
| Tembok pengaman keliling anjungan | m' |
| Tangga anjungan besi galvanis | m' |
| Pagar anjungan baja galvanis | m' |
| Pintu anjungan baja galvanis | m' |

SUAR 7,5 DI DARAT - KONSTRUKSI MODULAR PIPE BEACON

| | |
|---|-------|
| Site survey dan penentuan lokasi | LS |
| Mobilisasi dan demobilisasi | LS |
| Penandaan titik konstruksi | LS |
| Direksi Keet dan Bangsal Kerja | unit |
| Tiang pancang baja, dia. 40 cm | m' |
| Pengaku / branching pipa baja, dia. 20 cm | m' |
| Mortar lining dan cetakan | m3 |
| Pintu anjungan baja Galvanis | m' |
| Konstruksi menara baja Galvanis 7,5 m & sistem angkur | kg |
| Baut dan mur galvanis | LS |
| Pendirian konstruksi menara | LS |
| Pengecatan menara | LS |
| Perancah dan alat bantu | LS |
| Sistem lampu suar Flashing 12 NM | unit |
| Sistem proteksi petir | paket |
| Sistem tenaga surya | paket |
| Tanda siang | unit |
| Tanda puncak | unit |
| Fabrikasi menara pipa dia. 400 mm, tbl. 12 mm, tgg. 6 m | paket |
| Fabrikasi lantai bordes dia. 160 cm & lamp stand | LS |
| Pemasangan di site | LS |
| Sistem lampu suar tenaga solar baterai (8 NM) | set |
| Radar reflector jenis trihedral (aluminium) | set |
| Pembuatan dan pemasangan tanda puncak | set |
| Pembersihan lokasi | ls |
| Pemasangan bowplank | m' |
| Turap sementara | LS |
| Lantai kerja mortar beton | m3 |
| Pondasi beton bertulang | m3 |
| Perataan tanah | m2 |
| Pengecatan menara | ls |
| Pengecatan menara | ls |

SUAR 7,5 DI LAUT - KONSTRUKSI MODULAR PIPE BEACON PONDASI PANCANG 3 TIANG

| | |
|---|-------|
| Site survey dan penentuan lokasi | LS |
| Mobilisasi dan demobilisasi | LS |
| Penandaan titik konstruksi | LS |
| Direksi Keet dan Bangsal Terapung | unit |
| Tiang pancang baja, dia. 40 cm | m' |
| Pengaku / branching pipa baja, dia. 20 cm | m' |
| Mortar lining dan cetakan | m3 |
| Pintu anjungan baja Galvanis | m' |
| Konstruksi menara baja Galvanis single pipe 7,5 m (lengkap) | paket |
| Pendirian konstruksi menara | LS |
| Pengecatan menara | LS |
| Perancah dan alat bantu | LS |

| | |
|---|----------------|
| Sistem lampu suar Flashing 12 NM | unit |
| Sistem proteksi petir | paket |
| Sistem tenaga surya | paket |
| Tanda siang | unit |
| Tanda puncak | unit |
| Sambungan tiang pancang | buah |
| Pengaku / branching pipa baja dia.20 cm | m' |
| Sambungan pengaku | buah |
| Coating tiang pancang dan pengaku | m ² |
| Aluminium anoda | kg |
| Beton bertulang pengisi tiang pancang | m ³ |
| Poer beton bertulang | m ³ |
| Balok pengaku | m ³ |
| Beton bertulang lantai anjungan | m ³ |
| Landasan kaki menara | m ³ |
| Mortar lining dan cetakan | m ³ |
| Tembok pengaman dan keliling anjungan | m' |
| Tangga anjungan besi galvanis | m' |
| Pagar anjungan baja galvanis | m' |
| Pintu anjungan baja galvanis | m' |
| Pemancangan pondasi | m' |
| Sambungan pipa beacon | buah |

PIPE BEACONS TYPE 400 (7,5 M) DI LAUT

| | |
|---|-------|
| Site survey dan penentuan posisi | LS |
| Pembuatan menara pipa dia. 400 mm, tgl 12 mm, tgg 6 m | m' |
| Fabrikasi lantai bordes dia. 160 cm & lamp stand | paket |
| Pemasangan disite | LS |
| Pengecatan menara | LS |
| Sistem lampu suar Flashing 12 NM | set |
| Radar reflector jenis trihedral (aluminium) | set |
| Sistem proteksi petir | set |
| Sistem penangkal petir | set |
| Panel Tanda siang | set |
| Pembuatan dan pemasangan tanda puncak | set |

ALAT MENARA 1 SET MENSU

| | |
|------------------------------|---------|
| Piring makan kaca dia. 9" | 5 Lsn |
| Gelas kaca sedang | 5 Lsn |
| Ceret aluminium isi 2 Ltr | 10 buah |
| Sendok makan stainless steel | 5 Lsn |
| Garpu stainless steel | 5 Lsn |
| Pisau dapur cap garpu | 5 Lsn |
| Penggorengan besi sedang | 5 Lsn |
| Soder penggorengan | 5 Lsn |
| Panci sayur aluminium | 5 Lsn |
| Tempat sayur aluminium | 5 Lsn |
| Panci masak aluminium | 5 Lsn |
| Periuk nasi uk. 2 kg beras | 5 Lsn |

| | |
|---|---------|
| Tempat tidur kayu no. 2 lengkap (kasur dll) | 5 Set |
| Jam dinding | 2 Buah |
| Meja/kursi tamu dari kayu/jok | 5 Set |
| Meja/kursi makan/kayu | 5 Stel |
| Meja 1/2 biro kayu + kursi | 1 Stel |
| Lemari makan kayu | 5 Buah |
| Lemari pakaian kayu | 5 Buah |
| Rak piring aluminium | 5 Buah |
| Kompor masak 15 sumbu | 5 Buah |
| Lemari buku arsip (kayu) | 1 Buah |
| Parang (golok) | 5 Buah |
| TV warna 20" + Antena/boster | 1 Buah |
| Gayung air | 10 Buah |
| Cangkul | 5 Buah |
| Sekop | 5 Buah |
| Jerigen 20 liter | 15 Buah |
| Ember air 10 liter | 10 buah |
| Seterika listrik 110 V/220 V | 2 Buah |
| Linggis | 5 Buah |
| Radio 2 band | 5 Buah |

SINGLE PIPE BEACON

| | |
|---|----------------|
| Tiang pancang baja dia.40 cm | m' |
| Pemancangan pondasi | m' |
| Sambungan tiang pancang | buah |
| Sambungan pipe beacon | buah |
| Coating tiang pancang dan pengaku | m ² |
| Aluminium anoda | kg |
| Beton bertulang pengisi tiang pancang | m ³ |
| Mortar lining dan cetakan | m ³ |
| Konstruksi menara baja galvanis single pipe 7,5 m (lengkap) | paket |
| Pendirian konstruksi menara | ls |
| Pengecatan menara | ls |
| Perancah dan alat bantu | ls |
| Sistem lampu suar rotating 12 NM | unit |
| Sistem proteksi petir | paket |
| Sistem tenaga surya | paket |
| Tanda siang | unit |
| Tanda puncak | unit |

| Estimasi Harga 2012 | |
|---------------------|-------------|
| 354.750.000 | 330.000.000 |
| 295.625.000 | 275.000.000 |
| 141.900.000 | 132.000.000 |
| 69.879.838 | 65.004.500 |
| 32.518.750 | 30.250.000 |
| 0 | |
| 177.375.000 | 165.000.000 |
| 159.637.500 | 148.500.000 |
| 78.045.000 | 72.600.000 |
| 69.767.500 | 64.900.000 |
| 59.125.000 | 55.000.000 |
| 42.570.000 | 39.600.000 |
| 28.380.000 | 26.400.000 |
| 0 | |
| 59.125.000 | 55.000.000 |
| 47.300.000 | 44.000.000 |
| 41.387.500 | 38.500.000 |
| 0 | |
| 11.825.000 | 11.000.000 |
| 9.460.000 | 8.800.000 |
| 7.095.000 | 6.600.000 |
| 0 | |
| 2.956.250 | 2.750.000 |
| 3.547.500 | 3.300.000 |
| 5.321.250 | 4.950.000 |
| 0 | |
| 4.138.750 | 3.850.000 |
| 5.321.250 | 4.950.000 |
| 8.868.750 | 8.250.000 |
| 0 | |
| 5.912.500 | 5.500.000 |
| 9.460.000 | 8.800.000 |
| 14.190.000 | 13.200.000 |
| 23.650.000 | 22.000.000 |
| 0 | |
| 88.687.500 | 82.500.000 |
| 106.425.000 | 99.000.000 |
| 147.812.500 | 137.500.000 |
| 0 | |
| 59.125.000 | 55.000.000 |
| 88.687.500 | 82.500.000 |
| 29.562.500 | 27.500.000 |
| 59.125.000 | 55.000.000 |
| 0 | |
| 11.825.000 | 11.000.000 |
| 10.642.500 | 9.900.000 |
| 9.460.000 | 8.800.000 |
| 8.868.750 | 8.250.000 |

| | |
|-----------|-----------|
| 7.095.000 | 6.600.000 |
| 5.912.500 | 5.500.000 |
| 2.956.250 | 2.750.000 |
| 0 | |
| 1.773.750 | 1.650.000 |
| 8.868.750 | 8.250.000 |
| 5.912.500 | 5.500.000 |

| | |
|-------------|------------|
| 105.930.000 | 99.000.000 |
|-------------|------------|

| | |
|-----------|-----------|
| 212.566 | 198.660 |
| 141.946 | 132.660 |
| 77.682 | 72.600 |
| 5.350 | 5.000 |
| 6.955 | 6.500 |
| 29.194 | 27.284 |
| 147.125 | 137.500 |
| 0 | 0 |
| 0 | 0 |
| 0 | 0 |
| 0 | 0 |
| 163.175 | 152.500 |
| 482 | 450 |
| 203.300 | 190.000 |
| 214.000 | 200.000 |
| 267.500 | 250.000 |
| 240.750 | 225.000 |
| 1.464.905 | 1.369.071 |
| 0 | 0 |
| 0 | 0 |
| 17.655 | 16.500 |
| 19.795 | 18.500 |
| 13.375 | 12.500 |
| 0 | 0 |
| 13.375 | 12.500 |
| 207.354 | 193.789 |
| 29.519 | 27.588 |
| 0 | 0 |
| 0 | 0 |
| 66.340 | 62.000 |
| 128.400 | 120.000 |
| 32.100 | 30.000 |
| 0 | 0 |
| 256.800 | 240.000 |

| | |
|------------|------------|
| 149.800 | 140.000 |
| 0 | 0 |
| 2.140 | 2.000 |
| 26.750 | 25.000 |
| 0 | 0 |
| 1.712.000 | 1.600.000 |
| 2.996.000 | 2.800.000 |
| 4.815.000 | 4.500.000 |
| 4.012.500 | 3.750.000 |
| 2.140.000 | 2.000.000 |
| 336.857 | 314.820 |
| 80.250 | 75.000 |
| 0 | 0 |
| 19.260 | 18.000 |
| 0 | 0 |
| 40.125 | 37.500 |
| 21.210 | 19.822 |
| 0 | 0 |
| 0 | 0 |
| 10.700 | 10.000 |
| 8.560 | 8.000 |
| 2.996.000 | 2.800.000 |
| 0 | 0 |
| 0 | 0 |
| 21.400 | 20.000 |
| 139.100 | 130.000 |
| 52.400 | 48.972 |
| 0 | 0 |
| 0 | 0 |
| 19.260.000 | 18.000.000 |
| 9.630.000 | 9.000.000 |
| 8.988.000 | 8.400.000 |
| 18.714 | 17.490 |
| 0 | 0 |
| 78 | 73 |
| 2.675.000 | 2.500.000 |
| 0 | 0 |
| 254.514 | 237.864 |
| 0 | 0 |
| 0 | 0 |
| 80.250 | 75.000 |
| 69.550 | 65.000 |
| 147.033 | 137.414 |
| 135.263 | 126.414 |
| 18.725 | 17.500 |
| 0 | 0 |
| 22.470 | 21.000 |
| 88.275 | 82.500 |
| 0 | 0 |
| 32.100 | 30.000 |
| 0 | 0 |
| 8.560 | 8.000 |

| | |
|---------|---------|
| 69.550 | 65.000 |
| 71.114 | 66.462 |
| 0 | 0 |
| 0 | 0 |
| 5.614 | 5.247 |
| 147.125 | 137.500 |
| 0 | 0 |
| 0 | 0 |
| 74.857 | 69.960 |
| 65.500 | 61.215 |
| 90.950 | 85.000 |

| | |
|------------|------------|
| 96.300 | 90.000 |
| 81.320 | 76.000 |
| 81.320 | 76.000 |
| 81.320 | 76.000 |
| 66.875 | 62.500 |
| 107.000 | 100.000 |
| 107.000 | 100.000 |
| 80.250 | 75.000 |
| 85.600 | 80.000 |
| 81.320 | 76.000 |
| 112.350 | 105.000 |
| 156.220 | 146.000 |
| 169.060 | 158.000 |
| 149.800 | 140.000 |
| 81.320 | 76.000 |
| 50.290 | 47.000 |
| 160.500 | 150.000 |
| 107.000 | 100.000 |
| 2.675.000 | 2.500.000 |
| 16.050.000 | 15.000.000 |

| | |
|--------|--------|
| 52.500 | 50.000 |
| 47.250 | 45.000 |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
| 0 | |
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0
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 2.205.000
 1.890.000
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 1.890.000
 2.625.000
 0
 0
 0
 5.250.000
 0
 682.500
 15.364.965
 0
 0
 0
 0

| | |
|-------------|-------------|
| 55.702.231 | 52.058.160 |
| 486.371.710 | 454.553.000 |
| 243.185.855 | 227.276.500 |
| 182.389.391 | 170.457.375 |
| 145.911.513 | 136.365.900 |
| 121.592.928 | 113.638.250 |
| 121.592.928 | 113.638.250 |
| 97.274.342 | 90.910.600 |
| 72.955.757 | 68.182.950 |
| 175.093.816 | 163.639.080 |
| 145.911.513 | 136.365.900 |
| 140.075.052 | 130.911.264 |
| 116.729.210 | 109.092.720 |
| 87.546.908 | 81.819.540 |
| 8.855 | 8.276 |
| 176.550 | 165.000 |
| 72.736 | 67.978 |
| 317.790 | 297.000 |
| 29.425.000 | 27.500.000 |
| 23.540.000 | 22.000.000 |
| 17.655.000 | 16.500.000 |

| | |
|-------------|-------------|
| 14.712.500 | 13.750.000 |
| 11.770.000 | 11.000.000 |
| 17.655.000 | 16.500.000 |
| 14.712.500 | 13.750.000 |
| 11.770.000 | 11.000.000 |
| 10.593.000 | 9.900.000 |
| 8.827.500 | 8.250.000 |
| 7.062.000 | 6.600.000 |
| 14.124.000 | 13.200.000 |
| 11.770.000 | 11.000.000 |
| 9.416.000 | 8.800.000 |
| 17.655.000 | 16.500.000 |
| 14.124.000 | 13.200.000 |
| 10.593.000 | 9.900.000 |
| 8.827.500 | 8.250.000 |
| 7.062.000 | 6.600.000 |
| 7.062.000 | 6.600.000 |
| 5.885.000 | 5.500.000 |
| 5.296.500 | 4.950.000 |
| 23.540.000 | 22.000.000 |
| 20.597.500 | 19.250.000 |
| 17.655.000 | 16.500.000 |
| 14.712.500 | 13.750.000 |
| 11.770.000 | 11.000.000 |
| 11.770.000 | 11.000.000 |
| 8.827.500 | 8.250.000 |
| 7.062.000 | 6.600.000 |
| 35.310 | 33.000 |
| 89.824 | 83.948 |
| 544.500 | |
| 363.000 | |
| 90.750 | |
| 3.705.398 | |
| 5.371.369 | |
| 5.371.369 | |
| 3.872.000 | |
| 544.500 | |
| 786.500 | |
| 605.000 | |
| 1.210.000 | |
| 31.944 | |
| 7.623.000 | |
| 21.780.000 | |
| 14.520.000 | |
| 135.890.000 | 127.000.000 |

| | |
|-------------|-------------|
| 163.710.000 | 153.000.000 |
| 1.765.500 | 1.650.000 |
| 163.710.000 | 153.000.000 |
| 42.372.000 | 39.600.000 |
| 706.200 | 660.000 |
| 63.558 | 59.400 |
| 1.765.500 | 1.650.000 |
| 5.649.600 | 5.280.000 |
| 35.310.000 | 33.000.000 |
| 35.310.000 | 33.000.000 |
| 23.540.000 | 22.000.000 |
| 8.827.500 | 8.250.000 |
| 17.655.000 | 16.500.000 |
| 5.885.000 | 5.500.000 |

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| 14.520.000 |
| 58.080.000 |
| 834.900 |
| 23.958.000 |
| 1.314.133 |
| 779.797 |
| 3.655.192 |
| 1.252.350 |
| 38.333 |
| 6.860.700 |
| 14.374.800 |
| 9.183.900 |
| 9.982.500 |
| 69.696.000 |
| 6.969.600 |
| 13.068.000 |
| 6.969.600 |
| 3.484.800 |
| 59.718.310 |
| 12.458.160 |
| 162.914 |
| 3.074.610 |
| 3.074.610 |
| 14.520.000 |
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| 5.366.592 |
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| 18.208.080 |
| 609.455 |
| 575.685 |

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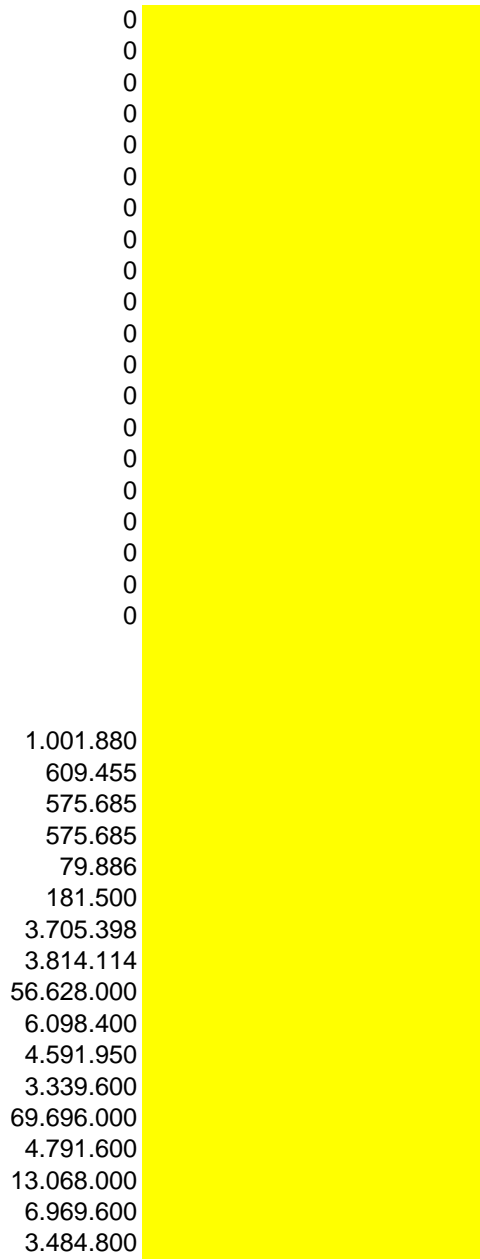
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375.705
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23.958.000
1.314.133
779.797
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70.567.200
14.374.800
9.183.900
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3.484.800
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779.797
498.638
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181.500
3.705.398
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5.604.907
3.814.114
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630.095
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609.455
575.685

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1.629.144

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| No. | PEKERJAAN | SATUAN |
|-----------|---|--------|
| A. | PEKERJAAN PERSIAPAN | |
| 1 . | Survey Awal, Penentuan Peil dan Serah Terima Lapangan | LS |
| 2 . | Mobilisasi dan Demobilisasi | LS |
| 3 . | Pembersihan Lokasi | LS |
| 4 . | Pemasangan Bowplank | m' |
| 5 . | Direksi keet dan Bangsal Kerja | m2 |
| | Direksi keet dan Bangsal Terapung | unit |
| B. | PEKERJAAN STRUKTUR BAWAH | |
| 1 . | Galian Pondasi | m3 |
| 2 . | Urugan Kembali | m3 |
| 3 . | Urugan Pasir Padat | m3 |
| 4 . | Urugan Sirtu Padat | m3 |
| 5 . | Turap Sementara | m2 |
| 6 . | Lantai Kerja Mortar Beton | m3 |
| 7 . | Pondasi Beton Bertulang | m3 |
| 8 . | Perataan Tanah | m2 |
| | Tiang Pancang Baja Ø400MM | m' |
| | Pemancangan Pondasi | m' |
| | Sambungan Tiang Pancang | buah |
| | Pengaku / Bracing Pipa Baja Ø200MM | m' |
| | Sambungan Pengaku | buah |
| | Coating Tiang Pancang & Pengaku | m2 |
| | Pekerjaan Aluminium Anode | kg |
| | Beton Bertulang Pengisi Tiang Pancang | m3 |
| | Poer Beton Bertulang | m3 |
| | Balok Pemikul Anjungan | m3 |
| | Lantai Anjungan Beton Bertulang | m3 |
| | Landasan Kaki Menara | m3 |
| | Mortal Lining & Cetakan | m3 |
| | Tombak Pengaman Keliling Anjungan | m' |
| | Tangga Anjungan (Dismountable Galvanized Ladder) | m' |
| | Pagar Anjungan Baja Galvanis | m' |
| | Pintu Anjungan Baja Galvanis | m' |
| C. | PEKERJAAN STRUKTUR ATAS | |
| | Konstruksi Menara Baja Galvanis & Sistem Angkur | kg |
| | Pabrikasi Modular Pipe Beacon & Sistem Angkur | unit |
| | Pendirian Konstruksi Menara | LS |
| | Pengecatan Kontruksi Menara | LS |
| | Perancah dan Alat bantu | LS |
| D. | PENGADAAN & INSTALASI PERALATAN SBNP & SUMBER TENAGA | |
| | Lantern House | unit |
| | Lantern Mast With Secured Battery Box (Large) | unit |
| | Lantern Mast With Secured Battery Box (Medium) | unit |
| | Lantern Mast With Secured Battery Box (Small) | unit |
| | Sistem Lampu Suar Revolving Lantern | unit |
| | Sistem Lampu Suar 18NM | unit |
| | Sistem Lampu Suar 12NM | unit |
| | Sistem Lampu Suar 6NM | unit |
| | Solar Module 80W | unit |
| | VRLA Absorbent Glass Mate (AGM) Battery 60AH | unit |

| | | |
|-----------|--|-------|
| | Sistem Penangkal Petir | paket |
| | Surge Arrester Module | paket |
| | Power Supply & AtoN Controller Panel (Standard) | paket |
| | Diesel generator 10 KVA | unit |
| | Tetrahedral Alumnum Radar Reflector | unit |
| | Flourescent Colored Alumnum Top Mark | unit |
| | Flourescent Colored Alumnum Daymark | unit |
| E. | FASILITAS PENUNJANG | |
| | Rumah PMS & TMS (T.50) | unit |
| | Rumah Diesel (T.60) | unit |
| | Pondasi Diesel Generator | unit |
| | Pagar Lokasi (Tembok 1 m + BRC 1 m) | m' |
| | Jalan Lokasi | m' |
| | Pintu Gerbang | unit |
| | Bak Penampung Air | unit |
| | Pembuatan Sumur Arthesis | paket |
| | Pompa Air dan Sistem Perpipaian Distribusi Air | paket |
| | Pesawat SSB 100 watt dan Sistem Antena | paket |
| | Peralatan Kerja Operasional & Pemeliharaan Menara Suar | paket |
| | Alat Keselamatan Kerja Menara Suar | paket |
| | Perlengkapan & Inventaris Rumah Jaga | paket |

| VOLUME PEKERJAAN SBNP DI DARAT | | | | | | | |
|--------------------------------|---------|---------|---------|---------|---------|---------|----------|
| MS40BGD | RS30BGD | RS20BGD | RS15BGD | RS10BGD | RS15MBD | RS10MBD | RS7.5MBD |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5000 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| 300 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 72 | 72 | 60 | 50 | 50 | 40 | 40 | 40 |
| 320 | 184 | 79 | 50 | 41,5 | 24,7 | 17,2 | 12,2 |
| 192 | 101 | 34 | 22 | 20 | 10 | 6 | 4 |
| 24 | 13 | 5 | 3 | 3 | 1,6 | 1 | 0,6 |
| 24 | 13 | 5 | 3 | 3 | 1,6 | 1 | 0,6 |
| 160 | 92 | 39,5 | 25 | 20,75 | 12,35 | 8,6 | 6,1 |
| 10 | 7 | 3 | 2 | 1,5 | 1,5 | 1,2 | 1 |
| 70 | 50 | 32 | 20 | 14 | 10 | 8 | 6 |
| 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| 15000 | 10800 | 7500 | 6250 | 5000 | | | |
| | | | | | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| 6 | 6 | 6 | 4 | 4 | 4 | 4 | 4 |

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | | | | | | | |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | | |
| 5 | | | | | | | |
| 3 | | | | | | | |
| 3 | | | | | | | |
| 300 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| 300 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | | | | | | | |
| 1 | | | | | | | |
| 1 | | | | | | | |
| 1 | | | | | | | |
| 1 | | | | | | | |
| 1 | | | | | | | |
| 1 | | | | | | | |

| VOLUME PEKERJAAN SBNP DI LAUT | | | | |
|-------------------------------|---------|---------|---------|----------|
| RS15BGL | RS10BGL | RS15MBL | RS10MBL | RS7.5MBL |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| | | 24,7 | 17,2 | 12,2 |
| | | 10 | 6 | 4 |
| | | 1,6 | 1 | 0,6 |
| | | 1,6 | 1 | 0,6 |
| | | 12,35 | 8,6 | 6,1 |
| | | 1,5 | 1,2 | 1 |
| | | 10 | 8 | 6 |
| | | 400 | 400 | 400 |
| 96 | 96 | 96 | 96 | 96 |
| 64 | 64 | 64 | 64 | 64 |
| 12 | 12 | 12 | 12 | 12 |
| 48 | 48 | 48 | 48 | 48 |
| 24 | 24 | 24 | 24 | 24 |
| 48 | 48 | 48 | 48 | 48 |
| 100 | 100 | 100 | 100 | 100 |
| 12 | 12 | 12 | 12 | 12 |
| 1,5 | 1,5 | 1,5 | 1,5 | 1,5 |
| 4,8 | 4,8 | 4,8 | 4,8 | 4,8 |
| 7,5 | 7,5 | 7,5 | 7,5 | 7,5 |
| 1,6 | 1,6 | 1,6 | 1,6 | 1,6 |
| 5,7 | 5,7 | 5,7 | 5,7 | 5,7 |
| 22 | 22 | 22 | 22 | 22 |
| 1 | 1 | 1 | 1 | 1 |
| 20 | 20 | 20 | 20 | 20 |
| 1,5 | 1,5 | 1,5 | 1,5 | 1,5 |
| 6250 | 5000 | | | |
| | | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| | | 1 | 1 | |
| 1 | 1 | | | 1 |
| 1 | 1 | 1 | 1 | |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 |
| 4 | 4 | 4 | 4 | 4 |

| | | | | |
|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 8 | 8 | 8 | 8 | 8 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |

**ANCAR-ANCAR STANDAR BIAYA TAHUN 2012
SUB SEKTOR TRANSPORTASI LAUT**

Propinsi : DKI JAKARTA

| NO | REKAPITULASI PEMBANGUNAN PRASARANA / FASILITAS PELABUHAN LAUT | SATUAN | ANCAR-ANCAR HARGA (Rp.) |
|----|---|--------|-----------------------------|
| 1 | PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2, (P=60M' , L=8M) Harga per M2 pembangunan dermaga beton tiang pipa beton | M2 | 4.515.122.253 9.406.505 |
| 2 | PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2 (P=60M' , L=8M) Harga per M2 pembangunan dermaga baja tiang pipa baja | M2 | 6.041.102.383 12.585.630 |
| 3 | PEKERJAAN PEMBANGUNAN CAUSEWAY (100 M x 5 M) Harga per M2 Causeway | M2 | #REF! #REF! |
| 4 | PEKERJAAN PEMBANGUNAN JALAN PELABUHAN (100 M x 5 M) Harga per M2 Jalan Pelabuhan | M2 | #REF! #REF! |
| 5 | PEKERJAAN PEMBANGUNAN LAPANGAN PARKIR (30 M x 25 M) Harga per M2 Lapangan Parkir | M2 | #REF! #REF! |
| 6 | PEKERJAAN LAPANGAN PENUMPUKAN (30 M x 25 M) Harga per M2 Lapangan Penumpukan | M2 | #REF! #REF! |
| 7 | PEMBANGUNAN MOORING DOLPHIN 1 BUAH (UKURAN 3 M x 3 M) | BUAH | 596.539.261 |
| 8 | PEMBANGUNAN TALUD / M' (T = S.D. 2 M') | M' | 10.191.106 |
| 9 | PEMBANGUNAN TALUD / M' (T = 2,10 M' S/D 3,5 M') | M' | 14.749.778 |
| 10 | PEMBANGUNAN TALUD / M' (T = 3,60 M' S/D 5 M') | M' | 21.526.500 |

HARGA SATUAN BAHAN, ALAT & TENAGA KERJA

| NO | BAHAN/ALAT/TENAGA KERJA | SATUAN / VOL | HARGA |
|---------------------------|---|---------------------|--------------|
| HARGA SATUAN BAHAN | | | |
| 1 | Additive | liter | 47.817 |
| 2 | Admixture | liter | 22.500 |
| 3 | A C Marine Use (Anti Corrosive M U) | Kg | 120.000 |
| 4 | A F Marine Use (Anti Fouling) | liter | 104.000 |
| 5 | Air | m3 | 4.700 |
| 6 | Angkur diameter 25mm | buah | 7.600 |
| 7 | Aspal AC 60-70 | Kg | 6.500 |
| 8 | Baja Profil / Plat | Kg | 10.000 |
| 9 | Balok kayu klas I | m3 | 6.581.800 |
| 10 | Balok kayu klas II | m3 | 6.280.450 |
| 11 | Bambu 5-10cm Pjg. 6m | batang | 15.000 |
| 12 | Batang Kelapa | m | 21.500 |
| 13 | Batu gunung/kali | m3 | 245.000 |
| 14 | Batu pecah 1/2 | m3 | 275.000 |
| 15 | Batu pecah 2/3 | m3 | 225.000 |
| 16 | Batu pecah 3/5 | m3 | 150.000 |
| 17 | Batu tela/batako/batu pres | buah | 2.500 |
| 18 | Besi beton | Kg | 9.000 |
| 19 | Besi plat | Kg | 9.500 |
| 20 | Besi Siku | Kg | 13.500 |
| 21 | Besi siku L.100.100.10 | Kg | 13.500 |
| 22 | Besi Siku penahan tulangan (pengelasan dlm air) | set | 160.400 |
| 23 | Beton isi tiang | m3 | 11.746.966 |
| 24 | Bollard/Bolder kapasitas 15 ton | buah | 19.400.000 |
| 25 | Bollard/Bolder kapasitas 25 ton | buah | 24.500.000 |
| 26 | Bollard/Bolder kapasitas 30 ton | buah | 29.500.000 |
| 27 | Bollard/Bolder kapasitas 35 ton | buah | 33.528.000 |
| 28 | Bollard/Bolder kapasitas 70 ton | buah | 60.500.000 |
| 29 | Cat Anti Karat | Kg | 120.000 |
| 30 | Cat besi | Kg | 20.000 |
| 31 | Cat Tembok | Kg | 15.160 |
| 32 | Cetakan beton | m2 | 209.523 |
| 33 | Cleat | buah | 235.750 |
| 34 | Densopole | rol | 207.250 |
| 35 | Densopaste | tube | 140.600 |
| 36 | Densotape | rol | 168.550 |
| 37 | Dolken dia.8 cm, pjg. 4m | batang | 18.800 |
| 38 | Fender karet type V.250 - 1000L | buah | 24.125.625 |
| 39 | Fender karet type V.250 - 1500L | buah | 25.893.750 |
| 40 | Fender karet type V.250 - 2000L | buah | 28.840.625 |
| 41 | Fender karet type V.500H - 1500L | buah | 54.458.350 |
| 42 | Fibre mesh | Kg | 117.875 |
| 43 | Geotextile/filter cloth | m2 | 39.000 |
| 44 | Grease | Kg | 19.950 |
| 45 | Galian tanah biasa | ls | 31.588 |
| 46 | Ijuk | Kg | 8.400 |
| 47 | Karbit | Kg | 13.375 |
| 48 | Karung Plastik | lembar | 1.725 |

| NO | BAHAN/ALAT/TENAGA KERJA | SATUAN / VOL | HARGA |
|--------------------------|---|--------------|------------|
| 49 | Kawat baja/Bindraad | Kg | 11.000 |
| 50 | Kawat Las | Kg | 11.500 |
| 51 | Kawat Las/Electrode | Kg | 24.400 |
| 52 | Kayu Bakar | m3 | 46.500 |
| 53 | Kerikil | m3 | 245.000 |
| 54 | Lantai precast | m3 | 5.564.577 |
| 55 | Minyak Aspal | liter | 2.500 |
| 56 | Multiplex 18mm | lembar | 300.000 |
| 57 | Oli | liter | 30.000 |
| 58 | Oxygen | tabung | 250.650 |
| 59 | Pagar BRC t=1,8 m + aksesoris | m | 450.250 |
| 60 | Paku | Kg | 20.000 |
| 61 | Papan kayu klas I | m3 | 6.000.000 |
| 62 | Papan kayu klas II | m3 | 4.500.000 |
| 63 | Papan kayu klas III | m3 | 3.499.800 |
| 64 | Pasir aspal/abu batu/screning | m3 | 245.000 |
| 65 | Pasir beton | m3 | 225.000 |
| 66 | Pasir pasang | m3 | 250.000 |
| 67 | Pasir urug | m3 | 225.000 |
| 68 | Paving block | buah | 7.545 |
| 69 | Pipa paralon dia. 2" | batang | 60.375 |
| 70 | Plamur | Kg | 15.000 |
| 71 | Plat Baja | Kg | 11.500 |
| 72 | Plat Baja strip | Kg | 9.500 |
| 73 | Rantai penahan | buah | 175.000 |
| 74 | Ring untuk sepatu tiang pancang | set | 220.000 |
| 75 | Semen PC (50kg/sack) | sack | 60.000 |
| 76 | Serat PolyProphyene | Kg | 110.675 |
| 77 | Sirtu | m3 | 225.000 |
| 78 | Solar | liter | 5.000 |
| 79 | Tanah Timbunan | m3 | 40.500 |
| 80 | Tanah Urug | m3 | 40.000 |
| 81 | Terpal untuk blokir air | set | 35.300 |
| 82 | Tiang pancang pipa beton Pressters dia.50cm | m | 950.000 |
| 83 | Tiang pancang pipa baja | ton | 19.865.000 |
| 84 | Pipa baja | Kg | 19.500 |
| 85 | Thinner | liter | 35.525 |
| 86 | Triplek 6mm | lembar | 75.397 |
| 87 | L Bars/Stek tiang pancang/Tulangan steak untuk tiang pancang dia.16 | buah | 1.000.000 |
| | | | |
| | | | |
| HARGA SATUAN UPAH | | | |
| | | | |
| 1 | Kepala Tukang | oh | 95.726 |
| 2 | Mandor / Pengawas | oh | 108.296 |
| 3 | Mekanik | oh | 65.000 |
| 4 | Operator | oh | 83.145 |
| 5 | Pekerja / knek | oh | 70.587 |
| 6 | Pembantu Operator | oh | 83.145 |
| 7 | Pembantu Surveyor | oh | 83.145 |
| 8 | Surveyor | oh | 95.726 |
| 9 | Tukang | oh | 83.134 |
| 10 | Tukang Aspal | oh | 83.134 |

| NO | BAHAN/ALAT/TENAGA KERJA | SATUAN / VOL | HARGA |
|---|---------------------------------------|--------------|-----------|
| 11 | Tukang Batu | oh | 83.145 |
| 12 | Tukang besi | oh | 83.145 |
| 13 | Tukang Bongkar cetakan beton / siram | oh | 65.000 |
| 14 | Tukang Cat | oh | 83.145 |
| 15 | Tukang jaga | oh | 65.000 |
| 16 | Tukang kayu | oh | 83.145 |
| 17 | Tukang las | oh | 65.734 |
| 18 | Tukang las penyambungan tiang pancang | oh | 65.734 |
| 19 | Tukang pancang | oh | 65.000 |
| 20 | Tukang selam | oh | 83.134 |
| 21 | Masinis | oh | 65.000 |
| 22 | Penjaga api | oh | 65.000 |
| 23 | Pembantu tukang las | oh | 65.000 |
| 24 | Kepala Tukang Las | oh | 95.726 |
| 25 | Upah pemasangan pagar BRC | oh | 65.000 |
| 26 | Tukang Gali | oh | 83.145 |
| HARGA OPERASIONAL / SEWA SATUAN ALAT | | | |
| 1 | Alat bantu cor beton | ls | 60.000 |
| 2 | Alat bantu pemasangan geotextile | ls | 60.000 |
| 3 | Alat bantu pembesian, bekisting | ls | 30.000 |
| 4 | Alat bantu pengaspalan per 100 m2 | ls | 275.000 |
| 5 | Alat bantu pengecatan tiang pancang | ls | 25.000 |
| 6 | Alat bantu penutup tiang pancang | ls | 25.000 |
| 7 | Alat bantu pemotongan tiang pancang | ls | 25.000 |
| 8 | Alat bantu sepatu tiang pancang | ls | 20.000 |
| 9 | Sewa Bulldozer | jam | 1.500.000 |
| 10 | Sewa Compressor | jam | 75.000 |
| 11 | Concrete Mixer | jam | 125.000 |
| 12 | Concrete Thriller | jam | 125.000 |
| 13 | Crane | hari | 3.601.136 |
| 14 | Dump Truck | hari | 1.520.000 |
| 15 | Generator Set | hari | 2.400.000 |
| 16 | Loader | hari | 9.600.000 |
| 17 | Mesin Gilas | hari | 7.600.000 |
| 18 | Mesin las karbit | hari | 750.500 |
| 19 | Mesin las listrik dan perlengkapan | hari | 1.583.125 |
| 20 | Pompa air | unit | 125.000 |
| 21 | Ponton pancang | hari | 6.500.000 |
| 22 | Ponton transport | hari | 3.413.375 |
| 23 | Sewa diesel hammer | hari | 2.475.000 |
| 24 | Theodolite | hari | 350.750 |
| 25 | Waterpass | hari | 250.125 |
| 26 | Motor Johnson 40 PK | hari | 500.000 |
| 27 | Alat bantu galian tanah | buah | 25.000 |
| 28 | Alat bantu pengelasan/pemotongan | ls | 25.000 |
| BAHAN PEKERJAAN PERSIAPAN PEMBANGUNAN DERMAGA BETON 480 M2, P=60M' | | | |
| 1 | Air kerja dan P3K | ls | 4.500.000 |
| 2 | Bangsai kerja | m2 | 600.000 |
| 3 | Direksi Keet | m2 | 700.000 |
| 4 | Gudang bahan | m2 | 450.000 |

| NO | BAHAN/ALAT/TENAGA KERJA | SATUAN / VOL | HARGA |
|--|---|--------------|---------------|
| 5 | Mobilisasi dan demobilisasi | ls | 75.250.000 |
| 6 | Pagar pengaman lokasi proyek | m' | 190.724 |
| 7 | Papan nama proyek | buah | 502.585 |
| 8 | Pembersihan lokasi pekerjaan | ls | 4.500.000 |
| 9 | Penerangan lokasi pekerjaan dan keamanan | ls | 5.000.000 |
| 10 | Pengukuran dan pemasangan titik tetap | ls | 5.000.000 |
| 11 | Pekerjaan persiapan | ls | 0 |
| 12 | Sounding | m2 | 3.500 |
| | | | |
| | | | |
| BAHAN / SUB PEKERJAAN DERMAGA (60 x 8) M2 | | | |
| | | | |
| 1 | Administrasi dan dokumentasi | ls | 1.765.000 |
| 2 | Bollard/Bolder kapasitas 25 ton | buah | 24.500.000 |
| 3 | Cleat | buah | 265.750 |
| 4 | Delatasi | m' | 323.394 |
| 5 | Pemasangan fender ban truk | buah | 355.500 |
| 6 | Pemasangan fender karet type V250H - 1500L | buah | 25.893.750 |
| 7 | Pembuatan sepatu tiang pancang pipa beton | buah | 311.875 |
| 8 | Pengadaan dan angkutan tiang pancang beton dia.50cm | m' | 676.041 |
| 9 | Pengadaan dan angkutan tiang pancang baja dia.50cm | m' | 12.850 |
| 10 | Penyambungan tiang pancang | ttk | 598.400 |
| 11 | Pengangkutan tiang pancang ke titik pancang | m' | 65.406 |
| 12 | Pemancangan tiang tegak | m' | 349.779 |
| 13 | Pemancangan tiang miring | m' | 420.872 |
| 14 | Pemotongan tiang pancang | buah | 519.283 |
| 15 | Pembuatan poer beton | m3 | 5.463.142 |
| 16 | Pembuatan balok beton | m | 5.593.191 |
| 17 | Pembuatan lantai beton (cor setempat) | m3 | 4.297.658 |
| 18 | Pembuatan plak fender beton | m3 | 4.769.981 |
| 19 | Pekerjaan dermaga (60x8) m2 (tiang pipa BETON) | ls | 4.268.919.568 |
| 20 | Pekerjaan dermaga (60x8) m2 (tiang pipa BAJA) | ls | 5.794.899.698 |
| 21 | Penyelesaian akhir | ls | 676.500 |
| 22 | Percobaan pembebanan tiang pancang | ls | 7.328.750 |
| 23 | Pekerjaan lain-lain | ls | 1.941.500 |
| 24 | Tes beton material | ls | 6.229.300 |
| 25 | Pasangan batu kosong | m3 | 444.730 |
| 26 | Pasangan batu kali 1 : 2 | m3 | 894.700 |
| 27 | Plesteran 1 : 2 | m2 | 52.600 |
| 28 | Pembangunan Kansteen 15/40 | m3 | 3.630.693 |
| 29 | Lapisan teram / filter cloth | m2 | 55.915 |
| 30 | Urugan sirtu dan pepadatan | m3 | 149.150 |
| 31 | Pengecatan Kansteen | m2 | 24.646 |
| 32 | Pipa peresapan PVC dia. 2,5" | buah | 47.640 |
| 33 | Sub base 15 cm | m2 | 53.377 |
| 34 | Base coarse 12 cm | m2 | 41.412 |
| 35 | Surface coarse tebal 3 cm | m2 | 39.601 |
| 36 | Pengaspalan 6kg/m2 | m2 | 51.316 |
| 37 | Urugan sirtu 10 cm | m3 | 249.150 |
| 38 | Batu Kansteen 15/40 | m3 | 3.630.693 |
| 39 | Penghijauan | ls | 7.550.000 |
| 40 | Galian tanah pondasi | m3 | 31.588 |
| 41 | Urugan pasir bawah pondasi | m3 | 162.877 |
| 42 | Pondasi batu kali 1 : 2 | m3 | 653.485 |

| NO | BAHAN/ALAT/TENAGA KERJA | SATUAN / VOL | HARGA |
|-----------|-------------------------------------|---------------------|--------------|
| 43 | Urugan tanah kembali | m3 | 10.519 |
| 44 | Sloof beton bertulang 15/20 | m3 | 3.042.844 |
| 45 | Plesteran beton 1 : 2 | m2 | 29.515 |
| 49 | Kolom beton bertulang 15/15 | m3 | 3.042.844 |
| 50 | Ring balk beton bertulang 15/20 | m3 | 3.042.844 |
| 51 | Dinding batu tela 1 : 4 | m3 | 864.313 |
| 52 | Plesteran tembok 1 : 4 | m2 | 32.962 |
| 53 | Pengecatan tembok | m2 | 24.646 |
| 54 | Selimit tiang pancang | m3 | 4.927.080 |
| 55 | Beton pengisi tiang / concrete plug | m3 | 5.746.966 |
| 56 | Poer Beton | m3 | 5.463.142 |
| 57 | Tangga Dolphin | unit | 9.875.000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---------------------|--|---------------------|----------------|--------------------|----------------------|
| | 1 bh Papan nama | | | | |
| | Bahan | | | | |
| | Multiplek 9mm | 0,625 | lbr | | 0,000 |
| | Kayu kaso 8/15 | 0,115 | m ³ | | 0,000 |
| | Paku 4cm s/d 7cm | 0,250 | m ³ | 20.000,00 | 5.000,000 |
| | Cat kayu dasar | 1,000 | kg | | 0,000 |
| | Cat kayu mengkilat | 1,000 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | 70.587,00 | 70.587,000 |
| | Tukang kayu | 1,000 | oh | 83.145,00 | 83.145,000 |
| | Tukang cat | 1,000 | oh | 83.145,00 | 83.145,000 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| JUMLAH (A) : | | | | | 247.291,800 |
| | 1 m3 Galian tanah biasa sedalam 1 meter | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 0,750 | oh | 70.587,00 | 52.940,250 |
| | Mandor | 0,025 | oh | 108.296,00 | 2.707,400 |
| | Alat | | | | |
| JUMLAH (B) : | | | | | 55.647,650 |
| | 1 m3 Beton K-100 (f'c = 7,4 Mpa, slump (12±2)cm, w/c = 0,87 | | | | |
| | Bahan | | | | |
| | PC | 247,000 | kg | | 0,000 |
| | PB | 869,000 | kg | | 0,000 |
| | KR (max 30mm) | 999,000 | kg | | 0,000 |
| | Air | 215,000 | ltr | 4.700,00 | 1.010.500,000 |
| | Tenaga Kerja | | | | |
| | Pekerja | 1,650 | oh | 70.587,00 | 116.468,550 |
| | Tukang Batu | 0,275 | oh | 83.145,00 | 22.864,875 |
| | Kepala Tukang | 0,028 | oh | 95.726,00 | 2.680,328 |
| | Mandor | 0,083 | oh | 108.296,00 | 8.988,568 |
| | Alat | | | | |
| JUMLAH (C) : | | | | | 1.161.502,321 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---------------------|--|---------------------|----------------|--------------------|--------------------|
| | 1 m3 Urugan kembali galian | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 0,250 | oh | 70.587,00 | 17.646,750 |
| | Mandor | 0,008 | oh | 108.296,00 | 866,368 |
| | Alat | | | | |
| JUMLAH (D) : | | | | | 18.513,118 |
| | 1 bh Papan nama proyek | | | | |
| | Bahan | | | | |
| | Papan nama | 1,000 | bh | 502.585,00 | 502.585,000 |
| | Galian tanah biasa sedalam 1 meter | 0,393 | m ³ | 31.587,50 | 12.413,888 |
| | Beton K-100 (f'c = 7,4 Mpa, slump (12±2)cm, w/c = 0,87 | 0,180 | m ³ | | 0,000 |
| | Urugan Kembali Galian | 0,213 | m ³ | 10.518,64 | 2.240,470 |
| | Tenaga Kerja | | | | 0,000 |
| | | | | | 0,000 |
| | | | | | 0,000 |
| | Alat | | | | 0,000 |
| JUMLAH : | | | | | 517.239,358 |
| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
| | 1 m2 Pembersihan lahan ringan | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 0,100 | oh | 70.587,00 | 7.058,700 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| JUMLAH : | | | | | 12.473,500 |
| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
| | 1 m2 Pembersihan lahan berat (beregus 10 org) | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 1,000 | oh | 70.587,00 | 70.587,000 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| JUMLAH : | | | | | 76.001,800 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|--------|--------------------|-------------------|
| | 1 m2 Pembersihan lahan berat (beregus 12 org) | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 1,200 | oh | 70.587,00 | 84.704,400 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| | JUMLAH : | | | | 90.119,200 |

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|-------------------------------------|---------------------|--------|--------------------|--------------|
| | 1 Is Mobilisasi demobilisasi | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|----------------|--------------------|-------------------|
| | 1 m3 Pagar sementara (seng gelombang tinggi 2m) | | | | |
| | Bahan | | | | |
| | Dolken kayu diameter 8-10/400 cm | 1,250 | btg | 18.800,00 | 23.500,000 |
| | PC | 2,500 | kg | | 0,000 |
| | Seng gelombang 3-5 inci | 1,200 | lbr | | 0,000 |
| | Pasir beton | 0,005 | m ³ | 225.000,00 | 1.125,000 |
| | koran beton | 0,009 | m ³ | | 0,000 |
| | kayu 5/7 | 0,072 | m ³ | | 0,000 |
| | Paku biasa 2-5 inci | 0,060 | kg | 20.000,00 | 1.200,000 |
| | Meni besi | 0,450 | ltr | | 0,000 |
| | Tenaga Kerja | | | | |
| | Tukang kayu | 0,200 | oh | 83.145,00 | 16.629,000 |
| | pekerja | 0,400 | oh | 70.587,00 | 28.234,800 |
| | kepala tukang | 0,020 | oh | 95.726,00 | 1.914,520 |
| | mandor | 0,020 | oh | 108.296,00 | 2.165,920 |
| | Alat | | | | |
| | JUMLAH : | | | | 16.629,000 |

| | | | | | |
|--|-------------------------------------|-------|----|------------|--------------------|
| | 1 Is Direksi keet kontraktor | | | | |
| | Bahan | | | | |
| | Direksi keet kontraktor | 1,000 | ls | 700.000,00 | 700.000,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 700.000,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|------------------------------|---------------------|--------|--------------------|--------------------|
| | 1 Is Gudang/Bengkel | | | | |
| | Bahan | | | | |
| | Gudang/bengkel | 1,000 | Is | 450.000,00 | 450.000,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | | | | | 450.000,000 |
| | JUMLAH : | | | | 900.000,000 |

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|------------------------------|---------------------|--------|--------------------|--------------|
| | 1 Is Barak kerja | | | | |
| | Bahan | | | | |
| | Barak kerja | 1,000 | Is | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

| | | | | | |
|--|----------------------|-------|----|--|--------------|
| | 1 Is Pos Jaga | | | | |
| | Bahan | | | | |
| | Pos Jaga | 1,000 | Is | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

| | | | | | |
|--|---------------------------|-------|----|--|--------------|
| | 1 Is Fasilitas Air | | | | |
| | Bahan | | | | |
| | Fasilitas Air | 1,000 | Is | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

| | | | | | |
|--|--|-------|----|--|--|
| | 1 Is Perlengkapan P3K/keselamatan | | | | |
| | Bahan | | | | |
| | Perlengkapan P3K/keselamatan | 1,000 | Is | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|---|---------------------|--------|--------------------|-------------------|
| | 1 Is Laporan berkala | | | | |
| | Bahan | | | | |
| | Laporan harian (jumlahnya sesuai kontrak) | 3,000 | eks | 0,00 | 0,000 |
| | Laporan mingguan (jumlahnya sesuai kontrak) | 3,000 | eks | | |
| | Laporan bulanan (jumlahnya sesuai kontrak) | 3,000 | eks | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | 0,000 |
| | JUMLAH : | | | | 0,000 |
| | 1 Is shop Drawing | | | | |
| | Bahan | | | | |
| | shop Drawing | 1,000 | ls | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 Is Album foto | | | | |
| | Bahan | | | | |
| | Album foto (jumlahnya sesuai kontrak) | 3,000 | set | | |
| | CD (jumlahnya sesuai kontrak) | 5,000 | keping | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 Is As built drawing | | | | |
| | Bahan | | | | |
| | As built drawing | 1,000 | ls | | |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 m2 Pembersihan lahan ringan | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 0,100 | oh | 70.587,00 | 7.058,700 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| | JUMLAH : | | | | 12.473,500 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|--------|--------------------|-------------------|
| | 1 m2 Pembersihan lahan berat (bereggu 10 org) | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 1,000 | oh | 70.587,00 | 70.587,000 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| | JUMLAH : | | | | 76.001,800 |
| | 1 m2 Pembersihan lahan berat (bereggu 12org) | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Pekerja | 1,200 | oh | 70.587,00 | 84.704,400 |
| | Mandor | 0,050 | oh | 108.296,00 | 5.414,800 |
| | Alat | | | | |
| | JUMLAH : | | | | 90.119,200 |
| | 100 ha Pengukuran topografi | | | | |
| | Bahan | | | | |
| | Form survey dan ATK | 1,000 | ls | | 0,000 |
| | BM | 1,000 | bh | | 0,000 |
| | Patok Ukur | 1.000,000 | bh | | 0,000 |
| | Tenaga Kerja | | | | |
| | Surveyor | 5,000 | oh | | 0,000 |
| | Kepala Surveyor | 5,000 | oh | | 0,000 |
| | Pekerja | 10,000 | oh | | |
| | Alat | | | | |
| | Theodolite To | 5,000 | hr | | 0,000 |
| | Waterpass | 5,000 | hr | | 0,000 |
| | Kompas | 5,000 | hr | | 0,000 |
| | GPS | 5,000 | hr | | 0,000 |
| | Rambu ukur | 5,000 | hr | | 0,000 |
| | JUMLAH : | | | | 0,000 |
| | 100 ha Pengukuran Bathimetri | | | | |
| | Bahan | | | | |
| | Bahan bakar solar | 12,000 | ltr | | 0,000 |
| | Tenaga Kerja | | | | |
| | Surveyor | 1,000 | oh | | 0,000 |
| | Kepala Surveyor | 1,000 | oh | | 0,000 |
| | Pekerja | 1,000 | oh | | |
| | Alat | | | | |
| | Waterpass | 0,100 | hr | | 0,000 |
| | Echo sounder | 1,000 | hr | | 0,000 |
| | Perahu | 1,000 | hr | | 0,000 |
| | JUMLAH : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|--------|--------------------|--------------|
| | 15 hr Pengukuran Pasang surut (manual) | | | | |
| | Bahan | | | | |
| | Polischal | 3,000 | m | | 0,000 |
| | Form survey dan ATK | 1,000 | ls | | 0,000 |
| | Bagan | 1,000 | ls | | 0,000 |
| | Tenaga Kerja | | | | |
| | Surveyor | 45,000 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 15 hr Pengukuran Pasang surut (tipe gauge) | | | | |
| | Bahan | | | | |
| | Bagan | 1,000 | ls | | 0,000 |
| | Tenaga Kerja | | | | |
| | Surveyor | 15,000 | oh | | 0,000 |
| | Alat | | | | |
| | Tide gauge | | | | |
| | JUMLAH : | | | | 0,000 |
| | 15 hr Pengukuran Pasang surut (tipe gauge)1 m2 Pemasangan bouwplank | | | | |
| | Bahan | | | | |
| | Kayu 5/7 | 0,012 | m3 | | 0,000 |
| | Paku biasa 2-5 inci | 0,020 | kg | | 0,000 |
| | Kayu papan 3/20 | 0,007 | m3 | | 0,000 |
| | Tenaga Kerja | | | | |
| | Tukang kayu | 0,100 | oh | | 0,000 |
| | pekerja | 0,100 | oh | | 0,000 |
| | kepala tukang | 0,010 | oh | | 0,000 |
| | mandor | 0,005 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 ls penyelidikan mekanika tanah | | | | |
| | Bahan | | | | |
| | penyelidikan mekanika tanah | 1,000 | ls | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|---|---------------------|--------|--------------------|--------------|
| | 1 Is penyelidikan mekanika tanah | | | | |
| | Bahan | | | | |
| | penyelidikan mekanika tanah | 1,000 | Is | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 tes Sand cone test | | | | |
| | Bahan | | | | |
| | Sand cone test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 Is test material timbunan | | | | |
| | Bahan | | | | |
| | test material timbunan | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 tes Proctor test | | | | |
| | Bahan | | | | |
| | Proctor test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 tes PDA test | | | | |
| | Bahan | | | | |
| | PDA test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--------------------------------------|---------------------|--------|--------------------|--------------|
| | 1 tes Ultrasonic test | | | | |
| | Bahan | | | | |
| | Ultrasonic test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 tes Loading test | | | | |
| | Bahan | | | | |
| | Loading test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 ls job mix design | | | | |
| | Bahan | | | | |
| | job mix design | 1,000 | ls | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 bh uji tekan | | | | |
| | Bahan | | | | |
| | uji tekan | 1,000 | bh | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |
| | 1 tes Vibrasi monitoring test | | | | |
| | Bahan | | | | |
| | Vibrasi monitoring test | 1,000 | tes | | 0,000 |
| | Tenaga Kerja | | | | |
| | Alat | | | | |
| | JUMLAH : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan

Kegiatan : Pendukung

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|---|---------------------|---------|--------------------|--------------|
| | 1Is percobaan dan pemeriksaan ME | | | | |
| | Bahan | | | | |
| | Tenaga Kerja | | | | |
| | Ahli mekanikal dan elektrik | 7,000 | oh | | 0,000 |
| | Asisten Ahli mekanikal dan elektrik | 7,000 | oh | | 0,000 |
| | Pekerja | 14,000 | oh | | 0,000 |
| | Alat | | | | |
| | Alat ukur tegangan tinggi | 7,000 | unit-hr | | 0,000 |
| | alat ukur tegangan rendah | 7,000 | unit-hr | | 0,000 |
| | alat ukur tekanan air | 7,000 | unit-hr | | 0,000 |
| | JUMLAH : | | | | 0,000 |
| | 1Is pemantauan lingkungan | | | | |
| | Bahan | | | | |
| | Kertas foto (premium glossy) | 2,000 | rim | | |
| | Tinta printer berwarna | 1,000 | set | | |
| | Tenaga Kerja | | | | |
| | Ahli lingkungan | 2,000 | oh | | 0,000 |
| | Asisten ahli lingkungan | 2,000 | oh | | 0,000 |
| | Pekerja | 2,000 | oh | | 0,000 |
| | Alat | | | | |
| | Foto digital | 2,000 | unit-hr | | 0,000 |
| | printer epon stylus photo | 1,000 | unit-hr | | 0,000 |
| | JUMLAH : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan
 Kegiatan : Reklamasi, Causeway, dan Breakwater

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|--------|--------------------|--------------|
| | 1 m3 galian tanah biasa sedalam 1 meter | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | Pekerja | 0,750 | oh | | 0,000 |
| | Mandor | 0,025 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH (A) : | | | | 0,000 |

| | | | | | |
|--|--|-------|----|--|--------------|
| | 1 m3 galian tanah biasa sedalam 2 meter | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | Pekerja | 0,900 | oh | | 0,000 |
| | Mandor | 0,045 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH (A) : | | | | 0,000 |

| | | | | | |
|--|--|-------|----|--|--------------|
| | 1 m3 galian tanah biasa sedalam 3 meter | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Mandor | 0,032 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH (A) : | | | | 0,000 |

| | | | | | |
|--|--|-------|----|--|--------------|
| | 1 m3 galian tanah keras sedalam 1 meter | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Mandor | 0,032 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH (A) : | | | | 0,000 |

| | | | | | |
|--|--|-------|----|--|--------------|
| | 1 m3 galian tanah cadas sedalam 1 meter | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | Pekerja | 1,500 | oh | | 0,000 |
| | Mandor | 0,060 | oh | | 0,000 |
| | Alat | | | | |
| | JUMLAH (A) : | | | | 0,000 |

| | | | | |
|--|-------|-----|--|--------------|
| 1 m3 galian tanah lumpursedalam 1 meter | | | | |
| Bahan | | | | |
| Tenaga kerja | | | | |
| Pekerja | 1,200 | oh | | 0,000 |
| Mandor | 0,045 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 urugan pasir | | | | |
| Bahan | | | | |
| pasir urug | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,300 | oh | | 0,000 |
| Mandor | 0,010 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 timbunan kembali | | | | |
| Bahan | | | | |
| Tenaga kerja | | | | |
| Mengurug kembali 1 m3 galian dihitung dari 1/3 kali dari indeks pekerjaan galian | | | | |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pemasangan geotextile | | | | |
| Bahan | | | | |
| geotextile/ filter cloth | 1,100 | m2 | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,100 | oh | | 0,000 |
| Penyelam | 0,100 | oh | | 0,000 |
| Tukang | 0,050 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 rubble stone (20-30 kg) | | | | |
| Bahan | | | | |
| batu (20-30kg) | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,440 | oh | | 0,000 |
| Mandor | 0,110 | oh | | 0,000 |
| Alat | | | | |
| Excavator | 0,014 | jam | | 0,000 |
| Dump truck 3,5 ton | 0,554 | jam | | 0,000 |
| Excavator | 1,597 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 Armour stone (200-300kg) | | | | |
| Bahan | | | | |
| Armour stone (200-300kg) | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,520 | oh | | 0,000 |
| Mandor | 0,130 | oh | | 0,000 |
| Alat | | | | |
| Excavator | 1,933 | jam | | 0,000 |
| Dump truck 3,5 ton | 0,695 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |

| | | | | |
|---|---------|-----|--|--------------|
| 1 m3 Lapisan pasir (sand bedding) | | | | |
| Bahan | | | | |
| pasir pasang | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,300 | oh | | 0,000 |
| Mandor | 0,010 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 kubus beton (32cm) (analisa untuk 4 unit) | | | | |
| Bahan | | | | |
| pasir pasang | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| surveyor | 0,300 | oh | | 0,000 |
| pekerja | 0,190 | oh | | 0,000 |
| tukang | 0,060 | oh | | 0,000 |
| mandor | 0,020 | oh | | 0,000 |
| Alat | | | | |
| crawler crane | 2,000 | jam | | 0,000 |
| dump truck 3,5 ton | 1,000 | jam | | 0,000 |
| excavator | 0,500 | jam | | 0,000 |
| pompa air | 2,000 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pasangan batu belah 1:2 | | | | |
| Bahan | | | | |
| batu belah 15cm/20cm | 1,100 | m3 | | 0,000 |
| semen portland | 267,000 | kg | | 0,000 |
| pasir pasang | 0,427 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| surveyor | 1,500 | oh | | 0,000 |
| pekerja | 0,600 | oh | | 0,000 |
| tukang | 0,060 | oh | | 0,000 |
| mandor | 0,075 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pasangan batu belah 1:3 | | | | |
| Bahan | | | | |
| batu belah 15cm/20cm | 1,200 | m3 | | 0,000 |
| semen portland | 202,000 | kg | | 0,000 |
| pasir pasang | 0,485 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| surveyor | 1,500 | oh | | 0,000 |
| pekerja | 0,750 | oh | | 0,000 |
| tukang | 0,075 | oh | | 0,000 |
| mandor | 0,075 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pasangan batu belah 1:3 | | | | |
| Bahan | | | | |
| ijuk | 6,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,150 | oh | | 0,000 |
| mandor | 0,015 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| JUMLAH (A) : | | | | 0,000 |

| | | | | |
|--|-----------|-----|--|--------------|
| 1 m3 pasangan batu kosong | | | | |
| Bahan | | | | |
| batu belah 15cm/20cm | 1,200 | m3 | | 0,000 |
| pasir urug | 0,432 | m3 | | |
| Tenaga kerja | | | | |
| pekerja | 0,780 | oh | | 0,000 |
| tukang batu | 0,390 | oh | | 0,000 |
| kepala tukang | 0,039 | oh | | 0,000 |
| mandor | 0,039 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 lantai kerja beton K-100 (f'c = 7,4 Mpa, slump (3-6)cm, w/c = 0,87 | | | | |
| Bahan | | | | |
| semen portland | 230,000 | kg | | 0,000 |
| pasir beton | 893,000 | kg | | 0,000 |
| krikil (max 30 mm) | 1.027,000 | kg | | 0,000 |
| Air | 200,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,200 | oh | | 0,000 |
| tukang batu | 0,200 | oh | | 0,000 |
| kepala tukang | 0,020 | oh | | 0,000 |
| mandor | 0,060 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 lantai kerja beton K-300 (f'c = 26,4 Mpa, slump (12±2)cm, w/c = 0,52 | | | | |
| Bahan | | | | |
| semen portland | 413,000 | kg | | 0,000 |
| pasir beton | 681,000 | kg | | 0,000 |
| krikil (max 30 mm) | 1.021,000 | kg | | 0,000 |
| Air | 215,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,650 | oh | | 0,000 |
| tukang batu | 0,275 | oh | | 0,000 |
| kepala tukang | 0,028 | oh | | 0,000 |
| mandor | 0,083 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pekerjaan beton untuk causeway (pelat injak dan dinding causeway) | | | | |
| Bahan | | | | |
| beton K-300 | 1,000 | m3 | | 0,000 |
| pembesian | 190,000 | kg | | 0,000 |
| bekisting | 1,000 | m2 | | 0,000 |
| Tenaga kerja | | | | |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 timbunan untuk kisdam | | | | |
| Bahan | | | | |
| material timbunan pilihan (quarry) | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,300 | oh | | 0,000 |
| mandor | 0,010 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |

| | | | | |
|--|--|---------------------|----|--------------|
| | 1 m3 pemadatan tanah (per 20cm) untuk kisdam | | | |
| | Bahan | | | |
| | Tenaga kerja | | | |
| | pekerja | 0,500 | oh | 0,000 |
| | mandor | 0,050 | oh | 0,000 |
| | Alat | | | |
| | | JUMLAH (A) : | | |
| | | | | 0,000 |
| | 1 ls saluran terbuka | | | |
| | Bahan | | | |
| | saluran terbuka | 1,000 | ls | 0,000 |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | JUMLAH (A) : | | |
| | | | | 0,000 |
| | 1 bh memasang bak kontrol pasangan batubata ukuran 30 x 30 tinggi 50 cm | | | |
| | Bahan | | | |
| | batu bata | 0,145 | m3 | 0,000 |
| | semen portland | 0,440 | kg | 0,000 |
| | pasir pasang | 0,070 | m3 | 0,000 |
| | batu kerikil | 0,070 | m3 | 0,000 |
| | besi beton | 1,600 | kg | 0,000 |
| | pasir beton | 0,060 | m3 | 0,000 |
| | Tenaga kerja | | | |
| | pekerja | 3,200 | oh | 0,000 |
| | tukang batu | 1,015 | oh | 0,000 |
| | kepala tukangh | 0,002 | oh | 0,000 |
| | mandor | 0,016 | oh | 0,000 |
| | Alat | | | |
| | | JUMLAH (A) : | | |
| | | | | 0,000 |
| | 1 bh memasang bak kontrol pasangan batubata ukuran 45 x 45 tinggi 50 cm | | | |
| | Bahan | | | |
| | batu bata | 0,250 | m3 | 0,000 |
| | semen portland | 77,000 | kg | 0,000 |
| | pasir pasang | 0,130 | m3 | 0,000 |
| | batu kerikil | 0,020 | m3 | 0,000 |
| | besi beton | 2,600 | kg | 0,000 |
| | pasir beton | 0,090 | m3 | 0,000 |
| | Tenaga kerja | | | |
| | pekerja | 1,420 | oh | 0,000 |
| | tukang batu | 0,473 | oh | 0,000 |
| | kepala tukangh | 0,047 | oh | 0,000 |
| | mandor | 0,071 | oh | 0,000 |
| | Alat | | | |
| | | JUMLAH (A) : | | |
| | | | | 0,000 |

| | | | | |
|--|--|---------|----|-------|
| | 1 bh memasang bak kontrol pasangan batubata ukuran 60 x 60 tinggi 50 cm | | | |
| | Bahan | | | |
| | batu bata | 0,371 | m3 | 0,000 |
| | semen portland | 114,000 | kg | 0,000 |
| | pasir pasang | 0,184 | m3 | 0,000 |
| | batu kerikil | 0,033 | m3 | 0,000 |
| | besi beton | 4,850 | kg | 0,000 |
| | pasir beton | 0,120 | m3 | 0,000 |

| | | | | | |
|--|---|---------------------|-----|--|--------------|
| | Tenaga kerja | | | | |
| | pekerja | 2,160 | oh | | 0,000 |
| | tukang batu | 0,720 | oh | | 0,000 |
| | kepala tukangh | 0,072 | oh | | 0,000 |
| | mandor | 0,108 | oh | | 0,000 |
| | tukang gali | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |
| | 1 unit Outfall | | | | |
| | | | | | |
| | Bahan | | | | |
| | galian tanah manual sedalam 1 m | 0,993 | m3 | | 0,000 |
| | pasangan batu kosong | 0,559 | m3 | | 0,000 |
| | lantai kerja | 0,030 | m3 | | 0,000 |
| | beton K-175 | 0,343 | m3 | | 0,000 |
| | Wiremesh dia 8-200 | 13,714 | kg | | 0,000 |
| | bekisting | 4,935 | m2 | | 0,000 |
| | plesteran dinding 1:2 | 4,830 | m2 | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |
| | 1 m3 pemasangan cerucuk | | | | |
| | | | | | |
| | Bahan | | | | |
| | bambu 5-10 cm panjang 6 m | 5.000,000 | btg | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 0,500 | oh | | 0,000 |
| | mandor | 0,025 | oh | | 0,000 |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |
| | 1 m3 beton K-300 plat injak | | | | |
| | | | | | |
| | Bahan | | | | |
| | beton K-300 | 1,000 | m3 | | 0,000 |
| | bekisting | 0,600 | m3 | | 0,000 |
| | pembesian | 150,000 | kg | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |
| | 1 m3 pengupasan lapisan atas (10cm), pembersihan dan pembongkaran tanaman (dia.<30cm) | | | | |
| | | | | | |
| | Bahan | | | | |
| | tanah timbunan pilihan (quarry) | 11,870 | m3 | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 0,560 | oh | | 0,000 |
| | mandor | 0,110 | oh | | 0,000 |
| | | | | | |
| | Alat | | | | |
| | dump truck 3,5 ton | 0,013 | jam | | 0,000 |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |
| | 1 m3 timbunan material pilihan | | | | |
| | | | | | |
| | Bahan | | | | |
| | timbunan material pilihan | 1,200 | m3 | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 0,200 | oh | | 0,000 |
| | mandor | 0,010 | oh | | 0,000 |
| | | | | | |
| | | JUMLAH (A) : | | | 0,000 |

| | | | | |
|--|-------|-----|--|--------------|
| 1 m3 pemadatan tanah (per 20cm) | | | | |
| Bahan | | | | |
| Tenaga kerja | | | | |
| pekerja | 0,500 | oh | | 0,000 |
| mandor | 0,500 | oh | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 pemadatan material timbunan | | | | |
| Bahan | | | | |
| timbunan material pilihan | 1,000 | m3 | | 0,000 |
| pemadatan tanah (per 20cm) | 1,000 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,500 | oh | | 0,000 |
| mandor | 0,500 | oh | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 material timbunan untuk causeway (termasuk pengangkutan dan pemadatan) | | | | |
| Bahan | | | | |
| tanah timbunan pilihan (quarry) | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,240 | oh | | 0,000 |
| mandor | 0,060 | oh | | 0,000 |
| Alat | | | | |
| Excavator | 0,007 | jam | | 0,000 |
| Dump truck 3,5 ton | 0,456 | jam | | 0,000 |
| motor grader | 0,089 | jam | | 0,000 |
| vibro roller | 0,008 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m2 persiapan lapisan sub grade | | | | |
| Bahan | | | | |
| Tenaga kerja | | | | |
| pekerja | 0,010 | oh | | 0,000 |
| mandor | 0,001 | oh | | 0,000 |
| Alat | | | | |
| motor grader | 0,000 | jam | | 0,000 |
| vibro roller | 0,002 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |
| 1 m3 lapisan base course (t=200cm, CBR≥80%) | | | | |
| Bahan | | | | |
| Agregat A | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,480 | oh | | 0,000 |
| mandor | 0,070 | oh | | 0,000 |
| Alat | | | | |
| wheel loader | 0,008 | jam | | 0,000 |
| dump truck 3,5 ton | 0,088 | jam | | 0,000 |
| motor grader | 0,005 | jam | | 0,000 |
| tandem roller | 0,024 | jam | | 0,000 |
| water tanker | 0,014 | jam | | 0,000 |
| JUMLAH (A) : | | | | 0,000 |

| | | | | |
|--|---------|-------|---------------------|--------------|
| 1 m3 lapisan sub base course (t=300cm, CBR≥30%) | | | | |
| Bahan | | | | |
| Agregat B | 1,200 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,480 | oh | | 0,000 |
| mandor | 0,070 | oh | | 0,000 |
| Alat | | | | |
| wheel loader | 0,008 | jam | | 0,000 |
| dump truck 3,5 ton | 0,088 | jam | | 0,000 |
| motor grader | 0,009 | jam | | 0,000 |
| tandem roller | 0,043 | jam | | 0,000 |
| water tanker | 0,014 | jam | | 0,000 |
| | | | JUMLAH (A) : | 0,000 |
| 1 m3 perkerasan beton bertulang (t=200cm) | | | | |
| Bahan | | | | |
| beton K-300 | 1,000 | m3 | | 0,000 |
| pembesian | 1,900 | 100kg | | 0,000 |
| bekisting | 1,000 | m2 | | 0,000 |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m3 beton lantai | | | | |
| Bahan | | | | |
| beton K-300 | 1,000 | m3 | | 0,000 |
| pembesian | 150,000 | kg | | 0,000 |
| bekisting | 0,600 | m2 | | 0,000 |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 kg pembesian wiremesh | | | | |
| Bahan | | | | |
| jaring kawat baja dilas | 1,020 | kg | | 0,000 |
| kawat beton | 0,050 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,025 | oh | | 0,000 |
| tukang besi | 0,025 | oh | | 0,000 |
| kepala tukang | 0,002 | oh | | 0,000 |
| mandor | 0,001 | oh | | 0,000 |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit tulangan dowel (φ16, L=500m termasuk dudukan φ12, L=3300m) | | | | |
| Bahan | | | | |
| tulangan dowel φ16, L=500m | 1,000 | unit | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,100 | oh | | 0,000 |
| tukang besi | 0,010 | oh | | 0,000 |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m3 pengisian aspal | | | | |
| Bahan | | | | |
| aspal | 1,014 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,000 | oh | | 0,000 |
| mandor | 0,025 | oh | | 0,000 |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |

| | | | | |
|--|--------|------|------|--------------|
| 1 m1 pagar BRC 175 | | | | |
| Bahan | | | | |
| beton K-175 untuk pondasi | 0,026 | m3 | 0,03 | 0,000 |
| BRC t-1,75cm, l=2,4m + asesoris | 1,000 | lbr | 1,00 | 0,001 |
| tiang pagar BRC, 2" galvanis, berikut tut | 1,000 | unit | 1,00 | 1,000 |
| Tenaga kerja | | | | |
| pekerja | 6,000 | oh | | 0,000 |
| tukang batu | 2,500 | oh | | 0,000 |
| kepala tukang | 1,200 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 1,001 |
| 1 m1 pagar BRC 155 | | | | |
| Bahan | | | | |
| beton K-175 untuk pondasi | 0,026 | m3 | 0,03 | 0,000 |
| BRC t-1,5cm, l=1,8m + asesoris | 1,000 | lbr | 1,00 | 0,001 |
| tiang pagar BRC, 2" galvanis, berikut tut | 1,000 | unit | 1,00 | 1,000 |
| Tenaga kerja | | | | |
| pekerja | 6,000 | oh | | 0,000 |
| tukang batu | 2,500 | oh | | 0,000 |
| kepala tukang | 1,200 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 1,001 |
| 1 m1 gerbang pipa galvanize 4", tipe BRC, lebar 150, kunci pipa baja 10mm | | | | |
| Bahan | | | | |
| penggalan tanah untuk pondasi | 0,950 | m3 | | 0,000 |
| timbunan tanah kembali termasuk pema | 0,815 | m3 | | 0,000 |
| beton lantai kerja untuk pondasi dan di b | 0,021 | m3 | | 0,000 |
| batok K-175 untuk pondasi | 0,114 | m3 | | 0,000 |
| pembesian | 10,000 | kg | | 0,000 |
| gerbang pipa galvanize 4", 175 kawat pa | 2,000 | unit | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 6,000 | oh | | 0,000 |
| tukang batu | 2,500 | oh | | 0,000 |
| kepala tukang | 1,200 | oh | | 0,000 |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |

ANALISA HARGA SATUAN PEKERJAAN

Pekerjaan : Pembangunan Pelabuhan
 Kegiatan : Dermaga dan Trestle

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|-----|--|---------------------|--------|---------------------|--------------|
| | 1 kg pengadaan tiang pancang baja (luar pulau) | | | | |
| | Bahan | | | | |
| | tiang pancang | 1 | kg | | 0,000 |
| | kayu ganjal | 0,001 | m3 | | 0,000 |
| | Tenaga kerja | | | | |
| | transportasi dari pabrik ke pelabuhan 1 | 1,000 | kg | | 0,000 |
| | bongkar muat di pelabuhan 1 | 1,000 | kg | | 0,000 |
| | transportasi dari pelabuhan 1 ke pelabuhan 2 | 1,000 | kg | | 0,000 |
| | bongkar muat di pelabuhan 2 | 1,000 | kg | | 0,000 |
| | transportasi dari pelabuhan 2 ke lokasi proyek | 1,000 | kg | | 0,000 |
| | pengaturan di lokasi proyek | 1,000 | kg | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 kg pengadaan tiang pancang baja (satu pulau) | | | | |
| | Bahan | | | | |
| | tiang pancang | 1 | kg | | 0,000 |
| | kayu ganjal | 0,001 | m3 | | 0,000 |
| | Tenaga kerja | | | | |
| | transportasi dari pabrik ke lokasi proyek | 1,000 | kg | | 0,000 |
| | pengaturan di lokasi proyek | 1,000 | kg | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 kg pengadaan tiang pancang beton (luar pulau) | | | | |
| | Bahan | | | | |
| | tiang pancang | 1 | m1 | | 0,000 |
| | kayu ganjal | 0,01 | m3 | | 0,000 |
| | Tenaga kerja | | | | |
| | transportasi dari pabrik ke pelabuhan 1 | 1,000 | m1 | | 0,000 |
| | bongkar muat di pelabuhan 1 | 1,000 | m1 | | 0,000 |
| | transportasi dari pelabuhan 1 ke pelabuhan 2 | 1,000 | m1 | | 0,000 |
| | bongkar muat di pelabuhan 2 | 1,000 | m1 | | 0,000 |
| | transportasi dari pelabuhan 2 ke lokasi proyek | 1,000 | m1 | | 0,000 |
| | pengaturan di lokasi proyek | 1,000 | m1 | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 kg pengadaan tiang pancang beton (satu pulau) | | | | |
| | Bahan | | | | |
| | tiang pancang | 1 | m1 | | 0,000 |
| | kayu ganjal | 0,001 | m3 | | 0,000 |
| | Tenaga kerja | | | | |
| | transportasi dari pabrik ke lokasi proyek | 1,000 | m1 | | 0,000 |
| | pengaturan di lokasi proyek | 1,000 | m1 | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 kg pengadaan sepatu tiang (luar pulau) | | | | |
| | Bahan | | | | |
| | tiang pancang | 1 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | transportasi dari pabrik ke pelabuhan 1 | 1,000 | kg | | 0,000 |
| | bongkar muat di pelabuhan 1 | 1,000 | kg | | 0,000 |
| | transportasi dari pelabuhan 1 ke pelabuhan 2 | 1,000 | kg | | 0,000 |
| | bongkar muat di pelabuhan 2 | 1,000 | kg | | 0,000 |
| | transportasi dari pelabuhan 2 ke lokasi proyek | 1,000 | kg | | 0,000 |
| | pengaturan di lokasi proyek | 1,000 | kg | | 0,000 |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |

| | | | | |
|---|---------|-----|--|---------------------|
| 1 kg pengadaan sepatu tiang (satu pulau) | | | | |
| Bahan | | | | |
| tiang pancang | 1 | kg | | 0,000 |
| Tenaga kerja | | | | |
| transportasi dari pabrik ke lokasi proyek | 1,000 | kg | | 0,000 |
| pengaturan di lokasi proyek | 1,000 | kg | | 0,000 |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 hr Operasional crawel crane | | | | |
| Bahan | | | | |
| oli | 5 | ltr | | 0,000 |
| Solar | 250 | ltr | | 0,000 |
| Grease | 2,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| Operator | 1,000 | oh | | 0,000 |
| Pembantu operator | 2,000 | oh | | 0,000 |
| Alat | | | | |
| Crawler Crane | 1,000 | hr | | 0,000 |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 hr Operasional ponton transport | | | | |
| Bahan | | | | |
| oli | 5,000 | ltr | | 0,000 |
| Solar | 200,000 | ltr | | 0,000 |
| Grease | 2,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 10,000 | oh | | 0,000 |
| operator | 1,000 | oh | | 0,000 |
| pembantu operator | 2,000 | oh | | 0,000 |
| Alat | | | | |
| ponton transport | 1,000 | hr | | 0,000 |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m1 pengangkutan tiang pancang ke titik pancang | | | | |
| Bahan | | | | |
| Operasional crawel crane | 0,008 | hr | | 0,000 |
| Operasional ponton transport | 0,008 | hr | | 0,000 |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 hr Operasional diesel hammer | | | | |
| Bahan | | | | |
| oli | 4,000 | ltr | | 0,000 |
| Solar | 200,000 | ltr | | 0,000 |
| Grease | 2,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 3,000 | oh | | 0,000 |
| operator | 1,000 | oh | | 0,000 |
| pembantu operator | 2,000 | oh | | 0,000 |
| Alat | | | | |
| ponton transport | 1,000 | hr | | 0,000 |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 hr Operasional ponton pancang | | | | |
| Bahan | | | | |
| oli | 4,000 | ltr | | 0,000 |
| Solar | 100,000 | ltr | | 0,000 |
| Grease | 2,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,000 | oh | | 0,000 |
| operator | 2,000 | oh | | 0,000 |
| pembantu operator | 10,000 | oh | | 0,000 |
| Alat | | | | |

| | | | | | |
|--|---|---------|--------|---------------------|--------------|
| | ponton transport | 1,000 | hr | | 0,000 |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m1 pemancangan tiang tegak | | | | |
| | Bahan | | | | |
| | pengangkutan tiang pancang ke titik pancang | 1,000 | m1 | | 0,000 |
| | Operasional diesel hammer | 0,033 | hr | | 0,000 |
| | operasional ponton pancang | 0,033 | hr | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m1 pemancangan tiang miring | | | | |
| | Bahan | | | | |
| | pengangkutan tiang pancang ke titik pancang | 1,000 | m1 | | 0,000 |
| | Operasional diesel hammer | 0,042 | hr | | 0,000 |
| | operasional ponton pancang | 0,042 | hr | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m1 pemancangan tiang pancang beton | | | | |
| | Bahan | | | | |
| | kawat las | 10,000 | kg | | 0,000 |
| | plat baja strip | 3,125 | kg | | 0,000 |
| | pelumas | 3,000 | ltr | | 0,000 |
| | solar | 25,000 | ltr | | 0,000 |
| | oli | 3,000 | ltr | | 0,000 |
| | Tenaga kerja | | | | |
| | tukang las | 1,000 | oh | | 0,000 |
| | Alat | | | | |
| | mesin las listrik dan perlengkapan | 0,150 | hr | | 0,000 |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 bh pemotongan tiang pancang baja | | | | |
| | Bahan | | | | |
| | Oksigen | 0,050 | tabung | | 0,000 |
| | Karbit | 1,000 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | tukang las | 0,500 | oh | | 0,000 |
| | Alat | | | | |
| | mesin las karbit | 1,000 | hr | | 0,000 |
| | alat bantu pemotong tiang pancang baja | 1,000 | ls | | 0,000 |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 bh pemotongan tiang pancang beton | | | | |
| | Bahan | | | | |
| | Oksigen | 0,030 | tabung | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 0,500 | oh | | 0,000 |
| | tukang las | 0,250 | oh | | 0,000 |
| | mandor | 0,050 | oh | | 0,000 |
| | Alat | | | | |
| | mesin las karbit | 0,899 | hr | | 0,000 |
| | alat bantu pemotong tiang pancang baja | 1,000 | ls | | 0,000 |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 perlindungan tiang pancang dengan selimut beton | | | | |
| | Bahan | | | | |
| | Beton K-300 | 1,000 | m3 | | 0,000 |
| | Cetakan beton | 10,250 | m3 | | 0,000 |
| | pembesian | 133,000 | kg | | 0,000 |
| | Tenaga kerja | | | | |

| | | | | |
|--|-----------|-----|--|---------------------|
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m2 pengecatan tiang pancang baja | | | | |
| Bahan | | | | |
| A C marine use (anti cerosif M U) | 1,000 | m3 | | 0,000 |
| A F marine use (anti fouling M U) | 10,250 | m3 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,150 | oh | | 0,000 |
| tukang cat | 0,250 | oh | | 0,000 |
| kepala tukang | 0,025 | oh | | 0,000 |
| mandor | 0,008 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m2 perlindungan tiang pancang dengan splash guard | | | | |
| Bahan | | | | |
| splash guard | 1,100 | m2 | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,500 | oh | | 0,000 |
| penyelam | 0,250 | oh | | 0,000 |
| mandor | 0,050 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m2 perlindungan tiang pancang dengan catodic protection | | | | |
| Bahan | | | | |
| catodic protection | 1,000 | ls | | 0,000 |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 beton K-400 (f'c=36 Mpa, slump (12±2)cm, w/c=0,46 | | | | |
| Bahan | | | | |
| semen portland | 413,000 | kg | | 0,000 |
| pasir beton | 681,000 | kg | | 0,000 |
| krikil (max 30mm) | 1.021,000 | kg | | 0,000 |
| Air | 215,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,650 | oh | | 0,000 |
| tukang batu | 0,275 | oh | | 0,000 |
| kepala tukang | 0,028 | oh | | 0,000 |
| mandor | 0,083 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 beton K-400 (f'c=26,4 Mpa, slump (12±2)cm, w/c=0,52 | | | | |
| Bahan | | | | |
| semen portland | 413,000 | kg | | 0,000 |
| pasir beton | 681,000 | kg | | 0,000 |
| krikil (max 30mm) | 1.021,000 | kg | | 0,000 |
| Air | 215,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,650 | oh | | 0,000 |
| tukang batu | 0,275 | oh | | 0,000 |
| kepala tukang | 0,028 | oh | | 0,000 |
| mandor | 0,083 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 beton K-400 (f'c=19,3 Mpa, slump (12±2)cm, w/c=0,58 | | | | |
| Bahan | | | | |
| semen portland | 371,000 | kg | | 0,000 |
| pasir beton | 698,000 | kg | | 0,000 |
| krikil (max 30mm) | 1.047,000 | kg | | 0,000 |
| Air | 215,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |

| | | | | |
|--|-------------|----------------|---------------------|--------------|
| pekerja | 1,650 | oh | | 0,000 |
| tukang batu | 0,275 | oh | | 0,000 |
| kepala tukang | 0,028 | oh | | 0,000 |
| mandor | 0,083 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m3 beton K-400 (f'c=14,5Mpa, slump (12±2)cm, w/c=0,66 | | | | |
| Bahan | | | | |
| semen portland | 326,000 | kg | | 0,000 |
| pasir beton | 760,000 | kg | | 0,000 |
| krikil (max 30mm) | 1.029,000 | kg | | 0,000 |
| Air | 215,000 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,650 | oh | | 0,000 |
| tukang batu | 0,275 | oh | | 0,000 |
| kepala tukang | 0,028 | oh | | 0,000 |
| mandor | 0,083 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 10 kg pembesian (polos/ulir) | | | | |
| Bahan | | | | |
| besi beton (polos/ulir) | 10.500,000 | kg | | 0,000 |
| kawat beton | 0,150 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,070 | oh | | 0,000 |
| tukang batu | 0,070 | oh | | 0,000 |
| kepala tukang | 0,007 | oh | | 0,000 |
| mandor | 0,004 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 100 kg pembesian (polos/ulir) | | | | |
| Bahan | | | | |
| besi beton (polos/ulir) | 110.500,000 | kg | | 0,000 |
| kawat beton | 2,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 6,000 | oh | | 0,000 |
| tukang besi | 3,000 | oh | | 0,000 |
| kepala tukang | 1,000 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 set Tulangan Stek | | | | |
| Bahan | | | | |
| besi beton ulir | 67,400 | kg | | 0,000 |
| Kawat las | 4,000 | kg | | 0,000 |
| Bahan bakar solar | 2,000 | m ³ | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,000 | oh | | 0,000 |
| tukang besi | 0,100 | oh | | 0,000 |
| tukang las | 0,250 | oh | | 0,000 |
| Alat | | | | |
| Bar cutter | 0,350 | hr | | 0,000 |
| Bar bender | 0,350 | hr | | 0,000 |
| Mesin las listrik dan perlengkapannya | 0,250 | hr | | 0,000 |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m² Perancah kerja pengecoran | | | | |
| Bahan | | | | |
| Papan kayu kelas III (meranti) | 0,040 | m ³ | | 0,000 |
| Paku | 1,000 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,500 | oh | | 0,000 |
| tukang kayu | 2,000 | oh | | 0,000 |
| tukang bongkar | 0,500 | oh | | 0,000 |
| Kepala tukang | 0,050 | oh | | 0,000 |
| Mandor | 0,010 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |

| | | | | |
|--|-------|----------------|---------------------|--------------|
| 1 m² Bekisting | | | | |
| Bahan | | | | |
| Papan kayu kelas II (kamper singkil) | 0,040 | m ³ | | 0,000 |
| Paku 5cm - 10cm | 0,500 | kg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,050 | oh | | 0,000 |
| tukang kayu | 0,500 | oh | | 0,000 |
| tukang bongkar | 0,500 | oh | | 0,000 |
| Kepala tukang | 0,500 | oh | | 0,000 |
| Mandor | 0,010 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m² Bekisting pondasi | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,040 | m ³ | | 0,000 |
| Paku 5cm - 10cm | 0,500 | kg | | 0,000 |
| Minyak bekisting | 0,100 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,520 | oh | | 0,000 |
| tukang kayu | 0,260 | oh | | 0,000 |
| Kepala tukang | 0,026 | oh | | 0,000 |
| Mandor | 0,026 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m² Bekisting sloof | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,045 | m ³ | | 0,000 |
| Paku 5cm - 10cm | 0,300 | kg | | 0,000 |
| Minyak bekisting | 0,100 | ltr | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,520 | oh | | 0,000 |
| tukang kayu | 0,260 | oh | | 0,000 |
| Kepala tukang | 0,026 | oh | | 0,000 |
| Mandor | 0,026 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m² Bekisting kolom/tiang | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,040 | m ³ | | 0,000 |
| Paku 5cm - 12cm | 0,400 | kg | | 0,000 |
| Minyak bekisting | 0,200 | ltr | | 0,000 |
| Balok Kayu kelas II | 0,015 | m ³ | | 0,000 |
| Plywood tebal 9 mm | 0,350 | lbr | | 0,000 |
| Dolken kayu galam, Ø (8-10)cm, panjang 4m | 2,000 | btg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,660 | oh | | 0,000 |
| tukang kayu | 0,330 | oh | | 0,000 |
| Kepala tukang | 0,033 | oh | | 0,000 |
| Mandor | 0,033 | oh | | 0,000 |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m² Bekisting balok | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,040 | m ³ | | 0,000 |
| Paku 5cm - 12cm | 0,400 | kg | | 0,000 |
| Minyak bekisting | 0,200 | ltr | | 0,000 |
| Balok Kayu kelas II | 0,018 | m ³ | | 0,000 |
| Plywood tebal 9 mm | 0,350 | lbr | | 0,000 |
| Dolken kayu galam, Ø (8-10)cm, panjang 4m | 2,000 | btg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,660 | oh | | 0,000 |
| tukang kayu | 0,330 | oh | | 0,000 |
| Kepala tukang | 0,033 | oh | | 0,000 |
| Mandor | 0,033 | oh | | 0,000 |

| | | | | |
|--|-------|----------------|--|---------------------|
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | | | | |
| | | | | |
| 1 m² Bekisting plat lantai | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,040 | m ³ | | 0,000 |
| Paku 5cm - 12cm | 0,400 | kg | | 0,000 |
| Minyak bekisting | 0,200 | ltr | | 0,000 |
| Balok Kayu kelas II | 0,015 | m ³ | | 0,000 |
| Plywood tebal 9 mm | 0,350 | lbr | | 0,000 |
| Dolken kayu galam, Ø (8-10)cm, panjang 4m | 6,000 | btg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,660 | oh | | 0,000 |
| tukang kayu | 0,330 | oh | | 0,000 |
| Kepala tukang | 0,033 | oh | | 0,000 |
| Mandor | 0,033 | oh | | 0,000 |
| | | | | |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m² Bekisting dinding | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,030 | m ³ | | 0,000 |
| Paku 5cm - 12cm | 0,400 | kg | | 0,000 |
| Minyak bekisting | 0,200 | ltr | | 0,000 |
| Balok Kayu kelas II | 0,020 | m ³ | | 0,000 |
| Plywood tebal 9 mm | 0,350 | lbr | | 0,000 |
| Dolken kayu galam, Ø (8-10)cm, panjang 4m | 3,000 | btg | | 0,000 |
| Formite/penjaga jarak bekisting/spacer | 4,000 | bh | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,660 | oh | | 0,000 |
| tukang kayu | 0,330 | oh | | 0,000 |
| Kepala tukang | 0,033 | oh | | 0,000 |
| Mandor | 0,033 | oh | | 0,000 |
| | | | | |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m² Bekisting tangga | | | | |
| Bahan | | | | |
| Kayu kelas III | 0,030 | m ³ | | 0,000 |
| Paku 5cm - 12cm | 0,400 | kg | | 0,000 |
| Minyak bekisting | 0,150 | ltr | | 0,000 |
| Balok Kayu kelas II | 0,015 | m ³ | | 0,000 |
| Plywood tebal 9 mm | 0,350 | lbr | | 0,000 |
| Dolken kayu galam, Ø (8-10)cm, panjang 4m | 2,000 | btg | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 0,660 | oh | | 0,000 |
| tukang kayu | 0,330 | oh | | 0,000 |
| Kepala tukang | 0,033 | oh | | 0,000 |
| Mandor | 0,033 | oh | | 0,000 |
| | | | | |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m³ Beton pre-cast lantai dermaga kargo | | | | |
| Bahan | | | | |
| Beton K-300 | 0,990 | m ³ | | 0,000 |
| Pembesian | 2,070 | 100kg | | 0,000 |
| Bekisting | 1,640 | m ² | | 0,000 |
| Tenaga kerja | | | | |
| pekerja | 1,000 | oh | | 0,000 |
| Tukang | 3,000 | oh | | 0,000 |
| Mandor | 0,100 | oh | | 0,000 |
| | | | | |
| Alat | | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m³ Beton pre-cast lantai dermaga ro-ro | | | | |
| Bahan | | | | |
| Beton K-300 | 0,490 | m ³ | | 0,000 |
| Pembesian | 1,620 | 100kg | | 0,000 |
| Bekisting | 1,370 | m ² | | 0,000 |

| | | | | | |
|--|--|--------|-------|---------------------|--------------|
| | | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 1,000 | oh | | 0,000 |
| | Tukang | 3,000 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton pre-cast lantai trestle kargo | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,490 | m³ | | 0,000 |
| | Pembesian | 1,620 | 100kg | | 0,000 |
| | Bekisting | 1,370 | m² | | 0,000 |
| | Tenaga kerja | | | | |
| | pekerja | 1,000 | oh | | 0,000 |
| | Tukang | 3,000 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton pre-cast lantai trestle ro-ro | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,490 | m³ | | 0,000 |
| | Pembesian | 1,620 | 100kg | | 0,000 |
| | Bekisting | 1,370 | m² | | 0,000 |
| | Tenaga kerja | | | | |
| | pekerja | 1,000 | oh | | 0,000 |
| | Tukang | 3,000 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton pre-cast lantai gang-way | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,490 | m³ | | 0,000 |
| | Pembesian | 1,620 | 100kg | | 0,000 |
| | Bekisting | 1,370 | m² | | 0,000 |
| | Tenaga kerja | | | | |
| | pekerja | 1,000 | oh | | 0,000 |
| | Tukang | 3,000 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 10 m³ Pengangkutan beton pre-cast | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 20,000 | oh | | 0,000 |
| | Tukang | 2,000 | oh | | 0,000 |
| | Kepala tukang | 0,020 | oh | | 0,000 |
| | Mandor | 0,020 | oh | | 0,000 |
| | Alat | | | | |
| | Operasional crawler crane | 1,000 | hr | | 0,000 |
| | Operasional ponton transport | 1,000 | hr | | 0,000 |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pengangkutan beton pre-cast | | | | |
| | Bahan | | | | |
| | Tenaga kerja | | | | |
| | pekerja | 2,000 | oh | | 0,000 |
| | Tukang | 0,200 | oh | | 0,000 |
| | Kepala tukang | 0,002 | oh | | 0,000 |
| | Mandor | 0,002 | oh | | 0,000 |
| | Alat | | | | |
| | Operasional crawler crane | 0,100 | hr | | 0,000 |
| | Operasional ponton transport | 0,100 | hr | | 0,000 |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pemasangan beton pre-cast lantai dermaga kargo | | | | |

| | | | | | |
|--|---|---------|----------------|---------------------|--------------|
| | | | | | |
| | Bahan | | | | |
| | Beton pre-cast lantai dermaga kargo | 1,000 | m ³ | | 0,000 |
| | Pengangkutan beton pre-cast | 1,000 | m ³ | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pemasangan beton pre-cast lantai dermaga ro-ro | | | | |
| | Bahan | | | | |
| | Beton pre-cast lantai dermaga ro-ro | 1,000 | m ³ | | 0,000 |
| | Pengangkutan beton pre-cast | 1,000 | m ³ | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pemasangan beton pre-cast lantai trestle kargo | | | | |
| | Bahan | | | | |
| | Beton pre-cast lantai dermaga ro-ro | 1,000 | m ³ | | 0,000 |
| | Pengangkutan beton pre-cast | 1,000 | m ³ | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pemasangan beton pre-cast lantai trestle ro-ro | | | | |
| | Bahan | | | | |
| | Beton pre-cast lantai dermaga ro-ro | 1,000 | m ³ | | 0,000 |
| | Pengangkutan beton pre-cast | 1,000 | m ³ | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Pemasangan beton pre-cast lantai gang-way | | | | |
| | Bahan | | | | |
| | Beton pre-cast lantai dermaga ro-ro | 1,000 | m ³ | | 0,000 |
| | Pengangkutan beton pre-cast | 1,000 | m ³ | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton cast-in-situ lantai dermaga kargo | | | | |
| | Bahan | | | | |
| | Beton K-300 | 212,500 | m ³ | | 0,000 |
| | Pembesian | 383,950 | 100kg | | 0,000 |
| | Bekisiting | 25,500 | m ² | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton cast-in-situ lantai dermaga ro-ro | | | | |
| | Bahan | | | | |
| | Beton K-300 | 89,250 | m ³ | | 0,000 |
| | Pembesian | 185,330 | 100kg | | 0,000 |
| | Bekisiting | 17,000 | m ² | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton cast-in-situ lantai trestle kargo | | | | |
| | Bahan | | | | |
| | Beton K-300 | 85,000 | m ³ | | 0,000 |
| | Pembesian | 205,440 | 100kg | | 0,000 |
| | Bekisiting | 20,400 | m ² | | 0,000 |
| | | | | | |
| | Tenaga kerja | | | | |
| | | | | | |
| | Alat | | | | |
| | | | | | |
| | | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton cast-in-situ lantai trestle ro-ro | | | | |

| | | | | |
|--|---|---------|----------------|---------------------|
| | Bahan | | | |
| | Beton K-300 | 85,000 | m ³ | 0,000 |
| | Pembesian | 205,440 | 100kg | 0,000 |
| | Bekisiting | 20,400 | m ² | 0,000 |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 m³ Beton cast-in-situ lantai gang-way | | | 0,000 |
| | Bahan | | | |
| | Beton K-300 | 1,000 | m ³ | 0,000 |
| | Pembesian | 205,440 | 100kg | 0,000 |
| | Bekisiting | 20,400 | m ² | 0,000 |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 kg Pelat stopper tiang pancang | | | 0,000 |
| | Bahan | | | |
| | Kawat las | 0,100 | m ³ | 0,000 |
| | Besi plat baja | 1,000 | kg | 0,000 |
| | Tenaga kerja | | | |
| | Pekerja | 0,500 | oh | 0,000 |
| | Tukang las | 0,010 | oh | 0,000 |
| | Mandor | 0,025 | oh | 0,000 |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 m³ Beton isi tiang pancang tipe I | | | 0,000 |
| | Bahan | | | |
| | Beton K-300 | 1,250 | m ³ | 0,000 |
| | Pembesian | 0,190 | 100kg | 0,000 |
| | Pelat stopper tiang pancang | 21,130 | kg | 0,000 |
| | Tenaga kerja | | | |
| | Pekerja | 1,000 | oh | 0,000 |
| | Tukang Besi | 0,500 | oh | 0,000 |
| | Mandor | 0,100 | oh | 0,000 |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 m³ Beton isi tiang pancang tipe II | | | 0,000 |
| | Bahan | | | |
| | Beton K-300 | 0,910 | m ³ | 0,000 |
| | Pembesian | 0,140 | 100kg | 0,000 |
| | Pelat stopper tiang pancang | 21,130 | kg | 0,000 |
| | Tenaga kerja | | | |
| | Pekerja | 1,000 | oh | 0,000 |
| | Tukang Besi | 0,500 | oh | 0,000 |
| | Mandor | 0,100 | oh | 0,000 |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 m³ Beton isi tiang pancang tipe III | | | 0,000 |
| | Bahan | | | |
| | Beton K-300 | 0,830 | m ³ | 0,000 |
| | Pembesian | 0,130 | 100kg | 0,000 |
| | Pelat stopper tiang pancang | 17,620 | kg | 0,000 |
| | Tenaga kerja | | | |
| | Pekerja | 1,000 | oh | 0,000 |
| | Tukang Besi | 0,500 | oh | 0,000 |
| | Mandor | 0,100 | oh | 0,000 |
| | Alat | | | |
| | | | | JUMLAH (A) : |
| | 1 m³ Beton isi tiang pancang tipe IV | | | 0,000 |
| | Bahan | | | |
| | Beton K-300 | 0,830 | m ³ | 0,000 |

| | | | | | |
|--|---|--------|-------|---------------------|--------------|
| | Pembesian | 0,130 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 17,620 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Tukang Besi | 0,500 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton isi tiang pancang tipe V | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,780 | m³ | | 0,000 |
| | Pembesian | 0,120 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 17,620 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Tukang Besi | 0,500 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m³ Beton isi tiang pancang tipe VI | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,830 | m³ | | 0,000 |
| | Pembesian | 0,130 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 17,620 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Tukang Besi | 0,500 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Beton isi tiang pancang tipe VIA | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,910 | m3 | | 0,000 |
| | Pembesian | 0,140 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 21,130 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Tukang Besi | 0,500 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Beton isi tiang pancang tipe VII | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,830 | m3 | | 0,000 |
| | Pembesian | 0,130 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 17,620 | kg | | 0,000 |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | 0,000 |
| | Tukang Besi | 0,500 | oh | | 0,000 |
| | Mandor | 0,100 | oh | | 0,000 |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Beton isi tiang pancang tipe VIII | | | | |
| | Bahan | | | | |
| | Beton K-300 | 0,670 | m3 | | 0,000 |
| | Pembesian | 0,110 | 100kg | | 0,000 |
| | Pelat stopper tiang pancang | 11,560 | kg | | 0,000 |
| | Tenaga kerja | | | | |

| | | | | |
|---|--------|-------|---------------------|--------------|
| Pekerja | 1,000 | oh | | 0,000 |
| Tukang Besi | 0,500 | oh | | 0,000 |
| Mandor | 0,100 | oh | | 0,000 |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| | | | | |
| | | | | |
| 1 m3 Beton isi tiang pancang tipe IX | | | | |
| Bahan | | | | |
| Beton K-300 | 0,670 | m3 | | 0,000 |
| Pembesian | 0,110 | 100kg | | 0,000 |
| Pelat stopper tiang pancang | 11,560 | kg | | |
| Tenaga kerja | | | | |
| Pekerja | 1,000 | oh | | 0,000 |
| Tukang Besi | 0,500 | oh | | 0,000 |
| Mandor | 0,100 | oh | | 0,000 |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| | | | | |
| 1 m3 Beton kelas C untuk kepala tiang, kolom, balok, termasuk bekisting dan perancah | | | | |
| Bahan | | | | |
| Beton K-175 | 1,100 | m3 | | 0,000 |
| Bekisting | 1,200 | m2 | | 0,000 |
| Perancah | 1,200 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| | | | | |
| 1 unit kepala tiang tipe I | | | | |
| Bahan | | | | |
| Beton K-300 | 3,220 | m3 | | 0,000 |
| Pembesian | 3,340 | 100kg | | 0,000 |
| Bekisting | 13,370 | m2 | | |
| Perancah | 2,150 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| | | | | |
| 1 unit kepala tiang tipe II | | | | |
| Bahan | | | | |
| Beton K-300 | 1,100 | m3 | | 0,000 |
| Pembesian | 1,910 | 100kg | | 0,000 |
| Bekisting | 6,370 | m2 | | |
| Perancah | 1,690 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| | | | | |
| 1 unit kepala tiang tipe III | | | | |
| Bahan | | | | |
| Beton K-300 | 3,400 | m3 | | 0,000 |
| Pembesian | 2,030 | 100kg | | 0,000 |
| Bekisting | 13,770 | m2 | | |
| Perancah | 2,210 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |

| | | | | |
|--|--------------------------------------|---------|-------|---------------------|
| | | | | |
| | 1 unit kepala tiang tipe IV | | | |
| | Bahan | | | |
| | Beton K-300 | 1,170 | m3 | 0,000 |
| | Pembesian | 1,910 | 100kg | 0,000 |
| | Bekisting | 6,370 | m2 | |
| | Perancah | 1,690 | m2 | |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | 1 unit kepala tiang tipe V | | | |
| | Bahan | | | |
| | Beton K-300 | 1,000 | m3 | 0,000 |
| | Pembesian | 1,860 | 100kg | 0,000 |
| | Bekisting | 5,850 | m2 | |
| | Perancah | 1,690 | m2 | |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | 1 unit kepala tiang tipe VI | | | |
| | Bahan | | | |
| | Beton K-300 | 91,730 | m3 | 0,000 |
| | Pembesian | 29,760 | 100kg | 0,000 |
| | Bekisting | 66,000 | m2 | |
| | Perancah | 18,000 | m2 | |
| | Rangka baja | 1,060 | kg | |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | 1 unit kepala tiang tipe VIA | | | |
| | Bahan | | | |
| | Beton K-300 | 1,450 | m3 | 0,000 |
| | Pembesian | 2,030 | 100kg | 0,000 |
| | Bekisting | 13,770 | m2 | |
| | Perancah | 2,210 | m2 | |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | 1 unit kepala tiang tipe VII | | | |
| | Bahan | | | |
| | Beton K-300 | 21,160 | m3 | 0,000 |
| | Pembesian | 23,010 | 100kg | 0,000 |
| | Bekisting | 40,000 | m2 | |
| | Perancah | 16,000 | m2 | |
| | Rangka Baja | 718,560 | kg | |
| | Tenaga kerja | | | |
| | Alat | | | |
| | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| | 1 unit kepala tiang tipe VIII | | | |
| | Bahan | | | |
| | Beton K-300 | 1,520 | m3 | 0,000 |
| | Pembesian | 1,860 | 100kg | 0,000 |
| | Bekisting | 6,720 | m2 | |
| | Perancah | 3,520 | m2 | |
| | Tenaga kerja | | | |

| | | | | |
|---|--------|-------|--|---------------------|
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 unit kepala tiang tipe IX | | | | |
| Bahan | | | | |
| Beton K-300 | 1,520 | m3 | | 0,000 |
| Pembesian | 1,710 | 100kg | | 0,000 |
| Bekisting | 6,720 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 Balok melintang dermaga kargo, termasuk pondasi lampu | | | | |
| Bahan | | | | |
| Beton K-300 | 6,000 | m3 | | 0,000 |
| Pembesian | 13,720 | 100kg | | 0,000 |
| Bekisting | 36,980 | m2 | | |
| Perancah | 12,500 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 Balok melintang dermaga kargo, termasuk pondasi lampu | | | | |
| Bahan | | | | |
| Beton K-300 | 6,000 | m3 | | 0,000 |
| Pembesian | 13,720 | 100kg | | 0,000 |
| Bekisting | 36,980 | m2 | | |
| Perancah | 12,500 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 Balok melintang dermaga ro-ro, termasuk pondasi lampu | | | | |
| Bahan | | | | |
| Beton K-300 | 3,600 | m3 | | 0,000 |
| Pembesian | 7,260 | 100kg | | 0,000 |
| Bekisting | 22,380 | m2 | | |
| Perancah | 7,500 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 Balok melintang trestle kargo, termasuk pondasi lampu | | | | |
| Bahan | | | | |
| Beton K-300 | 2,400 | m3 | | 0,000 |
| Pembesian | 5,610 | 100kg | | 0,000 |
| Bekisting | 15,080 | m2 | | |
| Perancah | 5,000 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | | JUMLAH (A) : |
| | | | | 0,000 |
| 1 m3 Balok melintang trestle ro-ro, termasuk pondasi lampu | | | | |
| Bahan | | | | |
| Beton K-300 | 2,400 | m3 | | 0,000 |
| Pembesian | 3,580 | 100kg | | 0,000 |
| Bekisting | 15,080 | m2 | | |
| Perancah | 5,000 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |

| | | | | | |
|--|---|--------|-------|---------------------|--------------|
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok melintang gang-way, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 2,400 | m3 | | 0,000 |
| | | | | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok memanjang dermaga kargo, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 12,000 | m3 | | 0,000 |
| | Pembesian | 27,800 | 100kg | | 0,000 |
| | Bekisting | 73,480 | m2 | | |
| | Perancah | 25,000 | m2 | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok memanjang dermaga ro-ro, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 8,880 | m3 | | 0,000 |
| | Pembesian | 20,390 | 100kg | | 0,000 |
| | Bekisting | 54,500 | m2 | | |
| | Perancah | 18,500 | m2 | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok memanjang trestle kargo, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 12,000 | m3 | | 0,000 |
| | Pembesian | 27,360 | 100kg | | 0,000 |
| | Bekisting | 73,480 | m2 | | |
| | Perancah | 25,000 | m2 | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok memanjang trestle ro-ro, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 12,000 | m3 | | 0,000 |
| | Pembesian | 17,700 | 100kg | | 0,000 |
| | Bekisting | 73,480 | m2 | | |
| | Perancah | 25,000 | m2 | | |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 m3 Balok memanjang gang-way, termasuk pondasi lampu | | | | |
| | Bahan | | | | |
| | Beton K-300 | 1,000 | m3 | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |

| | | | | |
|---|---------|-------|---------------------|--------------|
| 1 m3 Hunch dermaga kargo | | | | |
| Bahan | | | | |
| Beton K-300 | 0,040 | m3 | | 0,000 |
| Pembesian | 0,230 | 100kg | | |
| Bekisting | 0,500 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 m3 Beton untuk kanstein | | | | |
| Bahan | | | | |
| Beton K-300 | 1,000 | m3 | | 0,000 |
| Pembesian | 190,000 | kg | | |
| Bekisting | 0,500 | m2 | | |
| Tenaga kerja | | | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit baut angkur Ø16, L = 500 m | | | | |
| Bahan | | | | |
| Baut angkur Ø16, L = 500 m | 1,000 | unit | | 0,000 |
| Tenaga kerja | | | | |
| Pekerja | 0,100 | oh | | |
| Tukang besi | 0,100 | oh | | |
| Alat | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit pelat sudut dermaga kargo dan kanstein tipe A | | | | |
| Bahan | | | | |
| Besi pelat baja | 14,920 | kg | | 0,000 |
| Besi beton | 4,000 | kg | | |
| Kawat las | 0,250 | kg | | |
| Baut D22 L275 | 8,000 | bh | | |
| Beton K-300 | 0,100 | m3 | | |
| Pembesian | 2,000 | kg | | |
| Bekisting | 0,100 | m2 | | |
| Tenaga kerja | | | | |
| Pekerja | 1,000 | oh | | |
| Tukang | 0,010 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| Mesin las listrik dan perlengkapannya | 0,350 | hr | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit pelat sudut dermaga ro-ro | | | | |
| Bahan | | | | |
| Besi pelat baja | 14,920 | kg | | 0,000 |
| Besi beton | 4,000 | kg | | |
| Kawat las | 0,250 | kg | | |
| Baut D22 L275 | 8,000 | bh | | |
| Beton K-300 | 0,100 | m3 | | |
| Pembesian | 2,000 | kg | | |
| Bekisting | 0,100 | m2 | | |
| Tenaga kerja | | | | |
| Pekerja | 1,000 | oh | | |
| Tukang | 0,010 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| Mesin las listrik dan perlengkapannya | 0,350 | hr | | |
| | | | JUMLAH (A) : | 0,000 |

| | | | | |
|---------------------------------------|-------|------|--|--------------|
| 1 m2 Pengecatan kanstein | | | | |
| Bahan | | | | |
| Cat dinding | 0,240 | kg | | 0,000 |
| Plamur | 0,100 | kg | | |
| Tenaga kerja | | | | |
| Pekerja | 0,150 | oh | | |
| Tukang | 0,025 | oh | | |
| Mandor | 0,008 | oh | | |
| Alat | | | | |
| | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 m Delatasi | | | | |
| Bahan | | | | |
| Besi siku 100.100.10 | 1,000 | kg | | 0,000 |
| Besi beton | 4,000 | kg | | |
| Kawat las | 0,250 | kg | | |
| Tenaga kerja | | | | |
| Pekerja | 1,000 | oh | | |
| Tukang | 0,010 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| Mesin las listrik dan perlengkapannya | 0,350 | hr | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 unit fender dermaga kargo | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 unit fender mooring | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |
| 1 unit fender ro-ro | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| JUMLAH (A) : | | | | 0,000 |

| | | | | |
|-------------------------------------|-------|------|---------------------|--------------|
| 1 unit fender trestle kargo | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit bollard dermaga | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit bollard mooring | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit bollard ro-ro | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| | | | | |
| | | | JUMLAH (A) : | 0,000 |
| 1 unit bollard trestle kargo | | | | |
| Bahan | | | | |
| Fender | 1,000 | unit | | 0,000 |
| Angkur Ø25 | 8,000 | bh | | |
| Tenaga kerja | | | | |
| Pekerja | 2,000 | oh | | |
| Tukang | 0,500 | oh | | |
| Mandor | 0,100 | oh | | |
| Alat | | | | |
| | | | | |

| | | | | | |
|--|------------------------------------|--------|----|---------------------|--------------|
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Bitt | | | | |
| | Bahan | | | | |
| | Bitt | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Cleat | | | | |
| | Bahan | | | | |
| | Cleat | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Gantry crane | | | | |
| | Bahan | | | | |
| | Gantry crane | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Rel crane | | | | |
| | Bahan | | | | |
| | Rel crane | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Stopper crane | | | | |
| | Bahan | | | | |
| | Stopper crane | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 unit tangga pipa galvanis | | | | |
| | Bahan | | | | |
| | Pipa Ø 60 mm | 14,920 | kg | | 0,000 |
| | Pipa Ø 30 mm | 2,000 | kg | | |
| | Angkur Ø 16 | 6,000 | bh | | |
| | Tenaga kerja | | | | |
| | Pekerja | 1,000 | oh | | |
| | Tukang | 0,010 | oh | | |
| | Mandor | 0,100 | oh | | |
| | Alat | | | | |
| | Mesin listrik dan perlengkapannya | 0,350 | hr | | |
| | | | | JUMLAH (A) : | 0,000 |
| | 1 Is Catwalk | | | | |
| | Bahan | | | | |
| | Catwalk | 1,000 | ls | | 0,000 |
| | Tenaga kerja | | | | |
| | Alat | | | | |
| | | | | JUMLAH (A) : | 0,000 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2 , (P = 60 M' , L = 8M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---|--|---------------------|--------|--------------------|-------------------------|
| A | PEKERJAAN PERSIAPAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2, (P = 60 M' , L = 8 M) | | | | |
| | Papan nama proyek | 1,00 | buah | 502.585,00 | 502.585,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 4.500.000,00 | 4.500.000,00 |
| | Pagar pengaman lokasi proyek | 150,00 | m' | 190.724,00 | 28.608.600,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 5.000.000,00 | 5.000.000,00 |
| | Pengukuran dan pemasangan titik tetap | 1,00 | ls | 5.000.000,00 | 5.000.000,00 |
| | Direksi Keet | 36,00 | m2 | 700.000,00 | 25.200.000,00 |
| | Gudang bahan | 24,00 | m2 | 450.000,00 | 10.800.000,00 |
| | Air kerja dan P3K | 1,00 | ls | 4.500.000,00 | 4.500.000,00 |
| | Bangsai kerja | 24,00 | m2 | 600.000,00 | 14.400.000,00 |
| | Sounding | 20.000,00 | m2 | 3.500,00 | 70.000.000,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 75.250.000,00 | 75.250.000,00 |
| | JUMLAH (A) : | | | | 243.761.185,00 |
| B | PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2 , (P = 60 M' , L = 8M) | | | | |
| | Pengadaan dan angkutan tiang pancang beton dia.50cm | 1.856,00 | m' | 676.041,00 | 1.254.732.096,00 |
| | Pembuatan sepatu tiang pancang pipa beton | 64,00 | buah | 311.875,00 | 19.960.000,00 |
| | Penyambungan tiang pancang | 128,00 | ttk | 12.473,50 | 1.596.608,00 |
| | Pengangkutan tiang pancang ke titik pancang | 1.856,00 | m' | 65.405,63 | 121.392.849,28 |
| | Pemancangan tiang tegak | 896,00 | m' | 349.778,96 | 313.401.948,16 |
| | Pemancangan tiang miring | 960,00 | m' | 420.872,29 | 404.037.398,40 |
| | Pemotongan tiang pancang | 64,00 | buah | 90.119,20 | 5.767.628,80 |
| | Percobaan pembebanan tiang pancang | 1,00 | ls | 7.328.750,00 | 7.328.750,00 |
| | Pembuatan poer beton | 32,64 | m3 | 5.463.142,00 | 178.316.954,88 |
| | Pembuatan balok beton | 120,00 | m | 5.593.190,75 | 671.182.890,00 |
| | Tulangan steak untuk tiang pancang dia.16 | 64,00 | buah | 1.000.000,00 | 64.000.000,00 |
| | Lantai precast | 57,60 | m3 | 5.564.577,25 | 320.519.649,60 |
| | Pembuatan lantai beton (cor setempat) | 72,00 | m3 | 4.297.658,25 | 309.431.394,00 |
| | Pembuatan plak fender beton | 13,85 | m3 | 4.769.980,75 | 66.064.233,39 |
| | Beton isi tiang | 2,40 | m3 | 11.746.965,50 | 28.192.717,20 |
| | Bollard/Bolder kapasitas 25 ton | 3,00 | buah | 24.500.000,00 | 73.500.000,00 |
| | Cleat | 24,00 | buah | 265.750,00 | 6.378.000,00 |
| | Delatasi | 8,00 | m' | 323.393,75 | 2.587.150,00 |
| | Pemasangan fender karet type V250H - 1500L | 16,00 | buah | 25.893.750,00 | 414.300.000,00 |
| | Tes beton material | 1,00 | ls | 6.229.300,00 | 6.229.300,00 |
| | JUMLAH (B) : | | | | 4.268.919.567,71 |
| C | PEKERJAAN LAIN-LAIN DALAM PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2 , (P = 60 M' , L = 8) | | | | |
| | Administrasi dan dokumnetasi | 1,00 | ls | 1.765.000,00 | 1.765.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 676.500,00 | 676.500,00 |
| | JUMLAH (C) : | | | | 2.441.500,00 |
| PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON 480 M2 , (P = 60 M' , L = 8 M') | | | | | |
| | A Pekerjaan persiapan | 1,00 | ls | 243.761.185,00 | 243.761.185,00 |
| | B Pekerjaan dermaga (60x8) m2 | 1,00 | ls | 4.268.919.567,71 | 4.268.919.567,71 |
| | C Pekerjaan lain-lain | 1,00 | ls | 2.441.500,00 | 2.441.500,00 |
| | JUMLAH (A+B+C) = | | | | 4.515.122.252,71 |
| HARGA PER-M2 PEMBANGUNAN DERMAGA BETON TIANG PIPA BETON = (A+B+C)/480 M= | | | | | 9.406.504,69 |
| Dibulatkan = | | | | | 9.406.504,69 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2 , (P = 60 M' , L = 8M

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (I

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) |
|--|---|---------------------|--------|--------------------|
| A | PEKERJAAN PERSIAPAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2, (P = 60 M' , L : | | | |
| | Papan nama proyek | 1,00 | buah | 502.585,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 4.500.000,00 |
| | Pagar pengaman lokasi proyek | 150,00 | m' | 190.724,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 5.000.000,00 |
| | Pengukuran dan pemasangan titik tetap | 1,00 | ls | 5.000.000,00 |
| | Direksi Keet | 36,00 | m2 | 700.000,00 |
| | Gudang bahan | 24,00 | m2 | 450.000,00 |
| | Air kerja dan P3K | 1,00 | ls | 4.500.000,00 |
| | Bangsai kerja | 24,00 | m2 | 600.000,00 |
| | Sounding | 20.000,00 | m2 | 3.500,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 75.250.000,00 |
| JUMLAH (A) : | | | | |
| B | PEKERJAAN PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2 , (P = 60 M' , L = 8M) | | | |
| | Pengadaan dan angkutan tiang pancang baja dia.50cm | 207.872,00 | m' | 12.850,00 |
| | Pembuatan sepatu tiang pancang pipa beton | 64,00 | buah | 311.875,00 |
| | Penyambungan tiang pancang | 128,00 | ttk | 598.400,00 |
| | Pengangkutan tiang pancang ke titik pancang | 1.856,00 | m' | 65.405,63 |
| | Pemancangan tiang tegak | 896,00 | m' | 349.778,96 |
| | Pemancangan tiang miring | 960,00 | m' | 420.872,29 |
| | Pemotongan tiang pancang | 64,00 | buah | 619.607,50 |
| | Percobaan pembebanan tiang pancang | 1,00 | ls | 7.328.750,00 |
| | Pembuatan poer beton | 32,64 | m3 | 5.463.142,00 |
| | Pembuatan balok beton melintang 50/65 | 120,12 | m | 5.593.190,75 |
| | Tulangan steak untuk tiang pancang dia.16 | 64,00 | buah | 1.000.000,00 |
| | Lantai precast | 57,60 | m3 | 5.564.577,25 |
| | Pembuatan lantai beton (cor setempat) | 72,00 | m3 | 4.297.658,25 |
| | Pembuatan plak fender beton | 13,85 | m3 | 4.769.980,75 |
| | Beton isi tiang | 2,40 | m3 | 11.746.965,50 |
| | Bollard/Bolder kapasitas 25 ton | 3,00 | buah | 24.500.000,00 |
| | Cleat | 24,00 | buah | 265.750,00 |
| | Delatasi | 8,00 | m' | 323.393,75 |
| | Pemasangan fender karet type V250H - 1500L | 16,00 | buah | 25.893.750,00 |
| | Tes beton material | 1,00 | ls | 6.229.300,00 |
| JUMLAH (B) : | | | | |
| C | PEKERJAAN LAIN-LAIN DALAM PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2 , (P = 60 | | | |
| | Administrasi dan dokumentasi | 1,00 | ls | 1.765.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 676.500,00 |
| JUMLAH (C) : | | | | |
| PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA 480 M2 , (P = 60 M' , L = 8 M') | | | | |
| | A Pekerjaan persiapan | 1,00 | ls | 243.761.185,00 |
| | B Pekerjaan dermaga (60x8) m2 | 1,00 | ls | 5.794.899.697,80 |
| | C Pekerjaan lain-lain | 1,00 | ls | 2.441.500,00 |
| JUMLAH (A+B+C) = | | | | |
| HARGA PER-M2 PEMBANGUNAN DERMAGA BETON TIANG PIPA BAJA = (A+B+C)/480 M= | | | | |
| Dibulatkan = | | | | |

1)

FASPEL)

| JUMLAH (Rp.) |
|-------------------------|
| |
| = 8 M) |
| |
| 502.585,00 |
| 4.500.000,00 |
| 28.608.600,00 |
| 5.000.000,00 |
| 5.000.000,00 |
| 25.200.000,00 |
| 10.800.000,00 |
| 4.500.000,00 |
| 14.400.000,00 |
| 70.000.000,00 |
| 75.250.000,00 |
| 243.761.185,00 |
| |
| |
| 2.671.155.200,00 |
| 19.960.000,00 |
| 76.595.200,00 |
| 121.392.849,28 |
| 313.401.948,16 |
| 404.037.398,40 |
| 39.654.880,00 |
| 7.328.750,00 |
| 178.316.954,88 |
| 671.854.072,89 |
| 64.000.000,00 |
| 320.519.649,60 |
| 309.431.394,00 |
| 66.064.233,39 |
| 28.192.717,20 |
| 73.500.000,00 |
| 6.378.000,00 |
| 2.587.150,00 |
| 414.300.000,00 |
| 6.229.300,00 |
| 5.794.899.697,80 |
| |
| M' , L = 8) |
| |
| 1.765.000,00 |
| 676.500,00 |
| 2.441.500,00 |
| |
| |
| 243.761.185,00 |
| 5.794.899.697,80 |
| 2.441.500,00 |
| 6.041.102.382,80 |
| |
| 12.585.629,96 |
| |
| 12.585.629,96 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN CAUSEWAY (100 M X 5 M)

Propinsi
 Tahun
 Sub Sektor

: DKI JAKARTA
 : 2011
 : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|--|---|---------------------|--------|--------------------|----------------|
| A | PEKERJAAN PEMBANGUNAN CAUSEWAY 100 M x 5 M | | | | |
| | Pasangan batu kosong | 1.215,00 | m3 | 444.730,00 | 540.346.950,00 |
| | Pasangan batu kali 1 : 2 | 760,00 | m3 | 894.700,00 | 679.972.000,00 |
| | Plesteran 1 : 2 | 1.520,00 | m2 | 0,00 | 0,00 |
| | Pembangunan Kansteen 15/40 | 12,00 | m3 | 0,00 | 0,00 |
| | Lapisan teram / filter cloth | 1.200,00 | m2 | 0,00 | 0,00 |
| | Urugan sirtu dan pepadatan | 605,00 | m3 | 0,00 | 0,00 |
| | Pengecatan Kansteen | 110,00 | m2 | 24.646,00 | 2.711.060,00 |
| | Pipa peresapan PVC dia. 2,5" | 100,00 | buah | 47.640,00 | 4.764.000,00 |
| | Sub base 15 cm | 500,00 | m2 | 0,00 | 0,00 |
| | Base coarse 12 cm | 500,00 | m2 | #REF! | #REF! |
| | Surface coarse tebal 3 cm | 500,00 | m2 | 0,00 | 0,00 |
| | Pengaspalan 6kg/m2 | 500,00 | m2 | 0,00 | 0,00 |
| JUMLAH (A) : | | | | | #REF! |
| HARGA PER-M2 CAUSEWAY (A)/500 M2= | | | | | #REF! |
| Dibulatkan = | | | | | #REF! |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN JALAN PELABUHAN (100 M X 5 M)

Propinsi
 Tahun
 Sub Sektor

: DKI JAKARTA
 : 2011
 : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---|--|---------------------|--------|--------------------|---------------|
| A | PEKERJAAN PEMBANGUNAN JALAN PELABUHAN 100 M x 5 M | | | | |
| | Urugan sirtu 10 cm | 50,00 | m3 | 249.150,00 | 12.457.500,00 |
| | Sub base 15 cm | 500,00 | m2 | 0,00 | 0,00 |
| | Base coarse 12 cm | 500,00 | m2 | #REF! | #REF! |
| | Surface coarse tebal 3 cm | 500,00 | m2 | 0,00 | 0,00 |
| | Batu Kansteen 15/40 | 5,00 | m3 | 0,00 | 0,00 |
| | Pengecatan Kansteen | 29,00 | m2 | 24.646,00 | 714.734,00 |
| | Penghijauan | 1,00 | ls | 7.550.000,00 | 7.550.000,00 |
| | Pengaspalan 6kg/m2 | 500,00 | m2 | 0,00 | 0,00 |
| JUMLAH (A) : | | | | | #REF! |
| HARGA PER-M2 JALAN PELABUHAN (A)/500 M2= | | | | | #REF! |
| Dibulatkan = | | | | | #REF! |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN LAPANGAN PARKIR (30 M X 25 M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---|--|---------------------|--------|--------------------|---------------|
| A | PEKERJAAN PEMBANGUNAN LAPANGAN PARKIR 30 M x 25 M | | | | |
| | Urugan sirtu 10 cm | 75,00 | m3 | 249.150,00 | 18.686.250,00 |
| | Sub base 15 cm | 750,00 | m2 | 0,00 | 0,00 |
| | Base coarse 12 cm | 750,00 | m2 | #REF! | #REF! |
| | Surface coarse tebal 3 cm | 750,00 | m2 | 0,00 | 0,00 |
| | Batu Kansteen 15/40 | 6,60 | m3 | 0,00 | 0,00 |
| | Pengecatan Kansteen | 49,50 | m2 | 24.646,00 | 1.219.977,00 |
| | Pengaspalan 6kg/m2 | 750,00 | m2 | 0,00 | 0,00 |
| JUMLAH (A) : | | | | | #REF! |
| HARGA PER-M2 LAPANGAN PARKIR = (A)/750 M2= | | | | | #REF! |
| Dibulatkan = | | | | | #REF! |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN LAPANGAN PENUMPUKAN (30 M X 25 M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|---|--|---------------------|--------|--------------------|---------------|
| A | PEKERJAAN PEMBANGUNAN LAPANGAN PENUMPUKAN 30 M x 25 M | | | | |
| | Urugan sirtu 10 cm | 75,00 | m3 | 249.150,00 | 18.686.250,00 |
| | Sub base 15 cm | 750,00 | m2 | 0,00 | 0,00 |
| | Base coarse 12 cm | 750,00 | m2 | #REF! | #REF! |
| | Surface coarse tebal 3 cm | 750,00 | m2 | 0,00 | 0,00 |
| | Pengaspalan 6kg/m2 | 750,00 | m2 | 0,00 | 0,00 |
| JUMLAH (A) : | | | | | #REF! |
| HARGA PER-M2 LAPANGAN PENUMPUKAN = (A)/750 M2= | | | | | #REF! |
| Dibulatkan = | | | | | #REF! |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN MOORING DOLPHIN (UKURAN 3 M X 3 M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN KUANTITAS | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|----------|---|---------------------|--------|--------------------|-----------------------|
| | PEKERJAAN PEMBANGUNAN MOORING DOLPHIN (UKURAN 3 M x 3 M) | | | | |
| A | PEKERJAAN PERSIAPAN | | | | |
| | Pembuatan Papan nama proyek | 1,00 | ls | 502.585,00 | 502.585,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 1.050.000,00 | 1.050.000,00 |
| | Penyediaan Air kerja dan P3K | 1,00 | ls | 4.500.000,00 | 4.500.000,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 2.625.000,00 | 2.625.000,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 42.000.000,00 | 42.000.000,00 |
| | JUMLAH (A) : | | | | 50.677.585,00 |
| B | PEKERJAAN MOORING DOLPHIN | | | | |
| | Pipa Baja | 22.050,00 | kg | 19.500,00 | 429.975.000,00 |
| | Penyambungan tiang pancang | 8,00 | buah | 12.473,50 | 99.788,00 |
| | Pengangkutan tiang pancang ke titik pancang | 150,00 | m | 65.405,63 | 9.810.844,50 |
| | Pemancangan tiang pancang tegak | 30,00 | m | 349.778,96 | 10.493.368,80 |
| | Pemancangan tiang pancang miring | 120,00 | m | 420.872,29 | 50.504.674,80 |
| | Selimit tiang pancang | 2,42 | m3 | 0,00 | 0,00 |
| | Beton pengisi tiang / concrete plug | 1,60 | m3 | 0,00 | 0,00 |
| | L Bars/Stek tiang pancang | 32,00 | buah | 0,00 | 0,00 |
| | Poer Beton | 9,00 | m3 | 0,00 | 0,00 |
| | Bollard/Bolder kapasitas 35 ton | 1,00 | buah | 33.528.000,00 | 33.528.000,00 |
| | Tangga Dolphin | 1,00 | unit | 9.875.000,00 | 9.875.000,00 |
| | JUMLAH (B) : | | | | 544.286.676,10 |
| C | PEKERJAAN LAIN-LAIN | | | | |
| | Administrasi dan dokumnetasi | 1,00 | ls | 1.050.000,00 | 1.050.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 525.000,00 | 525.000,00 |
| | JUMLAH (C) : | | | | 1.575.000,00 |
| | HARGA PER-BUAH MOORING DOLPHIN = (A+B+C) = | | | | 596.539.261,10 |
| | Dibulatkan = | | | | 596.539.261,10 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN TALUD (T = 2 M)

Propinsi : DKI JAKARTA
Tahun : 2011
Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|----------|---|---------------------|--------|--------------------|----------------------|
| | PEKERJAAN PEMBANGUNAN 5 M' TALUD (T = 2 M) | | | | |
| A | PEKERJAAN PERSIAPAN | | | | |
| | Pembuatan Papan nama proyek | 1,00 | ls | 502.585,00 | 502.585,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 2.000.000,00 | 2.000.000,00 |
| | Penyediaan Air kerja dan P3K | 1,00 | ls | 2.000.000,00 | 2.000.000,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 1.500.000,00 | 1.500.000,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 7.500.000,00 | 7.500.000,00 |
| | JUMLAH (A) : | | | | 13.502.585,00 |
| B | PEKERJAAN TALUD | | | | |
| | Pengadaan batu kosong 25-40 kg | 24,85 | m3 | 444.730,00 | 11.051.540,50 |
| | Pengadaan batu kosong 15-20 kg | 9,75 | m3 | 444.730,00 | 4.336.117,50 |
| | Pengadaan batu kosong 40-60 kg | 7,07 | m4 | 444.730,00 | 3.144.241,10 |
| | Pekerjaan pasangan batu kali 1 : 2 | 6,00 | m5 | 894.700,00 | 5.368.200,00 |
| | Filter Cloth | 10,00 | m2 | 55.915,00 | 559.150,00 |
| | Urugan pasir | 66,00 | m3 | 162.877,17 | 10.749.893,22 |
| | Pipa peresapan PVC | 3,00 | buah | 47.640,00 | 142.920,00 |
| | Plesteran berapen 1 : 2 | 10,00 | m2 | 29.515,00 | 295.150,00 |
| | Plesteran pasangan batu kepala talud 1 : 4 | 7,00 | m2 | 32.962,00 | 230.734,00 |
| | JUMLAH (B) : | | | | 35.877.946,32 |
| C | PEKERJAAN LAIN-LAIN | | | | |
| | Administrasi dan dokumentasi | 1,00 | ls | 1.050.000,00 | 1.050.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 525.000,00 | 525.000,00 |
| | JUMLAH (C) : | | | | 1.575.000,00 |
| | Total = (A+B+C) = | | | | 50.955.531,32 |
| | HARGA PER-M' TALUD TINGGI S.D. 2 METER = (A+B+C)/5 M = | | | | 10.191.106,26 |
| | Dibulatkan = | | | | 10.191.106,26 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN TALUD (T = 2,10 M s.d. 3,5 M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|----------|---|---------------------|--------|--------------------|----------------------|
| | 5 M' PEMBANGUNAN TALUD (T = 2,10 M' s/d 3,5 M') | | | | |
| A | PEKERJAAN PERSIAPAN | | | | |
| | Pembuatan Papan nama proyek | 1,00 | ls | 502.585,00 | 502.585,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 2.000.000,00 | 2.000.000,00 |
| | Penyediaan Air kerja dan P3K | 1,00 | ls | 2.000.000,00 | 2.000.000,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 1.500.000,00 | 1.500.000,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 7.500.000,00 | 7.500.000,00 |
| | JUMLAH (A) : | | | | 13.502.585,00 |
| B | PEKERJAAN TALUD | | | | |
| | Pengadaan batu kosong 25-40 kg | 40,49 | m3 | 444.730,00 | 18.007.117,70 |
| | Pengadaan batu kosong 15-20 kg | 17,07 | m3 | 444.730,00 | 7.591.541,10 |
| | Pengadaan batu kosong 40-60 kg | 12,37 | m3 | 444.730,00 | 5.501.310,10 |
| | Pekerjaan pasangan batu kali 1 : 2 | 11,38 | m3 | 894.700,00 | 10.181.686,00 |
| | Filter Cloth | 17,50 | m2 | 55.915,00 | 978.512,50 |
| | Urugan pasir | 95,00 | m3 | 162.877,17 | 15.473.331,15 |
| | Pipa peresapan PVC | 4,00 | buah | 47.640,00 | 190.560,00 |
| | Plesteran berapen 1 : 2 | 17,50 | kg | 29.515,00 | 516.512,50 |
| | Plesteran pasangan batu kepala talud 1 : 4 | 7,00 | m3 | 32.962,00 | 230.734,00 |
| | JUMLAH (B) : | | | | 58.671.305,05 |
| C | PEKERJAAN LAIN-LAIN | | | | |
| | Administrasi dan dokumnetasi | 1,00 | ls | 1.050.000,00 | 1.050.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 525.000,00 | 525.000,00 |
| | JUMLAH (C) : | | | | 1.575.000,00 |
| | Total = (A+B+C) = | | | | 73.748.890,05 |
| | HARGA PER-M' TALUD TINGGI 2,10 M s.d. 3,50 M = (A+B+C)/5 M = | | | | 14.749.778,01 |
| | Dibulatkan = | | | | 14.749.778,01 |

RENCANA ANGGARAN BIAYA (R A B)
PEKERJAAN PEMBANGUNAN TALUD (T = 3,60 M s.d. 5 M)

Propinsi : DKI JAKARTA
 Tahun : 2011
 Sub Sektor : DITJEN PERHUBUNGAN LAUT (FASPEL)

| NO. | URAIAN / KEGIATAN / KOMPONEN | PERKIRAAN Kuantitas | SATUAN | HARGA SATUAN (Rp.) | JUMLAH (Rp.) |
|--|--|---------------------|--------|--------------------|-----------------------|
| | PEMBANGUNAN TALUD 5 M' (T = 3,60 M' s/d 5 M') | | | | |
| A | PEKERJAAN PERSIAPAN | | | | |
| | Pembuatan Papan nama proyek | 1,00 | ls | 262.500,00 | 262.500,00 |
| | Pembersihan lokasi pekerjaan | 1,00 | ls | 525.000,00 | 525.000,00 |
| | Penyediaan Air kerja dan P3K | 1,00 | ls | 525.000,00 | 525.000,00 |
| | Penerangan lokasi pekerjaan dan keamanan | 1,00 | ls | 525.000,00 | 525.000,00 |
| | Mobilisasi dan demobilisasi | 1,00 | ls | 525.000,00 | 525.000,00 |
| JUMLAH (A) : | | | | | 2.362.500,00 |
| B | PEKERJAAN TALUD | | | | |
| | Pengadaan batu kosong 25-40 kg | 82,13 | m3 | 444.730,00 | 36.525.674,90 |
| | Pengadaan batu kosong 15-20 kg | 24,38 | m3 | 444.730,00 | 10.842.517,40 |
| | Pengadaan batu kosong 40-60 kg | 27,67 | m3 | 444.730,00 | 12.305.679,10 |
| | Pekerjaan pasangan batu kali 1 : 3 | 16,25 | m3 | 894.700,00 | 14.538.875,00 |
| | Filter Cloth | 25,00 | m2 | 0,00 | 0,00 |
| | Urugan pasir | 155,00 | m3 | 162.877,17 | 25.245.961,35 |
| | Pipa peresapan PVC | 7,00 | buah | 47.640,00 | 333.480,00 |
| | Plesteran berapen 1 : 2 | 25,00 | kg | 29.515,00 | 737.875,00 |
| | Plesteran pasangan batu kepala talud 1 : 4 | 7,00 | m3 | 32.962,00 | 230.734,00 |
| JUMLAH (B) : | | | | | 100.760.796,75 |
| C | PEKERJAAN LAIN-LAIN | | | | |
| | Administrasi dan dokumentasi | 1,00 | ls | 1.050.000,00 | 1.050.000,00 |
| | Penyelesaian akhir | 1,00 | ls | 525.000,00 | 525.000,00 |
| JUMLAH (C) : | | | | | 1.575.000,00 |
| Total = (A+B+C) = | | | | | 104.698.296,75 |
| HARGA PER-M' TALUD TINGGI 3,60 M s.d. 5 M = (A+B+C)/5 M = | | | | | 20.939.659,35 |
| Dibulatkan = | | | | | 21.526.500,00 |

JUMLAH

| |
|----------------------|
| 505.400,00 |
| 814.385,85 |
| 7.841.820,00 |
| 21.037,28 |
| 9.128.531,85 |
| 1.623.325,00 |
| 45.025.000,00 |
| 6.500.000,00 |
| 71.459.499,98 |
| 714.595,00 |
| 680.500,00 |

JUMLAH

| |
|----------------------|
| 505.400,00 |
| 325.754,34 |
| 13.723.185,00 |
| 52.593,20 |
| 9.128.531,85 |
| 4.564.265,93 |
| 9.128.531,85 |
| 15.557.625,00 |
| 1.475.750,00 |
| 12.525.560,00 |
| 10.597.780,00 |
| 77.584.977,17 |
| 775.849,77 |
| 775.500,00 |

**REKAPITULASI HARGA SATUAN Pengerukan
ALUR PELAYARAN/KOLAM PELABUHAN**

| NO. | URAIAN | USULAN HARGA DITPELPENG DITJEN HUBLA TAHUN 2012 |
|-----------|--|---|
| 1 | 2 | 3 |
| A. | HARGA SATUAN KERUK HOPPER : Alur Pelayaran/Kolam Pelabuhan | Rp 29.900 /m³ |
| B. | HARGA SATUAN KERUK NON HOPPER : Alur Pelayaran/Kolam Pelabuhan | Rp 34.200 /m³ |
| C. | PEMBERSIHAN KARANG (mekanik) Pembersihan Karang | Rp 211.300 /m³ |
| D. | HARGA SATUAN MOB/DEMOB NON HOPPER : Mobilisasi/Demobilisasi | |
| | a. Tarik Gandengan | Rp 500.000 /mil |
| | b. Lenggang atau Kosong | Rp 250.000 /mil |

Keterangan :

- Harga sudah termasuk PPN 10%
- Satuan jarak mil adalah Mil Laut

PERHITUNGAN HARGA SATUAN KAPAL JENIS HOPPER

| NO. | JENIS BIAYA | HARGA USULAN DITPEL PENG DITJEN HUBLA | | | JUMLAH |
|--|---|---------------------------------------|----------------------------|--------------------------|--------------------------|
| | | TAHUN ANGGARAN 2012 | | | |
| 1 | 2 | 3 | | | 4 |
| I | PRODUKSI / TAHUN (m³) | 216 x | 12.069 m ³ /HKK | | 2.606.904 m ³ |
| II | BIAYA PERTAHUN | | | | |
| 1 | Biaya Langsung | | | | |
| | a. BBM Operasi | 216 x | 31.000 x | 6.600 | Rp 44.193.600.000 |
| | b. Pelumas Operasi | 216 x | 344 x | 50.000 | Rp 3.715.200.000 |
| | c. Air Tawar | 365 x | 12 x | 16.200 | Rp 70.825.622 |
| | d. Tunjangan Keruk | 216 x | 2868% x | 100.000 | Rp 619.488.000 |
| | e. Permakanan | 365 x | 42 x | 45.000 | Rp 689.850.000 |
| | f. Pemeruman / Survey (Progress Sounding) | | 18 x | 58.400.000 | Rp 1.051.200.000 |
| | g. Asuransi (P & I Club) | US\$ | 24.289 x | 8.800 | Rp 213.741.792 |
| | Jumlah Biaya Langsung | | | | Rp 50.553.905.414 |
| 2 | Biaya Tidak Langsung | | | | |
| | a. Perawatan/Docking | | | | Rp 7.120.653.660 |
| | b. Penyusutan | | | | Rp 8.471.701.057 |
| | c. Gaji ABK | 12 x | 42 x | 2.013.600 | Rp 1.014.854.400 |
| | d. Asuransi (H&M) | | 0,600% x | 137.303.149.400 | Rp 823.818.896 |
| | Jumlah Biaya Tidak Langsung | | | | Rp 17.431.028.014 |
| 3 | Biaya Usaha | | 14% x | 57.101.596.028 | Rp 7.994.223.444 |
| | Jumlah Biaya Pertahun Seluruhnya (1 + 2 + 3) | | | | Rp 75.979.156.872 |
| III | BIAYA SATUAN | | | | |
| 1 | Per m ³ | | Rp 75.979.156.872 / | 2.606.904 m ³ | Rp/m3 29.145 |
| 2 | Dikurangi PPN telah dibayar | | Rp 4.950.209.455 / | 2.606.904 m ³ | Rp/m3 1.899 - |
| | SELISIH | | | | Rp/m3 27.246 |
| | Pembulatan | | | | Rp/m3 27.200 |
| 3 | Ditambahkan PPN 10% | | 10% x | 27.200 | Rp/m3 2.720 |
| HARGA Pengerukan Alur Pelayaran/KOLAM PELABUHAN | | | | | Rp/m3 29.920 |
| Dibulatkan | | | | | Rp/m3 29.900 |

Keterangan :

- Nilai Tukar US\$: Rp 8.800

**PEMAKAIAN BBM / HSD
PERHITUNGAN TEORITIS SAAT OPERASI PER - HARI
(KAPAL HOPPER)**

| | | | | | | | | | | |
|---|-----|------------|-----------------------|----------|--------|-------------------|-----------|-------------------------|--------------|--|
| 1. Hopper Type 5.000 m³ | | | | | | | | | | |
| a. Main Engine | 2 x | 3.950 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,51 : | 1000 = | 63.200,00 | Liter | | |
| b. Dredge Pump (di Couple dengan Main Engine) | | | | | | | | | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>37.920,00</u> | Liter | |
| c. Generator | 3 x | 670 HP x | 165 gr/HP/Jam x | 24 Jam : | 0,38 : | 1000 = | 20.946,32 | Liter | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>12.567,79</u> | Liter | |
| | | | | | | Jumlah - 1 | = | 50.487,79 | Liter | |
| | | | | | | Dibulatkan | = | <u>50.400,00</u> | Liter | |
| 2. Hopper Type 4.000 m³ | | | | | | | | | | |
| a. Main Engine | 2 x | 1.795 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,51 : | 1000 = | 28.720,00 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>14.360,00</u> | Liter | |
| b. Dredge Pump | 2 x | 898 HP x | 163 gr/HP/Jam x | 7 Jam : | 0,40 : | 1000 = | 5.123,09 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>2.561,55</u> | Liter | |
| c. Generator | 2 x | 544 HP x | 165 gr/HP/Jam x | 24 Jam : | 0,38 : | 1000 = | 11.338,11 | Liter | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>6.802,86</u> | Liter | |
| | | | | | | Jumlah - 2 | = | 23.724,41 | Liter | |
| | | | | | | Dibulatkan | = | <u>23.700,00</u> | Liter | |
| 3. Hopper Type 2.900 m³ | | | | | | | | | | |
| a. Main Engine | 2 x | 2.100 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,51 : | 1000 = | 33.600,00 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>16.800,00</u> | Liter | |
| b. Dredge Pump | 2 x | 820 HP x | 163 gr/HP/Jam x | 7 Jam : | 0,40 : | 1000 = | 4.678,10 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>2.339,05</u> | Liter | |
| c. Generator | 2 x | 820 HP x | 165 gr/HP/Jam x | 24 Jam : | 0,40 : | 1000 = | 16.236,00 | Liter | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>9.741,60</u> | Liter | |
| | | | | | | Jumlah - 3 | = | 28.880,65 | Liter | |
| | | | | | | Dibulatkan | = | <u>28.800,00</u> | Liter | |
| 4. Hopper Type 2.000 m³ | | | | | | | | | | |
| a. Main Engine | 2 x | 2.100 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,51 : | 1000 = | 33.600,00 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>16.800,00</u> | Liter | |
| b. Dredge Pump | 2 x | 550 HP x | 163 gr/HP/Jam x | 7 Jam : | 0,38 : | 1000 = | 3.302,89 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>1.651,45</u> | Liter | |
| c. Generator | 2 x | 729 HP x | 165 gr/HP/Jam x | 24 Jam : | 0,39 : | 1000 = | 14.804,31 | Liter | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>8.882,58</u> | Liter | |
| | | | | | | Jumlah - 4 | = | 27.334,03 | Liter | |
| | | | | | | Dibulatkan | = | <u>27.300,00</u> | Liter | |
| 5. Hopper Type 1.000 m³ | | | | | | | | | | |
| a. Main Engine | 2 x | 846 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,51 : | 1000 = | 13.536,00 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>6.768,00</u> | Liter | |
| b. Dredge Pump | 1 x | 400 HP x | 163 gr/HP/Jam x | 7 Jam : | 0,38 : | 1000 = | 1.201,05 | Liter | | |
| | | | Asumsi pemakaian daya | | | 50% | = | <u>600,53</u> | Liter | |
| c. Generator | 2 x | 300 HP x | 165 gr/HP/Jam x | 24 Jam : | 0,38 : | 1000 = | 6.252,63 | Liter | | |
| | | | Asumsi pemakaian daya | | | 60% | = | <u>3.751,58</u> | Liter | |
| | | | | | | Jumlah - 5 | = | 11.120,11 | Liter | |
| | | | | | | Dibulatkan | = | <u>11.100,00</u> | Liter | |
| Rata - rata pemakaian BBM per hari Operasi | | | | | | | = | 28.260,00 | Liter | |
| Rata - rata pemakaian BBM Tidak Operasi | | | | | | | = | 2.826,00 | Liter | |
| Rata - rata pemakaian BBM per HKK | | | | | | | = | 31.086,00 | Liter | |
| Dibulatkan | | | | | | | = | <u>31.000,00</u> | Liter | |

PEMAKAIAN TEORITIS PELUMAS (KAPAL HOPPER)

1. Hopper Type 5.000 m³

| | | | | | | | |
|---|-----|----------|-----------------------|----------|---|---------------|--------------|
| a. Main Engine | 2 x | 3.950 HP | x 0,0042 Ltr/HP/Jam | x 24 Jam | = | 796,32 | Liter |
| b. Dredge Pump (di Couple dengan Main Engine) | | | | | | | |
| | | | Asumsi pemakaian daya | 60% | = | 477,79 | Liter |
| c. Generator | 3 x | 670 HP | x 0,0035 Ltr/HP/Jam | x 24 Jam | = | 168,84 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | 101,30 | Liter |
| | | | | | = | 579,10 | Liter |
| | | | | | = | 579,00 | Liter |

2. Hopper Type 4.000 m³

| | | | | | | | |
|----------------|-----|----------|-----------------------|----------|---|---------------|--------------|
| a. Main Engine | 2 x | 1.795 HP | x 0,0042 Ltr/HP/Jam | x 24 Jam | = | 361,87 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 180,94 | Liter |
| b. Dredge Pump | 2 x | 898 HP | x 0,0035 Ltr/HP/Jam | x 7 Jam | = | 44,00 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 22,00 | Liter |
| c. Generator | 2 x | 544 HP | x 0,0035 Ltr/HP/Jam | x 24 Jam | = | 91,39 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | 54,84 | Liter |
| | | | | | = | 257,77 | Liter |
| | | | | | = | 257,00 | Liter |

3. Hopper Type 2.900 m³

| | | | | | | | |
|----------------|-----|----------|-----------------------|----------|---|---------------|--------------|
| a. Main Engine | 2 x | 2.100 HP | x 0,0042 Ltr/HP/Jam | x 24 Jam | = | 423,36 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 211,68 | Liter |
| b. Dredge Pump | 2 x | 820 HP | x 0,0035 Ltr/HP/Jam | x 7 Jam | = | 40,18 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 20,09 | Liter |
| c. Generator | 2 x | 820 HP | x 0,0035 Ltr/HP/Jam | x 24 Jam | = | 137,76 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | 82,66 | Liter |
| | | | | | = | 314,43 | Liter |
| | | | | | = | 314,00 | Liter |

4. Hopper Type 2.000 m³

| | | | | | | | |
|----------------|-----|----------|-----------------------|----------|---|---------------|--------------|
| a. Main Engine | 2 x | 2.100 HP | x 0,0042 Ltr/HP/Jam | x 24 Jam | = | 423,36 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 211,68 | Liter |
| b. Dredge Pump | 2 x | 550 HP | x 0,0035 Ltr/HP/Jam | x 7 Jam | = | 26,95 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 13,48 | Liter |
| c. Generator | 2 x | 729 HP | x 0,0035 Ltr/HP/Jam | x 24 Jam | = | 122,47 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | 73,48 | Liter |
| | | | | | = | 298,64 | Liter |
| | | | | | = | 298,00 | Liter |

5. Hopper Type 1.000 m³

| | | | | | | | |
|----------------|-----|--------|-----------------------|----------|---|---------------|--------------|
| a. Main Engine | 2 x | 846 HP | x 0,0042 Ltr/HP/Jam | x 24 Jam | = | 170,55 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 85,28 | Liter |
| b. Dredge Pump | 1 x | 400 HP | x 0,0035 Ltr/HP/Jam | x 7 Jam | = | 9,80 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | 4,90 | Liter |
| c. Generator | 2 x | 300 HP | x 0,0035 Ltr/HP/Jam | x 24 Jam | = | 50,40 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | 30,24 | Liter |
| | | | | | = | 120,42 | Liter |
| | | | | | = | 120,00 | Liter |

| | | |
|---|---------------|--------------|
| Rata - rata pemakaian Pelumas per hari Operasi | 313,60 | Liter |
| Rata - rata pemakaian Pelumas Tidak Operasi | 31,36 | Liter |
| Rata - rata pemakaian Pelumas per HKK | 344,96 | Liter |
| Dibulatkan | 344,00 | Liter |

**PEMAKAIAN AIR TAWAR (KAPAL HOPPER)
PERHITUNGAN TEORITIS SAAT OPERASI PER-HARI**

| | | | |
|--|---------------------|------------------|-----------------------|
| 1. HOPPER 5.000 m³ | | | |
| a. | Cooling Main Engine | = | 1.500 Liter |
| b. | Cooling Dredge Pump | = | 1.420 Liter |
| c. | Cooling Generator | = | 1.000 Liter |
| d. | Dapur | = | 3.000 Liter |
| | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | = | 6.920 Liter |
| e. | Cuci | 42 x 60 Liter | = 2.520 Liter |
| f. | Mandi | 42 x 60 Liter | = 2.520 Liter |
| g. | Saniter | 42 x 20 Liter | = 840 Liter |
| 2) Jumlah pemakaian untuk crew | | = | 5.880 Liter |
| Total Pemakaian | | = | <u>12.800 Liter</u> |
| <hr/> | | | |
| 2. HOPPER 4.000 m³ | | | |
| a. | Cooling Main Engine | = | 1.500 Liter |
| b. | Cooling Dredge Pump | = | 1.420 Liter |
| c. | Cooling Generator | = | 1.000 Liter |
| d. | Dapur | = | 3.000 Liter |
| | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | = | 6.920 Liter |
| e. | Cuci | 42 x 60 Liter | = 2.520 Liter |
| f. | Mandi | 42 x 60 Liter | = 2.520 Liter |
| g. | Saniter | 42 x 20 Liter | = 840 Liter |
| 2) Jumlah pemakaian untuk crew | | = | 5.880 Liter |
| Total Pemakaian | | = | <u>12.800 Liter</u> |
| <hr/> | | | |
| 3. HOPPER 2.900 m³ | | | |
| a. | Cooling Main Engine | = | 1.500 Liter |
| b. | Cooling Dredge Pump | = | 1.420 Liter |
| c. | Cooling Generator | = | 1.000 Liter |
| d. | Dapur | = | 3.000 Liter |
| | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | = | 6.920 Liter |
| e. | Cuci | 42 x 60 Liter | = 2.520 Liter |
| f. | Mandi | 42 x 60 Liter | = 2.520 Liter |
| g. | Saniter | 42 x 20 Liter | = 840 Liter |
| 2) Jumlah pemakaian untuk crew | | = | 5.880 Liter |
| Total Pemakaian | | = | <u>12.800 Liter</u> |
| <hr/> | | | |
| 4. HOPPER 2.000 m³ | | | |
| a. | Cooling Main Engine | = | 1.500 Liter |
| b. | Cooling Dredge Pump | = | 1.420 Liter |
| c. | Cooling Generator | = | 1.000 Liter |
| d. | Dapur | = | 3.000 Liter |
| | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | = | 6.920 Liter |
| e. | Cuci | 42 x 60 Liter | = 2.520 Liter |
| f. | Mandi | 42 x 60 Liter | = 2.520 Liter |
| g. | Saniter | 42 x 20 Liter | = 840 Liter |
| 2) Jumlah pemakaian untuk crew | | = | 5.880 Liter |
| Total Pemakaian | | = | <u>12.800 Liter</u> |
| <hr/> | | | |
| 5. HOPPER 1.000 m³ | | | |
| a. | Cooling Main Engine | = | 1.500 Liter |
| b. | Cooling Dredge Pump | = | 1.420 Liter |
| c. | Cooling Generator | = | 1.000 Liter |
| d. | Dapur | = | 3.000 Liter |
| | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | = | 6.920 Liter |
| e. | Cuci | 30 x 60 Liter | = 1.800 Liter |
| f. | Mandi | 30 x 60 Liter | = 1.800 Liter |
| g. | Saniter | 30 x 20 Liter | = 600 Liter |
| 2) Jumlah pemakaian untuk crew | | = | 4.200 Liter |
| Total Pemakaian | | = | <u>11.120 Liter</u> |
| <hr/> | | | |
| Rata - rata pemakaian untuk mesin / hari | | = | 6.920 Liter |
| Rata - rata pemakaian untuk crew / hari | | = | 5.544 Liter |
| Jumlah pemakaian untuk mesin / hari | | 365 Hari x 6.920 | = 2.525.800 Liter |
| Jumlah pemakaian untuk crew / hari | | 333 Hari x 5.544 | = 1.846.152 Liter |
| Jumlah pemakaian / hari (Liter) | | 4.371.952 / 365 | = 11.978 Liter |
| Jumlah pemakaian / hari (Ton) | | 11.978 / 1.000 | = 12 Ton |

PERHITUNGAN HARGA SATUAN KAPAL JENIS NON HOPPER

| NO. | JENIS BIAYA | HARGA USULAN DITPELPENG DITJEN HUBLA | | | JUMLAH |
|--|---|--------------------------------------|---------------------------|------------------------|------------------------|
| | | TAHUN ANGGARAN 2012 | | | |
| 1 | 2 | 3 | | | 4 |
| I | PRODUKSI / TAHUN (m³) | 198 x | 2.720 m ³ /HKK | | 538.560 m ³ |
| II | BIAYA PERTAHUN | | | | |
| 1 | Biaya Langsung | | | | |
| | a. BBM Operasi | 198 x | 7.410 x | 6.600 | Rp 9.683.388.000 |
| | b. Pelumas Operasi | 198 x | 57 x | 50.000 | Rp 564.300.000 |
| | c. Air Tawar | 365 x | 6 x | 16.200 | Rp 34.159.887 |
| | d. Tunjangan Keruk | 198 x | 2789% x | 100.000 | Rp 552.222.000 |
| | e. Permakanan | 365 x | 35 x | 45.000 | Rp 574.875.000 |
| | f. Pemeruman / Survey (Progress Sounding) | | 18 x | 58.400.000 | Rp 1.051.200.000 |
| | g. Asuransi (P & I Club) | US\$ | 2.244 x | 8.800 | Rp 19.750.720 |
| | Jumlah Biaya Langsung | | | | Rp 12.479.895.607 |
| 2 | Biaya Tidak Langsung | | | | |
| | a. Perawatan/Docking | | | | Rp 887.440.915 |
| | b. Penyusutan | | | | Rp 585.574.046 |
| | c. Gaji ABK | 12 x | 35 x | 1.972.667 | Rp 828.520.140 |
| | d. Asuransi (H&M) | | 0,800% x | 137.303.149.400 | Rp 1.098.425.195 |
| | Jumlah Biaya Tidak Langsung | | | | Rp 3.399.960.296 |
| 3 | Biaya Usaha | | 14% x | 13.901.850.102 | Rp 1.946.259.014 |
| | Jumlah Biaya Pertahun Seluruhnya (1 + 2 + 3) | | | | Rp 17.826.114.918 |
| III | BIAYA SATUAN | | | | |
| 1 | Per m ³ | Rp 17.826.114.918 / | | 538.560 m ³ | Rp/m3 33.100 |
| 2 | Dikurangi PPN telah dibayar | Rp 1.061.100.000 / | | 538.560 m ³ | Rp/m3 1.970 - |
| | SELISIH | | | | Rp/m3 31.129 |
| | Pembulatan | | | | Rp/m3 31.100 |
| 3 | Ditambahkan PPN 10% | | 10% x | 31.100 | Rp/m3 3.110 |
| HARGA Pengerukan ALUR PELAYARAN/KOLAM PELABUHAN | | | | | Rp/m3 34.210 |
| Dibulatkan | | | | | Rp/m3 34.200 |

Keterangan :

- Nilai Tukar US\$:

Rp. 8.800

PERHITUNGAN HARGA SATUAN KAPAL JENIS NON HOPPER - KARANG

| NO. | JENIS BIAYA | HARGA USULAN DITPELPENG DITJEN HUBLA | | | JUMLAH |
|-----|---|--------------------------------------|-------------------------|-----------------------|-----------------------|
| | | TAHUN ANGGARAN 2012 | | | |
| 1 | 2 | 3 | | | 4 |
| I | PRODUKSI / TAHUN (m³) | 198 x | 480 m ³ /HKK | | 95.040 m ³ |
| II | BIAYA PERTAHUN | | | | |
| 1 | Biaya Langsung | | | | |
| | a. BBM Operasi | 198 x | 8.522 x | 6.600 | Rp 11.135.896.200 |
| | b. Pelumas Operasi | 198 x | 57 x | 50.000 | Rp 564.300.000 |
| | c. Air Tawar | 365 x | 6 x | 16.200 | Rp 34.159.887 |
| | d. Tunjangan Keruk | 198 x | 2789% x | 100.000 | Rp 552.156.000 |
| | e. Permakanan | 365 x | 35 x | 45.000 | Rp 574.875.000 |
| | f. Pemeruman / Survey (Progress Sounding) | | 18 x | 58.400.000 | Rp 1.051.200.000 |
| | g. Asuransi (P & I Club) | US\$ | 4.489 x | 8.800 | Rp 39.503.200 |
| | Jumlah Biaya Langsung | | | | Rp 13.952.090.287 |
| 2 | Biaya Tidak Langsung | | | | |
| | a. Perawatan/Docking | | | | Rp 1.793.216.511 |
| | b. Penyusutan | | | | Rp 585.574.046 |
| | c. Gaji ABK | 12 x | 35 x | 1.972.667 | Rp 828.520.140 |
| | d. Asuransi (H&M) | | 0,800% x | 12.641.432.070 | Rp 101.131.457 |
| | Jumlah Biaya Tidak Langsung | | | | Rp 3.308.442.154 |
| 3 | Biaya Usaha | | 14% x | 13.901.850.102 | Rp 1.946.259.014 |
| | Jumlah Biaya Pertahun Seluruhnya (1 + 2 + 3) | | | | Rp 19.206.791.455 |
| III | BIAYA SATUAN | | | | |
| 1 | Per m ³ | Rp 19.206.791.455 / | | 95.040 m ³ | Rp/m3 202.092 |
| 2 | Dikurangi PPN telah dibayar | Rp 1.061.100.000 / | | 95.040 m ³ | Rp/m3 11.165 - |
| | SELISIH | | | | Rp/m3 190.927 |
| | Pembulatan | | | | Rp/m3 192.100 |
| 3 | Ditambahkan PPN 10% | | 10% x | 192.100 | Rp/m3 19.210 |
| | | | | JUMLAH | Rp/m3 211.310 |
| | | | | Dibulatkan | Rp/m3 211.300 |

Keterangan :

- Nilai Tukar US\$:

Rp. 8.800

**PEMAKAIAN BBM / HSD
PERHITUNGAN TEORITIS SAAT OPERASI PER - HARI
(KAPAL NON HOPPER)**

1. Cangkram Type 5,5 m³

| | | | | | | | | |
|------------------|-----|----------|-----------------------|-------------------|--------|--------|------------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 180 gr/HP/Jam x | 18 Jam : | 0,46 : | 1000 = | 2.817,39 | Liter |
| | | | Asumsi pemakaian daya | | | 70% = | <u>1.972,17</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,4 : | 1000 = | 1.020,00 | Liter |
| | | | Asumsi pemakaian daya | | | 60% = | <u>612,00</u> | Liter |
| c. Hydraulic | 1 x | 50 HP x | 170 gr/HP/Jam x | 18 Jam : | 0,35 : | 1000 = | 437,14 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>218,57</u> | Liter |
| d. 2 Split Barge | 4 x | 350 HP x | 170 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 5.355,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>2.677,50</u> | Liter |
| e. 1 Tug Boat | 2 x | 350 HP x | 180 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 2.835,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>1.417,50</u> | Liter |
| | | | | Jumlah - 1 | | = | 6.897,75 | Liter |
| | | | | Dibulatkan | | = | <u>6.890,00</u> | Liter |

2. Cangkram Type 3,5 m³

| | | | | | | | | |
|------------------|-----|----------|-----------------------|-------------------|--------|--------|------------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 180 gr/HP/Jam x | 18 Jam : | 0,46 : | 1000 = | 2.817,39 | Liter |
| | | | Asumsi pemakaian daya | | | 70% = | <u>1.972,17</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,4 : | 1000 = | 1.020,00 | Liter |
| | | | Asumsi pemakaian daya | | | 60% = | <u>612,00</u> | Liter |
| c. 2 Split Barge | 4 x | 350 HP x | 170 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 5.355,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>2.677,50</u> | Liter |
| d. 1 Tug Boat | 2 x | 350 HP x | 180 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 2.835,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>1.417,50</u> | Liter |
| | | | | Jumlah - 2 | | = | 6.679,17 | Liter |
| | | | | Dibulatkan | | = | <u>6.670,00</u> | Liter |

3. Cangkram Type 2,5 m³

| | | | | | | | | |
|------------------|-----|----------|-----------------------|-------------------|--------|--------|------------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 180 gr/HP/Jam x | 18 Jam : | 0,46 : | 1000 = | 2.817,39 | Liter |
| | | | Asumsi pemakaian daya | | | 70% = | <u>1.972,17</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 170 gr/HP/Jam x | 24 Jam : | 0,4 : | 1000 = | 1.020,00 | Liter |
| | | | Asumsi pemakaian daya | | | 60% = | <u>612,00</u> | Liter |
| c. 2 Split Barge | 4 x | 350 HP x | 170 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 5.355,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>2.677,50</u> | Liter |
| d. 1 Tug Boat | 2 x | 350 HP x | 180 gr/HP/Jam x | 9 Jam : | 0,4 : | 1000 = | 2.835,00 | Liter |
| | | | Asumsi pemakaian daya | | | 50% = | <u>1.417,50</u> | Liter |
| | | | | Jumlah - 3 | | = | 6.679,17 | Liter |
| | | | | Dibulatkan | | = | <u>6.670,00</u> | Liter |

| | | | |
|---|---|------------------------|--------------|
| Rata - rata pemakaian BBM per hari Operasi | = | 6.743,33 | Liter |
| Rata - rata pemakaian BBM Tidak Operasi | = | 674,33 | Liter |
| Rata - rata pemakaian BBM per HKK | = | 7.417,67 | Liter |
| Dibulatkan | = | <u>7.410,00</u> | Liter |

**PERHITUNGAN TEORITIS PELUMAS
SAAT OPERASI PER - HARI
(KAPAL NON HOPPER)**

1. Cangkram Type 5,5 m³

| | | | | | | | |
|------------------|-----|----------|-----------------------|--------|---|---------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 25,92 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>12,96</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 0,0036 Ltr/HP/Jam x | 24 Jam | = | 8,64 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | <u>5,18</u> | Liter |
| c. Hydraulic | 1 x | 50 HP x | 0,0029 Ltr/HP/Jam x | 18 Jam | = | 2,61 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>1,31</u> | Liter |
| d. 2 Split Barge | 4 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 9 Jam | = | 45,36 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>22,68</u> | Liter |
| e. 1 Tug Boat | 1 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 22,68 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>11,34</u> | Liter |
| | | | Jumlah | | = | 53,47 | Liter |
| | | | Dibulatkan | | = | <u>53,00</u> | Liter |

2. Cangkram Type 3,5 m³

| | | | | | | | |
|------------------|-----|----------|-----------------------|--------|---|---------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 25,92 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>12,96</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 0,0036 Ltr/HP/Jam x | 24 Jam | = | 8,64 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | <u>5,18</u> | Liter |
| c. 2 Split Barge | 4 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 9 Jam | = | 45,36 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>22,68</u> | Liter |
| d. 1 Tug Boat | 1 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 22,68 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>11,34</u> | Liter |
| | | | Jumlah | | = | 52,16 | Liter |
| | | | Dibulatkan | | = | <u>52,00</u> | Liter |

3. Cangkram Type 2,5 m³

| | | | | | | | |
|------------------|-----|----------|-----------------------|--------|---|---------------------|--------------|
| a. Main Engine | 1 x | 400 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 25,92 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>12,96</u> | Liter |
| b. Gen. Crane | 1 x | 100 HP x | 0,0036 Ltr/HP/Jam x | 24 Jam | = | 8,64 | Liter |
| | | | Asumsi pemakaian daya | 60% | = | <u>5,18</u> | Liter |
| c. 2 Split Barge | 4 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 9 Jam | = | 45,36 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>22,68</u> | Liter |
| d. 1 Tug Boat | 1 x | 350 HP x | 0,0036 Ltr/HP/Jam x | 18 Jam | = | 22,68 | Liter |
| | | | Asumsi pemakaian daya | 50% | = | <u>11,34</u> | Liter |
| | | | Jumlah | | = | 52,16 | Liter |
| | | | Dibulatkan | | = | <u>52,00</u> | Liter |

| | | | |
|--|---|---------------------|--------------|
| Rata - rata pemakaian Pelumas per hari Operasi | = | 52,33 | Liter |
| Rata - rata pemakaian Pelumas Tidak Operasi | = | 5,23 | Liter |
| Rata - rata pemakaian Pelumas per HKK | = | 57,57 | Liter |
| Dibulatkan | = | <u>57,00</u> | Liter |

**PEMAKAIAN AIR TAWAR
PERHITUNGAN TEORITIS SAAT OPERASI PER-HARI
(KAPAL NON HOPPER)**

1. CLAMSHELL 5,5 m³

| | | | | |
|---------------------------------|----|---|-------|--------------------|
| a. Cooling Main Engine | | | = | 500 Liter |
| b. Cooling Generator | | | = | 300 Liter |
| c. Dapur | | | = | 1.000 Liter |
| | | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | | = | 1.800 Liter |
| d. Cuci | 34 | x | | 60 Liter |
| e. Mandi | 34 | x | | 60 Liter |
| f. Saniter | 34 | x | | 20 Liter |
| | | | = | 680 Liter |
| 2) Jumlah pemakaian untuk crew | | | = | 4.760 Liter |
| Total Pemakaian | | | = | <u>6.560 Liter</u> |

2. CLAMSHELL 3,5 m³

| | | | | |
|---------------------------------|----|---|-------|--------------------|
| a. Cooling Main Engine | | | = | 500 Liter |
| b. Cooling Generator | | | = | 300 Liter |
| c. Dapur | | | = | 1.000 Liter |
| | | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | | = | 1.800 Liter |
| d. Cuci | 34 | x | | 60 Liter |
| e. Mandi | 34 | x | | 60 Liter |
| f. Saniter | 34 | x | | 20 Liter |
| | | | = | 680 Liter |
| 2) Jumlah pemakaian untuk crew | | | = | 4.760 Liter |
| Total Pemakaian | | | = | <u>6.560 Liter</u> |

3. CLAMSHELL 2,5 m³

| | | | | |
|---------------------------------|----|---|-------|--------------------|
| a. Cooling Main Engine | | | = | 425 Liter |
| b. Cooling Generator | | | = | 300 Liter |
| c. Dapur | | | = | 1.000 Liter |
| | | | <hr/> | |
| 1) Jumlah pemakaian untuk mesin | | | = | 1.725 Liter |
| d. Cuci | 26 | x | | 60 Liter |
| e. Mandi | 26 | x | | 60 Liter |
| f. Saniter | 26 | x | | 20 Liter |
| | | | = | 520 Liter |
| 2) Jumlah pemakaian untuk crew | | | = | 3.640 Liter |
| Total Pemakaian | | | = | <u>5.365 Liter</u> |

| | | | | |
|--|-----------|--------|---|--------------|
| Rata - rata pemakaian untuk mesin / hari | | | = | 1.775 Liter |
| Rata - rata pemakaian untuk crew / hari | | | = | 4.387 Liter |
| Jumlah pemakaian untuk mesin / hari | 365 | Hari x | | 1.775 |
| Jumlah pemakaian untuk crew / hari | 333 | Hari x | | 4.387 |
| Jumlah pemakaian / hari (Liter) | 2.108.635 | / | | 365 |
| Jumlah pemakaian / hari (Ton) | 5.777 | / | | 1.000 |
| | | | = | <u>6 Ton</u> |

**PERHITUNGAN PERSENTASE PREMI CREW
(TYPE NON HOPPER)**

I. CLAMSHELL 5,5 m³ DAN 3,5 m³

a. KAPAL CLAMSHELL 5,5 m³ / 3,5 m³

| NO. | JABATAN | Persentase Premi |
|-----|----------------------------|------------------|
| 1 | PIMPINAN UMUM | 100% |
| 2 | JURU KERUK I | 90% |
| 3 | JURU KERUK II | 90% |
| 4 | JURU KERUK III | 90% |
| 5 | KEPALA KAMAR MESIN | 100% |
| 6 | MASINIS II | 90% |
| 7 | MANDOR MESIN / PANDAI BESI | 70% |
| 8 | SERANG | 70% |
| 9 | KELASI | 60% |
| 10 | JURU MASAK | 60% |
| 11 | JURU MOTOR I | 60% |
| 12 | JURU MOTOR II | 60% |
| 13 | JURU MINYAK | 60% |
| | JUMLAH | 1000% |

PREMIE CLAMSHELL 5,5 m³ / 3,5 m³ + UNITNYA

| NO | KAPAL KERUK DAN ALAT BANTUNYA | Jumlah Premi |
|----|---|--------------|
| a. | KAPAL CLAMSHELL 5,5 m ³ DAN 3,5 m ³ | 1000% |
| b. | HOPPER BARGE - 1000 / SPLIT BARGE - 500 | 1500% |
| c. | TUG BOAT / BKMP (1 UNIT) = 1 x 350% | 350% |
| d. | SURVEY | 200% |
| | JUMLAH PREMI KAPAL CLAMSHELL 5,5 m³ DAN 3,5 m³ | 3050% |

II. CLAMSHELL 2,5 m³ + UNITNYA

a. KAPAL CLAMSHELL 2,5 m³

| NO. | JABATAN | Persentase Premi |
|-----|----------------------------|------------------|
| 1 | PIMPINAN UMUM | 100% |
| 2 | JURU KERUK I | 90% |
| 3 | JURU KERUK II | 90% |
| 4 | JURU KERUK III | 90% |
| 5 | KEPALA KAMAR MESIN | 100% |
| 6 | MASINIS II | 90% |
| 7 | MANDOR MESIN / PANDAI BESI | 70% |
| 8 | SERANG | 70% |
| 9 | KELASI | 60% |
| 10 | JURU MASAK | 60% |
| 11 | JURU MOTOR I | 60% |
| 12 | JURU MOTOR II | 60% |
| 13 | JURU MINYAK | 60% |
| | JUMLAH | 1000% |

b. BAKLUMPUR 300 m³

| NO. | JABATAN | Persentase Premi |
|-----|--|------------------|
| 1 | KELASI | 60% |
| 2 | KELASI | 60% |
| 3 | KELASI | 60% |
| 4 | KELASI | 60% |
| | JUMLAH | 240% |
| | JUMLAH BARGE LUMPUR = 2 UNIT = 2 x 240% | 480% |

PREMIE CLAMSHELL 2,5 m³ + UNITNYA

| NO | KAPAL KERUK DAN ALAT BANTUNYA | Jumlah Premi |
|----|---|--------------|
| a. | KAPAL CLAMSHELL 2,5 m ³ | 1000% |
| b. | BAK LUMPUR 300 m ³ | 480% |
| c. | TUG BOAT / BKMP (2 UNIT) = 2 x 350% | 700% |
| d. | SURVEY | 200% |
| | JUMLAH PREMI KAPAL CLAMSHELL 2,5 m³ | 2380% |

RATA - RATA PREMIE KAPAL CLAMSHELL

| | | |
|---|------------------|--------------|
| II. Premie Clamshell 5,5 m ³ / 3,5 m ³ + Unitnya | 2 Unit x 3050% = | 6100% |
| III. Premie Clamshell 2,5 m ³ + Unitnya | 1 Unit x 2380% = | 2380% |
| | JUMLAH = | 8480% |
| RATA - RATA PREMI KAPAL CLAMSHELL | 8480% / 3 = | 2827% |
| Premie sesuai kesepakatan awal | 2827% - 38% = | 2789% |
| (antara PT. Pelindo I, II, III dan IV dengan PT. Pengerukan Indonesia) | 1 | |

**PERHITUNGAN HARGA SATUAN MOBILISASI DAN DEMOBILISASI
KAPAL JENIS NON HOPPER**

| NO. | JENIS BIAYA | USULAN HARGA SATUAN MOB/DEMOB DITPELPENG DITJEN HUBLA PERHITUNGAN | JUMLAH |
|----------|--|---|------------------------|
| 1 | 2 | 3 | 4 |
| A | <u>Biaya Langsung :</u> | | |
| | 1 BBM | 6 Hari x 7.410 x Rp 6.600 | Rp 293.436.000 |
| | 2 Pelumas | 6 Hari x 57 x Rp 50.000 | Rp 17.100.000 |
| | 3 Air Tawar | 7 Hari x 3 x Rp 25.000 | Rp 525.000 |
| | 4 Tunjangan Keruk | 6 Hari x 915% x Rp 50.000 | Rp 2.745.000 |
| | 5 Permakanan | 7 Orang x 13 x Rp 25.000 | Rp 2.275.000 |
| | 6 Biaya Perawatan | 1 / 40 Minggu x 6,0% x Rp 20.440.157.000 | Rp 30.660.236 |
| | 7 Penyusutan | 1 / 40 Minggu x 5,0% x Rp 12.755.800.000 | Rp 15.944.750 |
| | 8 Gaji ABK | 7 / 25 x 1,1 x 13 x Rp 2.211.000 | Rp 8.852.844 |
| | 9 Asuransi Crew | 1 / 40 x 7 x 0,6% x Rp 40.000.000 | Rp 42.000 |
| | 10 Asuransi Tugboat | 1 / 40 Minggu x 1,9% x Rp 12.755.800.000 | Rp 6.059.005 |
| | JUMLAH A | | Rp 377.639.835 |
| B | <u>Biaya Tidak Langsung (Biaya Usaha)</u> | 13,0% x Rp 245.071.767 | Rp 31.859.330 |
| | | JUMLAH A+ B | Rp 409.499.164 |
| C | <u>Jumlah Biaya Operasi</u> | | Rp 276.672.283 |
| | Dikurangi PPN terbayar | 5,0% x Rp 276.672.283 | Rp 13.833.614 |
| | | SELISIH | Rp 262.838.668 |
| | Ditambahkan PPN 10% | 10,0% x Rp 262.838.668 | <u>Rp 26.283.867</u> |
| | Biaya Operasi per-6 HKK | | Rp 289.122.535 |
| D | <u>Biaya Operasi per HKK</u> | 1 / 6 Hari x Rp 289.122.535 | Rp 48.187.089 |
| E | <u>Biaya Mob atau Demob</u> | | |
| | - Tarik Gandeng | 1 / 96 Mil / Hari x Rp 48.187.089 | Rp 501.949 |
| | | Dibulatkan | Rp 500.000 /mil |
| | - Lenggang | 1 / 2 x Rp 500.000 | Rp 250.000 |
| | | Dibulatkan | Rp 250.000 /mil |

**NILAI PERAWATAN KAPAL
TYPE / JENIS HOPPER DAN NON HOPPER**

| NO. | KAPAL | KAP. | Perawatan Per - minggu (€) | PERAWATAN PER - TAHUN | | NILAI PERAWATAN PER - TAHUN | |
|---|------------------|-------------------------|----------------------------------|-----------------------|-----------------------|-----------------------------|----------------------|
| | | | | EUROPE (€) | EKIVALEN IDR (Rp.) | HOPPER 82% | NON HOPPER 60% |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A. HOPPER | | | | | | | |
| 1 | Hopper 5.000 m3 | 6.200 4.700 5.000 | 32.738 27.879 28.851 | 923.231 | 11.238.490.963 | 9.215.562.590 | |
| 2 | Hopper 4.000 m3 | 4.700 3.500 4.000 | 21.879 24.221 25.745 | 823.847 | 10.028.689.531 | 8.223.525.415 | |
| 3 | Hopper 2.900 m3 | 3.500 2.400 2.900 | 24.221 19.804 21.812 | 697.979 | 8.496.498.367 | 6.967.128.661 | |
| 4 | Hopper 2.000 m3 | 2.400 1.800 2.000 | 19.804 17.569 18.314 | 586.047 | 7.133.950.131 | 5.849.839.107 | |
| 5 | Hopper 1.000 m3 | 1.100 900 1.000 | 16.955 16.525 16.740 | 535.693 | 6.520.990.889 | 5.347.212.529 | |
| B. NON HOPPER | | | | | | | |
| 1 | Clamshell 5,5 m3 | | | 209.422 | 2.549.294.006 | | 1.529.576.404 |
| 2 | Clamshell 3,5 m3 | | | 138.297 | 1.683.489.381 | | 1.010.093.629 |
| 3 | Clamshell 2,5 m3 | | | 138.297 | 1.683.489.381 | | 1.010.093.629 |
| JUMLAH BIAYA PERAWATAN | | | | | | 35.603.268.302 | 3.549.763.661 |
| RATA - RATA PERAWATAN KAPAL DAN ALAT BANTU | | | | | | 7.120.653.660 | 887.440.915 |

Keterangan :

- Nilai Tukar Euro (€) : Rp 12.173

NILAI ASURANSI KAPAL

1. HULL & MACHINERRY

2. P & I CLUB

| NO. | NAMA KAPAL | GRT (Ton) | HULL & MACHINERRY | | | P & I CLUB | | | KETERANGAN | |
|-----------|-----------------------------------|--------------|--------------------|----------|------------------|---------------|--------------|---------------------|------------|--|
| | | | NILAI TANGGUNGAN | RATE (%) | PREMI | TARIF PER GRT | PREMI | | | |
| | | | | | | | US\$ | RUPIAH | | |
| | | | | | | | US \$ 1 = | Rp 8.800 | | |
| 1 | 2 | 3 | 4 | 5 | 6 = 4 x 5 | 7 | 8 = 3 x 7 | 9 = 8 x Rp. 8.800,- | 10 | |
| A. | HOPPER | | | | | | | | | |
| 1 | TSHD - 5.000 | 6.603 | Rp 208.763.293.000 | 0,600% | Rp 1.252.579.758 | US \$ 5,40 | US \$ 35.656 | Rp 313.774.560 | | |
| 2 | TSHD - 4.000 | 5.029 | Rp 178.452.053.000 | 0,600% | Rp 1.070.712.318 | US \$ 6,00 | US \$ 30.174 | Rp 265.531.200 | | |
| 3 | TSHD - 2.900 | 3.934 | Rp 138.506.595.000 | 0,600% | Rp 831.039.570 | US \$ 6,00 | US \$ 23.604 | Rp 207.715.200 | | |
| 4 | TSHD - 2.000 | 3.801 | Rp 103.311.933.000 | 0,600% | Rp 619.871.598 | US \$ 6,00 | US \$ 22.806 | Rp 200.692.800 | | |
| 5 | TSHD - 1.000 | 1.534 | Rp 57.481.873.000 | 0,600% | Rp 344.891.238 | US \$ 6,00 | US \$ 9.204 | Rp 80.995.200 | | |
| | RATA - RATA A (HOPPER) | | Rp 137.303.149.400 | | Rp 823.818.896 | | US Rp 24.289 | Rp 213.741.792 | | |
| B. | NON HOPPER | | | | | | | | | |
| 1 | Clamshell : | | | | | | | | | |
| a | Clamshell 5,5 m ³ | 663 | Rp 16.890.877.193 | 0,800% | Rp 135.127.018 | US \$ 6,00 | US \$ 3.978 | Rp 35.006.400 | | |
| b | Clamshell 3,5 m ³ | 339 | Rp 7.295.819.509 | 0,800% | Rp 58.366.556 | US \$ 6,00 | US \$ 2.034 | Rp 17.899.200 | | |
| c | Clamshell 2,5 m ³ | 232 | Rp 7.295.819.509 | 0,800% | Rp 58.366.556 | US \$ 6,00 | US \$ 1.392 | Rp 12.249.600 | | |
| | RATA - RATA 1 | 411 | 10.494.172.070 | 0,800% | 83.953.377 | | US 2.468 | 21.718.400 | | |
| 2 | Alat bantu : | | | | | | | | | |
| a. | SB - 500 | 553 | Rp 2.654.300.000 | 0,800% | Rp 21.234.400 | US \$ 6,00 | US \$ 3.318 | Rp 29.198.400 | | |
| b. | SB - 400 | 345 | Rp 2.132.000.000 | 0,800% | Rp 17.056.000 | US \$ 6,00 | US \$ 2.070 | Rp 18.216.000 | | |
| c. | Loh Hopper | 329 | Rp 2.350.000.000 | 0,800% | Rp 18.800.000 | US \$ 6,00 | US \$ 1.974 | Rp 17.371.200 | | |
| d. | Clamshell 3,5 m ³ | 264 | Rp 2.050.000.000 | 0,800% | Rp 16.400.000 | US \$ 6,00 | US \$ 1.584 | Rp 13.939.200 | | |
| e. | Clamshell 2,5 m ³ | 193 | Rp 1.550.000.000 | 0,800% | Rp 12.400.000 | US \$ 6,00 | US \$ 1.158 | Rp 10.190.400 | | |
| | RATA - RATA 2 | 337 | Rp 2.147.260.000 | 0,800% | Rp 17.178.080 | | US \$ 2.021 | Rp 17.783.040 | | |
| | RATA - RATA B (NON HOPPER) | | Rp 12.641.432.070 | | Rp 101.131.457 | | US \$ 2.244 | Rp 19.750.720 | | |

**PERHITUNGAN PRODUKSI PERHARI
TYPE/JENIS HOPPER**

A. SIKLUS WAKTU PER TRIP :

- Rata - rata jarak buang = 7,5 Mil
- Kecepatan kapal isi material = 8 Knot
- Kecepatan kapal kosong = 10 Knot

| NO. | KEGIATAN | SIKLUS WAKTU |
|---------------------------------------|-----------------------------------|--------------|
| 1 | Mengeruk | 45 menit |
| 2 | Berlayar ke lokasi buang (isi) | 50 menit |
| 3 | Membuang | 5 menit |
| 4 | Berlayar ke lokasi keruk (kosong) | 45 menit |
| 5 | Olah Gerak | 10 menit |
| Jumlah Siklus Waktu | | 155 menit |
| Jumlah Trip Kapal Perhari 1.440 / 155 | | 9,29 Trip |
| Dibulatkan | | 9,0 Trip |

| NO. | JENIS HOPPER | TRIP (Kali) | KAPASITAS (m ³) | KONSENTRASI (%) | PRODUKSI (m ³) |
|---|--------------|-------------|-----------------------------|-----------------|-----------------------------|
| 1 | TSHD - 5000 | 9,0 | 5.000 | 45% | 20.250 m ³ |
| 2 | TSHD - 4000 | 9,0 | 4.000 | 45% | 16.200 m ³ |
| 3 | TSHD - 2900 | 9,0 | 2.900 | 45% | 11.745 m ³ |
| 4 | TSHD - 2000 | 9,0 | 2.000 | 45% | 8.100 m ³ |
| 5 | TSHD - 1000 | 9,0 | 1.000 | 45% | 4.050 m ³ |
| TOTAL PRODUKSI KAPAL SELURUHNYA | | | | | 60.345 m ³ |
| Rata - rata Produksi Kapal Hopper perhari (m ³) : Produksi / Jumlah Kapal = 60.345 / 5 | | | | | 12.069 m³ |

**PERHITUNGAN PRODUKSI PERHARI
TYPE / JENIS NON HOPPER**

PERHITUNGAN PRODUKSI KAPAL CLAMSHELL (Jarak Buangan 7 NM)

1 DATA - DATA

| URAIAN | SB - 500 (Self Propeller) | SB - 400 (Self Propeller) | Bak R - 300 Tugboat |
|--------------------|------------------------------|------------------------------|------------------------|
| - Kecepatan Isi | 4 Knot | 5 Knot | 5 Knot |
| - Kecepatan Kosong | 7 Knot | 8 Knot | 8 Knot |

2 SIKLUS KERJA CLAMSHELL

| NO. | SIKLUS KERJA | WAKTU BERDASARKAN UKURAN CLAMSHELL | | |
|-----|----------------------|------------------------------------|----------------------------------|----------------------------------|
| | | 5,5 m ³ (SB - 500) | 3,5 m ³ (SB - 400) | 2,5 m ³ (SB - 300) |
| 1 | Isi Bak | 100 Menit | 150 Menit | 150 Menit |
| 2 | Layar Isi | 60 Menit | 45 Menit | 50 Menit |
| 3 | Buang | 10 Menit | 10 Menit | 10 Menit |
| 4 | Layar Kosong | 50 Menit | 40 Menit | 40 Menit |
| 5 | Manuver / putar | 25 Menit | 25 Menit | 20 Menit |
| | JUMLAH | 245 Menit | 270 Menit | 335 Menit |
| | JUMLAH TRIP PER HARI | 4,4082 | 4 | 4 |
| | | 4,0 Trip | 4,0 Trip | 4,0 Trip |

3 PRODUKSI PER HARI

| NO. | CLAMSHELL | Trip | PERHITUNGAN PRODUKSI | | PRODUKSI PERHARI (m ³) | |
|-----|------------------------------|------|----------------------|--------|--|-----------------------------------|
| | | | Jumlah | Volume | | |
| 1 | Clamshell 5,5 m ³ | 4,0 | 2 | 500 | 85% | 3.400 m ³ / hari |
| 2 | Clamshell 3,5 m ³ | 4,0 | 2 | 400 | 85% | 2.720 m ³ / hari |
| 3 | Clamshell 2,5 m ³ | 4,0 | 2 | 300 | 85% | 2.040 m ³ / hari |
| | Jumlah Produksi | | | | | 8.160 m ³ / hari |
| | Rata - rata Produksi Kapal | | 8.160 | / | 3 | 2.720 m ³ / hari |
| | Dibulatkan | | | | | 2.720 m³ / hari |

**PERHITUNGAN PERSENTASE PREMI CREW
(TYPE HOPPER)**

| NO | JABATAN | JUMLAH PREMI (%) | | | | |
|----|----------------------|------------------|--------------|--------------|--------------|--------------|
| | | TSHD - 5.000 | TSHD - 4.000 | TSHD - 2.900 | TSHD - 2.000 | TSHD - 1.000 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | NAKHODA | 100% | 100% | 100% | 100% | 100% |
| 2 | MUALIM I | 95% | 95% | 95% | 95% | 95% |
| 3 | MUALIM II | 85% | 85% | 85% | 85% | 80% |
| 4 | MUALIM III | 85% | 85% | 85% | 85% | 80% |
| 5 | MUALIM IV | 80% | 80% | 80% | 80% | 75% |
| 6 | MARKONIS I | 85% | 85% | 85% | 85% | 75% |
| 7 | MARKONIS II | 85% | 85% | 85% | 85% | 75% |
| 8 | KEPALA KAMAR MESIN | 100% | 100% | 100% | 100% | 100% |
| 9 | AHLI MESIN KAPAL II | 95% | 95% | 95% | 95% | 90% |
| 10 | AHLI MESIN KAPAL III | 85% | 85% | 85% | 85% | 80% |
| 11 | AHLI MESIN KAPAL IV | 85% | 85% | 85% | 85% | 80% |
| 12 | AHLI MESIN KAPAL V | 80% | 80% | 80% | 80% | 0% |
| 13 | AHLI LISTRIK KAPAL I | 85% | 85% | 85% | 85% | 80% |
| 14 | ASS. LISTRIK KAPAL | 70% | 70% | 70% | 70% | 0% |
| 15 | AHLI KERUK I | 80% | 80% | 80% | 80% | 75% |
| 16 | AHLI KERUK II | 80% | 80% | 80% | 80% | 75% |
| 17 | AHLI KERUK III | 80% | 80% | 80% | 80% | 75% |
| 18 | JURU KERUK I | 75% | 75% | 75% | 75% | 0% |
| 19 | JURU KERUK II | 75% | 75% | 75% | 75% | 0% |
| 20 | JURU KERUK III | 75% | 75% | 75% | 75% | 0% |
| 21 | SERANG | 70% | 70% | 70% | 70% | 70% |
| 22 | TANDIL | 65% | 65% | 65% | 65% | 0% |
| 23 | MISTRI | 60% | 60% | 60% | 60% | 0% |
| 24 | JURU MUDI I | 60% | 60% | 60% | 60% | 60% |
| 25 | JURU MUDI II | 60% | 60% | 60% | 60% | 60% |
| 26 | JURU MUDI III | 60% | 60% | 60% | 60% | 60% |
| 27 | KELASI | 50% | 50% | 50% | 50% | 50% |
| 28 | MANDOR MESIN | 70% | 70% | 70% | 70% | 70% |
| 29 | PANDAI BESI (SMITH) | 65% | 65% | 65% | 65% | 65% |
| 30 | KASAB MESIN | 60% | 60% | 60% | 60% | 60% |
| 31 | ASS. MASINIS I | 70% | 70% | 70% | 70% | 70% |
| 32 | ASS. MASINIS II | 70% | 70% | 70% | 70% | 0% |
| 33 | ASS. MASINIS III | 70% | 70% | 70% | 70% | 0% |
| 34 | JURU MINYAK I | 60% | 60% | 60% | 60% | 60% |
| 35 | JURU MINYAK II | 60% | 60% | 60% | 60% | 0% |
| 36 | PEMBANTU JURU MINYAK | 50% | 50% | 50% | 50% | 0% |
| 37 | BOTTELIR | 65% | 65% | 65% | 65% | 0% |
| 38 | KOKI I | 60% | 60% | 60% | 60% | 60% |
| 39 | KOKI II | 60% | 60% | 60% | 60% | 60% |
| 40 | PELAYAN I | 60% | 60% | 60% | 60% | 60% |
| 41 | PELAYAN II | 60% | 60% | 60% | 60% | 60% |
| 42 | TUKANG BINATU | 60% | 60% | 60% | 60% | 60% |
| | JUMLAH | 3045% | 3045% | 3045% | 3045% | 2160% |
| | JUMLAH RATA - RATA | 14340% | / | 5 | = | 2868% |

PERHITUNGAN BIAYA PEKERJAAN SURVEY / PEMERUMAN

RUMUS EMPIRIS :

$$\begin{aligned} Lj &= P / i \\ WI &= L / Li \\ Js &= Lj \times WL \\ H &= Js / Je \end{aligned}$$

Keterangan :

- P = Panjang Alur Survey / section
 L = Lebar Alur Survey rata - rata
 i = Internal Sounding / Survey
 Li = Survey lebar alur permenit
 Lj = Banyaknya Lajur Sounding dalam satuan
 WL = Waktu 1 (satu) Lajur Sounding dalam Sounding
 Je = Jam Kerja Efektif per-hari
 Js = Jam Kerja Survey per-hari,dalam satuan
 H = Waktu pelaksanaan Survey per-hari,dalam satuan

Perhitungan :

$$\begin{aligned} Lj &= P / i = 3.000 / 25 = 120 \text{ Lajur} \\ WI &= L / Li = 400 / 50 = 8 \text{ menit} \\ Js &= Lj \times WL = 120 \times 8 = 960 \text{ menit} = 16 \text{ Jam / Hari} \\ H &= Js / Je = 16 / 4 = 4 \text{ Hari} \end{aligned}$$

Analisis Biaya Sounding :

| | | | | | | |
|------------------------------|-------|------|-------|--------------|-------------------|-------------|
| 1 Sewa survey boat | = 4 | | x Rp. | 1.500.000 | = Rp. | 6.000.000 |
| 2 Sewa alat survey lengkap | = 4 | | x Rp. | 1.500.000 | = Rp. | 6.000.000 |
| 3 Tenaga harian survey | = 4 x | 4 x | Rp. | 100.000 | = Rp. | 1.600.000 |
| 4 Pengadaan kertas echosound | = 4 x | 2 x | Rp. | 900.000 | = Rp. | 7.200.000 |
| 5 Pembelian bahan - bahan | = 4 x | 2 x | Rp. | 2.450.000 | = Rp. | 19.600.000 |
| 6 Alat tulis dan gambar | = 4 x | 2 x | Rp. | 1.250.000 | = Rp. | 10.000.000 |
| 7 Biaya cetak | = 4 x | 10 x | Rp. | 200.000 | = Rp. | 8.000.000 + |
| Jumlah | | | | = Rp. | 58.400.000 | |

Keterangan :

- Biaya rata - rata 1 (satu) kali survey setiap section (3 Km) keruk pada lokasi yang dikerjakan Kapal Hopper, untuk survey pekerjaan menggunakan Kapal Non Hopper sebagai berikut :

$$= 60\% \times \text{Rp. } 58.400.000 = \text{Rp. } 35.040.000$$

- Survey dilaksanakan 2 (dua) kali dalam sebulan, sehingga dalam 9 (sembilan) bulan operasi akan dilaksanakan survey sebagai berikut :

$$= 2 \times 9 \text{ Bulan} = 18 \text{ Kali}$$

NILAI PENYUSUTAN KAPAL TYPE HOPPER DAN NON HOPPER

A. KAPAL : HOPPER

| NO | JENIS KAPAL | KAPASITAS | HARGA KAPAL PEMBANGUNAN DALAM Euro € | HARGA KAPAL PEMBANGUNAN DALAM Rupiah | NILAI PENYUSUTAN (25 TAHUN) 100% |
|---|-----------------|-----------|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 = 5 / Masa |
| 1 | Hopper 5.000 m3 | 6.200 | 31.220.079 | Rp 331.479.867.000 | Rp 13.259.194.680 |
| | | 4.700 | 24.672.030 | | |
| | | 5.000 | 25.800.128 | | |
| 2 | Hopper 4.000 m3 | 4.700 | 24.672.030 | Rp 271.449.576.294 | Rp 10.857.983.052 |
| | | 3.500 | 20.184.144 | | |
| | | 4.000 | 22.054.097 | | |
| 3 | Hopper 2.900 m3 | 3.500 | 20.184.144 | Rp 210.444.251.439 | Rp 8.417.770.058 |
| | | 2.400 | 14.561.807 | | |
| | | 2.900 | 17.117.415 | | |
| 4 | Hopper 2.000 m3 | 2.400 | 14.561.807 | Rp 159.062.805.627 | Rp 6.362.512.225 |
| | | 1.800 | 11.870.890 | | |
| | | 2.000 | 12.767.863 | | |
| 5 | Hopper 1.000 m3 | 1.100 | 7.777.793 | Rp 86.476.131.775 | Rp 3.459.045.271 |
| | | 900 | 6.430.066 | | |
| | | 1.000 | 7.103.929 | | |
| RATA - RATA PENYUSUTAN KAPAL | | | | | Rp 8.471.301.057 |
| PENYUSUTAN YANG DAPAT DIPERTANGGUNGJAWABKAN | | | | 100% | Rp 8.471.301.057 |

B. KAPAL : NON HOPPER

| NO | JENIS KAPAL | MASA PENYUSUTAN (TAHUN) | HARGA KAPAL PEMBANGUNAN DALAM VALAS | HARGA KAPAL PEMBANGUNAN DALAM Rupiah | NILAI PENYUSUTAN 100% |
|-------------|------------------|-------------------------------|--|---|-----------------------------|
| 1 | 2 | 3 | 4 | 5 = 4 x Valas | 6 = 5 / 3 |
| 1 | Clamshell 5,5 m3 | 20 | 2.064.699,98 € | Rp 25.133.592.857 | Rp 1.256.679.643 |
| 2 | Clamshell 3,5 m3 | 20 | 891.823,33 € | Rp 10.856.165.396 | Rp 542.808.270 |
| 3 | Clamshell 2,5 m3 | 20 | 891.823,33 € | Rp 10.856.165.396 | Rp 542.808.270 |
| JUMLAH | | | | | Rp 2.342.296.182 |
| RATA - RATA | | | | 100% | Rp 585.574.046 |

Keterangan :

- Nilai Tukar Euro (€) : Rp 12.173
- Nilai Tukar Sin \$ Rp 6.737

PERHITUNGAN GAJI ABK / CREW KAPAL

| NO. | JENIS KAPAL | NAMA KAPAL | JUMLAH CREW | PAKET GAJI | Tunjangan Perbaikan Penghasilan | INSENTIF MERIT | JUMLAH | Rata-rata / Orang / Bulan | Kesehatan | Pakaian Dinas | YP-3/PPH DP-4/MK | Rata-rata Orang/ Bulan |
|------------|------------------|-------------------|-------------|------------|---------------------------------|----------------|------------|---------------------------|-----------|---------------|------------------|------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1 | Hopper - 5.000 | KK. Bali II | 42 | 22.228.600 | 13.230.000 | 29.973.000 | 71.974.800 | 1.713.686 | 100.000 | 50.000 | 175.000 | 2.047.000 |
| | | KK. Aru II | 42 | 22.770.100 | 13.230.000 | 30.010.000 | 72.612.000 | | | | | |
| 2 | Hopper - 4.000 | KK. Irian Jaya | 42 | 21.125.500 | 13.230.000 | 29.996.500 | 70.787.200 | 1.692.000 | 100.000 | 50.000 | 175.000 | 2.017.000 |
| | | KK. Kalimantan II | 42 | 21.109.100 | 13.230.000 | 30.478.400 | 71.299.300 | | | | | |
| 3 | Hopper - 2.900 | KK. Sulawesi II | 42 | 23.242.700 | 13.230.000 | 30.272.900 | 73.420.200 | 1.706.000 | 100.000 | 50.000 | 175.000 | 2.031.000 |
| | | KK. Bertuah | 42 | 21.140.000 | 13.230.000 | 28.954.100 | 69.656.500 | | | | | |
| | | KK. Seram | 42 | 22.811.800 | 13.230.000 | 29.800.900 | 72.427.000 | | | | | |
| | | KK. Halmahera | 42 | 21.880.500 | 13.230.000 | 29.426.400 | 70.990.600 | | | | | |
| 4 | Hopper - 2.000 | KK. Timor | 42 | 22.588.400 | 13.230.000 | 30.257.200 | 72.683.200 | 1.738.000 | 100.000 | 50.000 | 175.000 | 2.063.000 |
| | | KK. Flores | 42 | 22.352.800 | 13.230.000 | 31.002.200 | 73.243.500 | | | | | |
| 5 | Hopper - 1.000 | KK. Banda | 42 | 14.155.400 | 9.450.000 | 18.876.200 | 46.729.800 | 1.585.000 | 100.000 | 50.000 | 175.000 | 1.910.000 |
| | | KK. Nias | 42 | 14.215.700 | 9.450.000 | 18.769.500 | 46.679.800 | | | | | |
| | | KK. Natuna | 42 | 15.175.400 | 9.450.000 | 20.677.700 | 49.173.400 | | | | | |
| RATA -RATA | | | 42 | | | | | | | | | 2.013.600 |
| 1 | Clamshell 5,5 m3 | KKC. Batur | 13 | 7.588.300 | 4.095.000 | 8.684.600 | 22.404.700 | 1.724.000 | 100.000 | 50.000 | 175.000 | 2.049.000 |
| | | KKC. Ranau | 13 | 7.588.300 | 4.095.000 | 8.684.600 | 22.404.700 | | | | | |
| | | KKC. Tondano | 13 | 7.588.300 | 4.095.000 | 8.684.600 | 22.404.700 | | | | | |
| | | KKC. Poso | 13 | 7.588.300 | 4.095.000 | 8.684.600 | 22.404.700 | | | | | |
| 2 | Clamshell 3,5 m3 | KKC. Maninjau | 13 | 7.233.800 | 4.095.000 | 8.435.400 | 21.740.600 | 1.673.000 | 100.000 | 50.000 | 175.000 | 1.998.000 |
| 3 | Clamshell 2,5 m3 | KKC. Towuti | 13 | 6.064.500 | 4.095.000 | 8.104.300 | 20.090.200 | 1.546.000 | 100.000 | 50.000 | 175.000 | 1.871.000 |
| RATA -RATA | | | | | | | | | | | | 1.972.667 |

PERHITUNGAN PPN 10%

A. KAPAL : HOPPER

| NO. | URAIAN | JUMLAH | DASAR PENGENAAN PAJAK | PPN 10% YANG DIBAYARKAN |
|----------------------------|--------------------|--------------------|-----------------------------|--------------------------------|
| 1 | 2 | 3 | $4 = (100/110) \times 3$ | 5 |
| 1 | Bahan Bakar Minyak | Rp 44.193.600.000 | Rp 40.176.000.000 | Rp 4.017.600.000 |
| 2 | Pelumas | Rp 3.715.200.000 | Rp 3.377.454.545 | Rp 337.745.455 |
| JUMLAH 1 + 2 | | | | Rp 4.355.345.455 |
| PRODUKSI / TAHUN | | 216 hari x | 12.069 m ³ | 2.606.904 m ³ |
| BIAYA PPN / m ³ | | Rp 4.355.345.455 / | 2.606.904 m ³ | Rp 1.671 /m³ |

B. KAPAL : NON HOPPER

| NO. | URAIAN | JUMLAH | DASAR PENGENAAN PAJAK | PPN 10% YANG DIBAYARKAN |
|----------------------------|--------------------|------------------|-----------------------------|--------------------------------|
| 1 | 2 | 3 | $4 = (100/110) \times 3$ | 5 |
| 1 | Bahan Bakar Minyak | Rp 9.683.388.000 | Rp 8.803.080.000 | Rp 880.308.000 |
| 2 | Pelumas | Rp 564.300.000 | Rp 513.000.000 | Rp 51.300.000 |
| JUMLAH 1 + 2 | | | | Rp 931.608.000 |
| PRODUKSI / TAHUN | | 198 hari x | 2.720 m ³ | 538.560 m ³ |
| BIAYA PPN / m ³ | | Rp 931.608.000 / | 538.560 m ³ | Rp 1.730 /m³ |

**REKAPITULASI
HARGA SATUAN PEKERJAAN KONSTRUKSI**

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga | |
|------------|---|--|-------|------------------|
| A | PEKERJAAN FASILITAS SISI UDARA | | | |
| A.1 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY | | | |
| 1 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI, TEBAL = 7,5 CM | =Rp | 83.900,00 |
| 2 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI, TEBAL = 5 CM | =Rp | 58.500,00 |
| 3 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN, TEBAL = 7,5 CM | =Rp | 99.700,00 |
| 4 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN, TEBAL = 5 CM | =Rp | 69.000,00 |
| 5 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON (AC), TEBAL = 7,5 CM | =Rp | 175.400,00 |
| 6 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON (AC), TEBAL = 5 CM | =Rp | 81.000,00 |
| 7 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPHALT TREATED BASE (ATB), TEBAL = 7,5 CM | =Rp | 117.600,00 |
| 8 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPHALT TREATED BASE (ATB), TEBAL = 5 CM | =Rp | 119.500,00 |
| 9 | 1 M2 | PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN CEMENT TREATED BASE COURSE (CTBC), TEBAL = 25 CM | =Rp | 162.600,00 |
| A.2 | PEKERJAAN PERLUASAN / PELEBARAN APRON/RUNWAY/TAXIWAY | | | |
| 1 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN BETON SEMEN (RIGIT PAVEMENT) TEBAL = 35 CM | =Rp | 1.805.200,00 |
| 2 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 7,5 CM | =Rp | 559.400,00 |
| 3 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 5 CM | =Rp | 539.200,00 |
| 4 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 7,5 CM | =Rp | 348.700,00 |
| 5 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 5 CM | =Rp | 294.400,00 |
| 6 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 7,5 CM | =Rp | 348.700,00 |
| 7 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 5 CM | =Rp | 283.800,00 |
| 8 | 1 M2 | PEKERJAAN PENGECATAN / MARKING | =Rp | 74.600,00 |
| B | PEKERJAAN FASILITAS SISI DARAT | | | |
| B.1 | PEKERJAAN FASILITAS PENUNJANG BANDAR UDARA | | | |
| 1 | 1 PAKET | PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF I) | =Rp | 80.238.400,00 |
| 2 | 1 PAKET | PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF II) | =Rp | 76.278.400,00 |
| 3 | 1 PAKET | PENGADAAN DAN PEMASANGAN PERALATAN WALK THROUGH METAL DETECTOR (belum termasuk biaya pengiriman dan asuransi) | =Rp | 126.080.900,00 |
| 4 | 1 PAKET | PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY CABIN | =Rp | 2.048.701.600,00 |
| 5 | 1 PAKET | PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY BAGASI | =Rp | 3.060.701.600,00 |
| 6 | 1 SYSTEM | PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY CARGO | =Rp | 5.080.301.600,00 |
| 7 | 1 UNIT | PENGADAAN DAN PEMASANGAN X-RAY CARGO DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | =Rp | 1.034.501.600,00 |
| 8 | 1 UNIT | PENGADAAN DAN PEMASANGAN X-RAY BAGASI DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | =Rp | 730.901.600,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|----|--------|---|----------------------|
| 9 | 1 UNIT | PENGADAAN DAN PEMASANGAN X-RAY CABIN DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | =Rp 704.501.600,00 |
| 10 | 1 UNIT | PERALATAN X-RAY (BAGASI) | =Rp 2.748.000.000,00 |
| 11 | 1 UNIT | PERALATAN X-RAY (CABIN) | =Rp 1.182.500.000,00 |
| 12 | 1 UNIT | PERALATAN X-RAY (CARGO) | =Rp 4.584.000.000,00 |
| 13 | 1 UNIT | PERALATAN X-RAY (BAGASI) DENGAN THREAT IMAGE PROTECTION (TIP) | =Rp 630.000.000,00 |
| 14 | 1 UNIT | PERALATAN X-RAY (CABIN) DENGAN THREAT IMAGE PROTECTION (TIP) | =Rp 606.000.000,00 |
| 15 | 1 UNIT | PERALATAN X-RAY (CARGO) DENGAN THREAT IMAGE PROTECTION (TIP) | =Rp 906.000.000,00 |
| 16 | 1 UNIT | ROLLER INPUT DAN OUTPUT X-RAY | =Rp 39.487.500,00 |
| 17 | 1 UNIT | SUKU CADANG MODUL X-RAY | =Rp 40.000.000,00 |
| 18 | 1 UNIT | WALK THROUGH METAL DETECTOR | =Rp 93.000.000,00 |
| 19 | 1 UNIT | HAND HELD METAL DETECTOR | =Rp 2.500.000,00 |
| 20 | 1 UNIT | PENGADAAN HAND HELD METAL DETECTOR | =Rp 2.500.000,00 |
| 21 | 1 UNIT | PENGADAAN DAN PEMASANGAN AUDIO CONFERENCE 1 SET | =Rp 31.028.700,00 |
| 22 | 1 UNIT | PENGADAAN DAN PEMASANGAN FIDS | =Rp 6.849.600,00 |
| 23 | 1 UNIT | BUILDING/ROAD LIGHTING | =Rp 30.000.000,00 |
| 24 | 1 UNIT | LAMPU TAMAN | =Rp 15.000.000,00 |
| 25 | 1 UNIT | PENGADAAN/PEMASANGAN LAMPU PENERANGAN JALAN | =Rp 15.000.000,00 |
| 26 | 1 UNIT | PENGADAAN/PEMASANGAN LAMPU PENERANGAN TAMAN | =Rp 80.000.000,00 |
| 27 | 1 UNIT | FIDS DRIVER SOFTWARE | =Rp 35.000.000,00 |
| 28 | 1 UNIT | 19" STANDARD STEEL CABINET ACCESORIES | =Rp 12.226.500,00 |
| 29 | 1 UNIT | 20 GIGABYTE HARD DISK DRIVE | =Rp 1.000.000,00 |
| 30 | 1 UNIT | BACKUP LENGKAP DENGAN SOFTWARE DRIVE | =Rp 40.000.000,00 |
| 31 | 1 UNIT | CD RW | =Rp 177.840,00 |
| 32 | 1 UNIT | CENTRAL PROCESSING UNIT | =Rp 14.040.000,00 |
| 33 | 1 UNIT | DUAL VIDEO CONVERTER CARD | =Rp 21.000.000,00 |
| 34 | 1 UNIT | DUAL VIDEO DISPLAY CONTROLLER CARD | =Rp 20.212.500,00 |
| 35 | 1 UNIT | DIGITAL CONTROL INTERFACE CARD | =Rp 13.063.050,00 |
| 36 | 1 UNIT | VGA 15" COLOR MONITOR | =Rp 1.200.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|-------------|----------|--|----------------------|
| | | AIR CONDITIONING (AC) | |
| 37 | 1 UNIT | AC 1 PK | =Rp 2.900.000,00 |
| 38 | 1 UNIT | AC 2 PK | =Rp 5.800.000,00 |
| 39 | 1 UNIT | AC 3 PK | =Rp 13.500.000,00 |
| 40 | 1 UNIT | AC 5 PK | =Rp 16.000.000,00 |
| | | TRACTION EQUIPMENTS | |
| 41 | 1 UNIT | ELEVATOR | =Rp 748.000.000,00 |
| 42 | 1 UNIT | CONVEYOR | =Rp 25.000.000,00 |
| | | GARBARATA | |
| 43 | 1 UNIT | GARBARATA TIGA TUNNEL (R3) | =Rp 4.529.000.000,00 |
| 44 | 1 UNIT | GARBARATA DUA TUNNEL (R2) | =Rp 4.169.000.000,00 |
| | | SIRENE | |
| 45 | 1 UNIT | SIRENE 1 PK | =Rp 20.000.000,00 |
| 46 | 1 UNIT | SIRENE 3 PK | =Rp 56.000.000,00 |
| 47 | 1 UNIT | SIRENE 5 PK | =Rp 76.000.000,00 |
| | | | |
| B.2. | | FASILITAS NAVIGASI BANDAR UDARA | |
| 1 | 1 PAKET | PENGADAAN PERALATAN NON DIRECTIONAL BEACON (NDB) TYPE MEDIUM RANGE (MR) (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Flight Commissioning dan Instalasi) | =Rp 1.053.157.650,00 |
| 2 | 1 PAKET | PENGADAAN PERALATAN NON DIRECTIONAL BEACON (NDB) TYPE LOW RANGE (LR) (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Flight Commissioning dan Instalasi) | =Rp 989.331.881,00 |
| 3 | 1 PAKET | PENGADAAN PERALATAN HIGH FREQUENCY-SINGLE SIDE BAND (HF-SSB TRANCEIVER) | =Rp 30.000.000,00 |
| 4 | 1 PAKET | PENGADAAN DAN PEMASANGAN PERALATAN HIGH FREQUENCY-SINGLE SIDE BAND (HF-SSB TRANCEIVER TERMASUK TIANG ANTENA TRIANGEL) | =Rp 70.000.000,00 |
| 5 | 1 PAKET | PENGADAAN VHF PORTABLE (PERALATAN VHF TRANSCEIVER LENGKAP DENGAN AKSESORIS) | =Rp 60.000.000,00 |
| 6 | 1 SYSTEM | PENGADAAN TOWER SET (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training dan Instalasi) | =Rp 1.182.500.000,00 |
| | | | |
| B.3 | | FASILITAS LISTRIK BANDAR UDARA | |
| 1 | 1 UNIT | POWER DISTRIBUTION ASSEMBLY | =Rp 3.281.850,00 |
| 2 | 1 UNIT | CONTROL PANEL ASSEMBLY | =Rp 5.791.500,00 |
| | | GENSET | |
| 3 | 1 UNIT | PENGADAAN GENSET 500 KVA | =Rp 670.802.000,00 |
| 4 | 1 UNIT | PENGADAAN GENSET 350 KVA | =Rp 565.224.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|----|---------|--|--------------------|
| 5 | 1 UNIT | PENGADAAN GENSET 325 KVA | =Rp 513.348.000,00 |
| 6 | 1 UNIT | PENGADAAN GENSET 240KVA | =Rp 414.271.000,00 |
| 7 | 1 UNIT | PENGADAAN GENSET 165 KVA | =Rp 280.346.000,00 |
| 8 | 1 UNIT | PENGADAAN GENSET 140 KVA | =Rp 259.512.000,00 |
| 9 | 1 UNIT | PENGADAAN GENSET 100 KVA | =Rp 217.701.000,00 |
| 10 | 1 UNIT | PENGADAAN GENSET 90 KVA | =Rp 208.670.000,00 |
| 11 | 1 UNIT | PENGADAAN GENSET 75 KVA | =Rp 187.858.000,00 |
| 12 | 1 UNIT | PENGADAAN GENSET 60 KVA | =Rp 158.730.000,00 |
| 13 | 1 UNIT | PENGADAAN GENSET 40 KVA | =Rp 131.714.000,00 |
| 14 | 1 UNIT | PENGADAAN GENSET 35 KVA | =Rp 120.681.000,00 |
| 15 | 1 UNIT | PENGADAAN GENSET 30 KVA | =Rp 117.612.000,00 |
| 16 | 1 UNIT | PENGADAAN GENSET 25 KVA | =Rp 115.709.000,00 |
| 17 | 1 UNIT | PENGADAAN GENSET 20 KVA | =Rp 101.618.000,00 |
| 18 | 1 PAKET | PENGADAAN/PEMASANGAN MANUAL GENSET 25 KVA | =Rp 390.670.720,00 |
| | | PENGADAAN AUTOMATIC CHANGE OVER SWITCH (ACOS) | |
| 19 | 1 UNIT | PENGADAAN ACOS 500 KVA | =Rp 425.000.000,00 |
| 20 | 1 UNIT | PENGADAAN ACOS 350 KVA | =Rp 425.000.000,00 |
| 21 | 1 UNIT | PENGADAAN ACOS 325 KVA | =Rp 390.000.000,00 |
| 22 | 1 UNIT | PENGADAAN ACOS 240 KVA | =Rp 300.000.000,00 |
| 23 | 1 UNIT | PENGADAAN ACOS 165 KVA | =Rp 200.000.000,00 |
| 24 | 1 UNIT | PENGADAAN ACOS 140 KVA | =Rp 149.000.000,00 |
| 25 | 1 UNIT | PENGADAAN ACOS 100 KVA | =Rp 125.000.000,00 |
| 26 | 1 UNIT | PENGADAAN ACOS 90 KVA | =Rp 125.000.000,00 |
| 27 | 1 UNIT | PENGADAAN ACOS 75 KVA | =Rp 125.000.000,00 |
| 28 | 1 UNIT | PENGADAAN ACOS 60 KVA | =Rp 90.000.000,00 |
| 29 | 1 UNIT | PENGADAAN ACOS 40 KVA | =Rp 90.000.000,00 |
| 30 | 1 UNIT | PENGADAAN ACOS 35 KVA | =Rp 75.000.000,00 |
| 31 | 1 UNIT | PENGADAAN ACOS 30 KVA | =Rp 75.000.000,00 |
| 32 | 1 UNIT | PENGADAAN ACOS 25 KVA | =Rp 32.000.000,00 |
| 33 | 1 UNIT | PENGADAAN ACOS 20 KVA | =Rp 32.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|----|--------|--|----------------------|
| | | PENGADAAN TRANSMISSION AND DISTRIBUTION | |
| 34 | 1 UNIT | PENGADAAN POWER CABLE NYFGbY 4 x 6 Sqmm / M | =Rp 44.720,00 |
| 35 | 1 UNIT | PENGADAAN POWER CABLE NYFGbY 4 x 16 Sqmm / M | =Rp 95.400,00 |
| 36 | 1 UNIT | PENGADAAN POWER CABLE NYFGbY 4 x 50 Sqmm / M | =Rp 216.000,00 |
| 37 | 1 UNIT | PENGADAAN POWER CABLE NYFGbY 4 x 95 Sqmm / M | =Rp 409.500,00 |
| 38 | 1 UNIT | PENGADAAN INTEGRATED LIGHTNING PROTECTION | =Rp 2.860.000.000,00 |
| | | UNINTERRUPTIBLE POWER SUPPLY (UPS) | |
| 39 | 1 UNIT | PENGADAAN UPS 825 KVA | =Rp 3.550.635.000,00 |
| 40 | 1 UNIT | PENGADAAN UPS 550KVA | =Rp 2.464.935.000,00 |
| 41 | 1 UNIT | PENGADAAN UPS 450 KVA | =Rp 2.316.160.000,00 |
| 42 | 1 UNIT | PENGADAAN UPS 275 KVA | =Rp 1.367.663.000,00 |
| 43 | 1 UNIT | PENGADAAN UPS 225 KVA | =Rp 1.225.972.000,00 |
| 44 | 1 UNIT | PENGADAAN UPS 160 KVA | =Rp 752.752.000,00 |
| 45 | 1 UNIT | PENGADAAN UPS 120 KVA | =Rp 644.182.000,00 |
| 46 | 1 UNIT | PENGADAAN UPS 100 KVA | =Rp 564.564.000,00 |
| 47 | 1 UNIT | PENGADAAN UPS 80 KVA | =Rp 376.376.000,00 |
| 48 | 1 UNIT | PENGADAAN UPS 60 KVA | =Rp 336.567.000,00 |
| | | SOLAR CELL | |
| 49 | 1 UNIT | PENGADAAN SOLAR CELL 50 WATT | =Rp 5.500.000,00 |
| 50 | 1 UNIT | PENGADAAN SOLAR CELL 100 WATT | =Rp 9.800.000,00 |
| | | TRAFO | |
| 51 | 1 UNIT | PENGADAAN TRAFO 300 W | =Rp 5.500.000,00 |
| 52 | 1 UNIT | PENGADAAN TRAFO 200 W | =Rp 5.200.000,00 |
| 53 | 1 UNIT | PENGADAAN TRAFO 150 W | =Rp 4.550.000,00 |
| 54 | 1 UNIT | PENGADAAN TRAFO 100 W | =Rp 4.000.000,00 |
| 55 | 1 UNIT | PENGADAAN TRAFO 45 W | =Rp 3.500.000,00 |
| | | AIRPORT ELECTRICAL INSTALLATION | |
| 56 | 1 UNIT | FLOOD LIGHT | 75.000.000,00 |
| 57 | 1 UNIT | PENGADAAN/PEMASANGAN FLOOD LIGHT TIANG TUNGGAL | =Rp 125.000.000,00 |
| 58 | 1 UNIT | PENGADAAN/PEMASANGAN FLOOD LIGHT TIANG GANDA | =Rp 249.228.760,00 |
| 59 | 1 UNIT | INTEGRATED LIGHTNING PROTECTION | =Rp 2.860.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|------------|--------|--|-----------------------|
| | | CONSTANT CURRENT REGULATOR (CCR) | |
| 60 | 1 UNIT | PENGADAAN CCR 25 kVA | =Rp 250.000.000,00 |
| 61 | 1 UNIT | PENGADAAN CCR 15 kVA | =Rp 215.100.000,00 |
| 62 | 1 UNIT | PENGADAAN CCR 10 kVA | =Rp 183.100.000,00 |
| 63 | 1 UNIT | PENGADAAN CCR 7,5 kVA | =Rp 150.000.000,00 |
| 64 | 1 UNIT | PENGADAAN CCR 5 kVA | =Rp 110.000.000,00 |
| 65 | 1 UNIT | PENGADAAN CCR 4,5 kVA | =Rp 110.000.000,00 |
| 66 | 1 UNIT | PENGADAAN REMOTE CONTROL DESK | =Rp 1.000.000.000,00 |
| 67 | 1 UNIT | PENGADAAN WIND CONE | =Rp 75.000.000,00 |
| 68 | 1 UNIT | PENGADAAN WIND DIRECTION INDICATOR | =Rp 130.000.000,00 |
| 69 | 1 UNIT | BAROMATER | =Rp 5.081.230,00 |
| 70 | 1 UNIT | BAROGRAPH | =Rp 23.746.580,00 |
| 71 | 1 UNIT | WET BALL AND DRY BALL THERMOMETER | =Rp 1.194.930,00 |
| 72 | 1 UNIT | THERMOMETER MAXIMUM & MINIMUM | =Rp 2.457.840,00 |
| 73 | 1 UNIT | WEATHER RADAR/SATELITE | =Rp 20.020.000.000,00 |
| | | UNINTERRUPTIBLE POWER SUPPLY (UPS) | |
| 74 | 1 UNIT | PENGADAAN UPS 1 KVA TIPE ON LINE | =Rp 5.000.000,00 |
| 75 | 1 UNIT | PENGADAAN UPS 2 KVA TIPE ON LINE | =Rp 4.000.000,00 |
| 76 | 1 UNIT | PENGADAAN UPS 3 KVA TIPE ON LINE | =Rp 15.400.000,00 |
| | | PENANGKAL PETIR | |
| 77 | | PENANGKAL PETIR KONVENSIONAL DAN GROUNDING SISTEM UNTUK BANDARA | =Rp 25.000,00 |
| B.3 | | FASILITAS PERTOLONGAN KECELAKAAN PENERBANGAN DAN PEMADAM KEBAKARAN (PKP-PK) | |
| | | KENDARAAN UTAMA PKP-PK | |
| | | FOAM TENDER (BELUM TERMASUK BIAYA PENGIRIMAN DARI JAKARTA KE LOKASI) | |
| 1 | 1 UNIT | FOAM TENDER TIPE I | =Rp 15.000.000.000,00 |
| 2 | 1 UNIT | FOAM TENDER TIPE II | =Rp 12.500.000.000,00 |
| 3 | 1 UNIT | FOAM TENDER TIPE III | =Rp 8.000.000.000,00 |
| 4 | 1 UNIT | FOAM TENDER TIPE IV | =Rp 6.500.000.000,00 |
| 5 | 1 UNIT | FOAM TENDER TIPE V | =Rp 5.500.000.000,00 |
| 6 | 1 UNIT | FOAM TENDER TIPE VI | =Rp 3.500.000.000,00 |
| 7 | 1 UNIT | RAPID INTERVENTION VEHICLE TIPE IV | =Rp 1.500.000.000,00 |
| 8 | 1 UNIT | HOVERCRAFT | =Rp 3.000.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | | Uraian | Harga |
|----|--------|--|-----------------------|
| | | KENDARAAN PENDUKUNG PKP-PK DAN SALVAGE | |
| 9 | 1 UNIT | MOBIL KOMANDO | =Rp 750.000.000,00 |
| 10 | 1 UNIT | MOBIL PEMASOK AIR NURSE TENDER | =Rp 4.000.000.000,00 |
| 11 | 1 UNIT | MOBIL TANGKI AIR KAPASITAS 1000 LITER | =Rp 500.000.000,00 |
| 12 | 1 UNIT | MOBIL SERBA GUNA | =Rp 750.000.000,00 |
| 13 | 1 UNIT | MOBIL AMBULANCE MULTI PURPOSE | =Rp 1.500.000.000,00 |
| 14 | 1 UNIT | MOBIL AMBULANCE | =Rp 400.000.000,00 |
| 15 | 1 UNIT | MOBIL GENERATOR | =Rp 1.500.000.000,00 |
| 16 | 1 UNIT | AIRCRAFT RECOVERY EQUIPMENT (B747) | =Rp 17.500.000.000,00 |
| | | BAHAN PEMADAM YANG DIPERGUNAKAN UNTUK PKP-PK | |
| | | BAHAN PEMADAM API UTAMA | |
| 17 | 1 UNIT | AQUEOUS FILM FORMING FOAM (AFFF)/LITER | =Rp 55.000,00 |
| 18 | 1 UNIT | FILM FORMING FLUORO PROTEIN (FFFP)/ LITER | =Rp 85.000,00 |
| 19 | 1 UNIT | SYNTHETIC FOAM/ LITER | =Rp 60.000,00 |
| | | BAHAN PEMADAM API PELENGKAP | |
| 20 | 1 UNIT | KARBONDIOKSIDA (CO2) | =Rp 12.500.000,00 |
| 21 | 1 UNIT | DRY CHEMICAL POWDER JENIS MULTI PURPOSE/KG | =Rp 40.000,00 |
| | | PAKAIAN PELINDUNG KESELAMATAN KERJA DAN PERALATAN BANTU PERNAPASAN UNTUK PKP-PK | |
| 22 | 1 UNIT | BAJU PELINDUNG | =Rp 7.500.000,00 |
| 23 | 1 UNIT | BAJU TAHAN PANAS | =Rp 15.000.000,00 |
| 24 | 1 UNIT | BAJU TAHAN API | =Rp 60.000.000,00 |
| 25 | 1 UNIT | SEPATU BOT | =Rp 2.849.000,00 |
| 26 | 1 UNIT | SARUNG TANGAN | =Rp 1.782.000,00 |
| 27 | 1 UNIT | PERALATAN BANTU PERNAPASAN | =Rp 50.000.000,00 |

RENCANA ANGGARAN BIAYA

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--|--|----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A PEKERJAAN FASILITAS SISI UDARA | | | | | | | |
| A.1 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY | | | | | | | |
| A.1.1 PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI | | | | | | | |
| 1 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI, TEBAL = 7,5 CM | | | | | | |
| PEKERJAAAN PENDAHULUAN | | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| PEKERJAAN PELAPISAN | | | | | | | |
| | - Lapisan aspal penetrasi tebal 7,5 cm padat | 1,0000 | m2 | 69.300 | | 69.300 | |
| SUB JUMLAH (A) | | | | | - | 76.200 | 76.200 |
| PPn 10% (B) | | | | | | | 7.620 |
| JUMLAH (A+B) | | | | | | | 83.820 |
| | | | | | | | 83.900 |
| DIBULATKAN | | | | | | | |
| 2 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI, TEBAL = 5 CM | | | | | | |
| PEKERJAAAN PENDAHULUAN | | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| PEKERJAAN PELAPISAN | | | | | | | |
| | - Lapisan aspal penetrasi tebal 5 cm padat | 1,0000 | m2 | 46.200 | | 46.200 | |
| SUB JUMLAH (A) | | | | | - | 53.100 | 53.100 |
| PPn 10% (B) | | | | | | | 5.310 |
| JUMLAH (A+B) | | | | | | | 58.410 |
| | | | | | | | 58.500 |
| DIBULATKAN | | | | | | | |
| A.1.2 PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN | | | | | | | |
| 1 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN, TEBAL = 7,5 CM | | | | | | |
| PEKERJAAAN PENDAHULUAN | | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| PEKERJAAN PELAPISAN | | | | | | | |
| | - Lapisan aspal kolakan tebal 7,5 cm padat | 1,0000 | m2 | 83.700 | | 83.700 | |
| SUB JUMLAH (A) | | | | | - | 90.600 | 90.600 |
| PPn 10% (B) | | | | | | | 9.060 |
| JUMLAH (A+B) | | | | | | | 99.660 |
| | | | | | | | 99.700 |
| DIBULATKAN | | | | | | | |
| 2 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN, TEBAL = 5 CM | | | | | | |
| PEKERJAAAN PENDAHULUAN | | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| PEKERJAAN PELAPISAN | | | | | | | |
| | - Lapisan aspal kolakan tebal 5 cm padat | 1,0000 | m2 | 55.800 | | 55.800 | |
| SUB JUMLAH (A) | | | | | - | 62.700 | 62.700 |
| PPn 10% (B) | | | | | | | 6.270 |
| JUMLAH (A+B) | | | | | | | 68.970 |
| | | | | | | | 69.000 |
| DIBULATKAN | | | | | | | |

| A.1.3 PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON | | | | | | | |
|--|--|----------------|---------|------------|---------|---------|----------------|
| 1 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON (AC), TEBAL = 7,5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | | |
| PEKERJAAN PELAPISAN | | | | | | | |
| - Lapisan aspal beton tebal (AC) 7,5 cm padat | 1,0000 | m2 | 152.500 | | 152.500 | | |
| | | SUB JUMLAH (A) | | | - | 159.400 | - |
| | | PPn 10% (B) | | | | | 15.940 |
| | | JUMLAH (A+B) | | | | | 175.340 |
| | | | | DIBULATKAN | | | 175.400 |
| 2 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON (AC), TEBAL = 5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | | |
| PEKERJAAN PELAPISAN | | | | | | | |
| - Lapisan aspal beton (AC) tebal 5 cm (0,05/0,075) | 1,0000 | m2 | 66.700 | | 66.700 | | |
| | | SUB JUMLAH (A) | | | - | 73.600 | - |
| | | PPn 10% (B) | | | | | 7.360 |
| | | JUMLAH (A+B) | | | | | 80.960 |
| | | | | DIBULATKAN | | | 81.000 |
| 3 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPHALT TREATED BASE (ATB), TEBAL = 7,5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | | |
| PEKERJAAN PELAPISAN | | | | | | | |
| - Lapisan asphalt treated base (ATB) 7,5 cm padat | 1,0000 | m2 | 100.000 | | 100.000 | | |
| | | SUB JUMLAH (A) | | | - | 106.900 | - |
| | | PPn 10% (B) | | | | | 10.690 |
| | | JUMLAH (A+B) | | | | | 117.590 |
| | | | | DIBULATKAN | | | 117.600 |
| 4 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPHALT TREATED BASE (ATB), TEBAL = 5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | | |
| PEKERJAAN PELAPISAN | | | | | | | |
| - Lapisan asphalt treated base (ATB) tebal 5 cm (0,05/0,075) | 1,0000 | m2 | 101.700 | | 101.700 | | |
| | | SUB JUMLAH (A) | | | - | 108.600 | - |
| | | PPn 10% (B) | | | | | 10.860 |
| | | JUMLAH (A+B) | | | | | 119.460 |
| | | | | DIBULATKAN | | | 119.500 |
| A.1.3 PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON | | | | | | | |
| 1 | 1 M2 PEKERJAAN PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN CEMENT TREATED BASE COURSE (CTBC), TEBAL = 25 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | | |
| PEKERJAAN PELAPISAN | | | | | | | |
| - Lapisan CTBC, tebal = 25 cm | 1,0000 | m2 | 140.900 | | 140.900 | | |
| | | SUB JUMLAH (A) | | | - | 147.800 | - |
| | | PPn 10% (B) | | | | | 14.780 |
| | | JUMLAH (A+B) | | | | | 162.580 |
| | | | | DIBULATKAN | | | 162.600 |

| A.2 PEKERJAAN PERLUASAN / PELEBARAN APRON/RUNWAY/TAXIWAY | | | | | | | | |
|--|---------|--|-----------|--|---|-----------|-----------|-----------|
| 1 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN BETON SEMEN (RIGIT PAVEMENT) TEBAL = 35 CM | | | | | | |
| PEKERJAAN PENDAHULUAN | | | | | | | | |
| - Direksi keet | 0,0000 | ls | | | | | | |
| - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | | | |
| - Pembersihan | 1,0000 | m2 | 4.100 | | | 4.100 | | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | | 2.800 | | |
| PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | | | |
| - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | | 65.300 | | |
| - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | | 57.200 | | |
| - Bekisting | 0,4000 | m2 | 1.745.800 | | | 698.320 | | |
| - Lean concrete > k 100, tebal = 20 cm | 1,0000 | m2 | 140.200 | | | 140.200 | | |
| - Dowel Bar D=25 mm | 32,0000 | Buah | 5.600 | | | 179.200 | | |
| - Slab beton mutu k 350, tebal = 35 cm | 1,0000 | m2 | 493.900 | | | 493.900 | | |
| | | SUB JUMLAH (A) | | | - | 1.641.020 | - | |
| | | PPn 10% (B) | | | | | 164.102 | |
| | | JUMLAH (A+B) | | | | | 1.805.122 | |
| | | DIBULATKAN | | | | | | 1.805.200 |
| 2 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 7,5 CM | | | | | | |
| PEKERJAAN PENDAHULUAN | | | | | | | | |
| - Direksi keet | 0,0000 | ls | | | | | | |
| - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | | | |
| - Pembersihan | 1,0000 | m2 | 4.100 | | | 4.100 | | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | | 2.800 | | |
| PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | | | |
| - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | | 65.300 | | |
| - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | | 57.200 | | |
| - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,0000 | m2 | 75.200 | | | 75.200 | | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | | 28.700 | | |
| - Lapisan asphalt treated base (ATB) 7,5 cm padat | 1,0000 | m2 | 100.000 | | | 100.000 | | |
| - Tack coating ac 60/70 | 1,0000 | m2 | 22.700 | | | 22.700 | | |
| - Lapisan aspal beton tebal (AC) 7,5 cm padat | 1,0000 | m2 | 152.500 | | | 152.500 | | |
| | | SUB JUMLAH (A) | | | - | 508.500 | - | |
| | | PPn 10% (B) | | | | | 50.850 | |
| | | JUMLAH (A+B) | | | | | 559.350 | |
| | | DIBULATKAN | | | | | | 559.400 |
| 3 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 5 CM | | | | | | |
| PEKERJAAN PENDAHULUAN | | | | | | | | |
| - Direksi keet | 0,0000 | ls | | | | | | |
| - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | | | |
| - Pembersihan | 1,0000 | m2 | 4.100 | | | 4.100 | | |
| - Pengukuran | 2,0000 | m2 | 1.400 | | | 2.800 | | |
| PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | | | |
| - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | | 65.300 | | |
| - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | | 57.200 | | |
| - Lapisan CTBC, tebal = 25 cm | 1,0000 | m2 | 140.900 | | | 140.900 | | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | | 28.700 | | |
| - Lapisan asphalt treated base (ATB) tebal 5 cm (0,05/0,075) | 1,0000 | m2 | 101.700 | | | 101.700 | | |
| - Tack coating ac 60/70 | 1,0000 | m2 | 22.700 | | | 22.700 | | |
| - Lapisan aspal beton (AC) tebal 5 cm (0,05/0,075) | 1,0000 | m2 | 66.700 | | | 66.700 | | |
| | | SUB JUMLAH (A) | | | - | 490.100 | - | |
| | | PPn 10% (B) | | | | | 49.010 | |
| | | JUMLAH (A+B) | | | | | 539.110 | |
| | | DIBULATKAN | | | | | | 539.200 |

| | | | | | | | |
|--|--|--------|------------|--------|---------|--------|----------------|
| 4 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 7,5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,0000 | m2 | 75.200 | | 75.200 | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | | |
| - Lapisan aspal kolakan tebal 7,5 cm padat | 1,0000 | m2 | 83.700 | | 83.700 | | |
| | SUB JUMLAH (A) | | | | 317.000 | | 317.000 |
| | PPn 10% (B) | | | | | | 31.700 |
| | JUMLAH (A+B) | | | | | | 348.700 |
| | | | DIBULATKAN | | | | 348.700 |
| 5 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 25 cm | 1,0000 | m2 | 53.700 | | 53.700 | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | | |
| - Lapisan aspal kolakan tebal 5 cm padat | 1,0000 | m2 | 55.800 | | 55.800 | | |
| | SUB JUMLAH (A) | | | | 267.600 | | 267.600 |
| | PPn 10% (B) | | | | | | 26.760 |
| | JUMLAH (A+B) | | | | | | 294.360 |
| | | | DIBULATKAN | | | | 294.400 |
| 6 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN DENGAN ASPAL PENETRASI TEBAL RATA-RATA 7,5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,0000 | m2 | 75.200 | | 75.200 | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | | |
| - Lapisan aspal kolakan tebal 7,5 cm padat | 1,0000 | m2 | 83.700 | | 83.700 | | |
| | SUB JUMLAH (A) | | | | 317.000 | | 317.000 |
| | PPn 10% (B) | | | | | | 31.700 |
| | JUMLAH (A+B) | | | | | | 348.700 |
| | | | DIBULATKAN | | | | 348.700 |

| | | | | | | | |
|--|---|----------------|------------|--------|---------|--------|----------------|
| 7 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 5 CM | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Direksi keet | 0,0000 | ls | | | | |
| | - Mobilisasi dan demobilisasi | 0,0000 | ls | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 25 cm | 1,0000 | m2 | 53.700 | | 53.700 | |
| - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | | |
| - Lapisan aspal penetrasi tebal 5 cm padat | 1,0000 | m2 | 46.200 | | 46.200 | | |
| | SUB JUMLAH (A) | | | - | 258.000 | - | 258.000 |
| | PPn 10% (B) | | | | | | 25.800 |
| | JUMLAH (A+B) | | | | | | 283.800 |
| | | | DIBULATKAN | | | | 283.800 |
| 8 | 1 M2 PEKERJAAN PENGECATAN / MARKING | | | | | | |
| | PEKERJAAAN PENDAHULUAN | | | | | | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Pengukuran | 1,0000 | m2 | 1.400 | | 1.400 | |
| | PEKERJAAN KONSTRUKSI PERKERASAN BARU | | | | | | |
| | - Pengecatan / Marking | 1,0000 | m2 | 62.300 | | 62.300 | |
| | | SUB JUMLAH (A) | | | - | 67.800 | - |
| | PPn 10% (B) | | | | | | 6.780 |
| | JUMLAH (A+B) | | | | | | 74.580 |
| | | | DIBULATKAN | | | | 74.600 |

| B PEKERJAAN PENUNJANG BANDAR UDARA | | | | | | | | |
|--|---|------|---------------|------------|---------------|------------|---|---------------|
| 1 | 1 LS PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF I) | | | | | | | |
| Pemasangan / Instalasi / Ujicoba : | | | | | | | | |
| - Pemasangan CCTV | 1,0000 | lot | 877.200 | 877.200 | | | | |
| - Line up/set up system | 1,0000 | ls | 616.000 | 616.000 | | | | |
| - Uji coba system | 1,0000 | ls | 616.000 | 616.000 | | | | |
| - Akomodasi | 3,0000 | oh | 165.000 | 495.000 | | | | |
| Pengadaan Peralatan : | | | | | | | | |
| - CCD Camera | 1,0000 | buah | 10.530.000 | | 10.530.000 | | | |
| - Zoom Lensa 6 : 1 | 1,0000 | buah | 8.239.000 | | 8.239.000 | | | |
| - Pan / Tilt Head | 1,0000 | buah | 6.836.500 | | 6.836.500 | | | |
| - Sequential Switcher 10 : 1 | 1,0000 | buah | 3.960.000 | | 3.960.000 | | | |
| - Sequential Switcher 3 : 1 | 1,0000 | buah | 6.435.000 | | 6.435.000 | | | |
| - Monitor 9" | 1,0000 | buah | 5.019.300 | | 5.019.300 | | | |
| - Monitor 14" | 1,0000 | buah | 1.462.500 | | 1.462.500 | | | |
| - Remote Control PAN/TILS | 1,0000 | buah | 1.755.000 | | 1.755.000 | | | |
| - Coaxial Cable | 1,0000 | buah | 9.711.000 | | 9.711.000 | | | |
| - Control Cable 2 pair | 1,0000 | m | 20.000 | | 20.000 | | | |
| - Supply Cable | 1,0000 | m | 10.000 | | 10.000 | | | |
| - Infra red camera | 1,0000 | m | 5.850 | | 5.850 | | | |
| | 1,0000 | buah | 23.650.000 | | 23.650.000 | | | |
| *) Akomodasi untuk pekerjaan uji coba system | | | JUMLAH | | 2.604.200 | 77.634.150 | - | 80.238.350 |
| | | | | DIBULATKAN | | | | 80.238.400 |
| 2 | 1 LS PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF II) | | | | | | | |
| Pemasangan / Instalasi / Ujicoba : | | | | | | | | |
| - Pemasangan CCTV | 1,0000 | lot | 877.200 | 877.200 | | | | |
| - Line up/set up system | 1,0000 | ls | 616.000 | 616.000 | | | | |
| - Uji coba system | 1,0000 | ls | 616.000 | 616.000 | | | | |
| - Akomodasi | 3,0000 | oh | 165.000 | 495.000 | | | | |
| Pengadaan Peralatan : | | | | | | | | |
| - CCD Camera | 1,0000 | buah | 10.530.000 | | 10.530.000 | | | |
| - Zoom Lensa 6 : 1 | 1,0000 | buah | 8.239.000 | | 8.239.000 | | | |
| - Pan / Tilt Head | 1,0000 | buah | 6.836.500 | | 6.836.500 | | | |
| - Sequential Switcher 10 : 1 | 1,0000 | buah | 6.435.000 | | 6.435.000 | | | |
| - Sequential Switcher 3 : 1 | 1,0000 | buah | 5.019.300 | | 5.019.300 | | | |
| - Monitor 9" | 1,0000 | buah | 1.462.500 | | 1.462.500 | | | |
| - Monitor 14" | 1,0000 | buah | 1.755.000 | | 1.755.000 | | | |
| - Remote Control PAN/TILS | 1,0000 | buah | 9.711.000 | | 9.711.000 | | | |
| - Coaxial Cable | 1,0000 | m | 20.000 | | 20.000 | | | |
| - Control Cable 2 pair | 1,0000 | m | 10.000 | | 10.000 | | | |
| - Supply Cable | 1,0000 | m | 5.850 | | 5.850 | | | |
| - Infra red camera | 1,0000 | buah | 23.650.000 | | 23.650.000 | | | |
| *) Akomodasi untuk pekerjaan uji coba system | | | JUMLAH | | 2.604.200 | 73.674.150 | - | 76.278.350 |
| | | | | DIBULATKAN | | | | 76.278.400 |
| 3 | 1 LS PENGADAAN DAN PEMASANGAN PERALATAN WALK THROUGH METAL DETECTOR | | | | | | | |
| Pemasangan / Instalasi / Ujicoba : | | | | | | | | |
| - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | | |
| - Pemasangan dan Uji coba system | 1,0000 | lot | 11.146.000 | 11.146.000 | | | | |
| - Factory Training | termasuk dalam peralatan | | | | | | | |
| - Factory Acceptance Test | termasuk dalam peralatan | | | | | | | |
| - Site Training | 1,0000 | lot | 5.473.000 | 5.473.000 | | | | |
| - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | | |
| Pengadaan Peralatan : | | | | | | | | |
| - UPS 1 KVA Tipe On Line | 1,0000 | unit | 5.000.000 | | 5.000.000 | | | |
| - Walk Through Metal Detector | 1,0000 | unit | 93.000.000 | | 93.000.000 | | | |
| SUB JUMLAH | | | | 16.619.000 | 98.000.000 | | - | 114.619.000 |
| | | | | PPN 10 % | | | | 11.461.900 |
| JUMLAH | | | | | | | | 126.080.900 |
| | | | | DIBULATKAN | | | | 126.080.900 |
| 4 | 1 PAKET PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY CABIN | | | | | | | |
| Pemasangan / Instalasi / Ujicoba : | | | | | | | | |
| - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | | |
| - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | | |
| - Supervisi (*) | 1,0000 | lot | - | - | | | | |
| - Factory Training | termasuk dalam peralatan | | | | | | | |
| - Factory Acceptance Test | termasuk dalam peralatan | | | | | | | |
| - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | | |
| - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | | |
| Pengadaan Peralatan : | | | | | | | | |
| - Peralatan X-Ray (cabin) | 1,0000 | unit | 1.828.000.000 | | 1.828.000.000 | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | | 15.400.000 | | | |
| SUB JUMLAH | | | | 19.056.000 | 1.843.400.000 | | - | 1.862.456.000 |
| | | | | PPN 10 % | | | | 186.245.600 |
| JUMLAH | | | | | | | | 2.048.701.600 |
| | | | | DIBULATKAN | | | | 2.048.701.600 |

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|---|---|--------------------------|---------------|---------------|---------------|---|----------------------|--|
| 5 | 1 PAKET PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY BAGASI | | | | | | | |
| | Pemasangan / Instalasi / Ujicoba : | | | | | | | |
| | - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | |
| | - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | |
| | - Supervisi (*) | 1,0000 | lot | - | - | | | |
| | - Factory Training | termasuk dalam peralatan | | | | | | |
| | - Factory Acceptance Test | termasuk dalam peralatan | | | | | | |
| | - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | |
| | - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | |
| | Pengadaan Peralatan : | | | | | | | |
| - Peralatan X-Ray (bagasi) | 1,0000 | unit | 2.748.000.000 | 2.748.000.000 | | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | 15.400.000 | | | | |
| | SUB JUMLAH | | | 19.056.000 | 2.763.400.000 | - | 2.782.456.000 | |
| | | | PPN 10 % | | | | 278.245.600 | |
| | JUMLAH | | | | | | 3.060.701.600 | |
| | | | DIBULATKAN | | | | 3.060.701.600 | |
| 6 | 1 PAKET PENGADAAN DAN PEMASANGAN MULTI VIEW X-RAY CARGO | | | | | | | |
| | Pemasangan / Instalasi / Ujicoba : | | | | | | | |
| | - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | |
| | - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | |
| | - Supervisi (*) | 1,0000 | lot | - | - | | | |
| | - Factory Training | termasuk dalam peralatan | | | | | | |
| | - Factory Acceptance Test | termasuk dalam peralatan | | | | | | |
| | - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | |
| | - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | |
| | Pengadaan Peralatan : | | | | | | | |
| - Peralatan X-Ray (cargo) | 1,0000 | unit | 4.584.000.000 | 4.584.000.000 | | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | 15.400.000 | | | | |
| | SUB JUMLAH | | | 19.056.000 | 4.599.400.000 | - | 4.618.456.000 | |
| | | | PPN 10 % | | | | 461.845.600 | |
| | JUMLAH | | | | | | 5.080.301.600 | |
| | | | DIBULATKAN | | | | 5.080.301.600 | |
| 7 | 1 PAKET PENGADAAN DAN PEMASANGAN X-RAY CABIN DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | | | | | | | |
| | Pemasangan / Instalasi / Ujicoba : | | | | | | | |
| | - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | |
| | - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | |
| | - Supervisi (*) | 1,0000 | lot | - | - | | | |
| | - Factory Training | termasuk dalam peralatan | | | | | | |
| | - Factory Acceptance Test | termasuk dalam peralatan | | | | | | |
| | - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | |
| | - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | |
| | Pengadaan Peralatan : | | | | | | | |
| - Peralatan X-Ray (Cabin) dengan Threat Image Protection (TIP) | 1,0000 | unit | 606.000.000 | 606.000.000 | | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | 15.400.000 | | | | |
| | SUB JUMLAH | | | 19.056.000 | 621.400.000 | - | 640.456.000 | |
| | | | PPN 10 % | | | | 64.045.600 | |
| | JUMLAH | | | | | | 704.501.600 | |
| | | | DIBULATKAN | | | | 704.501.600 | |
| 8 | 1 PAKET PENGADAAN DAN PEMASANGAN X-RAY BAGASI DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | | | | | | | |
| | Pemasangan / Instalasi / Ujicoba : | | | | | | | |
| | - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | |
| | - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | |
| | - Supervisi (*) | 1,0000 | lot | - | - | | | |
| | - Factory Training | termasuk dalam peralatan | | | | | | |
| | - Factory Acceptance Test | termasuk dalam peralatan | | | | | | |
| | - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | |
| | - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | |
| | Pengadaan Peralatan : | | | | | | | |
| - Peralatan X-Ray (Bagasi) dengan Threat Image Protection (TIP) | 1,0000 | unit | 630.000.000 | 630.000.000 | | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | 15.400.000 | | | | |
| | SUB JUMLAH | | | 19.056.000 | 645.400.000 | - | 664.456.000 | |
| | | | PPN 10 % | | | | 66.445.600 | |
| | JUMLAH | | | | | | 730.901.600 | |
| | | | DIBULATKAN | | | | 730.901.600 | |

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|--|---|--------------------------|-------------|---------------|-------------|---|----------------------|--|
| 9 | 1 PAKET PENGADAAN DAN PEMASANGAN X-RAY CARGO DENGAN THREAT IMAGE PROTECTION (TIP) (belum termasuk biaya pengiriman dan site training) | | | | | | | |
| | Pemasangan / Instalasi / Ujicoba : | | | | | | | |
| | - Pengiriman dan Asuransi (*) | 1,0000 | lot | - | - | | | |
| | - Pemasangan dan Uji Coba System | 1,0000 | lot | 12.961.000 | 12.961.000 | | | |
| | - Supervisi (*) | 1,0000 | lot | - | - | | | |
| | - Factory Training | termasuk dalam peralatan | | | | | | |
| | - Factory Acceptance Test | termasuk dalam peralatan | | | | | | |
| | - Site Training | 1,0000 | lot | 6.095.000 | 6.095.000 | | | |
| | - Site Acceptance Test (*) | 1,0000 | lot | - | - | | | |
| | Pengadaan Peralatan : | | | | | | | |
| - Peralatan X-Ray (Cargo) dengan Threat Image Protection (TIP) | 1,0000 | unit | 906.000.000 | | 906.000.000 | | | |
| - UPS 3 KVA Tipe On Line | 1,0000 | unit | 15.400.000 | | 15.400.000 | | | |
| | SUB JUMLAH | | | 19.056.000 | 921.400.000 | - | 940.456.000 | |
| | | | PPN 10 % | | | | 94.045.600 | |
| | JUMLAH | | | | | | 1.034.501.600 | |
| | | | DIBULATKAN | | | | 1.034.501.600 | |
| 10 | 1 SYSTEM PENGADAAN TOWER SET | | | | | | | |
| | - Pengadaan VHF Transmitter dan Receiver | 1,0000 | paket | 240.000.000 | 240.000.000 | | | |
| | - Pengadaan Transmitter /receiver rack 19" | 1,0000 | paket | 25.000.000 | 25.000.000 | | | |
| | - Pengadaan Antenna Transmitter dan Receiver | 1,0000 | paket | 30.000.000 | 30.000.000 | | | |
| | - Pengadaan Meteorological System | 1,0000 | paket | 250.000.000 | 250.000.000 | | | |
| | - Pengadaan Recorder | 1,0000 | paket | 400.000.000 | 400.000.000 | | | |
| | - Pengadaan Console Desk | 1,0000 | paket | 130.000.000 | 130.000.000 | | | |
| | SUB JUMLAH | | | 1.075.000.000 | - | - | 1.075.000.000 | |
| | | | PPN 10 % | | | | 107.500.000 | |
| | JUMLAH | | | | | | 1.182.500.000 | |
| | | | DIBULATKAN | | | | 1.182.500.000 | |

Catatan :

1. Harga Pekerjaan Penunjang Bandar Udara sudah termasuk Factory Acceptance Test dan Factory Training
2. Belum termasuk biaya pengiriman dan asuransi dari Jakarta ke lokasi
3. (*) Biaya disesuaikan dengan lokasi

**REKAPITULASI
ANALISA HARGA SATUAN PEKERJAAN KONSTRUKSI**

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Harga |
|---|--|------------------|
| I PEKERJAAN PERSIAPAN LAHAN | | |
| 1.1 | 1 M2 PEMBERSIHAN | =Rp 4.100,00 |
| 1.2 | 1 M2 CLEARING | =Rp 11.100,00 |
| 1.3 | 1 M2 STRIPPING | =Rp 12.200,00 |
| 1.4 | 1 M2 PENGUKURAN | =Rp 1.400,00 |
| 1.5 | 1 M PEMASANGAN BOWPLANK | =Rp 17.800,00 |
| II PEKERJAAN TANAH | | |
| 2.1 | 1 M3 GALIAN TANAH BIASA | =Rp 40.500,00 |
| 2.2 | 1 M3 URUGAN TANAH KEMBALI | =Rp 10.200,00 |
| 2.3 | 1 M3 GALIAN TANAH | =Rp 12.800,00 |
| 2.4 | 1 M3 URUGAN DAN PEMADATAN TANAH SUBGRADE | =Rp 65.300,00 |
| 2.5 | 1 M3 URUGAN PASIR | =Rp 143.000,00 |
| 2.6 | 1 M3 URUGAN DAN PEMADATAN SIRTU (SUB BASE) | =Rp 190.400,00 |
| 2.7 | 1 M3 URUGAN DAN PEMADATAN BATU PECAH (BASE COURSE) | =Rp 214.800,00 |
| III PEKERJAAN PENGASPALAN | | |
| 3.1 | 2,5/M2 PRIME COATING AC 60/70 | =Rp 28.700,00 |
| 3.2 | 1,5 KG/M2 TACK COATING AC 60/70 | =Rp 22.700,00 |
| IV PEKERJAAN BETON | | |
| 4.1 | 1 M2 CETAKAN BETON | =Rp 134.800,00 |
| 4.2 | 1 M2 BEKISTING | =Rp 1.745.800,00 |
| 4.3 | 100 KG PEMBESIAN | =Rp 1.745.200,00 |
| 4.4 | 1 KG PEMBESIAN | =Rp 17.500,00 |
| 4.5 | 1 M3 BETON COR 1 PC : 2 PS : 3 KR | =Rp 825.900,00 |
| 4.6 | 1 M3 BETON COR 1 PC : 2 PS : 3 SPLIT | =Rp 936.900,00 |
| 4.7 | 1 M3 BETON COR BERTULANG | =Rp 4.432.700,00 |
| 4.8 | 1 M3 BETON ADUKAN 1 PC : 3 PS : 6 KR | =Rp 839.900,00 |
| 4.9 | 1 M3 LAPISAN LEAN CONCRETE | =Rp 701.000,00 |
| 4.10 | 1 M3 BETON SEMEN BERTULANG MUTU K-350 UNTUK LAPISAN ATAS/M3 APRON, RUNWAY TAXI WAY | =Rp 1.411.000,00 |
| V PEKERJAAN MARKING / PENGECATAN | | |
| 5.1 | 1 M2 PENGECATAN / MARKING | =Rp 62.300,00 |
| 5.2 | 10 M2 PENGECATAN TEMBOK | =Rp 45.900,00 |
| 5.3 | 10 M2 CAT BROWN PERAK | =Rp 115.700,00 |
| VI PEKERJAAN SALURAN | | |
| 6.1 | 1 M3 SALURAN TERTUTUP BETON SEMEN BERTULANG K-225, PEMBESIAN 125 KG | =Rp 2.112.900,00 |
| 6.2 | 1 M3 SALURAN TERBUKA PASANGAN BATU KALI | =Rp 721.200,00 |
| 6.3 | 1 BUAH PIPA REMBESAN PARALON | =Rp 108.400,00 |
| VII PEKERJAAN PASANGAN BATU | | |
| 7.1 | 1 M2 PASANGAN BATA (1 BATA, ad. 1 PC : 3 PS) | =Rp 143.400,00 |
| 7.2 | 1 M3 PASANGAN BATU KALI 1 :2 | =Rp 698.000,00 |
| 7.3 | 1 M2 PASANG BATA MERAH 1 PC : 5 PS | =Rp 71.600,00 |
| VIII PEKERJAAN PLESTERAN | | |
| 8.1 | 1 M2 PLESTERAN 1 : 4 (TEBAL = 2 CM) | =Rp 58.100,00 |
| 8.2 | 1 M2 PLESTERAN 1 : 2 (TEBAL 1 CM) | =Rp 37.400,00 |
| 8.3 | 1 M2 PLESTERAN 1 PC : 5 PS (TEBAL = 2 CM) | =Rp 51.600,00 |
| IX PEKERJAAN PAGAR | | |
| 9.1 | 1 BUAH PEMBUATAN / PEMASANGAN TIANG TYPE A | =Rp 168.400,00 |
| 9.2 | 1 BUAH PEMBUATAN / PEMASANGAN TIANG TYPE B | =Rp 209.800,00 |
| 9.3 | 1 M PASANG KAWAT BERDURI 12 BARIS | =Rp 52.300,00 |
| 9.4 | 10 M PEMASANGAN PAGAR KAWAT DURI TINGGI = 2,2 M, PANJANG = 10 M | =Rp 2.126.600,00 |
| 9.5 | 1 M PEMASANGAN PAGAR KAWAT DURI, TINGGI = 2,2 M | =Rp 212.700,00 |
| 9.6 | 10 M PASANG PAGAR WIRE MESH TINGGI = 2.2 M' PANJANG = 10 M' (TANPA PONDASI) | =Rp 1.472.300,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Harga |
|-----------|--|----------------------|
| 9.7 | 1 M PASANG PAGAR WIRE MESH TINGGI = 2.2 M' | =Rp 212.700,00 |
| 9.8 | 1 LS PASANG PAGAR BRC T = 1,75 M PANJANG = 10 M (TANPA PONDASI) | =Rp 2.720.000,00 |
| 9.9 | 1 M' PASANG PAGAR BRC T = 1,75 M | =Rp 272.000,00 |
| 9.10 | 2.4 M' PEMASANGAN PAGAR BRC, TINGGI = 1,75, PANJANG =2 ,4 M' (LENGKAP | =Rp 1.259.600,00 |
| 9.11 | 1 M' PEMASANGAN PAGAR BRC, TINGGI=175 CM PER METER (LENGKAP PONDASI) | =Rp 524.900,00 |
| X | PEKERJAAN PENERANGAN / ELEKTRIKAL | |
| 10.1 | 1 OH PEMBUATAN DAN PEMASANGAN 1 BUAH PATOK TANDA KABEL | =Rp 39.200,00 |
| 10.2 | 1 LS CABLE DUCT DI DALAM RUANGAN | =Rp 1.287.700,00 |
| 10.3 | 1 LS ELEKTRODA TANAH | =Rp 735.000,00 |
| 10.4 | 1 LS PEMBUATAN PONDASI TIANG LAMPU | =Rp 1.547.200,00 |
| 10.5 | 1 LS PEMASANGAN TIANG LAMPU | =Rp 710.600,00 |
| 10.6 | 1 LS PEMASANGAN ARMATURE HQL LAMP 20 W/220 V | =Rp 353.700,00 |
| 10.7 | 1 LS PENGGALIAN DAN PEMASANGAN NYFGbY 4 x 10 Sqmm | =Rp 234.700,00 |
| 10.8 | 1 LS PEMASANGAN BOX TERMINAL | =Rp 107.300,00 |
| 10.9 | 1 LS PEMASANGAN CONTROL CABLE 2 x 2,5 Sqmm | =Rp 107.300,00 |
| 10.10 | 1 LS PEMBUATAN PONDASI PANEL DISTRIBUSI | =Rp 1.366.400,00 |
| 10.11 | 1 LS PEMASANGAN PANEL DISTRIBUSI | =Rp 763.100,00 |
| 10.12 | 1 M3 PEKERJAAN SIPIL FLOOD LIGHT | =Rp 4.613.500,00 |
| 10.13 | 1 LS PEKERJAAN INSTALASI DAN SETTING FLOOD LIGHT TIANG TUNGGAL | =Rp 1.243.600,00 |
| XI | PEKERJAAN FASILITAS PENUNJANG BANDAR UDARA | |
| 11.1 | 1 LS PENGEPAKAN | =Rp 1.808.600,00 |
| 11.2 | 1 M' PEMASANGAN COAXIAL CABLE | =Rp 326.600,00 |
| 11.3 | 1 UNIT PEMASANGAN UNIT CAMERA | =Rp 473.500,00 |
| 11.4 | 1 LS PEMASANGAN MONITOR | =Rp 228.500,00 |
| 11.5 | 1 LS PEMASANGAN REMOTE CONTROL | =Rp 163.600,00 |
| 11.6 | 1 LS PEMASANGAN CCTV | =Rp 877.200,00 |
| 11.7 | 1 LS LINE UP / SET UP SYSTEM | =Rp 616.000,00 |
| 11.8 | 1 LS UJI COBA SYSTEM | =Rp 616.000,00 |
| 11.9 | 1 LS ACCEPTANT TEST DI LOKASI | =Rp 418.000,00 |
| 11.10 | 1 PAKET PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF I) | =Rp 80.238.400,00 |
| 11.11 | 1 PAKET PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF II) | =Rp 76.278.400,00 |
| 11.12 | 1 UNIT PENGADAAN HELD METAL DETECTOR | =Rp 2.500.000,00 |
| 11.13 | 1 UNIT PENGADAAN DAN PEMASANGAN AUDIO CONFERENCE | =Rp 31.028.700,00 |
| 11.14 | 1 SET PEMASANGAN PERALATAN UTAMA KE DALAM CONSOLE TERMASUK TV | =Rp 636.300,00 |
| 11.15 | 1 LS PEMASANGAN BRACKET | =Rp 268.900,00 |
| 11.16 | 1 LS PEMASANGAN/INSTALASI SOFTWARE | =Rp 304.700,00 |
| 11.17 | 1 SET PERANGKAT UTAMA FIDS | =Rp 129.360.900,00 |
| 11.18 | 1 SET PERALATAN PENUNJANG FIDS | =Rp 4.225.400,00 |
| 11.19 | 1 LS PEMASANGAN / INSTALASI JARINGAN (FIDS) | =Rp 6.849.600,00 |
| 11.20 | 1 LS MONTAGE GENSET DI ATAS PONDASI / 25 KVA | =Rp 935.300,00 |
| 11.21 | 1 LS PEMASANGAN & INSTALASI EXHAUST SYSTEM | =Rp 870.200,00 |
| 11.22 | 1 LS AIR COOLING DISCHARGE DUCT | =Rp 641.700,00 |
| 11.23 | 1 LS PEMASANGAN DAN INSTALASI CONTROL CABLE NYY 2 x 6 mm ² / 1 KV | =Rp 61.100,00 |
| 11.24 | 1 LS PEMASANGAN DAN INSTALASI CONTROL CABLE NYY 4 x 25 mm ² / 1 KV | =Rp 79.400,00 |
| 11.25 | 1 LS PEMASANGAN & INSTALASI PANEL ACOS / 25 KVA | =Rp 646.200,00 |
| 11.26 | 1 LS PEMASANGAN & INSTALASI PANEL DISTRIBUSI / 25 KVA | =Rp 646.200,00 |
| 11.27 | 1 LS PEMASANGAN PONDASI GENSET 25 KVA DENGAN BETON COR 1 : 2 : 3 | =Rp 4.499.300,00 |
| 11.28 | 1 LS PEMASANGAN & INSTALASI INCOMING PANEL PLN | =Rp 655.300,00 |
| 11.29 | 1 LS PEMASANGAN & INSTALASI TANGKI RESERVOIR BBM / 200 LITER | =Rp 1.954.400,00 |
| 11.30 | 1 LS PEMASANGAN & INSTALASI TANGKI RESERVOIR BBM / 1000 LITER | =Rp 4.019.300,00 |
| 11.31 | 1 LS PEMASANGAN & INSTALASI FUEL PIPING SYSTEM | =Rp 1.544.500,00 |
| 11.32 | 1 LS PEMASANGAN & INSTALASI EARTHING SYSTEM BC 50MM2 | =Rp 19.000,00 |
| 11.33 | 1 PAKET PENGADAAN PERALATAN NON DIRECTIONAL BEACON (NDB) TYPE MEDIUM RANGE (MR) (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Flight Commissioning dan Instalasi) | =Rp 1.053.157.650,00 |
| 11.34 | 1 PAKET PENGADAAN PERALATAN NON DIRECTIONAL BEACON (NDB) TYPE LOW RANGE (LR) (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Flight Commissioning dan Instalasi) | =Rp 989.331.881,00 |
| 11.35 | 1 PAKET PENGADAAN PERALATAN HIGH FREQUENCY-SINGLE SIDE BAND (HF-SSB TRANCEIVER) | =Rp 30.000.000,00 |
| 11.36 | 1 PAKET PENGADAAN DAN PEMASANGAN PERALATAN HIGH FREQUENCY-SINGLE SIDE BAND (HF-SSB TRANCEIVER TERMASUK TIANG ANTENA TRIANGEL) | =Rp 70.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Harga |
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| 11.37 | 1 PAKET PENGADAAN VHF PORTABLE (PERALATAN VHF TRANSCEIVER LENGKAP DENGAN AKSESORIS) | =Rp 60.000.000,00 |
| 11.38 | 1 SYSTEM PENGADAAN TOWER SET (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) YANG TERDIRI DARI : | =Rp 1.075.000.000,00 |
| | 1 PAKET PERALATAN VHF TRANSMITTER DAN RECEIVER (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 240.000.000,00 |
| | 1 PAKET TRANSMITTER/RECEIVER RACK 19 INCHI (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 25.000.000,00 |
| | 1 PAKET ANTENNA TRANSMITTER DAN RECEIVER (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 30.000.000,00 |
| | 1 PAKET METEOROLOGICAL SYSTEM (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 250.000.000,00 |
| | 1 PAKET RECORDER (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 400.000.000,00 |
| | 1 PAKET CONSOLE DESK (belum termasuk biaya pengiriman, Factory Acceptance Test, Factory Training, Instalasi dan PPn 10%) | =Rp 130.000.000,00 |
| XII | PEKERJAAN FASILITAS SISI UDARA | |
| 12.1 | PEKERJAAN PERKERASAN APRON/RUNWAY/TAXIWAY | |
| 12.1.1 | 1 M2 SIRTU PADAT CBR > 25 % (SUB BASE) TEBAL = 30 CM | =Rp 57.200,00 |
| 12.1.2 | 1 M2 LAPISAN AGGREGATE BASE PADAT CBR > 80%, TEBAL = 25 CM | =Rp 53.700,00 |
| 12.1.3 | 1 M2 LAPISAN AGGREGATE BASE PADAT CBR > 80 %, TEBAL = 35 CM | =Rp 75.200,00 |
| 12.1.4 | 1 M2 LEAN CONCRETE > K 100, TEBAL = 20 CM | =Rp 140.200,00 |
| 12.1.5 | 1 M2 SLAB BETON MUTU K 350, TEBAL = 35 CM | =Rp 493.900,00 |
| 12.1.6 | 1 M2 LAPISAN ASPAL PENETRASI TEBAL 7,5 CM PADAT | =Rp 69.300,00 |
| 12.1.7 | 1 M2 LAPISAN ASPAL PENETRASI TEBAL 5 CM PADAT | =Rp 46.200,00 |
| 12.1.8 | 1 M2 LAPISAN ASPAL KOLAKAN TEBAL 7,5 CM PADAT | =Rp 83.700,00 |
| 12.1.9 | 1 M2 LAPISAN ASPAL KOLAKAN TEBAL 5 CM PADAT | =Rp 55.800,00 |
| 12.1.10 | 1 M2 LAPISAN ASPHALT TREATED BASE (ATB) TEBAL 7,5 CM PADAT | =Rp 100.000,00 |
| 12.1.11 | 1 M2 LAPISAN ASPHALT TREATED BASE TEBAL (ATB) 5 CM (0,05 /0,075) | =Rp 101.700,00 |
| 12.1.12 | 1 M2 LAPISAN ASPAL BETON TEBAL (AC) TEBAL 7,5 CM | =Rp 152.500,00 |
| 12.1.13 | 1 M2 LAPISAN ASPAL BETON TEBAL (AC) 5 CM (0,05 /0,075) | =Rp 66.700,00 |
| 12.1.14 | 1 M3 LAPISAN CEMENT TREATED BASE COURSE (CTBC) | =Rp 563.300,00 |
| 12.1.15 | 1 M2 LAPISAN CEMENT TREATED BASE COURSE (CTBC), TEBAL = 25 CM | =Rp 140.900,00 |
| 12.2 | PEKERJAAN PERLUASAN / PELEBARAN APRON/RUNWAY/TAXIWAY | |
| 12.2.1 | 1 M2 PEKERJAAN KONSTRUKSI PERKERASAN BARU (PERLUASAN) DENGAN BETON SEMEN (RIGIT (PAVEMENT) TEBAL 35 CM | =Rp 1.641.100,00 |
| 12.2.2 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 7,5 CM | =Rp 508.500,00 |
| 12.2.3 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 5 CM | =Rp 490.100,00 |
| 12.2.4 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 7,5 CM | =Rp 317.000,00 |
| 12.2.5 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 5 CM | =Rp 267.600,00 |
| 12.2.6 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 7,5 CM | =Rp 302.600,00 |
| 12.2.7 | 1 M2 KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 5 CM | =Rp 258.000,00 |

HARGA SATUAN BAHAN DITJEN PERHUBUNGAN UDARA

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|-----------------------------|---|----------------|------------------|
| TANAH PASIR DAN BATU | | | |
| MT01 | Adhesion Promoter untuk Hotmix (<i>Anti Stripping Agent</i>) | kg | =Rp 70.283,74 |
| MT02 | Aspal AC 60 - 70 | kg | =Rp 5.450,00 |
| MT03 | Bata Merah | Buah | =Rp 380,00 |
| MT04 | Batu gunung/kali | m ³ | =Rp 145.310,00 |
| MT05 | Batu pecah (base course) | m ³ | =Rp 134.900,00 |
| MT06 | Batu pecah 0,5/1 | m ³ | =Rp 140.500,00 |
| MT07 | Batu pecah 1/2 | m ³ | =Rp 149.200,00 |
| MT08 | Batu pecah 2/3 | m ³ | =Rp 149.200,00 |
| MT09 | Batu pecah 3/5 | m ³ | =Rp 149.200,00 |
| MT10 | Batu tela/batako/batu pres | buah | =Rp 2.365,00 |
| MT11 | Kapur | kg | =Rp 11.454,55 |
| MT12 | Abu batu/screening | m ³ | =Rp 167.800,00 |
| MT13 | Pasir beton | m ³ | =Rp 164.400,00 |
| MT14 | Pasir pasang | m ³ | =Rp 139.100,00 |
| MT15 | Pasir urug | m ³ | =Rp 107.000,00 |
| MT16 | Paving block | buah | =Rp 6.545,00 |
| MT17 | Screening | m ³ | =Rp 156.500,00 |
| MT18 | Semen PC (50 kg/zak) | zak | =Rp 47.500,00 |
| MT19 | Sirtu | m ³ | =Rp 122.500,00 |
| MT20 | Split | m ³ | =Rp 149.800,00 |
| MT21 | Tanah urug | m ³ | =Rp 30.020,00 |
| MT22 | Beton cor 1 pc : 2 ps : 3 kr | m ³ | =Rp 825.900,00 |
| MT23 | Beton cor bertulang | m ³ | =Rp 4.432.700,00 |
| MT24 | Galian tanah | m ³ | =Rp 12.800,00 |
| MT25 | Pasangan bata | m ³ | =Rp 71.600,00 |
| MT26 | Plesteran | m ² | =Rp 37.400,00 |
| MT27 | Beton cor 1 pc : 2 ps : 3 split | m ³ | =Rp 936.900,00 |
| MT28 | Pembesian | kg | =Rp 17.500,00 |
| MT29 | Bekisting | m ² | =Rp 1.745.800,00 |
| MT30 | Koral/krikil | m ³ | =Rp 156.550,00 |
| MT31 | urugan pasir | m ³ | =Rp 143.000,00 |
| MT32 | Pengecatan tembok | m ² | =Rp 45.900,00 |
| MT33 | Prime coating AC 60/70 | m ² | =Rp 28.700,00 |
| MT34 | Tack coating AC 60/70 | m ² | =Rp 22.700,00 |
| MT35 | Lapisan aspal penetrasi tebal 7,5 cm padat | m ² | =Rp 69.300,00 |
| MT36 | Lapisan aspal penetrasi tebal 5 cm padat | m ² | =Rp 46.200,00 |
| MT37 | Lapisan aspal kolakan tebal 7,5 cm padat | m ² | =Rp 83.700,00 |
| MT38 | Lapisan aspal kolakan tebal 5 cm padat | m ² | =Rp 55.800,00 |
| MT39 | Lapisan aspal beton tebal (AC) 7,5 cm padat | m ² | =Rp 152.500,00 |
| MT40 | Lapisan aspal beton (AC) tebal 5 cm (0,05/0,075) | m ² | =Rp 66.700,00 |
| MT41 | Lapisan asphalt treated base (ATB) 7,5 cm padat | m ² | =Rp 100.000,00 |
| MT42 | Lapisan asphalt treated base (ATB) tebal 5 cm (0,05/0,075) | m ² | =Rp 101.700,00 |
| MT42 | Lapisan Cement Treated Base Course (CTBC) | m ³ | =Rp 563.300,00 |
| MT42 | Lapisan CTBC, tebal = 25 cm | m ² | =Rp 140.900,00 |
| MT43 | Lapisan lean concrete | m ² | =Rp 701.000,00 |
| MT44 | Beton semen bertulang mutu k-350 untuk lapisan atas/m ³ apron, runway taxi way | m ³ | =Rp 1.411.000,00 |
| MT45 | Urugan dan pemadatan tanah subgrade | m ³ | =Rp 65.300,00 |
| MT46 | Urugan dan pemadatan sirtu (sub base) | m ³ | =Rp 190.400,00 |
| MT47 | Urugan dan pemadatan batu pecah (base course) | m ³ | =Rp 214.800,00 |
| MT48 | Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | m ² | =Rp 57.200,00 |
| MT49 | Lapisan aggregate base padat cbr > 80 %, tebal = 25 cm | m ² | =Rp 53.700,00 |
| MT52 | Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | m ² | =Rp 75.200,00 |
| MT50 | Lean concrete > k 100, tebal = 20 cm | m ² | =Rp 140.200,00 |
| MT51 | Slab beton mutu k 350, tebal = 35 cm | m ² | =Rp 493.900,00 |
| KAYU | | | |
| MK01 | Bambu 5-10cm Pjg. 6m | btg | =Rp 14.900,00 |
| MK02 | Batang Kelapa | m | =Rp 20.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|------|---|--------|------------------|
| MK03 | Kayu dolken | btg | =Rp 20.000,00 |
| MK04 | Dolken penunjang 2 m | btg | =Rp 20.000,00 |
| MK05 | Kayu bakar | m3 | =Rp 42.300,00 |
| MK06 | Kayu Balok Kelas I | m3 | =Rp 4.915.400,00 |
| MK07 | Kayu Balok Kelas II | m3 | =Rp 3.657.000,00 |
| MK08 | Kayu Balok Kelas III | m3 | =Rp 2.389.950,00 |
| MK09 | Kayu Kaso Kelas I | m3 | =Rp 5.303.900,00 |
| MK10 | Kayu Kaso Kelas II | m3 | =Rp 4.407.000,00 |
| MK11 | Kayu Kaso Kelas III | m3 | =Rp 1.921.000,00 |
| MK12 | Kayu Papan Kelas I | m3 | =Rp 5.561.400,00 |
| MK13 | Kayu Papan Kelas II | m3 | =Rp 3.810.220,00 |
| MK14 | Kayu Papan Kelas III | m3 | =Rp 2.802.400,00 |
| MK15 | Kayu ramin segala ukuran (balok) | m3 | =Rp 7.087.500,00 |
| MK16 | Kayu Reng Kelas I | m3 | =Rp 4.100.800,00 |
| MK17 | Kayu Reng Kelas II | m3 | =Rp 3.480.100,00 |
| MK18 | Kayu Reng Kelas III | m3 | =Rp 2.538.000,00 |
| MK19 | Kayu ulin segala ukuran (papan dan balok) | m3 | =Rp 6.520.500,00 |
| MK21 | Multiplex 18mm | lembar | =Rp 285.409,00 |
| MK22 | Plywood | lembar | =Rp 230.522,00 |
| MK23 | Teakwood | lembar | =Rp 109.772,50 |
| MK24 | Terpal untuk blokir air | set | =Rp 32.300,00 |
| MK25 | Triplek t= 4 mm | lembar | =Rp 40.615,50 |
| MK26 | Triplek t=12 mm | lembar | =Rp 119.840,00 |
| MK27 | Triplek t=6 mm | lembar | =Rp 73.300,00 |
| | BESI | | |
| MB01 | Angkur diameter 25mm | buah | =Rp 6.250,00 |
| MB02 | Baja Profil / Plat | kg | =Rp 23.290,00 |
| MB03 | Besi beton | Kg | =Rp 9.070,00 |
| MB04 | Besi beton bulat | kg | =Rp 9.070,00 |
| MB05 | Besi beton ulir | Kg | =Rp 9.660,00 |
| MB06 | Besi plat | kg | =Rp 10.604,50 |
| MB07 | Besi Siku | Kg | =Rp 23.290,00 |
| MB08 | Besi Siku penahan tulangan (pengelasan dlm air) | set | =Rp 155.400,00 |
| MB09 | Bordes plat | m | =Rp 454.560,00 |
| MB10 | Curing Compound | Kg | =Rp 6.050,00 |
| MB11 | Dowel and Tie Bar | kg | =Rp 8.780,00 |
| MB12 | Dowel Bar D=25 mm | Buah | =Rp 5.600,00 |
| MB13 | Kawat beton | kg | =Rp 12.000,00 |
| MB14 | Kawat duri (40 m') | rol | =Rp 90.400,00 |
| MB15 | Kawat duri 10 kg (P.60M) | rol | =Rp 63.050,00 |
| MB16 | Kawat las | m | =Rp 18.310,00 |
| MB17 | Kawat las (elektroda) | m | =Rp 22.600,00 |
| MB18 | Kawat pengikat beton Bindraad | kg | =Rp 13.560,00 |
| MB19 | Mur baut 3/4" | Buah | =Rp 1.130,00 |
| MB20 | Mur/baut klem | Buah | =Rp 2.830,00 |
| MB21 | Paku | kg | =Rp 13.990,00 |
| MB22 | Paku ashes | kg | =Rp 30.000,00 |
| MB23 | Paku seng | kg | =Rp 30.000,00 |
| MB24 | Panel BRC t=1,75 m | Unit | =Rp 452.000,00 |
| MB25 | Panel wire mesh, T=2,20 m | Buah | =Rp 340.130,00 |
| MB26 | Pasang Tiang Type A | buah | =Rp 168.400,00 |
| MB27 | Pasang Tiang Type B | Buah | =Rp 209.800,00 |
| MB28 | Pasang pagar BRC t = 1,75 m panjang 10 m' (tanpa pondasi) | ls | =Rp 2.720.000,00 |
| MB29 | Pemasangan pagar brc, tinggi = 1,75, panjang = 2,4 m' (lengkap pondasi) | ls | =Rp 1.259.600,00 |
| MB30 | Pasang pagar brc t = 1,75 m (tanpa pondasi) | m | =Rp 272.000,00 |
| MB31 | Pasang pagar wire mesh tinggi = 2.2 m' panjang = 10 m' (tanpa pondasi) | ls | =Rp 1.472.300,00 |
| MB32 | Pemasangan pagar kawat duri tinggi = 2,2 m, panjang = 10 m | ls | =Rp 2.126.600,00 |
| MB33 | Plat seng tebal 0,050 cm lebar 0,90m | m | =Rp 65.000,00 |
| MB34 | Rantai penahan | buah | =Rp 172.225,00 |
| MB35 | Seng gelombang 180 x 90 x 0,50 | lembar | =Rp 60.200,00 |
| MB36 | Timah | kg | =Rp 26.750,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|----------------------------------|---|--------|-------------------|
| MB37 | Wire Mesh | kg | =Rp 11.600,00 |
| TIANG PANCANG | | | |
| MP01 | L Bars/Stek tiang pancang/Tulangan steak untuk tiang pancang dia.16 | buah | =Rp 699.693,50 |
| MP02 | Ring untuk sepatu tiang pancang | set | =Rp 208.500,00 |
| MP03 | Tiang Pancang bulat dia.30 cm | m | =Rp 341.000,00 |
| MP04 | Tiang Pancang bulat dia.35 cm | m | =Rp 427.000,00 |
| MP05 | Tiang Pancang bulat dia.40 cm | m | =Rp 563.000,00 |
| MP06 | Tiang Pancang bulat dia.45 cm | m | =Rp 697.000,00 |
| MP07 | Tiang Pancang bulat dia.50 cm | m | =Rp 833.000,00 |
| MP08 | Tiang Pancang bulat dia.60 cm | m | =Rp 1.129.000,00 |
| MP09 | Tiang pancang pipa baja | ton | =Rp 10.865.000,00 |
| CAT & PLASTIK | | | |
| MC01 | A C Marine Use (Anti Corrosive M U) | Kg | =Rp 92.950,00 |
| MC02 | A F Marine Use (Anti Fouling) | liter | =Rp 78.500,00 |
| MC03 | Additive | Liter | =Rp 44.500,00 |
| MC04 | Admixture | liter | =Rp 15.900,00 |
| MC05 | Amplas kayu/besi (merk NIKEN) | lembar | =Rp 6.850,00 |
| MC06 | Bronz | kg | =Rp 34.602,27 |
| MC07 | Cat Anti Karat | Kg | =Rp 38.990,00 |
| MC08 | Cat besi | kg | =Rp 33.900,00 |
| MC09 | Cat besi khusus | kg | =Rp 82.500,00 |
| MC10 | Cat Brown | kg | =Rp 33.900,00 |
| MC11 | Cat Marking | kg | =Rp 39.550,00 |
| MC12 | Cat tembok | kg | =Rp 14.690,00 |
| MC13 | Dempul kayu | kg | =Rp 21.200,00 |
| MC14 | Kuas no. 4 | buah | =Rp 16.675,00 |
| MC15 | Meni besi | kg | =Rp 12.150,00 |
| MC16 | Meni kayu (5 kg) NIPPON | kaleng | =Rp 58.074,55 |
| MC17 | Minyak cat SSK | kg | =Rp 18.750,00 |
| MC18 | Pelitur | kg | =Rp 43.125,00 |
| MC19 | Plamur | Kg | =Rp 21.200,00 |
| MC20 | Plamur tembok MATEX (5 kg) | kg | =Rp 58.500,00 |
| MC21 | Residu | galon | =Rp 50.505,00 |
| MC22 | Thinner cat (High Class) | ltr | =Rp 17.860,00 |
| MC23 | Ultraproof | kg | =Rp 138.600,00 |
| MC24 | Vernis (Kayu/besi) | ltr | =Rp 49.898,86 |
| MC25 | Alas Plastik | m2 | =Rp 2.830,00 |
| MC26 | Fibre mesh | Kg | =Rp 117.875,00 |
| MC27 | Karung goni | buah | =Rp 2.500,00 |
| LISTRİK & ACCESSORIES | | | |
| ME01 | 1 KVA uninterruptible power supply | unit | =Rp 5.000.000,00 |
| ME02 | 1-4 booster splitter unit | unit | =Rp 4.095.000,00 |
| ME03 | Bos distribusi untuk 4 lampu | Unit | =Rp 9.732.315,00 |
| ME04 | Coaxial Cable | m | =Rp 20.000,00 |
| ME05 | Control cable 2 pair | m | =Rp 10.000,00 |
| ME06 | Junction cable switch | buah | =Rp 44.000,00 |
| ME07 | Power cable | m | =Rp 77.747,80 |
| ME08 | Supply Cable | m | =Rp 5.850,00 |
| ME09 | Materlari BC 50 Sqmm | kg | =Rp 16.500,00 |
| ME10 | Tyreb (pengikat cable) | buah | 300.000,00 |
| ME11 | TV monitor 14" multisystem | unit | =Rp 2.000.000,00 |
| ME12 | TV monitor 15" multisystem | unit | =Rp 2.000.000,00 |
| ME13 | TV monitor 29" multisystem | unit | =Rp 6.000.000,00 |
| ME14 | Cable duct di dalam ruangan | LS | =Rp 1.287.700,00 |
| ME15 | Elektroda tanah | LS | =Rp 735.000,00 |
| ME16 | Pekerjaan pemasangan dan instalasi elektroda tanah | set | =Rp 1.605.000,00 |
| ME17 | Pekerjaan pemasangan dan instalasi kawat BC 50 mm2 | LOT | =Rp 583.940,00 |
| ME18 | Pekerjaan pemasangan dan instalasi spitzen dia 1" | set | =Rp 129.760,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|-----------------------------|--|--------|----------------------|
| ME19 | Pekerjaan pemasangan Grounding System (termasuk box control soxyox 40 cm dan system max 2 ohm) | LOT | =Rp 2.469.000,00 |
| ME20 | Pekerjaan pengadaan alat bantu instalasi | LOT | =Rp 648.820,00 |
| ME21 | Pekerjaan pengadaan armature HQL Lamp 250 W / 220 V | set | =Rp 973.320,00 |
| ME22 | Pekerjaan pengadaan box terminal tiap tiang | set | =Rp 500.000,00 |
| ME23 | Pekerjaan pengadaan control cable NYY 2 x 2,5 Sqmm | m | =Rp 25.950,00 |
| ME24 | Pekerjaan pengadaan elektroda tanah | set | =Rp 750.000,00 |
| ME25 | pemasangan armature hql lamp 20 w/220 v | LS | =Rp 353.700,00 |
| ME26 | pemasangan box terminal | LS | =Rp 107.300,00 |
| ME27 | Pemasangan bracket | buah | =Rp 268.900,00 |
| ME28 | Pemasangan coaxial cable | m | =Rp 3.250,00 |
| ME29 | Pemasangan control cable | m | =Rp 2.470,00 |
| ME30 | Pemasangan control cable / unit | unit | =Rp 320.250,00 |
| ME31 | pemasangan control cable 2 x 2,5 sqmm | LS | =Rp 107.300,00 |
| ME32 | Pemasangan cable audio/video/antenna | m | =Rp 4.000,00 |
| ME33 | Pemasangan cable power supply | unit | =Rp 1.018.500,00 |
| ME34 | Pemasangan cable power/penyambungan dari panel | m | =Rp 3.000,00 |
| ME35 | pemasangan panel distribusi | LS | =Rp 646.200,00 |
| ME36 | pemasangan tiang lampu | LS | =Rp 710.600,00 |
| ME37 | Pemasangan/instalasi software | buah | =Rp 304.700,00 |
| ME38 | Pembuatan 1 buah patok tanda cable | LS | =Rp 39.200,00 |
| ME39 | pembuatan pondasi panel distribusi | LS | =Rp 1.366.400,00 |
| ME40 | pembuatan pondasi tiang lampu | LS | =Rp 1.547.200,00 |
| ME41 | Pengadaan bahan instalasi cable tray/protective cable | batang | =Rp 44.000,00 |
| ME42 | penggalian dan pemasangan nyfgby 4 x 10 sqmm | LS | =Rp 234.700,00 |
| ME43 | Pekerjaan pengadaan kawat BC 50 mm2 | m | =Rp 25.000,00 |
| ME44 | Pekerjaan pengadaan panel distribusi | unit | =Rp 1.557.170,00 |
| ME45 | Pekerjaan pengadaan power cable NYFGbY 4 x 10 Sqmm | m | =Rp 50.000,00 |
| ME46 | Pekerjaan pengadaan spitzen dia 1" | set | =Rp 454.200,00 |
| ME47 | Pekerjaan Persiapan | LOT | =Rp 583.940,00 |
| ME48 | Pemasangan Bracket | buah | =Rp 113.000,00 |
| ME49 | Pemasangan monitor | oh | =Rp 75.000,00 |
| ME50 | Pemasangan remote control | oh | =Rp 120.000,00 |
| ME51 | Pemasangan unit camera | oh | =Rp 170.000,00 |
| ME52 | Pembuatan tiang penyangga genset | unit | =Rp 648.820,00 |
| ME53 | Pengadaan, pemasangan dan instalasi pipa-pipa BBM | unit | =Rp 3.244.110,00 |
| ME54 | Pengadaan/Pemasangan AFL lengkap | set | =Rp 8.500.000.000,00 |
| AUDIO CONFERECE UNIT | | | |
| ME55 | Chairman's Unit | set | =Rp 8.475.000,00 |
| ME56 | Delegate Unit | buah | =Rp 5.000.000,00 |
| ME57 | Extention 10 m + jack | rol | =Rp 1.554.060,00 |
| ME58 | Extention 5 m + jack | rol | =Rp 810.810,00 |
| ME59 | Hand microphone | unit | =Rp 1.155.000,00 |
| ME60 | Power supply | unit | =Rp 13.384.800,00 |
| CCTV UNIT | | | |
| ME61 | CCD Camera | buah | =Rp 10.530.000,00 |
| ME62 | Infra Red Camera | buah | =Rp 23.650.000,00 |
| ME63 | Monitor 14" | buah | =Rp 1.755.000,00 |
| ME64 | Monitor 9" | buah | =Rp 1.462.500,00 |
| ME65 | Pan / Tilt Head | buah | =Rp 6.836.500,00 |
| ME66 | Remote Control PAN/TILS | buah | =Rp 9.711.000,00 |
| ME67 | Sequantial Switcher 10 : 1 | buah | =Rp 6.435.000,00 |
| ME68 | Sequantial Switcher 3 : 1 | buah | =Rp 5.019.300,00 |
| ME69 | Video Distributor Amplifier | buah | =Rp 3.960.000,00 |
| ME70 | Zoom Lensa 6 : 1 | buah | =Rp 8.239.000,00 |
| PELENGKAP | | | |
| ML01 | Air | m3 | =Rp 4.200,00 |
| ML02 | Air accu | Liter | =Rp 11.700,00 |
| ML03 | Air Curtain | unit | =Rp 5.034.150,00 |
| ML04 | Air filler | Liter | =Rp 156.630,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|-------|---|--------|----------------------|
| ML05 | Antenna TV | buah | =Rp 212.360,00 |
| ML06 | Artificial Load | liter | =Rp 5.650.000,00 |
| ML07 | Audio Cable | m | =Rp 11.120,00 |
| ML08 | Bracket TV | buah | =Rp 1.469.000,00 |
| ML09 | Captaincy Check | orang | =Rp 847.500,00 |
| ML10 | Computer Controller Switcher Booster | unit | =Rp 24.581.700,00 |
| ML11 | Continues form 8 1/2" x 11" | dos | =Rp 149.160,00 |
| ML12 | Curing Compound | kg | =Rp 6.050,00 |
| ML13 | Densopaste | tube | =Rp 140.600,00 |
| ML14 | Densopole | rol | =Rp 207.250,00 |
| ML15 | Densotape | rol | =Rp 168.550,00 |
| ML16 | Geotextile/filter cloth | m2 | =Rp 39.000,00 |
| ML17 | Grease | Kg | =Rp 21.350,00 |
| ML18 | Ijuk | kg | =Rp 8.990,00 |
| ML19 | Jaring BRC per lembar | lembar | =Rp 770.731,50 |
| ML20 | Jaring BRC per roll | roll | =Rp 4.302.559,80 |
| ML21 | Jaring Ulir per lembar | lembar | =Rp 1.332.812,25 |
| ML22 | Jaring Ulir per roll | roll | =Rp 4.630.972,50 |
| ML23 | Joint Sealant | m | =Rp 15.400,00 |
| ML24 | Karbit | Kg | =Rp 13.375,00 |
| ML25 | Karet busa | kg | =Rp 26.290,00 |
| ML26 | Keyboard | unit | =Rp 175.500,00 |
| ML27 | Kursi Operator | buah | =Rp 750.000,00 |
| ML28 | Lem kayu FOX (1 kg) | kg | =Rp 33.000,00 |
| ML29 | Meja operator | buah | =Rp 1.250.000,00 |
| ML30 | Meja printer | buah | =Rp 500.000,00 |
| ML31 | Minyak tanah | ltr | =Rp 5.500,00 |
| ML32 | Oli | Liter | =Rp 33.400,00 |
| ML33 | Oil filter | Liter | =Rp 146.630,00 |
| ML34 | Oli SAE 30 | Liter | =Rp 45.200,00 |
| ML35 | Oxygen | tabung | =Rp 235.650,00 |
| ML36 | Partisi Ruangan | LOT | =Rp 60.000.000,00 |
| ML37 | Pendingin Ruangan (AC) 2,5 PK | unit | =Rp 6.000.000,00 |
| ML38 | Pengadaan/Pemasangan karpet | m2 | =Rp 12.000,00 |
| ML39 | Pipa baja | Kg | =Rp 17.500,00 |
| ML40 | Pipa GIP diameter 1,5" | Batang | =Rp 154.810,00 |
| ML41 | Pipa paralon 2,5" | Batang | =Rp 64.980,00 |
| ML42 | Pipa paralon diameter 2" | Batang | =Rp 63.710,00 |
| ML43 | Printer | unit | =Rp 2.960.100,00 |
| ML44 | Sapu/sikat jerami | buah | =Rp 14.318,18 |
| ML45 | Serat PolyProphyene | Kg | =Rp 109.675,00 |
| ML46 | Soda api | kg | =Rp 39.375,00 |
| ML47 | Solar | Liter | =Rp 4.500,00 |
| ML48 | Teak oil | ltr | =Rp 21.525,00 |
| ML49 | Tutup pipa diameter 1,5" | Buah | =Rp 3.960,00 |
| ML50 | Tutup pipa diameter 2" | Buah | =Rp 5.680,00 |
| ML51 | Type equipment check | orang | =Rp 210.000,00 |
| ML52 | Video Cable | m | =Rp 20.000,00 |
| ML53 | Pengukuran | m2 | =Rp 1.400,00 |
| ML54 | Pembersihan | m2 | =Rp 4.100,00 |
| | | | |
| | MATERIAL KELENGKAPAN SEKTOR TRANSPORTASI UDARA | | |
| | A FASILITAS BANTU PENDARATAN | | |
| | Constant Current Regulator (CCR) | | |
| MTU68 | CCR 25 kVA | | =Rp 250.000.000,00 |
| MTU69 | CCR 15 kVA | | =Rp 215.100.000,00 |
| MTU70 | CCR 10 kVA | | =Rp 183.100.000,00 |
| MTU71 | CCR 7,5 kVA | | =Rp 150.000.000,00 |
| MTU72 | CCR 5 kVA | | =Rp 110.000.000,00 |
| MTU73 | CCR 4,5 kVA | | =Rp 110.000.000,00 |
| MTU74 | Remote Control Desk | | =Rp 1.000.000.000,00 |
| MTU75 | Wind Cone | | =Rp 75.000.000,00 |
| MTU76 | Wind Direction Indicator | | =Rp 130.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|--------|--|--------|------------------|
| | B FASILITAS LISTRIK BANDAR UDARA | | |
| | B.1 Genset | | |
| MTU77 | Genset 500 KVA | =Rp | 670.802.000,00 |
| MTU78 | Genset 350 KVA | =Rp | 565.224.000,00 |
| MTU79 | Genset 325 KVA | =Rp | 513.348.000,00 |
| MTU80 | Genset 240KVA | =Rp | 414.271.000,00 |
| MTU81 | Genset 165 KVA | =Rp | 280.346.000,00 |
| MTU82 | Genset 140 KVA | =Rp | 259.512.000,00 |
| MTU83 | Genset 100 KVA | =Rp | 217.701.000,00 |
| MTU84 | Genset 90 KVA | =Rp | 208.670.000,00 |
| MTU85 | Genset 75 KVA | =Rp | 187.858.000,00 |
| MTU86 | Genset 60 KVA | =Rp | 158.730.000,00 |
| MTU87 | Genset 40 KVA | =Rp | 131.714.000,00 |
| MTU88 | Genset 35 KVA | =Rp | 120.681.000,00 |
| MTU89 | Genset 30 KVA | =Rp | 117.612.000,00 |
| MTU90 | Genset 25 KVA | =Rp | 115.709.000,00 |
| MTU91 | Genset 20 KVA | =Rp | 101.618.000,00 |
| | B.2 Automatic Change Over Switch (ACOS) | | |
| MTU92 | ACOS 500 KVA | =Rp | 425.000.000,00 |
| MTU93 | ACOS 350 KVA | =Rp | 425.000.000,00 |
| MTU94 | ACOS 325 KVA | =Rp | 390.000.000,00 |
| MTU95 | ACOS 240 KVA | =Rp | 300.000.000,00 |
| MTU96 | ACOS 165 KVA | =Rp | 200.000.000,00 |
| MTU97 | ACOS 140 KVA | =Rp | 149.000.000,00 |
| MTU98 | ACOS 100 KVA | =Rp | 125.000.000,00 |
| MTU99 | ACOS 90 KVA | =Rp | 125.000.000,00 |
| MTU100 | ACOS 75 KVA | =Rp | 125.000.000,00 |
| MTU101 | ACOS 60 KVA | =Rp | 90.000.000,00 |
| MTU102 | ACOS 40 KVA | =Rp | 90.000.000,00 |
| MTU103 | ACOS 35 KVA | =Rp | 75.000.000,00 |
| MTU104 | ACOS 30 KVA | =Rp | 75.000.000,00 |
| MTU105 | ACOS 25 KVA | =Rp | 32.000.000,00 |
| MTU106 | ACOS 20 KVA | =Rp | 32.000.000,00 |
| | B.3 Transmission and Distribution | | |
| MTU107 | Power cable NYFGbY 4 x 6 Sqmm / M | =Rp | 44.720,00 |
| MTU108 | Power cable NYFGbY 4 x 16 Sqmm / M | =Rp | 95.400,00 |
| MTU109 | Power cable NYFGbY 4 x 50 Sqmm / M | =Rp | 216.000,00 |
| MTU110 | Power cable NYFGbY 4 x 95 Sqmm / M | =Rp | 409.500,00 |
| MTU111 | Integrated Lightning Protection | =Rp | 2.860.000.000,00 |
| | B.4 Air Conditioning (AC) | | |
| MTU112 | AC 1 PK | =Rp | 2.900.000,00 |
| MTU113 | AC 2 PK | =Rp | 5.800.000,00 |
| MTU114 | AC 3 PK | =Rp | 13.500.000,00 |
| MTU115 | AC 5 PK | =Rp | 16.000.000,00 |
| | B.5 Traction Equipments | | |
| MTU116 | Elevator | =Rp | 748.000.000,00 |
| MTU117 | Conveyor | =Rp | 25.000.000,00 |
| | B.6 Garbarata | | |
| MTU118 | Garbarata Tiga Tunnel (R3) | =Rp | 4.529.000.000,00 |
| MTU119 | Garbarata Dua Tunnel (R2) | =Rp | 4.169.000.000,00 |
| | B.7 Uninterruptible Power Supply (UPS) | | |
| MTU120 | UPS 825 KVA | =Rp | 3.550.635.000,00 |
| MTU121 | UPS 550KVA | =Rp | 2.464.935.000,00 |
| MTU122 | UPS 450 KVA | =Rp | 2.316.160.000,00 |
| MTU123 | UPS 275 KVA | =Rp | 1.367.663.000,00 |
| MTU124 | UPS 225 KVA | =Rp | 1.225.972.000,00 |
| MTU125 | UPS 160 KVA | =Rp | 752.752.000,00 |
| MTU126 | UPS 120 KVA | =Rp | 644.182.000,00 |
| MTU127 | UPS 100 KVA | =Rp | 564.564.000,00 |
| MTU128 | UPS 80 KVA | =Rp | 376.376.000,00 |
| MTU129 | UPS 60 KVA | =Rp | 336.567.000,00 |
| | B.8 Airport Electrical Installation | | |
| MTU130 | Flood Light | =Rp | 75.000.000,00 |
| MTU131 | Building/Road lighting | =Rp | 30.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|--------|--|--------|-----------------------|
| MTU132 | Lampu taman | | =Rp 15.000.000,00 |
| | B.9 Sirene | | |
| MTU133 | Sirene 1 PK | | =Rp 20.000.000,00 |
| MTU134 | Sirene 3 PK | | =Rp 56.000.000,00 |
| MTU135 | Sirene 5 PK | | =Rp 76.000.000,00 |
| | B.10 Solar Cell | | |
| MTU137 | Solar Cell 50 watt | | =Rp 5.500.000,00 |
| MTU138 | Solar Cell 100 watt | | =Rp 9.800.000,00 |
| | C FASILITAS METEOROLOGI PENERBANGAN | | |
| MTU139 | Anemometer | Unit | =Rp 11.513.150,00 |
| MTU140 | Barometer | Unit | =Rp 5.081.230,00 |
| MTU141 | Barograph | Unit | =Rp 23.746.580,00 |
| MTU142 | Wet Ball and dry ball thermometer | Unit | =Rp 1.194.930,00 |
| MTU143 | Thermometer Maximum & Minimum | Unit | =Rp 2.457.840,00 |
| MTU144 | Weather Radar/Satelite | Unit | =Rp 20.020.000.000,00 |
| | D FASILITAS KESELAMATAN PENERBANGAN | | |
| MTU145 | Hand held metal detector | unit | =Rp 2.500.000,00 |
| MTU146 | FIDS driver software | unit | =Rp 35.000.000,00 |
| MTU147 | 19" standard steel cabinet accesories | unit | =Rp 12.226.500,00 |
| MTU148 | 20 GigaByte hard disk drive | unit | =Rp 1.000.000,00 |
| MTU149 | Backup lengkap dengan software drive | unit | =Rp 40.000.000,00 |
| MTU150 | CD RW | unit | =Rp 177.840,00 |
| MTU151 | Central Processing Unit | unit | =Rp 14.040.000,00 |
| MTU152 | Control Panel Assembly | unit | =Rp 5.791.500,00 |
| MTU153 | Dual video converter card | unit | =Rp 21.000.000,00 |
| MTU154 | Dual video display controller card | unit | =Rp 20.212.500,00 |
| MTU155 | Digital Control Interface Card | unit | =Rp 13.063.050,00 |
| MTU156 | Power distribution assembly | m | =Rp 3.281.850,00 |
| MTU157 | VGA 15" color monitor | unit | =Rp 1.200.000,00 |
| MTU158 | Integrated Lightning Protection | set | =Rp 2.860.000.000,00 |
| | E FASILITAS PELAYANAN KESELAMATAN DAN KEAMANAN BANDAR UDARA | | |
| MTU160 | Penangkal Petir Konvensional dan Grounding Sistem untuk Bandara | | =Rp 25.000,00 |
| MTU161 | Trafo | | |
| MTU162 | Trafo 300 W | | =Rp 5.500.000,00 |
| MTU163 | Trafo 200 W | | =Rp 5.200.000,00 |
| MTU164 | Trafo 150 W | | =Rp 4.550.000,00 |
| MTU165 | Trafo 100 W | | =Rp 4.000.000,00 |
| MTU166 | Trafo 45 W | | =Rp 3.500.000,00 |
| MTU167 | Pengadaan dan Pemasangan CCTV (Alternatif I) | | =Rp 80.238.400,00 |
| MTU168 | Pengadaan dan Pemasangan CCTV (Alternatif II) | | =Rp 76.278.400,00 |
| MTU169 | Pengadaan Hand Held Metal Detector | | =Rp 2.500.000,00 |
| MTU170 | Pengadaan dan Pemasangan Audio Conference 1 set | | =Rp 31.028.700,00 |
| MTU171 | Pengadaan dan Pemasangan FIDS | | =Rp 6.849.600,00 |
| MTU172 | Pengadaan/Pemasangan Lampu Penerangan Jalan | | =Rp 15.000.000,00 |
| MTU173 | Pengadaan/Pemasangan Lampu Penerangan Taman | | =Rp 80.000.000,00 |
| MTU174 | Pengadaan/Pemasangan Flood Light Tiang Tunggal | | =Rp 125.000.000,00 |
| MTU175 | Pengadaan/Pemasangan Flood Light Tiang Ganda | | =Rp 249.228.760,00 |
| MTU176 | Pengadaan/Pemasangan Manual Genset 25 KVA | | =Rp 390.670.720,00 |
| MTU177 | Peralatan X-Ray (Bagasi) | unit | =Rp 2.748.000.000,00 |
| MTU178 | Peralatan X-Ray (Cabin) | unit | =Rp 1.828.000.000,00 |
| MTU179 | Peralatan X-Ray (Cargo) | unit | =Rp 4.584.000.000,00 |
| MTU180 | Peralatan X-Ray (Bagasi) dengan Threat Image Protection (TIP) | unit | =Rp 630.000.000,00 |
| MTU181 | Peralatan X-Ray (Cabin) dengan Threat Image Protection (TIP) | unit | =Rp 606.000.000,00 |
| MTU182 | Peralatan X-Ray (Cargo) dengan Threat Image Protection (TIP) | unit | =Rp 906.000.000,00 |
| MTU183 | Roller Input dan Output X-Ray | unit | =Rp 39.487.500,00 |
| MTU184 | Suku Cadang Modul X-Ray | unit | =Rp 40.000.000,00 |
| MTU185 | UPS 1 KVA Tipe On Line | unit | =Rp 5.000.000,00 |
| MTU186 | UPS 2 KVA Tipe On Line | unit | =Rp 4.000.000,00 |
| MTU187 | UPS 3 KVA Tipe On Line | unit | =Rp 15.400.000,00 |
| MTU188 | Walk Through Metal Detector | unit | =Rp 93.000.000,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga |
|--------|--|--------|-------------------|
| | F FASILITAS PERTOLONGAN KECELAKAAN PENERBANGAN DAN PEMADAM KEBAKARAN (PKP-PK) | | |
| | F.1 Kendaraan Utama PKP-PK | | |
| | F.1.1 Foam Tender (belum termasuk biaya pengiriman dari Jakarta ke lokasi) | | |
| MTU185 | Foam Tender Tipe I | =Rp | 15.000.000.000,00 |
| MTU186 | Foam Tender Tipe II | =Rp | 12.500.000.000,00 |
| MTU187 | Foam Tender Tipe III | =Rp | 8.000.000.000,00 |
| | Foam Tender Tipe IV | =Rp | 6.500.000.000,00 |
| MTU188 | Foam Tender Tipe V | =Rp | 5.500.000.000,00 |
| MTU189 | Foam Tender Tipe VI | =Rp | 3.500.000.000,00 |
| MTU190 | Rapid Intervention Vehicle Tipe IV | =Rp | 1.500.000.000,00 |
| MTU191 | Hovercraft | =Rp | 3.000.000.000,00 |
| | F.1.2 Kendaraan Pendukung PKP-PK dan Salvage | | |
| MTU192 | Mobil Komando | =Rp | 750.000.000,00 |
| MTU193 | Mobil pemasok air nurse tender | =Rp | 4.000.000.000,00 |
| MTU194 | Mobil tangki air kapasitas 1000 liter | =Rp | 500.000.000,00 |
| MTU195 | Mobil serba guna | =Rp | 750.000.000,00 |
| MTU196 | Mobil ambulance multi purpose | =Rp | 1.500.000.000,00 |
| MTU197 | Mobil ambulance | =Rp | 400.000.000,00 |
| MTU198 | Mobil generator | =Rp | 1.500.000.000,00 |
| MTU199 | Aircraft Recovery Equipment (B747) | =Rp | 17.500.000.000,00 |
| | F.2 Bahan Pemadam Yang Dipergunakan Untuk PKP-PK | | |
| | F.2.1 Bahan Pemadam Api Utama | | |
| MTU200 | Aqueous Film Forming Foam (AFFF)/liter | =Rp | 55.000,00 |
| MTU201 | Film Forming Fluoro Protein (FFFP)/ liter | =Rp | 85.000,00 |
| MTU202 | Synthetic Foam/ liter | =Rp | 60.000,00 |
| | F.2.2 Bahan Pemadam Api Pelengkap | | |
| MTU203 | Karbon dioksida (CO2) | =Rp | 12.500.000,00 |
| MTU204 | Dry Chemical Powder jenis <i>multi purpose/kg</i> | =Rp | 40.000,00 |
| | F.3 Pakaian Pelindung Keselamatan Kerja dan Peralatan Bantu Pernapasan untuk PKP-PK | | |
| MTU205 | Baju Pelindung | =Rp | 7.500.000,00 |
| MTU206 | Baju Tahan Panas | =Rp | 15.000.000,00 |
| MTU207 | Baju Tahan Api | =Rp | 60.000.000,00 |
| MTU208 | Sepatu Bot | =Rp | 2.849.000,00 |
| MTU209 | Sarung Tangan | =Rp | 1.782.000,00 |
| MTU210 | Peralatan Bantu Pernapasan | =Rp | 50.000.000,00 |

HARGA SATUAN ALAT DITJEN PERHUBUNGAN UDARA

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No | Uraian | Satuan | Harga Satuan |
|----|------------------------------------|--------|--------------|
| 1 | Alat bantu cor beton | jam | 7.315,00 |
| 2 | Alat bantu galian tanah | jam | 3.850,00 |
| 3 | Alat bantu pembesian, bekisting | ls | 15.180,00 |
| 4 | Alat bantu pengecatan | buah | 10.010,00 |
| 5 | Alat bantu pengukuran | ls | 847,00 |
| 6 | Mesin las karbit | buah | 562.650,00 |
| 7 | Mesin las listrik dan perlengkapan | ls | 641.438,00 |
| 8 | Motor Grader | jam | 22.800,00 |
| 9 | Sewa AMP | jam | 1.615.000,00 |
| 10 | Sewa Asphalt Finisher | bulan | 584.800,00 |
| 11 | Sewa Asphalt Sprayer | jam | 42.856,00 |
| 12 | Sewa Batching Plant | jam | 351.000,00 |
| 13 | Sewa beton molen | jam | 132.000,00 |
| 14 | Sewa Bulldozer | jam | 168.000,00 |
| 15 | Sewa Compressor | jam | 67.513,00 |
| 16 | Sewa Concrete Vibrator | jam | 20.790,00 |
| 17 | Sewa Dump Truck | jam | 173.300,00 |
| 18 | Sewa Excavator | jam | 86.966,00 |
| 19 | Sewa Generator Set | jam | 194.000,00 |
| 20 | Sewa Mistar Ukur | jam | 1.925,00 |
| 21 | Sewa Readymix Truck | jam | 68.300,00 |
| 22 | Sewa Sprayer Cat | jam | 15.125,00 |
| 23 | Sewa Stamper berikut operator | jam | 209.000,00 |
| 24 | Sewa Tandem Roller | jam | 182.900,00 |
| 25 | Sewa Theodolit | jam | 17.600,00 |
| 26 | Sewa Tire Roller | jam | 571.700,00 |
| 27 | Sewa Vibrator Roller | jam | 18.600,00 |
| 28 | Sewa Water Tank Truck | jam | 206.800,00 |
| 29 | Sewa Waterpass | jam | 16.500,00 |
| 30 | Sewa Wheel Loader | bulan | 340.800,00 |
| 32 | Vibro Roller | bulan | 225.181,00 |
| 33 | Beton Cor | bulan | 789.417,00 |
| 34 | Alat Bantu | bulan | 570.927,00 |

Harga Satuan Upah

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No. | Uraian/kegiatan | Volume | Harga Satuan |
|-----|---------------------------------------|---------|--------------|
| 1 | Ahli line up/set up system | 1 oh | 253.000,00 |
| 2 | Ahli muda line up/set up system | 1 oh | 198.000,00 |
| 3 | Akomodasi | 1 oh | 165.000,00 |
| 4 | Currency Check | 1 orang | 385.000,00 |
| 5 | Currency Check | 1 orang | 231.000,00 |
| 6 | Currency Panel Operator Check | 1 orang | 231.000,00 |
| 7 | Currency Theodolite Operator Check | 1 orang | 231.000,00 |
| 8 | Flight Calibration Fee | 1 orang | 1.633.500,00 |
| 9 | Flight Inspector Check | 1 orang | 825.000,00 |
| 10 | Flight Instructor Qualification Check | 1 orang | 825.000,00 |
| 11 | General Aircraft Maintenance Check | 1 orang | 231.000,00 |
| 12 | General Avionic Check | 1 orang | 231.000,00 |
| 13 | General Panel Operator Check | 1 orang | 346.500,00 |
| 14 | General Theodolite Operator Check | 1 orang | 346.500,00 |
| 15 | Initial Check | 1 orang | 346.500,00 |
| 16 | Juru Gambar | 1 oh | 66.000,00 |
| 17 | Juru Gambar (Pengukuran) | 1 jam | 8.000,00 |
| 18 | Kepala Tukang | 1 oh | 72.600,00 |
| 19 | Kepala Tukang Batu | 1 oh | 49.500,00 |
| 20 | Kepala Tukang Besi | 1 oh | 55.000,00 |
| 21 | Kepala Tukang Kayu | 1 oh | 40.900,00 |
| 22 | Kepala Tukang Listrik | 1 oh | 46.800,00 |
| 23 | Mandor | 1 oh | 73.400,00 |
| 24 | Mandor (Pengukuran) | 1 jam | 9.800,00 |
| 25 | Mekanik | 1 oh | 55.000,00 |
| 26 | Mission Coordination/Airport | 1 orang | 2.750.000,00 |
| 27 | Operator | 1 oh | 64.800,00 |
| 28 | Pekerja | 1 oh | 46.200,00 |
| 29 | Pekerja Pembersihan | 1 jam | 5.900,00 |
| 30 | Pelatihan Operator | 1 oh | 66.600,00 |
| 31 | Pelatihan Teknisi | 1 oh | 66.600,00 |
| 32 | Pembantu Operator | 1 oh | 38.500,00 |
| 33 | Pembantu Surveyor | 1 oh | 38.500,00 |
| 34 | Pengajar | 1 oh | 121.000,00 |
| 35 | Pengawas | 1 oh | 44.000,00 |
| 36 | Proficiency Check | 1 orang | 440.000,00 |
| 37 | Sopir | 1 oh | 33.000,00 |
| 38 | Surveyor | 1 oh | 55.000,00 |
| 39 | Teknisi line up/ set up system | 1 oh | 165.000,00 |
| 40 | Tukang | 1 oh | 58.900,00 |
| 41 | Tukang Aspal | 1 oh | 53.000,00 |
| 42 | Tukang Batu | 1 oh | 64.800,00 |
| 43 | Tukang Besi | 1 oh | 46.200,00 |
| 44 | Tukang Beton | 1 oh | 35.800,00 |
| 45 | Tukang Cat | 1 oh | 49.500,00 |
| 46 | Tukang Kayu | 1 oh | 64.800,00 |
| 47 | Tukang Las | 1 oh | 60.500,00 |
| 48 | Tukang Listrik | 1 oh | 36.300,00 |
| 49 | Type Console Check | 1 orang | 231.000,00 |
| 50 | Type Rating Check Flight Mechanic | 1 orang | 231.000,00 |
| 51 | Type Rating Check Maintenance | 1 orang | 231.000,00 |
| 52 | Type Rating Check Penerbangan | 1 orang | 550.000,00 |
| 53 | Type Theodolite Check | 1 orang | 231.000,00 |
| 54 | Ujian License (License Examination) | 1 orang | 110.000,00 |
| 55 | Upah Borongan | 1 ls | 4.400,00 |
| 56 | Upah borongan + bongkaran | 1 ls | 8.800,00 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| No. | Uraian/kegiatan | Volume | | Harga Satuan |
|-----|--|--------|------|---------------|
| | UPAH PEMASANGAN | | | |
| 57 | Line up/set up system | 1 | ls | 616.000,00 |
| 58 | Uji coba system | 1 | ls | 616.000,00 |
| 59 | Acceptant test di lokasi | 1 | ls | 418.000,00 |
| 60 | Pemasangan monitor | 1 | ls | 228.500,00 |
| 61 | Pemasangan remote control | 1 | ls | 163.600,00 |
| 62 | Pemasangan unit camera | 1 | ls | 473.500,00 |
| 63 | Pemasangan CCTV | 1 | lot | 877.200,00 |
| 64 | Pemasangan peralatan utama dalam rak/console (perakitan) termasuk TV monitor | 1 | oh | 636.300,00 |
| 65 | Instalasi Walk Through Metal Detector | 1 | lot | 6.960.000,00 |
| 66 | Instalasi Software | 1 | buah | 250.000,00 |
| 67 | Pelatihan (Local Training) | 1 | LOT | 1.210.000,00 |
| 68 | Pemasangan peralatan X-Ray | 1 | LOT | 12.570.000,00 |
| 69 | Uji coba dan site acceptance test (I) | 1 | LOT | 13.160.000,00 |
| 70 | Site Acceptance Test dan Uji Coba System (II) | 1 | LOT | 10.580.000,00 |
| 71 | Pekerjaan line up dan test | 1 | LOT | 648.820,00 |

ANALISA HARGA SATUAN PEKERJAAN

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|------------------------------------|------------------------------|------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| I PEKERJAAN PERSIAPAN LAHAN | | | | | | | |
| 1.1 | 1 M ² PEMBERSIHAN | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0413 oh | 46.200 | 1.906 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Sewa compressor | | 0,0320 jam | 67.513 | | | 2.160 | |
| JUMLAH | | | | 1.906 | - | 2.160 | 4.066 |
| | | | DIBULATKAN | | | | 4.100 |
| 1.2 | 1 M ² CLEARING | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0825 oh | 46.200 | 3.812 | | | |
| - Mandor | | 0,0184 oh | 73.400 | 1.351 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Sewa bulldozer | | 0,0136 jam | 168.000 | | | 2.285 | |
| - Sewa dump truck | | 0,0112 jam | 173.300 | | | 1.941 | |
| - Sewa excavator | | 0,0192 jam | 86.966 | | | 1.670 | |
| JUMLAH | | | | 5.162 | - | 5.896 | 11.058 |
| | | | DIBULATKAN | | | | 11.100 |
| 1.3 | 1 M ² STRIPPING | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0413 oh | 46.200 | 1.908 | | | |
| - Mandor | | 0,0057 oh | 73.400 | 418 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Sewa bulldozer | | 0,0270 jam | 168.000 | | | 4.536 | |
| - Sewa dump truck | | 0,0112 jam | 173.300 | | | 1.941 | |
| - Sewa excavator | | 0,0384 jam | 86.966 | | | 3.339 | |
| JUMLAH | | | | 2.326 | - | 9.816 | 12.143 |
| | | | DIBULATKAN | | | | 12.200 |
| 1.4 | 1 M ² PENGUKURAN | | | | | | |
| UPAH : | | | | | | | |
| - Juru gambar (pengukuran) | | 0,0100 jam | 8.000 | 80 | | | |
| - Pekerja | | 0,0050 oh | 46.200 | 231 | | | |
| - Mandor (pengukuran) | | 0,0140 jam | 9.800 | 137 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Sewa theodolit | | 0,0240 jam | 17.600 | | | 422 | |
| - Sewa waterpass | | 0,0240 jam | 16.500 | | | 396 | |
| - Sewa mistar ukur | | 0,0480 jam | 1.925 | | | 92 | |
| JUMLAH | | | | 448 | - | 911 | 1.359 |
| | | | DIBULATKAN | | | | 1.400 |
| 1.5 | 1 M PEMASANGAN BOWPLANK | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0330 oh | 46.200 | 1.525 | | | |
| - Tukang Kayu | | 0,0330 oh | 64.800 | 2.138 | | | |
| - Kepala Tukang Kayu | | 0,0270 oh | 40.900 | 1.104 | | | |
| - Mandor | | 0,0140 oh | 73.400 | 1.028 | | | |
| BAHAN : | | | | | | | |
| - Kayu Papan Kelas III | | 0,0040 m3 | 2.802.400 | | 11.210 | | |
| - Paku | | 0,0550 kg | 13.990 | | 769 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 5.795 | 11.979 | - | 17.774 |
| | | | DIBULATKAN | | | | 17.800 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|---------------------------|--|----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| II PEKERJAAN TANAH | | | | | | | |
| 2.1 | 1 M ³ GALIAN TANAH BIASA | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,7500 | oh | 46.200 | 34.650 | | |
| - Mandor | | 0,0259 | oh | 73.400 | 1.901 | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Alat Bantu Galian Tanah | | 1,0000 | jam | 3.850 | | 3.850 | |
| | | | JUMLAH | | 36.551 | - | 3.850 |
| | | | DIBULATKAN | | | | 40.401 |
| | | | | | | | 40.500 |
| 2.2 | 1 M ³ URUGAN TANAH KEMBALI | | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| - Galian Tanah Biasa | | 0,2500 | m3 | 40.500 | | 10.125 | |
| PERALATAN : | | | | | | | |
| | | | JUMLAH | | - | 10.125 | - |
| | | | DIBULATKAN | | | | 10.125 |
| | | | | | | | 10.200 |
| 2.3 | 1 M ³ GALIAN TANAH | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0038 | oh | 46.200 | 176 | | |
| - Mandor | | 0,0184 | oh | 73.400 | 1.351 | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| - Sewa excavator | | 0,0800 | jam | 86.966 | | 6.957 | |
| - Sewa dump truck | | 0,0248 | jam | 173.300 | | 4.298 | |
| | | | JUMLAH | | 1.526 | - | 11.255 |
| | | | DIBULATKAN | | | | 12.781 |
| | | | | | | | 12.800 |
| 2.4 | 1 M ³ URUGAN DAN PEMADATAN TANAH SUBGRADE | | | | | | |
| UPAH : | | | | | | | |
| - Mandor | | 0,0184 | oh | 73.400 | 1.351 | | |
| BAHAN : | | | | | | | |
| - Tanah Urug | | 1,2000 | m3 | 30.020 | | 36.024 | |
| PERALATAN : | | | | | | | |
| - Motor grader | | 0,0248 | jam | 22.800 | | 565 | |
| - Sewa bulldozer | | 0,0640 | jam | 168.000 | | 10.752 | |
| - Sewa tandem roller | | 0,0800 | jam | 182.900 | | 14.632 | |
| - Sewa vibrator roller | | 0,1040 | jam | 18.600 | | 1.934 | |
| | | | JUMLAH | | 1.351 | 36.024 | 27.884 |
| | | | DIBULATKAN | | | | 65.258 |
| | | | | | | | 65.300 |
| 2.5 | 1 M ³ URUGAN PASIR | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,3000 | oh | 46.200 | 13.860 | | |
| - Mandor | | 0,0100 | oh | 73.400 | 734 | | |
| BAHAN : | | | | | | | |
| - Pasir urug | | 1,2000 | m3 | 107.000 | | 128.400 | |
| PERALATAN : | | | | | | | |
| | | | JUMLAH | | 14.594 | 128.400 | - |
| | | | DIBULATKAN | | | | 142.994 |
| | | | | | | | 143.000 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-----|--|------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2.6 | 1 M ³ URUGAN DAN PEMADATAN SIRTU (SUB BASE) | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 0,0225 oh | 46.200 | 1.040 | | | |
| | - Mandor | 0,0116 oh | 73.400 | 851 | | | |
| | BAHAN : | | | | | | |
| | - Sirtu | 1,2000 m3 | 122.500 | | 147.000 | | |
| | PERALATAN : | | | | | | |
| | - Sewa tandem roller | 0,0030 jam | 182.900 | | | 549 | |
| | - Sewa bulldozer | 0,1030 jam | 168.000 | | | 17.304 | |
| | - Motor grader | 0,1030 jam | 22.800 | | | 2.348 | |
| | - Sewa water tank truck | 0,1030 jam | 206.800 | | | 21.300 | |
| | | JUMLAH | | 1.891 | 147.000 | 41.502 | 190.392 |
| | | | DIBULATKAN | | | | 190.400 |
| 2.7 | 1 M ³ URUGAN DAN PEMADATAN BATU PECAH (BASE COURSE) | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 0,0225 oh | 46.200 | 1.040 | | | |
| | - Mandor | 0,1165 oh | 73.400 | 8.551 | | | |
| | BAHAN : | | | | | | |
| | - Batu pecah (base course) | 1,2000 m3 | 134.900 | | 161.880 | | |
| | PERALATAN : | | | | | | |
| | - Sewa vibrator roller | 0,0936 jam | 18.600 | | | 1.741 | |
| | - Motor grader | 0,1030 jam | 22.800 | | | 2.348 | |
| | - Sewa water tank truck | 0,1030 jam | 206.800 | | | 21.300 | |
| | - Sewa dump truck | 0,1030 jam | 173.300 | | | 17.850 | |
| | | JUMLAH | | 9.591 | 161.880 | 43.240 | 214.710 |
| | | | DIBULATKAN | | | | 214.800 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|----------------------------------|---------------------------------|----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| III PEKERJAAN PENGASPALAN | | | | | | | |
| 3.1 | 2,5/M2 PRIME COATING AC 60/70 | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0018 | oh | 46.200 | 83 | | |
| - Mandor | | 0,0013 | oh | 73.400 | 95 | | |
| BAHAN : | | | | | | | |
| - Aspal AC 60 - 70 | | 2,7500 | kg | 5.450 | | 14.988 | |
| PERALATAN : | | | | | | | |
| - Sewa compressor | | 0,0320 | jam | 67.513 | | | 2.160 |
| - Sewa asphalt sprayer | | 0,2640 | jam | 42.856 | | | 11.314 |
| Jumlah | | | | | 179 | 14.988 | 13.474 |
| | | | | DIBULATKAN | | | 28.640 |
| | | | | | | | 28.700 |
| 3.2 | 1,5 KG/M2 TACK COATING AC 60/70 | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,0113 | oh | 46.200 | 522 | | |
| - Mandor | | 0,0009 | oh | 73.400 | 66 | | |
| BAHAN : | | | | | | | |
| - Aspal AC 60 - 70 | | 1,6500 | kg | 5.450 | | 8.993 | |
| - Minyak tanah | | 0,1166 | ltr | 5.500 | | 641 | |
| PERALATAN : | | | | | | | |
| - Sewa asphalt sprayer | | 0,2400 | jam | 42.856 | | | 10.285 |
| - Sewa compressor | | 0,0320 | jam | 67.513 | | | 2.160 |
| Jumlah | | | | | 588 | 9.634 | 12.446 |
| | | | | DIBULATKAN | | | 22.668 |
| | | | | | | | 22.700 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|---------------------------|-----------------------------------|---------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| IV PEKERJAAN BETON | | | | | | | |
| 4.1 | 1 M2 CETAKAN BETON | | | | | | |
| UPAH : | | | | | | | |
| | - Tukang Kayu | 0,5000 oh | 64.800 | 32.400 | | | |
| | - Kepala Tukang Kayu | 0,0500 oh | 40.900 | 2.045 | | | |
| | - Pekerja | 0,2000 oh | 46.200 | 9.240 | | | |
| | - Mandor | 0,0100 oh | 73.400 | 734 | | | |
| BAHAN : | | | | | | | |
| | - Kayu Papan Kelas III | 0,0203 m3 | 2.802.400 | | 56.889 | | |
| | - Paku | 0,4000 kg | 13.990 | | 5.596 | | |
| | - Triplek t=6 mm | 0,3800 lembar | 73.300 | | 27.854 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 44.419 | 90.339 | - | 134.758 |
| | | | DIBULATKAN | | | | 134.800 |
| 4.2 | 1 M2 BEKISTING | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 2,0000 oh | 46.200 | 92.400 | | | |
| | - Tukang Kayu | 5,0000 oh | 64.800 | 324.000 | | | |
| | - Kepala Tukang Kayu | 0,5000 oh | 40.900 | 20.450 | | | |
| | - Mandor | 0,1000 oh | 73.400 | 7.340 | | | |
| BAHAN : | | | | | | | |
| | - Triplek t=6 mm | 1,7000 lembar | 73.300 | | 124.610 | | |
| | - Kayu Papan Kelas III | 0,4000 m3 | 2.802.400 | | 1.120.960 | | |
| | - Paku | 4,0000 kg | 13.990 | | 55.960 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 444.190 | 1.301.530 | - | 1.745.720 |
| | | | DIBULATKAN | | | | 1.745.800 |
| 4.3 | 100 KG PEMBESIAN | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 6,7500 oh | 46.200 | 311.850 | | | |
| | - Tukang Besi | 6,7500 oh | 46.200 | 311.850 | | | |
| | - Kepala Tukang Besi | 2,2500 oh | 55.000 | 123.750 | | | |
| BAHAN : | | | | | | | |
| | - Besi beton bulat | 110,0000 kg | 9.070 | | 997.700 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 747.450 | 997.700 | - | 1.745.150 |
| | | | DIBULATKAN | | | | 1.745.200 |
| 4.4 | 1 KG PEMBESIAN | | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| | - Pembesian | 0,0100 OH | 1.745.200 | 17.452 | | | 17.452 |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 17.452 | - | - | 17.452 |
| | | | DIBULATKAN | | | | 17.500 |
| 4.5 | 1 M3 BETON COR 1 PC : 2 PS : 3 KR | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Batu | 1,0000 oh | 64.800 | 64.800 | | | |
| | - Kepala Tukang Batu | 0,1000 oh | 49.500 | 4.950 | | | |
| | - Mandor | 0,3000 oh | 73.400 | 22.020 | | | |
| BAHAN : | | | | | | | |
| | - Semen PC (50 kg/zak) | 5,4400 zak | 47.500 | | 258.400 | | |
| | - Pasir beton | 0,5400 m3 | 164.400 | | 88.776 | | |
| | - Koral/krikil | 0,7006 m3 | 156.550 | | 109.679 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 368.970 | 456.855 | - | 825.825 |
| | | | DIBULATKAN | | | | 825.900 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-----|--------------------------------------|--------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4.6 | 1 M3 BETON COR 1 PC : 2 PS : 3 SPLIT | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Batu | 1,0000 oh | 64.800 | 64.800 | | | |
| | - Kepala Tukang Batu | 0,1000 oh | 49.500 | 4.950 | | | |
| | - Mandor | 0,3000 oh | 73.400 | 22.020 | | | |
| | BAHAN : | | | | | | |
| | - Split | 0,8200 m3 | 149.800 | | 122.836 | | |
| | - Pasir beton | 0,5400 m3 | 164.400 | | 88.776 | | |
| | - Semen PC (50 kg/zak) | 7,5000 zak | 47.500 | | 356.250 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 368.970 | 567.862 | - | 936.832 |
| | | | DIBULATKAN | | | | 936.900 |
| 4.7 | 1 M3 BETON COR BERTULANG | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : | | | | | | |
| | - Beton cor 1 pc : 2 ps : 3 split | 1,0000 m3 | 936.900 | | 936.900 | | |
| | - Bekisting | 1,0000 m2 | 1.745.800 | | 1.745.800 | | |
| | - Pembesian | 100,0000 kg | 17.500 | | 1.750.000 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 4.432.700 | - | 4.432.700 |
| | | | DIBULATKAN | | | | 4.432.700 |
| 4.8 | 1 M3 BETON ADUKAN 1 PC : 3 PS : 6 KR | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Batu | 0,5000 oh | 64.800 | 32.400 | | | |
| | - Kepala Tukang Batu | 0,0500 oh | 49.500 | 2.475 | | | |
| | - Mandor | 0,3000 oh | 73.400 | 22.020 | | | |
| | BAHAN : | | | | | | |
| | - Koral/krikil | 0,8544 m3 | 156.550 | | 133.756 | | |
| | - Pasir beton | 0,5000 m3 | 164.400 | | 82.200 | | |
| | - Semen PC (50 kg/zak) | 6,1000 zak | 47.500 | | 289.750 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 334.095 | 505.706 | - | 839.801 |
| | | | DIBULATKAN | | | | 839.900 |
| 4.9 | 1 M3 LAPISAN LEAN CONCRETE | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : | | | | | | |
| | - Batu pecah 2/3 | 0,8900 m3 | 149.200 | | 132.788 | | |
| | - Pasir beton | 0,5400 m3 | 164.400 | | 88.776 | | |
| | - Semen PC (50 kg/zak) | 8,0000 zak | 47.500 | | 380.000 | | |
| | - Air | 0,2000 m3 | 4.200 | | 840 | | |
| | - Additive | 1,0500 Liter | 44.500 | | 46.725 | | |
| | PERALATAN : | | | | | | |
| | - Sewa batching plant | 0,0400 jam | 351.000 | | | 14.040 | |
| | - Sewa generator set | 0,0400 jam | 194.000 | | | 7.760 | |
| | - Sewa wheel loader | 0,0400 bulan | 340.800 | | | 13.632 | |
| | - Sewa readymix truck | 0,2400 jam | 68.300 | | | 16.392 | |
| | | JUMLAH | | - | 649.129 | 51.824 | 700.953 |
| | | | DIBULATKAN | | | | 701.000 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|------|--|--------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4.10 | 1 M3 BETON SEMEN BERTULANG MUTU K-350, Fr = 45 kg/cm ² UNTUK LAPISAN ATAS/M3 APRON, RUNWAY TAXI WAY | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 0,0140 oh | 46.200 | 647 | | | |
| | - Tukang Batu | 0,0200 oh | 64.800 | 1.296 | | | |
| | - Mandor | 0,0207 oh | 73.400 | 1.519 | | | |
| | BAHAN : | | | | | | |
| | - Batu pecah 2/3 | 0,8200 m3 | 149.200 | | 122.344 | | |
| | - Pasir beton | 0,4700 m3 | 164.400 | | 77.268 | | |
| | - Semen PC (50 kg/zak) | 15,0000 zak | 47.500 | | 712.500 | | |
| | - Air | 0,2000 m3 | 4.200 | | 840 | | |
| | - Additive | 1,0500 Liter | 44.500 | | 46.725 | | |
| | - Joint Sealant | 3,5000 m | 15.400 | | 53.900 | | |
| | - Wire mesh | 25,0000 kg | 11.600 | | 290.000 | | |
| | PERALATAN : | | | | | | |
| | - Sewa batching plant | 0,0400 jam | 351.000 | | | 14.040 | |
| | - Sewa generator set | 0,0400 jam | 194.000 | | | 7.760 | |
| | - Sewa wheel loader | 0,1200 bulan | 340.800 | | | 40.896 | |
| | - Sewa readymix truck | 0,2400 jam | 68.300 | | | 16.392 | |
| | - Sewa water tank truck | 0,1200 jam | 206.800 | | | 24.816 | |
| | | JUMLAH | | 3.462 | 1.303.577 | 103.904 | 1.410.943 |
| | | | DIBULATKAN | | | | 1.411.000 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|---|---------------------------|----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| V PEKERJAAN MARKING / PENGECATAN | | | | | | | |
| 5.1 | 1 M2 PENGECATAN / MARKING | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,1000 | oh | 46.200 | 4.620 | | |
| - Mandor | | 0,0220 | oh | 73.400 | 1.615 | | |
| BAHAN : | | | | | | | |
| - Cat Marking | | 1,0500 | kg | 39.550 | 41.528 | | |
| - Thinner cat (High Class) | | 0,2100 | ltr | 17.860 | 3.751 | | |
| PERALATAN : | | | | | | | |
| - Sewa sprayer cat | | 0,0480 | jam | 15.125 | | 726 | |
| - Alat Bantu Pengecatan | | 1,0000 | buah | 10.010 | | 10.010 | |
| JUMLAH | | | | | 6.235 | 45.278 | 10.736 |
| | | | | | | | 62.249 |
| | | | | | | | 62.300 |
| DIBULATKAN | | | | | | | |
| 5.2 | 10 M2 PENGECEAN TEMBOK | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,3300 | oh | 46.200 | 15.246 | | |
| - Mandor | | 0,1670 | oh | 73.400 | 12.258 | | |
| BAHAN : | | | | | | | |
| - Cat tembok | | 1,2500 | kg | 14.690 | 18.363 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | | 27.504 | 18.363 | - |
| | | | | | | | 45.866 |
| | | | | | | | 45.900 |
| DIBULATKAN | | | | | | | |
| 5.3 | 10 M2 CAT BROWN PERAK | | | | | | |
| UPAH : | | | | | | | |
| - Tukang Cat | | 0,3000 | oh | 49.500 | 14.850 | | |
| - Pekerja | | 0,2100 | oh | 46.200 | 9.702 | | |
| - Mandor | | 0,0100 | oh | 73.400 | 734 | | |
| - Kepala Tukang | | 0,0300 | oh | 72.600 | 2.178 | | |
| BAHAN : | | | | | | | |
| - Meni besi | | 1,6800 | kg | 12.150 | 20.412 | | |
| - Cat brown | | 2,0000 | kg | 33.900 | 67.800 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | | 27.464 | 88.212 | - |
| | | | | | | | 115.676 |
| | | | | | | | 115.700 |
| DIBULATKAN | | | | | | | |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-----------------------------|--|---------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| VI PEKERJAAN SALURAN | | | | | | | |
| 6.1 | 1 M3 SALURAN TERTUTUP BETON SEMEN BERTULANG K-225, PEMBESIAN 125 KG | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 0,0200 oh | 46.200 | 924 | | | |
| | - Tukang Batu | 0,0200 oh | 64.800 | 1.296 | | | |
| | - Mandor | 0,1500 oh | 73.400 | 11.010 | | | |
| | - Upah borongan | 0,1250 ls | 4.400 | 550 | | | |
| | - Upah borongan + bongkaran | 0,1250 ls | 8.800 | 1.100 | | | |
| BAHAN : | | | | | | | |
| | - Batu pecah 2/3 | 0,8200 m3 | 149.200 | | 122.344 | | |
| | - Pasir beton | 0,5400 m3 | 164.400 | | 88.776 | | |
| | - Semen PC (50 kg/zak) | 5,4400 zak | 47.500 | | 258.400 | | |
| | - Air | 0,2200 m3 | 4.200 | | 924 | | |
| | - Besi beton | 137,5000 Kg | 9.070 | | 1.247.125 | | |
| | - Kawat beton | 2,5000 kg | 12.000 | | 30.000 | | |
| | - Kayu Papan Kelas III | 0,0310 m3 | 2.802.400 | | 86.874 | | |
| | - Triplek t=12 mm | 2,0000 lembar | 119.840 | | 239.680 | | |
| | - Paku | 0,4000 kg | 13.990 | | 5.596 | | |
| PERALATAN : | | | | | | | |
| | - Sewa batching plant | 0,0050 jam | 351.000 | | | 1.755 | |
| | - Sewa generator set | 0,0050 jam | 194.000 | | | 970 | |
| | - Sewa wheel loader | 0,0050 bulan | 340.800 | | | 1.704 | |
| | - Sewa readymix truck | 0,0300 jam | 68.300 | | | 2.049 | |
| | - Sewa compressor | 0,0500 jam | 67.513 | | | 3.376 | |
| | - Sewa concrete vibrator | 0,0500 jam | 20.790 | | | 1.040 | |
| | - Alat Bantu Cor Beton | 1,0000 jam | 7.315 | | | 7.315 | |
| | JUMLAH | | | 14.880 | 2.079.719 | 18.208 | 2.112.808 |
| | | | DIBULATKAN | | | | 2.112.900 |
| 6.2 | 1 M3 SALURAN TERBUKA PASANGAN BATU KALI | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 3,6000 oh | 46.200 | 166.320 | | | |
| | - Tukang Batu | 1,2000 oh | 64.800 | 77.760 | | | |
| | - Mandor | 0,1800 oh | 73.400 | 13.212 | | | |
| BAHAN : | | | | | | | |
| | - Batu gunung/kali | 1,2000 m3 | 145.310 | | 174.372 | | |
| | - Semen PC (50 kg/zak) | 2,6000 zak | 47.500 | | 123.500 | | |
| | - Pasir pasang | 0,5220 m3 | 139.100 | | 72.610 | | |
| | - Pasir urug | 0,2100 m3 | 107.000 | | 22.470 | | |
| PERALATAN : | | | | | | | |
| | - Sewa beton molen | 0,3000 jam | 132.000 | | | 39.600 | |
| | - Sewa stamper berikut operator | 0,1500 jam | 209.000 | | | 31.350 | |
| | JUMLAH | | | 257.292 | 392.952 | 70.950 | 721.194 |
| | | | DIBULATKAN | | | | 721.200 |
| 6.3 | 1 BUAH PIPA REMBESAN PARALON | | | | | | |
| UPAH : | | | | | | | |
| | - Pekerja | 0,1000 oh | 46.200 | 4.620 | | | |
| BAHAN : | | | | | | | |
| | - Pipa paralon diameter 2" | 1,6000 Batang | 63.710 | | 101.936 | | |
| | - Ijuk | 0,2000 kg | 8.990 | | 1.798 | | |
| PERALATAN : | | | | | | | |
| | JUMLAH | | | 4.620 | 103.734 | - | 108.354 |
| | | | DIBULATKAN | | | | 108.400 |

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|------------------------------------|--|----------|--------------------|--------------|----------------|------------|--------------------|---------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| VII PEKERJAAN PASANGAN BATU | | | | | | | | |
| 7.1 | 1 M2 PASANGAN BATA (1 BATA, ad. 1 PC : 3 PS) | | | | | | | |
| UPAH : | | | | | | | | |
| - Pekerja | | 0,6500 | oh | 46.200 | 30.030 | | | |
| - Tukang Batu | | 0,2000 | oh | 64.800 | 12.960 | | | |
| - Kepala Tukang Batu | | 0,0200 | oh | 49.500 | 990 | | | |
| - Mandor | | 0,0300 | oh | 73.400 | 2.202 | | | |
| BAHAN : | | | | | | | | |
| - Bata Merah | | 140,0000 | Buah | 380 | 53.200 | | | |
| - Semen PC (50 kg/zak) | | 0,6590 | zak | 47.500 | 31.303 | | | |
| - Pasir Pasang | | 0,0910 | m3 | 139.100 | 12.658 | | | |
| PERALATAN : | | | | | | | | |
| JUMLAH | | | | | 46.182 | 97.161 | - | 143.343 |
| | | | DIBULATKAN | | | | | 143.400 |
| 7.2 | 1 M3 PASANGAN BATU KALI 1 :2 | | | | | | | |
| UPAH : | | | | | | | | |
| - Pekerja | | 3,6000 | oh | 46.200 | 166.320 | | | |
| - Tukang Batu | | 1,2000 | oh | 64.800 | 77.760 | | | |
| - Kepala Tukang Batu | | 0,1200 | oh | 49.500 | 5.940 | | | |
| - Mandor | | 0,1800 | oh | 73.400 | 13.212 | | | |
| BAHAN : | | | | | | | | |
| - Batu gunung/kali | | 1,2000 | m3 | 145.310 | 174.372 | | | |
| - Semen PC (50 kg/zak) | | 4,2300 | zak | 47.500 | 200.925 | | | |
| - Pasir pasang | | 0,4275 | m3 | 139.100 | 59.465 | | | |
| PERALATAN : | | | | | | | | |
| JUMLAH | | | | | 263.232 | 434.762 | - | 697.994 |
| | | | DIBULATKAN | | | | | 698.000 |
| 7.3 | 1 M2 PASANG BATA MERAH 1 PC : 5 PS | | | | | | | |
| UPAH : | | | | | | | | |
| - Tukang Batu | | 0,1500 | oh | 64.800 | 9.720 | | | |
| - Pekerja | | 0,4500 | oh | 46.200 | 20.790 | | | |
| - Mandor | | 0,0220 | oh | 73.400 | 1.615 | | | |
| BAHAN : | | | | | | | | |
| - Bata Merah | | 77,0000 | Buah | 380 | 29.260 | | | |
| - Semen PC (50 kg/zak) | | 0,1310 | zak | 47.500 | 6.223 | | | |
| - Pasir pasang | | 0,0280 | m3 | 139.100 | 3.895 | | | |
| PERALATAN : | | | | | | | | |
| JUMLAH | | | | | 32.125 | 39.377 | - | 71.502 |
| | | | DIBULATKAN | | | | | 71.600 |

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|---------------------------------|---|----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| VIII PEKERJAAN PLESTERAN | | | | | | | |
| 8.1 | 1 M2 PLESTERAN 1 : 4 (TEBAL = 2 CM) | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,5330 | oh | 46.200 | 24.625 | | |
| - Tukang Batu | | 0,0270 | oh | 64.800 | 1.750 | | |
| - Kepala Tukang Batu | | 0,0270 | oh | 49.500 | 1.337 | | |
| - Mandor | | 0,2700 | oh | 73.400 | 19.818 | | |
| BAHAN : | | | | | | | |
| - Semen PC (50 kg/zak) | | 0,1390 | zak | 47.500 | | 6.603 | |
| - Pasir pasang | | 0,0280 | m3 | 139.100 | | 3.895 | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | | 47.529 | 10.497 | - |
| | | | DIBULATKAN | | | | 58.026 |
| | | | | | | | 58.100 |
| 8.2 | 1 M2 PLESTERAN 1 : 2 (TEBAL 1 CM) | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,4000 | oh | 46.200 | 18.480 | | |
| - Tukang Batu | | 0,1500 | oh | 64.800 | 9.720 | | |
| - Kepala Tukang Batu | | 0,0150 | oh | 49.500 | 743 | | |
| - Mandor | | 0,0200 | oh | 73.400 | 1.468 | | |
| BAHAN : | | | | | | | |
| - Semen PC (50 kg/zak) | | 0,1120 | zak | 47.500 | | 5.320 | |
| - Pasir pasang | | 0,0114 | m3 | 139.100 | | 1.586 | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | | 30.411 | 6.906 | - |
| | | | DIBULATKAN | | | | 37.316 |
| | | | | | | | 37.400 |
| 8.3 | 1 M2 PLESTERAN 1 PC : 5 PS (TEBAL = 2 CM) | | | | | | |
| UPAH : | | | | | | | |
| - Tukang Batu | | 0,2700 | oh | 64.800 | 17.496 | | |
| - Pekerja | | 0,5330 | oh | 46.200 | 24.625 | | |
| - Mandor | | 0,0270 | oh | 73.400 | 1.982 | | |
| BAHAN : | | | | | | | |
| - Semen PC (50 kg/zak) | | 0,0830 | zak | 47.500 | | 3.943 | |
| - Pasir pasang | | 0,0250 | m3 | 139.100 | | 3.478 | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | | 44.102 | 7.420 | - |
| | | | DIBULATKAN | | | | 51.522 |
| | | | | | | | 51.600 |

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|--|---|-------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| IX PEKERJAAN PAGAR | | | | | | | |
| 9.1 | 1 BUAH PEMBUATAN / PEMASANGAN TIANG TYPE A | | | | | | |
| UPAH : | | | | | | | |
| - Tukang Las | | 0,4500 oh | 60.500 | 27.225 | | | |
| - Pekerja | | 0,9000 oh | 46.200 | 41.580 | | | |
| - Mandor | | 0,0450 oh | 73.400 | 3.303 | | | |
| BAHAN : | | | | | | | |
| - Kawat las | | 2,0000 m | 18.310 | | 36.620 | | |
| - Beton cor 1 pc : 2 ps : 3 kr | | 0,0500 m3 | 825.900 | | 41.295 | | |
| - Cat brown | | 0,5400 kg | 33.900 | | 18.306 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 72.108 | 96.221 | - | 168.329 |
| | | | DIBULATKAN | | | | 168.400 |
| 9.2 | 1 BUAH PEMBUATAN / PEMASANGAN TIANG TYPE B | | | | | | |
| UPAH : | | | | | | | |
| - Tukang Las | | 0,4000 oh | 60.500 | 24.200 | | | |
| - Pekerja | | 0,8000 oh | 46.200 | 36.960 | | | |
| - Mandor | | 0,0400 oh | 73.400 | 2.936 | | | |
| BAHAN : | | | | | | | |
| - Kawat las | | 1,0000 m | 18.310 | | 18.310 | | |
| - Beton cor 1 pc : 2 ps : 3 kr | | 0,1500 m3 | 825.900 | | 123.885 | | |
| - Cat brown | | 0,1026 kg | 33.900 | | 3.478 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 64.096 | 145.673 | - | 209.769 |
| | | | DIBULATKAN | | | | 209.800 |
| 9.3 | 1 M2 PASANG KAWAT BERDURI 12 BARIS | | | | | | |
| UPAH : | | | | | | | |
| - Tukang Besi | | 0,2000 oh | 46.200 | 9.240 | | | |
| - Pekerja | | 0,4000 oh | 46.200 | 18.480 | | | |
| - Mandor | | 0,0200 oh | 73.400 | 1.468 | | | |
| BAHAN : | | | | | | | |
| - Kawat duri (40 m') | | 0,3500 rol | 90.400 | | 31.640 | | |
| - Kawat pengikat beton Bindraad | | 0,0500 kg | 13.560 | | 678 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | 19.948 | 32.318 | - | 52.266 |
| | | | DIBULATKAN | | | | 52.300 |
| 9.4 | 10 M2 PEMASANGAN PAGAR KAWAT DURI TINGGI = 2,2 M, PANJANG = 10 M | | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| - Pasang Tiang Type A | | 4,0000 buah | 168.400 | | 673.600 | | |
| - Pasang Tiang Type B | | 2,0000 Buah | 209.800 | | 419.600 | | |
| - Pasang kawat berduri 12 baris | | 15,0000 m2 | 52.300 | | 784.500 | | |
| - Galian tanah | | 0,1600 m3 | 12.800 | | 2.048 | | |
| - Beton cor 1 pc : 2 ps : 3 kr | | 0,2200 m3 | 825.900 | | 181.698 | | |
| - Cat brown | | 1,9200 kg | 33.900 | | 65.088 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | - | 2.126.534 | - | 2.126.534 |
| | | | DIBULATKAN | | | | 2.126.600 |
| 9.5 | 1 M PEMASANGAN PAGAR KAWAT DURI, TINGGI = 2,2 M | | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| - Pemasangan pagar kawat duri tinggi = 2,2 m, panjang = 10 m | | 0,1000 ls | 2.126.600 | | 212.660 | | |
| PERALATAN : | | | | | | | |
| JUMLAH | | | | - | 212.660 | - | 212.660 |
| | | | DIBULATKAN | | | | 212.700 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

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|------|--|--|--|------------------|---|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9.6 | 1 LS PASANG PAGAR WIRE MESH TINGGI = 2.2 M' PANJANG = 10 M' (TANPA PONDASI) | | | | | | |
| | UPAH : - Tukang Besi - Pekerja | 0,5000 oh 1,0000 oh | 46.200 46.200 | 23.100 46.200 | | | |
| | BAHAN : - Panel wire mesh, T=2,20 m - Mur/baut klem | 4,0000 Buah 15,0000 Buah | 340.130 2.830 | | 1.360.520 42.450 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 69.300 | 1.402.970 | - | 1.472.270 |
| | | | DIBULATKAN | | | | 1.472.300 |
| 9.7 | 1 M PASANG PAGAR WIRE MESH TINGGI = 2.2 M' | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Pasang pagar wire mesh tinggi = 2.2 m' panjang = 10 m' (tanpa pondasi) | 0,1000 ls | 1.472.300 | | 147.230 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 147.230 | - | 147.230 |
| | | | DIBULATKAN | | | | 147.300 |
| 9.8 | 1 LS PASANG PAGAR BRC T = 1,75 M PANJANG = 10 M (TANPA PONDASI) | | | | | | |
| | UPAH : - Tukang - Pekerja | 0,5000 oh 1,0000 oh | 58.900 46.200 | 29.450 46.200 | | | |
| | BAHAN : - Panel BRC t=1,75 m - Pipa GIP diameter 1,5" - Tutup pipa diameter 1,5" - Mur/baut klem | 4,0000 Unit 5,0000 Batang 5,0000 Buah 15,0000 Buah | 452.000 154.810 3.960 2.830 | | 1.808.000 774.050 19.800 42.450 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 75.650 | 2.644.300 | - | 2.719.950 |
| | | | DIBULATKAN | | | | 2.720.000 |
| 9.9 | 1 M' PASANG PAGAR BRC T = 1,75 M | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Pasang pagar BRC t = 1,75 m panjang 10 m' (tanpa pondasi) | 0,1000 LS | 2.720.000 | | 272.000 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 272.000 | - | 272.000 |
| | | | DIBULATKAN | | | | 272.000 |
| 9.10 | 2.4 M' PEMASANGAN PAGAR BRC, TINGGI = 1,75, PANJANG = 2,4 M' (LENGKAP PONDASI) | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Panel BRC t=1,75 m - Beton cor 1 pc : 2 ps : 3 kr - Galian tanah - Pasang pagar brc t = 1,75 m (tanpa pondasi) - Urugan pasir - Pasangan bata - Plesteran - Pengecatan tembok | 2,4000 Unit 0,1058 m3 0,0075 m3 0,1000 LS 0,0307 m3 0,1440 m3 1,0800 m2 0,1080 m2 | 452.000 825.900 12.800 272.000 143.000 71.600 37.400 45.900 | | 1.084.800 87.380 96 27.200 4.390 10.310 40.392 4.957 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 1.259.526 | - | 1.259.526 |
| | | | DIBULATKAN | | | | 1.259.600 |

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|------|---|-----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9.11 | 1 M' PEMASANGAN PAGAR BRC, TINGGI=175 CM PER METER (LENGKAP PONDASI) | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Pemasangan pagar brc, tinggi = 1,75, panjang = 2,4 m' (lengkap pondasi) | 0,4167 ls | 1.259.600 | | 524.875 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 524.875 | - | 524.875 |
| | | | DIBULATKAN | | | | 524.900 |

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|----------|---|---------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| X | PEKERJAAN PENERANGAN / ELEKTRIKAL | | | | | | |
| 10.1 | 1 OH PEMBUATAN DAN PEMASANGAN 1 BUAH PATOK TANDA KABEL | | | | | | |
| | UPAH : | | | | | | |
| | - Tukang Listrik | 0,2000 oh | 36.300 | 7.260 | | | |
| | - Kepala Tukang Listrik | 0,0100 oh | 46.800 | 468 | | | |
| | - Pengawas | 0,0100 oh | 44.000 | 440 | | | |
| | BAHAN : | | | | | | |
| | - Beton cor bertulang | 0,0070 m3 | 4.432.700 | | 31.029 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 8.168 | 31.029 | - | 39.197 |
| | | | DIBULATKAN | | | | 39.200 |
| 10.2 | 1 LS CABLE DUCT DI DALAM RUANGAN | | | | | | |
| | UPAH : | | | | | | |
| | - Tukang batu | 1,4500 oh | 64.800 | 93.960 | | | |
| | - Kepala tukang batu | 0,1000 oh | 49.500 | 4.950 | | | |
| | - Pekerja | 1,2500 oh | 46.200 | 57.750 | | | |
| | - Tukang besi | 1,4500 oh | 46.200 | 66.990 | | | |
| | - Mandor | 0,2500 oh | 73.400 | 18.350 | | | |
| | BAHAN : | | | | | | |
| | - Beton cor bertulang | 0,2000 m3 | 4.432.700 | | 886.540 | | |
| | - Besi siku | 0,3330 Kg | 23.290 | | 7.756 | | |
| | - Bordes plat | 0,3330 m | 454.560 | | 151.368 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 242.000 | 1.045.664 | - | 1.287.664 |
| | | | DIBULATKAN | | | | 1.287.700 |
| 10.3 | 1 LS ELEKTRODA TANAH | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 3,0000 oh | 46.200 | 138.600 | | | |
| | - Tukang batu | 2,0000 oh | 64.800 | 129.600 | | | |
| | - Mandor | 0,0400 oh | 73.400 | 2.936 | | | |
| | - Tukang Listrik | 2,0000 oh | 36.300 | 72.600 | | | |
| | - Kepala Tukang Listrik | 0,1000 oh | 46.800 | 4.680 | | | |
| | BAHAN : | | | | | | |
| | - Mur baut 3/4" | 1,0000 Buah | 1.130 | | 1.130 | | |
| | - Tutup pipa diameter 2" | 1,0000 Buah | 5.680 | | 5.680 | | |
| | - Pipa paralon diameter 2" | 1,0000 Batang | 63.710 | | 63.710 | | |
| | - Materlari BC 50 Sqmm | 5,0000 kg | 16.500 | | 82.500 | | |
| | - Timah | 0,1000 kg | 26.750 | | 2.675 | | |
| | - Pasir urug | 0,0570 m3 | 107.000 | | 6.099 | | |
| | - Koral/krikil | 0,0450 m3 | 156.550 | | 7.045 | | |
| | - Beton cor 1 pc : 2 ps : 3 split | 0,2130 m3 | 936.900 | | 199.560 | | |
| | - Besi beton | 2,0000 Kg | 9.070 | | 18.140 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 348.416 | 386.538 | - | 734.954 |
| | | | DIBULATKAN | | | | 735.000 |
| 10.4 | 1 LS UPAH PEMBUATAN PONDASI TIANG LAMPU | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 15,0000 oh | 46.200 | 693.000 | | | |
| | - Tukang batu | 10,0000 oh | 64.800 | 648.000 | | | |
| | - Tukang Listrik | 5,0000 oh | 36.300 | 181.500 | | | |
| | - Kepala Tukang Listrik | 0,1200 oh | 46.800 | 5.616 | | | |
| | - Mandor | 0,2000 oh | 73.400 | 14.680 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.547.196 | - | - | 1.547.196 |
| | | | DIBULATKAN | | | | 1.547.200 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|------|--|-----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10.5 | 1 LS UPAH PEMASANGAN TIANG LAMPU | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 10,000 oh | 46.200 | 462.000 | | | |
| | - Tukang Listrik | 6,000 oh | 36.300 | 217.800 | | | |
| | - Kepala Tukang Listrik | 0,2500 oh | 46.800 | 11.700 | | | |
| | - Mandor | 0,2000 oh | 73.400 | 14.680 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 710.580 | - | - | 710.580 |
| | | | DIBULATKAN | | | | 710.600 |
| 10.6 | 1 LS UPAH PEMASANGAN ARMATURE HQL LAMP 20 W/220 V | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 5,000 oh | 46.200 | 231.000 | | | |
| | - Tukang Listrik | 3,000 oh | 36.300 | 108.900 | | | |
| | - Kepala Tukang Listrik | 0,2000 oh | 46.800 | 9.360 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 353.660 | - | - | 353.660 |
| | | | DIBULATKAN | | | | 353.700 |
| 10.7 | 1 LS UPAH PENGGALIAN DAN PEMASANGAN NYFGbY 4 x 10 Sqmm | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 2,000 oh | 46.200 | 92.400 | | | |
| | - Tukang batu | 1,000 oh | 64.800 | 64.800 | | | |
| | - Tukang Listrik | 1,000 oh | 36.300 | 36.300 | | | |
| | - Kepala Tukang Listrik | 0,3000 oh | 46.800 | 14.040 | | | |
| | - Mandor | 0,2500 oh | 73.400 | 18.350 | | | |
| | - Pengawas | 0,2000 oh | 44.000 | 8.800 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 234.690 | - | - | 234.690 |
| | | | DIBULATKAN | | | | 234.700 |
| 10.8 | 1 LS UPAH PEMASANGAN BOX TERMINAL | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 1,000 oh | 46.200 | 46.200 | | | |
| | - Tukang Listrik | 1,000 oh | 36.300 | 36.300 | | | |
| | - Kepala Tukang Listrik | 0,2000 oh | 46.800 | 9.360 | | | |
| | - Mandor | 0,1500 oh | 73.400 | 11.010 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 107.270 | - | - | 107.270 |
| | | | DIBULATKAN | | | | 107.300 |
| 10.9 | 1 LS UPAH PEMASANGAN CONTROL CABLE 2 x 2,5 Sqmm | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 1,000 oh | 46.200 | 46.200 | | | |
| | - Tukang Listrik | 1,000 oh | 36.300 | 36.300 | | | |
| | - Kepala Tukang Listrik | 0,2000 oh | 46.800 | 9.360 | | | |
| | - Mandor | 0,1500 oh | 73.400 | 11.010 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 107.270 | - | - | 107.270 |
| | | | DIBULATKAN | | | | 107.300 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|---|------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10.10 | 1 LS UPAH PEMBUATAN PONDASI PANEL DISTRIBUSI | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 15,000 oh | 46.200 | 693.000 | | | |
| | - Tukang batu | 10,000 oh | 64.800 | 648.000 | | | |
| | - Kepala tukang batu | 0,2000 oh | 49.500 | 9.900 | | | |
| | - Mandor | 0,1500 oh | 73.400 | 11.010 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.366.310 | - | - | 1.366.310 |
| | | | DIBULATKAN | | | | 1.366.400 |
| 10.11 | 1 LS UPAH PEMASANGAN PANEL DISTRIBUSI | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 12,000 oh | 46.200 | 554.400 | | | |
| | - Tukang listrik | 5,0000 oh | 36.300 | 181.500 | | | |
| | - Kepala tukang listrik | 0,2500 oh | 46.800 | 11.700 | | | |
| | - Mandor | 0,1500 oh | 73.400 | 11.010 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 763.010 | - | - | 763.010 |
| | | | DIBULATKAN | | | | 763.100 |
| 10.12 | 1 M ³ PEKERJAAN SIPIL FLOOD LIGHT | | | | | | |
| | UPAH : | | | | | | |
| | - Kepala tukang batu | 0,2000 oh | 49.500 | 9.900 | | | |
| | - Mandor | 0,4500 oh | 73.400 | 33.030 | | | |
| | - Pekerja | 20,0000 oh | 46.200 | 924.000 | | | |
| | - Pengawas | 0,1000 oh | 44.000 | 4.400 | | | |
| | - Tukang batu | 12,0000 oh | 64.800 | 777.600 | | | |
| | BAHAN : | | | | | | |
| | - Beton cor 1 pc : 2 ps : 3 split | 2,6000 m3 | 936.900 | | 2.435.940 | | |
| | - Galian tanah | 33,4833 m3 | 12.800 | | 428.586 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.748.930 | 2.864.526 | - | 4.613.456 |
| | | | DIBULATKAN | | | | 4.613.500 |
| 10.13 | PEKERJAAN INSTALASI DAN SETTING FLOOD LIGHT TIANG TUNGGAL | | | | | | |
| | UPAH : | | | | | | |
| | - Kepala tukang listrik | 0,1100 oh | 46.800 | 5.148 | | | |
| | - Mandor | 0,1000 oh | 73.400 | 7.340 | | | |
| | - Pekerja | 18,0000 oh | 46.200 | 831.600 | | | |
| | - Pengawas | 0,0040 oh | 44.000 | 176 | | | |
| | - Tukang listrik | 11,0000 oh | 36.300 | 399.300 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.243.564 | - | - | 1.243.564 |
| | | | DIBULATKAN | | | | 1.243.600 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--|--------------------------------|-------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| XI PEKERJAAN FASILITAS PENUNJANG BANDAR UDARA | | | | | | | |
| 11.1 | 1 LS PENGEPAKAN | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 1,0000 oh | 46.200 | 46.200 | | | |
| BAHAN : | | | | | | | |
| - Kayu Balok Kelas III | | 0,0500 m3 | 2.389.950 | | 119.498 | | |
| - Kayu Papan Kelas II | | 0,0800 m3 | 3.810.220 | | 304.818 | | |
| - Kayu Kaso Kelas II | | 0,3000 m3 | 4.407.000 | | 1.322.100 | | |
| - Kawat beton | | 1,0000 kg | 12.000 | | 12.000 | | |
| - Besi beton | | 2,0000 Kg | 9.070 | | 18.140 | | |
| - Karet busa | | 1,0000 kg | 26.290 | | 26.290 | | |
| - Alas Plastik | | 2,0000 m2 | 2.830 | | 5.660 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 1.808.505 | - | 1.808.505 |
| | | | DIBULATKAN | | | | 1.808.600 |
| 11.2 | 1 M' PEMASANGAN COAXIAL CABLE | | | | | | |
| UPAH : | | | | | | | |
| - Pekerja | | 0,3200 oh | 46.200 | 14.784 | | | |
| - Mandor | | 0,1600 oh | 73.400 | 11.744 | | | |
| BAHAN : | | | | | | | |
| - Tyreb (pengikat cable) | | 1,0000 buah | 300.000 | | 300.000 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | 26.528 | 300.000 | - | 326.528 |
| | | | DIBULATKAN | | | | 326.600 |
| 11.3 | 1 UNIT PEMASANGAN UNIT CAMERA | | | | | | |
| UPAH : | | | | | | | |
| - Ahli muda line up/set up system | | 0,8000 oh | 198.000 | 158.400 | | | |
| - Ahli line up/set up system | | 0,4000 oh | 253.000 | 101.200 | | | |
| - Pekerja | | 3,2000 oh | 46.200 | 147.840 | | | |
| - Mandor | | 0,9000 oh | 73.400 | 66.060 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | 473.500 | - | - | 473.500 |
| | | | DIBULATKAN | | | | 473.500 |
| 11.4 | 1 LS PEMASANGAN MONITOR | | | | | | |
| UPAH : | | | | | | | |
| - Ahli muda line up/set up system | | 0,4000 oh | 198.000 | 79.200 | | | |
| - Ahli line up/set up system | | 0,2000 oh | 253.000 | 50.600 | | | |
| - Pekerja | | 1,5000 oh | 46.200 | 69.300 | | | |
| - Mandor | | 0,4000 oh | 73.400 | 29.360 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | 228.460 | - | - | 228.460 |
| | | | DIBULATKAN | | | | 228.500 |
| 11.5 | 1 LS PEMASANGAN REMOTE CONTROL | | | | | | |
| UPAH : | | | | | | | |
| - Ahli muda line up/set up system | | 0,2000 oh | 198.000 | 39.600 | | | |
| - Ahli line up/set up system | | 0,1000 oh | 253.000 | 25.300 | | | |
| - Pekerja | | 1,5000 oh | 46.200 | 69.300 | | | |
| - Mandor | | 0,4000 oh | 73.400 | 29.360 | | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | 163.560 | - | - | 163.560 |
| | | | DIBULATKAN | | | | 163.600 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|--|------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.6 | 1 LS PEMASANGAN CCTV | | | | | | |
| | UPAH : | | | | | | |
| | - Pemasangan monitor | 1,000 ls | 228.500 | 228.500 | | | |
| | - Pemasangan remote control | 1,000 ls | 163.600 | 163.600 | | | |
| | - Pemasangan unit camera | 1,000 ls | 473.500 | 473.500 | | | |
| | BAHAN : | | | | | | |
| | - Pemasangan coaxial cable | 1,000 m | 3.250 | | 3.250 | | |
| | - Pemasangan control cable | 1,000 m | 2.470 | | 2.470 | | |
| | - Supply Cable | 1,000 m | 5.850 | | 5.850 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 865.600 | 11.570 | - | 877.170 |
| | | | DIBULATKAN | | | | 877.200 |
| 11.7 | 1 LS LINE UP/SET UP SYSTEM | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli muda line up/set up system | 1,000 oh | 198.000 | 198.000 | | | |
| | - Ahli line up/set up system | 1,000 oh | 253.000 | 253.000 | | | |
| | - Teknisi line up/ set up system | 1,000 oh | 165.000 | 165.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 616.000 | - | - | 616.000 |
| | | | DIBULATKAN | | | | 616.000 |
| 11.8 | 1 LS UJI COBA SYSTEM | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli muda line up/set up system | 1,000 oh | 198.000 | 198.000 | | | |
| | - Ahli line up/set up system | 1,000 oh | 253.000 | 253.000 | | | |
| | - Teknisi line up/ set up system | 1,000 oh | 165.000 | 165.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 616.000 | - | - | 616.000 |
| | | | DIBULATKAN | | | | 616.000 |
| 11.9 | 1 LS ACCEPTANT TEST DI LOKASI | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 1,000 oh | 253.000 | 253.000 | | | |
| | - Akomodasi | 1,000 oh | 165.000 | 165.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 418.000 | - | - | 418.000 |
| | | | DIBULATKAN | | | | 418.000 |
| 11.10 | 1 LS PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF I) | | | | | | |
| | UPAH : | | | | | | |
| | - Pemasangan CCTV | 1,000 lot | 877.200 | 877.200 | | | |
| | - Line up/set up system | 1,000 ls | 616.000 | 616.000 | | | |
| | - Uji coba system | 1,000 ls | 616.000 | 616.000 | | | |
| | - Akomodasi * | 3,000 oh | 165.000 | 495.000 | | | |
| | BAHAN : | | | | | | |
| | - CCD Camera | 1,000 buah | 10.530.000 | | 10.530.000 | | |
| | - Zoom Lensa 6 : 1 | 1,000 buah | 8.239.000 | | 8.239.000 | | |
| | - Pan / Tilt Head | 1,000 buah | 6.836.500 | | 6.836.500 | | |
| | - Video Distributor Amplifier | 1,000 buah | 3.960.000 | | 3.960.000 | | |
| | - Sequantial Switcher 10 : 1 | 1,000 buah | 6.435.000 | | 6.435.000 | | |
| | - Sequantial Switcher 3 : 1 | 1,000 buah | 5.019.300 | | 5.019.300 | | |
| | - Monitor 9" | 1,000 buah | 1.462.500 | | 1.462.500 | | |
| | - Monitor 14" | 1,000 buah | 1.755.000 | | 1.755.000 | | |
| | - Remote Control PAN/TILS | 1,000 buah | 9.711.000 | | 9.711.000 | | |
| | - Coaxial Cable | 1,000 m | 20.000 | | 20.000 | | |
| | - Control Cable 2 pair | 1,000 m | 10.000 | | 10.000 | | |
| | - Supply Cable | 1,000 m | 5.850 | | 5.850 | | |
| | - Infra red camera | 1,000 buah | 23.650.000 | | 23.650.000 | | |
| | PERALATAN : | | | | | | |
| | *) Akomodasi untuk pekerjaan uji coba system | JUMLAH | | 2.604.200 | 77.634.150 | - | 80.238.350 |
| | | | DIBULATKAN | | | | 80.238.400 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--|------------------|--|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.11 | 1 LS | PENGADAAN PERALATAN UTAMA CCTV (ALTERNATIF II) | | | | | |
| UPAH : | | | | | | | |
| - Pemasangan CCTV | | 1,000 | lot | 877.200 | 877.200 | | |
| - Line up/set up system | | 1,000 | ls | 616.000 | 616.000 | | |
| - Uji coba system | | 1,000 | ls | 616.000 | 616.000 | | |
| - Akomodasi | | 3,000 | oh | 165.000 | 495.000 | | |
| BAHAN : | | | | | | | |
| - CCD Camera | | 1,000 | buah | 10.530.000 | | 10.530.000 | |
| - Zoom Lensa 6 : 1 | | 1,000 | buah | 8.239.000 | | 8.239.000 | |
| - Pan / Tilt Head | | 1,000 | buah | 6.836.500 | | 6.836.500 | |
| - Sequential Switcher 10 : 1 | | 1,000 | buah | 6.435.000 | | 6.435.000 | |
| - Sequential Switcher 3 : 1 | | 1,000 | buah | 5.019.300 | | 5.019.300 | |
| - Monitor 9" | | 1,000 | buah | 1.462.500 | | 1.462.500 | |
| - Monitor 14" | | 1,000 | buah | 1.755.000 | | 1.755.000 | |
| - Remote Control PAN/TILS | | 1,000 | buah | 9.711.000 | | 9.711.000 | |
| - Coaxial Cable | | 1,000 | m | 20.000 | | 20.000 | |
| - Control Cable 2 pair | | 1,000 | m | 10.000 | | 10.000 | |
| - Supply Cable | | 1,000 | m | 5.850 | | 5.850 | |
| - Infra red camera | | 1,000 | buah | 23.650.000 | | 23.650.000 | |
| PERALATAN : | | | | | | | |
| *) Akomodasi untuk pekerjaan uji coba system | | JUMLAH | | | 2.604.200 | 73.674.150 | - |
| | | | | DIBULATKAN | | 76.278.350 | |
| | | | | | | 76.278.400 | |
| 11.12 | 1 UNIT | PENGADAAN HELD METAL DETECTOR | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| - Hand held metal detector | | 1,000 | unit | 2.500.000 | | 2.500.000 | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | | - | 2.500.000 | - |
| | | | | DIBULATKAN | | 2.500.000 | |
| 11.13 | 1 UNIT | PENGADAAN DAN PEMASANGAN AUDIO CONFERENCE | | | | | |
| UPAH : | | | | | | | |
| - Ahli muda line up/set up system | | 2,000 | oh | 198.000 | 396.000 | | |
| - Ahli line up/set up system | | 1,000 | oh | 253.000 | 253.000 | | |
| BAHAN : | | | | | | | |
| - Chairman's unit | | 1,000 | set | 8.475.000 | | 8.475.000 | |
| - Delegate unit | | 1,000 | buah | 5.000.000 | | 5.000.000 | |
| - Hand microphone | | 1,000 | unit | 1.155.000 | | 1.155.000 | |
| - Power Supply | | 1,000 | unit | 13.384.800 | | 13.384.800 | |
| - Extention 10 m + Jack | | 1,000 | rol | 1.554.060 | | 1.554.060 | |
| - Extention 5 m + Jack | | 1,000 | rol | 810.810 | | 810.810 | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | | 649.000 | 30.379.670 | - |
| | | | | DIBULATKAN | | 31.028.670 | |
| | | | | | | 31.028.700 | |
| 11.14 | 1 LS | PEMASANGAN PERALATAN UTAMA KE DALAM CONSOLE TERMASUK TV MONITOR | | | | | |
| UPAH : | | | | | | | |
| - Ahli muda line up/set up system | | 1,0500 | oh | 198.000 | 207.900 | | |
| - Ahli line up/set up system | | 1,0500 | oh | 253.000 | 265.650 | | |
| - Teknisi line up/ set up system | | 0,0900 | oh | 165.000 | 14.850 | | |
| - Pekerja | | 3,2000 | oh | 46.200 | 147.840 | | |
| BAHAN : | | | | | | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | | 636.240 | - | - |
| | | | | DIBULATKAN | | 636.240 | |
| | | | | | | 636.300 | |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|---|--|--|--------------------|--|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.15 | 1 LS PEMASANGAN BRACKET | | | | | | |
| | UPAH : - Pekerja - Teknisi line up/ set up system | 1,9900 oh 0,9900 oh | 46.200 165.000 | 91.938 163.350 | | | |
| | BAHAN : - Kawat pengikat beton Bindraad | 1,0000 kg | 13.560 | | 13.560 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 255.288 | 13.560 | - | 268.848 |
| | | | DIBULATKAN | | | | 268.900 |
| 11.16 | 1 LS PEMASANGAN/INSTALASI SOFTWARE | | | | | | |
| | UPAH : - Ahli line up/set up system - Teknisi line up/ set up system | 0,5000 oh 1,0800 oh | 253.000 165.000 | 126.500 178.200 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 304.700 | - | - | 304.700 |
| | | | DIBULATKAN | | | | 304.700 |
| 11.17 | 1 SET PERANGKAT UTAMA FIDS | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - 19" standard steel cabinet accesories - 20 GigaByte hard disk drive - CD RW - Central Processing Unit - Control Panel Assembly - Dual video converter card - Dual video display controller card - Digital Control Interface Card - FIDS driver software - Keyboard - Power distribution assembly - VGA 15" color monitor | 1,0000 unit 1,0000 unit 6,5789 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 1,0000 unit 2,0000 unit | 12.226.500 1.000.000 177.840 14.040.000 5.791.500 21.000.000 20.212.500 13.063.050 35.000.000 175.500 3.281.850 1.200.000 | | 12.226.500 1.000.000 1.169.992 14.040.000 5.791.500 21.000.000 20.212.500 13.063.050 35.000.000 175.500 3.281.850 2.400.000 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 129.360.892 | - | 129.360.892 |
| | | | DIBULATKAN | | | | 129.360.900 |
| 11.18 | 1 SET PERALATAN PENUNJANG FIDS | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Antenna TV - Bracket TV - Junction cable switch - Kursi operator - Meja operator - Meja printer | 1,0000 buah 1,0000 buah 1,0000 buah 1,0000 buah 1,0000 buah 1,0000 buah | 212.360 1.469.000 44.000 750.000 1.250.000 500.000 | | 212.360 1.469.000 44.000 750.000 1.250.000 500.000 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 4.225.360 | - | 4.225.360 |
| | | | DIBULATKAN | | | | 4.225.400 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|---|---------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.19 | 1 PAKET PEMASANGAN / INSTALASI JARINGAN (FIDS) | | | | | | |
| | UPAH : | | | | | | |
| | - Line up/set up system | 1,0000 ls | 616.000 | 616.000 | | | |
| | - Uji coba system | 1,0000 ls | 616.000 | 616.000 | | | |
| | - Acceptant test di lokasi | 1,0000 ls | 418.000 | 418.000 | | | |
| | - Pemasangan peralatan utama dalam rak/d | 7,0000 oh | 636.300 | 4.454.100 | | | |
| | BAHAN : | | | | | | |
| | - Pemasangan/instalasi software | 1,0000 buah | 304.700 | | 304.700 | | |
| | - Pemasangan bracket | 1,0000 buah | 268.900 | | 268.900 | | |
| | - Pemasangan cable audio/video/antenna | 1,0000 m | 4.000 | | 4.000 | | |
| | - Pemasangan cable power/penyambungan dari panel | 1,0000 m | 3.000 | | 3.000 | | |
| | - Pengadaan bahan instalasi cable tray/protective cable | 1,0000 batang | 44.000 | | 44.000 | | |
| | - Pengadaan/pemasangan karpet | 1,0000 m2 | 12.000 | | 12.000 | | |
| | - Audio cable | 1,0000 m | 11.120 | | 11.120 | | |
| | - Power cable | 1,0000 m | 77.748 | | 77.748 | | |
| | - Video cable | 1,0000 m | 20.000 | | 20.000 | | |
| | PERALATAN : | | | | | | |
| | | | | | | | |
| | | JUMLAH | | 6.104.100 | 745.468 | - | 6.849.568 |
| | | | DIBULATKAN | | | | 6.849.600 |
| 11.20 | 1 LS MONTAGE GENSET DI ATAS PONDASI / 25 KVA | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,5000 oh | 253.000 | 126.500 | | | |
| | - Kepala Tukang Listrik | 1,0000 oh | 46.800 | 46.800 | | | |
| | - Mandor | 0,4000 oh | 73.400 | 29.360 | | | |
| | - Pekerja | 8,0000 oh | 46.200 | 369.600 | | | |
| | - Tukang Listrik | 10,0000 oh | 36.300 | 363.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | | | | | | |
| | | JUMLAH | | 935.260 | - | - | 935.260 |
| | | | DIBULATKAN | | | | 935.300 |
| 11.21 | 1 LS PEMASANGAN & INSTALASI EXHAUST SYSTEM | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,4000 oh | 253.000 | 101.200 | | | |
| | - Kepala Tukang Listrik | 1,2000 oh | 46.800 | 56.160 | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Listrik | 12,0000 oh | 36.300 | 435.600 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | | | | | | |
| | | JUMLAH | | 870.160 | - | - | 870.160 |
| | | | DIBULATKAN | | | | 870.200 |
| 11.22 | 1 LS AIR COOLING DISCHARGE DUCT | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,0100 oh | 253.000 | 2.530 | | | |
| | - Kepala Tukang Besi | 0,7000 oh | 55.000 | 38.500 | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Besi | 7,0000 oh | 46.200 | 323.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | | | | | | |
| | | JUMLAH | | 641.630 | - | - | 641.630 |
| | | | DIBULATKAN | | | | 641.700 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|---|-----------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.23 | 1 LS PEMASANGAN DAN INSTALASI CONTROL CABLE NYY 2 x 6 mm ² / 1 KV | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,0700 oh | 253.000 | 17.710 | | | |
| | - Kepala Tukang Listrik | 0,6700 oh | 46.800 | 31.356 | | | |
| | - Tukang Listrik | 0,3300 oh | 36.300 | 11.979 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 61.045 | - | - | 61.045 |
| | | | DIBULATKAN | | | | 61.100 |
| 11.24 | 1 LS PEMASANGAN DAN INSTALASI CONTROL CABLE NYY 4 x 25 mm ² / 1 KV | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,0700 oh | 253.000 | 17.710 | | | |
| | - Kepala Tukang Listrik | 0,6700 oh | 46.800 | 31.356 | | | |
| | - Tukang Listrik | 0,8330 oh | 36.300 | 30.238 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 79.304 | - | - | 79.304 |
| | | | DIBULATKAN | | | | 79.400 |
| 11.25 | 1 LS PEMASANGAN & INSTALASI PANEL ACOS / 25 KVA | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,2000 oh | 253.000 | 50.600 | | | |
| | - Kepala Tukang Listrik | 0,8000 oh | 46.800 | 37.440 | | | |
| | - Mandor | 0,5000 oh | 73.400 | 36.700 | | | |
| | - Pekerja | 5,0000 oh | 46.200 | 231.000 | | | |
| | - Tukang Listrik | 8,0000 oh | 36.300 | 290.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 646.140 | - | - | 646.140 |
| | | | DIBULATKAN | | | | 646.200 |
| 11.26 | 1 LS PEMASANGAN & INSTALASI PANEL DISTRIBUSI / 25 KVA | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,2000 oh | 253.000 | 50.600 | | | |
| | - Kepala Tukang Listrik | 0,8000 oh | 46.800 | 37.440 | | | |
| | - Mandor | 0,5000 oh | 73.400 | 36.700 | | | |
| | - Pekerja | 5,0000 oh | 46.200 | 231.000 | | | |
| | - Tukang Listrik | 8,0000 oh | 36.300 | 290.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 646.140 | - | - | 646.140 |
| | | | DIBULATKAN | | | | 646.200 |
| 11.27 | 1 LS PEMASANGAN PONDASI GENSET 25 KVA DENGAN BETON COR 1 : 2 : 3 | | | | | | |
| | UPAH : | | | | | | |
| | - Kepala Tukang Batu | 0,0660 oh | 49.500 | 3.267 | | | |
| | - Mandor | 0,3300 oh | 73.400 | 24.222 | | | |
| | - Pekerja | 0,1670 oh | 46.200 | 7.715 | | | |
| | - Tukang Batu | 0,1670 oh | 64.800 | 10.822 | | | |
| | - Tukang Besi | 0,1670 oh | 46.200 | 7.715 | | | |
| | BAHAN : | | | | | | |
| | - Galian tanah | 1,0000 m3 | 12.800 | | 12.800 | | |
| | - Beton cor bertulang | 1,0000 m3 | 4.432.700 | | 4.432.700 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 53.741 | 4.445.500 | - | 4.499.241 |
| | | | DIBULATKAN | | | | 4.499.300 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|-------|---|------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11.28 | 1 LS PEMASANGAN & INSTALASI INCOMING PANEL PLN | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,1500 oh | 253.000 | 37.950 | | | |
| | - Kepala Tukang Listrik | 0,1200 oh | 46.800 | 5.616 | | | |
| | - Mandor | 0,6000 oh | 73.400 | 44.040 | | | |
| | - Pekerja | 6,0000 oh | 46.200 | 277.200 | | | |
| | - Tukang Listrik | 8,0000 oh | 36.300 | 290.400 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 655.206 | - | - | 655.206 |
| | | | DIBULATKAN | | | | 655.300 |
| 11.29 | 1 LS PEMASANGAN & INSTALASI TANGKI RESERVOIR BBM / 200 LITER | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,5000 oh | 253.000 | 126.500 | | | |
| | - Kepala Tukang Besi | 2,5000 oh | 55.000 | 137.500 | | | |
| | - Mandor | 1,0000 oh | 73.400 | 73.400 | | | |
| | - Pekerja | 10,0000 oh | 46.200 | 462.000 | | | |
| | - Tukang Besi | 25,0000 oh | 46.200 | 1.155.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.954.400 | - | - | 1.954.400 |
| | | | DIBULATKAN | | | | 1.954.400 |
| 11.30 | 1 LS PEMASANGAN & INSTALASI TANGKI RESERVOIR BBM / 1000 LITER | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 2,5000 oh | 253.000 | 632.500 | | | |
| | - Kepala Tukang Besi | 5,0000 oh | 55.000 | 275.000 | | | |
| | - Mandor | 4,0000 oh | 73.400 | 293.600 | | | |
| | - Pekerja | 36,0000 oh | 46.200 | 1.663.200 | | | |
| | - Tukang Besi | 25,0000 oh | 46.200 | 1.155.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 4.019.300 | - | - | 4.019.300 |
| | | | DIBULATKAN | | | | 4.019.300 |
| 11.31 | 1 LS PEMASANGAN & INSTALASI FUEL PIPING SYSTEM | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,5000 oh | 253.000 | 126.500 | | | |
| | - Kepala Tukang Besi | 1,5000 oh | 55.000 | 82.500 | | | |
| | - Mandor | 1,2000 oh | 73.400 | 88.080 | | | |
| | - Pekerja | 12,0000 oh | 46.200 | 554.400 | | | |
| | - Tukang Besi | 15,0000 oh | 46.200 | 693.000 | | | |
| | BAHAN : | | | | | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 1.544.480 | - | - | 1.544.480 |
| | | | DIBULATKAN | | | | 1.544.500 |
| 11.32 | 1 LS PEMASANGAN & INSTALASI EARTHING SYSTEM BC 50MM2 | | | | | | |
| | UPAH : | | | | | | |
| | - Ahli line up/set up system | 0,0010 oh | 253.000 | 253 | | | |
| | - Kepala Tukang Besi | 0,0010 oh | 55.000 | 55 | | | |
| | - Mandor | 0,0100 oh | 73.400 | 734 | | | |
| | - Pekerja | 0,0100 oh | 46.200 | 462 | | | |
| | - Tukang Besi | 0,0200 oh | 46.200 | 924 | | | |
| | BAHAN : | | | | | | |
| | - Materlari BC 50 Sqmm | 1,0000 kg | 16.500 | | 16.500 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | 2.428 | 16.500 | - | 18.928 |
| | | | DIBULATKAN | | | | 19.000 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|---|------------------|--|---------------------------------------|----------------|----------------------------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| XII PEKERJAAN FASILITAS SISI UDARA | | | | | | | |
| 12.1 PEKERJAAN PERKERASAN APRON/RUNWAY/TAXIWAY | | | | | | | |
| 12.1.1 | 1 M2 | SIRTU PADAT CBR > 25 % (SUB BASE) TEBAL = 30 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : - Urugan dan pemadatan sirtu (sub base) | | 0,3000 m3 | 190.400 | | 57.120 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 57.120 | - | 57.120 |
| | | | DIBULATKAN | | | | 57.200 |
| 12.1.2 | 1 M2 | LAPISAN AGGREGATE BASE PADAT CBR > 80%, TEBAL = 25 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : - Urugan dan pemadatan batu pecah (base course) | | 0,2500 m3 | 214.800 | | 53.700 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 53.700 | - | 53.700 |
| | | | DIBULATKAN | | | | 53.700 |
| 12.1.3 | 1 M2 | LAPISAN AGGREGATE BASE PADAT CBR > 80 %, TEBAL = 35 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : - Urugan dan pemadatan batu pecah (base course) | | 0,3500 m3 | 214.800 | | 75.180 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 75.180 | - | 75.180 |
| | | | DIBULATKAN | | | | 75.200 |
| 12.1.4 | 1 M2 | LEAN CONCRETE > K 100, TEBAL = 20 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : - Lapisan lean concrete | | 0,2000 m2 | 701.000 | | 140.200 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 140.200 | - | 140.200 |
| | | | DIBULATKAN | | | | 140.200 |
| 12.1.5 | 1 M2 | SLAB BETON MUTU K 350, TEBAL = 35 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : - Beton semen bertulang mutu k-350 untuk lapisan atas/m3 apron, runway taxi way | | 0,3500 m3 | 1.411.000 | | 493.850 | | |
| PERALATAN : | | | | | | | |
| | | JUMLAH | | - | 493.850 | - | 493.850 |
| | | | DIBULATKAN | | | | 493.900 |
| A PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL PENETRASI | | | | | | | |
| 12.1.6 | 1 M2 | LAPISAN ASPAL PENETRASI TEBAL 7,5 CM PADAT | | | | | |
| UPAH : - Pekerja - Mandor | | 0,1513 oh 0,0233 oh | 46.200 73.400 | 6.990 1.710 | | | |
| BAHAN : - Aspal AC 60 - 70 - Batu pecah 2/3 - Pasir beton - Kayu Bakar | | 7,5000 kg 0,1000 m3 0,0200 m3 0,0200 m3 | 5.450 149.200 164.400 42.300 | | 40.875 14.920 3.288 846 | | |
| PERALATAN : - Sewa tandem roller - Motor grader | | 0,0030 jam 0,0030 jam | 182.900 22.800 | | | 549 68 | |
| | | JUMLAH | | 8.700 | 59.929 | 617 | 69.246 |
| | | | DIBULATKAN | | | | 69.300 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|----------------|---|--------------|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12.1.7 | 1 M2 LAPISAN ASPAL PENETRASI TEBAL 5 CM PADAT | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Lapisan aspal penetrasi tebal 7,5 cm padat | 0,6667 m2 | 69.300 | | 46.200 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 46.200 | - | 46.200 |
| | | | DIBULATKAN | | | | 46.200 |
| B | PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL KOLAKAN | | | | | | |
| 12.1.8 | 1 M2 LAPISAN ASPAL KOLAKAN TEBAL 7,5 CM PADAT | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 0,1513 oh | 46.200 | 6.990 | | | |
| | - Mandor | 0,0233 oh | 73.400 | 1.710 | | | |
| | BAHAN : | | | | | | |
| | - Aspal AC 60 - 70 | 10,0000 kg | 5.450 | | 54.500 | | |
| | - Batu pecah 2/3 | 0,1000 m3 | 149.200 | | 14.920 | | |
| | - Pasir beton | 0,0100 m3 | 164.400 | | 1.644 | | |
| | - Kayu Bakar | 0,0400 m3 | 42.300 | | 1.692 | | |
| | - Screening | 0,0100 m3 | 156.500 | | 1.565 | | |
| | PERALATAN : | | | | | | |
| | - Sewa tandem roller | 0,0030 jam | 182.900 | | | 549 | |
| | - Motor grader | 0,0030 jam | 22.800 | | | 68 | |
| | | JUMLAH | | 8.700 | 74.321 | 617 | 83.638 |
| | | | DIBULATKAN | | | | 83.700 |
| 12.1.9 | 1 M2 LAPISAN ASPAL KOLAKAN TEBAL 5 CM PADAT | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Lapisan aspal kolakan tebal 7,5 cm padat | 0,6667 m2 | 83.700 | | 55.800 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | - | 55.800 | - | 55.800 |
| | | | DIBULATKAN | | | | 55.800 |
| C | PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN ASPAL BETON | | | | | | |
| 12.1.10 | 1 M2 LAPISAN ASPHALT TREATED BASE (ATB) TEBAL 7,5 CM PADAT | | | | | | |
| | UPAH : | | | | | | |
| | - Pekerja | 0,0466 oh | 46.200 | 2.152 | | | |
| | - Mandor | 0,0067 oh | 73.400 | 488 | | | |
| | BAHAN : | | | | | | |
| | - Batu pecah 2/3 | 0,0676 m3 | 149.200 | | 10.092 | | |
| | - Batu pecah 0,5/1 | 0,0475 m3 | 140.500 | | 6.671 | | |
| | - Semen PC (50 kg/zak) | 0,0694 zak | 47.500 | | 3.298 | | |
| | - Aspal AC 60 - 70 | 9,1402 kg | 5.450 | | 49.814 | | |
| | PERALATAN : | | | | | | |
| | - Sewa AMP | 0,0035 jam | 1.615.000 | | | 5.643 | |
| | - Sewa wheel loader | 0,0016 bulan | 340.800 | | | 557 | |
| | - Sewa dump truck | 0,0643 jam | 173.300 | | | 11.151 | |
| | - Sewa asphalt finisher | 0,0019 bulan | 584.800 | | | 1.118 | |
| | - Sewa tandem roller | 0,0049 jam | 182.900 | | | 893 | |
| | - Sewa tire roller | 0,0022 jam | 571.700 | | | 1.246 | |
| | - Sewa water tank truck | 0,0300 jam | 206.800 | | | 6.204 | |
| | - Sewa generator set | 0,0035 jam | 194.000 | | | 678 | |
| | | JUMLAH | | 2.641 | 69.874 | 27.490 | 100.006 |
| | | | DIBULATKAN | | | | 100.000 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|---------|--|--|--|-------------------|---------------------------------|---|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12.1.11 | 1 M2 LAPISAN ASPHALT TREATED BASE TEBAL (ATB) 5 CM (0,05 /0,075) | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Lapisan aspal beton tebal (AC) 7,5 cm padat | 0,6667 m2 | 152.500 | | 101.667 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | | 101.667 | | 101.667 |
| | | | DIBULATKAN | | | | 101.700 |
| 12.1.12 | 1 M2 LAPISAN ASPAL BETON TEBAL (AC) TEBAL 7,5 CM | | | | | | |
| | UPAH : - Pekerja - Mandor | 0,1875 oh 0,0259 oh | 46.200 73.400 | 8.663 1.901 | | | |
| | BAHAN : - Batu pecah 1/2 - Batu pecah 0,5/1 - Abu batu/screening - Aspal AC 60 - 70 | 0,0509 m3 0,0518 m3 0,0020 m3 11,9000 kg | 149.200 140.500 167.800 5.450 | | 7.594 7.278 336 64.855 | | |
| | PERALATAN : - Sewa AMP - Sewa wheel loader - Sewa dump truck - Sewa asphalt finisher - Sewa tandem roller - Sewa tire roller - Sewa water tank truck - Sewa generator set | 0,0240 jam 0,0050 bulan 0,0430 jam 0,0050 bulan 0,0050 jam 0,0050 jam 0,0300 jam 0,0050 jam | 1.615.000 340.800 173.300 584.800 182.900 571.700 206.800 194.000 | | | 38.760 1.704 7.452 2.924 915 2.859 6.204 970 | |
| | | JUMLAH | | 10.564 | 80.063 | 61.787 | 152.413 |
| | | | DIBULATKAN | | | | 152.500 |
| 12.1.13 | 1 M2 LAPISAN ASPAL BETON TEBAL (AC) 5 CM (0,05 /0,075) | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Lapisan asphalt treated base (ATB) 7,5 cm padat | 0,6667 m2 | 100.000 | | 66.667 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | | 66.667 | | 66.667 |
| | | | DIBULATKAN | | | | 66.700 |
| D | PELAPISAN APRON/RUNWAY/TAXIWAY DENGAN CEMENT TREATED BASE COURSE (CTBC) | | | | | | |
| 12.1.14 | 1 M3 LAPISAN CEMENT TREATED BASE COURSE (CTBC) | | | | | | |
| | UPAH : - Pekerja - Mandor | 6,2500 oh 0,7813 oh | 46.200 73.400 | 288.750 57.347 | | | |
| | BAHAN : - Batu pecah 1/2 - Batu pecah 0,5/1 - Semen PC (50 kg/zak) | 0,0509 m3 0,0518 m3 2,0160 zak | 149.200 140.500 47.500 | | 7.594 7.278 95.760 | | |
| | PERALATAN : - Sewa wheel loader - Motor grader - Vibro roller - Sewa Tire Roller - Sewa water tank truck - Alat bantu cor beton | 0,0085 bulan 1,2179 jam 0,0017 bulan 0,0970 jam 0,0970 jam 1,0000 ls | 340.800 22.800 225.181 571.700 206.800 - | | | 2.897 27.768 383 55.455 20.060 - | |
| | | JUMLAH | | 346.097 | 110.632 | 106.562 | 563.292 |
| | | | DIBULATKAN | | | | 563.300 |
| 12.1.15 | 1 M2 LAPISAN CEMENT TREATED BASE COURSE (CTBC), TEBAL = 25 CM | | | | | | |
| | UPAH : | | | | | | |
| | BAHAN : - Lapisan Cement Treated Base Course (CTBC) | 0,2500 m3 | 563.300 | | 140.825 | | |
| | PERALATAN : | | | | | | |
| | | JUMLAH | | | 140.825 | | 140.825 |
| | | | DIBULATKAN | | | | 140.900 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--|--|--|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12.2 PEKERJAAN PERLUASAN / PELEBARAN APRON/RUNWAY/TAXIWAY | | | | | | | |
| 12.2.1 | 1 M2 | PEKERJAAN KONSTRUKSI PERKERASAN BARU (PERLUASAN) DENGAN BETON SEMEN (RIGIT (PAVEMENT) TEBAL 35 CM | | | | | |
| UPAH : | | | | | | | |
| BAHAN : | | | | | | | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Bekisting | 0,4000 | m2 | 1.745.800 | | 698.320 | |
| | - Lean concrete > k 100, tebal = 20 cm | 1,0000 | m2 | 140.200 | | 140.200 | |
| | - Dowel Bar D=25 mm | 32,0000 | Buah | 5.600 | | 179.200 | |
| | - Slab beton mutu k 350, tebal = 35 cm | 1,0000 | m2 | 493.900 | | 493.900 | |
| PERALATAN : | | | | | | | |
| | | | JUMLAH | | - | 1.641.020 | - |
| | | | | DIBULATKAN | | | 1.641.100 |
| 12.2.2 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 7,5 CM | | | | | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,0000 | m2 | 75.200 | | 75.200 | |
| | - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan asphalt treated base (ATB) 7,5 cm padat | 1,0000 | m2 | 100.000 | | 100.000 | |
| | - Tack coating ac 60/70 | 1,0000 | m2 | 22.700 | | 22.700 | |
| | - Lapisan aspal beton tebal (AC) 7,5 cm padat | 1,0000 | m2 | 152.500 | | 152.500 | |
| | | | JUMLAH | | - | 508.500 | - |
| | | | | DIBULATKAN | | | 508.500 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--------|--|--|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12.2.3 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL BETON TEBAL RATA-RATA 5 CM | | | | | |
| | - Pengukuran | 2,000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan CTBC, tebal = 25 cm | 1,000 | m2 | 140.900 | | 140.900 | |
| | - Prime coating ac 60/70 | 1,000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan asphalt treated base (ATB) tebal 5 cm (0,05/0,075) | 1,000 | m2 | 101.700 | | 101.700 | |
| | - Tack coating ac 60/70 | 1,000 | m2 | 22.700 | | 22.700 | |
| | - Lapisan aspal beton (AC) tebal 5 cm (0,05/0,075) | 1,000 | m2 | 66.700 | | 66.700 | |
| | | JUMLAH | | | - | 490.100 | - |
| | | | | DIBULATKAN | | | 490.100 |
| 12.2.4 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 7,5 CM | | | | | |
| | - Pengukuran | 2,000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,000 | m2 | 75.200 | | 75.200 | |
| | - Prime coating ac 60/70 | 1,000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan aspal kolakan tebal 7,5 cm padat | 1,000 | m2 | 83.700 | | 83.700 | |
| | | JUMLAH | | | - | 317.000 | - |
| | | | | DIBULATKAN | | | 317.000 |
| 12.2.5 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL KOLAKAN TEBAL RATA-RATA 5 CM | | | | | |
| | - Pengukuran | 2,000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 25 cm | 1,000 | m2 | 53.700 | | 53.700 | |
| | - Prime coating ac 60/70 | 1,000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan aspal kolakan tebal 5 cm padat | 1,000 | m2 | 55.800 | | 55.800 | |
| | | JUMLAH | | | - | 267.600 | - |
| | | | | DIBULATKAN | | | 267.600 |
| 12.2.6 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 7,5 CM | | | | | |
| | - Pengukuran | 2,000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 35 cm | 1,000 | m2 | 75.200 | | 75.200 | |
| | - Prime coating ac 60/70 | 1,000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan aspal penetrasi tebal 7,5 cm padat | 1,000 | m2 | 69.300 | | 69.300 | |
| | | JUMLAH | | | - | 302.600 | - |
| | | | | DIBULATKAN | | | 302.600 |

Program Pengelolaan dan Penyelenggaraan Transportasi Udara

| NO | URAIAN PEKERJAAN | KOEFSIEN | HARGA SATUAN (Rp.) | JUMLAH HARGA | | | JUMLAH HARGA (Rp.) |
|--------|--|--|--------------------|--------------|----------------|------------|--------------------|
| | | | | UPAH (Rp.) | MATERIAL (Rp.) | ALAT (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12.2.7 | 1 M2 | KONSTRUKSI PERKERASAN BARU (PERPANJANGAN/PERLUASAN) DENGAN ASPAL PENETRASI TEBAL RATA-RATA 5 CM | | | | | |
| | - Pengukuran | 2,0000 | m2 | 1.400 | | 2.800 | |
| | - Pembersihan | 1,0000 | m2 | 4.100 | | 4.100 | |
| | - Urugan dan pemadatan tanah subgrade | 1,0000 | m3 | 65.300 | | 65.300 | |
| | - Sirtu padat cbr > 25 % (sub base) tebal = 30 cm | 1,0000 | m2 | 57.200 | | 57.200 | |
| | - Lapisan aggregate base padat cbr > 80 %, tebal = 25 cm | 1,0000 | m2 | 53.700 | | 53.700 | |
| | - Prime coating ac 60/70 | 1,0000 | m2 | 28.700 | | 28.700 | |
| | - Lapisan aspal penetrasi tebal 5 cm padat | 1,0000 | m2 | 46.200 | | 46.200 | |
| | | JUMLAH | | | - | 258.000 | - |
| | | | | DIBULATKAN | | | 258.000 |

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**RINCIAN BIAYA STANDAR B
PENGEMBANGAN SDM PERHUBUN**

| Tahapan Pelaksanaan dan Rincian Komponen Biaya |
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| DIKLAT KESELAMATAN NON APARATUR |
| DIKLAT KEPALA TERMINAL |
| DIKLAT PEMBEKALAN KEPALA SEKSI ANGKUTAN |
| DIKLAT PEMBEKALAN KEPALA PENGUJIAN KENDARAAN BERMOTOR |
| DIKLAT TENAGA PENYULUH KESELAMATAN TRANSPORTASI JALAN |
| DIKLAT SISTEM INFORMASI DAN KOMUNIKASI LLAJ |
| DIKLAT PERAWATAN PERLENGKAPAN JALAN |
| DIKLAT DAMPAK KESELAMATAN LLAJ |
| DIKLAT PENGAWASAN LLAJ |
| DIKLAT MANAJEMEN ANGKUTAN BARANG |
| DIKLAT MENEJERIAL TERMINAL |
| DIKLAT MENEJERIAL PKB |
| PENGUMPULAN DAN PENGOLAHAN DATA LLAJ (100 JP) |
| MANAJEMEN TRANSPORTASI PERKOTAAN |
| ANDALALIN (200 JP) |
| FASILITAS LLAJ (100 JP) |
| PEMAHAMAN PERATURAN BIDANG LLAJ |
| PERENCANAAN JARINGAN |
| ANALISIS DAN MANAJEMEN KESELAMATAN |
| PENGELOLAAN TERMINAL |
| PENGATURAN DAN PENGENDALIAN SIMPANG |
| DIKLAT MANAJEMEN OPERASIONAL ASDP |
| DIKLAT SERTIFIKASI DAN REGISTRASI KAPAL ASD |
| DIKLAT ORIENTASI LLASDP |
| DIKLAT TEKNIK OPERASIONAL LLASDP |
| DIKLAT TEKNIK BATHIMETRI DAN PEMELIHARAAN ALUR |
| DIKLAT MANAJEMEN OPERASIONAL PELABUHAN PENYEBERANGAN |
| DIKLAT MANAJEMEN KEPENGUSAHAAN ASD |
| DIKLAT AWAK KAPAL ASD |
| DIKLAT BST ASDP |
| DIKLAT PETUGAS KESELAMATAN PELAYARAN ASD |
| DIKLAT PERENCANAAN JARINGAN TRAYEK |
| DIKLAT MANAJEMEN ANGKUTAN ORANG |
| DIKLAT PKB LANJUTAN I |
| DIKLAT PKB LANJUTAN II |
| DIKLAT DASAR LLAJ |
| DIKLAT OPERATOR JEMBATAN TIMBANG |

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| DIKLAT MEKANIKA OTOMOTIVE |
| DIKLAT EMISI GAS BUANG |
| DIKLAT MANAJEMEN PERLENGKAPAN JALAN |
| DIKLAT PENGAWASAN LALU LINTAS ANGKUTAN JALAN |
| DIKLAT ANALISIS DAMPAK LALU LINTAS |
| DIKLAT MANAJEMEN LALU LINTAS ANGKUTAN JALAN |
| DIKLAT MANAJEMEN TERMINAL ANGKUTAN JALAN |
| DIKLAT PERENCANAAN JARINGAN LLAJ |
| DIKLAT OTOMOTIF (NON APARATUR) |
| DIKLAT PENGEMUDI ANGKUTAN UMUM (NON APARATUR) |
| DIKLAT PERTOLONGAN PERTAMA KECELAKAAN LALU LINTAS JALAN (NON APARATUR) |
| DIKLAT MANAJEMEN PENGOPERASIAN ANGKUTAN UMUM (NON APARATUR) |
| DIKLAT SISTEM MANAJEMEN KESELAMATAN OPERATOR ANGKUTAN (NON APARATUR) |
| DIKLAT PKB DASAR |
| DIKLAT PPNS LLAJ POLA 400 JP |
| DIKLAT PPNS LLASDP POLA 400 JP |
| DIKLAT PPNS POLA 100 JP |
| DIKLAT PENYEGARAN PPNS |
| DIKLAT PENYEGARAN PKB |
| DIKLAT PEMBEKALAN KEPALA BIDANG |
| DIKLAT DASAR TRANSPORTASI DARAT DI 15 PROVINSI |
| DIKLAT TOC |
| DIKLAT TOT |
| DIKLAT PEMBEKALAN KEPALA DINAS |
| DIKLAT TEKNIS TRANSDAR BAGI PEGAWAI BARU TINGKAT SARJANA |
| DIKLAT TRANSPORT POLICY AND PLANNING |
| DIKLAT TRANSPORT DEMAND MANAGEMENT |
| DIKLAT PUBLIC PRIVATE AND PATNERSHIP |
| DIKLAT AUDIT KESELAMATAN LLAJ |
| DIKLAT AUDIT KESELAMATAN LLASDP |
| DIKLAT ITS |
| DIKLAT INSPEKSI KESELAMATAN LLAJ |
| IN HOUSE TRAINING |
| DIKLAT TEKNIS TRANSPORTASI DARAT BAGI NON APARATUR DI 10 PROVINSI |

**BIAYA KHUSUS (SBK
 NGAN DARAT - TAHUN 2011**

| Volume | Satuan Ukur | Biaya satuan Ukur | Jumlah |
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| (3) | (4) | (5) | (6) |
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| | | | Rp 265.880.000 |
| | | | Rp 145.310.000 |
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| | | | Rp | 557.210.000 |
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| No | Tahapan Pelaksanaan dan Rincian Komponen Biaya | Volume |
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| 1 | TEKNIS TERPADU PERHUBUNGAN LAUT TINGKAT PRATAMA | |
| 2 | TEKNIS TERPADU PERHUBUNGAN LAUT TINGKAT MADYA | |
| 3 | MARINE INSPECTOR TYPE "A" | |
| 4 | MARINE INSPECTOR TYPE "B" | |
| 5 | KESYAHBANDARAN KLAS "A" | |
| 6 | KESYAHBANDARAN KLAS "B" | |
| 7 | AUDITOR ISM CODE | |
| 8 | KEPELABUHANAN | |
| 9 | KETATALAKSANAAN ANGKUTAN LAUT | |
| 10 | PENDAFTARAN DAN KEBANGSAAN KAPAL | |

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|----------|--|---------|-----|
| A | PERSIAPAN PENYELENGGARAAN DIKLAT | | |
| | <u>521211 Belanja Bahan</u> | | |
| | 1 Snack rapat penentuan peserta diklat | 10 | |
| | 2 Pencetakan buku Panduan Diklat | 1 | |
| | 3 Perlengkapan Kegiatan Belajar Peserta Diklat | 30 | |
| | 4 Pengadaan ATK (Panitia) | 1 | |
| B | PELAKSANAAN DIKLAT | | |
| | <u>521211 Belanja Bahan</u> | | |
| | 1 Bantuan Kesehatan | 30 | |
| | 2 Permakanan & Snack Peserta | 1680 | |
| | 3 Cucian / Laundry Peserta | 560 | |
| | 4 Pengadaan photo copy / bahan ajar | 1 | |
| | 5 Dokumentasi | 1 | |
| | 6 Permakanan & Snack Pengajar | 112 | |
| | 7 Pengadaan Bahan Praktek | 60 | |
| | 8 Belanja Perlengkapan Peserta Diklat | 30 | |
| | 9 Uang Saku Peserta | 1680 | |
| | <u>521213 Belanja Honor</u> | | |
| | 1 Honor Pengajar (T) [1 org x 265 jam] | 275 Jam | 265 |
| | 2 Honor Pengajar (P) [2 org x 195 jam] | | 390 |
| | 3 Honor Outbond (Stadium General) [7 org x 10 jam] | | 70 |
| | 4 Honor Panitia (13 org) | | 26 |
| | 5 Honor Piket Kelas | | 56 |
| | 6 Honor Ketua Seminar KKP (1 org x 30 org) | | 30 |
| | 7 Honor Sekretaris Seminar KKP (1 org x 30 org) | | 30 |
| | 8 Honor Anggota/Penguji Seminar KKP (3 org x 30 org) | | 90 |
| | 9 Honor Pembimbing Materi KKP (1 org x 30 org) | | 30 |

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| | 10 Honor Pembimbing Teknik Penulisan KKP (1 org x 30 org) | 30 |
| | <u>524115 Belanja Jasa Profesi</u> | |
| | 1 Honorarium Penyaji/Narasumber (Eselon II : 2 org x 5 jam) | 10 |
| | 2 Honorarium Penyaji/Narasumber (Eselon III : 1 org x 5 jam) | 5 |
| | 3 Honorarium Cara Pembuatan Karya Tulis | 1 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport Pengajar (T) [2 org x 27 hari] | 54 |
| | 2 Transport Pengajar (P) [2 org x 39 hari] | 78 |
| | 3 Transport Pengajar Outbond [7 org x 1 hari] | 7 |
| | 4 Transport KKP (15 kel x 5 org) | 75 |
| C | PRAKTEK KERJA LAPANGAN (PKL) | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Pakaian Praktek Kerja Lapangan (PKL) | 30 |
| | 2 Akomodasi PKL (30 org + 18 org) | 144 |
| | <u>521213 Belanja Honor</u> | |
| | 1 Honor Pembimbing PKL (6 org x 3 hari) | 18 |
| | 2 Honor Pendamping PKL (6 org x 3 hari) | 18 |
| | 3 Honor Petugas PKL (9 org x 3 hari) | 27 |
| | 4 Honor Pembimbing Materi Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| | 5 Honor Pembimbing Teknis Penulisan Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| | 6 Honor Ketua Seminar KKK (1 org x 3 klp) | 3 |
| | 7 Honor Sekretaris Seminar KKK (1 org x 3 klp) | 3 |
| | 8 Honor Anggota/Penguji Seminar KKK (4 org x 3 klp) | 12 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport KKK (3 klp x 6 org) | 18 |
| | 2 Transport Penjajakan PKL (3 org) | 3 |
| | 3 Transport Lokal Tim PKL | 19 |
| | <u>522114 Belanja Sewa</u> | |
| | 1 Sewa bus (roda 6 / 45 pax) untuk dalam Kota | 2 |
| | 2 Sewa Bus PKL (roda 6 / 45 pax) ke Daerah | 4 |
| D | EVALUASI / VAKASI | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Penggandaan / Foto Copy Naskah Ujian (30 org x 11 naskah) | 330 |
| | 2 Snack Sidang Evaluasi | 40 |
| | <u>521213 Belanja Honor</u> | |

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|-----------|---|-----|
| | 1 Honor Pembuat Naskah Ujian | 11 |
| | 2 Honor Peneliti Naskah Ujian | 11 |
| | 3 Honor Pengoreksi Ujian (30 org x 11 naskah) | 330 |
| | 4 Honor Pengawas Ujian (2 org x 6 hari) | 12 |
| E | PENYUSUNAN LAPORAN | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Penggandaan / Photo Copy Laporan | 5 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport Pembukaan Diklat | 30 |
| | 2 Transport Penutupan Diklat | 30 |
| | 3 Transport Sidang Evaluasi | 40 |
| | 4 Bantuan Perjalanan Peserta | 30 |
| 11 | PENCEGAHAN DAN PENANGGULANGAN PENCEMARAN | |

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|----------|--|-----|
| A | PERSIAPAN PENYELENGGARAAN DIKLAT | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Snack rapat penentuan peserta diklat | 10 |
| | 2 Pencetakan buku Panduan Diklat | 1 |
| | 3 Perlengkapan Kegiatan Belajar Peserta Diklat | 30 |
| | 4 Pengadaan ATK (Panitia) | 1 |
| B | PELAKSANAAN DIKLAT | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Bantuan Kesehatan | 30 |
| | 2 Permakanan & Snack Peserta | 900 |
| | 3 Cucian / Laundry Peserta | 300 |
| | 4 Pengadaan photo copy / bahan ajar | 1 |
| | 5 Dokumentasi | 1 |
| | 6 Permakanan & Snack Pengajar | 60 |
| | 7 Pengadaan Bahan Praktek | 60 |
| | 8 Belanja Perlengkapan Peserta Diklat | 30 |
| | 9 Uang Saku Peserta | 900 |
| | <u>521213 Belanja Honor</u> | |
| | 1 Honor Pengajar (T) [1 org x 120 jam] | 120 |
| | 2 Honor Pengajar (P) [2 org x 10 jam] | 20 |
| | 3 Honor Outbond (Stadium General) [7 org x 10 jam] | 70 |
| | 4 Honor Panitia (13 org) | 13 |
| | 5 Honor Piket Kelas | 30 |

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| | 6 Honor Ketua Seminar KKP (1 org x 30 org) | 30 |
| | 7 Honor Sekretaris Seminar KKP (1 org x 30 org) | 30 |
| | 8 Honor Anggota/Penguji Seminar KKP (3 org x 30 org) | 90 |
| | 9 Honor Pembimbing Materi KKP (1 org x 30 org) | 30 |
| | 10 Honor Pembimbing Teknik Penulisan KKP (1 org x 30 org) | 30 |
| | <u>524115 Belanja Jasa Profesi</u> | |
| | 1 Honorarium Penyaji/Narasumber (Eselon II : 2 org x 5 jam) | 10 |
| | 2 Honorarium Penyaji/Narasumber (Eselon III : 1 org x 5 jam) | 5 |
| | 3 Honorarium Cara Pembuatan Karya Tulis | 1 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport Pengajar (T) [2 org x 12 hari] | 24 |
| | 2 Transport Pengajar (P) [2 org x 2 hari] | 4 |
| | 3 Transport Pengajar Outbond [7 org x 1 hari] | 7 |
| | 4 Transport KKP (15 kel x 5 org) | 75 |
| C | PRAKTEK KERJA LAPANGAN (PKL) | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Pakaian Praktek Kerja Lapangan (PKL) | 30 |
| | 2 Akomodasi PKL (30 org + 18 org) | 144 |
| | <u>521213 Belanja Honor</u> | |
| | 1 Honor Pembimbing PKL (6 org x 3 hari) | 18 |
| | 2 Honor Pendamping PKL (6 org x 3 hari) | 18 |
| | 3 Honor Petugas PKL (9 org x 3 hari) | 27 |
| | 4 Honor Pembimbing Materi Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| | 5 Honor Pembimbing Teknis Penulisan Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| | 6 Honor Ketua Seminar KKK (1 org x 3 klp) | 3 |
| | 7 Honor Sekretaris Seminar KKK (1 org x 3 klp) | 3 |
| | 8 Honor Anggota/Penguji Seminar KKK (4 org x 3 klp) | 12 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport KKK (3 klp x 6 org) | 18 |
| | 2 Transport Penjajakan PKL (3 org) | 3 |
| | 3 Transport Lokal Tim PKL | 19 |
| | <u>522114 Belanja Sewa</u> | |
| | 1 Sewa bus (roda 6 / 45 pax) untuk dalam Kota | 2 |
| | 2 Sewa Bus PKL (roda 6 / 45 pax) ke Daerah | 4 |
| D | EVALUASI / VAKASI | |
| | <u>521211 Belanja Bahan</u> | |

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|-----------|--|-----|
| | 1 Penggandaan / Foto Copy Naskah Ujian (30 org x 9 naskah) | 270 |
| | 2 Snack Sidang Evaluasi | 25 |
| | <u>521213 Belanja Honor</u> | |
| | 1 Honor Pembuat Naskah Ujian | 9 |
| | 2 Honor Peneliti Naskah Ujian | 9 |
| | 3 Honor Pengoreksi Ujian (30 org x 9 naskah) | 270 |
| | 4 Honor Pengawas Ujian (2 org x 5 hari) | 10 |
| E | PENYUSUNAN LAPORAN | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Penggandaan / Photo Copy Laporan | 5 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport Pembukaan Diklat | 30 |
| | 2 Transport Penutupan Diklat | 30 |
| | 3 Transport Sidang Evaluasi | 40 |
| | 4 Bantuan Perjalanan Peserta | 30 |
| 12 | PENGUKURAN KAPAL | |

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|----------|--|------|
| A | PERSIAPAN PENYELENGGARAAN DIKLAT | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Snack rapat penentuan peserta diklat | 10 |
| | 2 Pencetakan buku Panduan Diklat | 1 |
| | 3 Perlengkapan Kegiatan Belajar Peserta Diklat | 30 |
| | 4 Pengadaan ATK (Panitia) | 1 |
| B | PELAKSANAAN DIKLAT | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Bantuan Kesehatan | 30 |
| | 2 Permakanan & Snack Peserta | 2700 |
| | 3 Cucian / Laundry Peserta | 900 |
| | 4 Pengadaan photo copy / bahan ajar | 1 |
| | 5 Dokumentasi | 1 |
| | 6 Permakanan & Snack Pengajar | 180 |
| | 7 Pengadaan Bahan Praktek | 60 |
| | 8 Belanja Perlengkapan Peserta Diklat | 30 |
| | 9 Uang Saku Peserta | 2700 |
| | <u>521213 Belanja Honor</u> | |

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|---|-----|
| 1 Honor Pengajar (T) [1 org x 285 jam] | 285 |
| 2 Honor Pengajar (P) [2 org x 395 jam] | 790 |
| 3 Honor Outbond (Stadium General) [7 org x 10 jam] | 70 |
| 4 Honor Panitia (13 org) | 39 |
| 5 Honor Piket Kelas | 90 |
| 6 Honor Ketua Seminar KKP (1 org x 30 org) | 30 |
| 7 Honor Sekretaris Seminar KKP (1 org x 30 org) | 30 |
| 8 Honor Anggota/Penguji Seminar KKP (3 org x 30 org) | 90 |
| 9 Honor Pembimbing Materi KKP (1 org x 30 org) | 30 |
| 10 Honor Pembimbing Teknik Penulisan KKP (1 org x 30 org) | 30 |
| <u>524115 Belanja Jasa Profesi</u> | |
| 1 Honorarium Penyaji/Narasumber (Eselon II : 2 org x 5 jam) | 10 |
| 2 Honorarium Penyaji/Narasumber (Eselon III : 1 org x 5 jam) | 5 |
| 3 Honorarium Cara Pembuatan Karya Tulis | 1 |
| <u>524119 Belanja Perjalanan Lainnya</u> | |
| 1 Transport Pengajar (T) [2 org x 38 hari] | 76 |
| 2 Transport Pengajar (P) [2 org x 71 hari] | 142 |
| 3 Transport Pengajar Outbond [7 org x 1 hari] | 7 |
| 4 Transport KKP (15 kel x 5 org) | 75 |
| C PRAKTEK KERJA LAPANGAN (PKL) | |
| <u>521211 Belanja Bahan</u> | |
| 1 Pakaian Praktek Kerja Lapangan (PKL) | 30 |
| 2 Akomodasi PKL (30 org + 18 org) | 144 |
| <u>521213 Belanja Honor</u> | |
| 1 Honor Pembimbing PKL (6 org x 3 hari) | 18 |
| 2 Honor Pendamping PKL (6 org x 3 hari) | 18 |
| 3 Honor Petugas PKL (9 org x 3 hari) | 27 |
| 4 Honor Pembimbing Materi Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| 5 Honor Pembimbing Teknis Penulisan Kertas Kerja Kelompok (1 org x 3 klp) | 3 |
| 6 Honor Ketua Seminar KKK (1 org x 3 klp) | 3 |
| 7 Honor Sekretaris Seminar KKK (1 org x 3 klp) | 3 |
| 8 Honor Anggota/Penguji Seminar KKK (4 org x 3 klp) | 12 |
| <u>524119 Belanja Perjalanan Lainnya</u> | |
| 1 Transport KKK (3 klp x 6 org) | 18 |
| 2 Transport Penjajakan PKL (3 org) | 3 |
| 3 Transport Lokal Tim PKL | 19 |
| <u>522114 Belanja Sewa</u> | |

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|-----------|---|-----|
| | 1 Sewa bus (roda 6 / 45 pax) untuk dalam Kota | 1 |
| | 2 Sewa Bus PKL (roda 6 / 45 pax) ke Daerah | 4 |
| D | EVALUASI / VAKASI | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Penggandaan / Foto Copy Naskah Ujian (30 org x 21 naskah) | 360 |
| | 2 Snack Sidang Evaluasi | 45 |
| | <u>521213 Belanja Honor</u> | |
| | 1 Honor Pembuat Naskah Ujian | 12 |
| | 2 Honor Peneliti Naskah Ujian | 12 |
| | 3 Honor Pengoreksi Ujian (30 org x 12 naskah) | 360 |
| | 4 Honor Pengawas Ujian (2 org x 6 hari) | 12 |
| E | PENYUSUNAN LAPORAN | |
| | <u>521211 Belanja Bahan</u> | |
| | 1 Penggandaan / Photo Copy Laporan | 5 |
| | <u>524119 Belanja Perjalanan Lainnya</u> | |
| | 1 Transport Pembukaan Diklat | 30 |
| | 2 Transport Penutupan Diklat | 30 |
| | 3 Transport Sidang Evaluasi | 45 |
| | 4 Bantuan Perjalanan Peserta | 30 |
| 13 | PENGUKURAN KAPAL DIBAWAH 7 GT | |
| 14 | DASAR PERWIRA KPLP | |
| 15 | DASAR BINTARA KPLP | |
| 16 | DASAR TAMTAMA KPLP | |
| 17 | SARANA BANTU NAVIGASI PELAYARAN TINGKAT DASAR | |
| 18 | SARANA BANTU NAVIGASI PELAYARAN TINGKAT TRAMPIL | |
| 19 | MARINE INSPECTOR RADIO | |
| 20 | OPERATOR TAMBAT | |
| 21 | OPERATOR FORKLIFT | |
| 22 | OPERATOR CRANE | |

| Satuan Ukur | Biaya Satuan Ukur | Jumlah |
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| | | 530.663.000 |
| | | 674.586.500 |
| | | 1.026.132.750 |
| | | 580.982.550 |
| | | 677.266.750 |
| | | 516.482.150 |
| | | 402.989.250 |
| | | 455.860.500 |
| | | 475.053.250 |
| | | 642.599.000 |

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|-------|-----------|--------------------|
| | | 18.855.000 |
| | | 18.855.000 |
| ORG | 16.000 | 160.000 |
| PAKET | 5.350.000 | 5.350.000 |
| ORG | 320.000 | 9.600.000 |
| PAKET | 3.745.000 | 3.745.000 |
| | | 424.325.000 |
| | | 215.100.000 |
| OP | 200.000 | 6.000.000 |
| OH | 80.000 | 134.400.000 |
| OK | 35.000 | 19.600.000 |
| OP | 4.815.000 | 4.815.000 |
| OP | 1.275.000 | 1.275.000 |
| OH | 80.000 | 8.960.000 |
| OK | 110.000 | 6.600.000 |
| OP | 275.000 | 8.250.000 |
| OH | 15.000 | 25.200.000 |
| | | 175.575.000 |
| OJ | 175.000 | 46.375.000 |
| OJ | 175.000 | 68.250.000 |
| OJ | 175.000 | 12.250.000 |
| OB | 600.000 | 15.600.000 |
| OH | 125.000 | 7.000.000 |
| OK | 150.000 | 4.500.000 |
| OK | 130.000 | 3.900.000 |
| OK | 110.000 | 9.900.000 |
| OK | 150.000 | 4.500.000 |

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| OK | 110.000 | 3.300.000 |
| | | 12.250.000 |
| OJ | 850.000 | 8.500.000 |
| OJ | 700.000 | 3.500.000 |
| OK | 250.000 | 250.000 |
| | | 21.400.000 |
| OH | 100.000 | 5.400.000 |
| OH | 100.000 | 7.800.000 |
| OH | 100.000 | 700.000 |
| OK | 100.000 | 7.500.000 |
| | | 127.649.000 |
| | | 63.750.000 |
| OK | 325.000 | 9.750.000 |
| OH | 375.000 | 54.000.000 |
| | | 26.280.000 |
| OH | 425.000 | 7.650.000 |
| OH | 370.000 | 6.660.000 |
| OH | 320.000 | 8.640.000 |
| OK | 215.000 | 645.000 |
| OK | 160.000 | 480.000 |
| OP | 160.000 | 480.000 |
| OK | 135.000 | 405.000 |
| OK | 110.000 | 1.320.000 |
| | | 8.515.000 |
| OK | 100.000 | 1.800.000 |
| OP | 1.605.000 | 4.815.000 |
| OP | 100.000 | 1.900.000 |
| | | 29.104.000 |
| HARI | 3.210.000 | 6.420.000 |
| HARI | 5.671.000 | 22.684.000 |
| | | 6.995.000 |
| | | 2.407.500 |
| OP | 5.350 | 1.765.500 |
| OK | 16.050 | 642.000 |
| | | 4.587.500 |

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|--------|-----------|--------------------|
| Naskah | 160.000 | 1.760.000 |
| Naskah | 105.000 | 1.155.000 |
| OP | 1.250 | 412.500 |
| OH | 105.000 | 1.260.000 |
| | | 64.775.000 |
| | | 1.325.000 |
| Paket | 265.000 | 1.325.000 |
| | | 63.450.000 |
| OH | 150.000 | 4.500.000 |
| OH | 150.000 | 4.500.000 |
| OK | 150.000 | 6.000.000 |
| OP | 1.615.000 | 48.450.000 |
| | | 442.287.250 |

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|-------|-----------|--------------------|
| | | 18.855.000 |
| | | 18.855.000 |
| ORG | 16.000 | 160.000 |
| PAKET | 5.350.000 | 5.350.000 |
| ORG | 320.000 | 9.600.000 |
| PAKET | 3.745.000 | 3.745.000 |
| | | 225.390.000 |
| | | 127.740.000 |
| OP | 200.000 | 6.000.000 |
| OH | 80.000 | 72.000.000 |
| OK | 35.000 | 10.500.000 |
| OP | 4.815.000 | 4.815.000 |
| OP | 1.275.000 | 1.275.000 |
| OH | 80.000 | 4.800.000 |
| OK | 110.000 | 6.600.000 |
| OP | 275.000 | 8.250.000 |
| OH | 15.000 | 13.500.000 |
| | | 74.400.000 |
| OJ | 175.000 | 21.000.000 |
| OJ | 175.000 | 3.500.000 |
| OJ | 175.000 | 12.250.000 |
| OB | 600.000 | 7.800.000 |
| OH | 125.000 | 3.750.000 |

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|------|-----------|--------------------|
| OK | 150.000 | 4.500.000 |
| OK | 130.000 | 3.900.000 |
| OK | 110.000 | 9.900.000 |
| OK | 150.000 | 4.500.000 |
| OK | 110.000 | 3.300.000 |
| | | 12.250.000 |
| OJ | 850.000 | 8.500.000 |
| OJ | 700.000 | 3.500.000 |
| OK | 250.000 | 250.000 |
| | | 11.000.000 |
| OH | 100.000 | 2.400.000 |
| OH | 100.000 | 400.000 |
| OH | 100.000 | 700.000 |
| OK | 100.000 | 7.500.000 |
| | | 127.649.000 |
| | | 63.750.000 |
| OK | 325.000 | 9.750.000 |
| OH | 375.000 | 54.000.000 |
| | | 26.280.000 |
| OH | 425.000 | 7.650.000 |
| OH | 370.000 | 6.660.000 |
| OH | 320.000 | 8.640.000 |
| OK | 215.000 | 645.000 |
| OK | 160.000 | 480.000 |
| OP | 160.000 | 480.000 |
| OK | 135.000 | 405.000 |
| OK | 110.000 | 1.320.000 |
| | | 8.515.000 |
| OK | 100.000 | 1.800.000 |
| OP | 1.605.000 | 4.815.000 |
| OP | 100.000 | 1.900.000 |
| | | 29.104.000 |
| HARI | 3.210.000 | 6.420.000 |
| HARI | 5.671.000 | 22.684.000 |
| | | 5.618.250 |
| | | 1.845.750 |

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|--------|-----------|--------------------|
| OP | 5.350 | 1.444.500 |
| OK | 16.050 | 401.250 |
| | | 3.772.500 |
| Naskah | 160.000 | 1.440.000 |
| Naskah | 105.000 | 945.000 |
| OP | 1.250 | 337.500 |
| OH | 105.000 | 1.050.000 |
| | | 64.775.000 |
| | | 1.325.000 |
| Paket | 265.000 | 1.325.000 |
| | | 63.450.000 |
| OH | 150.000 | 4.500.000 |
| OH | 150.000 | 4.500.000 |
| OK | 150.000 | 6.000.000 |
| OP | 1.615.000 | 48.450.000 |
| | | 847.205.000 |

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|-------|-----------|--------------------|
| | | 18.855.000 |
| | | 18.855.000 |
| ORG | 16.000 | 160.000 |
| PAKET | 5.350.000 | 5.350.000 |
| ORG | 320.000 | 9.600.000 |
| PAKET | 3.745.000 | 3.745.000 |
| | | 632.715.000 |
| | | 329.340.000 |
| OP | 200.000 | 6.000.000 |
| OH | 80.000 | 216.000.000 |
| OK | 35.000 | 31.500.000 |
| OP | 4.815.000 | 4.815.000 |
| OP | 1.275.000 | 1.275.000 |
| OH | 80.000 | 14.400.000 |
| OK | 110.000 | 6.600.000 |
| OP | 275.000 | 8.250.000 |
| OH | 15.000 | 40.500.000 |
| | | 261.125.000 |

| | | |
|----|-----------|--------------------|
| OJ | 175.000 | 49.875.000 |
| OJ | 175.000 | 138.250.000 |
| OJ | 175.000 | 12.250.000 |
| OB | 600.000 | 23.400.000 |
| OH | 125.000 | 11.250.000 |
| OK | 150.000 | 4.500.000 |
| OK | 130.000 | 3.900.000 |
| OK | 110.000 | 9.900.000 |
| OK | 150.000 | 4.500.000 |
| OK | 110.000 | 3.300.000 |
| | | 12.250.000 |
| OJ | 850.000 | 8.500.000 |
| OJ | 700.000 | 3.500.000 |
| OK | 250.000 | 250.000 |
| | | 30.000.000 |
| OH | 100.000 | 7.600.000 |
| OH | 100.000 | 14.200.000 |
| OH | 100.000 | 700.000 |
| OK | 100.000 | 7.500.000 |
| | | 122.745.000 |
| | | 63.750.000 |
| OK | 325.000 | 9.750.000 |
| OH | 375.000 | 54.000.000 |
| | | 26.280.000 |
| OH | 425.000 | 7.650.000 |
| OH | 370.000 | 6.660.000 |
| OH | 320.000 | 8.640.000 |
| OK | 215.000 | 645.000 |
| OK | 160.000 | 480.000 |
| OP | 160.000 | 480.000 |
| OK | 135.000 | 405.000 |
| OK | 110.000 | 1.320.000 |
| | | 8.515.000 |
| OK | 100.000 | 1.800.000 |
| OP | 1.605.000 | 4.815.000 |
| OP | 100.000 | 1.900.000 |
| | | 24.200.000 |

| | | |
|--------|-----------|--------------------|
| HARI | 3.000.000 | 3.000.000 |
| HARI | 5.300.000 | 21.200.000 |
| | | 7.365.000 |
| | | 2.475.000 |
| OP | 5.000 | 1.800.000 |
| OK | 15.000 | 675.000 |
| | | 4.890.000 |
| Naskah | 160.000 | 1.920.000 |
| Naskah | 105.000 | 1.260.000 |
| OP | 1.250 | 450.000 |
| OH | 105.000 | 1.260.000 |
| | | 65.525.000 |
| | | 1.325.000 |
| Paket | 265.000 | 1.325.000 |
| | | 64.200.000 |
| OH | 150.000 | 4.500.000 |
| OH | 150.000 | 4.500.000 |
| OK | 150.000 | 6.750.000 |
| OP | 1.615.000 | 48.450.000 |
| | | 358.022.500 |
| | | 544.352.500 |
| | | 541.352.500 |
| | | 481.850.000 |
| | | 529.332.500 |
| | | 557.195.000 |
| | | 519.002.500 |
| | | 182.090.500 |
| | | 181.590.500 |
| | | 173.831.500 |

| No | Tahapan Pelaksanaan dan Rincian Komponen Biaya | Volume | Satuan Ukur | Biaya Satuan Ukur | Jumlah |
|----|--|--------|-------------|-------------------|---------------|
| 1 | 2 | 3 | 4 | 5 | 6 = (3 x 5) |
| | | | | | |

| No. | Tahapan Pelaksanaan dan incian Komponen Biaya | Volume | Satuan Ukur | Biaya Satuan Ukur | Jumlah |
|-----|---|--------|-------------|-------------------|-------------|
| 1 | DIKLAT KESELAMATAN TRANSPORTASI | 30 | ORANG | | 275.554.000 |
| 2 | DIKLAT PERENCANAAN TRANSPORTASI | 30 | ORANG | | 421.304.000 |
| 3 | DIKLAT MANAJEMEN TRANSPORTASI | 30 | ORANG | | 309.854.000 |

STANDAR BIAYA KEMENTERIAN PERHUBUNGAN TAHUN 2012
 BADAN PENGEMBANGAN SDM PERHUBUNGAN

| NO | NAMA DIKLAT | JUMLAH PESERTA / ANGKATAN | DURASI DIKLAT | BIAYA / ANGKATAN / WILAYAH | | | | |
|-------------------------------------|---|------------------------------|---------------|-------------------------------|---------------------------------------|--------------------|--------------------|-------------------------------|
| | | | | SUMATERA (BPPTD PALEMBANG) | JAWA (PUSDIKLAT PHB DARAT JAKARTA) | JAWA (STTD BEKASI) | JAWA (BPPTD TEGAL) | NUSA TENGGARA (BPPTD BALI) |
| DIKLAT SDM PERHUBUNGAN DARAT | | | | | | | | |
| 1 | DIKLAT KESELAMATAN NON APARATUR | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 2 | DIKLAT KEPALA TERMINAL | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 145.310.000 | Rp - |
| 3 | DIKLAT PEMBEKALAN KEPALA SEKSI ANGKUTAN | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 141.180.000 | Rp - |
| 4 | DIKLAT PEMBEKALAN KEPALA PENGUJIAN KENDARAAN BERMOTOR | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 141.180.000 | Rp - |
| 5 | DIKLAT TENAGA PENYULUH KESELAMATAN TRANSPORTASI JALAN | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 141.180.000 | Rp - |
| 6 | DIKLAT SISTEM INFORMASI DAN KOMUNIKASI LLAJ | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 7 | DIKLAT PERAWATAN PERLENGKAPAN JALAN | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 8 | DIKLAT DAMPAK KESELAMATAN LLAJ | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 9 | DIKLAT PENGAWASAN LLAJ | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 10 | DIKLAT MANAJEMEN ANGKUTAN BARANG | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 265.880.000 | Rp - |
| 11 | DIKLAT MENEJERIAL TERMINAL | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 282.360.000 | Rp - |
| 12 | DIKLAT MENEJERIAL PKB | 30 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp 282.360.000 | Rp - |
| 13 | PENGUMPULAN DAN PENGOLAHAN DATA LLAJ (100 JP) | 24 Orang | 15 Hari | Rp - | Rp - | Rp 174.560.000 | Rp - | Rp - |
| 14 | MANAJEMEN TRANSPORTASI PERKOTAAN | 24 Orang | 21 Hari | Rp - | Rp - | Rp 212.180.000 | Rp - | Rp - |
| 15 | ANDALALIN (200 JP) | 24 Orang | 30 Hari | Rp - | Rp - | Rp 247.400.000 | Rp - | Rp - |
| 16 | FASILITAS LLAJ (100 JP) | 24 Orang | 15 Hari | Rp - | Rp - | Rp 174.560.000 | Rp - | Rp - |
| 17 | PEMAHAMAN PERATURAN BIDANG LLAJ | 24 Orang | 15 Hari | Rp - | Rp - | Rp 174.560.000 | Rp - | Rp - |
| 18 | PERENCANAAN JARINGAN | 24 Orang | 21 Hari | Rp - | Rp - | Rp 212.180.000 | Rp - | Rp - |
| 19 | ANALISIS DAN MANAJEMEN KESELAMATAN | 24 Orang | 21 Hari | Rp - | Rp - | Rp 212.180.000 | Rp - | Rp - |
| 20 | PENGELOLAAN TERMINAL | 24 Orang | 21 Hari | Rp - | Rp - | Rp 212.180.000 | Rp - | Rp - |
| 21 | PENGATURAN DAN PENGENDALIAN SIMPANG | 24 Orang | 15 Hari | Rp - | Rp - | Rp 174.560.000 | Rp - | Rp - |
| 22 | DIKLAT MANAJEMEN OPERASIONAL ASDP | 26 Orang | 30 Hari | Rp 410.252.000 | Rp - | Rp - | Rp - | Rp - |
| 23 | DIKLAT SERTIFIKASI DAN REGISTRASI KAPAL ASD | 26 Orang | 15 Hari | Rp 261.484.000 | Rp - | Rp - | Rp - | Rp - |
| 24 | DIKLAT ORIENTASI LLASDP | 26 Orang | 30 Hari | Rp 416.452.000 | Rp - | Rp - | Rp - | Rp - |
| 25 | DIKLAT TEKNIK OPERASIONAL LLASDP | 26 Orang | 30 Hari | Rp 416.452.000 | Rp - | Rp - | Rp - | Rp - |
| 26 | DIKLAT TEKNIK BATHIMETRI DAN PEMELIHARAAN ALUR | 26 Orang | 15 Hari | Rp 261.484.000 | Rp - | Rp - | Rp - | Rp - |
| 27 | DIKLAT MANAJEMEN OPERASIONAL PELABUHAN PENYEBERANGAN | 26 Orang | 15 Hari | Rp 522.968.000 | Rp - | Rp - | Rp - | Rp - |
| 28 | DIKLAT MANAJEMEN KEPENGUSAHAAN ASD | 26 Orang | 7 Hari | Rp 178.073.000 | Rp - | Rp - | Rp - | Rp - |
| 29 | DIKLAT AWAK KAPAL ASD | 26 Orang | 7 Hari | Rp 178.073.000 | Rp - | Rp - | Rp - | Rp - |
| 30 | DIKLAT BST ASDP | 26 Orang | 7 Hari | Rp 178.073.000 | Rp - | Rp - | Rp - | Rp - |
| 31 | DIKLAT PETUGAS KESELAMATAN PELAYARAN ASD | 26 Orang | 30 Hari | Rp 410.252.000 | Rp - | Rp - | Rp - | Rp - |
| 32 | DIKLAT PERENCANAAN JARINGAN TRAYEK | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 33 | DIKLAT MANAJEMEN ANGKUTAN ORANG | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 34 | DIKLAT PKB LANJUTAN I | 24 Orang | 56 Hari | Rp - | Rp - | Rp - | Rp - | Rp 532.514.000 |
| 35 | DIKLAT PKB LANJUTAN II | 24 Orang | 38 Hari | Rp - | Rp - | Rp - | Rp - | Rp 436.244.000 |
| 36 | DIKLAT DASAR LLAJ | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 37 | DIKLAT OPERATOR JEMBATAN TIMBANG | 24 Orang | 15 Hari | Rp - | Rp - | Rp - | Rp - | Rp 217.074.000 |
| 38 | DIKLAT MEKANIKA OTOMOTIVE | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 39 | DIKLAT EMISI GAS BUANG | 24 Orang | 21 Hari | Rp - | Rp - | Rp - | Rp - | Rp 274.264.000 |
| 40 | DIKLAT MANAJEMEN PERLENGKAPAN JALAN | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 41 | DIKLAT PENGAWASAN LALU LINTAS ANGKUTAN JALAN | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 42 | DIKLAT ANALISIS DAMPAK LALU LINTAS | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 43 | DIKLAT MANAJEMEN LALU LINTAS ANGKUTAN JALAN | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 44 | DIKLAT MANAJEMEN TERMINAL ANGKUTAN JALAN | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 45 | DIKLAT PERENCANAAN JARINGAN LLAJ | 24 Orang | 30 Hari | Rp - | Rp - | Rp - | Rp - | Rp 315.124.000 |
| 46 | DIKLAT OTOMOTIF (NON APARATUR) | 24 Orang | 7 Hari | Rp - | Rp - | Rp - | Rp - | Rp 154.264.000 |

**STANDAR BIAYA KEMENTERIAN PERHUBUNGAN TAHUN 2012
BADAN PENGEMBANGAN SDM PERHUBUNGAN**

| | | | | | | | | | | | | | | | |
|----|--|----|-------|----|------|----|---|----|---------------|----|---|----|---|----|-------------|
| 47 | DIKLAT PENGEMUDI ANGKUTAN UMUM (NON APARATUR) | 24 | Orang | 7 | Hari | Rp | - | Rp | - | Rp | - | Rp | - | Rp | 154.264.000 |
| 48 | DIKLAT PERTOLONGAN PERTAMA KECELAKAAN LALU LINTAS JALAN (NON APARATUR) | 24 | Orang | 7 | Hari | Rp | - | Rp | - | Rp | - | Rp | - | Rp | 154.264.000 |
| 49 | DIKLAT MANAJEMEN PENGOPERASIAN ANGKUTAN UMUM (NON APARATUR) | 24 | Orang | 7 | Hari | Rp | - | Rp | - | Rp | - | Rp | - | Rp | 154.264.000 |
| 50 | DIKLAT SISTEM MANAJEMEN KESELAMATAN OPERATOR ANGKUTAN (NON APARATUR) | 24 | Orang | 7 | Hari | Rp | - | Rp | - | Rp | - | Rp | - | Rp | 154.264.000 |
| 51 | DIKLAT PKB DASAR | 24 | Orang | 36 | Hari | Rp | - | Rp | - | Rp | - | Rp | - | Rp | 366.564.000 |
| 52 | DIKLAT PPNS LLAJ POLA 400 JP | 30 | Orang | 60 | Hari | Rp | - | Rp | 1.345.190.000 | Rp | - | Rp | - | Rp | - |
| 53 | DIKLAT PPNS LLASDP POLA 400 JP | 30 | Orang | 60 | Hari | Rp | - | Rp | 1.345.190.000 | Rp | - | Rp | - | Rp | - |
| 54 | DIKLAT PPNS POLA 100 JP | 30 | Orang | 15 | Hari | Rp | - | Rp | 493.740.000 | Rp | - | Rp | - | Rp | - |
| 55 | DIKLAT PENYEGARAN PPNS | 30 | Orang | 7 | Hari | Rp | - | Rp | 557.210.000 | Rp | - | Rp | - | Rp | - |
| 56 | DIKLAT PENYEGARAN PKB | 30 | Orang | 7 | Hari | m | | Rp | 557.210.000 | Rp | - | Rp | - | Rp | - |
| 57 | DIKLAT PEMBEKALAN KEPALA BIDANG | 30 | Orang | 7 | Hari | Rp | - | Rp | 971.608.000 | Rp | - | Rp | - | Rp | - |
| 58 | DIKLAT DASAR TRANSPORTASI DARAT DI 15 PROVINSI | 30 | Orang | 7 | Hari | Rp | - | Rp | 409.193.000 | Rp | - | Rp | - | Rp | - |
| 59 | DIKLAT TOC | 30 | Orang | 15 | Hari | Rp | - | Rp | 536.180.000 | Rp | - | Rp | - | Rp | - |
| 60 | DIKLAT TOT | 30 | Orang | 15 | Hari | Rp | - | Rp | 541.876.000 | Rp | - | Rp | - | Rp | - |
| 61 | DIKLAT PEMBEKALAN KEPALA DINAS | 30 | Orang | 7 | Hari | Rp | - | Rp | 976.608.000 | Rp | - | Rp | - | Rp | - |
| 62 | DIKLAT TEKNIS TRANSDAR BAGI PEGAWAI BARU TINGKAT SARJANA | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 63 | DIKLAT TRANSPORT POLICY AND PLANNING | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 64 | DIKLAT TRANSPORT DEMAND MANAGEMENT | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 65 | DIKLAT PUBLIC PRIVATE AND PATNERSHIP | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 66 | DIKLAT AUDIT KESELAMATAN LLAJ | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 67 | DIKLAT AUDIT KESELAMATAN LLASDP | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 68 | DIKLAT ITS | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 69 | DIKLAT INSPEKSI KESELAMATAN LLAJ | 30 | Orang | 15 | Hari | Rp | - | Rp | 490.490.000 | Rp | - | Rp | - | Rp | - |
| 70 | IN HOUSE TRAINING | 20 | Orang | 7 | Hari | Rp | - | Rp | 388.123.000 | Rp | - | Rp | - | Rp | - |
| 71 | DIKLAT TEKNIS TRANSPORTASI DARAT BAGI NON APARATUR DI 10 PROVINSI | 30 | Orang | 7 | Hari | Rp | - | Rp | 409.193.000 | Rp | - | Rp | - | Rp | - |

| NO | NAMA DIKLAT | JUMLAH PESERTA / ANGKATAN | DURASI DIKLAT | BIAYA / ANGKATAN / WILAYAH | |
|----|-------------|---------------------------|---------------|----------------------------|--|
| | | | | JAWA (BP2TL JAKARTA) | |

| DIKLAT SDM PERHUBUNGAN LAUT | | | | | | | |
|-----------------------------|---|----|-------|-----|------|----|---------------|
| 1 | TEKNIS TERPADU PERHUBUNGAN LAUT TINGKAT PRATAMA | 30 | Orang | 45 | Hari | Rp | 530.663.000 |
| 2 | TEKNIS TERPADU PERHUBUNGAN LAUT TINGKAT MADYA | 30 | Orang | 40 | Hari | Rp | 674.586.500 |
| 3 | MARINE INSPECTOR TYPE "A" | 30 | Orang | 100 | Hari | Rp | 1.026.132.750 |
| 4 | MARINE INSPECTOR TYPE "B" | 30 | Orang | 55 | Hari | Rp | 580.982.550 |
| 5 | KESYAHBANDARAN KLAS "A" | 30 | Orang | 40 | Hari | Rp | 677.266.750 |
| 6 | KESYAHBANDARAN KLAS "B" | 30 | Orang | 40 | Hari | Rp | 516.482.150 |
| 7 | AUDITOR ISM CODE | 30 | Orang | 16 | Hari | Rp | 402.989.250 |
| 8 | KEPELABUHANAN | 30 | Orang | 30 | Hari | Rp | 455.860.500 |
| 9 | KETATALAKSANAAN ANGKUTAN LAUT | 30 | Orang | 35 | Hari | Rp | 475.053.250 |
| 10 | PENDAFTARAN DAN KEBANGSAAN KAPAL | 30 | Orang | 56 | Hari | Rp | 642.599.000 |
| 11 | PENCEGAHAN DAN PENANGGULANGAN PENCEMARAN | 30 | Orang | 30 | Hari | Rp | 442.287.250 |
| 12 | PENGUKURAN KAPAL | 30 | Orang | 90 | Hari | Rp | 847.205.000 |
| 13 | PENGUKURAN KAPAL DIBAWAH 7 GT | 30 | Orang | 20 | Hari | Rp | 358.022.500 |
| 14 | DASAR PERWIRA KPLP | 30 | Orang | 52 | Hari | Rp | 544.352.500 |
| 15 | DASAR BINTARA KPLP | 30 | Orang | 45 | Hari | Rp | 541.352.500 |
| 16 | DASAR TAMTAMA KPLP | 30 | Orang | 40 | Hari | Rp | 481.850.000 |
| 17 | SARANA BANTU NAVIGASI PELAYARAN TINGKAT DASAR | 30 | Orang | 53 | Hari | Rp | 529.332.500 |
| 18 | SARANA BANTU NAVIGASI PELAYARAN TINGKAT TRAMPIL | 30 | Orang | 60 | Hari | Rp | 557.195.000 |
| 19 | MARINE INSPECTOR RADIO | 30 | Orang | 40 | Hari | Rp | 519.002.500 |
| 20 | OPERATOR TAMBAT | 30 | Orang | 4 | Hari | Rp | 182.090.500 |
| 21 | OPERATOR FORKLIFT | 30 | Orang | 4 | Hari | Rp | 181.590.500 |
| 22 | OPERATOR CRANE | 30 | Orang | 6 | Hari | Rp | 173.831.500 |

**STANDAR BIAYA KEMENTERIAN PERHUBUNGAN TAHUN 2012
BADAN PENGEMBANGAN SDM PERHUBUNGAN**

| NO | NAMA DIKLAT | JUMLAH PESERTA / ANGKATAN | DURASI DIKLAT | BIAYA / ANGKATAN / WILAYAH | | | | | | | |
|-------------------------------------|---|---------------------------|---------------|----------------------------|------------------------------|-------------------------------|----------------------|--------------------------|-------------------------------------|--|--|
| | | | | SUMATERA (ATKP MEDAN) | SUMATERA (BPP Pnb PALEMBANG) | JAWA (STPI CURUG - TANGERANG) | JAWA (ATKP SURABAYA) | SULAWESI (ATKP MAKASSAR) | MALUKU DAN PAPUA (BPP Pnb JAYAPURA) | | |
| DIKLAT SDM PERHUBUNGAN UDARA | | | | | | | | | | | |
| 1 | DIKLAT AIRPORT INFORMATION OFFICER | 20 Orang | 63 Hari | Rp 576.115.000 | Rp 571.345.000 | Rp 561.835.000 | Rp 573.385.000 | Rp 578.425.000 | Rp 588.955.000 | | |
| 2 | DIKLAT AMDAL PENILAI | 20 Orang | 19 Hari | Rp 231.805.000 | Rp 227.035.000 | Rp 217.525.000 | Rp 229.075.000 | Rp 234.115.000 | Rp 244.645.000 | | |
| 3 | DIKLAT ATC REFRESHER | 20 Orang | 10 Hari | Rp 251.095.000 | Rp 241.015.000 | Rp 231.275.000 | Rp 243.675.000 | Rp 251.235.000 | Rp 279.795.000 | | |
| 4 | DIKLAT AVIATION ENGLISH | 20 Orang | 34 Hari | Rp 374.845.000 | Rp 370.075.000 | Rp 360.565.000 | Rp 372.115.000 | Rp 377.155.000 | Rp 387.685.000 | | |
| 5 | DIKLAT BAGGAGE TOWING TRACTOR | 20 Orang | 15 Hari | Rp 225.625.000 | Rp 220.855.000 | Rp 211.345.000 | Rp 222.895.000 | Rp 227.935.000 | Rp 238.465.000 | | |
| 6 | DIKLAT BASIC AVIATION SECURITY | 20 Orang | 36 Hari | Rp 424.113.000 | Rp 418.153.000 | Rp 399.873.000 | Rp 422.473.000 | Rp 432.643.000 | Rp 443.393.000 | | |
| 7 | DIKLAT BASIC PKP-PK | 20 Orang | 90 Hari | Rp 850.355.000 | Rp 843.995.000 | Rp 831.315.000 | Rp 846.715.000 | Rp 853.435.000 | Rp 867.475.000 | | |
| 8 | DIKLAT BASIC PKP-PK UNTUK INSPEKTOR | 20 Orang | 25 Hari | Rp 371.135.000 | Rp 366.365.000 | Rp 356.855.000 | Rp 368.405.000 | Rp 373.445.000 | Rp 383.975.000 | | |
| 9 | DIKLAT CIVIL AVIATION MANAGEMENT | 20 Orang | 42 Hari | Rp - | Rp - | Rp 645.975.000 | Rp - | Rp - | Rp - | | |
| 10 | DIKLAT CNS/ATM | 20 Orang | 13 Hari | Rp 202.335.000 | Rp 197.565.000 | Rp 188.055.000 | Rp 199.605.000 | Rp 204.645.000 | Rp 215.175.000 | | |
| 11 | DIKLAT COURSE DEVELOPERS WORKSHOP | 14 Orang | 15 Hari | Rp - | Rp - | Rp 170.925.000 | Rp - | Rp - | Rp - | | |
| 12 | DIKLAT FLIGHT CALLIBRATION | 20 Orang | 7 Hari | Rp - | Rp - | Rp 246.405.000 | Rp - | Rp - | Rp - | | |
| 13 | DIKLAT GENSET DAN ACOS | 20 Orang | 36 Hari | Rp 397.425.000 | Rp 393.655.000 | Rp 384.145.000 | Rp 395.695.000 | Rp 400.735.000 | Rp 411.265.000 | | |
| 14 | DIKLAT HUKUM UDARA | 20 Orang | 10 Hari | Rp 173.045.000 | Rp 169.865.000 | Rp 163.525.000 | Rp 171.225.000 | Rp 174.585.000 | Rp 181.605.000 | | |
| 15 | DIKLAT HUMAN FACTORS FOR ATC | 20 Orang | 5 Hari | Rp 142.995.000 | Rp 139.615.000 | Rp 131.875.000 | Rp 141.375.000 | Rp 145.535.000 | Rp 151.795.000 | | |
| 16 | DIKLAT HYGIENE DAN SANITASI | 20 Orang | 56 Hari | Rp 562.535.000 | Rp 557.765.000 | Rp 548.255.000 | Rp 559.805.000 | Rp 564.845.000 | Rp 575.375.000 | | |
| 17 | DIKLAT ICAO ENGLISH LANGUAGE PROFICIENCY (IELP) | 20 Orang | 14 Hari | Rp 236.855.000 | Rp 228.905.000 | Rp 213.055.000 | Rp 232.305.000 | Rp 240.705.000 | Rp 258.255.000 | | |
| 18 | DIKLAT INITIAL DANGEROUS GOODS TYPE A | 20 Orang | 7 Hari | Rp 165.695.000 | Rp 160.925.000 | Rp 151.415.000 | Rp 162.965.000 | Rp 168.005.000 | Rp 178.535.000 | | |
| 19 | DIKLAT INITIAL DANGEROUS GOODS TYPE B | 20 Orang | 4 Hari | Rp 134.395.000 | Rp 129.625.000 | Rp 120.115.000 | Rp 131.665.000 | Rp 136.705.000 | Rp 147.235.000 | | |
| 20 | DIKLAT INSPECTOR AERODROME | 20 Orang | 10 Hari | Rp 172.775.000 | Rp 168.005.000 | Rp 158.495.000 | Rp 170.045.000 | Rp 175.085.000 | Rp 185.615.000 | | |
| 21 | DIKLAT INSPECTOR AVIATION SECURITY | 20 Orang | 5 Hari | Rp 135.965.000 | Rp 131.195.000 | Rp 121.685.000 | Rp 133.235.000 | Rp 138.275.000 | Rp 148.805.000 | | |
| 22 | DIKLAT INSPECTOR DANGEROUS GOODS | 20 Orang | 10 Hari | Rp 189.995.000 | Rp 185.225.000 | Rp 175.715.000 | Rp 187.265.000 | Rp 192.305.000 | Rp 202.835.000 | | |
| 23 | DIKLAT INSPEKTOR ANGKUTAN UDARA | 20 Orang | 10 Hari | Rp 198.735.000 | Rp 193.965.000 | Rp 184.455.000 | Rp 196.005.000 | Rp 201.045.000 | Rp 211.575.000 | | |
| 24 | DIKLAT INSTRUCTOR COURSE | 20 Orang | 17 Hari | Rp - | Rp - | Rp 213.065.000 | Rp - | Rp - | Rp - | | |
| 25 | DIKLAT JUNIOR AVIATION SECURITY | 20 Orang | 15 Hari | Rp 300.705.000 | Rp 291.295.000 | Rp 274.415.000 | Rp 297.865.000 | Rp 307.785.000 | Rp 318.785.000 | | |
| 26 | DIKLAT JUNIOR PKP-PK | 20 Orang | 90 Hari | Rp 785.635.000 | Rp 779.275.000 | Rp 766.595.000 | Rp 781.995.000 | Rp 788.715.000 | Rp 802.755.000 | | |
| 27 | DIKLAT JUNIOR PKP-PK UNTUK INSPEKTOR | 20 Orang | 20 Hari | Rp 339.985.000 | Rp 335.215.000 | Rp 325.705.000 | Rp 337.255.000 | Rp 342.295.000 | Rp 352.825.000 | | |
| 28 | DIKLAT KAWASAN BANDAR UDARA | 20 Orang | 7 Hari | Rp 192.375.000 | Rp 187.605.000 | Rp 178.095.000 | Rp 189.645.000 | Rp 194.685.000 | Rp 205.215.000 | | |
| 29 | DIKLAT KAWASAN KESELAMATAN OPERASI PENERBANGAN (KKOP) | 20 Orang | 7 Hari | Rp 172.245.000 | Rp 167.475.000 | Rp 157.965.000 | Rp 169.515.000 | Rp 174.555.000 | Rp 185.085.000 | | |
| 30 | DIKLAT KEUDARAAN TK. DASAR | 20 Orang | 14 Hari | Rp 223.425.000 | Rp 218.655.000 | Rp 209.145.000 | Rp 220.695.000 | Rp 225.735.000 | Rp 236.265.000 | | |
| 31 | DIKLAT KEUDARAAN TK. SARJANA | 20 Orang | 19 Hari | Rp 282.979.000 | Rp 278.209.000 | Rp 268.699.000 | Rp 280.249.000 | Rp 285.289.000 | Rp 295.819.000 | | |
| 32 | DIKLAT KKOP (TOT) | 20 Orang | 7 Hari | Rp - | Rp - | Rp 152.765.000 | Rp - | Rp - | Rp - | | |
| 33 | DIKLAT KOMPUTERISASI DATA PENERBANGAN | 20 Orang | 27 Hari | Rp 356.705.000 | Rp 348.755.000 | Rp 332.905.000 | Rp 352.155.000 | Rp 360.555.000 | Rp 378.105.000 | | |
| 34 | DIKLAT MANAJEMEN BANDAR UDARA | 20 Orang | 28 Hari | Rp 544.490.000 | Rp 536.540.000 | Rp 538.190.000 | Rp 539.940.000 | Rp 548.340.000 | Rp 565.890.000 | | |
| 35 | DIKLAT PROGRAMMABLE LOGIC CONTROL | 20 Orang | 22 Hari | Rp 368.965.000 | Rp 362.605.000 | Rp 349.925.000 | Rp 365.325.000 | Rp 372.045.000 | Rp 386.085.000 | | |
| 36 | DIKLAT RAMP SAFETY | 20 Orang | 3 Hari | Rp 96.215.000 | Rp 94.625.000 | Rp 91.455.000 | Rp 95.305.000 | Rp 96.985.000 | Rp 100.495.000 | | |
| 37 | DIKLAT RENEWAL DANGEROUS GOODS TYPE A DAN B | 20 Orang | 4 Hari | Rp 131.995.000 | Rp 127.225.000 | Rp 117.715.000 | Rp 129.265.000 | Rp 134.305.000 | Rp 144.835.000 | | |
| 38 | DIKLAT SAFETY MANAGEMENT SYSTEM (SMS) | 20 Orang | 14 Hari | Rp 149.515.000 | Rp 144.745.000 | Rp 135.235.000 | Rp 146.785.000 | Rp 151.825.000 | Rp 162.355.000 | | |
| 39 | DIKLAT SENIOR AVIATION SECURITY | 20 Orang | 22 Hari | Rp 342.955.000 | Rp 335.795.000 | Rp 326.027.000 | Rp 340.115.000 | Rp 350.035.000 | Rp 361.035.000 | | |
| 40 | DIKLAT SENIOR PKP-PK | 20 Orang | 90 Hari | Rp 825.515.000 | Rp 819.155.000 | Rp 806.475.000 | Rp 821.875.000 | Rp 828.595.000 | Rp 842.635.000 | | |
| 41 | DIKLAT TCC AERONAUTICAL INFORMATION SERVICE | 20 Orang | 42 Hari | Rp 467.985.000 | Rp 463.215.000 | Rp 453.705.000 | Rp 465.255.000 | Rp 470.295.000 | Rp 480.825.000 | | |
| 42 | DIKLAT TEKNIK AIR CONDITIONER | 20 Orang | 18 Hari | Rp 276.345.000 | Rp 271.575.000 | Rp 262.065.000 | Rp 273.615.000 | Rp 278.655.000 | Rp 289.185.000 | | |
| 43 | DIKLAT TEKNIK BANGUNAN DAN LANDASAN | 20 Orang | 72 Hari | Rp 604.165.000 | Rp 599.395.000 | Rp 589.885.000 | Rp 601.435.000 | Rp 606.475.000 | Rp 617.005.000 | | |
| 44 | DIKLAT TEKNIK DIGITAL | 20 Orang | 64 Hari | Rp 634.445.000 | Rp 629.675.000 | Rp 620.165.000 | Rp 631.715.000 | Rp 636.755.000 | Rp 647.285.000 | | |
| 45 | DIKLAT TEKNIK JARINGAN KOMPUTER | 20 Orang | 34 Hari | Rp 408.735.000 | Rp 403.965.000 | Rp 394.455.000 | Rp 406.005.000 | Rp 411.045.000 | Rp 421.575.000 | | |
| 46 | DIKLAT TEKNIK KOMPUTER | 20 Orang | 34 Hari | Rp 372.765.000 | Rp 367.995.000 | Rp 358.485.000 | Rp 370.035.000 | Rp 375.075.000 | Rp 385.605.000 | | |
| 47 | DIKLAT TEKNIK KOMPUTER DIGITAL | 20 Orang | 34 Hari | Rp 419.725.000 | Rp 414.955.000 | Rp 405.445.000 | Rp 416.995.000 | Rp 422.035.000 | Rp 432.565.000 | | |
| 48 | DIKLAT TEKNIK OTOMASI BANDAR UDARA | 20 Orang | 40 Hari | Rp 476.715.000 | Rp 471.945.000 | Rp 462.435.000 | Rp 473.985.000 | Rp 479.025.000 | Rp 489.555.000 | | |
| 49 | DIKLAT TEKNIK PRESENTASI | 20 Orang | 12 Hari | Rp 203.355.000 | Rp 198.585.000 | Rp 189.075.000 | Rp 200.625.000 | Rp 205.665.000 | Rp 216.195.000 | | |
| 50 | DIKLAT TRANSMISSION AND DISTRIBUTION | 20 Orang | 18 Hari | Rp 278.455.000 | Rp 273.685.000 | Rp 264.175.000 | Rp 275.725.000 | Rp 280.765.000 | Rp 291.295.000 | | |

STANDAR BIAYA KEMENTERIAN PERHUBUNGAN TAHUN 2012
BADAN PENGEMBANGAN SDM PERHUBUNGAN

| NO | NAMA DIKLAT | JUMLAH PESERTA / ANGKATAN | DURASI DIKLAT | BIAYA / ANGKATAN / WILAYAH | |
|----|-------------|------------------------------|---------------|-------------------------------|--|
| | | | | JAWA (PAP BOGOR) | |

| DIKLAT SDM APARATUR PERHUBUNGAN | | | | | |
|---------------------------------|---------------------------------|----------|---------|----|-------------|
| 1 | DIKLAT KESELAMATAN TRANSPORTASI | 30 Orang | 24 Hari | Rp | 275.554.000 |
| 2 | DIKLAT PERENCANAAN TRANSPORTASI | 30 Orang | 35 Hari | Rp | 421.304.000 |
| 3 | DIKLAT MANAJEMEN TRANSPORTASI | 30 Orang | 15 Hari | Rp | 309.854.000 |

| NO | NAMA DIKLAT | JUMLAH PESERTA / ANGKATAN | DURASI DIKLAT | MATRA | | |
|----|-------------|------------------------------|---------------|-------|------|-------|
| | | | | DARAT | LAUT | UDARA |

| DIKLAT PEMBENTUKAN | | | | | | |
|--------------------|--|-------------|----------|----|----------------|-------------------|
| 1 | PENAMBAHAN ASUPAN NILAI GIZI BAHAN MAKANAN PESERTA DIKLAT PEMBENTUKAN TRANSPORTASI DARAT PERHUBUNGAN | 1.131 Orang | 350 Hari | Rp | 15.438.150.000 | |
| 2 | PENAMBAHAN ASUPAN NILAI GIZI BAHAN MAKANAN PESERTA DIKLAT PEMBENTUKAN TRANSPORTASI LAUT PERHUBUNGAN | 6.463 Orang | 350 Hari | | | Rp 88.219.950.000 |
| 3 | PENAMBAHAN ASUPAN NILAI GIZI BAHAN MAKANAN PESERTA DIKLAT PEMBENTUKAN TRANSPORTASI UDARA PERHUBUNGAN | 2.000 Orang | 350 Hari | | | Rp 27.300.000.000 |

KEPALA BADAN PENGEMBANGAN
SDM PERHUBUNGAN

Capt. BOBBY R. MAMAHI
Pembina Utama Madya (IV/d)
NIP. 19560912 198503 1 002